January 16, 2025

VIA UPS

Mr. Kelly Lockhart
Executive Director, Coles County Regional Planning & Development Commission
651 Jackson Avenue, Room 309
Charleston, IL 61920

Re: Coles Wind, LLC
Special Use Permit Application for a Wind Energy Conversion System > 500 kW

Dear Mr. Lockhart,

Coles Wind, LLC (Coles Wind), an indirect subsidiary of Apex Clean Energy Holdings, LLC, is developing an approximately 311.1-megawatt name plate capacity wind energy conversation system (WECS) and substation known as the Coles Wind Project (Project) in northern Coles County, Illinois. Pursuant to *SUP Application, §D* of Coles County Amended Ordinance, Standards for Wind Energy Conversion Systems over 500 kw (dated, May 9, 2023), Coles Wind has enclosed 12 hard copies and one electronic copy (jump drive) of the Special Use Permit Application for submission to Coles County. Coles Wind also includes the Special Use Permit Application Fee of $150,000 with this submittal.

Please let me know if you have any questions. I can be reached at alan.moore@apexcleanenergy.com or at 434-249-8831.

Sincerely,

Alan Moore

Alan Moore
Director of Development

c/o Apex Clean Energy, Inc.
120 Garrett Street, Suite 700 | Charlottesville, VA 22902
T 434.220.7595 | **F** 434.220.3712
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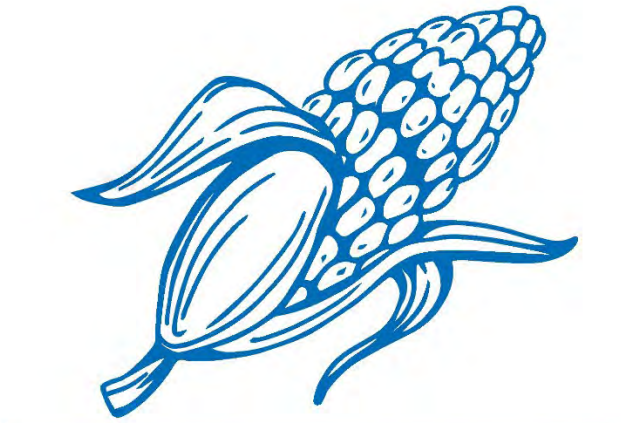

COLES WIND

A project by APEX CLEAN ENERGY

COLES COUNTY, ILLINOIS

SPECIAL USE PERMIT APPLICATION

COLES WIND PROJECT

Submitted by Coles Wind, LLC

January 2025

Applicant:	Coles Wind, LLC
Address:	c/o Apex Clean Energy Inc. Attn: General Counsel 120 Garrett Street, Suite 700 Charlottesville, Virginia 22902
Authorized Representative:	Scott Koziar, Executive Vice President of the Manager of the Sole Member of the Sole Member of the Applicant
Signature:	
Project Contact:	c/o Apex Clean Energy, Inc. Attn: Alan Moore, Director of Project Development 120 Garrett Street, Suite 700 Charlottesville, VA 22902 Phone: (434) 328-2303 Alan.Moore@apexcleanenergy.com

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4. Telecommunications Studies (*Design and Installation, §K*)
5. Sound Modeling Report (*Design and Installation, §L*)
6. Avian and Wildlife Impact Study (*Design and Installation, §O*)
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[1] This appendix includes a hyperlink to site control documents that have been recorded at the County Recorder of Deeds Office.

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1. INTRODUCTION

Coles Wind, LLC (Applicant or Coles Wind), an indirect subsidiary of Apex Clean Energy Holdings, LLC (Apex), submits this Special Use Permit application (Application) to the Coles County Board to develop an approximately 311.1 MW nameplate capacity wind energy conversion system (WECS) and substation known as the Coles Wind Project (Project). This Application seeks siting approval for 62 turbine locations, but not all turbine locations will be utilized when the Project is constructed. Up to 51 turbines will be installed when the project is built. The Coles County Amended Ordinance, Standards for Wind Energy Conversion Systems over 500 kw (dated May 9, 2023; WECS Ordinance), requires applicants to submit a Special Use Permit application for a WECS and substation according to the procedures and specifications in the Ordinance. The following subsections demonstrate how the Applicant meets the WECS Ordinance requirements to obtain a Special Use Permit.

Many different portions of the Coles County community support this Project. For example, nearly 21,500 acres of family farms in the County have signed up to participate in the Project. For these families, the Project will provide direct payments every year for at least thirty years while the Project only utilizes a small fraction of agricultural ground for each wind energy turbine and access road (approximately up to 0.25 acre, which comprises less than 0.1% of the total Project Area). Therefore, Project represents critical revenue for these Coles County farms. The Project will bring improved roads and millions of dollars to the county and township road districts. As detailed in this Application, the Project will bring over $81 million in property tax revenue over the life of the Project to the County and townships, various education facilities (public schools, community colleges, and a public library), fire protection districts, and road and airport authorities. This Application is an opportunity for Coles County to enjoy all of these benefits without having to raise any taxes. Thus, Coles County and other critical County services will all benefit from the Project. We ask the County Board to approve the Project and enable Coles County and its many participating residents to benefit from the Project.

ORGANIZATION OF THIS APPLICATION

This Application is organized with several purposes in mind. First, the Application supplies all of the information necessary to satisfy the criteria for issuance of the Special Use Permit as set forth in the WECS Ordinance. Next, the Application sets forth the various components that are necessary to construct and operate the Project. Last, the Application clearly identifies any differences between the documents and information required for the Special Use Permit and those that are required to be included in the WECS Building Permit submittal. To that end, not all details of the Project are final at the time of Application submittal. Where appropriate, this Application explains the type of information that will be gathered after issuance of the Special Use Permit.

The Application follows the WECS Ordinance structure, specifically identifying each section of the ordinance and how it has been satisfied:

- Section 2: Reviews how the Project meets the applicable County Board review standards set forth in the *Hearing Factors* section of the WECS Ordinance.

- Section 3: Sets forth Special Use Permit application requirements found in the *Special Use Permit Application* section of the WECS Ordinance.

- Section 4: Provides documentation concerning how the Project does or will meet the Design and Installation standards found in the *Design and Installation* section of the WECS Ordinance.

- Section 5: Sets forth how the Project meets or will meet the Operation standards set forth in the *Operation* section of the WECS Ordinance.

- Section 6: Sets forth Liability Insurance requirements set forth in the *Liability Insurance and Indemnification* section of the WECS Ordinance.

- Section 7: Sets forth the Decommissioning and Site Reclamation provisions, including Financial Assurance, set forth in the *Decommissioning and Site Reclamation* section of the WECS Ordinance.

- Section 8: Sets forth the fees for the project set forth in the *Fee Schedule and Permitting Process* section of the WECS Ordinance.

- Section 9: Provides the WECS Building Permit Submittal Checklist for review prior to construction.

The Application seeks approval of up to 62 turbine locations generating a capacity of up to 311.1 MW. Only 51 turbine locations will be constructed but the Application seeks approval of a greater number of locations to allow flexibility and ensure that alternate locations meet all of the siting criteria and Apex's technical criteria.

2. SITING APPROVAL PERMIT APPLICATION OVERVIEW

The WECS Ordinance states "The County Board may approve a Commercial Wind Energy Facility Special Use Permit application if it finds the evidence complies with state, federal and local law and regulations, and with the standards of this zoning code including the factors listed below (Hearing Factors). The following subsections summarize how the Applicant meets each of the standards the Board must consider when deciding whether to approve a Special Use Permit.

2.1 Special Use Permit Standards

a. *The establishment, maintenance or operation of the WECS Project will not be detrimental to or endanger the public health, safety, morals, comfort or general welfare;*

RESPONSE:

i. The proposed Project complies with and will operate in accordance with all the requirements of the WECS Ordinance.

ii. The proposed Project is specifically designed to promote the public health, safety, and welfare of the community. It generates renewable energy from a local source that does not pollute the air or water, is not subject to the price volatility of fossil fuels, adds fuel diversity and reliability to domestic production of electricity and furthers the state's goals of clean energy generation.

iii. This Application demonstrates that the Project will utilize wind energy turbines that meet all design and safety requirements of the WECS Ordinance. As part of the Building Permit submittal for each wind energy turbine, a professional engineer will certify that the foundation and tower design both conform to Coles County requirements and industry standards.

iv. Appendix A.3 of this Application demonstrates that the Project complies with all setback requirements from occupied community buildings, participating residences, non-participating residences, non-participating parcel lines, public road rights-of-way, overhead communication and electric transmission and distribution lines, occupied community buildings, public roads, third party distribution and transmission lines, and Fish and Wildlife Areas and Illinois Nature Preserve Commission Protected Lands unless waived by the appropriate owner (Section 4.7). Compliance with these setback requirements ensures that Project improvements are located at appropriate distances from other uses and roads. Appendix A.3 of this Application is a map showing that all turbine locations are sited outside of setbacks; these are also shown in

greater detail on the Preliminary Site Plan in Appendix A.4. The compliance with turbine setbacks demonstrated in Appendices A.3 and A.4 may be verified by Coles County staff and/or consultants.

v. Coles Wind will adhere to all sound standards imposed by the Illinois Pollution Control Board (IPCB; the state agency responsible for such sound standards). To ensure compliance, Coles Wind retained a qualified expert who modeled sound caused by the Project and ensured that any sound was below state standards. The sound model utilized conservative assumptions and established that the Project will not emit sound to surrounding residential uses at levels that interfere with the use and enjoyment of such residential uses (Section 4.12). The Sound Modeling Report is included in Appendix D.5.

vi. The Applicant has designed the Project to ensure that any shadow flicker that occurs on occupied community buildings or non-participating residences is less than the allowable levels in the WECS Ordinance and permitted by the State of Illinois (Section 5.4). To ensure the Project satisfies the WECS Ordinance and state-law requirements, Coles Wind retained an expert who analyzed the Project's design and confirmed that any shadow flicker will be less than the requirements. The shadow flicker analysis is included in Appendix D.8.

vii. This Application includes a qualified telecommunications consultant's report that demonstrates that interference with television reception is unlikely and that the Project will not interfere with any radio transmissions, microwave paths, emergency communications, or other existing telecommunication systems (Section 4.11). The telecommunications studies are included as Appendix D.4.

viii. Operation of radio frequencies for federal government use is managed by the National Telecommunications and Information Administration (NTIA), which is part of the U.S. Department of Commerce. The NTIA has confirmed no reviewing federal agencies have concerns with wind turbine construction in the Project Area (see Section 4.11 and Appendix D.4).

ix. This Application includes a decommissioning and site reclamation plan prepared by an Illinois-licensed engineer which estimates the cost to decommission the Project and restore property in accordance with the WECS Ordinance (Section 7.0 and Appendix D.1). Decommissioning financial security in the form of a decommissioning bond that names Coles County as the beneficiary,

thereby protecting the County, will be posted based on the estimated decommissioning cost as required by the WECS Ordinance and the Agricultural Impact Mitigation Agreement (AIMA) entered into with the Illinois Department of Agriculture on October 31, 2024. The decommissioning cost estimate will be updated during the life of the Project as required by the WECS Ordinance and the AIMA. The AIMA is included in Appendix F.1.

x. The wildlife habitat studies completed for the Project and provided to U.S. Fish and Wildlife Service (USFWS) and Illinois Department of Natural Resources (IDNR) demonstrate that the Project is unlikely to negatively affect the environment or wildlife. All turbines are sited in active row crops minimizing the impact to wildlife or its essential habitat. Furthermore, the Project has sited turbines to comply with recommended buffers and setbacks by USFWS and IDNR. The avian and wildlife impact study is included in Appendix D.6 and described in Section 4.14.

xi. This Application includes the pending application filed December 20, 2024, for Determinations of No Hazard from the FAA for the Project turbines and Aircraft Detection Lighting System radar tower. In September 2021, the FAA issued Determinations of No Hazard for a layout of 53 turbines up to a height that would accommodate the height of either of the two turbine model options, found in Appendix C.1, and based on the FAA's approval of significantly similar layout with higher turbine height within the same Project Area, the Applicant anticipates issuance of the Determinations of No Hazard in Q2 2025 (see Section 3.4 and Appendix C).

xii. Finally, the Project will provide significant property tax benefits to Coles County and other taxing districts, such as local school districts including the Parkland Community College, Lakeland Community College, Arcola Public Library, fire districts, road districts, and the airport authority which are entities that specifically benefit and protect the public health, safety, morals, comfort and general welfare. The full economic impact analysis is included in Appendix E.2.

b. The WECS Project will not be injurious to the uses and enjoyment of other property in the immediate vicinity for the purposes already permitted, nor substantially diminish and impair property values of surrounding properties;

RESPONSE:

i. Use and enjoyment of residential property in the vicinity of the Project will not be injured because the Project meets all the setback standards as to non-participating property owners. In addition, this Application demonstrates that the Project will comply with the noise standards of the Illinois Pollution Control Board, and the Project will meet industry standards and limit shadow flicker on occupied community buildings and non-participating residences to less than the allowable levels in the WECS Ordinance and permitted by the State of Illinois. The sound modeling report and shadow flicker report are included in Appendix D.

ii. Use and enjoyment of the agricultural property in the immediate vicinity of the Project will not be harmed because the land surrounding the wind turbines will remain farmland and will continue to be farmed. Specifically, the Project will utilize only a small fraction of agricultural ground for each wind energy turbine and access road (approximately up to 0.25 acre, which comprises less than 0.1% of the total Project Area). The Applicant has coordinated with landowners hosting facilities on their property. The Project will not negatively affect the agricultural uses of the surrounding properties. The significant rental payments to local agricultural landowners over the life of the Project will support and preserve agricultural use of their land and enhance the economic benefits to the entire community. See both the Economic Impact Analysis and Property Values Analysis reports included in Appendix E.

iii. Wind projects that satisfy setback requirements do not decrease the property value of surrounding properties. To demonstrate that point, Coles Wind retained the national real estate firm of CohnReznick, who has analyzed the impact of wind projects and other energy projects on real estate values around the country. As demonstrated in the Property Values Analysis Report that is included in Appendix E.3, "the vast majority of studies with large-scale data sets concluded existing wind facilities have had no negative impact on adjacent property values

c. *The establishment of the WECS Project will not impede the normal and orderly development and improvement of the surrounding properties;*

RESPONSE:

i. The Project does not require expenditures by Coles County or other units of local government to extend public services to the Project. On the contrary, the Project will actually improve public services for county residents. Specifically, Coles Wind will make, at its expense,

any road improvements necessary for the Project. The Project will include the construction of all access roads to all wind energy turbines and other improvements per the requirements of the WECS Ordinance. The Applicant shall enter into a Road Use Agreement (RUA) with Coles County and other affected road jurisdictions to ensure that the existing roadways are sufficient for the development of the Project. The Project will obtain all necessary permits from the entities having jurisdiction over roadways used for the Project prior to obtaining construction permits, as defined by the WECS Ordinance.

ii. The Project will not impede the normal and orderly development and improvement of the surrounding properties. The Project will not impair any existing or future agricultural uses and will improve the conditions of local roads for the motoring public.

iii. The Project complies with all required setbacks and sound standards. The Applicant demonstrates, through use of a qualified professional property valuation expert, that the Project will not diminish the value of nearby residential parcels. To the contrary, the economic benefits of the Project will support the County, schools, police, fire, township, road authorities, and other governmental entities that enhance the value and strength of the community.

d. *Adequate public utilities, access roads, drainage and/or necessary facilities have been or will be provided;*

RESPONSE:

i. The Project does not require expenditures by Coles County or other units of local government to extend public services to the Project. The Project will include the construction of all access roads to all wind energy turbines and other improvements per the requirements of the WECS Ordinance. The Applicant will enter into a RUA with Coles County and other affected road jurisdictions to ensure that the existing roadways are sufficient for the development of the Project, and the Applicant will make, at its expense, any road improvements necessary both before and after Project construction. The Project will obtain all necessary permits from the entities having jurisdiction over roadways used for the Project prior to obtaining construction permits, as defined by the WECS Ordinance.

ii. The Applicant will protect the existing drainage in the vicinity of the Project and promptly repair any damage to drain tile or other

drainage improvements. Coles Wind has executed an AIMA with the Illinois Department of Agriculture which requires that the Project minimize impacts upon the agricultural uses, quickly repair any damage to drain tiles, and restore land after construction or decommissioning to its pre-Project state.

iii. The Applicant will construct a new Project substation to accommodate the Project.

e. *Adequate measures have been or will be taken to provide ingress and egress so designed as to minimize traffic congestion in the public streets;*

RESPONSE:

i. This Application shows that all parcels in the Project have access via public roads. Accordingly, the Project has sufficient ingress and egress.

ii. The Project will enter into RUAs with Coles County and applicable road authorities. The RUAs will provide for necessary improvements to County and local roads for construction and operation of the Project, and will ensure that the County and local roads will be safe for travel by the general public during and after construction of the Project. The Applicant will construct, at its expense, public road improvements required for the installation and maintenance of the Project. A map showing county and township public roads approved by the respective road authorities is included in Appendix A.

iii. Once the Project is constructed, minimal vehicular traffic for maintenance and operations is projected, and, accordingly, will not cause traffic congestion on the public streets.

f. *The proposed WECS Project is not contrary to the objectives of the current comprehensive plan of the County (if any); and*

RESPONSE:

i. The Project will utilize only a small fraction of agricultural ground for each wind energy turbine and access road (approximately up to 0.25 acre, which comprises less than 0.1% of the total Project Area). Accordingly, nearly all of the land within the Project Area will continue to be utilized for agricultural purposes, consistent with the current use. The Project will not have any negative impact upon the continued agricultural use properties in the vicinity of the Project.

ii. The Project will protect and preserve the agricultural use and culture in the area by ensuring a diverse revenue stream to supplement the income of local farmers, who can reinvest that revenue into agricultural land use and the community. The revenue stream is a protection against sometimes uncertain agricultural commodities markets and the potential fluctuation in the cost of farming operations and supplies (e.g., gas and fertilizer prices). Outside of the small amount of land actually needed to site the wind farm, the remaining land of participating and neighboring farms is unaffected and can continue to farm without additional, more intrusive developments that might not be consistent with the rural character of the community.

g. *The WECS Project shall, in all other respects, conform to the applicable regulations of this Ordinance and the zoning district in which it is located (if a zoning ordinance is in effect), except as such regulations may, in each instance, be modified pursuant to the recommendations of and approved by the County Board.*

RESPONSE:

i. Coles County is not a zoned county, so Coles Wind is not located in a zoning district. Nonetheless, this Application demonstrates the Project satisfies all of the standards of the WECS Ordinance, including setback requirements, sound regulations, shadow flicker regulations, design regulations and other standards.

2.2 Siting Approval Permit Application Checklist

Table 2.2 is a detailed cross reference sheet, which notes the sections of the WECS Ordinance applicable to this Project and the corresponding information contained in this Application required to demonstrate compliance with the WECS Ordinance.

Table 2.2
Siting Approval Permit Application Key to WECS Ordinance Requirements

WECS Ordinance Reference	Requirement	Location in Application
Special Use Permit	Special Use Permit Application	3
B.1	A WECS Project Summary	3.1 and Appendix A
B.1a	A general description of the project	3.1
B.1b	Applicant description	3.2
B.2	Names and Addresses	3.2
	1. Applicant	3.2
	2. WECS Owner	3.2
	3. WECS Operator	3.2
	4. Property Owners	3.2 and Appendix B
B.3	Preliminary Site Plan	3.3 and Appendix A.4

Table 2.2
Siting Approval Permit Application Key to WECS Ordinance Requirements

WECS Ordinance Reference	Requirement	Location in Application
B.4	Compliance with the Federal Aviation Administration	3.4 and Appendix C
B.5	Decommissioning Plan	3.5, 8, and Appendix D.1
B.6	All Required Studies, Reports, Certifications, and Approvals	3.6 and Appendix D
B.7	Agricultural Impact Mitigation Agreement	3.7 and Appendix F.1
B.8	Topographic Map	3.8 and Appendix A.5
B.9	Waivers from Setback Requirements	3.9 and Appendix B
B.10	Waivers from Shadow Flicker Mitigation Requirements	3.10 and Appendix B
B.11	IDNR Review Results	3.11 and Appendix D.2
B.12	USFWS Review Results	3.12 and Appendix D.3
B.13	Information Demonstrating Avoidance of Protected Lands	3.13 and Appendix A.6
B.14	Any Other Information Requested by the County	3.14
C	Changes after Submittal of Siting Approval Permit	3.15
D	Siting Approval Permit Copies	3.16
Design and Installation	Design and Installation	4
A	Design Safety Certification	4.1
B	Controls and Brakes	4.2
C	Electrical Components	4.3
D	Aesthetics and Lighting	4.4
E	Warnings	4.5
F	Climb Prevention	4.6
G	Setbacks	4.7 and Appendix A.3
H	Compliance with Additional Regulations	4.8
I	Use of Public Roads	4.9 and Appendices F.2 – F.5
J	Site Assessment	4.10
K	Communications Analysis; Interference	4.11 and Appendix D.4
L	Noise Levels	4.12 and Appendix D.5
M	Agricultural Impact Mitigation	4.13 and Appendix F.1
O	Avian and Wildlife Impact Study	4.14 and Appendix D.6
P	As-Built Map and Plans	4.15
Q	Engineer's Certificate	4.16
R	Conformance with Approved Application and Plans	4.17
S.	Additional Terms and Conditions	4.18 and Appendix B
Operation	Operation	5.0
A	Maintenance	5.1

Table 2.2
Siting Approval Permit Application Key to WECS Ordinance Requirements

WECS Ordinance Reference	Requirement	Location in Application
B	Coordination with Emergency Responders	5.2 and Appendix D.7
C	Water, Sewer, Materials Handling, Storage and Disposal	5.3
D	Shadow Flicker	5.4 and Appendix D.8
E	Signage	5.5
F	Drainage Systems	5.6 and AppendixD.9
G	Complaint Resolution	5.7
Liability Insurance and Indemnification	Liability Insurance and Indemnification	6.0
Decommissioning and Site Reclamation Plan Required	Decommissioning and Site Reclamation Plan Required	7.0 and Appendix D.1
Fee Schedule and Permitting Process	Fee Schedule and Permitting Process	8.0
Hearing Factors	Hearing Factors	2.1

3. SPECIAL USE PERMIT APPLICATION

3.1 WECS Project Summary (*SUP Application, §B.1*)

The Project ranges over roughly 19,500 acres of agricultural land (Project Area) in northern Coles County, Illinois. The Project is roughly bounded by the Douglas County line to the north, the Seven Hickory-Humboldt Township line to the west, State Highway 2 to the east, and E County Road 1200 N to the south in portions of Seven Hickory and Morgan Townships.

The Project will consist of 62 turbines, of which 51 will be constructed. The total installed capacity of the Project will not exceed 311.1 MW and will deliver up to 300 MW of electricity to a single point of interconnection on the existing Ameren Kansas West to Faraday 345 kV transmission line running east-west between County Roads 1500N and 1600N and west of N county Road 1400E in the west central portion of the Project Area. The Project will consist of:

- 62 wind turbines with a maximum height of up to 643.1 feet (196 meters) when the blade is in the up-most position (only 51 of which will be built);
- Access roads to each turbine;
- Underground 34.5 kilovolt (kV) electrical collection lines connecting the turbines to the Project Substation and associated facilities;
- Underground fiber-optic cable for turbine communications co-located with the collection lines;
- Light Detection and Ranging (LiDAR) systems to detect wind speed;
- An O&M Facility;
- One ADLS radar tower; and
- Temporary construction facilities such as a laydown yard and a concrete batch plant.

The Project Area is largely utilized for agricultural purposes with corn and soybeans as the predominant crops. All wind turbines will be located on land currently used for growing crops with each turbine and access road utilizing approximately up to 0.25 acres of land. The access roads to each turbine will comprise most of this acreage. In some cases, existing field lanes are being upgraded to the standards necessary for turbine access. Applicant, landowners, their designees, and tenant farmers can use or continue to use the access roads for agricultural purposes. In addition, construction and operation of the Project will not significantly affect current land use in the Project area, and crop production can continue up to and surrounding the wind turbines and access roads. Outside of the small amount of land actually needed to site the wind farm, the remaining land of participating and neighboring farms is unaffected and can continue to be farmed unlike other more intrusive developments that might not be consistent with the rural character of the community.

This portion of Coles County is considered an excellent location for constructing and operating a wind farm. The area contains large, open, and flat farmland, a strong wind resource, close proximity to existing transmission infrastructure, interested landowners and broad community support, readily accessible transportation routes for delivery and construction of turbine components, and suitable geology to support turbine foundations.

3.1.1 Turbines

Each wind turbine consists of three major components: the tower, the nacelle, and the rotor. These components are mounted on a concrete foundation to provide structural support to the assembled turbine. The height of the tower, or "hub height" (height from the base of the tower to the center of the rotor hub on top of the tower), will be dependent on the final turbine selection and design. The nacelle sits atop the tower, and the rotor hub is mounted on a drive shaft that is connected to the gearbox and generator contained within the nacelle.

Tower: The tubular towers for the Project will be conical steel structures or a combination of steel and concrete, depending on final turbine selection. Each tower has a lockable access door, internal lighting and an internal ladder to access the nacelle.

Nacelle: The main mechanical and electrical components of the wind turbine are housed in the nacelle. The nacelle is mounted on a sliding ring that allows it to rotate, or "yaw," into the wind to maximize energy capture. The nacelle components include the drive train, gearbox, generator, and generator step-up transformer. The nacelle is housed in a steel-reinforced fiberglass shell that protects internal machinery from the environment. The housing is designed to allow for adequate ventilation to cool internal machinery. It is externally equipped with an anemometer and a wind vane to measure wind speed and direction. The generated electricity is conducted through cables within the tower to a switch enclosure mounted at the base of the turbine tower.

Rotor: A rotor assembly is mounted on the drive shaft and operates upwind of the tower. Electric motors within the rotor hub vary the pitch of each blade according to wind conditions to maximize turbine efficiency at varying wind speeds.

Turbine operation controls: Having turbines and/or anemometers that are working properly is an important aspect of a well-operating wind project. Each turbine will have multiple redundant sensors on the rotor and drive train to sense when blades become imbalanced or create vibration and can automatically shut down the turbine and anemometer. The anemometers monitor the wind speed and direction to ensure its current position is most efficient to produce electricity. These data are also used for feathering the blades, applying the brakes in high wind speeds, determining if the blades are off-balance, and to communicate to the turbine when the wind is strong enough to begin turning the generator and producing electricity at the "cut-in" wind speed.

Coles Wind will utilize a Remote Operations Control Center (ROCC) that is actively staffed 24 hours a day, seven days a week, 365 days a year. The ROCC operators are connected to the facilities with real-time monitoring, alarm, and control capabilities. These capabilities include individual inverters and substation breakers that can isolate (i.e., turn off) affected component(s) in an emergency. Additionally, O&M staff on-site also have the capability to turn off turbines in an emergency.

Coles Wind will select one of two turbine models with a hub height ranging from 105 to 117 meters (345 to 384 feet), a rotor diameter of up to 162 meters (532 feet), and a tip height of up to 196 meters (644 feet). Final turbine selection is based on several factors, including

availability from the manufacturer, cost, geotechnical constraints of the possible turbine locations, technical factors that promote maximum electricity generation and the like.

Table 3.1
Wind Turbine Models and Characteristics under Consideration by Coles Wind

Turbine Model	Hub Height	Rotor Diameter	Tip Height	# Turbines[1]
Vestas V162-6.0 MW	105 m / 345 ft	162 m / 532 ft	186 m / 611 ft	51
GE 6.1-158 MW	117 m / 384 ft	158 m / 519 ft	196 m / 644 ft	51

[1] # Turbines represents the total number of turbines required to achieve 311.1 MW nameplate capacity for the Project and that would be constructed. Coles Wind is seeking approval for all 62 turbine locations, of which, up to 51 will be constructed.

Importantly, Coles Wind has worked with all of its experts and analysts to ensure that both turbine models satisfy all requirements. For example, all turbine setback, sound, and shadow flicker requirements are met for either turbine model. Therefore, the turbine locations shown in the Preliminary Site Plan in Appendix A.4 comply with all turbine setbacks and restrictions for both turbine models under consideration.

The Preliminary Site Plan map in Appendix A.4 shows the 62 proposed wind turbine locations for the County's consideration; however, no more than 51 turbine locations will be used for the Project. The final number of turbines installed will be the same regardless of the turbine model selected, as depicted in Table 3.1. As noted above, circumstances may arise that were not known when the Application was submitted that could cause an approved turbine location to become unusable. To account for such situations, the Applicant has submitted more turbine locations than are needed to serve as backups in the event any location becomes unusable. All setback distances are calculated using the tip height of the tallest turbine under consideration, the GE 6.1-158 at 117m hub height and 196m tip height. Therefore, the turbine locations shown in the Preliminary Site Plan map in Appendix A.4 comply with all setbacks and restrictions for both of the turbine models under consideration.

3.1.2 Access Roads

Construction and service access to each turbine location will be facilitated by a compacted gravel road within the Project Area. Roads have been located in consultation with the landowner to avoid or minimize impacts to land use and the environment. The permanent access roads will be up to 18 feet wide (5.5 meters) and constructed with locally-sourced gravel, if available. The Project roads will support the size and weight of maintenance vehicles. During construction, some of the access roads will be widened to accommodate movement of the turbine erection crane, with temporary widths generally not exceeding 50 feet (15.2 meters). Following construction, the access roads will be reduced back to 18 feet (5.5 meters) and the area temporarily used will be restored to the extent practicable. Separate access may be required for the cranes used to erect the wind turbines. In such cases, temporary crane paths will be constructed between turbine locations. Following completion of construction, the temporary crane paths will be removed and the area restored in accordance with the AIMA or, if appropriate, specific agreement with the landowner.

3.1.3 Underground Electrical Collection Lines

The Project will utilize underground electrical collector lines to connect turbines to one another and to deliver electricity to the Project Substation. The electrical collector lines will consist of an underground cable system between the Project Substation and the individual turbine locations. The collector system has been designed for operation at 34.5 kV and has been sited to minimize cost and land impacts and in consideration of landowner input and constraints. The collector lines will be installed in a trench at least 60 inches below the ground in a location that was reviewed by the landowner to minimize potential impact from the existing land uses. This depth is consistent with AIMA and the Coles County WECS Ordinance. A fiber-optic cable and an additional separate ground wire will also be installed with the collector system. The fiber-optic cable will be used for Project-specific telemetry, control, and communication purposes. Above-ground junction boxes will be installed, as required, for connections or splices. Once construction is complete, the land will be restored as set forth in the AIMA and in accordance with the drainage plan.

3.1.4 Project Substation

The Project Substation will consist of up to two substation transformers, circuit breakers, switching devices, auxiliary equipment, a control enclosure containing equipment for proper control, protection, monitoring, and communications, and associated equipment and facilities. The Project Substation will require a construction workspace of approximately 8.4 acres, with the final fenced-in area anticipated to be approximately 300 feet by 150 feet (92 meters by 46 meters). The location is shown on the Preliminary Site Plan map in Appendix A.4. The principal function of the substation is to increase the voltage from the collection system (34.5 kV) to the voltage of the transmission line (345 kV), which will transport the electricity of the entire Project to the Midcontinent Independent System Operator (MISO) grid via the interconnection switching station.

3.1.5 Switching Station

The Switching Station will be located adjacent to the Project Substation. The Switching Station will require a construction workspace within approximately 13.0 acres, with the final fenced-in area anticipated to be approximately 350 feet by 575 feet (107 meters by 176 meters). The Switching Station components will be mounted on concrete pads. The Switching Station will be constructed, owned, operated, and maintained by Ameren.

3.1.6 Meteorological Towers: LiDAR Technology

LiDAR technology will be used in place of meteorological towers to collect data to monitor wind energy performance[2]. Coles Wind will install up to three LiDAR sensors on portable trailers within the Project Area, each co-located with a 60-meter temporary met tower called a LiDAR monitoring mast. The monitoring masts are tilt-up towers that are supported by guy wires; these guy wires will have reflective warning markers consistent with the WECS Ordinance (*Design and Installation, §F.2*). The LiDAR technology (trailer and associated monitoring mast) will work together over a period of six to nine months starting within one year after the commercial operation date to collect accurate measurements of wind speed, direction and other characteristics such as turbulence intensity. Once sufficient data has been collected, all but one of the portable locations will be removed; all three LiDAR monitoring masts will be removed. With its Building Permit submittal, Coles Wind will provide the location for the one permanent LiDAR to remain throughout the life of the Project at a location that will be determined based on the final site design.

The locations of the temporary, paired LiDAR technology are included on the Preliminary Site Plan. These locations are preliminary and may change as they are dependent on the final turbine model selected and locations of the 51 turbines to be constructed. The placement of this LiDAR technology is highly precise and must meet the following criteria: located in a wake free and undisturbed sector, located 2-3 rotor diameters away from the turbine, accessible for installation, maintenance, and decommissioning, located with landowner approval so as to minimize disruption to agricultural activities, and located on flat terrain dictated by IEC 61400 12-1.

3.1.7 Operations & Maintenance Facility

An O&M Facility will be constructed in the Project Area and will provide access and storage for Project operations and maintenance. The O&M Facility is proposed to be located in the north central portion of the Project, at the southeast corner of the intersection of State Highway 130 and County Road 1800N, pending coordination with the construction contractor and landowner. The final location of the O&M Facility will be included in the Final Site Plan in the Building Permit submittal. The buildings typically used for this purpose are approximately 3,000 to 5,000 square feet and house the equipment to operate and maintain the Project. The parking lot adjacent to the building is typically approximately 3,000 square feet. Coles Wind includes a 10.0-acre area for the O&M Facility and associated parking area. The O&M Facility will apply for well and/or septic permits, as needed, prior to construction.

[2] Meteorological towers are still commonly used for collecting wind data, but the increasing size of utility-scale wind turbines necessitates the construction of taller meteorological towers. LiDARs, on the other hand, can be installed on portable trailers with minimal impact to the surrounding environment, and can measure data over large regions and at higher altitudes. The use of LiDARs has become widely accepted as an industry standard and is approved by both International Electrotechnical Commission (IECs) and Original Equipment Manufacturers (OEMs; i.e., Vestas and GE) through the international standard IEC 61400 12-1.

3.1.8 SCADA System

Each wind turbine will communicate directly with the Supervisory Control and Data Acquisition (SCADA) system for remote performance monitoring, energy reporting and troubleshooting. The SCADA system provides data on turbine generation and production, availability, meteorology, and communications. The SCADA system allows for 24/7 monitoring of the Project, and relays alarms and communication errors to an off-site operations center. Coles Wind will provide service and maintenance for the Project. Permanent, full-time staff will perform these duties.

3.1.9 ADLS

Any tall structure over 200 feet above ground level, including wind turbines, requires lighting and approval by the Federal Aviation Administration (FAA) for aircraft safety (14 C.F.R. §77.9). By default, the FAA requires synchronized red flashing lights on wind turbines for aircraft safety. However, Aircraft Detection Lighting Systems (ADLS) are a newer technology that allow the red lights to remain off as a default. With this radar system, turbine lighting is off until the radar detects an aircraft within a prescribed distance and elevation to the Project, at which time, the blinking red lights turn on. After the aircraft is safely beyond the Project, the blinking lights are again turned off. More specifically, the ADLS radar detects aircraft within 16 nautical miles and activates the lights when the aircraft is within 3.5 nautical miles. The lights turn off five minutes after the aircraft is at least 3.5 nautical miles past the turbines. Aircraft flying at cruising altitudes, Class A airspace above 18,000 feet, do not trigger the ADLS.

The ADLS tower is located strategically to ensure direct communication with the lights installed on the turbines, similar to a motion sensor on a light outside of a home. The ADLS manufacturer will work with the Coles Wind team, which includes the landowner[s] who would host the ADLS tower[s], to design the ADLS system. Once the ADLS design is complete, the ADLS system design requires FAA review and approval, which Coles Wind anticipates the FAA will grant. On December 20, 2024, Coles Wind submitted the ADLS location to the FAA for review and approval.

The ADLS tower will be an approximately 110-foot lattice tower with a rotating radar on the top and will sit inside a graveled and fenced enclosure of approximately 35 feet by 35 feet. The radar tower is connected to the turbines with underground (at least 60 inches below ground) fiber optic cabling that allows the ADLS system to communicate with the turbines to turn the lights on and off. The location of this radar system is such that it provides adequate coverage of the Project (all turbines) and a buffer beyond and must be located at least 2,000 feet from a turbine.

Once the ADLS system is installed during construction of the wind farm, the system requires calibration and testing that cannot occur until the turbines are operational. For safety reasons, the FAA will not allow Coles Wind to rely on the ADLS system to turn on the synchronized flashing lights on the wind turbines until it is tested and functioning properly. Therefore, during the calibration phase, the FAA requires the synchronized red lights to be

on at all times. The radar system is then "trained" to detect aircraft and differentiate them from birds and other targets. As the radar system is tested in groups, and determined to be functioning properly, the percentage of time that the lights are on will decrease. The construction, calibration, and testing phase typically takes three to six months but has been known to take longer.

The ADLS features built-in safeguards to ensure light activation in the event of equipment/software failure or loss of power or network. The high reliability, state-of-the-art, long-range, solid state doppler radar has 15 selectable channels within the band to prevent interference from other sensors operating in the area.

3.1.10 Project Construction Timeline

Upon approval of the Application and issuance of a Special Use Permit, and as other state and federal approvals are obtained, Coles Wind will complete engineering-scale design of the access roads, construction areas, turbine foundations, and the electrical components including the underground electrical collection lines. The engineering-scale design of the Project will be included on the Final Site Plan included in the Building Permit submittal. Coles Wind anticipates commencing construction as early as Q1 2026. Construction of the on-site roads, tower foundations, collection lines, and Project substation will take approximately ten months. Within that ten-month construction period, turbine installation will take approximately four months. Subject to receipt of the necessary permits and any weather delays, the Project is slated to commence commercial operations in Q1 2027.

3.2 Applicant Description and Contact Information (*SUP Application, §B.2*)

3.2.1 Applicant Description

Coles Wind is a Delaware limited liability company authorized and qualified to do business in the State of Illinois. Coles Wind is a wholly owned subsidiary of Apex.

Founded in 2009, Apex is a full-service renewable energy company that develops, constructs, and operates utility-scale generation facilities across the United States. Driven by a team of more than 400 professionals and headquartered in Charlottesville, Virginia; Apex has commercialized more than 45 projects totaling over eight (8) gigawatts (GW) of capacity. In 2024 alone, Apex constructed eight (8) projects across the country: three solar projects, three wind projects, and two energy storage projects.

Apex has a successful track record of wind projects in Illinois. In 2025, Apex will complete construction of and begin operating the Prosperity Wind Project in Piatt County, Illinois. Apex will also begin construction on the Lotus Wind Project in Macoupin County, Illinois. For each project, Apex worked with landowners, local officials, and the community, developed the project, obtained all permits and approvals, and will be owning and operating the project moving forward. Apex hopes to do the same in Coles County.

Coles Wind is the Applicant, Owner and Operator of this Project. The address for Coles Wind is:

Coles Wind, LLC
120 Garrett Street, Suite 700
Charlottesville, VA 22902

Apex Clean Energy's Project contacts for the Project are:

Alan Moore
Director of Project Development
Apex Clean Energy
120 Garrett Street, Suite 700
Charlottesville, VA 22902
Phone: (434) 328-2303
Alan.Moore@apexcleanenergy.com

Kent Dougherty
Vice President of Development
Apex Clean Energy
120 Garrett Street, Suite 700
Charlottesville, VA 22902
Phone: (434) 227-4233
Kent.Dougherty@apexcleanenergy.com

3.2.2 Project Participant Contact Information

Community support for the Project has been overwhelmingly positive, with 119 agreements signed covering 248 parcels and over 13,700 acres (Appendix B.1). Coles Wind has signed additional agreements for parcels outside the Project Area that are not included in this Application. Coles Wind has completed its site control efforts and does not anticipate any additional agreements. The Project's compensation package will provide over $145 million in payments to participating landowners over the course of the Project's 30-year life. This includes leases and easements, easements for underground facilities, and Wind Farm Participation and Support Agreements (landowners that enter into these agreements with Coles Wind are referred to as "Participating Landowners"). The compensation formula for the full landowner leases includes payments to landowners for signed acreage, turbines hosted on signed parcels, and other facilities installed on signed parcels such as underground collection cables and turbine access roads. This type of lease agreement pays all participants, even those that do not get the opportunity to host wind facilities on their property. Some landowners chose not to sign a full lease but were willing to host only underground collection cables that pay an amount based on the linear length of cable installed. And finally, some landowners chose not to host turbines or any associated facilities but nonetheless wanted to support the project through good neighbor agreements that offer an annual payment. All the land included in the Project has been secured through agreements that were voluntarily signed. The names and addresses of the Participating Landowners in the Project, as well as a hyperlink to recorded memoranda reflecting lease or easement agreements entered into with Participating Landowners, and forms of agreements, including shadow flicker or setback waivers, and waivers of the Applicant's responsibility to provide a locked metal gate at access road entrances (*Design and Installation, §S.3*), can be found in Appendix

B of the Application.[3] The Site Control map in Appendix A.2 illustrates that all parcels hosting any type of facility for the Project have signed an agreement.

3.3 Preliminary Site Plan (*SUP Application, §B.3*)

Project facilities are included on the Preliminary Site Plan in Appendix A.4. This Preliminary Site Plan includes the proposed Project facilities: turbines (including legal description), access roads, collection lines, Project Substation, O&M Facility, ADLS radar tower, and preliminary locations of the laydown/staging areas/batch plant. The Project will not have any permanent met towers, and therefore, they are not depicted on the Preliminary Site Plan. Instead, as discussed in Section 3.1.6, the Project will install temporary LiDAR units for power performance testing. LiDAR unit locations are highly dependent on the turbine model and, therefore, the locations are preliminary. Only one LiDAR location will permanently remain through the life of the Project; the final location of the temporary LiDAR units and associated LiDAR monitoring masts (which will be guyed) will be provided with Building Permit submittal. In addition, the Preliminary Site Plan depicts participating and non-participating residences, occupied community buildings, parcel boundary lines, setback lines, public access roads and preliminary turnout locations, third party above ground transmission lines, preliminary laydown area/preliminary batch plant, and other structures. The Preliminary Site Plan also shows the location of any wetlands, floodplains, and drainage structures. There are no underground mines within 1,500 feet of the Project Area pursuant to data available from the IDNR and the Illinois State Geological Survey's ILMines database. "Scenie and natural areas" is a defined phrase under the Illinois Natural Area Preservation Act. There are no such areas within 1,500 feet of the Project Area. Lastly, the Preliminary Site Plan shows known communication towers within two (2) miles of the Project Area.

This Preliminary Site Plan identifies 62 potential turbine locations; however, no more than 51 of these locations will be used when the Project is constructed. The selection of turbine sites for construction will be made during the final implementation stage of the Project. All turbine positions comply with the Coles County setbacks described in the WECS Ordinance (*Design and Installation, §G*); these are discussed in more detail in Section 4.7 of this Application.

The Final Site Plan will be subject to final engineering and other development considerations and will be provided with the Building Permit submittal. Although the Preliminary Site Plan is not finalized, as allowed by the WECS Ordinance, no turbine locations will be moved more than 100 feet from the location depicted on the Final Site Plan.

[3] For privacy reasons we have not included telephone numbers on the lists, even though those are requested by the WECS Ordinance. Phone numbers can be provided upon request for a valid purpose relating to this Application.

3.4 Compliance with the Federal Aviation Administration Requirements (*SUP Application, §B.4*)

The FAA has the regulatory authority to evaluate and permit structures which may pose a hazard to aviation. When evaluating a wind farm, FAA issues two determinations, together called "determinations of no hazard," under the following federal regulations:

- U.S. Department of Transportation FAA Code of Federal Regulations, Part 77, dated March 1993—Objects Affecting Navigable Airspace; and

- U.S. Department of Transportation FAA Advisory Circular 70/7460-1K, Obstruction Marking and Lighting.

Because the process can be lengthy, wind operators generally submit multiple layouts over time and work closely with the FAA. In October 2020, Coles Wind submitted a turbine layout filing to the FAA seeking a Determination of No Hazard (DNH) for 55 turbine locations in the Project Area at a turbine height of up to 737 feet. That application initiated a lengthy review process with the FAA to get a head start on analyzing potential military and aviation impacts of the Project. During the FAA's review of this October 2020 layout, the FAA identified two turbines that would have potential effects on Visual Flight Rules traffic along Highway 57. In coordination with the FAA, Coles Wind agreed to remove these two turbine locations from the Project. On September 2, 2021, the FAA issued DNHs for the remaining 53 turbines described above to a height of 737 feet above ground level (see Appendix C.1 for a representative DNH).

Coles Wind continued coordinating with federal agencies in 2022 and 2023. On March 1, 2023, the Department of Defense (DoD) notified Coles Wind of potential impacts to military radar coverage. As a result of discussions between Apex Clean Energy and the U.S. Air Force, the parties entered into an agreement on March 7, 2024, that limits the Project to no more than 53 wind turbines up to 656 feet above ground level and no more than two meteorological evaluation towers up to 390 feet above ground level. By agreeing to these terms, the Military Aviation and Installation Assurance Siting Clearinghouse cleared the turbines in the FAA's Obstruction Evaluation/Airport Airspace Analysis system. On March 21, 2024, the DoD Siting Clearinghouse issued a letter summarizing the terms above, which is included herein in Appendix C.2. On March 18, 2024, the FAA issued extended DNHs for the 53 turbines in the October 2020 layout (see Appendix C.3 for a representative DNH extension letter).

On December 20, 2024, Coles Wind submitted turbine locations for 62 turbines and ADLS radar location to the FAA as they appear in the Preliminary Site Plan, Appendix A.4 to this Application. The FAA submittal is included in Appendix C.4. Importantly, this final application is for a smaller turbine height (644 feet versus 737 feet) and Coles Wind anticipates FAA approval given that taller turbines were already approved. Coles Wind is coordinating separately with DoD and will honor the executed agreement. The FAA is conducting further study on the proposed turbine array with a final determination expected in Q2 2025. Coles Wind will provide the FAA DNHs with the Building Permit submittal.

3.5 Decommissioning Plan (*SUP Application, §B.5*)

Coles Wind commits to decommissioning the Project at the end of its useful life and ensuring that Coles County does not have to. In furtherance of this commitment, Coles Wind includes a Decommissioning and Site Reclamation Plan in Appendix D.1 which was prepared by an Illinois-licensed engineer and includes information on decommissioning and site restoration activities and associated costs for both the GE 6.1-158 and V162-6.0 turbine models. Section 7.0 of this Application provides detailed information on these activities.

3.6 Supporting Documentation (*SUP Application, §B.6*)

This Application and its appendices contain all studies, reports, certifications, and approvals required to demonstrate compliance with the applicable provisions in the Coles County WECS Ordinance and state statutes. Additional studies are included in this Application as supporting documentation that are not explicitly required by the WECS Ordinance. A summary of Coles Wind's community engagement efforts, expected economic benefits to the County and other taxing jurisdictions, and property values impacts are described below and included in Appendix E.

3.6.1 Community Engagement

Project staff and representatives have built considerable relationships with local leaders and organizations, emphasizing the value the Project can bring to the area. This outreach includes contributions to community grants supporting many organizations in the Coles County community. Since 2020, Coles Wind has awarded more than $50,000 to local programs, organizations, community projects, schools, and community services that generally fall into four categories: building healthy communities, economic development, environmental sustainability, and promoting education. Most grant awards fit into more than one of these categories. Coles Wind has also provided more than $50,000 in community donations and sponsorships, notably $25,000 to the Eastern Illinois Foodbank and a $25,000 endowed scholarship at Lake Land College that will provide $1,000 annually to a student in a STEM program, especially those interested in working in renewable energy. A summary of the Project's community grant program is included in Appendix E.1.

3.6.2 Economic Benefits

The construction and operation of the Project will create significant economic benefits to Coles County. As discussed in more detail below:

- Construction will generate up to 286 full time jobs and include significant sourcing and procurement of goods and services in the local economy;
- The Project is a nearly $650 million investment in Coles County that will generate over $81 million in property taxes;
- The Project will generate over $110 million in earnings for local landowners, employees, and the local community.

The Project represents a capital investment of roughly $650 million in Coles County. The Project is expected to create both short-term and long-term benefits to the local economy. Local economic benefits from construction activities would be short-term but significant. Local businesses, such as restaurants, grocery stores, hotels, and gas stations, would see increased business during this phase from construction-related workers. Local industrial businesses, including aggregate and cement suppliers, welding and industrial suppliers, hardware stores, automotive and heavy equipment repair, electrical contractors, drain tile installers, and maintenance providers, would also likely benefit from construction of the Project.

The Project will pay significant property taxes annually and over the life of the Project. The expected total property taxes paid by the Project over 30 years are over $81 million, averaging $2.7 million annually. These taxes are paid to a number of jurisdictions, which are summarized below in Table 3.6-1.

Table 3.6-1
Tax Benefits from the Coles Wind Project

	Average Annual	30-year Total
County and Townships		
Coles County	$436,061	$13,081,816
Seven Hickory Township	$70,618	$2,118,550
Morgan Township	$19,158	$574,745
Multi-Township Assessment District 6	$11,465	$343,955
Education		
Parkland Community College 505	$29,921	$897,636
Lakeland Community College 517	$183,662	$5,509,875
Arcola Public Library District	$10,511	$315,342
Arcola CUSD 306	$245,662	$7,369,862
Charleston CUSD 1	$1,160,056	$34,801,691
Oakland CUSD 5	$21,961	$6,448,838
Fire Protection Districts		
Seven Hickory Morgan	$75,683	$2,270,492
Humboldt Community	$3,024	$90,707
Hindsboro Community	$21,458	$643,742
Road and Airport Authorities		
Seven Hickory Road District	$177,510	$5,325,298
Morgan Road District	$24,769	$743,059
Airport Authority	$22,336	$670,082
TOTAL	***$2,706,856***	***$81,205,690***

In addition to property taxes, the Project will also generate significant earnings for the local and state economy during construction and operations. During Project construction, the Project will generate up to roughly $110 million in new local and state earnings for local landowners, new local employees, and Coles County, and over $6.6 million in new local and

state earnings annually during the 30-year life of the Project. Dr. David Loomis with Strategic Economic Research completed an Economic Impact Study assessing the short-term and long-term increases in jobs, income, and tax revenues for Coles County and the State of Illinois from the Project. The Economic Impact Analysis is provided in Appendix E.2 and a summary of the total earnings impact expected to be produced by the Project is included in Table 3.6-2 (Appendix E.2, Table 5.2) below. These benefits include spending that will feed into the local economy in and around the Project area.

Table 3.6-2
Total Earnings Impact from the Coles Wind Project[1]

	Coles County	State of Illinois
Construction		
Project Development and Onsite Jobs	$15,568,794	$32,654,718
Turbine and Supply Chain Impacts	$7,995,627	$32,753,470
Induced Impacts	$3,626,074	$17,619,854
New Local Earnings during Construction	***$27,190,495***	***$83,028,042***
Operations (Annual)		
Onsite Labor Impacts	$251,100	$502,200
Local Revenue and Supply Chain Impacts	$1,701,267	$1,901,458
Induced Impacts	$626,761	$1,764,542
New Local Long-Term Earnings	***$2,579,128***	***$4,168,200***

[1] From Table 6.2 in Appendix E.2 – Economic Impact Analysis

3.6.1 Property Value Impact Study

Wind projects that satisfy setback requirements do not decrease the property value of surrounding properties. To demonstrate this point, Coles Wind retained the national real estate firm of CohnReznick, who has analyzed the impact of wind projects and other energy projects on real estate values around the county.

As demonstrated in the Property Values Analysis Report that is included in Appendix E.3, "[t]he vast majority of studies with large-scale data sets concluded existing wind facilities have had no negative impact on adjacent property values" (CohnReznick Site-Specific Addendum at page 3 (included in Appendix E.3)).

CohnReznick also studied eight existing wind farms in Illinois and found that "the existing wind facilities have not caused any consistent and measurable negative impact on property values." *Id.*

3.7 Agricultural Impact Mitigation Agreement (*SUP Application, §B.7*)

A fully executed AIMA between Coles Wind, LLC and the Illinois Department of Agriculture is included in Appendix F.1. Pursuant to the AIMA, all agricultural land impacted during construction, operation, or decommissioning activities, will be remediated by the Applicant. See discussion of the AIMA in Section 4.13.

3.8 Topographic Map (*SUP Application Requirements, §B.8*)

A topographic map of the Project facilities and surrounding area is included in Appendix A.5.

3.9 Waivers from Setback Requirements (*SUP Application, §B.9*)

Coles Wind's agreements with property owners includes a waiver from setback requirements, unless specifically negotiated (two Easements for Underground Facilities and one Participation and Support Agreement - see Appendix B.1). As such, participating property owners have waived the setback requirements in accordance with the Coles County WECS Ordinance. These are recorded with a stamp from the County Recorder of Deeds Office. Section 4.7 of this Application demonstrates Coles Wind's compliance with the minimum setback requirements for both participating and non-participating property owners. Template participation agreements with the relevant setback waiver language are included in Appendix B.

3.10 Waivers from Shadow Flicker Mitigation Requirements (*SUP Application, §B.10*)

The WECS Ordinance requires waivers from shadow flicker mitigation requirements for occupied community buildings and non-participating residences modeled over 30 hours per year. As described in Section 5.4 and in Appendix D.8, there are no occupied community buildings or non-participating residences modeled to receive over 30 hours per year of shadow flicker; as such, no waivers are required.

Two participating residences are modeled to receive more than 30 hours per year. Although not required per the WECS Ordinance, Coles Wind includes shadow flicker mitigation waivers for these Project participants (Agreement numbers IL-CLW-141 and IL-CLW-168 - see Appendix B.1). These agreements are recorded with a stamp from the County Recorder of Deeds Office. A form waiver is included in Appendix B.4.

3.11 Illinois Department of Natural Resources Review Results (*SUP Application, §B.11*)

Coles Wind initiated consultation with the Illinois Department of Natural Resources (IDNR) on November 4, 2024 via the IDNR Ecological Compliance Assessment Tool (EcoCAT) to determine potential impacts to Illinois Natural Area Inventory Sites or state-listed threatened or endangered species within the Project Area. The Natural Resource Review Results indicated that there were no records of state-listed threatened or endangered species, Illinois Natural Area Inventory sites, dedicated Illinois Nature Preserves, or registered Land and Water Reserves in the vicinity of the project location (Appendix D.2).

Coles Wind received updated correspondence from IDNR on November 15, 2024 indicating that based on potential suitable habitat in the Project Area and occurrences of records in the vicinity, four state-listed species may be in the vicinity of the Project and IDNR provided comments and recommendations for the Project. Correspondence from IDNR is included in

Appendix D.2 and recommendations related to IDNR protected species and resources are addressed in more detail in Section 4.14 (Avian and Wildlife Impact Study).

3.12 U.S. Fish and Wildlife Service Review Results (*SUP Application, §B.12*)

Coles Wind utilized the USFWS's Information for Planning and Consultation (IPaC) tool to generate a current list of federally listed species that have the potential to be affected by activities within the Project Area (Appendix D.3).

Further, Coles Wind has been coordinating with the USFWS regarding the potential impact of the Project on flora and fauna since spring 2020. This early coordination included data requests and database reviews regarding the potential presence of federal threatened and endangered species and eagles (species of concern) in the Project Area. In coordination with USFWS, Coles Wind conducted a series of wildlife surveys and habitat assessments for species of concern with the potential to occur in the Project Area. A summary of those studies and avoidance measures and commitments that Coles Wind will implement to reduce impacts to protected species and resources are provided in Section 4.14 (Avian and Wildlife Impact Study).

3.13 Information Demonstrating that the WECS Project will Avoid Protected Lands (*SUP Application, §B.13*)

Appendix A.6 includes a map demonstrating there are no Protected Lands in the Project Area, and therefore, the Project will avoid Protected Lands.

3.14 Additional Information Required or Requested by County (*SUP Application, §B.14*)

As discussed in Section 3.6, this Application and its appendices contain all studies, reports, certifications, and approvals required to demonstrate compliance with the applicable provisions in the Coles County WECS Ordinance as well as additional supporting information describing Coles Wind's community grant program, economic benefits of the Project, and a property values study. Coles Wind has been coordinating with Coles County since 2020 and will continue to provide any additional information requested by the County during the Special User Permit process.

3.15 Changes after Notice of Public Hearing (*SUP Application, §C*)

Coles Wind endeavors to provide as complete an application as possible at this stage of the Project. However, in the event, changes are necessary due to technical, legal, landowner requests or requests from the County or other local jurisdictions, Coles Wind will submit changes made to the Project or Application after submittal of the Special Use Permit application to the Coles County Clerk and/or Kelly Lockhart (Coles County Regional Planning) to include in the Application for final consideration by the Coles County Board.

3.16 Special Use Permit Copies (*SUP Application, §D*)

The Applicant will submit an electronic copy of the Application, with access instructions, for the County Clerk and or Kelly Lockhart (Coles County Regional Planning) to post to the County's website. In addition, twelve paper copies will be submitted to the County Clerk for distribution to: the Planning and Development Committee, County Board, the hearing officer, and/or the technical expert retained by the County.

4. DESIGN AND INSTALLATION:

4.1 Design Safety Certification (*Design and Installation, §A*)

All wind turbines are built to conform to industry standards including the American National Standards Institute (ANSI). With its Building Permit submittal, Coles Wind will provide a copy of wind turbine design compliance issued by a third-party for the turbine model that is selected. The selected turbine will be new equipment commercially available; the turbines will not be used or experimental.

Pursuant to the WECS Ordinance (*Design and Installation, §A.2*), Coles Wind will present a certification from a qualified structural engineer, as part of the Building Permit submittal, stating that the foundation and tower designs for the Project are compatible with and within acceptable standards given local soil, subsurface and climate conditions.

4.2 Controls and Brakes (*Design and Installation, §B*)

Controls and brakes are standard equipment on the turbine models being considered. Vestas and GE turbines have slightly different braking systems. Vestas turbines utilize hydraulically actuated pitch systems while GE turbines use electrically actuated pitch systems. The hydraulically or electrically actuated individual blade pitch systems act as the main braking system for the wind turbine generator. Braking under normal operating conditions is accomplished by feathering the blade out of the wind. Any single feathered rotor blade is designed to slow the rotor. Hydraulic and electric systems are in place to control blade pitch to optimize blade output, decrease power output above the rated wind speeds, or to function as an aerodynamic brake. Upon loss of power from the grid, the hydraulic or backup electrical (battery) power will automatically feather the blades to safely brake the turbine before bringing the blades to a complete stop.

The wind turbine generator is also equipped with a mechanical brake located at the output (high-speed) shaft of the gearbox. This mechanical brake is utilized as a parking brake to engage the rotor lock, or in the event an emergency stop button is pressed.

The turbines are also equipped with rotor locking pins for the purpose of securing the rotor during certain maintenance procedures and to allow safe entry into the hub. These pins are hydraulically actuated and can only be engaged manually by technicians in the nacelle for the Vestas turbines. For the GE turbines, the low-speed shaft locking pin can only be engaged manually by technicians in the nacelle for installation procedures, and standard hub entry procedure employs the high-speed shaft locking device which engages the brake disc teeth. The rotor locks and high-speed brake are intended for application of no longer than 24 to 48 hours.

4.3 Electrical Components (*Design and Installation, §C and D.4*)

All electrical components for the Project will conform to applicable national, state and local codes and relevant national and international standards such as ANSI.

4.4 Aesthetics and Lighting (*Design and Installation, §D*)

4.4.1 Coatings and Coloring

The tower and blades for each wind turbine will be painted with a white non-reflective, unobtrusive color. The surface of each turbine will consist of non-reflective material. All wind turbine surfaces will be designed to resist corrosion. No advertising or signage, outside of safety warnings or standard manufacturer markings, will be affixed to any of the turbines.

4.4.2 Turbine Consistency

Turbines will be consistent in terms of design and size, including tower height. Regardless of turbine model installed, all turbines will be the same height and rotate the same direction.

4.4.3 Lighting

The WECS Ordinance (*Design and Installation, §D.3*) requires an applicant to install ADLS or other similar technology to reduce light pollution and visual impacts caused by WECS Towers provided the lighting technology is available and approved by the FAA. Wind turbines are required to have appropriate lighting to effectively alert aircraft of turbine locations, as regulated by the FAA. ADLS uses a combination of radar and associated software to control when turbine lights turn on. Under normal conditions, the lights stay off. With this radar system, turbine lighting (synchronized flashing red lights) is off until the radar detects an aircraft within a prescribed distance to the Project, at which time, the blinking red lights turn on. After the aircraft is safely beyond the Project, the blinking lights are again turned off. This can significantly reduce the amount of time turbine lights are on and minimize potential nighttime light concerns. Coles Wind has submitted the ADLS radar location to the FAA for approval (see Appendix C.4).

Coles Wind also notes that during construction and until ADLS is fully operational, the FAA requires all turbines be lit with temporary lighting once they reach a height of 200 feet above ground level or greater in order to ensure proper conspicuity of turbines. Coles Wind will comply with these FAA requirements during construction and until the ADLS is operational.

4.4.4 Intra-project Power and Communication Lines

All intra-project collection lines and cables connecting each wind turbine to other turbines will be installed underground to a depth of at least 60 inches in accordance with the AIMA and participating landowner agreements until they reach the Project Substation.

4.5 Warnings (*Design and Installation, §E*)

Coles Wind will include visible warning signage concerning voltage at the Project Substation. Additionally, if the GE 6.1-158 turbine is used, voltage warning signage will be placed at the pad-mounted transformer at the base of the turbine. This voltage warning signage would not be needed at the base of the V162-6.0 turbine because the turbine transformer is located in the nacelle, it is not pad-mounted.

The wind turbine towers, by design, will be self-supporting and not require guy wires or anchor bases. Guy wires will be used on the temporary power performance towers associated with the LiDAR units; these will have reflective warning markers consistent with the WECS Ordinance (*Design and Installation, §E.2*).

4.6 Climb Prevention (*Design and Installation, §F*)

Access to the inside of wind turbines will be limited to Project employees. Each wind turbine will be mounted on a tubular tower which will be a smooth, tapered monopole structure. The only climbing access will be by ladder or lift located inside the tower. The door to the tower will be kept locked. By design, the towers will be externally un-climbable.

4.7 Setbacks (*Design and Installation, §G*)

In designing the turbine layout for the Project, Coles Wind worked with Participating Landowners to minimize impacts to farmland, residential properties, and any other site-specific concerns such as stream crossings. Where possible, the Project also tried to exceed minimum setbacks to residences and occupied community buildings.

In taking a conservative approach to setbacks from WECS turbines, the proposed turbine layout for the Project meets or exceeds the setbacks prescribed under the WECS Ordinance (*Design and Installation, §G*) as shown in the Turbine Setbacks Map in Appendix A.3. All setback distances are calculated using the tip height of the taller turbine under consideration, the GE 6.1-158MW turbine at 117m hub height and 196m tip height (644 feet). By doing so, Coles Wind ensures that the proposed turbine layout included in this Application meets the setbacks for both of the turbine models being considered. Table 4.7 shows the setback distances based on the GE6.1-158MW turbine.

Table 4.7 Turbine Setback Requirements for WECS Projects	
Setback Feature	**Coles County WECS Ordinance**
Occupied Community Buildings	2.1 times the maximum blade tip height of the wind tower to the nearest point on the outside wall of the structure (1,352 feet or 412 meters)
Participating Residences	1.1 times the maximum blade tip height of the wind tower to the nearest point on the outside wall of the structure (709 feet or 216 meters)
Non-participating Residences	2.1 times the maximum blade tip height of the wind tower to the nearest point on the outside wall of the structure (1,352 feet or 412 meters)
Boundary Lines of Participating Property	None
Boundary Lines of Non-participating Property	1.1 times the maximum blade tip height of the wind tower to the nearest point on the property line of the non-participating property (709 feet or 216 meters)
Public Road Rights-of-Way	1.1 times the maximum blade tip height of the wind tower to the center point of the public road right-of-way (709 feet or 216 meters)
Overhead Communication and Electric Transmission and Distribution Facilities	1.1 times the maximum blade tip height of the wind tower to the nearest edge of the property line, easement, or right of way containing the overhead line (709 feet or 216 meters)
Overhead Utility Service Lines to Individual Houses or Outbuildings	None
Fish and Wildlife Areas and Illinois Nature Preserve Commission Protected Lands	2.1 times the maximum blade tip height of the wind tower to the nearest point on the property line of the fish and wildlife area or protected land (1,352 feet or 412 meters**)**

Setback waivers from participating landowners are recorded with the County and are discussed in Section 3.9 of this Application.

4.8 Compliance with Additional Regulations (*Design and Installation, §H*)

The Project will require various regulatory permits, reviews, and approvals. Table 4.8 provides a summary of the required permits, approvals, and consultations for the Project. All permits, licenses, approvals, or consultations which are required for the Project will be obtained in the applicable areas prior to construction beginning.

Table 4.8
Status of Required Federal, State, and Local Approvals

Administering Agency	Permit, Approval, or Consultation	Applicability to the Project	Status
Federal			
U.S. Army Corps of Engineers	Federal Clean Water Act Section 404	Dredging or filling jurisdictional waters of the United States.	To be obtained prior to construction, if necessary.
U.S. Fish and Wildlife Service (USFWS)	Review for Threatened and Endangered Species	Consultation on potential impacts to species protected under the Endangered Species Act	Coles Wind has been coordinating with the USFWS since 2020 and is pursuing an incidental take permit for federally listed bats.
Federal Aviation Administration (FAA)	Form 7460-1 Notice of Proposed Construction or Alteration (Determination of No Hazard)	• Construction or alteration of structures standing higher than 200 feet above ground level • Construction or alteration of structures near airports; 14 Code of Federal Regulations 77.13 provides details • Siting within radar line of-sight of an air defense facility	Filed December 20, 2024 (Appendix C.4); anticipate Determinations of No Hazard in Q2 2025.
	Notice of Actual Construction or Alteration (Form 7460-2)	Supplemental notice provided to FAA in advance of beginning construction.	To be provided in advance of or after commencing construction, as appropriate.
	Marking & Lighting Recommendations	Required for approval of Aircraft Detection Lighting System (ADLS)	7460-1 filing will include standard red/white synchronized lights, but the FAA filings will be modified to request approval of ADLS after receiving the ADLS design and prior to construction.
Federal Communications Commission	Radio Station Authorization/License	Typically required for operation of communications tower associated with ADLS.	If needed, prior to operation of ADLS communications tower.
	Registration	Typically required for communications tower associated with ADLS.	Prior to construction/installation of ADLS communications tower.

Table 4.8
Status of Required Federal, State, and Local Approvals

Administering Agency	Permit, Approval, or Consultation	Applicability to the Project	Status
U.S. Department of Commerce – National Telecommunications and Information Administration	Notification to National Telecommunications and Information Administration and review by Interdepartmental Radio Advisory Committee	Typically required to confirm no impact to federal telecommunications.	Coles Wind received a letter on February 2, 2023 confirming no concerns in the Project Area (Appendix D.4).
State of Illinois Approvals			
Illinois Environmental Protection Agency	Clean Water Act Section 401 Water Quality Certification	Construction activities requiring a Section 404 permit also require certification under Section 401.	To be obtained prior to construction, if necessary.
	Clean Water Act Section 402 National Pollutant Discharge Elimination System – General Permit to Discharge Stormwater from Construction Activities	Construction activity that results in the disturbance of 1 acre of more of total land area	To be obtained prior to construction.
	General Operating Permit for Air Emissions from Concrete Batch Plant	Permits air emissions from stationary and/or portable concrete batch plants.	To be obtained prior to construction, if necessary.
Illinois Historic Preservation Division, State Historic Preservation Office (SHPO)	Cultural and Historic Resources Review and Review of State and National Register of Historic Places (NRHP) and Archeological Survey	Projects that have state permitting requirements are obligated to consult.	Coles Wind has completed a literature review of the Project Area, and Project Facilities avoid previously identified NRHP listed, eligible, or unevaluated archaeological and historic sites. Coles Wind will conduct archaeological field surveys for previously unidentified cultural resources in spring/summer 2025 and coordinate with SHPO on any potential mitigation, if necessary.
Illinois Pollution Control Board	35 Ill. Admin Code Sections 900, 901, and 910	Activities that emit noise that have the potential to be audible beyond the edge of the property on which the activity is occurring.	The Project complies with sound regulations for wind farms – see Section 4.12 and Appendix D.5.

Table 4.8
Status of Required Federal, State, and Local Approvals

Administering Agency	Permit, Approval, or Consultation	Applicability to the Project	Status
Illinois Department of Natural Resources (IDNR)	Statewide Permit #2 – Construction of Bridge and Culvert Crossings of Streams in Rural Areas	Required for construction of bridge and culvert crossings of streams in rural areas of the state	To be obtained prior to construction, if applicable.
	Statewide Permit #6 – Minor, Non-Obstructive Floodway Construction Activities	Required for construction causing minimal wetland and limited floodplain impact.	To be obtained prior to construction, if applicable.
	Statewide Permit #8 – Underground Pipeline and Utility Crossings	Required for construction of underground pipeline and utility crossings across waterways, floodplains, and wetlands.	To be obtained prior to construction, if applicable.
	Statewide Permit #12 – Bridge and Culvert Replacement Structures and bridge Widenings	Required for replacement of existing bridges and culverts and the widening of existing bridges over waterways, floodplains, and streams regulated by IDNR.	To be obtained prior to construction, if applicable.
	Statewide Permit #13 – Temporary Construction Activities	Required for construction activities in waterways, floodplains, and streams	To be obtained prior to construction, if applicable.
	Water withdrawal reporting	Required for withdrawals from surface water or ground water sources at a rate of 70 gallons per minute or greater (100,000 gallons per day)	To be obtained prior to construction, if applicable.
	Consultation with IDNR (EcoCAT)	State and local governments are required to consider impacts of proposed actions on Illinois endangered and threatened species as well as sites listed on the Illinois Natural Areas Inventory.	Complete – see Sections 3.11 and 4.14 and Appendix D.2.

Table 4.8
Status of Required Federal, State, and Local Approvals

Administering Agency	Permit, Approval, or Consultation	Applicability to the Project	Status
	Incidental Take Authorization	Recommended by IDNR for the Coles Wind Project if the curtailment regime of 6.9 m/s is not adopted and required when a take of a threatened or endangered species is possible to occur.	Coles Wind will pursue if the Project elects not to curtail turbines at wind speeds up to 6.9 meters per second from sunset to sunrise from July 15 to October 15.
Illinois Department of Agriculture	Executed Agricultural Impact Mitigation Agreement	Required per WECS Ordinance (*SUP Application, §B.7*).	Executed October 31, 2024 (Appendix F.1)
Illinois Department of Transportation (IDOT)	Oversize/Overweight Permit for State Highways	Vehicles and loads that surpass legal dimension and weight limits	To be obtained prior to construction.
	Access Driveway Permits for IDOT Roads	Construction of driveway or other access onto state road rights of way	To be obtained prior to construction, if applicable.
	Permit to perform work within State Highway Right-of-Way	Installation of underground or overhead structures crossing or occupying state road rights of way.	To be obtained prior to construction, if applicable.
Local Approvals			
Coles County	Special Use Permit	Required for construction of a wind energy conversion system over 0.5 MW	Filed January 2025
Coles County	WECS Building Permit	Required to construct, make addition to, or reconstruct a building or structure.	To be obtained prior to construction.
Coles County	Road Use Agreement (RUA)	Coles Wind will enter into a RUA for any proposed county roads that will be used for construction.	To be obtained prior to construction.
Coles County	Right-of-way permits, crossing permits, driveway permits for access roads, oversize/overweight permits for County Roads	Coles Wind will enter into a RUA prior to construction and obtain any necessary permits required under the RUA.	To be obtained prior to construction.

Table 4.8
Status of Required Federal, State, and Local Approvals

Administering Agency	Permit, Approval, or Consultation	Applicability to the Project	Status
Coles County Townships (Seven Hickory and Morgan)	Road Use Agreement	Coles Wind will enter into a RUA with local road authorities for any proposed non-county roads that will be used for construction.	To be obtained prior to construction.
Coles County Health Department	Well/Septic Permits	Required for establishing new water source and/or sewage system (O&M Facility)	To be obtained prior to construction.

4.9 Use of Public Roads (*Design and Installation, §I*)

The WECS Ordinance (*Design and Installation, §I*) imposes three requirements on an applicant: (1) the applicant must identify all public roads it intends to use for the Project and obtain approval for this list of roads; (2) the applicant must conduct a baseline survey of these roads to establish their pre-construction condition; and (3) the applicant must enter into a RUA with each applicable road authority. As discussed in more detail below, Coles Wind has satisfied each of these requirements.

4.9.1 Identification and Approval of Public Roads

Coles Wind held an initial meeting with road authorities from Coles County, Morgan Township, and Seven Hickory Township on November 19, 2024. During this meeting, Coles Wind reviewed the Project,, discussed the overall Project schedule and timeline for road-specific studies and coordination, and collaborated on specific road concerns, jurisdiction of certain roads, and other general topics. This initial meeting was beneficial for the road authorities to learn about the Project, share specific information to their jurisdiction, and understand the Project schedule while also beneficial for Coles Wind to receive site-specific feedback and incorporate it into the preliminary design and list of public roads.

From this initial meeting, Coles Wind adjusted the preliminary design and list of public roads based on road authority input. Coles Wind has identified public roads that it may use for Project turbine and equipment deliveries in Coles County, Morgan Township, and Seven Hickory. On December 10, 2024, Coles Wind provided a map and list of roads for consideration of turbine and other equipment deliveries to each of the three road authorities. On December 20, 2024, Ron Hungler Highway Commissioner for Morgan Township provided approval of the roads identified in Morgan Township. Similarly, on December 26, 2024, Rick Madlem, Highway Commissioner for Seven Hickory Township and Rick Johnson, Coles County Highway Engineer, provided approval for the public roads identified in their respective jurisdictions. The public road approvals are included in Appendices F2-F.4. The list of public roads in each jurisdiction approved by the road authorities is included below and a map showing these public roads is included in Appendix A.7 (this is the same map provided to the road authorities on December 10, 2024).

Coles Wind identified portions of the following public roads that may be used for Project turbine and equipment deliveries:

- Coles County
    - County Road 16
    - County Road 18
    - County Road 2
    - County Road 8
- Morgan Township
    - 1400 N
    - 1600 N
    - 1700 N

  - 1800N
  - 1820 N
  - 1850N
- Seven Hickory Township
  - 1000N
  - 1300 E
  - 1400 E
  - 1400 N
  - 1500 E
  - 1500 N
  - 1600 N
  - 1700 E
  - 1700 N
  - 1800 E
  - 1800 N
  - 1900 N
  - Reasor Avenue

The road authorities for Coles County, Morgan Township, and Seven Hickory Township, have approved the use of these public roads, subject to execution of a Road Use Agreement. These approvals are included in Appendices F.2 through F.4.

Coles Wind is currently working with each of these road authorities to execute a RUA for the use of these roads. Based on initial coordination, Coles Wind anticipates three Road Use Agreements: one for Coles County, one for Morgan Township, and one for Seven Hickory Township.

4.9.2 Baseline Surveys of Public Roads

As part of the Road Use Agreements with each of the three road authorities, Coles Wind will conduct pre-construction baseline road surveys to assess the current condition of the roads and will submit these to the road authorities and as part of the Building Permit submittal. These surveys will be used to determine needed improvements and for assessing potential future damage.

4.9.3 Road Use Agreements

The RUAs being negotiated with each affected road district will meet or exceed the repair and inspection requirements of the WECS Ordinance. Specifically, under the RUA, Coles Wind accepts responsibility for the reasonable cost of improving roads used to construct the Project and the reasonable cost of repairing roads used during construction, so those roads are in a condition that is safe for the motoring public after completion of the Project's construction (55 ILCS 5/5-12020(s)). To ensure that future repairs are completed to the satisfaction of the Road District Commissioner or the County, Coles Wind will provide financial assurance in an amount to be fixed by the Road District Commissioner, the draft form of which is included in Appendix F.5.

The RUA will also cover the following:

- Project layout map;
- Transportation impact analysis;
- Pre-construction plans;
- Project traffic map;
- Project scope of repairs;
- Post-construction repairs;
- Insurance;
- Financial security in forms and amounts acceptable to the County and Townships;
- Construction phase;
- Operations phase; and
- Decommissioning phase

After construction, all repairs and improvements to public roads and roadway appurtenances shall be subject to inspection and acceptance by the County and Townships after such repairs and improvements have been made.

4.10 Site Assessment (*Design and Installation, §J*)

The Building Permit submittal will include geotechnical investigations by an Illinois-licensed engineer on behalf of Coles Wind at each turbine site to ensure that the subsurface conditions will properly support the turbines. The soil and geotechnical boring reports will be submitted to the County Engineer in the Building Permit submittal. Coles Wind will reach out to the Coles County Soil and Water Conservation District for any guidelines for Conservation Practices Impact Mitigation. Coles Wind will submit the grading plan for the Project Substation for review and comment by the County Soil and Water Conservation District prior to the Building Permit submittal.

4.11 Communications Analysis; Interference (*Design and Installation, §K*)

Coles Wind contracted with ComSearch to conduct telecommunication studies on television reception, land mobile and emergency services (E-911), AM/FM radio towers, FCC-licensed communication towers, and microwave beam paths, as required in the WECS Ordinance (*Design and Installation, §K)*. These telecommunication studies are included in Appendix D.4. Coles Wind provided ComSearch's qualifications to Kelly Lockhart (Executive Director of Coles County Regional Planning) on October 29, 2024, as required by the WECS Ordinance (Appendix D.4).

The Off-Air Television Report assessed television channels within and beyond 1½ miles of the footprint of the Project to serve as a baseline reading for television reception conditions prior to the construction of the Project. The analysis indicates steps that may be taken should interference occur due to operations of the Project (Appendix D.4).

The land mobile and emergency services analysis found that no FCC-licensed land mobile or public safety transmitting stations are expected to be adversely affected. This conclusion is based on: turbines being sited more than 77.5 meters from a tower (the closest proposed

turbine is approximately 690 meters); the E-911 communication system operating on a reliable network with multiple transmitter stations and a not line-of-sight environment; and the frequencies of operation for E-911 services have characteristics that allow the signal to propagate through wind turbines. The AM and FM Radio Report concludes that there are no AM stations within 30 kilometers (18.6 miles) of the Project and the closest distance to an FM station is 7.55 kilometers (4.7 miles) Project turbines are sited outside the 3-kilometer (1.9 mile) exclusion distance for which interference can occur (the closest turbine to an AM tower is 30-kilometers (18.6 miles)),, and, therefore, will not impact coverage of local AM radio stations. The report goes on to indicate that the coverage of FM stations is generally not sensitive to interference due to wind turbines, especially when turbines are located in the far field region of radiating antenna. At over 7 kilometers from the nearest FM station, turbines are sited adequately to avoid interference.

The microwave beam path study demonstrates that all turbines are sited to avoid interference with microwave beam paths in the Project Area, regardless of the turbine model. In addition to FCC-licensed telecommunications, operation of radio frequencies for federal government use is managed by the NTIA, which is part of the U.S. Department of Commerce. On December 7, 2022, Coles Wind submitted a notification letter to the NTIA describing the Project to determine potential impacts. After an approximately 45-day review period, Coles Wind received a response letter from the NTIA on February 2, 2023 indicating that no reviewing federal agencies had concerns with wind turbine construction in the Project Area. A copy of the response letter is included in Appendix D.4.

To comply with the WECS Ordinance, the Applicant must take commercially reasonable measures to minimize or mitigate any severe interference with microwave transmissions, emergency services, residential television interference, or radio reception. Coles Wind commits to undertaking commercially reasonable steps to respond to a written complaint related to interference caused by the Project as is required by the WECS Ordinance. The Project will also take immediate actions to mitigate or minimize interference with communications that impact local government public safety as required in the WECS Ordinance. Coles Wind will also provide copies of the Project Summary and Final Site Plan to all applicable microwave transmission providers and local emergency service providers and demonstrate compliance with this provision with the Building Permit submittal.

4.12 Noise Levels (*Design and Installation, §L*)

The WECS Ordinance (*Design and Installation, §L)* requires the Project to be in compliance with applicable IPCB noise regulations. The following sections discuss how the Project will comply with the IPCB's noise rules and regulations. As discussed in more detail below, the Applicant hired RSG, Inc. (RSG) to conduct a complete noise study of the planned Project. RSG's study determined that the Project is sited in compliance with the IPCB regulations.

4.12.1 IPCB Noise Regulations

Each WECS or WECS project will be in compliance with IPCB regulations. The IPCB has promulgated regulations under 35 Ill. Admin. Code Sections 900, 901 and 910 that are

applicable to wind farms. Under 35 Ill. Admin. Code §901, a WECS Project operating in an agricultural field (Class C Land) cannot cause an exceedance of sound levels to residential land (Class A Land). The IPCB standard is based on the land use of the sound source and receiver. Both alternative energy sources and agricultural are considered Class C. Residences are considered Class A, as is the land subject to residential use directly surrounding them. Therefore, impacts to individual residences, and the land subject to residential use immediately surrounding them are evaluated according to the Class C to Class A standard. The applicable standards are shown in Table 4.12.

Table 4.12
Allowable Octave Band Sound Pressure Levels (dBZ) of Sound Emitted to Receiving Class A Land from Class C Land

Limit Time	Sound Level Limit (dBZ) By Octave Band Center Frequency								
	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz	8 kHz
Class C to A Daytime	75	74	69	64	58	52	47	43	40
Class C to A Nighttime	69	67	62	54	47	41	36	32	32

4.12.2 Sound Modeling Report

Coles Wind hired RSG to perform a sound modeling analysis for the proposed Project turbines and Project Substation. For this analysis, all 62 turbine locations were modeled for each turbine model. The analysis was performed in accordance with the standard ISO 9613-2, taking into account typical industry standards for modeling inputs and assumptions such as ANSI/ACP 111-1. The analysis is over-inclusive and therefore incorporated conservative assumptions since it evaluated all proposed turbine locations, although only 51 turbine locations will be constructed for the Project. Another element of conservatism used in the study is the model assumes that each receptor is downwind from each turbine, which is not meteorologically possible.

As described above, the IPCB regulations limit sound to Class A (residential) from Class C (agricultural) land. Turbines are sited on Class C agricultural land. To determine the Class A areas, residential house points were identified within one mile of the Project Area as receptors. RSG reports on these receptor points in the sound study. In addition, any receptor point within 2 dB of an octave band limit was reviewed to confirm that the sound level contour demonstrating the IPCB limit did not cross the residential use (i.e. yard) surrounding the residence. By doing do, the sound study confirms that the IPCB limits are met at the Class A land, which includes the associated yard, and not just the residence itself.

The study, attached in Appendix D.5, demonstrates that the Project will comply with the Illinois Pollution Control Board's noise regulations, regardless of the turbine model to be constructed. To achieve full compliance, the turbine models have sound mitigation built into the turbine blades in the form of serrated trailing edges (Vestas turbines) and low-noise trailing edges (GE turbines). In addition, some turbine locations may operate in a Noise Reduced Operating (NRO) mode during nighttime hours to accommodate the IPCB nighttime noise limits. The GE 6.1-158 turbine model has seventeen turbines in NRO; the Vestas

turbine model does not require NRO. It should be noted that since all 62 turbines were modeled and only 51 turbines will be constructed, once the final set of turbine locations and the turbine model are determined, some or all of these NROs may not be required. Regardless of the turbine model selected for the Project, Coles Wind will submit a final sound modeling report with the WECS Building Permit submittal that demonstrates the turbine model selected and the final turbine locations comply with the IPCB limits.

In compliance with the WECS Ordinance (*Design and Installation, §L*), Coles Wind will provide the turbine manufacturer's wind turbine sound power level characteristics under separate cover. Turbine manufacturers consider sound power curves to be trade secret. Sound power curves will be submitted only to the county engineer or its designee with confidential trade secret markings.

4.13 Agricultural Impact Mitigation Agreement (*Design and Installation, §M*)

The WECS Ordinance and Illinois Renewable Energy Facilities Agricultural Impact Mitigation Act (505 ILCS 147/1, et seq.) requires that the Applicant provide an AIMA between the Applicant and the Illinois Department of Agriculture as part of the Special Use Permit application.

The intent of the AIMA is to preserve and/or restore the integrity of affected agricultural land during construction and decommissioning activities. A copy of that AIMA, signed by the Applicant, is included in Appendix F.1 as required in the WECS Ordinance (*SUP Application, §B.7 and Design and Installation, §M*) and was executed by the Department of Agriculture on October 31, 2024. Coles Wind provided a list of affected property owners to the Department of Agriculture and the Department mailed copies of the AIMA to affected landowners, as required, on November 20, 2024.

4.14 Avian and Wildlife Impact Study (*Design and Installation, §O*)[4]

The WECS Ordinance (*Design and Installation, §O*) requires that a third-party, qualified professional conduct an avian and wildlife impact study. The Applicant hired Western EcoSystems Technology, Inc. (WEST) to conduct wildlife studies in the Project area. Consistent with the WECS Ordinance (*Design and Installation, §O*), Coles Wind submitted WEST representative's resume on October 29, 2024 (Appendix D.6). A memo summarizing the wildlife studies is also provided in Appendix D.6.

Coles Wind has been coordinating with the USFWS and IDNR regarding the potential impact of the Project on flora and fauna since spring 2020. This early coordination included data requests and database reviews regarding the potential presence of federal and state threatened and endangered species and other protected species like eagles (species of

[4] Coles Wind notes the WECS Ordinance does not have *Design and Installation, §N; this appears to be an administrative error.*

concern) in the Project Area. In coordination with USFWS and IDNR, Coles Wind conducted a series of wildlife surveys and habitat assessments for species of concern with the potential to occur in the Project Area.

Coles Wind used the results from the studies, along with recommendations from the USFWS and IDNR, to inform appropriate impact avoidance, minimization, monitoring, and adaptive management measures for the Project (e.g., facility setbacks or construction timing restrictions). Table 4.14 summarizes the measures that Coles Wind has implemented into turbine siting to avoid potential impacts to species of concern. Additionally, associated facilities have been designed to either avoid habitat or implement avoidance measures based on agency coordination.

Table 4.14
Coles Wind's Habitat Avoidance Measures

Common Name	Species Status [1]	Agency Recommended Avoidance and Setback Implemented by Coles Wind
Indiana bat[2]	FE, SE	All proposed turbine rotor swept areas are sited at least 1,000 feet from suitable bat habitat, as recommended by USFWS. In addition, all turbines are sited at least 1,000 ft from 5-acres forested blocks as recommended by the IDNR to minimize impacts to bats.
Northern long-eared bat[2]	FE, ST	All proposed turbine rotor swept areas are sited at least 1,000 feet from suitable bat habitat, as recommended by USFWS. In addition, all turbines are sited at least 1,000 ft from 5-acres forested blocks as recommended by the IDNR to minimize impacts to bats.
Tricolored bat [2]	PE	All turbines are sited at least 1,000 ft from 5-acres forested blocks as recommended by the IDNR to minimize impacts to bats. The majority (90%) of proposed turbine rotor swept areas are sited at least 1,000 feet from suitable tricolored bat-only habitat, as recommended by USFWS.[3]
Snuffbox mussel [2]	FPE, SE	While this species is unlikely to occur in the Project Area, all proposed turbines are sited at least 300 feet from perennial streams, per IDNR best management practices/conservation measures.
Upland sandpiper[4]	SE	Turbines are sited outside upland sandpiper habitat. As agreed to with IDNR, construction activities will avoid the breeding season (April 15 – July 31) to the extent practicable. If construction activities occur during the breeding season, suitable habitat will either be removed prior to April 15 (i.e., mowed) or nest surveys may be conducted by a biological monitor to determine if upland sandpiper nests are present.
Monarch[5]	FPT	All proposed turbines are sited in cultivated cropland; therefore, impacts to suitable habitat are not anticipated. Recently proposed species; avoidance measures pending USFWS final listing rule.[5]
Bald Eagle	BGEPA	There are no bald eagle nests within the Project Area; the nearest known bald eagle nest is located 4.7 miles from the nearest proposed turbine.

Table 4.14
Coles Wind's Habitat Avoidance Measures

Common Name	Species Status [1]	Agency Recommended Avoidance and Setback Implemented by Coles Wind

[1] FE = Federally Endangered, FT = Federally Threatened, FPE = Federally Proposed Endangered, FPT = Federally Proposed Threatened, SE = State Endangered, ST = State Threatened, BGEPA = Bald and Golden Eagle Protection Act.

[2] USFWS, 2024, based on IPaC review

[3] USFWS defines tricolored bat habitat more conservatively by considering any tree or forested patch as habitat regardless of size.

[4] Species identified through wildlife studies; avoidance measures developed in coordination with IDNR.

[5] On December 12, 2024 the USFWS published its proposal to list the monarch butterfly as threatened; protections would not apply until the effective date of a final rule. The Endangered Species Act requires that the USFWS issue a final listing rule or withdraw the proposed rule within one year of publication of the proposed rule (i.e., by December 12, 2025). Coles Wind will continue to monitor the listing proposal for this species and will incorporate applicable measures based on formal guidance from the USFWS at the time of a final listing rule.

In addition to siting turbines away from sensitive habitats, Coles Wind has agreed to implement operational measures that have been shown to reduce impacts to species of concern, including curtailment of turbines during wind conditions and seasons when bats are most likely to be at risk. Coles Wind will curtail turbines at wind speeds up to 6.9 meters per second from sunset to sunrise from July 15 to October 15 until federal incidental take permit and state incidental take authorization for bats have been obtained for the Project. The siting and operational measures employed are likely to be successful in avoiding impacts to birds and bats, including species of concern, and Coles Wind has agreed to conduct at least one year of post-construction monitoring to confirm that is the case.

Further, in addition to the species-specific recommendations addressed in Table 4.14 above, Coles Wind will comply with the following IDNR recommended conservation measures and setbacks listed in the EcoCAT letter for the Project:

- Implement lighting recommendations (shielded fixtures, "warm-white" or filtered LEDs, limit lighting to lumens needed) for the O&M Facility.
- Utilize demand-controlled night marking.
- Implement and properly maintain soil erosion and sediment control BMPs and utilize wildlife-friendly plastic-free erosion control blanket Turbine setbacks including: (1) more than 1 mile away from Illinois Nature Preserves Commission properties and IDNR owned, managed and leased properties, and more than 0.25 miles away from Illinois Natural Area Inventory Sites and Biologically Significant Streams, (2) more than 1,000 feet from forested riparian corridors and 5- acre forested blocks, and (3) more than 300 linear feet from any perennial stream
- Perform due diligence to locate Conservation Restoration Easement Program .

As a company with a core value of Sustainability, Apex Clean Energy endeavors to not only minimize our projects' impacts, but to ensure that our renewable energy projects further benefit host communities by preserving and restoring natural resources in the vicinity of our projects. Through the Apex Conservation Grant program, each renewable energy project commercialized by Apex Clean Energy will voluntarily contribute $1,000 per MW to support local or regional wildlife conservation, reforestation and flora restoration, protection of

sensitive habitats such as grassland or wetlands, and other environmental conservation initiatives in or near project communities.

4.15 As-Built Map and Plans (*Design and Installation, §P*)

Coles Wind will deliver an "as-built" maps that have been signed and stamped by a Professional Engineer and a licensed surveyor to the County Engineer within 60 calendar days of completing construction.

4.16 Engineer's Certificate (*Design and Installation, §Q*)[5]

As set forth in Section 4.1 above, Coles Wind will submit an engineering assessment and certification in the Building Permit submittal after the turbine model has been selected and the site-specific geotechnical investigation is completed, which is consistent with industry standards.

4.17 Conformance with Approved Application Plans (*Design and Installation, §R*)

Coles Wind agrees to construct and operate the Project in substantial conformance with the construction plans contained in the Special Use Permit and the Building Permit submittal. As a result of final micro-siting, the turbine locations may show minor shifts from those shown in the Final Site Plan. These shifts may be necessary to avoid newly identified cultural resources or due to geotechnical testing results at the wind turbine locations, landowner input, or other factors. Therefore, consistent with the WECS Ordinance (*Design and Installation, §R*), Coles Wind requests that the County Board approve this Application with a condition that expressly allows turbines to be shifted up to 100 feet from each turbine location identified in the Final Site Plan without prior Board approval, so long as the turbine shifts comply with all county setback requirements and specified noise and shadow flicker requirements; cultural resource impacts are avoided or mitigated; environmental minimization and avoidance measures are adhered to; and wetland impacts are avoided or appropriately permitted. Coles Wind will notify the County Engineer of these shifts and will identify final turbine locations in the Building Permit submittal.

Similarly, the Preliminary Site Plan shows the location of access roads and collection lines that have been selected with input from the landowner to minimize impacts to agricultural operations and meet individual landowner needs. However, final micro-siting, field conditions, and other factors may necessitate shifts in these facilities. The "as-built" plans will reflect the final layout.

[5] Coles Wind notes that the timing of the submitting the engineer's certification is unclear under the WECS Ordinance; however, such certifications and final, stamped engineering plans are typically submitted with a building permit. Thus, Coles Wind will submit these documents with the WECS Building Permit application.

4.18 Additional Terms and Conditions (*Design and Installation, §S*)

4.18.1 Compliance with the Professional Engineering Practice Act of 1989 (*Design and Installation, §S.1*)

All technical submissions contained in this Application and that will be provided in the Building Permit submittal will be prepared and signed by an Illinois Professional Engineer or structural engineer for the relevant discipline.

4.18.2 Inspections (*Design and Installation, §S.2*)

Coles Wind understands Coles County may retain a qualified, independent code inspector or professional engineer both to make appropriate inspections of the WECS Project during and after construction and to consult with the County to confirm the construction, substantial repair, replacement, repowering, and/or decommissioning of the WECS Project is performed in compliance with applicable electrical and building codes. The cost and fees so incurred by the County in retaining said inspector or engineer will be reimbursed by Coles Wind.

4.18.3 Access Road Gates (*Design and Installation, §S.3*)

Coles Wind has conducted site plan reviews with all landowners hosting facilities. As part of those reviews, three landowners have requested locked metal gates on access road entrances to four turbines (see Appendix B.1). Coles Wind has waivers from all other landowners with access roads except four; Coles Wind will continue working with these landowners to understand if they want a locked metal gate. Should these waivers not be received prior to construction, Coles Wind will install gates at these access roads. Coles Wind will provide an update on the outstanding gate waivers with the Building Permit submittal. A Template Access Road Location Approval and Gate Waiver Form is included in Appendix B.8.

4.18.4 Special Use Permit shall bind and inure (*Design and Installation, §S.4*)

The ordinance granting Special Use Permit to Coles Wind shall bind and inure to the benefit of the Applicant, its successors-in-interest and assigns.

4.18.5 Approved Entrances (*Design and Installation, §S.5*)

If necessary, Coles Wind will provide written proof of approved entrances from the appropriate governing road and highway jurisdiction to the Coles County Board in the Building Permit submittal. As described in Section 4.19 (Use of Public Roads), these approvals will be negotiated with the RUAs with Coles County and the applicable townships.

4.18.6 Telecommunication Interference (*Design and Installation, §S.6*)

As described in Section 4.11, turbines are sited to avoid interference with telecommunications, including microwave communications, FCC-licensed communication towers, land mobile and emergency services, AM/FM radio, and television reception.

4.18.7 Icing Conditions (*Design and Installation, §S.7*)

Coles Wind will deploy two methods to detect icing conditions on turbine blades. First, turbine sensors and the turbine control system will assess ice detection. The turbine ice detection system will shut down turbines when icing or thawing events are detected. Second, the Project will utilize a combination of meteorological and ice sensors to determine whether ice accumulation is likely. The Project will be designed to shut down turbines if these conditions occur or the Applicant will manually shut down turbines if icing conditions are present.

5. OPERATION

The Project will be staffed locally from an operations and maintenance (O&M) Facility preliminarily located in the north central portion of the Project Area as shown on the Preliminary Site Plan. The Project will be operated and maintained by a team of personnel including facility managers, a site manager, and a certified crew of technicians. All contact information for the Project's facilities including the names of key Project staff will be provided to relevant Coles County and Project Road District officials and authorities, and participating landowners.

5.1 Project Maintenance (*Operation, §A*)

During operations, the O&M staff will perform scheduled, preventive maintenance on the turbines. This is typically done in conjunction with representatives from the turbine manufacturer. Turbine maintenance is performed twice a year as a semiannual and annual maintenance. Semiannual maintenance is conducted on the turbine for 10 hours (per turbine) with a crew of technicians. It consists of lubrication, fluid checks, minor electrical inspections and checks of turbine functionality. The annual maintenance is a 36-hour inspection per turbine with a crew of technicians. During this inspection, the entire turbine is maintained, including but not limited to bolt torque checks on tower and all major components, lubrication and filter changes, electrical inspections, pitch calibrations, and blade inspections. The onsite operations team also will drive throughout the Project on a daily basis conducting unrecorded visual inspections of the Project. This team will be at the Project site or O&M Facility during normal business hours and will also have specified personnel on-call 24 hours per day, seven days per week, should an issue arise outside of normal business hours.

The Applicant will submit an operation and maintenance report on an annual basis to Coles County on the anniversary date of the Special Use Permit approval. The annual report will contain the following information:

- A general description of any physical repairs, replacements, or modification(s) to the WECS and/or its infrastructure;
- Complaints pertaining to setbacks, noise, shadow flicker, safety, lighting, and use of any public roads received by Coles Wind and the resolution of such complaints;
- Calls for emergency services;
- Status of liability insurance; and
- A general summary of service calls to the WECS.

Pursuant to the WECS Ordinance (*Operation, §A.2*), Coles Wind will provide re-certification documentation from a third-party should turbine maintenance require any physical modification to the turbines that alters the mechanical load, mechanical load path, or major electrical components (certification described in Section 4.1 of this Application). This re-certification will be provided prior to any physical modification. Any like-kind replacements and modifications that are made in the ordinary course of operations including expected repairs and warranty items shall not require the re-certification.

5.2 Coordination with Emergency Responders (*Operation, §B*)

5.2.1 Submittal of Plans to Local Emergency Responders (*Operation, §B.1*)

Coles Wind will provide the Final Site Plan, Standard Operating Procedures/Guidelines to local emergency responders in the Building Permit submittal. These documents ensure local law enforcement, fire protection district and rescue units, emergency medical service providers, and emergency management service providers that have jurisdiction over each turbine can coordinate their emergency response plans with Coles Wind.

5.2.2 Annual Training (*Operation, §B.2*)

Coles Wind offers to provide, at its expense, annual training and necessary equipment to local emergency responders so they can properly respond to a potential emergency at the Project. The first emergency response trainings/drill will commence within 90 days of operations and be conducted annually thereafter. Coles Wind notes that responding to an emergency situation at the Project will not require specialized equipment. Local emergency responders need only secure the site if up-tower emergency occurs. If a member of the operations and maintenance team is involved, the highly trained operations and maintenance staff work in pairs and are responsible to get each other down from any up-tower incident. Once on the ground, local emergency personnel assist in treating any injuries. Therefore, Coles Wind may assist an emergency department with updating or increasing existing equipment, but new specialized equipment to respond to the Project is not required.

5.2.3 Emergency Response Plan (*Operation, §B.3*)

Coles Wind provides a draft Emergency Action Plan (EAP) in Appendix D.7. This draft EAP is intended to demonstrate the attention, diligence, and resources the Applicant dedicates to safety and responding to emergency situations. Coles Wind has shared an overview of the EAP with the Cooks Mill, Humboldt, Lincoln, Oakland Community, and Ashmore Fire Protection Districts and Coles County Emergency Management Agency. Coles Wind is actively coordinating with other safety officials (Coles County Sheriff, Seven Hickory Morgan and Hindsboro Fire Protection Districts) to collect feedback and finalize the EAP in the coming months. Based on this coordination and as part of the Building Permit submittal, Coles Wind will finalize an emergency response plan that ensures that there will always be close coordination with emergency responders and local officials. This plan, at a minimum, will include contact information (names, titles, email addresses, cell phone numbers) for Coles Wind's local Project representatives as well as its ROCC, which is staffed 24 hours a day, 7 days a week, 365 days per year. The plan will be updated upon changes in the designated WECS representatives and annually. Any changes to the designated representative and their contact information will be promptly communicated to the County.

On November 19, 2024, the Applicant's Director of Health and Safety, Jason Conley, in partnership with Jim Hilgenberg, Director of Coles County Emergency Management Agency, hosted a meeting with local emergency response officials. The primary purpose of this meeting was to provide an overview of the Emergency Action Plan for Coles Wind, answer

questions and collect feedback from local emergency responders. The discussion was focused around Apex Clean Energy's core value of safety, and how we remain diligent on validating this throughout the duration of the project, during construction, as well as once the site is fully operational. The Apex Team, including Mr. Conley, who is a safety professional with experience in emergency response, is committed to creating open lines of communication and establishing key relationships for future collaboration and safe operations at and around the Project.

This meeting included local representatives from the following agencies and fire districts:

1. Cooks Mill Fire Protection District
2. Humboldt Fire Department
3. Lincoln Fire Protection District
4. Oakland Community Fire Protection District
5. Ashmore Fire Protection District
6. Coles County Emergency Management Agency

5.2.4 Plat Preparation and Recording (*Operation, §B.4*)

As described in Section 4.15, Coles Wind will prepare an "as-built" map and plans that have been signed and stamped by a Professional Engineer and an Illinois licensed land surveyor within 60 days of completing construction. This information will also be used for the plat preparation showing the metes and bounds description, including access routes, of the area immediately surrounding each wind turbine, the Project Substation, O&M Facility, and ADLS radar tower. Within 60 days after completion of construction of the Project, Coless Wind will record the plat and deliver a copy of it to the chief county assessment officer and to the landowner. Pursuant to 35 ILCS 200/10-620, the chief county assessment officer will issue separate parcel identification numbers for the property containing the above-ground WECS facilities for the purposes of property taxes.

5.2.5 E-911 Addressing (*Operation, §B.5*)

Coles Wind will provide GIS shapefiles of the turbine locations and associated access roads, the Project Substation, and O&M Facility to Coles County Regional Planning Commission as part of the Building Permit submittal. This information will be used for E-911 addresses for each of the wind turbines, Project Substation, and the O&M Facility. This coordination will ensure the local law enforcement, fire protection district and rescue units, emergency medical service providers, and emergency management service providers that have jurisdiction in the area evaluate and coordinate their emergency response plans with Coles Wind.

5.2.6 Compliance with other Laws and Regulations (*Operation, §B.6*)

Coles Wind will comply with all other applicable life safety, fire, and emergency laws and regulations.

5.3 Water, Sewer, Materials Handling, Storage, and Disposal (*Operation, §C*)

All solid wastes generated during the construction, operation, and maintenance of the Project will be removed from the site promptly and recycled to the extent practicable and disposed of in accordance with all federal, state and local laws and regulations regarding waste disposal.

Construction, operation and maintenance of the Project are not likely to result in the generation of any hazardous wastes. If hazardous waste is produced it will be handled according to local, state or federal laws and regulations. Safety Data Sheets will be retained at the O&M Facility and copies of these sheets will be provided to the local fire departments in accordance with federal laws and regulations.

The Project will comply with all existing applicable septic and well regulations of Coles County Health Department and the State of Illinois Department of Public Health.

5.4 Shadow Flicker (*Operation, §D*)

The WECS Ordinance (*Operation, §D)* requires an applicant to submit a model study on potential shadow flicker. The study shall "demonstrate to the County Board through industry standard modeling that no occupied community building or non-participating residence will experience an expected duration of 30 hours or more per year." To satisfy this requirement, Coles Wind hired EDR to perform a shadow flicker modeling analysis for the Project turbines. WindPRO, a standard industry software, was used to perform the shadow flicker modeling for both turbine models under consideration at all 62 turbine locations. The analysis reflects a conservative approach in that all 62 turbine locations were evaluated, even though no more than 51 turbines will ultimately be constructed. In addition, the model also assumes turbines are always operating. And lastly, the model does not account for existing screening around residences such as barns, trees, or other structures that may obstruct turbine shadows.

The analysis from EDR, which is provided in Appendix D.8, shows no occupied community building or non-participating residence will exceed the 30 hours per year shadow flicker limit for both turbine models. For both models, there are two participating residences modeled over 30 hours per year (the same two participating residences are modeled over 30 hours per year for both turbine models studied). For these two participating landowners, while not required by the WECS Ordinance, both have signed a waiver of the shadow flicker mitigation requirement; these waivers have been filed with the County Recorder of Deeds Office (see Section 3.10 and Appendix B.1). Therefore, the Project is designed in compliance with the WECS Ordinance.

Regardless of the turbine model selected for the Project, Coles Wind will submit a final shadow flicker report with the WECS Building Permit submittal that demonstrates the turbine model selected and the final turbine locations comply with the WECS Ordinance.

5.5 Signage (*Operation, §E*)

As described in Section 4.4 (Aesthetics), no advertising or signage, outside of safety warnings or standard manufacturer markings, will be affixed to any of the turbines. Coles Wind will include visible warning signage concerning voltage at the Project Substation. Additionally, if the GE 6.1-158 turbine is used, voltage warning signage will be placed at the pad-mounted transformer at the base of the turbine. This voltage warning signage would not be needed at the base of the V162-6.0 turbine because the turbine transformer is located in the nacelle, it is not pad-mounted. Each turbine access road will also have a sign that indicates the turbine number and provide a toll-free telephone number to be answered twenty-four hours a day seven days per week for emergency calls.

5.6 Drainage Systems (*Operation, §F*)

The WECS Ordinance requires the Applicant to repair drain tile systems that are damaged by Project construction. In addition, the lease agreements with Participating Landowners and the AIMA include requirements pertaining to repair of drainage tiles. The Applicant will comply with all state and local requirements related to the treatment and repair of drainage tiles. To that end, Coles Wind includes a Farmland Drainage Systems Repair and Remediation Plan in Appendix D.9.

5.7 Complaint Resolution (*Operation, §G*)

Coles Wind will coordinate with the County to develop a system for logging and investigating complaints relating to the operation of the Project. The Applicant commits to resolving any non-emergency complaint on a case-by-case basis and will provide written confirmation to the Coles County Board after complaints are resolved. The Applicant will maintain a toll-free telephone number and an email address as a public information/complaint "hotline". The telephone number and email account will be staffed by a Project employee. This contact information will be posted in a prominent, easy to find location on the Project's website, be provided to participating landowners, and be posted at the Project site. As discussed in Section 5.1 of this Application, a summary of complaints and resolutions will be provided in the Annual Report, as required by WECS Ordinance *Operation, §A.1.*

6. LIABILITY INSURANCE AND INDEMNIFICATION

The Coles County WECS Ordinance requires that an applicant has sufficient insurance in place at the time of its WECS Building Permit submittal. In accordance with these requirements, Coles Wind will maintain and pay for (a) comprehensive commercial general liability insurance and automobile liability coverage covering bodily injury, death and illness, and property damage with limits of not less than $5,000,000 per occurrence, and (b) excess liability insurance with a limit of not less than $20,000,000 in the aggregate. All of these limits will be met with primary and excess policies and Coles Wind will ensure that the total amount of insurance coverage provided is equal to or greater than the amount specified here and will be in place upon issuance of the WECS Building Permits.

7. DECOMMISSIONING AND SITE RECLAMATION PLAN

The WECS Ordinance requires a decommissioning plan with cost estimates. Furthermore, Section 21 of the AIMA then imposes specific decommissioning and financial assurance requirements. As discussed in more detail below, the Decommissioning Plan that is included in Appendix D.1 meets, and in many cases exceeds, these requirements.

Coles Wind's Decommissioning Plan.

Westwood Professional Services (Westwood) prepared a Decommissioning Plan for Coles Wind which both fulfills the decommissioning requirements of the WECS Ordinance and aligns with the decommissioning commitments contained within the Project's AIMA. A copy of the proposed Decommissioning Plan is included in Appendix D.1.

As discussed in more detail in the Decommissioning Plan, decommissioning of Coles Wind includes:

- Removal of all above-ground components (turbines, ADLS radar tower, Project Substation, O&M Facility, LiDAR).
- Removal of all turbine, tower, and building foundations to a depth of five feet.
- Removal of all underground collection systems and cables to a depth of five feet.
- Removal of access roads (unless the landowner requests the road to remain) and crane paths.
- Restoration of access roads, including decompaction.
- Reclamation, re-grading, and restoration of disturbed areas including topsoil reapplication and decompaction of soils.
- Sediment and erosion controls during and following decommissioning.
- Repair of public roads to pre-decommissioning condition.

Westwood determined the estimated decommissioning costs for all decommissioning activities based on the requirements in the WECS Ordinance as well as cost assumptions based on a variety of factors including the future land use after decommissioning, engineering and construction practices, road and turbine removal, salvage value of Project materials, and more. The estimated decommissioning cost in current dollars is expected to be around $180,104 or $164,767 per turbine after salvage value, including associated facilities, for the GE 6.1-158MW turbine and V162-6.0MW turbine, respectively.

Through these elements, Coles Wind's Decommissioning Plan satisfies the requirements of the AIMA, and therefore, satisfies the requirements of the WECS Ordinance.

Coles Wind has Included Extra Protections to Further Protect Coles County.

Coles Wind has specifically incorporated the following three terms into the decommissioning plan:

- Included a 12.5% cost contingency and county administrative cost;
- Included payments to farmers in the event of crop damage during decommissioning; and
- Reduced the salvage value of scrap materials based on potential concerns that current scrap metal pricing is unusually high.

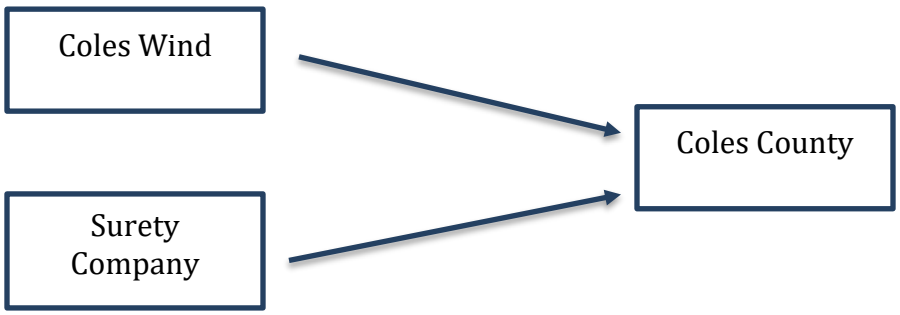
None of these are required by the WECS Ordinance or AIMA. Nonetheless, Coles Wind's Decommissioning Plan includes each of these extra provisions.

Coles Wind has Included a template Bond to Further Guarantee that Coles County Will Not Have to Pay for Decommissioning.

Coles Wind includes a draft performance bond in Appendix D.1 for the Decommissioning Plan that complies with Section 21.D of the AIMA.

A bond is a legal agreement where a separate company (known as a surety) guarantees that Coles Wind performs its decommissioning obligations for the benefit of Coles County. In exchange for this guarantee, Coles Wind pays the surety an annual premium.

The Bond Provides a Second Source of Protection for Coles County



The entire purpose of such a decommissioning performance bond is to protect Coles County. Thus, it is designed, along with the Decommissioning Plan, to ensure that if something unexpected or unfortunate should happen to Coles Wind, Coles County can draw on the bond to ensure that decommissioning is completed without Coles County paying for it.

With its WECS Building Permit submittal, Coles Wind will provide financial assurance in the form of a performance bond that names Coles County the primary beneficiary and landowners as the secondary beneficiaries.

Pursuant to the WECS Ordinance and AIMA, the Decommissioning Plan and associated cost estimate and financial assurance will be updated on or before the tenth (10^{th}) anniversary of the commercial operations and every five (5) years thereafter.

8. FEE SCHEDULE AND PERMITTING PROCESSES

The WECS Ordinance *(Fee Schedule and Permitting Process, §1.a)* requires a Special Use Permit application fee of $500 per MW of proposed nameplate capacity, up to a maximum fee of $150,000. The Project is an up to 311.1 MW nameplate capacity wind project. At $500/MW, the Application fee is calculated as follows:

$500/MW X 311.1 MW = $155,550.

Because this amount exceeds the maximum of $150,000, Coles Wind includes a permit fee of $150,000 with this Application.

Coles Wind will pay an additional Building Permit fee ($25/foot of hub height) with its WECS Building Permit submittal consistent with the dimensions of the selected turbine model.

In addition, per the WECS Ordinance (*Hearing Facilitator*), Coles Wind will reimburse the County for any fees and costs charged by the hearing facilitator, as applicable.

9. WECS BUILDING PERMIT SUBMITTAL CHECKLIST

Coles Wind includes a checklist of items either required by the WECS Ordinance and/or committed to in this Application that will be included in the WECS Building Permit submittal. This list is intended to supplement the information provided in this Application and demonstrate Coles Wind's commitment to complying with the WECS Ordinance, any conditions required by the Special Use Permit, and other laws as noted. As discussed throughout this Application, many final reports, studies, plans, and agreements are dependent on the final turbine model selection, and associated turbine locations, engineering, field studies, and landowner input. Therefore, this checklist in Table 9.0 provides a summary of those forthcoming items and will be augmented with conditions imposed by the County Board and updated or additional information collected prior to this WECS Building Permit submittal.

Table 9.0
WECS Building Permit Submittal Checklist

WECS Ordinance Reference	Checklist Item
Special Use Permit Application	
B.1	Anticipated Construction Timeline
B.3	Final Site Plan
B.4	Compliance with the Federal Aviation Administration Requirements
	DNHs for turbines
	ADLS location approval
Design and Installation	
A.1	Certificate of design compliance for the selected turbine model
A.2	Foundation and tower design certifications
I	Use of public roads
	Coles County Road Use Agreement (including Pre-Construction Baseline Survey and Financial Assurance)
	Morgan Township Road Use Agreement (including Pre-Construction Baseline Survey and Financial Assurance)
	Seven Hickory Township Road Use Agreement (including Pre-Construction Baseline Survey and Financial Assurance)
J and Q	Geotechnical Report
	Project Substation grading plan to SWCD
K	Project Summary and Final Site Plan to microwave transmission providers
L	Final Sound Modeling Report
R	Certificate of Conformance with Approved Application and Plans – Final Site Plan
S.3	Additional gate waivers received since Application submittal
S.5	Approved Road Entrances
Operation	
B	Coordination with Emergency Responders
	Finalize Emergency Action Plan with Emergency Responders
	Submit Final Site plan, standard operating procedures/guidelines to emergency responders

Table 9.0 WECS Building Permit Submittal Checklist	
WECS Ordinance Reference	**Checklist Item**
	E-911 Addressing GIS shapefiles of turbine locations and associated access roads
D	Final Shadow Flicker Modeling Report
Liability Insurance	Liability Insurance and Indemnification – Certificate of Insurance
Decommissioning	Final Decommissioning and Site Reclamation Plan
	Coles County Form of Financial Assurance for Decommissioning
Fees	Building Permit Fee

Appendix A

Project Maps

1. Project Summary (*SUP Application, §B.1*)
2. Site Control (*SUP Application, §B.2*)
3. Turbine Setbacks (*SUP Application, §B.3; Design and Installation, §G*)
4. Preliminary Site Plan (*SUP Application, §B.3*)
5. Topographic Map (*SUP Application, §B.8*)
6. Protected Lands (*SUP Application, §B.13*)
7. County and Township Approved Public Roads (*SUP Application, §B.3; Design and Installation, §I*)

Coles Wind
Figure 1
Project Summary

Preliminary Project Facilities

- Proposed Turbine*
- Proposed ADLS
- Temporary PPT/LiDAR
- Access Road
- Underground Collection
- Temporary Turn**
- Project Substation
- O&M Facility
- Switching Station***
- Laydown Yard
- Laydown/Batch Plant

- Project Boundary
- County Boundary
- Existing 345kV Transmission
- Railroad
- State Highway
- County Road
- Township/Local Road

*Turbines are not drawn to scale.
There are 62 turbine positions.
Only 51 Turbines will be constructed.

**Temporary Turns are preliminary. Symbology here denotes a temporary turn is likely required. The final design of the turn is subject to final engineering.

***Switching Station to be constructed, owned, and operated by Ameren.

Date: 1/10/2025

Coordinate System: NAD 1983 StatePlane Illinois East FIPS 1201 Feet
Projection: Transverse Mercator
Datum: North American 1983
Units: Foot US

COLES WIND
A project by APEX

Douglas County
Coles County
T1 T2 T3 T4 T5 T6 T7 T8 T9 T10 T11 T12 T13 T14 T15 T16 T17 T18 T19 T20 T21 T22 T23 T24 T25 T26 T27 T28 T29 T30 T31 T32 T33 T34 T35 T36 T37 T38 T39 T40 T41 T42 T43 T44 T45 T46 T47 T48 T49 T50 T51 T52 T53 T54 T55 T56 T57 T58 T59 T60 T61 T62
1900 N
1800 N
1700N
1600 N
1500N
1475 N
1450 N
1425 N
1400 N
1380 N
1350 N
1300 N
1275 N
1250 N
1220 N
1150E
1225E
1650 E
1775E
1875E
1950 E
1100 E
1200 E
1300 E
1400 E
1700 E
1800 E
1820E
1850 E
1870E
1880 E
1940E
2000 E
2060 E
2080 E
DECKER SPRINGS RD/1500E
AIRFLIGH
09
21
08
02
16
28
130
N
0 0.25 0.5 1 1.5 Kilometers
0 0.25 0.5 1 Miles

Coles Wind
Figure 2
Site Control

Preliminary Project Facilities

- Proposed Turbine*
- Proposed ADLS
- Temporary PPT/LiDAR
- Access Road
- Underground Collection
- Temporary Turn**
- Project Substation
- O&M Facility
- Switching Station***
- Laydown Yard
- Laydown/Batch Plant

- Project Boundary
- Easement for Underground Facilities
- Participation and Support Agreement
- Wind Lease and Easement
- Additional Coles Wind Ally
- County Boundary
- Existing 345kV Transmission
- Railroad
- State Highway
- County Road
- Township/Local Road

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COLES WIND
A project by APEX

Coles Wind
Figure 3
Turbine Setbacks

- Proposed Turbine*
- Project Boundary

Turbine Setbacks

- Occupied Community Building
- Participating Residence
- Nonparticipating Residence
- Nonparticipating Parcel
- Public Road Rights-of-Way
- Utiliity Infrastructure
- Protected Land**

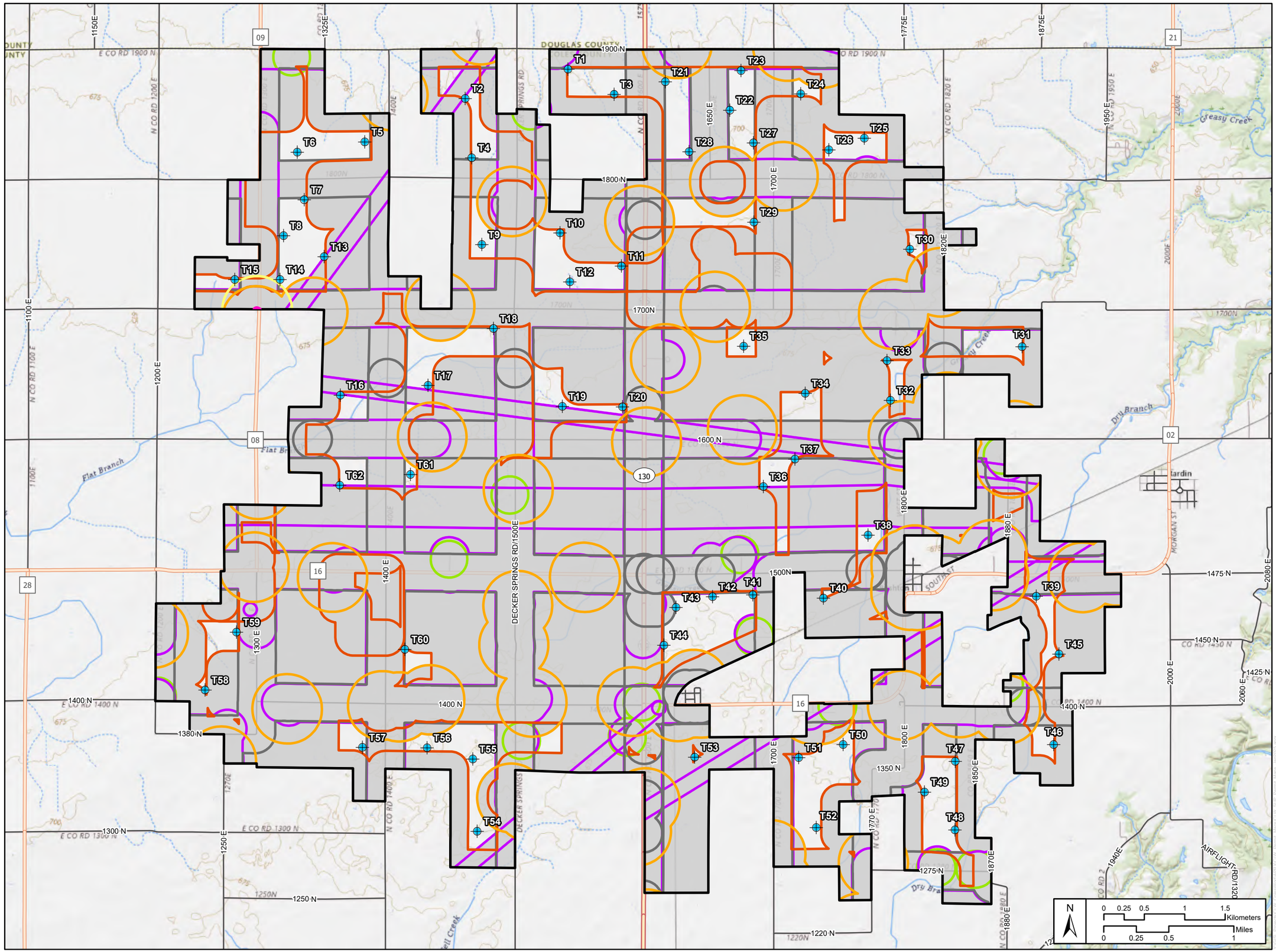
*Turbines are not drawn to scale.
There are 62 turbine positions.
Only 51 Turbines will be constructed.

**There are no Fish and Wildlife Areas or Illinois Nature Preserve Commission Protected Lands within 1,500 feet of the Project Area

Date: 1/10/2025

Coordinate System: NAD 1983 StatePlane Illinois East FIPS 1201 Feet
Projection: Transverse Mercator
Datum: North American 1983
Units: Foot US

COLES WIND
A project by APEX



Coles Wind
Figure 4
Preliminary Site Plan

Preliminary Project Facilities

- Proposed Turbine*
- Proposed ADLS
- Temporary PPT/LiDAR
- Access Road
- Underground Collection
- Temporary Turn**
- Project Substation
- O&M Facility
- Switching Station***
- Preliminary Laydown Yard
- Preliminary Laydown/Batch Plant
- Participating Primary Structure
- Non-participating Primary Structure
- Occupied Community Building
- Other Structure
- Communcation Tower within 2 miles
- Project Boundary
- Easement for Underground Facilities
- Participation and Support Agreement
- Wind Lease and Easement
- Turbine Setback
- Delineated Wetland
- NWI Wetland
- PLSS Township
- PLSS Section
- County Boundary
- Existing 345kV Transmission
- Railroad
- State Highway
- County Road
- Township/Local Road

Date: 1/10/2025
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Projection: Transverse Mercator
Datum: North American 1983
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COLES WIND
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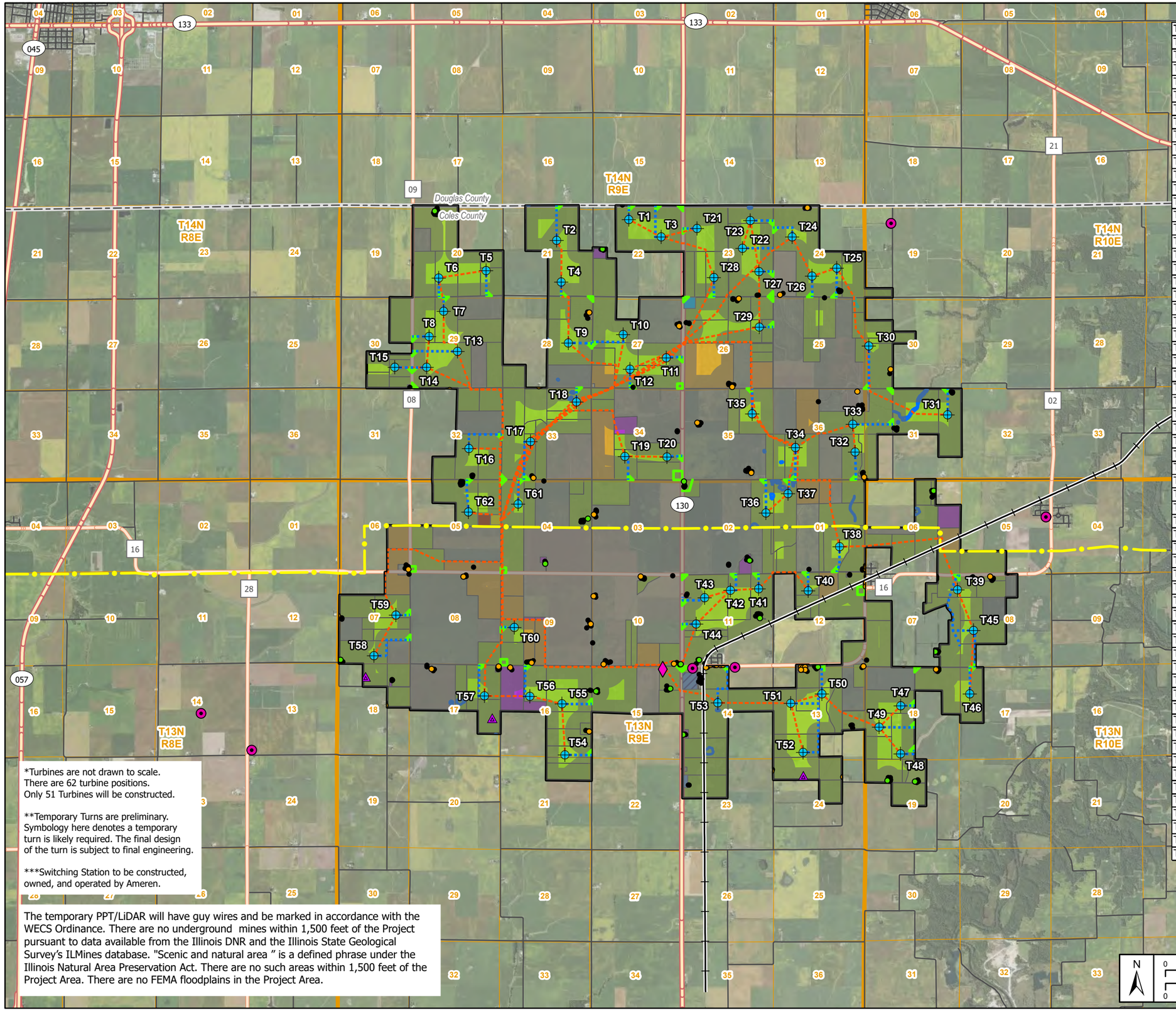

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Only 51 Turbines will be constructed.

**Temporary Turns are preliminary. Symbology here denotes a temporary turn is likely required. The final design of the turn is subject to final engineering.

***Switching Station to be constructed, owned, and operated by Ameren.

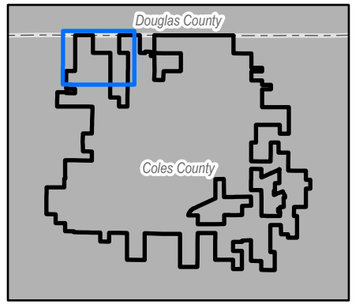
The temporary PPT/LiDAR will have guy wires and be marked in accordance with the WECS Ordinance. There are no underground mines within 1,500 feet of the Project pursuant to data available from the Illinois DNR and the Illinois State Geological Survey's ILMines database. "Scenic and natural area " is a defined phrase under the Illinois Natural Area Preservation Act. There are no such areas within 1,500 feet of the Project Area. There are no FEMA floodplains in the Project Area.

N

0 0.5 1 1.5 2 Kilometers

0 0.5 1 1.5 Miles

Turbine	Township	Range	Section
T1	T14N	R9E	22
T2	T14N	R9E	21
T3	T14N	R9E	22
T4	T14N	R9E	21
T5	T14N	R9E	20
T6	T14N	R9E	20
T7	T14N	R9E	29
T8	T14N	R9E	29
T9	T14N	R9E	28
T10	T14N	R9E	27
T11	T14N	R9E	27
T12	T14N	R9E	27
T13	T14N	R9E	29
T14	T14N	R9E	29
T15	T14N	R9E	30
T16	T14N	R9E	32
T17	T14N	R9E	33
T18	T14N	R9E	33
T19	T14N	R9E	34
T20	T14N	R9E	34
T21	T14N	R9E	23
T22	T14N	R9E	23
T23	T14N	R9E	23
T24	T14N	R9E	24
T25	T14N	R9E	24
T26	T14N	R9E	24
T27	T14N	R9E	23
T28	T14N	R9E	23
T29	T14N	R9E	26
T30	T14N	R10E	30
T31	T14N	R10E	31
T32	T14N	R9E	36
T33	T14N	R9E	36
T34	T14N	R9E	36
T35	T14N	R9E	35
T36	T13N	R9E	2
T37	T13N	R9E	1
T38	T13N	R9E	1
T39	T13N	R10E	7
T40	T13N	R9E	12
T41	T13N	R9E	11
T42	T13N	R9E	11
T43	T13N	R9E	11
T44	T13N	R9E	11
T45	T13N	R10E	8
T46	T13N	R10E	17
T47	T13N	R10E	18
T48	T13N	R10E	18
T49	T13N	R10E	18
T50	T13N	R9E	13
T51	T13N	R9E	13
T52	T13N	R9E	13
T53	T13N	R9E	14
T54	T13N	R9E	16
T55	T13N	R9E	16
T56	T13N	R9E	16
T57	T13N	R9E	17
T58	T13N	R9E	7
T59	T13N	R9E	7
T60	T13N	R9E	9
T61	T13N	R9E	4
T62	T13N	R9E	5



Coles Wind
Figure 4
Preliminary Site Plan

Preliminary Project Facilities
- Proposed Turbine*
- Access Road
- Underground Collection
- Temporary Turn**

- Participating Primary Structure
- Non-participating Primary Structure
- Occupied Community Building
- Other Structure
- Communcation Tower within 2 miles
- Project Boundary
- Easement for Underground Facilities
- Participation and Support Agreement
- Wind Lease and Easement
- Turbine Setback
- Delineated Wetland
- NWI Wetland
- Parcel Boundary
- County Boundary
- County Road
- Township/Local Road

*Turbines are not drawn to scale.
There are 62 turbine positions.
Only 51 Turbines will be constructed.

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Date: 1/13/2025

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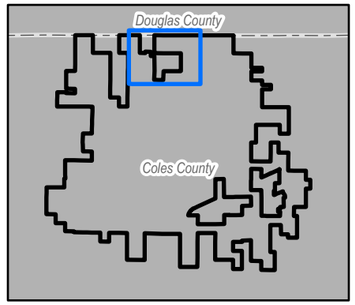
Projection: Transverse Mercator
Datum: North American 1983
Units: Foot US

COLES WIND
A project by APEX

Douglas County
Coles County
09
08
1325E
1900 N
1400 E
1800 N
Jennifer Tapen
Brenda Lee Reeser
Douglas County Farms Llc
Porter
Porter
Patricia Ann Young
Glenda Kay Shonkwiler, Trustee, Shonkwiler Trusts
Janice Mulligan Lauroesch, Trustee, c/o Busey Ag Services, Mulligan/Lauroesch/Edwards Family Revocable Trust
Bruce I. Thompson
Jane Tuggle Farr Nancy
Dan c miller
Dan c miller
Lori a gordon bruce i mcnary
Mark Alan Whitson Leigh Ann Whitson
Eric N. Headrick
Bruce I. Thompson, President, Bruce Thompson Farms, Inc.
Rita J Austin
Nancy Preston
Jesse D. Williams
Gorey Family Farms Llc
Charles Bernard Schroeder
Gary W. Hood
Kay D Hughes
Steven John Kincaid,
T2
T4
T5
T6
T7

N
0 100 200 300 Meters
0 250 500 750 1,000 Feet



Coles Wind
Figure 4
Preliminary Site Plan

Preliminary Project Facilities
- Proposed Turbine*
- Access Road
- Underground Collection
- Temporary Turn**
- O&M Facility

- Participating Primary Structure
- Non-participating Primary Structure
- Occupied Community Building
- Other Structure
- Communcation Tower within 2 miles
- Project Boundary
- Easement for Underground Facilities
- Participation and Support Agreement
- Wind Lease and Easement
- Turbine Setback
- Delineated Wetland
- NWI Wetland
- Parcel Boundary
- County Boundary
- State Highway
- Township/Local Road

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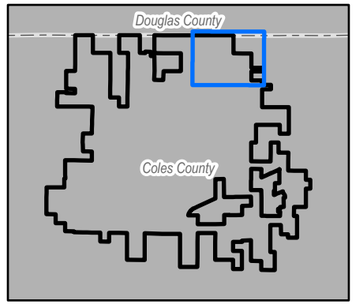
COLES WIND
A project by APEX

Porter
Patricia Ann Young
John E Young
MT GILEAD RD (1475E)
Margaret Bloom
Margaret Bloom
First Mid-Il Bank & Tr Charles Herrington Tr A & B Herrington A Charles
Forsythe Family Farms Inc
Forsythe Family Farms Inc
Margaret Bloom
1900 N
Douglas County
Coles County
Bradley J Walk
T1
Mary Stuart Hatch
T21
Mary Stuart Hatch
T3
T2
Glenda Kay Shonkwiler, Trustee, Shonkwiler Trusts
Monte M. Popham, General Partner of Popham Bros. Family Limited Partnership, an Illinois limited partnership, and Popham Farms Family Limited Partnership, an Illinois limited partnership
DECKER SPRINGS RD/1500E
Monte M. Popham, General Partner of Popham Bros. Family Limited Partnership, an Illinois limited partnership, and Popham Farms Family Limited Partnership, an Illinois limited partnership
130
1650 E
Bradley J. Walk, Trustee, Bradley J. Walk Revocable Trust, Member of Brad & Casey Walk LLC
T28
T4
Bruce I. Thompson, President, Bruce Thompson Farms, Inc.
Steven John Kincaid, Manager, Clayton Kincaid Holdings, LLC and Collin Kincaid Holdings, LLC
Carolyn Woodworth
Joan K Willenborg Jerome A Willenborg
Sandra C Bueil
Linda J. Grismer, Trustee, Linda J. Grismer Trust No. 1
Linda J. Grismer, Trustee, Linda J. Grismer Trust No. 1
1800 N
Aaron Wesch
Bruce I. Thompson, President, Bruce Thompson Farms, Inc.
Steven John Kincaid, Manager, Clayton Kincaid Holdings, LLC and Collin Kincaid Holdings, LLC
Nathaniel Phipps
Cassy Phipps
Steven John Kincaid, Manager, Clayton Kincaid Holdings, LLC and Collin Kincaid Holdings, LLC
Byron L Bradford
Jean Rilia
Timothy M Bradford
Adrienne H Bradford
Bradley J. Walk, Trustee of the Bradley J. Walk Revocable Trust created by Trust Agreement dated September 10, 2012, Member of Brad & Casey Walk LLC, an Illinois limited liability company
Patricia A. Sage, Trustee, Moody Irrevocable Trust #8856
Bradley J. Walk, Member Brad & Casey Walk LLC
Ralph E Dare
130
N
0 100 200 300 Meters
0 250 500 750 1,000 Feet



Coles Wind
Figure 4
Preliminary Site Plan

Preliminary Project Facilities
- Proposed Turbine*
- Access Road
- Underground Collection
- Temporary Turn**

- Participating Primary Structure
- Non-participating Primary Structure
- Occupied Community Building
- Other Structure
- Communcation Tower within 2 miles
- Project Boundary
- Easement for Underground Facilities
- Participation and Support Agreement
- Wind Lease and Easement
- Turbine Setback
- Delineated Wetland
- NWI Wetland
- Parcel Boundary
- County Boundary
- Township/Local Road

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There are 62 turbine positions.
Only 51 Turbines will be constructed.

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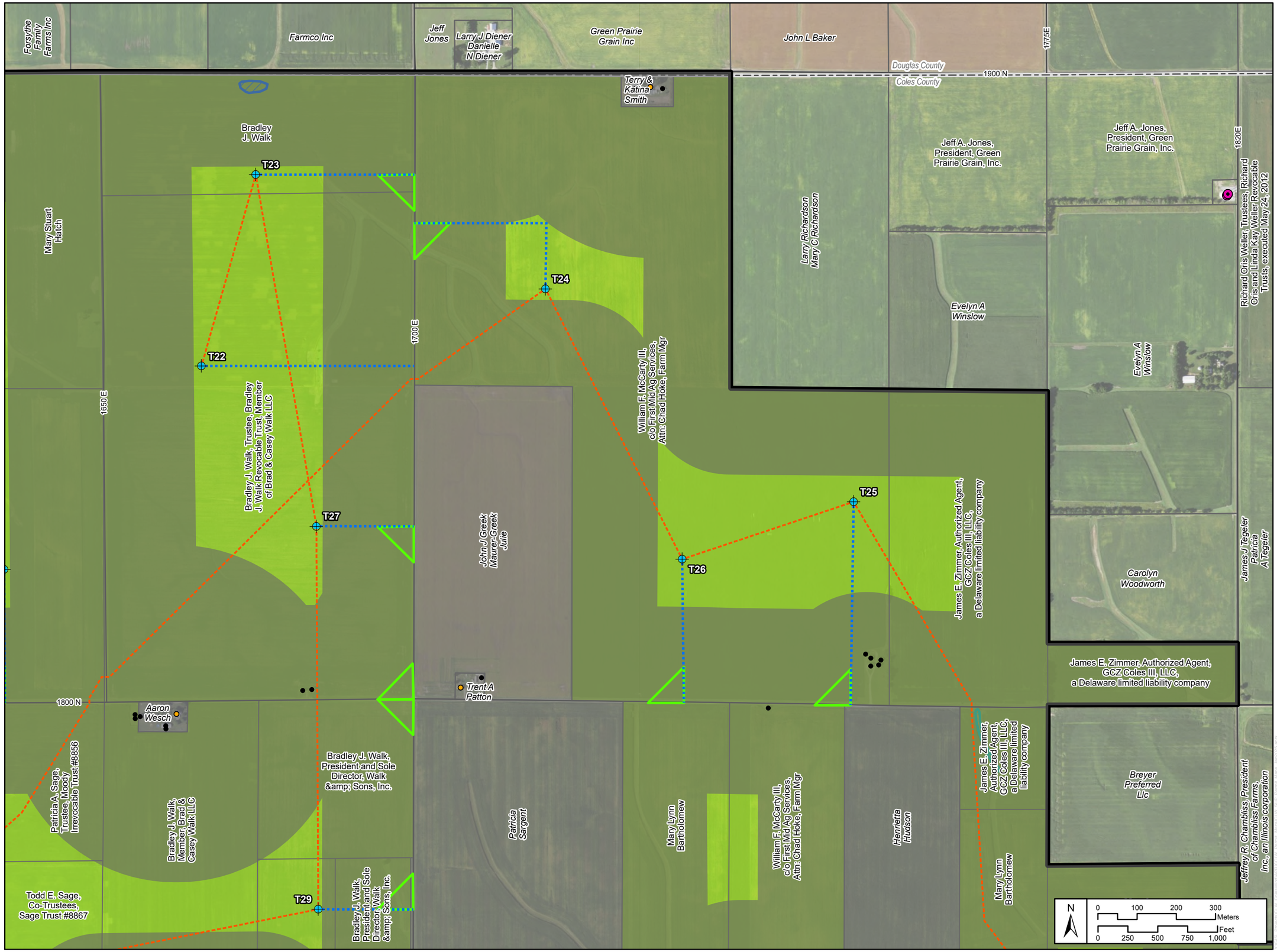
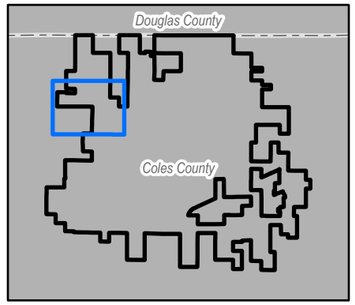
COLES WIND
A project by APEX





Coles Wind
Figure 4
Preliminary Site Plan

Preliminary Project Facilities
- Proposed Turbine*
- Access Road
- Underground Collection
- Temporary Turn**

- Participating Primary Structure
- Non-participating Primary Structure
- Occupied Community Building
- Other Structure
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- Project Boundary
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- Participation and Support Agreement
- Wind Lease and Easement
- Turbine Setback
- Delineated Wetland
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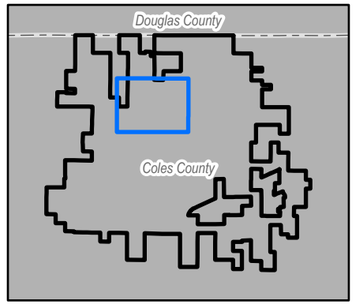
COLES WIND
A project by AMEA

Jesse D. Williams
Nancy Preston
Nancy Preston
T8
Bruce I. Thompson, President, Bruce Thompson Farms, Inc.
Bruce I. Thompson, President, Bruce Thompson Farms, Inc.
William H Smith
T13
Kay D Hughes
Bruce I. Thompson, President, Bruce Thompson Farms, Inc.
Jeffrey M. Mitchell, Manager, Bramas Land LLC
T15
T14
Darrell J. Honn
Bruce I. Thompson, President, Bruce Thompson Farms, Inc.
Jesse D. Williams
Nancy Preston
1400 E
Sharon Marlene James
David A Boyer Nancy E Boyer
Melissa Nell Honn
Darrell J. Honn
Walnut Grove Christian Church
1700N
Walnut Grove Christian Church
Walnut Grove Christian Church
Yeary Partners Ltd
Patrick D. Harrington
Patrick D. Harrington
Gorey Family Farms Llc
Melissa Nell Honn
Stephen R Swango
08
Rosemary E Boyer
Yeary Partners Ltd
Karen S. Cain, Trustee, Karen S. Cain Trust
Joseph E Jacob Joan Jacob
Steven John Kincaid, General Manager, C.J Kincaid, LLC
Steven John Kincaid, General Manager, C.J Kincaid, LLC
James Craig McMillin, Trustee, McMillin Illinois Revocable Trust
James Craig McMillin, Trustee, McMillin Illinois Revocable Trust
T17
T16
Melissa Nell Honn
Larry Allen Newby
Mary F Pfeifer
Carol L. Loyet, Trustee, Carol L. Loyet Trust
Larry Allen Newby

N
0 100 200 300 Meters
0 250 500 750 1,000 Feet



Coles Wind
Figure 4
Preliminary Site Plan

Preliminary Project Facilities

- Proposed Turbine*
- Access Road
- Underground Collection
- Temporary Turn**

- Participating Primary Structure
- Non-participating Primary Structure
- Occupied Community Building
- Other Structure
- Communcation Tower within 2 miles
- Project Boundary
- Easement for Underground Facilities
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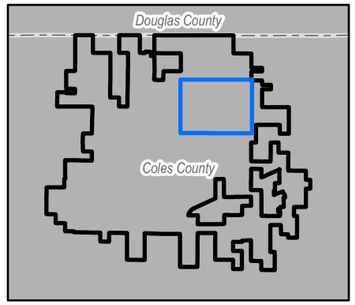
Gary W. Hood
Bruce I. Thompson, President, Bruce Thompson Farms, Inc.
Nathaniel Phipps Cassy Phipps
Byron L Bradford Jean Rilla
Timothy M Bradford Adrienne H Bradford
Patricia A. Sage, Trustee, Moody Irrevocable Trust #8856
Ralph E Dare
Bradley J. Walk, Trustee of the Bradley J. Walk Revocable Trust created by Trust Agreement dated September 10, 2012, Member of Brad & Casey Walk LLC, an Illinois limited liability company
Todd E. Sage, Co-Trustees, Sage Trust #8867
Kay D Hughes
Steven John Kincaid, Manager, Clayton Kincaid Holdings, LLC and Collin Kincaid Holdings, LLC
Steven John Kincaid, Manager, Clayton Kincaid Holdings, LLC and Collin Kincaid Holdings, LLC
T9
T10
Sharon Marlene James
Donald J. Dallmier
T11
Sharon Marlene James
T12
William L. Schwartz, Manager, JAJ Family LLC
Sharon Marlene James
David A Boyer Nancy E Boyer
Breyer Preferred Llc
William J. Rasmussen, III, President and Secretary, Bill Rasmussen Realty, Inc.
Donald J. Dallmier
Moultrie Elec Coop Coles
1700N
130
Stella Marie Gregory, Trustee, The Gregory Family Living Trust
T18
Stella Marie Gregory, Trustee, The Gregory Family Living Trust
Stella Marie Gregory, Trustee, The Gregory Family Living Trust
Luanna Craig
Cornelius E Whalen John P Whalen
Byrd L Madlem Dorothy I Madlem
Stephen R. Swango
Karen S. Cain, Trustee, Karen S. Cain Trust
Steven John Kincaid, General Manager, CJ Kincaid, LLC
Steven John Kincaid, General Manager, CJKincaid, LLC
DECKER SPRINGS RD/1500E
Stephen R. Swango
Brock Norris
Sandra C Buell
Daron P Green
Steven John Kincaid, General Manager, CJ Kincaid, LLC
T17
Steven John Kincaid, General Manager, CJ Kincaid, LLC
Lbj Anderson Farms Llc
Stephen R. Swango
Bass Ventures Llc
Christopher T. Rennels, Manager and Member, River Top, LLC
Stephen R. Swango

N
0 100 200 300 Meters
0 250 500 750 1,000 Feet



Coles Wind
Figure 4
Preliminary Site Plan

Preliminary Project Facilities

- Proposed Turbine*
- Access Road
- Underground Collection
- Temporary Turn**
- Participating Primary Structure
- Non-participating Primary Structure
- Occupied Community Building
- Other Structure
- Communcation Tower within 2 miles
- Project Boundary
- Easement for Underground Facilities
- Participation and Support Agreement
- Wind Lease and Easement
- Turbine Setback
- Delineated Wetland
- NWI Wetland
- Parcel Boundary
- County Boundary
- State Highway
- Township/Local Road

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Date: 1/13/2025

Coordinate System: NAD 1983 StatePlane Illinois East FIPS 1201 Feet
Projection: Transverse Mercator
Datum: North American 1983
Units: Foot US

COLES WIND
A project by APEX

Patricia A Sage, Trustee, Moody Irrevocable Trust #8856
Bradley J. Walk, President and Sole Director, Walk & Sons, Inc.
T29
Todd E. Sage, Co-Trustees, Sage Trust #8867
Bradley J. Walk, Member, Brad & Casey Walk LLC
Bradley J. Walk, President and Sole Director, Walk & Sons, Inc.
Bradley J. Walk, President and Sole Director, Walk & Sons, Inc.
Patricia Sargent
Mary Lynn Bartholomew
William F. McCarty III, c/o First Mid Ag Services, Attn: Chad Hoke, Farm Mgr
Henrietta Hudson
Mary Lynn Bartholomew
Jean Hudson, Trustee, The William D. Hudson and/or Jean Hudson Revocable Living Trust
Bass Ventures Llc & Jaj Limited Partnership
Bradley J. Walk, President and Sole Director, Walk & Sons, Inc.
Bradley J. Walk, Member, Brad & Casey Walk LLC
Patricia Sargent
William F. McCarty III, c/o First Mid Ag Services, Attn: Chad Hoke, Farm Mgr
Henrietta Hudson
Jean Hudson, Trustee, The William D. Hudson and/or Jean Hudson Revocable Living Trust
Bradley J. Walk, Member, Brad & Casey Walk LLC
1700 E
William L. Schwartz, Manager, JAJ Family LLC
Cornelius E Whalen John P Whalen
William L. Schwartz, Manager, JAJ Family LLC
Jaj Limited Partnership & Bass Ventures Llc
Ann L Dunnaway A'Allena Debra
Larry Richardson Mary C Richardson
Jean Hudson, Trustee, The William D. Hudson and/or Jean Hudson Revocable Living Trust
Davon Yoder
1700N
Ne-Co Asphalt Inc
Ronald Vernon Uphoff, a/k/a Ronald V. Uphoff
Ronald Vernon Uphoff, a/k/a Ronald V. Uphoff
Ronald Vernon Uphoff, a/k/a Ronald V. Uphoff
Ronald Vernon Uphoff, a/k/a Ronald V. Uphoff
Byrd L Madlem Dorothy I Madlem
Cory Kauffman, Regional Office Manager, First Mid Ag Services
T35
Tommie D. Fehrenbacher, Members, Fehrenbacher, LLC
Ne-Co Asphalt Inc
Debra A Allena, Co-Trustee, C & A Dunaway Family Trust
Ann L Dunnaway A Allena Debra
Peter Bonutti, Manager, Bonutti Real Estate Holdings, LLC
T33
Peter Bonutti, Manager, Bonutti Real Estate Holdings, LLC
Bass Ventures Llc
Jaj limited partnership bass ventures llc
Todd Alcott Corley
Todd A Corley
Michael G. Litteken, Litteken Farm Land, LLC
Michael G. Litteken, Litteken Farm Land, LLC
T34
Gorey Family Farms Llc
Douglas Jami Austin
Mark Austin
Mark Austin

N
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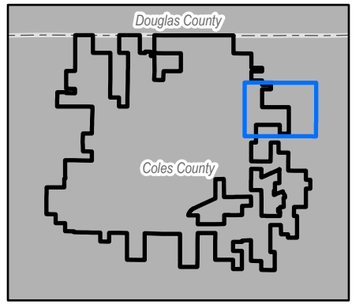
0 250 500 750 1,000 Feet



Coles Wind
Figure 4
Preliminary Site Plan

Preliminary Project Facilities

- Proposed Turbine*
- Access Road
- Underground Collection
- Temporary Turn**
- Participating Primary Structure
- Non-participating Primary Structure
- Occupied Community Building
- Other Structure
- Communcation Tower within 2 miles
- Project Boundary
- Easement for Underground Facilities
- Participation and Support Agreement
- Wind Lease and Easement
- Turbine Setback
- Delineated Wetland
- NWI Wetland
- Parcel Boundary
- County Boundary
- Township/Local Road

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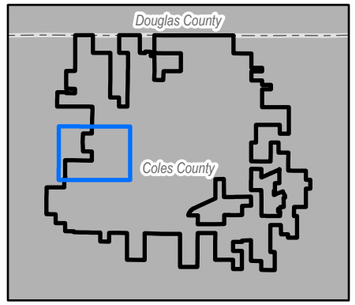
Units: Foot US

COLES WIND
A project by APEX

Henrietta Hudson
Mary Lynn Bartholomew
Mary Lynn Bartholomew
Jeffrey R. Chambliss, President of Chambliss Farms, Inc., an Illinois corporation
Benjamin Helmuth Jr., Trustee under the Benjamin Helmuth, Jr. Living Trust, dated July 11, 2017
1820E
Jean Hudson, Trustee, The William D. Hudson and/or Jean Hudson Revocable Living Trust
T30
Loraine L. Chambliss, as Trustee of the Loraine L. Chambliss Trust dated June 21, 2019
Benjamin Helmuth Jr., Trustee under the Benjamin Helmuth, Jr. Living Trust, dated July 11, 2017
Larry Richardson
Mary C Richardson
Jean Hudson, Trustee, The William D. Hudson and/or Jean Hudson Revocable Living Trust
Debra S Williams
Benjamin Helmuth Jr., Trustee under the Benjamin Helmuth, Jr. Living Trust, dated July 11, 2017
Benjamin Helmuth Jr., Trustee under the Benjamin Helmuth, Jr. Living Trust, dated July 11, 2017
JFK Farms Inc
1700N
Ronald Vernon Uphoff, a/k/a Ronald V. Uphoff
Ronald Vernon Uphoff, a/k/a Ronald V. Uphoff
Ronald Vernon Uphoff, a/k/a Ronald V. Uphoff
Ronald Vernon Uphoff, a/k/a Ronald V. Uphoff
Ronald Vernon Uphoff, a/k/a Ronald V. Uphoff
John W. Lutz, President of J.F.K. Farms, Inc., a Nevada corporation
Jeff A. Jones
T31
Peter Bonutti, Manager, Bonutti Real Estate Holdings, LLC
Peter Bonutti, Manager, Bonutti Real Estate Holdings, LLC
T33
Anthony S. Komada
Barbara A Replogle
Douglas Jami Austin
T32
Mark Austin
Mark Austin
Mark Austin
Brainard H Ogden Res Trust Eiu Found
Charles E Wheeler
Anthony S. Komada, Trustee, The Anthony S. Komada Trust
Don Allen Davis, Member of Davis-Huddleston Farms, LLC, an Illinois limited liability company
Barbara A Replogle

N
0 100 200 300 Meters
0 250 500 750 1,000 Feet



Coles Wind
Figure 4
Preliminary Site Plan

Preliminary Project Facilities

- Proposed Turbine*
- Access Road
- Underground Collection
- Temporary Turn**
- Project Substation
- Switching Station***
- Participating Primary Structure
- Non-participating Primary Structure
- Occupied Community Building
- Other Structure
- Communcation Tower within 2 miles
- Project Boundary
- Easement for Underground Facilities
- Participation and Support Agreement
- Wind Lease and Easement
- Turbine Setback
- Delineated Wetland
- NWI Wetland
- Parcel Boundary
- County Boundary
- Existing 345kV Transmission
- County Road
- Township/Local Road

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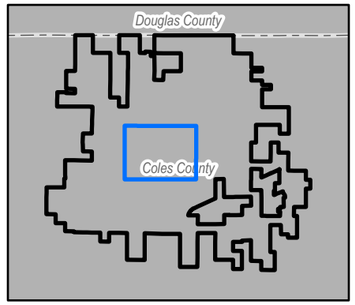
Projection: Transverse Mercator
Datum: North American 1983
Units: Foot US

COLES WIND
A project by APEX



Coles Wind
Figure 4
Preliminary Site Plan

Preliminary Project Facilities
- Proposed Turbine*
- Access Road
- Underground Collection
- Temporary Turn**

- Participating Primary Structure
- Non-participating Primary Structure
- Occupied Community Building
- Other Structure
- Communcation Tower within 2 miles
- Project Boundary
- Easement for Underground Facilities
- Participation and Support Agreement
- Wind Lease and Easement
- Turbine Setback
- Delineated Wetland
- NWI Wetland
- Parcel Boundary
- County Boundary
- Existing 345kV Transmission
- State Highway
- County Road
- Township/Local Road

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COLES WIND
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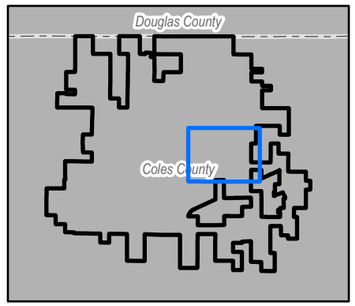

Coles Wind
Figure 4
Preliminary Site Plan

Preliminary Project Facilities

- Proposed Turbine*
- Access Road
- Underground Collection
- Temporary Turn**
- Participating Primary Structure
- Non-participating Primary Structure
- Occupied Community Building
- Other Structure
- Communcation Tower within 2 miles
- Project Boundary
- Easement for Underground Facilities
- Participation and Support Agreement
- Wind Lease and Easement
- Turbine Setback
- Delineated Wetland
- NWI Wetland
- Parcel Boundary
- County Boundary
- Existing 345kV Transmission
- Railroad
- Township/Local Road

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Projection: Transverse Mercator
Datum: North American 1983
Units: Foot US

COLES WIND
A project by APEX

T34 T32 T37 T36 T38

1600 N 1500N 1300E

Bass Ventures Llc; Jaj limited partnership bass ventures llc; Todd Alcott Corley; Todd A Corley; Michael G. Litteken, Litteken Farm Land, LLC; Michael G. Litteken, Litteken Farm Land, LLC; Gorey Family Farms Llc; Douglas Jami Austin; Mark Austin; Mark Austin; Mark Austin; Brainard H Ogden Res Trust Eiu Found

Matthew J Madigan Joyce A Madigan

Alan D Hendrix Jaime A Hendrix; Alan D Hendrix Jaime A Hendrix

Randall A Davis Delilah A Davis

Pamela Archer Yarbrough, as Trustee of the Pamela Archer Yarbrough Revocable Trust Agreement dated January 26, 1999 as Amended; a/k/a the Pamela Archer Yarbrough Trust

Jamie S. Archer, Trustee of the Jamie S. Archer Revocable Trust, under Trust Agreement dated October 5, 2002

Jamie S. Archer, Trustee of the Jamie S. Archer Revocable Trust, under Trust Agreement dated October 5, 2002

Virginia L. Foreman, Trustee of the Virginia L. Foreman Revocable Living Trust dated January 30, 2004, a/k/a the Virginia L. Foreman Trust

Mary Ann Foreman

Stephen R. Swango; Michael G. Litteken, Litteken Farms, Inc.; Cory Kauffman, Regional Office Manager, First Mid Ag Services; Cory Kauffman, Regional Office Manager, First Mid Ag Services; Gorey Family Farms Llc; Tomi Sue Austin; Michael G. Litteken

Joan K Willenborg Jerome A Willenborg

Edwin Lee Kasey, Trustees, Edwin Lee and Sharon R. Kasey Trusts

Monte L Goble; Jon A Cole A Fulton Julie; Gail E. Blank; Stephen R. Swango; Stephen R. Swango; Stephen R. Swango; Stephen R. Swango; Stephen R. Swango; Clinton D Replogle; Robert E. Babbs; Robert E. Babbs; Michael G. Litteken

Michael G. Litteken; Michael G. Litteken; Michael G. Litteken, Litteken Farms, Inc.; Stephen Ray Swango; John W. Lutz, President, J.F.K. Farms, Inc.; Michael G. Litteken, Litteken Family Properties LLC; Dexter Swensen Bailey Swensen

N

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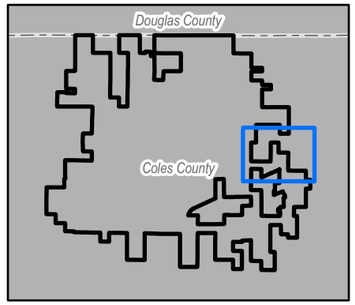
0 250 500 750 1,000 Feet



Coles Wind
Figure 4
Preliminary Site Plan

Preliminary Project Facilities

- Proposed Turbine*
- Access Road
- Underground Collection
- Temporary Turn**
- Participating Primary Structure
- Non-participating Primary Structure
- Occupied Community Building
- Other Structure
- Communcation Tower within 2 miles
- Project Boundary
- Easement for Underground Facilities
- Participation and Support Agreement
- Wind Lease and Easement
- Turbine Setback
- Delineated Wetland
- NWI Wetland
- Parcel Boundary
- County Boundary
- Existing 345kV Transmission
- Railroad
- County Road
- Township/Local Road

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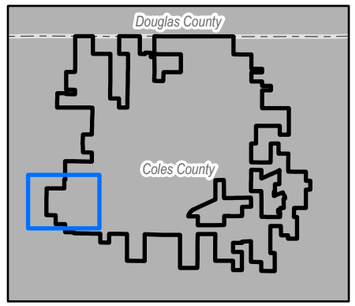
Datum: North American 1983
Units: Foot US

COLES WIND
A project by APEX

T32
Douglas Jami Austin
Mark Austin
Mark Austin
Mark Austin
Brainard H Ogden Res Trust Eiu Found
1820E
Charles E Wheeler
Barbara A Replogle
Anthony S. Komada, Trustee, The Anthony S. Komada Trust
Don Allen Davis, Member of Davis-Huddleston Farms, LLC, an Illinois limited liability company
Barbara A Replogle
1600 N
Alan D Hendrix Jaime A Hendrix
Alan D Hendrix Jaime A Hendrix
Randall A Davis Delilah A Davis
Tomi Sue Austin
Pamela Archer Yarbrough, as Trustee of the Pamela Archer Yarbrough Revocable Trust Agreement dated January 26, 1999, as Amended, a/k/a the Pamela Archer Yarbrough Trust
Tomi Sue Austin
Tomi Sue Austin
Holmes Molly B Trust
Jon K Jenkins Teresa J Jenkins
Benjamin Helmuth Jr., Trustee under the Benjamin Helmuth, Jr. Living Trust, dated July 11, 2017
Michael G. Litteken
Jamie S. Archer, Trustee of the Jamie S. Archer Revocable Trust, under Trust Agreement dated October 5, 2002
Anthony S. Komada
Rosemary C. Austin, Trustee, The Rosemary C. Austin Declaration of Trust
Robert E. Babbs
Joan K Willenborg Jerome A Willenborg
Rosemary C. Austin, Trustee, The Rosemary C. Austin Declaration of Trust
Benjamin Helmuth Jr., Trustee under the Benjamin Helmuth, Jr. Living Trust, dated July 11, 2017
Carolyn M Dever
Edwin Lee Kasey, Trustees, Edwin Lee and Sharon R. Kasey Trusts
1880 E
Edwin Lee Kasey, Trustees, Edwin Lee and Sharon R. Kasey Trusts
Rosemary C. Austin, Trustee, The Rosemary C. Austin Declaration of Trust
Apple Robert
Michael G. Litteken
1800E
Michael G. Litteken
Decatur & Eastern Illinois Railroad LLC
Robert A Apple
Michael G. Litteken
Michael G. Litteken
1500N
1800E/WEST ST
WATER ST/1810E
Dexal Roberts
NORTH ST/1500N
16
Dexter Swensen Bailey Swensen
Michael G. Litteken, Litteken Family Properties LLC
Anthony S. Komada
Anthony S. Komada
Anthony S. Komada
Anthony S. Komada
Robert A Apple
16

N
0 100 200 300 Meters
0 250 500 750 1,000 Feet



Coles Wind
Figure 4
Preliminary Site Plan

Preliminary Project Facilities

- Proposed Turbine*
- Temporary PPT/LiDAR
- Access Road
- Underground Collection
- Temporary Turn**
- Participating Primary Structure
- Non-participating Primary Structure
- Occupied Community Building
- Other Structure
- Communcation Tower within 2 miles
- Project Boundary
- Easement for Underground Facilities
- Participation and Support Agreement
- Wind Lease and Easement
- Turbine Setback
- Delineated Wetland
- NWI Wetland
- Parcel Boundary
- County Boundary
- Existing 345kV Transmission
- County Road
- Township/Local Road

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Units: Foot US

COLES WIND
A project by APEX

Bret L. Yeary, Managing Partner, Yeary Partners, LTD.
Winola Grant
Winola Grant Mark Grant
Cory Kauffman, Regional Office Manager, First Mid Ag Services
Uthe Farms Llc
Christopher A Thoele Rachel L Thoele
Bumpus Farms Inc
Bret L. Yeary, Managing Partner, Yeary Partners, LTD.
Frederick E Bumpus Sue F Bumpus
1200 E
16
08
Stephen Michael Pendergast
Yeary Partners Ltd
Jaj limited partnership bass ventures llc
Bumpus Farms Inc
Todd Smith Jennifer Smith
Ryan D. Sullivan
Stephen Lee Monts
Linda S. Nugent
T59
Ulrich family farms iii llc
1300 E
Ep Farms-Ile Llc
Michael G. Litteken
Steven K. Snider
Beatrice L. ZuHone
Dennis E Ulrich Rene Ulrich
Stephen Michael Pendergast, Sucessor Co-Trustees, Pendergast Farm Trust
T58
David N Bumpus
1400 N
William B Strode Shanan S Strode
Eric N. Headrick
Donna M Mcclure
Larry W Coutant
1250 E
1380 N
Dennis E Ulrich Rene Ulrich
Jaj Limited Partnership & Bass Ventures Llc
Patrick D. Harrington
Mary Sue Fearday Cardinal

N
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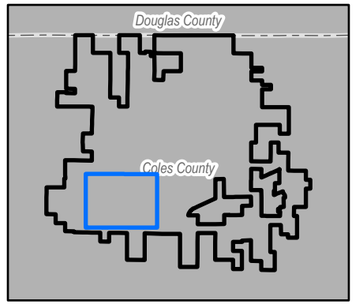

Coles Wind
Figure 4
Preliminary Site Plan

Preliminary Project Facilities

- Proposed Turbine*
- Access Road
- Underground Collection
- Temporary Turn**
- Participating Primary Structure
- Non-participating Primary Structure
- Occupied Community Building
- Other Structure
- Communcation Tower within 2 miles
- Project Boundary
- Easement for Underground Facilities
- Participation and Support Agreement
- Wind Lease and Easement
- Turbine Setback
- Delineated Wetland
- NWI Wetland
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- County Boundary
- County Road
- Township/Local Road

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COLES WIND
A project by AMEREN

Uthe Farms Llc
Cory Kauffman, Regional Office Manager, First Mid Ag Services
Gary W. Hood
Christopher A Thoele
Rachel L Thoele
Bumpus Farms Inc
Bass Ventures Llc & Jaj Limited Partnership
Randall LeGrand
Cutler Farms Inc
Dennis E Ulrich Rene Ulrich
16
Brett L. Yeary, Managing Partner, Yeary Partners, LTD.
Lbj Anderson Farms Llc
Max J Winkler
Camille M. Gordon, f/k/a Camille M. Bradley
Winkler Farms Inc
T60
Ulrich family farms iii llc
Roberta Lynn Cunningham, Trustee, Roberta L. Cunningham Living Trust
James L. McNutt, Jr., Trustee, James L. McNutt, Sr. Trust
James L. McNutt Jr., as Trustee of the James L. McNutt, Sr. Trust dated July 10, 2019
Dustin Van Loenen/Ashley Van Loenen
Brock-Jones Louise Ltd Prtnshp
Brock-Jones File Family Farms
Thomas W Greer
Charles Allen Graves, Member, Graves Farms, LLC
Linda F. Hasib, Trustee, Linda F. Hasib 2022 Trust
Bruce A Rogers Deanna L Rogers
Brandon J Ready Veronica L Ready
Kevin M Lewis Amanda L Lewis
1400 N
Max J Winkler
Adam Bonwell/Valerie Bonwell
Jaj Limited Partnership & Bass Ventures Llc
Patrick D. Harrington
Mary Sue Fearday Cardinal
Morgan Mary Fehrenbacher
Dennis Edward Novak, Co-Trustees, The Novak Family Revocable Trust
Faiz K. Hasib, Trustee, Faiz K. Hasib 2022 Trust
1400 E
DECATUR SPRINGS RD/1500E
T57
T56

N
0 100 200 300 Meters
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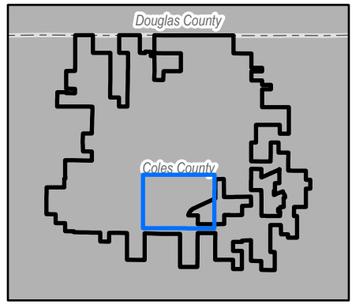

Coles Wind
Figure 4
Preliminary Site Plan

Preliminary Project Facilities

- Proposed Turbine*
- Proposed ADLS
- Access Road
- Underground Collection
- Temporary Turn**
- Preliminary Laydown/Batch Plant

- Participating Primary Structure
- Non-participating Primary Structure
- Occupied Community Building
- Other Structure
- Communcation Tower within 2 miles
- Project Boundary
- Easement for Underground Facilities
- Participation and Support Agreement
- Wind Lease and Easement
- Turbine Setback
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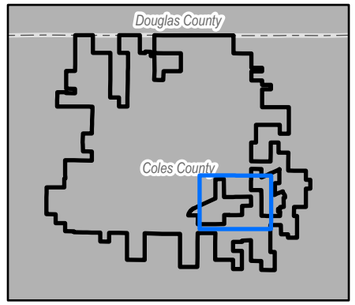
Units: Foot US

COLES WIND
A project by APEX

Jamie S. Archer, Trustee of the Jamie S. Archer Revocable Trust, under Trust Agreement dated October 5, 2002
Jamie S. Archer, Trustee of the Jamie S. Archer Revocable Trust, under Trust Agreement dated October 5, 2002
Dennis E Ulrich Rene Ulrich
Elizabeth Tucker
Monte L Goble
Gail E. Blank
Jon A Cole A Fulton Julie
Stephen R Swango
16
1500N
DECKER SPRINGS RD/1500E
Clint Shaw Katherine Shaw
Michael G. Litteken
Ulrich family farms iii llc
Lbj Anderson Farms Llc
Max J Winkler
Camille M. Gordon, f/k/a Camille M. Bradley
Dennis E Ulrich Rene Ulrich
Brock-Jones File Family Farms
Winkler Farms Inc
Willetta M. Jones, as trustee of the Willetta M. Jones Revocable Trust created by Trust Agreement dated September 27, 2018
Willetta M. Jones, as trustee of the Willetta M. Jones Revocable Trust created by Trust Agreement dated September 27, 2018
T41
T42
T43
T44
Michael G. Litteken
Michael G. Litteken, Litteken Farms, Inc.
Dustin Van Loenen
Ashley Van Loenen
Brock-Jones Louise Ltd Prtnshp
Kay D Hughes
Thomas W Greer
Jeff A. Jones, President, Green Prairie Grain, Inc.
Jeff A. Jones, President, Green Prairie Grain, Inc.
130
Jean Hudson, Trustee, The William D. Hudson and/or Jean Hudson Revocable Living Trust
Christopher T. Rennels, Manager
John J. Ingle, Trustees, Ingle Trusts
Robert W. Smith
MAPLE ST/1410N
Nathaniel A. White
Diana Groff
Jeffery D Hudson, Trustees, Hudson Family Trust
Veal Rondal J & Catherine L
Lisa M. Trichenor
1400 N
Dean W Nelson
John Michael Austin
Jean Hudson
Jeffery D Hudson L G Sarah
Randy Smyser
16
Max J Winkler
Adam Bonwell Valerie Bonwell
Dennis Edward Novak, Co-Trustees, The Novak Family Revocable Trust
Faiz K. Hasib, Trustee, Faiz K. Hasib 2022 Trust
Bass Ventures Llc & Jaj Limited Partnership
Bass Ventures Llc & Jaj Limited Partnership
Dean Wayne Nelson
Jeffery D. Hudson, Trustees, Hudson Family Trust
Jeffery D Hudson Sarah L G Hudson
Jeffery D. Hudson, Trustees, Hudson Family Trust
Total Grain Marketing Llc
Jeffery D. Hudson, Trustees, Hudson Family Trust
Earl Hutton, Trustee, Frances L. Hudson Trust
Michael G. Litteken, Litteken Farm Land, LLC
Norma L. Spence, Trustee, Norma L. Spence Declaration of Living Trust
Norma L. Spence, Trustee, Norma L. Spence Declaration of Living Trust
Decatur & Eastern Illinois Railroad LLC
Norma L. Spence, Trustee, Norma L. Spence Declaration of Living Trust

N
0 100 200 300 Meters
0 250 500 750 1,000 Feet



Coles Wind
Figure 4
Preliminary Site Plan

Preliminary Project Facilities
- Proposed Turbine*
- Access Road
- Underground Collection
- Temporary Turn**

- Participating Primary Structure
- Non-participating Primary Structure
- Occupied Community Building
- Other Structure
- Communcation Tower within 2 miles
- Project Boundary
- Easement for Underground Facilities
- Participation and Support Agreement
- Wind Lease and Easement
- Turbine Setback
- Delineated Wetland
- NWI Wetland
- Parcel Boundary
- County Boundary
- Railroad
- County Road
- Township/Local Road

*Turbines are not drawn to scale.
There are 62 turbine positions.
Only 51 Turbines will be constructed.

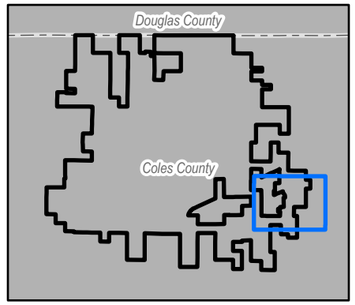
**Temporary Turns are preliminary. Symbology here denotes a temporary turn is likely required. The final design of the turn is subject to final engineering.

***Switching Station to be constructed, owned, and operated by Ameren.

Date: 1/13/2025

Coordinate System: NAD 1983 StatePlane Illinois East FIPS 1201 Feet
Projection: Transverse Mercator
Datum: North American 1983
Units: Foot US

COLES WIND
A project by APEX



Coles Wind
Figure 4
Preliminary Site Plan

Preliminary Project Facilities
- Proposed Turbine*
- Access Road
- Underground Collection
- Temporary Turn**

- Participating Primary Structure
- Non-participating Primary Structure
- Occupied Community Building
- Other Structure
- Communcation Tower within 2 miles
- Project Boundary
- Easement for Underground Facilities
- Participation and Support Agreement
- Wind Lease and Easement
- Turbine Setback
- Delineated Wetland
- NWI Wetland
- Parcel Boundary
- County Boundary
- Railroad
- County Road
- Township/Local Road

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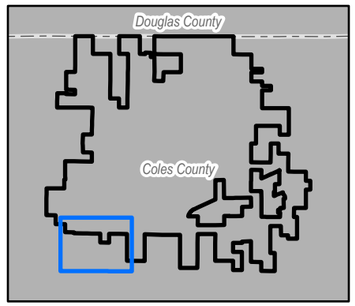
COLES WIND
A project by APEX



Coles Wind
Figure 4
Preliminary Site Plan

Preliminary Project Facilities

- Proposed Turbine*
- Temporary PPT/LiDAR
- Access Road
- Underground Collection
- Temporary Turn**

- Participating Primary Structure
- Non-participating Primary Structure
- Occupied Community Building
- Other Structure
- Communcation Tower within 2 miles
- Project Boundary
- Easement for Underground Facilities
- Participation and Support Agreement
- Wind Lease and Easement
- Turbine Setback
- Delineated Wetland
- NWI Wetland
- Parcel Boundary
- County Boundary
- Township/Local Road

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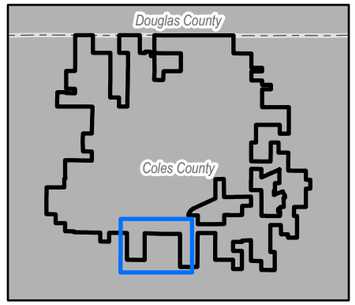
COLES WIND
A project by APEX

William B Strode
Shanan S Strode
Brandon J Ready
Veronica L Ready
Eric N. Headrick
Eric N. Headrick
Eric N. Headrick
1300 E
1380 N
Dennis E Ulrich Rene Ulrich
Jaj Limited Partnership & Bass Ventures Llc
Patrick D. Harrington
Mary Sue Fearday Cardinal
Charles Allen Graves, Member, Graves Farms, LLC
Morgan Mary Fehrenbacher
Dennis Edward Novak, Co-Trustees, The Novak Family Revocable Trust
Larry W Coutant
Michael G. Litteken
T57
T56
Michael G. Litteken, Manager, Litteken Family Properties LLC, an Illinois limited liability company
Michael G. Litteken, Litteken Farm Land, LLC
Jennifer E Laley Madlem,Russel W Madlem
Thomas M Edwards Audrey T Edwards
Rennels Family Land Trust
Nadine H Tooley
Charles Allen Graves, Member, Graves Farms, LLC
Edwin Lee Kasey, Trustees, Edwin Lee and Sharon R. Kasey Trusts
Rennels Family Land Trust
Bumpus Farms Inc
Alexander William Fuqua
Brock-Jones File Family Farms
1250 E
1300 N
1400 E
Edwin Lee Kasey, Trustees, Edwin Lee and Sharon R. Kasey Trusts
Edwin Lee Kasey, Trustees, Edwin Lee and Sharon R. Kasey Trusts
Alexander William Fuqua
John Overton, Director
Charles William Jenkins, President of Jenkins Management Co., an Arkansas corporation, General Partner of Jenkins Family Limited Partnership, an Arkansas limited partnership
Charles William Jenkins, President of Jenkins Management Co., an Arkansas corporation, General Partner of Jenkins Family Limited Partnership, an Arkansas limited partnership
Jaj Limited Partnership & Bass Ventures Llc
1250 N
N
0 100 200 300 Meters
0 250 500 750 1,000 Feet



Coles Wind
Figure 4
Preliminary Site Plan

Preliminary Project Facilities

- Proposed Turbine*
- Access Road
- Underground Collection
- Temporary Turn**
- Preliminary Laydown Yard
- Preliminary Laydown/Batch Plant
- Participating Primary Structure
- Non-participating Primary Structure
- Occupied Community Building
- Other Structure
- Communcation Tower within 2 miles
- Project Boundary
- Easement for Underground Facilities
- Participation and Support Agreement
- Wind Lease and Easement
- Turbine Setback
- Delineated Wetland
- NWI Wetland
- Parcel Boundary
- County Boundary
- Railroad
- State Highway
- Township/Local Road

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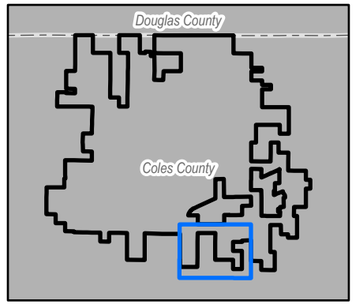
Units: Foot US

COLES WIND
A project by APEX

Dennis Edward Novak, Co-Trustees, The Novak Family Revocable Trust
Morgan Mary Fehrenbacher
T56
Michael G. Litteken, Litteken Farm Land, LLC
T55
Michael G. Litteken, Manager, Litteken Family Properties LLC, an Illinois limited liability company
Faiz K. Hasib, Trustee, Faiz K. Hasib 2022 Trust
Bass Ventures Llc & Jaj Limited Partnership
Bass Ventures Llc & Jaj Limited Partnership
Dean Wayne Nelson
Jeffery D. Hudson, Trustees, Hudson Family Trust
Jeffery D Hudson Sarah L G Hudson
Total Grain Marketing LLC
Jeffery D Hudson, Trustees, Hudson Family Trust
Earl Hutton, Trustee, Frances L Hudson Trust
Normal L. Spence, Trustee, Normal L. Spence Declaration of Living Trust
130
Normal L. Spence, Trustee, Normal L. Spence Declaration of Living Trust
Decatur & Eastern Illinois Railroad LLC
Normal L. Spence, Trustee, Normal L. Spence Declaration of Living Trust
Edwin Lee Kasey, Trustees, Edwin Lee and Sharon R. Kasey Trusts
Faiz K. Hasib, Trustee, Faiz K. Hasib 2022 Trust
Jessica R Haskin
Brock-Jones File Family Farms
Bass Ventures Llc & Jaj Limited Partnership
Dennis E Ulrich Rene Ulrich
Kathy Lynn Thomas
Betty J Bonewitz Bradley A Bonewitz
Mary Ann Foreman
Edwin Lee Kasey, Trustees, Edwin Lee and Sharon R. Kasey Trusts
T54
George R Foreman Diana S Foreman
John Overton, Director
John Overton, Director
Edwin Lee Kasey, Trustees, Edwin Lee and Sharon R. Kasey Trusts
Mary Ann Foreman
John Overton, Director
John Overton, Director
Alexander William Fuqua
John Overton, Director
Driscoll-Overton, Inc
Bass Ventures Llc & Jaj Limited Partnership
130
Stephen Ray Swango
Stephen Ray Swango
Charles William Jenkins, President of Jenkins Management Co., an Arkansas corporation, General Partner of Jenkins Family Limited Partnership, an Arkansas limited partnership
Jaj Limited Partnership & Bass Ventures Llc
Jaj Limited Partnership & Bass Ventures Llc
Willetta M. Jones, as trustee of the Willetta M. Jones Revocable Trust created by Trust Agreement dated September 27, 2018
DECKER SPRINGS RD/1500E
Willetta M. Jones, as trustee of the Willetta M. Jones Revocable Trust created by Trust Agreement dated September 27, 2018
Virginia L. Foreman, Trustee of the Virginia L. Foreman Revocable Living Trust dated January 30, 2004, a/k/a the Virginia
Pierce

N
0 100 200 300 Meters
0 250 500 750 1,000 Feet



Coles Wind
Figure 4
Preliminary Site Plan

Preliminary Project Facilities

- Proposed Turbine*
- Temporary PPT/LiDAR
- Access Road
- Underground Collection
- Preliminary Laydown Yard
- Preliminary Laydown/Batch Plant

- Participating Primary Structure
- Non-participating Primary Structure
- Occupied Community Building
- Other Structure
- Communcation Tower within 2 miles
- Project Boundary
- Easement for Underground Facilities
- Participation and Support Agreement
- Wind Lease and Easement
- Turbine Setback
- Delineated Wetland
- NWI Wetland
- Parcel Boundary
- County Boundary
- Railroad
- State Highway
- Township/Local Road

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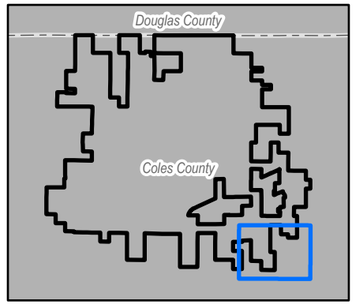
Datum: North American 1983
Units: Foot US

COLES WIND
A project by APEX

T50
T51
T52
T53
Michael G. Litteken, Managers, M & B Litteken, LLC
Tommie D. Fehrenbacher, Members, Fehrenbacher, LLC
Charles F Tucker
Norma L. Spence, Trustee, Norma L. Spence Declaration of Living Trust
Norma L. Spence, Trustee, Norma L. Spence Declaration of Living Trust
Michael G. Litteken, Managers, M & B Litteken, LLC
1350 N
Norma L. Spence, Trustee, Norma L. Spence Declaration of Living Trust
Molly B Holmes
Michael G. Litteken, Litteken Farms, Inc.
Kathy Lynn Thomas
Decatur & Eastern Illinois Railroad LLC
John Overton, Director
John Overton, Director
Willetta M. Jones, as trustee of the Willetta M. Jones Revocable Trust created by Trust Agreement dated September 27, 2018
Kerry L. Tuttle
Dorothy E Reinwald R Baumgart Deborah
1700 E
John Overton, Director
John Overton, Director
Driscoll-Overton, Inc
Natalie K. Smith
Michael G. Litteken, Managers, M & B Litteken, LLC
Clinton M Veatch
Obrien
Brent M Cole Elizabeth E Ezetta
Kennard Proctor Przygoda Megan Kennard D Proctor Przygoda Megan
1275 N
Stephen Ray Swango
Stephen Ray Swango
Barbara K Hein
Jeff A. Jones, President, Green Prairie Grain, Inc.
Derek Walk
Virginia L. Foreman, Trustee of the Virginia L. Foreman Revocable Living Trust dated January 30, 2004, a/k/a the Virginia L. Foreman Trust
Jack R Pierce
Jack R Pierce
1700 E
Alex J. Melvin, Manager of Kaskaskia River Farm Florida, LLC, an Illinois limited liability company
Melissa Gould Brown Burton Messick Brown Ann
Alex J. Melvin, Manager of Kaskaskia River Farm Florida, LLC, an Illinois limited liability company
Jeff A. Jones, President, Green Prairie Grain, Inc.
John Overton, Director

N
0 100 200 300 Meters
0 250 500 750 1,000 Feet



Coles Wind
Figure 4
Preliminary Site Plan

Preliminary Project Facilities

- Proposed Turbine*
- Access Road
- Underground Collection
- Temporary Turn**
- Participating Primary Structure
- Non-participating Primary Structure
- Occupied Community Building
- Other Structure
- Communcation Tower within 2 miles
- Project Boundary
- Easement for Underground Facilities
- Participation and Support Agreement
- Wind Lease and Easement
- Turbine Setback
- Delineated Wetland
- NWI Wetland
- Parcel Boundary
- County Boundary
- Township/Local Road

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Date: 1/13/2025

Coordinate System: NAD 1983 StatePlane Illinois East FIPS 1201 Feet
Projection: Transverse Mercator
Datum: North American 1983
Units: Foot US

COLES WIND
A project by APEX

T46
T47
T48
T49
Charles F Tucker
Jeffery D. Hudson
Tommie D. Fehrenbacher, Members, Fehrenbacher, LLC
Edward J Whalen
Michael G. Litteken, Managers, M & B Litteken, LLC
Norma L. Spence, Trustee, Norma L. Spence Declaration of Living Trust
Eric Schumacher, Farm Manager for the Rita J. Austin 2001 Declaration of Trust dated November 27, 2001
Holmes Brenda J Trust
Dorothy E Reinwald R Baumgart Deborah
Kendra Arlene Callaway
Brent M Cole Elizabeth E Ezetta
Kennard Proctor Przygoda Megan
Kennard D Proctor Przygoda Megan
Jean Hudson, Trustee, The William D. Hudson and/or Jean Hudson Revocable Living Trust
Stephen R. Swango
R J Austin
Jeff A Jones, President, Green Prairie Grain, Inc.
Alex J. Melvin, Manager of Kaskaskia River Farm Florida, LLC, an Illinois limited liability company
1800 E
1350 N
1850 E
1770 E
1275 N
1870E
1880 E
1940E
1930E
1240 N
1220 N
1220N
N
0 100 200 300 Meters
0 250 500 750 1,000 Feet

Coles Wind
Figure 5
Topographic Map

Preliminary Project Facilites

- Proposed Turbine*
- Proposed ADLS
- Temporary PPT/LiDAR
- Access Road
- Underground Collection
- Temporary Turn**
- Project Substation
- O&M Facility
- Switching Station***
- Laydown Yard
- Laydown/Batch Plant

- Project Boundary
- County Boundary
- Existing 345kV Transmission
- Railroad
- State Highway
- County Road
- Township/Local Road

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Date: 1/10/2025

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Projection: Transverse Mercator
Datum: North American 1983
Units: Foot US

COLES WIND
A project by APEX

N

0 0.25 0.5 1 1.5 Kilometers

0 0.25 0.5 1 Miles

Coles Wind
Figure 6
Protected Lands

- Protected Land
- Project Boundary
- County Boundary
- Railroad

Date: 1/10/2025

Coordinate System: NAD 1983 StatePlane Illinois East FIPS 1201 Feet
Projection: Transverse Mercator
Datum: North American 1983
Units: Foot US

COLES WIND
A project by APEX

Upper Embarras Woods Land and Water Reserve
Upper Embarras Woods Nature Preserve
Deer Creek
Arcola
E CO RD 200 N
Douglas County
Coles County
Douglas County
Edgar County
N 150TH ST
Creasy Creek
Donica Creek
Little Embarras River
Flat Branch
N CO RD 1600 E
Embarras River
Riley Creek
Polecat Creek
Charleston
Mattoon
Coles County Memorial Airport
Kickapoo Creek
Warbler Bluff Land and Water Reserve
Woodyard Memorial Conservation Area Land and Water Reserve
Warbler Bottoms North Land and Water Reserve
Ambraw Woods Land and Water Reserve
COLES COUNTY
Warbler Woods North Land and Water Reserve
Warbler Woods Nature Preserve
Embarras Ridges Land and Water Reserve
Embarras Ridges Land and Water Reserve Addition
Edgar County
Clark County
Coles County
Clark County
LINOIS
KE LAND BLVD
N
0 0.5 1 2 3 4 Kilometers
0 0.5 1 2 3 Miles

Coles Wind
Figure 7
Approved County and Township Roads for Turbines and Other Equipment

Preliminary Project Facilities

- Proposed Turbine*
- Access Road
- Approved County or Township Road**
- IL DOT Juristictional Road
- Project Boundary
- Minor Civil Division
- County Boundary
- State Highway
- County Road
- Township/Local Road
- Municipality

*Turbines are not drawn to scale.
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Only 51 Turbines will be constructed.

**Subject to Road Use Agreement

Date: 1/10/2025

Coordinate System: NAD 1983 StatePlane Illinois East FIPS 1201 Feet
Projection: Transverse Mercator
Datum: North American 1983
Units: Foot US

COLES WIND
A project by APEX

Arcola
Arcola Township
Bourbon Township
Hindsboro
Bowdre Township
Sargent Township
Douglas County
Coles County
Humboldt
Humboldt Township
North Okaw Township
Seven Hickory Township
Morgan Township
East Oakland Township
Ashmore Township
Mattoon
Mattoon Township
Lafayette Township
Charleston
Charleston Township
T1 T2 T3 T4 T5 T6 T7 T8 T9 T10 T11 T12 T13 T14 T15 T16 T17 T18 T19 T20 T21 T22 T23 T24 T25 T26 T27 T28 T29 T30 T31 T32 T33 T34 T35 T36 T37 T38 T39 T40 T41 T42 T43 T44 T45 T46 T47 T48 T49 T50 T51 T52 T53 T54 T55 T56 T57 T58 T59 T60 T61 T62
PG SLAUGHTERHOUSE RD
KEMP RD (300N)
ANTIOCH RD (200N)
DONNELLY RD (1100 N)
COOKS MILL RD/1400N
OLD STATE RD/1000N
REASON AVE
Crabapple Creek
Embarras River
Flat Branch
Dry Branch
Stone Quarry Rd
N
0 0.5 1 2 3 Kilometers
0 0.5 1 2 Miles

Appendix B

Landowner Contact Information and Agreements

1. Landowner Names and Addresses (*SUP Application, §B.2*)
2. Evidence of Recorded Site Control Documents (SUP Application, §B.2)
3. Template Wind Energy Lease (SUP Application, §B.2 and §B.10)
4. Template Wind Farm Participation and Support Agreement with Shadow Flicker Waiver (SUP Application, §B.2 and §B.10)
5. Template Wind Farm Participation and Support Agreement (*SUP Application, §B.2 and §B.10)*
6. Template Grant of Easement and Easement Agreement for Underground Facilities (*SUP Application, §B.2 and §B.10)*
7. Template Grant of Easement and Easement Agreement for Aircraft Detection Lighting System (*SUP Application, §B.4*)
8. Template Gate and Liability Waiver (*Design and Installation, §S.3*)

Appendix B.1

Landowner Names and Addresses

(*SUP Application, §B.2*)

Agreement Number[1,2]	Parcel ID	Acres	Landowner Name[3]	Mailing Address	City	State	Zip Code	Effective Date	Document Description	Recording Date	Instrument Number	Setback Waiver	Shadow Flicker Waiver[4]	Gate Waiver[5]	AIMA Sent
IL-CLW-002	12-0-00700-000	40	Linda J. Grismer	15910 Marengo Road	Union	Illinois	60180	10/27/2020	Memorandum of Wind Energy Lease	11/24/2020	202000791509	Yes	-	-	11/20/2024
	12-0-00701-000	38.58													
IL-CLW-003	12-0-00308-001	38.43	Eric N. Headrick	18479 N County Road 800E	Arcola	Illinois	61910	10/30/2020	Memorandum of Wind Energy Lease	11/24/2020	202000791510	Yes	-	Yes - T5	11/20/2024
	12-0-00313-000	42.06													
	12-0-00656-000	30													
	12-0-00660-000	50													
IL-CLW-004	12-0-00203-000	41.5	Tommie D. Fehrenbacher	PO Box 539	Olney	Illinois	62450	11/3/2020	Memorandum of Wind Energy Lease	12/21/2020	202000792001	Yes	-	Yes - T40	11/20/2024
	12-0-00203-000A	10													
	12-0-00203-004	17	Stephen Ray Swango	2785 N 5th Street	Charleston	Illinois	61920								
	12-0-00203-005	13													
IL-CLW-005	12-0-00267-000	80	Michael G. Litteken	3149 Hutton Road	Charleston	Illinois	61920	11/23/2020	Memorandum of Wind Energy Lease	2/1/2021	202100792689	Yes	-	Yes - T55	11/20/2024
	12-0-00902-000	27.21													
	12-0-00913-000	40													
IL-CLW-007	12-0-00240-000	36.92	Earl Hutton	16846N County Road 1000E	Arcola	Illinois	61910	11/24/2020	Memorandum of Wind Energy Lease	2/1/2021	202100792691	Yes	-	TBD	11/20/2024
IL-CLW-008	12-0-00054-000A	16.4	Jana Barker	15595 Decker Springs Road	Charleston	Illinois	61920	11/27/2020	Memorandum of Wind Energy Lease	2/1/2021	202100792692	Yes	-	-	11/20/2024
	12-0-00054-000B	66.1													
IL-CLW-011	12-0-00762-000	77.46	Donald J. Dallmier	P.O. Box 414 1141 E. County Rd. 400 N.	Arcola	Illinois	61910	11/30/2020	Memorandum of Wind Energy Lease	2/1/2021	202100792695	Yes	-	Yes - T11	11/20/2024
	12-0-00766-000	77.46													
IL-CLW-013	12-0-00745-001	79.01	Todd E. Sage	454 Onxy Dr.	Morton	Illinois	61550	11/30/2020	Memorandum of Wind Energy Lease	2/24/2021	202100793057	Yes	-	-	11/20/2024
IL-CLW-014	12-0-00745-002	78.258	Patricia A. Sage	454 Onxy Dr.	Morton	Illinois	61550	11/30/2020	Memorandum of Wind Energy Lease	2/1/2021	202100792697	Yes	-	-	11/20/2024
IL-CLW-015	12-0-00814-000	19.58	Darrell J. Honn	1239 Waverly Road	Davenport	Iowa	52804	12/7/2020	Memorandum of Wind Energy Lease	2/1/2021	202100792698	Yes	-	Yes - T15	11/20/2024
	12-0-00821-000	30													
IL-CLW-017	12-0-00817-000	10	Jeffrey M. Mitchell	2202 Wagon Trail Road	White Heath	Illinois	61884	1/25/2021	Memorandum of Wind Energy Lease	2/24/2021	202100793059	Yes	-	-	11/20/2024
	12-0-00822-000	36													
IL-CLW-018	12-0-00018-001	19.81	Christopher T. Rennels	876 N County Road 1500 E	Tuscola	Illinois	61953	2/3/2021	Memorandum of Wind Energy Lease	3/22/2021	202100793584	Yes	-	TBD	11/20/2024
	12-0-00880-000	67													
IL-CLW-024	08-0-00059-000	40	Anthony S. Komada	644 Fox Lake Drive	Charleston	Illinois	61920	3/18/2021	Memorandum of Wind Energy Lease	5/28/2021	202100794929	Yes	-	No - T31, T39	11/20/2024
	08-0-00062-000	38													
	08-0-00088-000	40													
	08-0-00090-000	76													
	08-0-00095-000	17													
	08-0-00103-000	12.87													
	08-0-00112-000	40													
	08-0-00113-000	29.51													
	08-0-00117-002	7.357													
	08-0-00118-000	40.49													
	08-0-00513-000	120													
IL-CLW-026	12-0-00820-000	28	Melissa Nell Honn	2305 Tennyson Lane	Highland Park	Illinois	60035	4/9/2021	Memorandum of Wind Energy Lease	5/28/2021	202100794931	Yes	-	-	11/20/2024
IL-CLW-027	12-0-00165-001	37.08	John J. Ingle	40940 Pine Grove Road	Bay Minette	Alabama	36507	4/20/2021	Memorandum of Wind Energy Lease	7/2/2021	202100795657	Yes	-	-	11/20/2024
IL-CLW-034	12-0-00125-000	40	Charles Allen Graves	13342 E County Road 450N	Charleston	Illinois	61920	5/29/2021	Memorandum of Wind Energy Lease	7/2/2021	202100795664	Yes	-	Yes - T57	11/20/2024
	12-0-00294-000	57.12													
	12-0-00295-000	60													
IL-CLW-037	12-0-00862-002	11	Steven John Kincaid	515 Route 45 South	Louisville	Illinois	62858	6/4/2021	Memorandum of Wind Energy Lease	7/2/2021	202100795678	Yes	-	Yes - T17	11/20/2024
	12-0-00863-001	40.031													
IL-CLW-039	12-0-00266-000	80	Dennis Edward Novak	5109 Merced Drive	Fort Worth	Texas	76137	6/1/2021	Memorandum of Wind Energy Lease	7/2/2021	202100795680	Yes	-	-	11/20/2024
IL-CLW-041	08-0-00218-000	80.54	Kendra Arlene Callaway	1390 Nursery Road	Charleston	Illinois	61920	6/14/2021	Memorandum of Wind Energy Lease	7/2/2021	202100795682	Yes	-	Yes - T48	11/20/2024
	08-0-00241-000	12.37													
IL-CLW-043	12-0-00862-003	11	Steven John Kincaid	515 Route 45 South	Louisville	Illinois	62858	6/21/2021	Memorandum of Wind Energy Lease	8/10/2021	202100796458	Yes	-	-	11/20/2024
	12-0-00863-002	41.311													
IL-CLW-044	08-0-00501-000	58.5	Mary Lynn Bartholomew	131 Baytree Drive	Rotonda West	Florida	33947	6/21/2021	Memorandum of Wind Energy Lease	7/23/2021	202100796107	Yes	-	-	11/20/2024
	12-0-00733-001	25													
	12-0-00733-002	48													
IL-CLW-045	08-0-00519-001	86.39	Peter Bonutti	PO Box 1387	Effingham	Illinois	62401	6/15/2021	Memorandum of Wind Energy Lease	7/23/2021	202100796108	Yes	-	Yes - T33	11/20/2024
	12-0-00916-001	80													
IL-CLW-047	12-0-00174-002	2.74	Jean Hudson	18271 E County Road 1280N	Charleston	Illinois	61920	7/1/2021	Memorandum of Wind Energy Lease	7/23/2021	202100796110	Yes	-	-	11/20/2024
IL-CLW-048	08-0-00240-000	124.39	Jean Hudson	18271 E County Road 1280N	Charleston	Illinois	61920	7/1/2021	Memorandum of Wind Energy Lease	7/23/2021	202100796111	Yes	-	No - T30	11/20/2024
	08-0-00503-001	90													
	08-0-00503-002	11.62													
	12-0-00174-001	67.61													
	12-0-00732-000	17.45													
IL-CLW-049	08-0-00217-000	88	Jeffery D. Hudson	5985 Forest Hills Drive	Charleston	Illinois	61920	7/1/2021	Memorandum of Wind Energy Lease	7/23/2021	202100796112	Yes	-	No - T47	11/20/2024
IL-CLW-050	12-0-00234-001B	25.77	Jeffery D. Hudson	5985 Forest Hills Drive	Charleston	Illinois	61920	7/1/2021	Memorandum of Wind Energy Lease	7/23/2021	202100796113	Yes	-	-	11/20/2024
IL-CLW-056	08-0-00517-000A	42.67	Mark Austin	102 E Locust Street	Ashmore	Illinois	61912	7/7/2021	Memorandum of Wind Energy Lease	8/10/2021	202100796459	Yes	-	-	11/20/2024
	12-0-00911-002	13.602													
IL-CLW-059	12-0-00072-000	121.16	Larry Allen Newby	19817 E County Road 700N	Charleston	Illinois	61920	7/10/2021	Memorandum of Wind Energy Lease	8/10/2021	202100796462	Yes	-	Yes - T62	11/20/2024
	12-0-00848-000	40													
IL-CLW-060	12-0-00673-000	184.12	Glenda Kay Shonkwiler	214 S Diamond Street	Arcola	Illinois	61910	7/9/2021	Memorandum of Wind Energy Lease	8/10/2021	202100796463	Yes	-	Yes - T2	11/20/2024
IL-CLW-062	12-0-00685-000	240	Mary Stuart Hatch	6 Amber Sky Drive	Rancho Palos Verdes	California	90275	7/13/2021	Memorandum of Wind Energy Lease	8/10/2021	202100796465	Yes	-	Yes - T1, T3, T21	11/20/2024
	12-0-00699-000	160													
IL-CLW-064	08-0-00514-000	159	Jeff A. Jones	1921 Meadowlake Drive	Charleston	Illinois	61920	7/14/2021	Memorandum of Wind Energy Lease	8/10/2021	202100796466	Yes	-	-	11/20/2024
	12-0-00217-001	0.9													
IL-CLW-069	08-0-00068-000	27.5	Edwin Lee Kasey	258 Palmaria Court	Nokomis	Florida	34275	7/15/2021	Memorandum of Wind Energy Lease	8/5/2021	202100796364	Yes	-	Yes - T54	11/20/2024
	08-0-00071-000	47.5													
	12-0-00271-000	40													
	12-0-00272-000	55													
	12-0-00273-000	55													
	12-0-00368-000	20													
IL-CLW-072	12-0-00218-000	80	Kerry L. Tuttle	3227 W Prince George Court	Peoria	Illinois	61615	7/9/2021	Memorandum of Wind Enery Lease	8/10/2021	202100796473	Yes	-	Yes - T52	11/20/2024
IL-CLW-075	12-0-00007-000	82.2	Michael G. Litteken	3149 Hutton Road	Charleston	Illinois	61920	7/15/2021	Memorandum of Wind Energy Lease	8/5/2021	202100796365	Yes	-	Yes - T37, T41, T51	11/20/2024
	12-0-00176-000	118.12													
	12-0-00214-000	120													
IL-CLW-076	12-0-00109-003	43.89	Linda S. Nugent	26 Deerfield Lane	Charleston	Illinois	61920	7/16/2021	Memorandum of Wind Energy Lease	8/5/2021	202100796366	Yes	-	Yes - T59	11/20/2024
	12-0-00110-001	62.058													
IL-CLW-079	12-0-00003-000	80	Michael G. Litteken	3149 Hutton Road	Charleston	Illinois	61920	7/15/2021	Memorandum of Wind Energy Lease	8/5/2021	202100796367	Yes	-	Yes - access road to T58	11/20/2024
	12-0-00004-002	64.98													
	12-0-00105-003	30.971													
	12-0-00109-001	10													
IL-CLW-080	08-0-00042-002	80	Michael G. Litteken	3149 Hutton Road	Charleston	Illinois	61920	7/15/2021	Memorandum of Wind Energy Lease	8/5/2021	20210079638	Yes	-	Yes - T42, T43, T44	11/20/2024
	08-0-00061-000	38													
	12-0-00153-000	14.51													
	12-0-00175-000	80													
	12-0-00177-000	35.1													
	12-0-00178-000	22.45													
	12-0-00182-000	160													
	12-0-00305-006	35.57													
	12-0-00879-000	63													
IL-CLW-081	12-0-00039-000	69	Jeff A. Jones	1921 Meadowlake Drive	Charleston	Illinois	61920	7/16/2021	Memorandum of Wind Energy Lease	8/25/2021	202100796818	Yes	-	-	11/20/2024
	12-0-00159-000	20													
	12-0-00168-000	20													
	12-0-00423-000	40													

Agreement Number[1,2]	Parcel ID	Acres	Landowner Name[3]	Mailing Address	City	State	Zip Code	Effective Date	Document Description	Recording Date	Instrument Number	Setback Waiver	Shadow Flicker Waiver[4]	Gate Waiver[5]	AIMA Sent
IL-CLW-090	12-0-00010-000	84.2	Robert E. Babbs	c/o Brenda Litteken, 3149 Hutton Rd.	Charleston	Illinois	61920	11/2/2021	Memorandum of Wind Energy Lease	12/3/2021	202100798525	Yes	-	Yes - T38	11/20/2024
IL-CLW-091	12-0-00004-001	15.2	Robert E. Babbs	c/o Brenda Litteken, 3149 Hutton Rd.	Charleston	Illinois	61920	11/2/2021	Memorandum of Wind Energy Lease	12/3/2021	202100798526	Yes	-	-	11/20/2024
IL-CLW-092	12-0-00196-002	25.62	Michael G. Litteken	3149 Hutton Road	Charleston	Illinois	61920	10/5/2021	Memorandum of Wind Energy Lease	12/3/2021	202100798527	Yes	-	-	11/20/2024
IL-CLW-093	12-0-00714-001 12-0-00725-001 12-0-00725-002	317.07 30.46 52.35	William F. McCarty III	c/o Chad Hoke, First Mid Ag Services, 6 Heartland Drive, Suite A	Bloomington	Illinois	61702	11/27/2021	Memorandum of Wind Energy Lease	1/4/2022	202200799038	Yes	-	Yes - T24, T25, T26	11/20/2024
IL-CLW-094	12-0-00746-002 12-0-00749-000 12-0-00750-000 12-0-00751-000	2 20 40 20	Bradley J. Walk	212 N 3350 East Road	Sigel	Illinois	62462	1/20/2022	Memorandum of Wind Energy Lease	2/23/2022	202200799775	Yes	-	Yes - T29	11/20/2024
IL-CLW-095	12-0-00698-002	259	Bradley J. Walk	212 N 3350 East Road	Sigel	Illinois	62462	1/20/2022	Memorandum of Wind Energy Lease	2/23/2022	202200799776	Yes	-	Yes - T22, T27	11/20/2024
IL-CLW-096	12-0-00698-001	60	Bradley J. Walk	212 N 3350 East Road	Sigel	Illinois	62462	1/20/2022	Memorandum of Wind Energy Lease	2/23/2022	202200799777	Yes	-	Yes - T23	11/20/2024
IL-CLW-097	12-0-00746-000 12-0-00746-003 12-0-00748-000	16.75 14.75 77.63	Bradley J. Walk	212 N 3350 East Road	Sigel	Illinois	62462	1/27/2022	Memorandum of Wind Energy Lease	3/14/2022	202200800012	Yes	-	-	11/20/2024
IL-CLW-098	12-0-00799-000 12-0-00811-000	136.38 80	Nancy Preston	3002 W Windsor Road	Champaign	Illinois	61822	3/7/2022	Memorandum of Wind Energy Lease	3/31/2022	202200800356	Yes	-	Yes - T8	11/20/2024
IL-CLW-099	08-0-00058-000 08-0-00072-000 12-0-00002-000	8.16 31.52 40	Tomi Sue Austin	15844 N County Road 1100E	Arcola	Illinois	61910	3/8/2022	Memorandum of Wind Energy Lease	3/31/2022	202200800357	Yes	-	-	11/20/2024
IL-CLW-100	12-0-00248-000	40	Dean Wayne Nelson	13757 State Hwy. 130	Charleston	Illinois	61920	4/5/2022	Memorandum of Wind Energy Lease	4/19/2022	202200800735	Yes	-	-	11/20/2024
IL-CLW-102	08-0-00219-000 12-0-00218-000 12-0-00221-000A 12-0-00221-000B 12-0-00427-000	46.54 40 40 40 40	Michael G. Litteken Megan Swango McElwee Angela Cheri Trinen	3149 Hutton Road 18537 E County Road 1280N 4506 North 22nd Street	Charleston Charleston Tacoma	Illinois Illinois Washington	61920 61920 98406	6/14/2022	Memorandum of Wind Energy Lease	7/8/2022	202200802132	Yes	-	Yes - T50	11/20/2024
IL-CLW-104	08-0-00231-002 12-0-00001-000 12-0-00011-000 12-0-00012-000 12-0-00020-000 12-0-00025-000 12-0-00029-000 12-0-00862-000 12-0-00867-000 12-0-00883-000 12-0-00884-000	28.8 34.87 40 5.4 83.33 34.6 5.13 58 50 27 53	Stephen R. Swango	2785 N 5th Street	Charleston	Illinois	61920	9/7/2022	Memorandum of Wind Energy Lease	9/27/2022	202200803387	Yes	-	Yes - T19, T36	11/20/2024
IL-CLW-105	12-0-00107-000	84	Stephen Michael Pendergast	19090 State Highway 16	Charleston	Illinois	61920	9/12/2022	Memorandum of Wind Energy Lease	10/25/2022	202200803835	Yes	-	Yes - T58	11/20/2024
IL-CLW-106	12-0-00226-000	59.03	Megan Swango McElwee	18537 E County Road 1280N	Charleston	Illinois	61920	9/11/2022	Memorandum of Wind Energy Lease	10/25/2022	202200803836	Yes	-	TBD	11/20/2024
IL-CLW-107	08-0-00084-000 08-0-00114-000 08-0-00115-000 08-0-00200-000 08-0-00214-001 12-0-00207-000 12-0-00231-000 12-0-00895-000	39.16 80 26.66 96 111.85 88.39 80 119	Tommie D. Fehrenbacher	PO Box 539	Olney	Illinois	62450	9/22/2022	Memorandum of Wind Energy Lease	10/25/2022	202200803837	Yes	-	Yes - T35, T45, T46	11/20/2024
IL-CLW-108	12-0-00276-000	60	Morgan Mary Fehrenbacher	PO Box 539	Olney	Illinois	62450	9/22/2022	Memorandum of Wind Energy Lease	11/16/2022	202200804175	Yes	-	Yes - 56	11/20/2024
IL-CLW-110	08-0-00092-000 08-0-00220-000 12-0-00202-000 12-0-00225-000 12-0-00239-000 12-0-00250-000	80 46.5 33 33 159.8 39.5	Norma L. Spence	1801 Edgewood Dr.	Charleston	Illinois	61920	12/1/2022	Memorandum of Wind Energy Lease	1/25/2023	202300805100	Yes	-	Yes - T49, T53	11/20/2024
IL-CLW-111	12-0-00105-001	62	Stephen Lee Monts	1328 Deer Path	Kankakee	Illinois	60901	12/28/2022	Memorandum of Wind Energy Lease	2/21/2023	202300805443	Yes	-	-	11/20/2024
IL-CLW-112	12-0-00308-000	1.57	Eric N. Headrick	18479 N County Road 800E	Arcola	Illinois	61910	12/21/2022	Wind Farm Participation and Support Agreement	2/3/2023	202300805231	Yes	-	-	11/20/2024
IL-CLW-114	12-0-00434-000	76.1	Natalie K. Smith	357 W Main Street	Arcola	Illinois	61910	2/6/2023	Memorandum of Wind Energy Lease	3/31/2023	202300805960	Yes	-	-	11/20/2024
IL-CLW-115	12-0-00763-000 12-0-00765-000 12-0-00783-000	90 30 40	Sharon Marlene James	5880 Walsh Road	Ellis Grove	Illinois	62241	3/14/2023	Memorandum of Wind Energy Lease	4/25/2023	202300806284	Yes	-	TBD	11/20/2024
IL-CLW-119	12-0-00071-000 12-0-00849-000 12-0-00850-000	81.15 80 80	James Craig McMillin	PO Box 1585	Madisonville	Texas	77864	3/20/2023	Memorandum of Wind Energy Lease	5/9/2023	202300806471	Yes	-	Yes - T16	11/20/2024
IL-CLW-122	08-0-00364-000 12-0-00710-000 12-0-00730-000	19.44 80 15	James E. Zimmer	c/o Granite Creek Capital Partners 222 W Adams Street, Suite 3125	Chicago	Illinois	60606	4/7/2023	Memorandum of Wind Energy Lease	6/22/2023	202300807252	Yes	-	-	11/20/2024
IL-CLW-123	12-0-00145-003 12-0-00146-001	36.93 1.83	Roberta Lynn Cunningham	713 N Cimmeron Drive	Pontiac	Illinois	61764	6/5/2023	Grant of Easement and Easement Agreement for Underground Facilities	6/30/2023	202300807426	Yes	-	-	11/20/2024
IL-CLW-124	12-0-00145-004 12-0-00146-002	36.93 1.83	James L. McNutt, Jr.	1982 Stratton Court	Kannapolis	North Carolina	28081	6/8/2023	Grant of Easement and Easement Agreement for Underground Facilities	6/30/2023	202300807427	Yes	-	-	11/20/2024
IL-CLW-125	12-0-00140-000 12-0-00144-000	39.7 40	Gary W. Hood	511 W Jefferson Avenue	Patoka	Illinois	62875	6/12/2023	Grant of Easement and Easement Agreement for Underground Facilities	7/18/2023	202300807655	Yes	-	-	11/20/2024
IL-CLW-126	12-0-00861-000 12-0-00881-000 12-0-00886-000	80 20 20	Stella Marie Gregory	2909 Mimosa Road	Brunswick	Georgia	31520	6/2/2023	Memorandum of Wind Energy Lease	7/17/2023	202300807612	Yes	-	Yes - T18	11/20/2024
IL-CLW-127	12-0-00205-000	34	John W. Lutz	17726 N County Road 2000E	Oakland	Illinois	61943	6/20/2023	Grant of Easement and Easement Agreement for Underground Facilities	7/17/2023	202300807613	Yes	-	-	11/20/2024
IL-CLW-128	12-0-00142-000	40	Linda F. Hasib	1053 Woodberry Lane	Charleston	Illinois	61920	6/5/2023	Memorandum of Wind Energy Lease	7/17/2023	202300807614	Yes	-	-	11/20/2024
IL-CLW-129	12-0-00251-000 12-0-00270-001	160 8.18	Faiz K. Hasib	1053 Woodberry Lane	Charleston	Illinois	61920	6/5/2023	Memorandum of Wind Energy Lease	7/17/2023	202300807615	Yes	-	-	11/20/2023
IL-CLW-130	12-0-00911-001	64.833	Douglas Jami Austin	15839 N County Road 1880E	Charleston	Illinois	61920	6/16/2023	Memorandum of Wind Energy Lease	7/17/2023	202300807616	Yes	-	Yes - T32	11/20/2024
IL-CLW-131	12-0-00265-000	17.28	Michael G. Litteken	3149 Hutton Road	Charleston	Illinois	61920	7/17/2023	Wind Farm Participation and Support Agreement	8/4/2023	202300807928	Yes	-	-	11/20/2024
IL-CLW-132	12-0-00654-000 12-0-00655-000 12-0-00657-000 12-0-00670-000 12-0-00795-000 12-0-00796-000 12-0-00800-000	80 80 80 156.23 80 80 208.27	Bruce I. Thompson	11705 E County Road 1700N	Arcola	Illinois	61910	7/20/2023	Memorandum of Wind Energy Lease	8/21/2023	202300808184	Yes	-	Yes - T4, T6, T7, T13, T14	11/20/2024
IL-CLW-133	12-0-00653-000	128	Bruce I. Thompson	11705 E County Road 1700N	Arcola	Illinois	61910	7/20/2023	Memorandum of Wind Energy Lease	8/21/2023	202300808185	Yes	-	-	11/20/2024
IL-CLW-134	12-0-00780-001	40	Bruce I. Thompson	11705 E County Road 1700N	Arcola	Illinois	61910	7/20/2023	Memorandum of Wind Energy Lease	8/21/2023	202300808186	Yes	-	-	11/20/2024
IL-CLW-135	12-0-00056-000 12-0-00865-000	80 160	Karen S. Cain	8403 Brakhane Road	Worden	Illinois	62097	7/25/2023	Memorandum of Wind Energy Lease	8/31/2023	202300808375	Yes	-	Yes - T61	11/20/2024
IL-CLW-136	12-0-00869-000	30	Stella Marie Gregory	2909 Mimosa Road	Brunswick	Georgia	31520	7/21/2023	Memorandum of Wind Energy Lease	8/31/2023	202300808376	Yes	-	-	11/20/2024
IL-CLW-137	12-0-00288-001	40	Patrick D. Harrington	15360 N County Road 700E	Humboldt	Illinois	61931	7/26/2023	Memorandum of Wind Energy Lease	8/31/2023	202300808377	Yes	-	-	11/20/2024
IL-CLW-138	12-0-00844-000	40	Patrick D. Harrington	15360 N County Road 700E	Humboldt	Illinois	61931	7/26/2023	Memorandum of Wind Energy Lease	8/31/2023	202300808378	Yes	-	-	11/20/2024
IL-CLW-139	12-0-00844-001	40	Patrick D. Harrington	15360 N County Road 700E	Humboldt	Illinois	61931	7/26/2023	Memorandum of Wind Energy Lease	8/31/2023	202300808379	Yes	-	-	11/20/2024
IL-CLW-140	12-0-00275-000	2.72	Tommie D. Fehrenbacher	PO Box 539	Olney	Illinois	62450	7/27/2023	Wind Farm Participation and Support Agreement	8/31/2023	202300808367	Yes	-	-	11/20/2024
IL-CLW-141	12-0-00192-000	1.883	Vernon B. Owens	14511 N County Road 1700E	Charleston	Illinois	61920	8/3/2023 10/18/2024	Wind Farm Participation and Support Agreement Amendment to Wind Farm Participation and Support Agreement	8/31/2023 11/20/2024	202300808368 202400814674	Yes	Yes	-	11/20/2024
IL-CLW-142	12-0-00274-000	78.52	David G. Siebert	3 Eagle Point	Charleston	Illinois	61920	7/31/2023	Wind Farm Participation and Support Agreement	8/31/2023	202300808369	Yes	-	-	11/20/2024

Agreement Number[1,2]	Parcel ID	Acres	Landowner Name[3]	Mailing Address	City	State	Zip Code	Effective Date	Document Description	Recording Date	Instrument Number	Setback Waiver	Shadow Flicker Waiver[4]	Gate Waiver[5]	AIMA Sent
IL-CLW-143	12-0-00878-001	29.849	Stephen R. Swango	2785 N 5th Street	Charleston	Illinois	61920	8/2/2023	Wind Farm Participation and Support Agreement	8/31/2023	202300808370	Yes	-	-	11/20/2024
IL-CLW-144	12-0-00063-000	3.41	Randall LeGrand	14493 E County Road 1500N	Charleston	Illinois	61920	8/2/2023	Wind Farm Participation and Support Agreement	8/31/2023	202300808371	Yes	-	-	11/20/2024
IL-CLW-145	08-0-00091-000	3.182	Douglas Jami Alan Austin	15839 N County Road 1880E	Charleston	Illinois	61920	8/9/2023	Wind Farm Participation and Support Agreement	9/11/2023	202300808574	Yes	-	-	11/20/2024
IL-CLW-147	12-0-00077-000	47.23	Gary W. Hood	511 W Jefferson Avenue	Patoka	Illinois	62875	9/1/2023	Grant of Easement and Easement Agreement for Underground Facilities	9/18/2023	202300808668	Yes	-	-	11/20/2024
IL-CLW-148	12-0-00217-002 12-0-00896-000 12-0-00912-000	30.97 40 120	Cory Kauffman	1317 Charleston Avenue	Mattoon	Illinois	61938	8/2/2023	Memorandum of Wind Energy Lease	9/18/2023	202300808669	Yes	-	Yes - T34	11/20/2024
IL-CLW-149	12-0-00288-002	40	Mary Sue Fearday Cardinal	550 N 3450 East Road	Neoga	Illinois	62447	8/24/2023	Memorandum of Wind Energy Lease	9/26/2023	202300808802	Yes	-	-	11/20/2024
IL-CLW-150	12-0-00076-000 12-0-00079-000 12-0-00141-000	58.62 40 40	Cory Kauffman	1317 Charleston Avenue	Mattoon	Illinois	61938	8/2/2023	Memorandum of Wind Energy Lease	9/26/2023	202300808803	Yes	-	Yes - T60	11/20/2024
IL-CLW-151	12-0-00275-000	2.72	Tommie D. Fehrenbacher	PO Box 539 Olney, IL 62450 US	Olney	Illinois	62450	9/18/2023	Grant of Easement and Easement Agreement for Underground Facilities	10/10/2023	202300808989	Yes	-	-	11/20/2024
IL-CLW-152	12-0-00274-000	78.52	David G. Siebert	3 Eagle Point Charleston, IL 61920 US	Charleston	Illinois	61920	9/18/2023	Grant of Easement and Easement Agreement for Underground Facilities	10/10/2023	202300808990	Yes	-	-	11/20/2024
IL-CLW-153	12-0-00697-000	80	Bradley J. Walk	212 N 3350 East Road Sigel, IL 62462 US	Sigel	Illinois	62462	10/5/2023	Memorandum of Wind Energy Lease	11/7/2023	202300809440	Yes	-	Yes - T28	11/20/2024
IL-CLW-154	12-0-00052-000	40	Steven John Kincaid	515 Route 45 South Louisville, IL 62858 US	Louisville	Illinois	62858	10/9/2023	Memorandum of Wind Energy Lease	11/17/2023	202300809570	Yes	-	-	11/20/2024
IL-CLW-155	12-0-00687-000 12-0-00760-000 12-0-00775-001	66.66 120 195.29	Steven John Kincaid	515 Route 45 South	Louisville	Illinois	62858	10/9/2023	Memorandum of Wind Energy Lease	11/17/2023	202300809571	Yes	-	Yes - T9, T10	11/20/2024
IL-CLW-156	12-0-00160-000	40	Christopher T. Rennels	876 N County Road 1500 E	Tuscola	Illinois	61953	11/6/2023	Grant of Easement and Easement Agreement for Underground Facilities	12/11/2023	202300809853	Yes	-	-	11/20/2024
IL-CLW-157	12-0-00005-000 12-0-00009-000	20.93 41.86	Cory Kauffman Jonathan R. McKenzie	1317 Charleston Avenue 860 W Lincoln Avenue	Mattoon Charleston	Illinois Illinois	61938 61920	10/30/2023	Grant of Easement and Easement Agreement for Underground Facilities	12/11/2023	202300809854	Yes	-	-	11/20/2024
IL-CLW-158	12-0-00917-000	80	Debra A. Allena	3434 Gays Way	Abilene	Texas	79606	11/7/2023	Grant of Easement and Easement Agreement for Underground Facilities	12/11/2023	202300809855	Yes	-	-	11/20/2024
IL-CLW-159	12-0-00764-000	38.88	William J. Rasmussen, III	7567 Old State Road	Mattoon	Illinois	61983	10/28/2023	Grant of Easement and Easement Agreement for Underground Facilities	12/11/2023	202300809856	Yes	-	-	11/20/2024
IL-CLW-161	08-0-00060-000	40	Rosemary C. Austin	1724 Cooks Mill Road	Sullivan	Illinois	61951	11/16/2023	Wind Farm Participation and Support Agreement	12/11/2023	202300809858	Yes	-	-	11/20/2024
IL-CLW-162	08-0-00065-000	38	Rosemary C. Austin	1724 Cooks Mill Road	Sullivan	Illinois	61951	11/21/2023	Grant of Easement and Easement Agreement for Underground Facilities	12/11/2023	202300809859	Yes	-	-	11/20/2024
IL-CLW-163	12-0-00878-001	29.849	Stephen R. Swango	2785 N 5th Street	Charleston	Illinois	61920	12/11/2023	Grant of Easement and Easement Agreement for Underground Facilities	12/22/2023	202300810036	Yes	-	-	11/20/2024
IL-CLW-164	12-0-00058-000	79.07	Edward Y. Orenstein	c/o Summit Ag Management, LLC 10640 County Highway D20	Alden	Iowa	50006	11/6/2023	Grant of Easement and Easement Agreement for Underground Facilities	1/10/2024	202400810263	Yes	-	-	11/20/2024
IL-CLW-165	12-0-00058-000	79.07	Edward Y. Orenstein	c/o Summit Ag Management, LLC 10640 County Highway D20	Alden	Iowa	50006	11/6/2023	Memorandum of Wind Energy Lease	1/10/2024	202400810264	Yes	-	-	11/20/2024
IL-CLW-166	12-0-00071-000A	21.3	James Craig McMillin	PO Box 1585	Madisonville	Texas	77864	12/18/2023	Memorandum of Purchase and Sale Agreement	1/25/2024	202400810470	No	-	-	11/20/2024
IL-CLW-167	12-0-00235-000 12-0-00371-000 12-0-00411-000	65.5 60 57.5	John Overton	1901 W Baldridge Street	Ennis	Texas	75119	1/3/2024	Memorandum of Wind Energy Lease	2/15/2024	202400810735	Yes	-	-	11/20/2024
IL-CLW-168	12-0-00686-000	11.275	Jeremy L. Brown	18538 Decker Springs Road	Hindsboro	Illinois	61930	3/28/2024	Wind Farm Participation and Support Agreement	5/17/2024	202400812013	Yes	Yes	-	11/20/2024
IL-CLW-169	12-0-00161-000	1	Lisa M. Tichenor	15967 East County Road 1400 North	Charleston	Illinois	61920	4/22/2024	Wind Farm Participation and Support Agreement	6/11/2024	202400812372	Yes	-	-	11/20/2024
IL-CLW-170	12-0-00023-000	15.795	Gail E. Blank	16745 E County Road 1500 N	Charleston	Illinois	61920	5/22/2024	Wind Farm Participation and Support Agreement	6/6/2024	202400812273	Yes	-	-	11/20/2024
IL-CLW-171	12-0-00882-000	120	Brock Norris	1317 Charleston Avenue, P.O. Box 529	Mattoon	Illinois	61938	5/30/2024	Grant of Easement and Easement Agreement for Underground Facilities	6/21/2024	202400812514	Yes	-	-	11/20/2024
IL-CLW-172	12-0-00234-001A	18.86	Jeffery D. Hudson	5985 Forest Hills Drive	Charleston	Illinois	61920	5/29/2024	Temporary Construction Yard Ground Lease	6/14/2024	202400812414	No	-	-	11/20/2024
IL-CLW-173	12-0-00092-000 12-0-00093-000 12-0-00103-000 12-0-00119-000	40 32.83 40.55 98.62	Bret L. Yeary	PO Box 1068	Wolfforth	Texas	79382	6/3/2024	Grant of Easement and Easement Agreement for Underground Facilities	6/21/2024	202400812515	No	-	-	11/20/2024
IL-CLW-176	12-0-00402-000A	5	Stephen Ray Swango	2785 N 5th Street	Charleston	Illinois	61920	6/20/2024	Temporary Construction Yard Ground Lease	7/19/2024	202400812914	No	-	-	11/20/2024
IL-CLW-177	12-0-00402-000	77	Stephen Ray Swango	2785 N 5th Street	Charleston	Illinois	61920	6/20/2024	Memorandum of Wind Energy Lease	8/1/2024	202400813084	Yes	-	-	11/20/2024
IL-CLW-178	12-0-00747-000	46.5	William L. Schwartz Sandra J. Schwartz	7521 Clarence Court 72 Ginger Creek Parkway	Glen Carbon Glen Carbon	Illinois Illinois	62034 62034	7/29/2024	Grant of Easement and Easement Agreement for Underground Facilities	8/22/2024	202400813392	No	-	-	11/20/2024
IL-CLW-179	12-0-00752-001	177.49	William L. Schwartz Sandra J. Schwartz	7521 Clarence Court 72 Ginger Creek Parkway	Glen Carbon Glen Carbon	Illinois Illinois	62034 62034	7/29/2024	Grant of Easement and Easement Agreement for Underground Facilities	8/22/2024	202400813393	No	-	-	11/20/2024
IL-CLW-182	12-0-00236-000	3.886	Kathy Lynn Thomas	5762 N County Road 1400 E	Charleston	Illinois	61920	9/5/2024	Wind Farm Participation and Support Agreement	10/25/2024	202400814337	Yes	-	-	11/20/2024
IL-CLW-183	12-0-00180-000	1.714	John Michael Austin	16193 E County Road 1400 N	Charleston	Illinois	61920	9/28/2024	Wind Farm Participation and Support Agreement	11/7/2024	202400814500	Yes	-	-	11/20/2024
IL-CLW-185	12-0-00018-002	2.35	Phillip Michael Howrey	15952 State Highway 130	Charleston	Illinois	61920	10/16/2024	Wind Farm Participation and Support Agreement	11/20/2024	202400814675	Yes	-	-	11/20/2024
IL-CLW-196	12-0-00248-000	40	Dean Wayne Nelson	13757 State Hwy. 130	Charleston	Illinois	61920	1/10/2025	Grant of Easement and Easement Agreement for Aircraft Detection Lighting System	TBD	TBD	No	-	-	11/20/2024
119 Agreements	**248 parcels**	**13,700.55 acres**													

[1] Some agreements may include additional parcels not included here. The parcels not included are now outside the Special Use Permit Project Area.

[2] Site control agreements have all been recorded with Coles County. They can also re viewed online at: https://apexcleanenergy.box.com/v/ColesWindLandAgreements

[3] Phone numbers are available to the County upon request.

[4] The WECS Ordinance requires waivers from shadow flicker mitigation requirements for occupied community buildings and non-participating residences modeled over 30 hours per year. There are no occupied community buildings or non-participating residences modeled to receive over 30 hours per year of shadow flicker; as such, no waivers are required. Two participating residences are modeled to receive more than 30 hours per year. Although not required per the WECS Ordinance, Coles Wind includes shadow flicker mitigation waivers for these Project participants.

[5]Gate waivers are available to the County upon request. Coles Wind continues to coordinate with four landowners on gate waivers (noted as "TBD"). Landowners that request a gate are indicated with a "No". Landowners waiving the gate are indicated with a "Yes" and the corresponding turbine ID. Landowners that do not have a turbine or access road to a turbine are indicated with a "-".

Appendix B.2

Evidence of Recorded Site Control Documents

(*SUP Application, §B.2*)

All site control documents have been or are in the process of being recorded at Coles County Recorder of Deeds Office. For convenience, Coles Wind has assembled all of the land agreements associated with this Coles County Special Use Permit Application in a single place. These documents are available for viewing at https://apexcleanenergy.box.com/v/ColesWindLandAgreements.

Appendix B.3

Template Wind Energy Lease

(*SUP Application, §B.2 and §B.10*)

WIND ENERGY LEASE

This Wind Energy Lease (this "**Lease**") is entered into as of the ___ day of _____, 20___ (the "**Effective Date**") by and between «Current_Legal_Name» (collectively, "**Landlord**") and Coles Wind, LLC, a Delaware limited liability company ("**Tenant**").

WITNESSETH:

WHEREAS, Landlord is the owner of the real property legally described in Exhibit A attached hereto and incorporated by reference herein (the "**Property**"); and

WHEREAS, Tenant desires to obtain a land lease and wind easement from Landlord, on, along, over and under the Property for the purposes of wind energy conversion for the generation, distribution and transmission of electric power and related purposes as described herein;

NOW, THEREFORE, in consideration of the understandings and mutual covenants contained herein, and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, Landlord and Tenant, intending to be legally bound, mutually agree to the following terms and conditions:

1. BASIC LEASE TERMS.

1.1 Property.	The real property owned by Landlord and located in Coles County ("**County**"), State of Illinois, as more particularly described in Exhibit A hereto, including all rights, privileges, easements and appurtenances pertaining thereto. The Property consists of «Verified_Acres» acres. This acreage is an estimate agreed to by Landlord and Tenant, and shall be conclusive for purposes of this Lease, regardless of whether the actual acreage of the Property may be different.
1.2 Project.	The larger, integrated wind energy project that may be constructed by Tenant on the Property and on other adjacent or nearby real property. The final boundaries of the Project shall be determined by Tenant in its reasonable discretion.
1.3 Phase.	A portion of the Project that is distinguishable from the remainder of the Project because it is constructed and put into operation at approximately the same time. The Project may have one or more phases, each a "**Phase**." Phases shall be determined by Tenant in its reasonable discretion.

1.4	**Development Period.**	The period commencing on the Effective Date of this Lease and expiring five (5) years after the Effective Date. Such period may be sooner terminated as provided in this Lease. The Development Period may be extended by Tenant for an additional two (2) years by giving written notice thereof to Landlord before the then-existing expiration of the Development Period. If Commencement of Construction occurs during the Development Period and construction of the Project is continuing after the last day of the seventh year of the Development Period, then the Development Period shall extend for an additional period of time commencing on the first day of the eighth year of the Development Period and ending on the Commercial Operations Date, provided that Tenant is diligently pursuing completion of construction during this additional period of time. Such period may be sooner terminated as provided in this Lease.
1.5	**Operations Period.**	The period commencing on the first day after the end of the Development Period and expiring thirty (30) years thereafter, as more fully set forth in Section 3.2, and which may be extended pursuant to Section 3.3.
1.6	**Commencement of Construction.**	The date that Tenant pours the foundation for the first Wind Turbine (as defined in Section 4.1.2) installed in the Phase that includes the Property.
1.7	**Commercial Operations Date.**	With respect to any Phase, the date that Commercial Operations (or a similar concept) is declared under the interconnection agreement(s) for the Project. Tenant shall notify Landlord in writing of the Commercial Operations Date for any Phase that includes the Property no later than sixty (60) days after it occurs.

1.8	**Development Rent.**	For years 1-5 of the Development Period, an annual payment equal to $10.00 per acre of the Property; provided, that the minimum amount shall be $1,000.00 per year. For years 6 and 7 of the Development Period, an annual payment equal to $12.00 per acre of the Property; provided, that the minimum amount shall be $1,000.00 per year. If Commencement of Construction occurs during the Development Period and construction of the Project is continuing after the last day of the seventh year of the Development Period, then Development Rent of $12.00 per acre of the Property per year shall be due with respect to the period of time commencing on the first day of the eighth year of the Development Period and ending on the Commercial Operations Date. Any such additional Development Rent shall be prorated for partial years and payable within 30 days after the Commercial Operations Date.
1.9	**Annual Turbine Host Payment.**	If one or more Wind Turbines are installed on the Property, an annual payment of $6,000.00 per megawatt of rated nameplate capacity of the Wind Turbines installed on the Property, subject to adjustment pursuant to Section 5.11, more fully described in Section 5.6.

1.10 Operations Payments.	If the Property consists of more than one parcel or tract, each as identified by a unique parcel identification number on Exhibit A, and Wind Turbines are installed on one or more parcels or tracts but not all of the parcels or tracts comprising the Property, each parcel or tract with a Wind Turbine shall receive an annual payment equal to $60.00 per acre, subject to adjustment pursuant to Section 5.11; and if no Wind Turbines are installed or planned to be installed on the remaining parcels or tracts of the Property, the parcels or tracts of land with no Wind Turbines shall receive an annual payment equal to $60.00 per acre, subject to adjustment pursuant to Section 5.11. The Operations Payments described in this Section 1.10 shall be based upon the parcel identification numbers set forth in Exhibit A as of the Effective Date such that any future subdivisions resulting in more parcels or tracts without Wind Turbines shall not increase the Operations Payments owed by Tenant under this Lease.
1.11 Meteorological Equipment Fee.	During the Term, an annual payment of $4,000.00 for each meteorological tower (**"Met Tower"**) installed on the Property and an annual payment of $1,000.00 for each SODAR and/or LIDAR unit (each a **"Ranging Unit"**) installed on the Property. During the Operations Period, the Meteorological Equipment Fee for permanently installed Met Towers shall be subject to adjustment pursuant to Section 5.11. The Met Tower payments and Ranging Unit payments are more fully described in Section 5.3.

1.12 Installation Payments.	Regardless of whether or not as of the Commercial Operations Date any Wind Turbines are installed on the Property, (i) a one-time payment of $2.00 per linear foot for each permanent road or above-ground transmission line installed on the Property, provided that Tenant may install multiple transmission lines on the same line of poles without any additional consideration, and (ii) a one-time payment of $1.00 per linear foot for buried cable installed on the Property, provided that Tenant may install multiple transmission cables or wires in the same entrenchment without any additional consideration; in addition, if as of the Commercial Operations Date, one or more Wind Turbines are installed on the Property, a one-time payment of $2,000.00 per Wind Turbine installed on the Property; in each case as more fully described in Section 5.4.
1.13 Annual Facilities Host Payment.	Regardless of whether or not as of the Commercial Operations Date, any Wind Turbines are installed on the Property, an annual payment of $1.00 per linear foot for each permanent road, buried cable, and above-ground transmission line installed on the Property, provided that Tenant may install multiple transmission lines on the same line of poles without any additional consideration and Tenant may install multiple underground transmission cables or wires in the same entrenchment without any additional consideration; in each case as more fully described in Section 5.6.

2. LEASING CLAUSE.

Landlord leases the Property to Tenant, and Tenant leases the Property from Landlord, on the terms and conditions of this Lease.

3. TERM.

3.1 Development Period. The initial term of this Lease shall be for the Development Period specified in Section 1.4.

3.2 Operations Period. Upon the date on which the Commercial Operations Date for a Phase that includes the Property occurs the Development Period of this Lease shall end and the term of this Lease automatically shall be extended for the Operations Period specified in Section 1.5.

3.3 Extension Rights. If the term of this Lease has been extended for the Operations Period, and provided that Tenant is not then in default of this Lease, Tenant shall have the right to extend the Operations Period for two (2) additional ten (10) year period(s) by providing written notice thereof to Landlord no later than thirty (30) days before the then-existing expiration date of the Operations Period. As used hereafter, "**Term**" refers collectively to the Development Period and any Operations Period, including any and all extensions thereof.

4. USE OF PROPERTY

4.1 Tenant's Use. Throughout the Term, Tenant shall have the sole and exclusive rights to use the Property for Wind Energy Purposes and to convert all of the wind resources of the Property including, without limitation, all rents, royalties, credits and profits derived from wind energy and the wind resources upon, over and across the Property. "**Wind Energy Purposes**" means: wind resource evaluation (including use of SODAR or LIDAR technology) and determination of the feasibility of wind energy conversion on the Property or on adjacent lands, including studies of wind speed, wind direction and other meteorological data; wind energy development; conversion of wind energy into electrical energy; collection and transmission of electrical energy converted from wind energy; and any and all other activities related to the foregoing. Tenant's rights hereunder specifically include, but are not limited to, the right to:

4.1.1 Extract soil samples, perform geotechnical tests, and conduct such other tests, studies, inspections and analysis on the Property as Tenant deems necessary, useful or appropriate in its sole discretion.

4.1.2 Construct, install, lay down, erect, improve, place, replace, remove, relocate and operate any and all improvements, machinery or equipment that Tenant deems necessary or desirable in connection with the uses described above, including, without limitation, the following (collectively, the "**Wind Facilities**"): (a) one or more wind turbine energy generators, associated towers, related fixtures, equipment and improvements, including the appurtenant footings, support structures and towers ("**Wind Turbines**"); (b) aboveground and underground electrical and communications lines, collection and transmission equipment; (c) power conditioning equipment, substations, switchyards, interconnection facilities, switching facilities, operations and maintenance buildings, transformers, SCADA and telecommunications equipment; (d) roads, gates, signs, fences, Met Towers, wind energy measurement equipment, maintenance yards and other related facilities, machinery, equipment and improvements; and (e) temporary improvements of any kind, including but not limited to temporary security, office, and guest facilities, staging areas, power generation facilities used for wind turbine installations, laydown areas, temporary roads and crane paths, crane pads, and related facilities (collectively, "**Temporary Improvements**"). An improvement shall be deemed "temporary" if it will be located on the Property for less than one year and "permanent" if it will be located on the Property for one year or longer.

4.1.3 Capture, use and convert the unobstructed wind resources over and across the Property.

4.1.4 Generate audio, visual and electrical effects, as well as shadow flicker, radio interference, and/or other effects, on the Property attributable to the operation of Wind Facilities or any other activities of Tenant; and allow the rotors of Wind Turbines located on adjacent properties in the Project to overhang onto the Property.

4.1.5 Undertake any other activities whether undertaken by Tenant or third parties authorized by Tenant that Tenant determines are necessary, useful or appropriate to accomplish the development and operation of the Wind Facilities, provided that such activities are conducted in a manner consistent with customary industry practices.

4.2 Ownership of Wind Facilities. Tenant shall at all times retain title to the Wind Facilities and shall have the right to remove them from the Property at any time. Landlord shall have no ownership, lien, security or other interest in any Wind Facilities installed on the Property and Landlord expressly waives, relinquishes and quitclaims any lien or security interest in and to the Wind Facilities or any other real or personal property of Tenant, whether arising at law or in equity. Landlord shall not have any ownership or other interest in any and all credits, tax credits, benefits, emissions reductions, offsets and allowances of any kind, howsoever entitled, attributable to the Wind Facilities, nor to the electric energy, capacity or other products produced therefrom. The manner of operation of the Wind Facilities is within the sole discretion of Tenant.

4.3 Right of Access. Tenant shall have the right of access over and across all portions of the Property, and any adjacent property owned by Landlord, as reasonably necessary to use the Property as permitted by this Lease and to develop and operate the Project, including installing Wind Facilities to and through the Property in order to connect to other properties with Wind Facilities.

4.4 No Warranty of Energy Production. Tenant has not made and does not make any representations or warranties regarding energy production from Wind Facilities on the Property or the likelihood that Tenant will install Wind Facilities on the Property. Landlord acknowledges that the operation of any Wind Facilities actually installed on the Property is subject to adverse weather, lack of wind, equipment failures and other events beyond the control of Tenant which may interrupt or prevent electricity generation.

4.5 Quiet Enjoyment. As long as Tenant observes the terms and conditions of this Lease, it shall peaceably hold and enjoy the rights of Tenant hereunder and any and all other rights granted by this Lease for its entire term without hindrance or interruption by Landlord or any other person or persons.

4.6 Mineral Development. Landlord reserves the right to develop the minerals, if any, owned by Landlord or third parties on the Property so long as such development (including any drilling or mining) does not interfere with Tenant's use of the Property and does not materially diminish the amount of land surface of the Property available for the Tenant activities.

4.7 Agricultural Activities. In the construction and operation of its Wind Facilities, Tenant will make reasonable efforts not to interfere with Landlord's agricultural activities on the Property. To that end, Tenant will designate a single point of contact for communications with Landlord at all times.

4.8 Review of Site Plan. At least thirty (30) days prior to the Commencement of Construction, Tenant shall provide Landlord with a site development plan for the Property including all proposed sites and locations for all roads, turbines, electricity transmission lines, substations, switchyards, operations and maintenance buildings, or any other constructs constituting Wind Facilities. Within ten (10) days after Landlord has been provided with the site development plan, Landlord will notify Tenant of any potential problems foreseen with the proposed locations of the Wind Facilities and offer good faith suggestions, comments and possible remedies to address the areas of concern to aid Tenant in its final site development planning. Tenant will consider Landlord's suggestions and comments, and wherever reasonable, revise the site development plan to accommodate or mitigate the impact to the Property to address reasonable Landlord concerns regarding the location of the Wind Facilities. Tenant shall make good faith efforts to locate Wind Facilities in areas consistent with Landlord's reasonable requests, while making efforts to keep close proximity to pre-existing access roads and property lines, and while limiting surface obstructions (including overhead energy transmission lines). Tenant shall make all final siting decisions in its sole and absolute discretion.

5. RENT AND OTHER PAYMENTS.

5.1. Payment of Rent Generally. Tenant shall not be required to make any rent payment to Landlord under this Lease until such time as Landlord has returned to Tenant a completed and executed Internal Revenue Service Form W-9 and a payment instruction form signed by each person or entity holding record or equitable title to the Property, and documentation (if applicable) evidencing signing authority.

5.2. Payments During the Development Period. During the Development Period, Tenant shall pay the Development Rent specified in Section 1.8. The first annual Development Rent payment shall be due within sixty (60) days after the Effective Date and subsequent annual Development Rent payments shall be due within thirty (30) days after each applicable anniversary of the Effective Date during the Development Period. If the Development Period ends on any day other than the fifth (5^{th}) or sixth (6^{th}) anniversary of the Effective Date, Development Rent already paid for periods of time after termination of the Development Period shall be applied to payments due during the Operations Period.

5.3. Meteorological Equipment Fee. If Tenant installs a Met Tower on the Property for the sole purpose of collecting meteorological data, Tenant shall pay Landlord the annual Meteorological Equipment Fee in Section 1.11 while the Met Tower is installed. This fee will be paid annually, with the first payment due within forty-five (45) days of the installation of the Met Tower. For each Ranging Unit Tenant installs on the Property, Tenant shall pay Landlord the semi-annual installment of the Ranging Unit fee in Section 1.11 for each six-month period that the Ranging Unit is installed on the Property. The Ranging Unit fee shall be calculated annually and paid in equal, semi-annual installments, with the first payment due within forty-five (45) days of the installation of the Ranging Unit, and each subsequent Ranging Unit payment shall be paid at the start of each successive six-month period thereafter. Ranging Unit payments will continue throughout the Term until the removal of the Ranging Unit from the Property.

5.4. Installation Payments. Tenant shall pay Landlord the applicable one-time Installation Payments specified in Section 1.12, if due, within thirty (30) days after the Commercial Operations Date.

5.5. Substation, Switchyard, and O&M Facility Fee. If Tenant desires to construct a transmission substation, switchyard, and/or an operations and maintenance facility ("**Project Facility**") on the Property, then at Tenant's option, Tenant may lease (pursuant to the rights granted hereunder and without further or separate documentation) a Facilities Tract (as defined below) or purchase at fair market value fee title to a Facilities Tract. Any parcel acquired in fee simple or leased by Tenant for a Project Facility in accordance with this Section 5.5 shall be referred to as a "**Facilities Tract**". Each Facilities Tract shall include all the area that is unavailable for agricultural purposes because of facilities installed for electric power switching, transformation, metering, conditioning, interconnection and/or operations and maintenance. Tenant may exercise its purchase rights under this Section 5.5 by delivering written notice to Landlord along with a form of deed for the Facilities Tract. The final deed for the Facilities Tract shall be in a form mutually acceptable to both parties (approval of which shall not be unreasonably withheld) and any Facilities Tract conveyed by Landlord to Tenant shall be conveyed free of all liens and encumbrances (unless such liens and encumbrances are expressly approved by Tenant). Upon execution and delivery of the deed in the approved form for the Facilities Tract by Landlord, Tenant shall simultaneously pay Landlord a one-time purchase price equal to the current fair market value of the Facilities Tract (the "**Facilities Tract Fee**"). If Tenant exercises its lease rights under this Section 5.5 instead of purchasing the Facilities Tract in fee simple, then Tenant shall pay to Landlord an annual rental fee in the amount of Five Hundred and 00/100 Dollars ($500.00) per acre for that portion of the Property utilized for the Facilities Tract, with the first such rental fee being paid within thirty (30) days after the Commercial Operations Date, and each subsequent annual rental fee being paid by the anniversary of the Commercial Operations Date until the expiration or termination of this Lease or until the Facilities Tract ceases to be used by Tenant, whichever occurs first. If the parties are unable to agree on the fair market value of the Facilities Tract, the fair market value shall be determined by written appraisal performed by an independent appraiser reasonably acceptable to Landlord and Tenant. The Facilities Tract Fee shall be deemed to include all compensation for all damage to cropland, crops or livestock and Landlord will not be entitled to any payment under Section 6.7 for the initial construction of the substation, switchyard, or O&M Facility. The Facilities Tract Fee is in addition to any Operations Payments that might be due pursuant to Section 1.10. No additional consideration shall be due upon any replacement of any substation, switchyard, or O&M Facility within the boundaries of the Property during the Term of this Lease, except that if Landlord's crops are damaged during such replacement, Tenant shall pay damages to Landlord in accordance with Section 6.7.

5.6. Operations Payment; Annual Turbine Host Payment; Annual Facilities Host Payment. Tenant shall pay Landlord the Operations Payment specified in Section 1.10, the Annual Turbine Host Payment, if any, specified in Section 1.9, and the Annual Facilities Host Payment, if any, specified in Section 1.13. To the extent due and payable, such payments shall be made within thirty (30) days after the Commercial Operations Date and subsequent payments shall be made on each anniversary of the Commercial Operations Date.

5.7. Taxes and Assessments. Tenant shall pay any increase in the real property taxes levied against the Property directly attributable to the installation of Wind Facilities on the Property. Tenant shall not be liable for taxes attributable to facilities installed by Landlord or others on the Property or to the underlying value of the Property itself. Landlord and Tenant shall cooperate in an effort to have Tenant separately billed for its share of taxes; however, if such arrangement cannot be made, then Landlord shall submit the real property tax bill to Tenant within thirty (30) days after Landlord receives the bill, and Tenant shall pay its share of the taxes to Landlord no later than ten (10) days prior to the date the taxes are due. If Landlord does not timely pay its share of taxes on the Property, Tenant shall be entitled (but not obligated) to make payments in fulfillment of Landlord's tax obligations and may offset those payments against future payments due Landlord under this Lease. If Landlord makes a claim under this Section 5.7, then Landlord shall provide to Tenant copies of all relevant property tax bills, notices, assessments and related documents in a timely manner.

5.8. Tenant's Right to Contest Taxes. Tenant shall have the right to contest the legal validity or amount of any taxes in connection with the Property and may institute such proceedings as it considers necessary, at its own cost. If the contest poses a reasonable risk of loss, forfeiture, or imposition of a penalty on Landlord, then Tenant shall, at Tenant's option, post sufficient financial assurance or provide Landlord with a reasonably satisfactory indemnity against such risks. Landlord shall render to Tenant all reasonable assistance, at no cost or expense to Landlord, in pursuing any tax contest, including joining in the signing of any protest or pleadings which Tenant reasonably deems advisable; provided, however, that Tenant shall reimburse Landlord for its reasonable attorney fees and other expenses actually incurred in connection with providing such assistance.

5.9. Land Conservation Programs. Landlord has disclosed to Tenant all portions of the Property, if any, that are currently enrolled in the USDA Conservation Reserve Program or any substantially similar local, state or federal program for the preservation of agricultural land (any such program, "**CRP**") as of the Effective Date. Landlord shall cooperate (at no out-of-pocket cost to Landlord) in any effort by Tenant to remove all or a portion of any such land from the CRP as needed for construction, operation and maintenance of the Project. Upon removal from CRP of any portion of the Property that is enrolled in CRP as of the Effective Date, Tenant shall reimburse Landlord for any penalties or reinstated taxes resulting from such removal, but shall not be obligated to reimburse Landlord for any future CRP payments that would otherwise have been made to Landlord after the date of removal. After the Effective Date, Landlord shall not enroll any portion of the Property in CRP without Tenant's consent, not to be unreasonably withheld.

5.10. Utilities. Tenant shall pay for all water, electric, telecommunications and any other utility services used by the Wind Facilities or Tenant on the Property.

5.11. Inflation Adjustment Factor. To the extent due and payable, the Annual Turbine Host Payment, Operations Payments and Meteorological Equipment Fee shall be adjusted upward annually by the greater of (i) two percent (2%) or (ii) the Inflation Adjustment Factor (as defined below), provided that in no event shall the Inflation Adjustment Factor exceed five percent (5%). The base for computing the Inflation Adjustment Factor (the "**Beginning Index**") shall be the Consumer Price Index ("**CPI**") for the third calendar quarter of the calendar year immediately

preceding the calendar year in which the Commercial Operations Date occurs. The adjustment shall be determined by multiplying the applicable fee by a fraction, the numerator of which is the CPI published for the third calendar quarter of the calendar year immediately prior to the calendar year of each adjustment and the denominator of which is the Beginning Index. For purposes of this Lease, the "**Inflation Adjustment Factor**" shall mean the increase or decrease in the CPI for "**All Urban Consumers, U.S. City Average, All Items**" issued by the Bureau of Labor Statistics of the United States Department of Labor. If the CPI is discontinued or revised, such other government index or computation by which it is replaced shall be used in order to obtain substantially the same result as would be obtained if the CPI had not been discontinued or revised.

6. IMPROVEMENTS TO THE PROPERTY.

6.1. Mechanic's Liens. Tenant shall pay when due all claims for labor and material furnished to the Property, and shall not permit any mechanic's, materialmen's, contractor's, or other claims of liens (collectively "**Liens**") arising from any construction, maintenance, repair, or alteration of improvements by Tenant to be enforced against the Property or any part thereof. Tenant may, however, in good faith and at Tenant's own expense, contest the validity of any asserted Lien, provided that Tenant has, at Tenant's option, bonded against the Lien pursuant to applicable law or provided Landlord with an indemnity against enforcement of the Lien in a form reasonably satisfactory to Landlord. Tenant shall give Landlord at least twenty (20) days' prior written notice of the commencement of any work on the Property that could be the subject of a Lien, and Landlord shall have the right to record and post notices of non-responsibility for the work.

6.2. Landlord's Right to Discharge Lien. If Tenant fails to comply with Section 6.1 and a Lien is enforced against the Property as a result, Landlord shall have the right, but not the obligation, upon ten (10) business days' notice to Tenant, to pay or otherwise discharge, stay, or prevent the execution of any such Lien. Tenant shall reimburse Landlord for all sums paid by Landlord under this Section 6.2, together with interest thereon at the Prime Rate as most recently published by the Wall Street Journal at the time of the default (the "**Default Rate**") and all of Landlord's reasonable attorney fees and costs incurred in connection with the Lien.

6.3. Maintenance of Property. On completion of construction, Tenant shall restore all portions of the Property temporarily disturbed by Tenant to a condition substantially similar to the condition that existed prior to construction, to the extent such restoration is commercially reasonable; provided however that if crops are displaced, Tenant shall not be responsible for replacing crops but shall instead pay crop damage pursuant to Section 6.7, if applicable. Tenant shall reseed any areas that were vegetated prior to disturbance to commercially reasonable standards, in consultation with Landlord. Throughout the Term, Tenant shall, at Tenant's sole cost and expense, maintain the Wind Facilities in good condition and repair, ordinary wear and tear excepted, and in accordance with all applicable Laws.

6.4. Transmission and Collection Lines. All underground transmission and collection lines on the Property shall be installed in accordance with the terms set forth in Exhibit C attached hereto and all overhead transmission lines shall satisfy the minimum height requirements of any applicable electrical or building code.

6.5. Erosion and Weed Control. Tenant shall, at its sole cost and expense, take commercially reasonable steps to mitigate erosion and control noxious weeds within ten (10) feet of the Wind Facilities, and on any other portions of the Property where the surface of the land has been disturbed by Tenant. If Tenant fails to control noxious weeds as required by this Section 6.5, then Landlord may upon ten (10) days prior written notice to Tenant assume responsibility for the implementation of all weed control measures, and Tenant shall reimburse Landlord for all reasonable weed control measures at the normal and reasonable rates in the County where the Property is located.

6.6. Roads. Tenant shall post any roads it constructs on the Property as private roads only for use by authorized personnel in connection with the Wind Facilities. Landlord may use or cross (or permit the use or crossing of) such roads only to the extent such use or crossing does not interfere with Tenant's operations pursuant to this Lease or enjoyment of Tenant's rights hereby granted. Landlord shall reimburse Tenant for the cost to repair any damage to Tenant's roads caused by Landlord or those using the roads with Landlord's permission.

6.7. Crop/Livestock Damage. Tenant shall reimburse Landlord (or, if requested by Landlord, Landlord's agricultural tenants) one time per occurrence for all damage to cropland, crops and livestock caused by Tenant's development activities, construction, operation and/or maintenance of Wind Facilities on the Property as follows:

6.7.1. Each time Tenant exercises its rights hereunder it shall compensate Landlord for all existing crops lost or destroyed by reason of its use (including by reason of requiring that crops not be planted during Tenant's construction of Wind Facilities on the Property) as calculated below, but in no case shall Tenant be required to pay more than a single, total crop loss in any one crop year on any given property. In addition, if Tenant causes compaction of any part of the Property, which is located more than ten feet (10') from the edge of the areas occupied by the Wind Facilities, and such compaction is reasonably expected to materially impair crop yield in future years, Tenant shall compensate Landlord for the total crop loss in the compacted area as calculated below; in consideration of this payment, no additional damages shall be paid in future years for that episode of compaction. Damages for loss or destruction of existing crops or for severe compaction will be calculated using the following formula: Unit Price x Unit Yield Per Acre x Acres Damaged = Damages. Unit Price will be the most recent price per unit for the crop published by the USDA National Agricultural Statistics Service. Yield will be the average of the most recent three (3) years' yields for the subject crop, according to Landlord's records for the smallest parcel of land that includes the damaged area. Landlord will receive Damages for compaction, if any, in a lump sum payment equal to the Damages for the year in which compaction occurs ("**Initial Damages**"), plus 60% of the Initial Damages (representing the estimated Damages for the second year after compaction), plus an additional 30% of the Initial Damages (representing the estimated Damages for the third year after compaction). If Landlord does not have yield records available, the parties will use U.S. Department of Agriculture Farm Service Agency records or other commonly-used yield information available for the area. The parties shall try in good faith to agree to the existence of compaction, the extent of damage and acreage affected. If they cannot agree, they shall promptly have the area measured and extent of damage assessed by a mutually agreeable impartial party such as a crop insurance adjuster or extension agent. Payment shall be made within sixty (60) days after determining extent of damage, but Tenant shall not be

required to make more than one payment per calendar year as set forth herein. Within thirty (30) days of identification of compaction on the Property caused by Tenant's activities, Landlord may either (i) request that any soil surface that was cultivated or fallow prior to construction and that is materially compacted by Tenant's activities, and not within ten feet (10') of the Wind Facilities, be ripped in three passes at least 18 inches deep, or (ii) request a one-time payment equal to Landlord's reasonable actual out-of-pocket costs to so alleviate such compaction on its own. If Landlord requests that Tenant pay such amount for decompaction or Landlord requests the deep ripping in the manner described above, then if Tenant undertakes such requested action (i.e., either making the payment or performing the ripping), then Tenant shall have no further liability or responsibility to cure the compaction caused by Tenant's activities in the impacted area(s).

6.7.2. For livestock, an amount equal to the average market price in the County for each head of livestock lost in the year in which the loss occurred.

6.7.3. The remedies provided in this Section 6.7 shall be the exclusive remedy for damages to cropland, crops or livestock caused by construction, operation and maintenance of Wind Facilities on the Property. Landlord and Tenant acknowledge that this liquidated remedy is appropriate because of the difficulty and expense of fixing actual, direct damages for such losses. Except as expressly set forth in this Section 6.7, Tenant shall not be responsible to compensate Landlord or its agricultural tenants for soil compaction, its inability to grow crops, raise livestock or otherwise use the Property as a result of the construction, maintenance or operation of the Wind Facilities on the Property.

6.7.4. If Landlord and Tenant cannot agree in good faith in calculating the payments required under this Section 6.7, the dispute shall be resolved by an arbitrator mutually acceptable to the parties. If the parties cannot agree on an arbitrator, then each party shall select an arbitrator, and the two arbitrators together shall select a third arbitrator to resolve the matter. The determination of the arbitrator shall be final and binding upon the parties. Landlord shall pay fifty percent (50%) and Tenant shall pay fifty percent (50%) of all costs of arbitration.

6.8. Gates and Fences. Tenant shall keep all gates on the Property closed except when open to permit the passage of vehicular traffic, and shall not permit livestock to stray or escape through the gates at any time. Tenant and Landlord may maintain separate locks on all gates such that either lock is capable of unlocking a given gate. When relocating an existing fence, Tenant shall pay for the cost of relocation, and also shall obtain Landlord's prior consent on the new location of the fence, not to be unreasonably withheld. When installing a gate within an existing fence, Tenant shall make fence cuts, braces, and repairs that will be permanent and remain functional for the remaining expected life of the fences of which they are part. Tenant shall have the right to install cattle guards in lieu of gates with the consent of Landlord, not to be unreasonably withheld. Within ten (10) days after written notice from Landlord of any problem with a gate, cattle guard or fence installed or maintained by Tenant, Tenant shall make adequate repairs, weather permitting; provided, however, that in the event Landlord reasonably deems it necessary to make repairs without notice to Tenant because of the imminent escape or loss of livestock, then Landlord may do so and shall be reimbursed by Tenant for the reasonable and actual out-of-pocket costs incurred by Landlord.

6.9. Drainage Tiles. Upon the request of Tenant, Landlord shall provide Tenant with copies of maps and other available information documenting the location of drainage tiles on the Property. Landlord agrees Tenant may reroute, at Tenant's sole expense, any drainage tiles on the Property which may conflict with the construction, operation or maintenance of Wind Facilities. If during construction or maintenance of the Wind Facilities, Tenant damages Landlord's drainage system(s), including, but not limited to, drain tile and other aboveground or underground facilities used to manage drainage and irrigation of the Property existing on the Property during the Term of this Lease (the "**Drainage System**"), then Tenant shall make or cause to be made such repairs to the Drainage System as are necessary to return the Drainage System to a condition substantially similar to the condition that existed immediately prior to the point in time when such damage occurred. If Tenant fails to repair or relocate such damaged tile lines within thirty (30) business days commencing on the date Tenant receives written notice from Landlord specifying in detail such failure and both parties confirm such damage was caused by Tenant (or such longer period of time as may be necessary to cure the failure, provided that Tenant commences to cure as soon as practicable and thereafter diligently prosecutes the cure to completion), then Landlord may do so, in which case Tenant shall reimburse Landlord for the reasonable out of pocket costs of the repair. Landlord and Tenant agree to consult, in good faith, with each other regarding the repair and/or replacement of such damaged or broken drainage tile.

7. LANDLORD'S REPRESENTATIONS AND COVENANTS.

7.1. No Interference. Landlord shall not cause nor permit any restriction or interference with: (a) the siting, permitting, construction, installation, maintenance, operation, replacement, or removal of Wind Facilities; (b) the flow of wind, wind speed or wind direction over the Property; (c) access over the Property to Wind Facilities; or (d) any other activities of Tenant permitted under this Lease. Clause (b) above shall apply at all times in a three-hundred sixty degree (360°) radius from each Wind Turbine on the Property to the boundaries of the Property, and in a one-hundred eighty degree (180°) vertical arc above each Wind Turbine.

7.2. Trees, Structures and Improvements. Section 7.1 notwithstanding, all structures and improvements on the Property as of the Effective Date shall be allowed to remain and Tenant may not require their removal. After the Effective Date, Landlord may install new trees, structures and improvements on the Property that are less than fifty (50) feet in height and at least five hundred (500) feet from the base of any Wind Turbine without Tenant's consent; provided, however, that such an installation shall not violate any setback or other permitting or regulatory requirement for the Wind Facilities or the Project set by any governmental authority. If construction of the Wind Facilities on the Property is not yet complete then Landlord shall first consult with Tenant to ensure that the new tree, structure or improvement is not within five hundred (500) feet of any planned Wind Turbine and does not interfere with any other requirements of the Project. Any new trees, structures and improvements on the Property after the Effective Date that either exceed fifty (50) feet in height or are proposed to be within five hundred (500) feet of the base of an existing or planned Wind Turbine shall require Tenant's prior written consent, not to be unreasonably withheld. For the purposes of this Section 7.2, the height of planted trees will be deemed to be their expected height at full maturity.

7.3. Legal Requirements. Landlord shall, at no out-of-pocket cost to Landlord, assist and fully cooperate with Tenant in complying with or obtaining any and all Laws, land use permits and approvals, tax-incentive or tax-abatement program approvals, building permits, environmental impact reviews or any other approvals required or deemed desirable by Tenant in connection with the development, financing, sale, construction, installation, replacement, relocation, maintenance, operation or removal of the Project and/or Facilities, including, execution of applications for such approvals, allowing Tenant to submit applications for such approvals on behalf of Landlord, and delivery of any other requested information and documentation. Nothing herein shall prevent Landlord from expressing its opinion or appearing at any public proceeding and providing information to any government agency; provided, Landlord may only oppose Tenant's projects if and to the extent Tenant has breached this Lease beyond the expiration of any applicable cure periods.

7.4. Reclassification of Property. Landlord shall not take or agree to any action that could potentially cause a rezoning or reclassification of the Property resulting in Tenant's use of the Property pursuant to this Lease being: (a) nonconforming, (b) prohibited, or (c) a conditional or special use if Tenant's use was not a conditional or special use as of the Effective Date, unless Landlord has Tenant's prior written consent which Tenant may withhold in its sole discretion.

7.5. Lateral Support. Tenant shall have and exercise the right of subjacent and lateral support for Wind Facilities on the Property to whatever extent is necessary for the safe construction, operation and maintenance of Wind Facilities. Landlord expressly covenants that Landlord shall not excavate so near the sides of or underneath the Wind Facilities, either on Landlord's property or adjacent property, so as to undermine or otherwise adversely affect their stability.

7.6. Representations and Warranties. Landlord (and each person or entity comprising Landlord, if applicable) represents and warrants to Tenant as follows:

7.6.1. Landlord is the sole owner of the Property and has the unrestricted right and authority to execute this Lease and to grant to Tenant the rights granted hereunder. Each person signing this Lease on behalf of Landlord is authorized to do so, and all persons having any ownership or possessory interest in the Property have signed this Lease as Landlord. When signed by Landlord, this Lease constitutes a valid and binding agreement enforceable against Landlord in accordance with its terms and shall run with the land.

7.6.2. No rights to convert the wind resources of the Property or to otherwise use the Property for Wind Energy Purposes have been granted to or are held by any party other than Tenant, nor shall Landlord grant such rights in the future without the written consent of Tenant, which Tenant may withhold in its sole discretion.

7.6.3. Landlord shall not violate, and shall defend, indemnify and hold Tenant harmless for, from and against any violation or claimed violation (past, present or future), including any associated attorneys' fees, by Landlord or by persons on the Property with Landlord's permission of any federal, state or local law, ordinance or regulation relating to the generation, manufacture, production, use, storage, release or threatened release, discharge, disposal, transportation or presence of any substance, material or waste which is now or hereafter

classified as hazardous or toxic, or which is regulated under current or future federal, state or local laws or regulations (collectively, "**Hazardous Materials**") on or under the Property. Landlord has no knowledge of the presence of any Hazardous Materials on or under the Property, and shall, at Landlord's expense, remove any Hazardous Materials that are discovered on or under the Property.

7.7. Subordination and Non-Disturbance. Landlord shall cause any person or entity (including without limitation Landlord or any person or entity comprising Landlord) with a lien, encumbrance, mortgage, lease or other exception to Landlord's fee title to the Property, whether recorded or unrecorded, to enter into nondisturbance, subordination and other title curative agreements as requested by Tenant in its sole discretion. If Landlord defaults on its obligations to such holder, then Tenant shall be entitled (but not obligated) to fulfill Landlord's obligations to such holder. and may offset the cost of doing so against future payments due Landlord under this Lease. After the Effective Date, Landlord shall not create or suffer any lien, mortgage or encumbrance against the Property unless the holder thereof enters into a subordination, nondisturbance, recognition or similar agreement in a form reasonably acceptable to Tenant, which protects and preserves all of Tenant's rights hereunder in the event of a foreclosure.

7.8. Safety Measures; Aerial Spraying. From and after the Commencement of Construction and for so long as the Project is operational, Landlord shall notify Tenant at least twenty-four (24) hours prior to undertaking any aerial application of agricultural chemicals on the Property, and Landlord shall notify Tenant of the planned location and timing of any aerial application of agricultural chemicals on the Property. Landlord understands that this information is important and will help Tenant to protect Tenant's employees and contractors from exposure to potentially hazardous chemicals and to properly respond to inadvertent exposure.

7.9. Indemnity. Landlord shall defend, indemnify and hold Tenant harmless for, from and against any third-party claims, losses, liabilities, damages, costs or expenses, including reasonable attorney fees (collectively, "**Claims**"): (a) for physical damage to property and for physical injuries or death, to the extent caused by the negligence or willful misconduct of Landlord or persons on the Property with Landlord's permission; (b) arising out of or related to Landlord's breach of this Lease or the inaccuracy of any representation or warranty made by Landlord herein; (c) any violation by Landlord or by persons on the Property with Landlord's permission of any federal, state or local law, ordinance or regulation relating to the generation, manufacture, production, use, storage, release or threatened release, discharge, disposal, transportation or presence of any Hazardous Materials on or under the Property.

8. TENANT'S REPRESENTATIONS AND COVENANTS.

8.1. Insurance. During the Development Period (until the Commencement of Construction), Tenant shall, at its expense, maintain a commercial general liability insurance policy in an amount not less than One Million Dollars ($1,000,000) of liability coverage per occurrence. Upon the Commencement of Construction and throughout the Operations Period, Tenant shall, at its expense, maintain: (a) a commercial general liability insurance policy in an amount not less than Five Million Dollars ($5,000,000) of liability coverage per occurrence; and

(b) casualty loss insurance on the Wind Facilities in amounts and as required by Tenant's lender(s), if any. Limits can be achieved through a combination of primary and excess limits. Tenant shall have the right to use a program of self-insurance to meet these requirements.

8.2. Indemnity. Tenant shall defend, indemnify and hold Landlord harmless for, from and against any third-party Claims: (a) for physical damage to property and for physical injuries or death, to the extent caused by the negligence or willful misconduct of Tenant or persons on the Property with Tenant's permission; and (b) arising out of or related to Tenant's breach of this Lease or the inaccuracy of any representation or warranty made by Tenant herein; (c) arising out of any violation by Tenant or by persons on the Property with Tenant's permission of any federal, state or local law, ordinance or regulation relating to the generation, manufacture, production, use, storage, release or threatened release, discharge, disposal, transportation or presence of any Hazardous Materials on or under the Property. The indemnity provided by this Section 8.2 does not extend to Claims for damage to cropland, crops or livestock, which are governed solely by Section 6.7.

8.3. Permits and Laws. Tenant and its designees shall, at its expense, comply in all material respects with all federal, state and local laws, statutes, ordinances, rules, regulations, judgments and other valid orders of any governmental authority (each, a "**Law**") applicable to Tenant's operations or activities on the Property and shall obtain all permits, licenses and orders required to conduct any and all such activities; provided, however, that Tenant party shall have the right, in its sole discretion, to contest, by appropriate legal proceedings (which may be brought in the names of Landlord and/or Tenant where appropriate or required), the validity or applicability of any such Law, and Landlord shall cooperate in every reasonable way in such contest, at no out-of-pocket expense.

9. ASSIGNMENTS AND SUBLEASES.

9.1. Tenant's Right to Transfer. Tenant and any Transferee (as defined below) shall have the right throughout the Term to transfer, convey, sublease or assign this Lease or any interest in this Lease, the Property or the Wind Facilities to any person or entity (a "**Transferee**") without the consent of Landlord. Tenant and any Transferee shall provide written notice to Landlord of any transfer provided that failure to give such notice shall not constitute a default under this Lease but rather shall only have the effect of not binding Landlord with respect to such Assignment until such notice shall have been given. A Transferee also includes any person or entity acquiring an interest in the Lease or the Wind Facilities by foreclosure or a conveyance in lieu of foreclosure, and a Mortgagee as defined in Section 10.1. Upon receipt of written notice of any transfer under this Section 9.1 that includes contact information for the Transferee, Landlord shall thereafter provide the Transferee with simultaneous copies of any notices of default issued to any person or entity under this Lease.

9.2. Liability of Assignor. Upon a transfer, conveyance or assignment of all of Tenant's interest in this Lease, Tenant shall be released from all obligations and liabilities accruing after the date such obligations and liabilities are assumed by Transferee, to the extent assumed by Transferee. Any obligations accruing before the date such obligations and liabilities are assumed

by Transferee shall be the responsibility of either the Tenant or Transferee, as determined jointly by Tenant and Transferee.

9.3. Rights and Obligations of Transferees. No Transferee shall have any obligation or liability under this Lease prior to the time that the Transferee directly holds an interest in the Lease or the Wind Facilities, or in the case of an interest granted for security purposes, the holder thereof succeeds to absolute title to the interest. Except as otherwise expressly provided in this Lease, a Transferee shall be liable to perform obligations under this Lease only for and during the period the Transferee directly holds such interest or absolute title. Subject to Section 9.4, and provided that any Mortgagee (as defined in Section 10.1) shall also have the supplemental cure periods described in Section 10.4, Transferees shall be entitled to the same cure period (if any) granted to the defaulting party under this Lease. For any Transferee that holds an interest in less than all of the Tenant's rights and interests under this Lease or the Wind Facilities, any default under this Lease shall be deemed remedied as to the Transferee's partial interest if the Transferee has cured its pro rata portion of the default, and thereafter Landlord shall not disturb the Transferee's possession of the Property or enjoyment of its rights hereunder. However, any Transferee shall have the right, but not the obligation, to cure any default of any other holder of a portion of Tenant's interest in this Lease or the Wind Facilities.

9.4. Cure Requiring Possession of an Interest. Notwithstanding Section 9.3 or Section 10.4, if any default under this Lease cannot be cured without obtaining possession of all or part of the Wind Facilities or an interest in this Lease, then the default shall be deemed remedied if, within sixty (60) days after receiving notice of the default, the Transferee: (a) shall have acquired possession of the necessary interest, or shall have commenced and is diligently pursuing appropriate proceedings to obtain the same; and (b) performs all other obligations that are capable of performance without being in possession of the Property as and when due under this Lease during the pendency of any proceedings to gain possession and after gaining possession of the necessary interest. Further, a Transferee's deadline for any action under this Lease shall be tolled to the extent the Transferee is prohibited from acting by any process or injunction issued as a result of any bankruptcy, reorganization, insolvency or other debtor-relief proceeding, provided that Transferee continues to perform all obligations under this Lease that are capable of performance during such process or injunction as they come due during the tolling period.

9.5. New Lease to Transferee. In the event of termination of this Lease for any reason, including without limitation foreclosure, conveyance in lieu of foreclosure, and rejection in any bankruptcy proceeding, any Transferee shall have the right to enter into a new lease with Landlord for the interest the Transferee held in the Property prior to termination, on all the terms and conditions of this Lease and for the remainder of the Term as of the date of termination, and subject to any subleases existing as of the date of termination, provided that the Transferee: (a) is not then in default of this Lease; and (b) cures any existing default to the extent applicable to the Transferee's interest in the Lease or the Wind Facilities (except that any defaults not susceptible of cure by the Transferee shall be deemed waived as to the Transferee). Any receipt of sublease rent by Landlord shall be for the account of the Transferee requesting a new lease. Any new lease shall maintain the same priority as to the Property as this Lease. The provisions of this Section 9.5 shall survive termination of this Lease and shall continue in effect thereafter until execution and delivery of the new lease.

9.6. Separability. Tenant may use the Property for one wind energy project or Tenant may divide the Property between two or more separate wind energy projects. If Tenant elects to so divide the Property into two or more wind energy projects, then Landlord shall, within twenty (20) days after written request from Tenant, and without demanding any additional consideration, bifurcate this Lease by entering into and delivering to Tenant two or more stand-alone new leases (which shall supersede and replace this Lease) that provide Tenant with separate leasehold estates in different portions of the Property, as designated by Tenant. Each of such new leases shall: (a) specify the portion(s) of the Property to be covered thereby, (b) contain the same terms and conditions as this Lease (except for any requirements that have been fulfilled by Tenant or any other person or entity prior to the execution of such new leases, and except for any modifications that may be required to ensure that each party's combined obligations under such new leases do not exceed such party's obligations under this Lease) and be in a form reasonably acceptable to Tenant; (c) be for a term equal to the remaining term of this Lease; (d) contain a grant of access, transmission, communications and other easements for the benefit of the bifurcated leasehold estates, covering such portion or portions of the Property as Tenant may designate; (e) require payment to Landlord of only an acreage-proportionate part of each payment due under Section 5 (which under all such new leases shall in the aggregate equal the amounts that are due under this Lease); (f) provide for payments thereafter due under Section 5 and elsewhere to be paid with respect to the Wind Turbines and Wind Facilities actually installed under such new lease for the portion of the Property subject to such lease, and (g) enjoy the same priority as this Lease over any lien, mortgage, encumbrance or other interest against the Property. Further, notwithstanding any other provision of this Lease, (i) in the event of any uncured default under any such new lease, such event of default shall not affect, or cause a termination of, any other such new lease or any rights or interests granted under any other such new lease, and (ii) in the event of a termination of any such new lease, the remaining new leases and all rights granted therein, including all easements affecting any portions of the Property (regardless of whether such portions of the Property are part of or outside the benefited estate), shall remain in full force and effect without any further compensation due Landlord.

9.7. Landlord's Right to Assign. Except as set forth in Section 9.9, Landlord shall have the continuous right to assign or otherwise transfer its interest in and to this Lease and the underlying real property without the consent of Tenant; provided, however, that as a condition precedent to any transfer by Landlord, Landlord shall notify Tenant in writing of the transfer and the transferee shall first agree in writing to be bound by all the terms and conditions of this Lease from and after the date of such transfer.

9.8. No Severance of Wind Energy Rights. Landlord shall not assign or otherwise transfer an interest in the wind energy rights to the Property, or a portion thereof, separate from fee title to such real property, without Tenant's prior written consent which Tenant may withhold in its sole discretion. Further, notwithstanding Tenant's consent to any severance, Landlord assumes all risk that the severance of the wind energy rights from fee title is invalid, and shall jointly and severally indemnify and hold Tenant harmless from and against any and all claims, losses, liabilities, damages, costs or expenses arising out of or related to the purported severance of wind energy rights and fee title. Such indemnity shall survive any further conveyance of the wind energy rights and/or fee title to the Property or a portion thereof.

9.9. Subdivision. If, subject to the terms of Sections 9.7 and 9.8, Landlord transfers less than all of the Property to any party or entity (a "**Partial Transferee**") (i) Tenant shall have the right to receive, review, comment on and/or approve any applications for any such Subdivision and shall be entitled to receive notice from Landlord of any public proceeding relating thereto and (ii) any such Subdivision shall not violate any zoning and/or subdivided land ordinances and regulations (including but not limited to any setback requirements) imposed upon the Project. "**Subdivision**" shall mean any subdivision or zoning approval other than an exemption under any applicable subdivision map act or equivalent law applicable to the Property. All references in this Lease to Landlord shall be deemed to include a Partial Transferee.

10. LENDER PROTECTION.

10.1. Right to Mortgage. Tenant or any Transferee may without the consent of Landlord transfer an interest in this Lease or the Wind Facilities to any third party (a "**Mortgagee**") for security purposes, whether by mortgage, deed of trust, security agreement or otherwise (a "**Mortgage**"). As long as any Mortgage is in effect, the Mortgagee shall be entitled to the protections of this Section 10. Mortgagees shall include the successors and assigns, if any, of any original Mortgagees.

10.2. Consent to Modification or Termination. For the benefit of each Mortgagee, Landlord shall not, without the prior written consent of each Mortgagee amend, modify, or take any action consenting to or accepting the voluntary surrender or termination of this Lease by Tenant or any Transferee. This Lease shall not be terminated by Landlord as a result of any Tenant or Transferee default unless all Mortgagees have first been provided with notice and the opportunity to cure any such default in accordance with the provisions of this Lease.

10.3. Right to Perform. A Mortgagee shall have the right (but not the obligation) to perform any term, covenant, condition, or agreement and to remedy any default by Tenant or any Transferee hereunder, and Landlord shall accept such Mortgagee performance, payment and cure as if such performance had been made, done and performed by Tenant or any Transferee.

10.4. Extended Cure Periods. All cure periods provided to Tenant or a Transferee for a default under this Lease shall be extended for any Mortgagee: (a) by thirty (30) days if the default is a failure to pay money when due under this Lease; or (b) by ninety (90) days in the event of any other default. Nothing in this Section 10.4 modifies a Mortgagee's rights under Section 9.4, to the extent that section applies.

10.5. Foreclosure and Conveyance after Foreclosure. A Mortgagee or its assigns may enforce its mortgage and acquire title to the Tenant's or Transferee's interest in the Lease in any lawful way and, pending foreclosure of such mortgage, the Mortgagee may take possession of Tenant's or Transferee's interest in this Lease and operate the Wind Facilities, performing all obligations performable by Tenant or Transferee subject to all of the terms of this Lease. Any default not susceptible of being cured by the Mortgagee or party acquiring the Tenant's or Transferee's interest in the Lease shall be, and shall be deemed to have been, waived by Landlord upon completion of the foreclosure proceedings or acquisition of Tenant's or Transferee's interest in this Lease by any purchaser (who may, but need not be, Mortgagee) at the foreclosure sale, or who otherwise acquires the Tenant's or Transferee's interest in the Lease from the Mortgagee or

by virtue of a Mortgagee's exercise of its remedies. Upon the sale or other transfer of an interest in this Lease or the Wind Facilities acquired pursuant to foreclosure or conveyance in lieu of foreclosure, the Mortgagee shall have no further liabilities or obligations under this Lease.

10.6. Impact of Bankruptcy. The filing of a petition in bankruptcy or insolvency or for reorganization or arrangement under the bankruptcy laws of the United States or the insolvency act of any state, or involuntary proceedings under any bankruptcy laws or insolvency act are instituted against Tenant or any Transferee shall not be grounds for terminating this Lease or an interest therein, as long as the rent and all other monetary charges payable by Tenant or the Transferee are paid by a Mortgagee as required by this Lease.

10.7. New Lease. If more than one Mortgagee requests a new lease pursuant to Section 9.5, then Landlord shall enter into a new lease with the most senior Mortgagee.

10.8. Minor Modifications of Lease Terms. If requested by a Mortgagee, Landlord shall modify the Lease to include any supplemental Mortgagee protection provisions reasonably requested by the Mortgagee, provided such provisions do not impair Landlord's rights or increase the burdens or obligations of Landlord.

10.9. No Merger. There shall be no merger of this Lease, or of the leasehold estate or other interests created by this Lease, with the fee estate in the Property by reason of the fact that this Lease or any such interests may be held, directly or indirectly, by or for the account of any person or entity who shall own the fee estate or any interest therein, and no such merger shall occur unless and until all persons or entities at the time having an interest in the fee estate in the Property, and all persons or entities (including Mortgagees) having an interest in or under this Lease and any portion of the fee estate shall join in a written instrument effecting such merger and shall duly record the same.

11. DEFAULT AND REMEDIES.

11.1. Default. Subject to any applicable notice and cure rights set forth in this Lease, the occurrence of any of the following events shall constitute a default and a breach of this Lease:

11.1.1. Either Tenant or Landlord fails to perform as required by any representation, warranty, covenant, term, or condition of this Lease; or

11.1.2. Tenant fails to make any payments required by this Lease when due.

11.2. Notice of Default and Cure. Subject to the terms and conditions of Section 10 and notwithstanding Section 11.1, no party shall be in default under this Lease unless: (a) with respect to a failure to pay any rent, charges, or other amounts due and payable hereunder, Tenant fails to cure the default within sixty (60) days from receipt of notice from Landlord in writing that such amounts are due; or (b) with respect to any other default, the defaulting party fails either to cure the default within one hundred twenty (120) days after notice thereof or, if the failure to perform is such that it cannot reasonably be cured within one hundred twenty (120) days, to commence cure within the one hundred twenty (120) day period and to proceed diligently to cure the default in a manner reasonably acceptable to the other party.

11.3. Remedies - Landlord. In the event of any default by Tenant, and subject to any notice rights after the expiration of any applicable cure periods provided for in this Lease, Landlord shall have the following remedies, in addition to all other rights and remedies provided by law or equity:

11.3.1. Landlord may continue this Lease in effect as long as Landlord does not terminate Tenant's right to possession, and Landlord shall have the right to collect rent when due, plus interest on any unpaid sums at the Default Rate.

11.3.2. Landlord may cure any default by Tenant after Tenant's cure period has expired. If Landlord, at any time, by reason of Tenant's default, pays any sum or does any act that requires the payment of any sum, the sum paid by Landlord shall be due and owing immediately from Tenant to Landlord as additional rent hereunder, together with any interest thereon at the Default Rate.

11.3.3. If Tenant does not cure a default in the payment of money within sixty (60) days after written notice from Landlord, or in the case of any other default within one hundred twenty (120) days of such notice, then Landlord may by written notice to Tenant terminate this Lease, provided that Tenant does not cure such default prior to the date for termination set forth in such notice, all subject to the rights of Mortgagees set forth in Section 10. Landlord may not terminate this Lease or Tenant's right of possession of the Property except as set forth in this Section 11.3. Upon termination Tenant shall restore the Property as required by Section 15.3.

11.4. Remedies - Tenant. In the event of any default by Landlord of Landlord's duties, obligations, or covenants hereunder, Tenant may, in addition to all other rights and remedies provided by law or equity, terminate this Lease by written notice to Landlord and payment to Landlord of any payments then due and unpaid under this Lease. Landlord further acknowledges and agrees that should Landlord breach any of its obligations hereunder or otherwise fail to permit Tenant to exercise any of the rights and privileges granted herein, Tenant shall have the right to seek specific enforcement of this Lease.

11.5. Records. Upon the termination or expiration of this Lease, Tenant shall record appropriate termination of lease documentation if the Landlord expressly requests.

12. FORCE MAJEURE.

12.1. Defined. An **"Event of Force Majeure"** includes without limitation flood, drought, earthquake, storm, fire, pestilence, lightning, or other natural catastrophe, unusually inclement weather, including but not limited to rain which falls earlier in the year, or in greater amounts, or for longer periods than has historically been experienced in the area of the Property, epidemics, acts of God or the public enemy, war, riot, civil disturbance or disobedience, strike, labor dispute, delays by third parties in the delivery of materials to the Property, expropriation or confiscation of facilities, changes of applicable law, compliance with any order of any governmental authority, or failure, threat of failure or sabotage of facilities which have been maintained in accordance with good industry engineering and operating practices, so long as the affected party makes good faith and reasonable efforts to remedy the delays or failures in performance caused thereby.

12.2. Limitations. The parties shall be excused for any delay or failure to perform their respective duties hereunder, except for obligations to pay money, only to the extent that such failure or delay is caused by an Event of Force Majeure. If an Event of Force Majeure causes a delay or failure in performance of only a portion of the obligations of a party under this Lease, then only that portion of performance which was delayed or prevented by such cause shall be deemed excused, and the performance of all other obligations of a party not so delayed shall not be excused. No such delay or failure in performance which is the result of an Event of Force Majeure shall be deemed excused for a period longer than the delay or failure in performance caused by such event.

13. LEGAL MATTERS.

13.1. Attorney Fees. In the event of any litigation, arbitration or alternative dispute resolution to interpret or enforce the provisions of this Lease, including any appeal, the prevailing party or parties in such litigation, arbitration or alternative dispute resolution shall be entitled to reasonable attorney fees, expert witness fees, and costs as shall be fixed by the court or arbitrator.

13.2. Governing Law. This Lease shall be governed by and construed and enforced in accordance with the laws of the state in which the Property are located.

13.3. Jurisdiction and Venue. Any action that may be instituted relating to this Lease shall be prosecuted in the federal courts of the state in which the Property is located, to the extent federal jurisdiction is available. Landlord and Tenant each waive the right to object to the removal to federal court of any action instituted hereunder in state court, except on grounds of lack of federal jurisdiction.

13.4. Defense of Indemnity Claims. In connection with any indemnity provided under this Lease, the indemnifying party shall defend any Claims with legal counsel reasonably acceptable to the indemnified party.

13.5. Estoppel Certificates, etc. Landlord shall execute and deliver estoppel certificates certifying as to such matters as Tenant, Mortgagee, or any prospective investor, purchaser or lender may reasonably request, including, but not limited to, that (a) this Lease is in full force and effect and has not been modified except as set forth in the estoppel certificate, (b) the dates to which rent has been paid, (c) no default then exists under this Lease (or, if uncured defaults exist, stating with detail the nature thereof), and (d) any other matters as may be reasonably requested. Any such certificate may be conclusively relied upon by Tenant, the requesting party and any prospective purchaser, investor or encumbrancer of the Property or encumbrancer of the interest of Tenant hereunder. A party's failure to deliver such certificate within fifteen (15) days following request shall be conclusive upon such party: (i) that this Lease is in full force and effect without modification, except as may be represented by the party requesting the certificate, (ii) that all rent due has been paid through the date of the written request for the estoppel certificate, (iii) that there are no uncured defaults in the requesting party's performance, and (iv) the other certifications requested by the requesting party in the estoppel certificate are in fact true and correct. Landlord shall also execute and deliver consents to assignments and non-disturbance agreements (including with respect to other property on or in the vicinity of the Project as to which Landlord or its affiliates may have lease, use or other rights) as Tenant or any Mortgagee may reasonably request

from time to time. Landlord shall cooperate in amending this Lease from time to time to include any provision that may be reasonably requested by Tenant or any Mortgagee for the purpose of implementing the terms and conditions contained in this Lease or of preserving a Mortgagee's security interest. Landlord shall also provide Tenant with any further assurances and shall execute any additional documents that may be reasonably necessary for recording purposes or otherwise reasonably requested by Tenant.

13.6. Jury Trial Waiver. EACH OF THE PARTIES KNOWINGLY, VOLUNTARILY AND INTENTIONALLY WAIVES THE RIGHT TO A TRIAL BY JURY IN RESPECT OF ANY LITIGATION BASED ON THIS LEASE, OR ARISING OUT OF, UNDER OR IN CONNECTION WITH THIS LEASE, AND ANY AGREEMENT CONTEMPLATED TO BE EXECUTED IN CONJUNCTION HEREWITH, OR ANY COURSE OF CONDUCT, COURSE OF DEALING, STATEMENTS (WHETHER VERBAL OR WRITTEN) OR ACTIONS OF ANY PARTY HERETO. EACH OF THE PARTIES TO THIS LEASE WAIVES ANY RIGHT TO CONSOLIDATE ANY ACTION IN WHICH A JURY TRIAL HAS BEEN WAIVED WITH ANY OTHER ACTION IN WHICH A JURY TRIAL CANNOT OR HAS NOT BEEN WAIVED.

13.7. Waiver of Certain Damages. THE PARTIES' LIABILITY ARISING OUT OF OR RELATED TO THIS LEASE UNDER ANY LEGAL THEORY, WHETHER CONTRACT, TORT, STRICT LIABILITY, STATUTORY OR OTHERWISE, SHALL BE LIMITED TO DIRECT DAMAGES, AND IN NO EVENT SHALL LANDLORD, TENANT OR ANY OF THEIR RESPECTIVE OFFICERS, DIRECTORS, MEMBERS, PARTNERS, SHAREHOLDERS, EMPLOYEES, AGENTS OR AFFILIATES BE LIABLE FOR INDIRECT, EXEMPLARY, PUNITIVE OR CONSEQUENTIAL DAMAGES OF ANY NATURE WHATSOEVER.

14. CONDEMNATION.

14.1 Effect of Condemnation. If eminent domain proceedings are commenced against all or any portion of the Property, and the taking and proposed use of such property would prevent or adversely affect Tenant's construction, installation or operation of the Wind Facilities on the Property, at Tenant's option, the parties shall amend this Lease to reflect any necessary relocation of the Wind Facilities which will preserve the value and benefit of the Lease to Tenant, together with any corresponding payments, or this Lease shall terminate in which event neither party shall have any further obligations.

14.2 Apportionment; Distribution of Award. On any taking covered by Section 14.1, all sums, including damages and interest, awarded shall be paid first to Tenant in an amount equal to the aggregate of any costs or losses that Tenant may sustain for the loss of its leasehold estate or in the taking, removal and/or relocation of the Wind Facilities; and then to Landlord and/or Tenant consistent with the law of the state in which the Property is located.

15. EXPIRATION OR TERMINATION.

15.1 Tenant's Right to Terminate. Tenant shall have the right throughout the Term to terminate this Lease as to all or any part of the Property upon written notice to Landlord, subject to Tenant's obligation to restore the Property pursuant to Section 15.3.

15.2 Holding Over. This Lease shall terminate without further notice at the date of expiration of the Term. Any holding over by Tenant after expiration shall not constitute a renewal or extension of this Lease or give Tenant any rights in or to the Property, except as set forth in Section 15.3.

15.3 Restoration of Property. Upon expiration or termination of the Term, Tenant shall surrender and vacate the Property within sixty (60) days; provided, however, that Tenant shall have a license to enter onto the Property for eighteen (18) months following termination to: (a) remove or cause to be removed any and all Wind Facilities from the Property, except that any Wind Facilities more than four (4) feet below the surface may be left in place, and foundations shall only be removed to a depth of four (4) feet, and Tenant shall leave in place any roads it constructed if requested to do so by Landlord and Tenant is not otherwise prohibited from doing so; (b) otherwise restore the Property to substantially the same condition that existed on the Effective Date, to the extent it is commercially reasonable to do so; (c) reseed any areas that were vegetated prior to disturbance to commercially reasonable standards, in consultation with Landlord; and (d) implement commercially reasonable erosion control devices and procedures. If Tenant does not remove the Wind Facilities and restore the Property as required by this Section 15.3 within eighteen (18) months after termination, Landlord may do so and Tenant shall reimburse Landlord the reasonable and actual costs incurred by Landlord, less the salvage value of the Wind Facilities, within thirty (30) days of receipt of an invoice from Landlord.

15.4 Security for Restoration. Beginning on the Commercial Operations Date, Tenant shall obtain and maintain a surety bond with an A.M. Best Company rating of not less than "A", or equivalent rating if the A.M. Best rating is no longer available (the "**Restoration Bond**"), in the minimum amount described below, which Restoration Bond shall secure the obligations of Tenant for removing all Wind Facilities from the Property and restoring the surface of the Property as provided in Section 15.3. On or before the Commercial Operations Date and on or before each fifth anniversary of the Commercial Operations Date thereafter during the Operation Period, Tenant shall obtain, at its sole cost and expense, a decommissioning report from an independent third party engineer setting forth the estimated costs to complete the removal and restoration requirements herein for the Wind Facilities on the Property, taking into account salvage value of the Wind Facilities on the Property and also taking into account the estimated changes in costs and salvage value, if any, at the projected time of decommissioning (the "**Decommissioning Report**"). The Decommissioning Report will establish the minimum amount of the Restoration Bond to be obtained and maintained by Tenant until the next Decommissioning Report is available, at which point the minimum amount of the Restoration Bond shall be adjusted based on the most recent Decommissioning Report. In the event any subsequent Decommissioning Report determines that the Restoration Bond is insufficient to cover Tenant's restoration obligations hereunder, Tenant shall increase the Restoration Bond to such greater amount as specified in and determined by the Decommissioning Report. The Restoration Bond may, at Tenant's discretion, be for an amount larger than required under this section. The Restoration Bond shall remain in place through the date by which Tenant has fulfilled and completed all obligations hereunder with respect to the Property. Notwithstanding anything herein to the contrary, if any governmental authority requires Tenant to provide security for removal or decommissioning of the Project, Tenant may provide a single Restoration Bond (in lieu of a bond described above) in a manner consistent with the requirements of the governmental authority, and the governmental authority shall have access to

the Property pursuant to reasonable notice to effect or complete the required removal or decommissioning.

16. GENERAL PROVISIONS.

16.1 Confidentiality. Landlord shall maintain in the strictest confidence, for the benefit of Tenant: (a) all the terms and conditions of this Lease; (b) all information provided by Tenant pursuant to this Lease; and (c) all information obtained by or about Tenant's site or product design, methods of operation, and methods of construction, regardless of its source; unless such information either: (i) is in the public domain by reason of prior publication through no act or omission of Landlord or its employees or agents; or (ii) was already known to Landlord at the time of disclosure and which Landlord is free to use or disclose without breach of any obligation to any person or entity ("**Confidential Information**"). Landlord shall not use Confidential Information for its own benefit, publish or otherwise disclose it to others, or permit its use by others for their benefit or to the detriment of Tenant. Notwithstanding the foregoing, Landlord may disclose Confidential Information to Landlord's lenders, attorneys, accountants and other personal financial advisors solely for use in connection with their representation of Landlord regarding this Lease or to any prospective purchaser of the Property who has made a written offer to purchase or otherwise acquire the Property that Landlord desires to accept; provided that in making such disclosure, Landlord shall advise the party receiving the information of the confidentiality of the information. Landlord may also disclose Confidential Information pursuant to lawful process, subpoena or court order requiring such disclosure, provided that Landlord shall give Tenant reasonable advance notice of the required disclosure and will cooperate with Tenant in limiting such disclosure and in obtaining protective orders where appropriate. Landlord shall get Tenant's written consent before issuing a press release or having any contact with or responding to the news media with any operational, sensitive or confidential information with respect to this Lease or the Project. The provisions of this Section 16.1 shall survive the termination or expiration of this Lease.

16.2 Notices. All notices or other communications required or permitted by this Lease, including payments to Landlord, shall be in writing and shall be deemed given when personally delivered, or in lieu of such personal service, five days after deposit in the United States mail, first class, postage prepaid, certified, or the next business day if sent by reputable overnight courier, provided receipt is obtained and charges prepaid by the delivering party. Any notice shall be addressed as follows:

(i) To Landlord:

«Current_Legal_Name»
«Address_1_1»
«Address_2_1»
«City_1», «State_1» «Zip_1»

(ii) To Tenant:

Coles Wind, LLC
c/o Apex Clean Energy, Inc.
Attn: Land Manager
120 Garrett St., Ste 700
Charlottesville, Virginia 22902
Phone: (434) 220-7595

with a copy to any Transferee if required by this Lease.

Any party may change its contact information by written notice thereof to the other party.

16.3 Successors and Assigns. This Lease shall run with the land and shall be binding upon and inure to the benefit of the parties hereto and their respective successors and assigns.

16.4 Waiver. No delay or omission by the parties hereto in exercising any right or remedy provided for herein shall constitute a waiver of such right or remedy, nor shall it be construed as a bar to or a waiver of any such right or remedy on any future occasion.

16.5 Effect of Headings, Terms. Headings appearing in this Lease are inserted for convenience of reference only and shall in no way be construed to be interpretations of the provisions hereof. The term Tenant herein includes any Transferee to the extent the Transferee has an interest in this Lease.

16.6 Cooperation. Each of the parties, without further consideration, agrees to execute and deliver such additional documents, including a Memorandum of this Lease for recording purposes, and take such action as may be reasonably necessary to carry out the purposes and intent of this Lease and to fulfill the obligations of the respective parties.

16.7 Amendments. This Lease may be modified, amended, or supplemented only by the mutual written agreement of the parties hereto, and with the consent of all Mortgagees, if any, as set forth in Section 10.2.

16.8 Further Assurances. The parties shall do such further acts and things and execute and deliver such additional agreements and instruments as the other may reasonably require to consummate, evidence, or confirm the agreements contained herein.

16.9 Consent. Where rights under this Lease are conditioned upon the consent of one of the parties hereto, it shall not be unreasonably withheld, conditioned or delayed unless expressly stated otherwise.

16.10 Entire Lease. This Lease constitutes the entire agreement between the parties and supersedes all prior agreements and understandings, oral and written, between the parties hereto with respect to the subject matter hereof.

16.11 Counterparts. This Lease may be executed by the parties in one or more counterparts, all of which taken together shall constitute one and the same instrument.

16.12 Ambiguities. Any rule of construction to the effect that ambiguities are to be

resolved in favor of either party shall not be employed in the interpretation of this Lease and is hereby waived. No waiver by a party of any provision of this Lease shall be deemed to be a waiver of any other provision hereof. The use of the neuter gender includes the masculine and feminine, and the singular number includes the plural, and vice versa, whenever the context so requires. The terms "**include**", "**includes**" and "**including**", as used herein, are without limitation. The term "**hereof**" or "**herein**" means the entirety of this Lease unless otherwise indicated.

16.13 Time of Essence. Time and strict and punctual performance are of the essence with respect to each provision of this Lease.

16.14 Relationship of Parties. The relationship of the parties hereto is solely that of landlord and tenant, and nothing contained in this Lease shall be construed to create an association, joint venture, trust or partnership between them.

16.15 Hunting. All hunting rights and privileges on the Property are reserved to Landlord. None of Tenant, its employees, agents or invitees shall have any hunting rights or privileges on the Property. Tenant, in its discretion, may establish zones around the improvements on the Property within which hunting shall be absolutely prohibited. Tenant may require that hunting be suspended completely during certain periods designated by Tenant such as initial construction and erection and other periods of higher-than-usual levels of activity on the Property. Landlord and Tenant may jointly prepare reasonable hunting rules, which either party shall have the right to enforce.

16.16 Boundary Discrepancies. Landlord agrees on behalf of itself, its heirs, successors or assigns that if Landlord were to acquire any property adjacent to the Property via an adverse possession claim, Landlord waives: (a) any claim that any additional compensation is due to Landlord for improvements placed on the acquired property as part of the Project; and (b) any claim that the acquired property is not subject to any lease and other instruments for the Project executed by the record owner of the acquired property as of the Effective Date of this Lease; provided that the waiver is limited in scope and relates only to the terms and conditions in this Lease, and not for any other purpose. Landlord shall indemnify and hold harmless Tenant against any Claims asserted by any person or entity arising out of an encroachment of any kind onto property adjacent to the Property as described in this Lease.

16.17 Setback Waiver. To the extent that any applicable law, ordinance, regulation or permit establishes, or has established, minimum setbacks from the exterior boundaries of the Property, from any structures on the Property (occupied or otherwise) or from any other point of measurement for Wind Facilities (including Wind Turbines) constructed on the Property or otherwise within the Project, Landlord hereby waives any and all such setback requirements (the "**Setback Waiver**"). The Setback Waiver is for the benefit of Tenant, the owner(s) of adjacent properties within the Project, and their respective successors and assigns, and shall run with the land. Further, if requested by Tenant, Landlord shall execute and deliver to Tenant one or more separate setback waivers and/or easements in a form provided by Tenant, which Tenant may then record at its expense. The Setback Waiver shall survive the termination of this Lease for so long as Wind Turbines or other Wind Facilities exist on real property adjacent to the Property.

16.18 Severability. Each provision of this Lease shall be valid and shall be enforceable

to the extent not prohibited by law. If any provision of this Lease or its application to any person or circumstance shall to any extent be invalid or unenforceable, the remaining provisions and applications shall not be affected.

16.19 Benefited Property. The interest created by this Lease is an in gross interest and therefore does not benefit any particular parcel or parcels of real property.

16.20 No Third Party Beneficiaries. Except for the rights of Mortgagees set forth above, no provision of this Lease is intended to nor shall it in any way inure to the benefit of any third party so as to constitute any such person a third party beneficiary under this Lease, or of any one or more of the terms of this Lease, or otherwise give rise to any cause of action in any person not a party to this Lease.

16.21 No Recordation; Memorandum of Lease. Landlord shall not record this Lease. Concurrently with execution hereof, the parties shall execute and record a memorandum of this Lease, a copy of which is attached hereto as Exhibit B.

16.22 Survival of Covenants. The covenants, conditions, rights and restrictions in favor of Tenant under this Lease and Tenant's reliance on and benefit from those covenants, conditions, rights and restrictions may necessarily be a portion of the Project which will from time to time share structural and transmission components, ingress and egress, utility access, and other support with the Wind Facilities located on the Property. Accordingly, the covenants, conditions, rights and restrictions in favor of Tenant pursuant to this Lease shall not be deemed invalid or inoperative or otherwise be disregarded while any portion of the Wind Facilities on the Property or an adjacent property are under development, being replaced or operational.

16.23 Transmission and Access Easement. Tenant's (i) exclusive right to construct, install, lay down, erect, improve, place, replace, remove, relocate and operate permanent roads, aboveground and underground electrical and communications lines, collection and transmission equipment on the Property, and (ii) right of access more particularly described in Section 4.3 (collectively, the "**Transmission and Access Easement**") runs with the land, shall be binding upon Landlord and Tenant and their respective successors and assigns. No act or failure to act on the part of Tenant or any subsequent holder of the Transmission and Access Easement shall be deemed to constitute an abandonment, surrender, or termination of the Transmission and Access Easement, except upon recordation by the holder of a quitclaim deed specifically conveying the Transmission and Access Easement back to Landlord, and nonuse of the Transmission and Access Easement shall not prevent the future use of the entire scope of the Transmission and Access Easement if it is later needed. Furthermore, no use of or improvement to the Property or any lands benefited by the Transmission and Access Easement, and no transfer of the Transmission and Access Easement, shall, separately or in the aggregate, constitute an overburdening of the Transmission and Access Easement. The term of the Transmission and Access Easement shall expire upon expiration or termination of this Lease, and Tenant shall have the right, without need for Landlord's consent, to assign or convey all or any portion of the Transmission and Access Easement to any person or entity on an exclusive or nonexclusive basis during the term of this Lease. Notwithstanding any provision of this Lease to the contrary, upon request by Tenant, Landlord agrees to execute transmission agreements and/or other instruments directly with any utility requiring such agreements or instruments in connection with the construction, operation and

maintenance of electric transmission, interconnection and switching facilities on the Property. Such transmission agreements and instruments shall be on the standard form used or proposed by the utility, so long as the rights and obligations granted to the utility are substantially similar to those granted herein. Notwithstanding the term of the Transmission and Access Easement granted herein or any other provision of this Lease to the contrary, if a utility requires and/or Tenant requests an easement in perpetuity with respect to one or more of the rights granted to Tenant pursuant to the Transmission and Access Easement, then Landlord shall grant the utility and/or Tenant, as applicable, such perpetual easement which covers the portion of the Property occupied by the utility's and/or Tenant's permanent roads, aboveground and underground electrical and communications lines, collection and/or transmission equipment, as applicable, and the utility and/or Tenant, as applicable, shall make a one-time payment to Landlord equal to the fair market value of such perpetual easement less any Transmission and Access Easement Fees paid pursuant to this Lease prior to the grant of such perpetual easement.

16.24 No Broker. Landlord and Tenant each hereby represent and warrant to the other that its contact with the other or with the Property in connection with the transactions contemplated by this Lease has been made without the assistance of any broker or other third party. Landlord and Tenant agree to save, indemnify and hold each other free, clear, and harmless from any claim, cost, or expense, including reasonable attorneys' fees, for or in connection with any claims for commissions or compensation claimed or asserted by or through each respective party in connection with the transaction contemplated herein. The terms and provisions of this Section shall survive the expiration or the earlier termination of this Lease.

16.25 Construction Guidelines. Landlord and Tenant hereby incorporate each of the construction guidelines set forth in Exhibit C attached to this Lease and elsewhere within this Lease, and to extent not inconsistent with the guidelines set forth in Exhibit C or elsewhere within this Lease, the construction guidelines to be set forth in the AIMA (defined below), with the understanding that Tenant will use commercially reasonable efforts to comply with such guidelines when undertaking construction and decommissioning activities on the Property to the extent that the Property consists of privately owned agricultural land within the Project area (as defined by Tenant). For purposes of this Agreement, the "**AIMA**" shall mean an Agricultural Impact Mitigation Agreement expected to be entered into after the Effective Date by Tenant and the Illinois Department of Agriculture pertaining to the construction of the Project, as may be amended from time to time.

[*Signatures on following pages.*]

IN WITNESS WHEREOF, AND INTENDING TO BE LEGALLY BOUND HEREBY, Tenant and Landlord have caused this Lease to be duly executed and delivered by their authorized representatives to be effective as of the date first written above.

TENANT:

Coles Wind, LLC,
a Delaware limited liability company

By: Apex Clean Energy Finance, LLC,
a Delaware limited liability company,
its Sole Member

By: Apex GBR, LLC,
a Delaware limited liability company,
its Sole Member

By: Apex Clean Energy Holdings, LLC,
a Delaware limited liability company,
its Manager

By: _____
Name: Jeanine G. Wolanski
Title: Senior Vice President of Land Management

LANDLORD:

By: _____
Name: «Current_Legal_Name»

Spouse's signature (if applicable)

By: _____
Printed Name: _____

Spouse is joining in the execution of the Lease for the sole purpose of waiving any rights he or she may have under or by virtue of the Homestead Exemption Laws of the State of Illinois.

EXHIBIT A

LEGAL DESCRIPTION

All that real property located in Coles County, Illinois, more fully described as follows:

Tract 1:

Tax Parcel Reference:

EXHIBIT B

FORM OF MEMORANDUM OF WIND ENERGY LEASE

[See attached]

EXHIBIT C

Construction and Design Standards

The following standards and policies have been established by Tenant for the Project. The standards and policies described herein shall be applicable to construction and decommissioning activities undertaken by Tenant and occurring partially or wholly on privately owned agricultural land within the Project area (as defined by Tenant).

1. Support Structures

A. Where an electric line is adjacent and parallel to highway and/or railroad right-of-way, but on privately owned property, the support structures will be placed as close as reasonably practicable and allowable by the applicable county engineer or other applicable authorities to the highway or railroad right-of-way.

B. Tenant may select and use any pole structures it deems appropriate for the Project including H-frame transmission poles or single pole support structures.

2. Guy Wires and Anchors

A. When it is feasible, Tenant shall try to place guy wires and their anchors in a manner so as to minimize guy wire impact on cropland.

B. All guy wires will be shielded with highly visible guards.

3. Underground Cabling Depth

A. Underground electrical cables will be buried with:

1. a minimum of 60 inches of top cover where it crosses cropland.

2. a minimum of 60 inches of top cover where it crosses pasture land or other agricultural land comprised of soils that are classified by the USDA as being prime soils.

3. a minimum of 3 feet of top cover where it crosses pasture land and other agricultural land not comprised of prime soils.

4. a minimum of 3 feet of top cover where it crosses wooded/brushy land.

B. Notwithstanding the foregoing, in those areas where (i) rock in its natural formation and/or (ii) a continuous strata of gravel exceeding 200 feet in length are encountered, the minimum top cover will be 30 inches.

4. Topsoil Removal and Replacement

A. Tenant shall use commercially reasonable efforts to undertake any excavation in a manner to preserve topsoil. Tenant shall use commercially reasonable efforts to store

the topsoil near the excavation site in such a manner that it will not become intermixed with subsoil materials.

B. When practicable, Tenant will use reasonable efforts to store all disturbed subsoil material near the excavation site and separate from the topsoil

C. When backfilling an excavation site, the stockpiled subsoil material will be placed back into the excavation site before replacing the topsoil.

D. When practicable, Tenant will use reasonable efforts to place the topsoil in a manner so that after settling occurs, the topsoil's original depth and contour (with an allowance for settling) will be restored as close as reasonably practicable. The same shall apply where excavations are made for road, stream, drainage ditch, or other crossings. In no instance will the topsoil materials be used for any other purpose unless agreed to otherwise by Landlord.

E. Excess subsoil material resulting from wind turbine foundation excavation shall not be removed from Landlord's property, unless otherwise agreed to by Landlord.

5. Prevention of Soil Erosion

A. Tenant will work with Landlord to prevent excessive erosion on land that has been disturbed by construction or decommissioning of the Project. This is not a requirement, however, if the land is bare cropland that Landlord intends to leave bare until the next crop is planted.

B. If Landlord and Tenant cannot agree upon a reasonable method to control erosion on the Landlord's right-of-way, Tenant may – but is not required to – implement the recommendations of the appropriate Soil and Water Conservation District and such implementation will resolve the dispute.

6. Weather

Tenant shall be permitted to undertake and complete construction and decommissioning when Tenant deems appropriate regardless of weather or soil conditions.

Prepared by Apex Clean Energy, Inc., Recording Requested By, and When Recorded Return to: Apex Clean Energy, Inc.; 120 Garrett St., Ste 700, Charlottesville, Virginia 22902; Attn. Emily Carroll, Esq.

MEMORANDUM OF WIND ENERGY LEASE

THIS MEMORANDUM OF WIND ENERGY LEASE ("**Memorandum**") is made and entered into as of the _____ day of _____, 20___, by and between «Current_Legal_Name» (collectively, "**Landlord**") with a tax mailing address of «Address_1_1»«Address_2_1», «City_1», «State_1» «Zip_1», and Coles Wind, LLC, a Delaware limited liability company, ("**Tenant**") with a tax mailing address of c/o Apex Clean Energy, Inc., 120 Garrett St., Ste 700, Charlottesville, Virginia 22902.

1. Lease. For the term and upon the provisions set forth in that Wind Energy Lease of even date herewith (the "**Effective Date**") between Landlord and Tenant (the "**Lease**"), all of which provisions are specifically made a part hereof as though fully and completely set forth herein, Landlord hereby leases to Tenant, and Tenant hereby leases from Landlord for Wind Energy Purposes, that certain real property (the "**Property**") located in Coles County, Illinois, as more particularly described in Exhibit "A" attached hereto, together with all rights of ingress and egress and all other rights appurtenant to the Property, as more particularly described in the Lease. Pursuant to the Lease, Tenant has the sole and exclusive rights to use the Property for Wind Energy Purposes. Without limiting the foregoing, Tenant's rights under the Lease include the exclusive right to transmit electrical energy through, across, under or over the Property for Wind Energy Purposes, whether by means of overhead or underground collection and/or transmission systems, and no third party may install collection or transmission facilities of any kind through, across, under or over the Property without Tenant's prior written consent.

2. No Interference. The Lease requires Landlord, during the Term of the Lease, not to cause nor permit any restriction or interference with: (a) the siting, permitting, construction, installation, maintenance, operation, replacement, or removal of Wind Facilities; (b) the flow of wind, wind speed or wind direction over the Property; (c) access over the Property to Wind Facilities; or (d) any other activities of Tenant permitted under the Lease.

3. Term. The term of the Lease shall expire seven (7) years after the Effective Date, if not extended or sooner terminated as provided in the Lease. Tenant may at its sole discretion extend the term of this Lease for an additional thirty (30) year term, with the further option to extend the term for two (2) additional ten (10) year terms.

4. Setback Waiver. To the extent that any applicable law, ordinance, regulation or permit establishes, or has established, minimum setbacks from the exterior boundaries of the Property, from any structures on the Property (occupied or otherwise) or from any other point of measurement for Wind Facilities (including Wind Turbines) constructed on the Property or otherwise within the Project, Landlord hereby waives any and all such setback requirements (the "**Setback Waiver**"). The Setback Waiver is for the benefit of Tenant, the owner(s) of adjacent properties within the Project, and their respective successors and assigns, and shall run with the land. If requested by Tenant, Landlord shall execute and deliver to Tenant one or more separate setback waivers evidencing the intent of this Setback Waiver, in a form provided by Tenant, which Tenant may then record at its expense.

5. Notice. This Memorandum is prepared for the purpose of giving notice of the Lease and in no way modifies the express provisions of the Lease. In the event of any conflict between the terms and provisions of the Lease and this Memorandum, the Lease shall control. This Memorandum shall continue to constitute notice of the Lease and all amendments thereto, even if the Lease is subsequently amended.

6. Successors and Assigns. The covenants, conditions and restrictions contained in the Lease shall run with the land and be binding on the successors and assigns of both Landlord and Tenant. Tenant and any transferee shall have the right throughout the Term to transfer, convey, sublease or assign this Lease or any interest in this Lease, the Property or the wind facilities to any person or entity without the consent of Landlord.

7. Ownership of Wind Facilities. Tenant shall at all times retain title to the Wind Facilities and shall have the right to remove them from the Property at any time. Landlord shall have no ownership, lien, security or other interest in any Wind Facilities installed on the Property and Landlord expressly waives, relinquishes and quitclaims any lien or security interest in and to the Wind Facilities or any other real or personal property of Tenant, whether arising at law or in equity.

8. No Severance of Wind Energy Rights. Landlord shall not assign or otherwise transfer an interest in the wind energy rights to the Property, or a portion thereof, separate from fee title to such real property, without Tenant's consent which Tenant may withhold in its sole discretion.

9. Right of Reentry. Upon expiration or termination of the Term, Tenant shall have a license to enter onto the Property for eighteen (18) months following termination to restore the Property and for other activities as set forth in the Lease.

10. Transmission and Access Easement. If a utility requires and/or Tenant requests an easement in perpetuity with respect to one or more of the rights granted to Tenant pursuant to the Transmission and Access Easement, then Landlord shall grant the utility and/or Tenant, as applicable, such perpetual easement which covers the portion of the Property occupied by the utility's and/or Tenant's permanent roads, aboveground and underground electrical and communications lines, collection and/or transmission equipment, as applicable, upon the terms set forth in the Lease. As used herein, the term "**Transmission and Access Easement**" means, collectively, Tenant's (i) exclusive right to construct, install, lay down, erect, improve, place, replace, remove, relocate and operate permanent roads, aboveground and underground electrical and communications lines, collection and transmission equipment on the Property, and (ii) right of access more particularly described in Section 4.3 of the Lease.

The remainder of this page is intentionally blank.

IN WITNESS WHEREOF, AND INTENDING TO BE LEGALLY BOUND HEREBY, Tenant and Landlord have caused this Memorandum to be duly executed and delivered by their authorized representatives to be effective as of the date first written above.

LANDLORD:

By: _____
Name: «Current_Legal_Name»

STATE OF _____

COUNTY OF _____

The foregoing instrument was acknowledged before me this ___ day of _____, 20____, by «Current_Legal_Name».

_____
Notary Public

_____
Typed or Printed

_____
Commission Expiration Date

(SEAL)

Spouse's Signature (if applicable)

By: _____
Printed Name: «Current_Legal_Name»

Spouse's Acknowledgement (if applicable)

STATE OF _____

COUNTY OF _____

The foregoing instrument was acknowledged before me this ___ day of _____, 20____, by _____.

_____
Notary Public

_____
Typed or Printed

_____
Commission Expiration Date

(SEAL)

TENANT:

Coles Wind, LLC, a Delaware limited liability company

By: Apex Clean Energy Finance, LLC,
a Delaware limited liability company,
its Sole Member

By: Apex GBR, LLC,
a Delaware limited liability company,
its Sole Member

By: Apex Clean Energy Holdings, LLC,
a Delaware limited liability company,
its Manager

By: _____
Name: Jeanine G. Wolanski
Title: Senior Vice President of Land Management

COMMONWEALTH OF VIRGINIA

CITY OF CHARLOTTESVILLE

The foregoing instrument was acknowledged before me this _____ day of _____, 20___, by Jeanine G. Wolanski, the Senior Vice President of Land Management of Apex Clean Energy Holdings, LLC, a Delaware limited liability company, Manager of Apex GBR, LLC, a Delaware limited liability company, Sole Member of Apex Clean Energy Finance, LLC, a Delaware limited liability company, Sole Member of Coles Wind, LLC, a Delaware limited liability company, on behalf of the company.

_____
Notary Public
Commission Expires:_____
Commission No.:_____

This instrument prepared by: Emily Carroll
Apex Clean Energy, Inc.
120 Garrett St., Ste 700
Charlottesville, Virginia 22902

EXHIBIT A

LEGAL DESCRIPTION

All that real property located in Coles County, Illinois, more fully described as follows:

Appendix B.4

Template Wind Farm Participation and Support Agreement with Shadow Flicker Waiver

(*SUP Application, §B.2 and §B.10*)

THIS INSTRUMENT DRAFTED BY AND
WHEN RECORDED RETURN TO:

Coles Wind, LLC
c/o Apex Clean Energy, Inc.
120 Garrett Street, Suite 700
Charlottesville, VA 22902
Attention: Nicholas Grainger, Esq.

WIND FARM PARTICIPATION AND SUPPORT AGREEMENT

This Wind Farm Participation and Support Agreement (this "**Agreement**") is dated and effective as of _____, 20___ ("**Effective Date**"), by and between _____ (collectively, "**Owner**") and **Coles Wind, LLC**, a Delaware limited liability company ("**Grantee**").

RECITALS:

A. Owner is the owner of that certain tract of real property located in _____ County, Illinois, more particularly described on Exhibit A attached hereto and made a part hereof (the "**Property**");

B. Grantee has acquired, or will acquire, certain easements and other related rights covering real property located adjacent to and/or in the vicinity of the Property (collectively, the "**Wind Farm Property**") for purposes of the construction, installation, maintenance, use and operation of wind energy conversion turbines ("**Wind Turbines**"), electrical distribution and transmission facilities and related roads and facilities (collectively, the "**Wind Facilities**");

C. Owner desires to participate in the wind farm project being developed by Grantee on the Wind Farm Property in _____ County, Illinois (the "**Wind Farm**") in accordance with the terms and conditions contained herein; and

D. The Wind Farm may be constructed and put into operation in one or more phases (each a "**Phase**") that are distinguishable from the remainder of the Wind Farm, as determined by Grantee in its reasonable discretion.

AGREEMENT:

NOW, THEREFORE, in consideration of the premises and other good and valuable consideration, the receipt and adequacy of which are hereby acknowledged, the parties hereto agree as follows:

1. **Setback Waiver; Project Effects Easement and Waiver.**

1.1 To the extent that any applicable law, ordinance, regulation or permit establishes, or has established, minimum setbacks from the exterior boundaries of the Property (or any structures thereon) for Wind Facilities constructed on Wind Farm Property, Owner hereby waives any and all such setback requirements (the "**Setback Waiver**"). For the avoidance of doubt, this Agreement does not grant to Grantee the right to construct Wind Facilities on the Property. The Setback Waiver is for the benefit of Grantee, the owner(s) of adjacent Wind Farm Property, and their respective successors and assigns, and shall run with the land. If requested by Grantee, Owner shall execute and deliver to Grantee one or more separate setback waivers evidencing the intent of this Section 1, in a form provided by Grantee, which Grantee may then record at its expense.

1.2 Owner grants to Grantee an easement to generate audio, visual and electrical effects, as well as shadow flicker, radio interference, and/or other effects on the Property attributable to the operation of Wind Facilities on the Wind Farm Property. To the extent that any applicable law, ordinance, regulation or permit establishes, or has established, minimum standards with respect to audio, visual and electrical effects, shadow flicker, or radio interference, Owner hereby waives the same.

1.3 Owner hereby waives, to the fullest extent permitted by law, any and all shadow flicker limitations and/or mitigation requirements described in any ordinance of any governmental authority, including but not limited to Operation Section D of the Coles County Amended Ordinance Standards for Wind Energy Conversion Systems Over 500kW (May 9, 2023), the Illinois Counties Code, 55 ILCS 5/5-12020, and in any governmental entitlement or permit heretofore or hereafter issued to Grantee as they apply to the Property and to the Wind Farm (the "**Shadow Flicker Waiver**"). Owner consents to shadow flicker from Grantee's Wind Turbines appearing for greater than thirty (30) hours per year on the Property and on structures on the Property. This Shadow Flicker Waiver is for the benefit of Grantee, the owner(s) of adjacent Wind Farm Property, and their respective successors and assigns, and shall run with the land.

2. **Grant of Wind Easement**. Owner hereby grants, for the benefit of Grantee, an exclusive easement over and across the Property to capture, use and convert the Property's unobstructed wind resources. Owner agrees not to grant any third parties any right which would interfere with the free flow of wind across the Property. For the avoidance of doubt, nothing in this Section 2 shall be construed to provide Grantee with any right to construct Wind Facilities on the Property.

3. **Term of Agreement.** This Agreement shall be for an initial term ("**Initial Term**") commencing on the Effective Date and continuing for a period of five (5) years. If, at any time during the Initial Term, the Commercial Operations Date (as defined below) for a Phase that includes the Property occurs, then the Initial Term shall end and the term of this Agreement shall automatically be extended for a period of thirty (30) years (such period, the "**Operations Term**"). Unless earlier terminated, Grantee shall have the sole right and option to extend the Operations Term for two (2) additional ten (10) year terms by providing written notice thereof to Owner within thirty (30) days of the end of the Operations Term. The Initial Term and the Operations Term, as the same may be extended, are collectively referred to in this Agreement as the "**Term**." Notwithstanding the foregoing, in no event shall the Term of this Agreement be longer than the longest period permitted by law. The "**Commercial Operations Date**" means the date that

Wind Turbines representing at least ninety-five percent (95%) of the Wind Turbines of a particular Phase begin delivering electricity to the electric grid in commercial quantities.

4. **Termination.** Grantee shall have the right throughout the Term to terminate this Agreement as to all or any part of the Property upon thirty (30) days prior written notice to Owner. If the Commercial Operations Date does not occur prior to the fifth (5^{th}) anniversary of the Effective Date, this Agreement shall automatically terminate.

5. **Consideration**. As consideration for the rights granted herein, Grantee shall make payments to Owner during the Term as set forth in the Fee Schedule attached hereto ("**Fee Schedule**"). The Fee Schedule shall be omitted from the recorded Agreement as provided in Section 11 below. Grantee shall not be required to make any payment to Owner under this Agreement until such time as Owner has returned to Grantee a completed and executed Internal Revenue Service Form W-9, a payment instruction form signed by each person or entity holding record or equitable title to the Property, and documentation (if applicable) evidencing signing authority.

6. **Authority**. Owner represents and warrants that it is the sole owner of the Property and has the unrestricted right and authority to execute this Agreement and to grant to Grantee the rights granted hereunder. Each person signing this Agreement on behalf of Owner is authorized to do so, and all persons having any ownership or possessory interest in the Property have signed this Agreement as Owner. There are no liens, encumbrances, leases, mortgages, deeds of trust, mineral or oil and gas rights, options, rights of refusal, preferential rights to purchase or lease, or other interests in (or exceptions to) Owner's fee title ownership of the Property which are not recorded in the public records of the county in which the Property is located.

7. **Assignment**. Grantee shall have the right at any time, without need for Owner's consent, to assign or convey all or any portion of this Agreement to an assignee or assignees, on an exclusive or nonexclusive basis, or to mortgage or collaterally assign all or any part of its interest in the Agreement and its rights under the Agreement to any entity (a "**Lender**") without the consent of Owner. Any Lender will have no obligations under this Agreement until such time as it exercises its rights to acquire Grantee's interest subject to the lien of Lender's mortgage by foreclosure or otherwise or assumes the obligations of Grantee under this Agreement. So long as any mortgage with a Lender remains in effect, this Agreement shall not be modified, and Owner shall not accept a surrender of the Property or a termination or release of this Agreement, without the prior consent of all Lenders. Owner, upon providing Grantee any notice of default under this Agreement, shall at the same time provide a copy of such notice to each Lender. Owner shall accept any performance by or at the instigation of any such Lender as if the same had been done by Grantee (but no Lender shall have any obligation to remedy or cause the remedy of any default).

8. **Reasonable Assistance.** Owner agrees to use all reasonable efforts to assist Grantee in complying with any applicable laws, codes and statutes concerning the placement of Wind Facilities on the Wind Farm Property. Owner agrees to promptly evidence its consent, in writing or as otherwise required, allowing Grantee to place Wind Facilities on the Wind Farm Property, as may be required or requested by any agency or entity asserting jurisdiction, authority or an interest in any issues concerning or in any way affecting placement of Wind Facilities on the Wind Farm Property. Owner consents to allowing Grantee to act on Owner's behalf to evidence Owner's consent as set forth in this Agreement. Owner agrees to and shall execute such estoppel certificates (certifying as to such matters as Grantee may reasonably request) and/or consents to assignment and/or non-disturbance agreements as Grantee or any Lender may reasonably request from time to time. Owner agrees to support and not object to the Wind Farm and to use reasonable efforts to assist Grantee's reasonable requests. In the event Owner has concerns or issues with regard to the construction, installation, maintenance, use or operation of Wind Facilities, Owner agrees to have informal

discussions with Grantee, including in-person meetings, for a period of thirty (30) days before pursuing other means to resolve the issues or concerns.

9. **Events of Default**. Each of the following shall constitute an event of default, which shall permit the non-defaulting party, at its discretion, to terminate this Agreement and/or pursue such other remedies as are available to it at law or in equity:

(a) any failure by Grantee to pay any amount owed pursuant to Section 5 above if the failure to pay continues for thirty (30) days after Grantee's receipt of written notice from Owner; and

(b) any other material breach of this Agreement by either party which continues for thirty (30) days after written notice of default from the non-defaulting party or, if the cure will take longer than thirty (30) days, the length of time necessary to effect such cure so long as the defaulting party commences to cure within the thirty (30) day period and continuously and diligently pursues the cure to completion.

10. **Notice**. All notices, requests, demands, waivers, approvals, consents and other communications required or permitted by this Agreement ("**Notices**") shall be given in writing by personal delivery (confirmed by courier delivery service), or facsimile, receipt confirmed, or first-class U.S. mail, postage prepaid, return receipt requested, certified, addressed as follows:

If to Owner:

[_____]

If to Grantee:

Coles Wind, LLC
c/o Apex Clean Energy, Inc.
Attention: Land Manager
120 Garrett Street, Suite 700
Charlottesville, VA 22902
Phone: (434) 220-7595
Fax: (434) 220-3712

Any party may change its address for purposes of this paragraph by giving Notice of such change to the other parties in the manner provided in this paragraph. Any Notice provided for herein shall become effective only upon actual receipt by the party to whom it is given, unless such Notice is only mailed by certified mail, return receipt requested, in which case it shall be deemed to be received five (5) business days after the date it is mailed.

11. **Recording**. Owner and Grantee agree that this Agreement (without the Fee Schedule) shall be recorded in the real property records of the county in which the Property is located.

12. **Confidentiality**. Owner shall maintain in confidence all information pertaining to the financial terms of or payments under this Agreement, whether disclosed by Grantee or discovered by Owner, unless such information is in the public domain by reason of prior publication through no act or omission of Owner or its employees or agents. Owner shall not publish or otherwise disclose such information to others except to accountants, lawyers, or other professionals who receive such information under an obligation of confidentiality; buyers of the Property; lenders that have a security interest in the

Property; or family members who agree to keep such information confidential. The provisions of this Section 12 shall survive the termination or expiration of this Agreement.

13. **Wind Energy Lease**. In the event that Owner and Grantee enter into a Wind Energy Lease or other similar instrument whereby Owner grants Grantee the exclusive right to install Wind Turbines and/or Wind Facilities on the Property, then this Agreement shall be superseded by such instrument and this Agreement and all payment obligations hereunder shall terminate as of the effective date of such instrument. The foregoing shall not obligate either party to enter into any Wind Energy Lease or other similar instrument unless it determines in its own best interest to do so. For the avoidance of doubt, this Agreement does not grant Grantee the right to install Wind Turbines and/or Wind Facilities on the Property.

14. **Legal Fees**. In the event of any controversy, claim or dispute arising out of or relating to this Agreement or the enforcement or breach hereof, the prevailing party shall be entitled to recover from the losing party the prevailing party's reasonable costs, expenses and attorneys' fees (including but not limited to those incurred at trial, on appeal and on petition for review).

15. **Binding Effect; Governing Law**. All the terms, conditions, covenants and other provisions contained in this Agreement, including benefits and burdens, shall be binding upon and shall run with the land and shall inure to the benefit of and be enforceable by Owner and Grantee, and their respective heirs, successors and assigns. The provisions hereof shall be governed by and construed in accordance with the laws of the State of Illinois, excluding the choice of law provisions thereof.

[*signature pages follow*]

IN WITNESS WHEREOF, AND INTENDING TO BE LEGALLY BOUND HEREBY, Owner and Grantee have caused this Agreement to be duly executed and delivered by their authorized representatives to be effective as of the date first written above.

OWNER:

By: _____
Name: _____

THE STATE OF _____ §
§
COUNTY OF _____ §

This instrument was acknowledged before me on the ___ day of _____, 20___ by _____.

_____
Printed Name: _____
Notary Public in and for the State of _____
My Commission Expires: _____

[SEAL]

GRANTEE:

COLES WIND, LLC,
a Delaware limited liability company

By: Apex Clean Energy Finance, LLC,
a Delaware limited liability company,
its Sole Member

By: Apex GBR, LLC,
a Delaware limited liability company,
its Sole Member

By: Apex Clean Energy Holdings, LLC,
a Delaware limited liability company,
its Manager

By: _____
Name: Jeanine G. Wolanski
Title: Senior Vice President of Land Management

COMMONWEALTH OF VIRGINIA

CITY OF CHARLOTTESVILLE

The foregoing instrument was acknowledged before me this _____ day of _____, 20___, by Jeanine G. Wolanski, the Senior Vice President of Land Management of Apex Clean Energy Holdings, LLC, a Delaware limited liability company, Manager of Apex GBR, LLC, a Delaware limited liability company, Sole Member of Apex Clean Energy Finance, LLC, a Delaware limited liability company, Sole Member of Coles Wind, LLC, a Delaware limited liability company, on behalf of the company.

_____
Notary Public
Commission Expires:_____
Commission No.:_____

(SEAL)

EXHIBIT A

LEGAL DESCRIPTION OF PROPERTY

All that real property located in _____County, Illinois, more fully described as follows:

Tax Parcel Reference: _____ (____ acres)

CONFIDENTIAL – DO NOT RECORD

FEE SCHEDULE

Grantee shall make the following payments to Owner during the Term:

1. Within sixty (60) days after the Effective Date of this Agreement, a one-time payment of Five Thousand Dollars ($5,000.00); and

2. During each year of the Operations Term, an annual payment equal to Five Thousand Dollars ($5,000.00), which payment shall increase by two percent (2%) each year or CPI, whichever is greater, as set forth below. The first annual payment shall be paid by Grantee within thirty (30) days after the Commercial Operations Date and then subsequent payments will be paid annually within thirty (30) days after each anniversary of the Commercial Operations Date. During the Operations Term, the annual payment shall be adjusted annually by the increase (if any) in the Consumer Price Index ("**CPI**") for "All Urban Consumers, U.S. City Average, All Items" issued by the Bureau of Labor Statistics of the United States Department of Labor, or by two percent (2%), whichever is greater; provided that in no event shall the CPI adjustment exceed five percent (5%). The base for computing the CPI increase (the "**Beginning Index**") shall be the CPI for the third calendar quarter of the calendar year immediately preceding the calendar year in which the Operations Term commences. The adjustment shall be determined by multiplying the subject fee by a fraction, the numerator of which is the CPI published for the third calendar quarter of the calendar year immediately prior to the calendar year of each adjustment and the denominator of which is the Beginning Index. If the CPI is discontinued or revised, such other government index or computation by which it is replaced shall be used in order to obtain substantially the same result as would be obtained if the CPI had not been discontinued or revised. Notwithstanding the foregoing, if the CPI based increase determined based on the CPI method described above would result in an increase of less than two percent (2.0%), then the annual payment for such year shall be adjusted by two percent (2.0%) instead. Such increases will be compounded, that is, added to the prior year's annual payment for the next annual period, thereby becoming part of the payment amount and being subject to the two percent (2%) or CPI increase, as applicable, in the following year.

Appendix B.5

Template Wind Farm Participation and Support Agreement

(*SUP Application, §B.2 and §B.10*)

THIS INSTRUMENT DRAFTED BY AND
WHEN RECORDED RETURN TO:

Coles Wind, LLC
c/o Apex Clean Energy, Inc.
120 Garrett Street, Suite 700
Charlottesville, VA 22902
Attention: Nicholas Grainger, Esq.

WIND FARM PARTICIPATION AND SUPPORT AGREEMENT

This Wind Farm Participation and Support Agreement (this "**Agreement**") is dated and effective as of _____, 20___ ("**Effective Date**"), by and between _____ (collectively, "**Owner**") and **Coles Wind, LLC**, a Delaware limited liability company ("**Grantee**").

RECITALS:

A. Owner is the owner of that certain tract of real property located in _____ County, Illinois, more particularly described on Exhibit A attached hereto and made a part hereof (the "**Property**");

B. Grantee has acquired, or will acquire, certain easements and other related rights covering real property located adjacent to and/or in the vicinity of the Property (collectively, the "**Wind Farm Property**") for purposes of the construction, installation, maintenance, use and operation of wind energy conversion turbines ("**Wind Turbines**"), electrical distribution and transmission facilities and related roads and facilities (collectively, the "**Wind Facilities**");

C. Owner desires to participate in the wind farm project being developed by Grantee on the Wind Farm Property in _____ County, Illinois (the "**Wind Farm**") in accordance with the terms and conditions contained herein; and

D. The Wind Farm may be constructed and put into operation in one or more phases (each a "**Phase**") that are distinguishable from the remainder of the Wind Farm, as determined by Grantee in its reasonable discretion.

AGREEMENT:

NOW, THEREFORE, in consideration of the premises and other good and valuable consideration, the receipt and adequacy of which are hereby acknowledged, the parties hereto agree as follows:

1. **Setback Waiver.**

1.1 To the extent that any applicable law, ordinance, regulation or permit establishes, or has established, minimum setbacks from the exterior boundaries of the Property (or any structures thereon) for Wind Facilities constructed on Wind Farm Property, Owner hereby waives any and all such setback requirements (the "**Setback Waiver**"). For the avoidance of doubt, this Agreement does not grant to Grantee the right to construct Wind Facilities on the Property.

1.2 The Setback Waiver is for the benefit of Grantee, the owner(s) of adjacent Wind Farm Property, and their respective successors and assigns, and shall run with the land. If requested by Grantee, Owner shall execute and deliver to Grantee one or more separate setback waivers evidencing the intent of this Section 1, in a form provided by Grantee, which Grantee may then record at its expense.

2. **Grant of Wind Easement**. Owner hereby grants, for the benefit of Grantee, an exclusive easement over and across the Property to capture, use and convert the Property's unobstructed wind resources. Owner agrees not to grant any third parties any right which would interfere with the free flow of wind across the Property. For the avoidance of doubt, nothing in this Section 2 shall be construed to provide Grantee with any right to construct Wind Facilities on the Property.

3. **Term of Agreement.** This Agreement shall be for an initial term ("**Initial Term**") commencing on the Effective Date and continuing for a period of five (5) years. If, at any time during the Initial Term, the Commercial Operations Date (as defined below) for a Phase that includes the Property occurs, then the Initial Term shall end and the term of this Agreement shall automatically be extended for a period of thirty (30) years (such period, the "**Operations Term**"). Unless earlier terminated, Grantee shall have the sole right and option to extend the Operations Term for two (2) additional ten (10) year terms by providing written notice thereof to Owner within thirty (30) days of the end of the Operations Term. The Initial Term and the Operations Term, as the same may be extended, are collectively referred to in this Agreement as the "**Term**." Notwithstanding the foregoing, in no event shall the Term of this Agreement be longer than the longest period permitted by law. The "**Commercial Operations Date**" means the date that Wind Turbines representing at least ninety-five percent (95%) of the Wind Turbines of a particular Phase begin delivering electricity to the electric grid in commercial quantities.

4. **Termination.** Grantee shall have the right throughout the Term to terminate this Agreement as to all or any part of the Property upon thirty (30) days prior written notice to Owner. If the Commercial Operations Date does not occur prior to the fifth (5^{th}) anniversary of the Effective Date, this Agreement shall automatically terminate.

5. **Consideration**. As consideration for the rights granted herein, Grantee shall make payments to Owner during the Term as set forth in the Fee Schedule attached hereto ("**Fee Schedule**"). The Fee Schedule shall be omitted from the recorded Agreement as provided in Section 11 below. Grantee shall not be required to make any payment to Owner under this Agreement until such time as Owner has returned to Grantee a completed and executed Internal Revenue Service Form W-9, a payment instruction form signed by each person or entity holding record or equitable title to the Property, and documentation (if applicable) evidencing signing authority.

6. **Authority**. Owner represents and warrants that it is the sole owner of the Property and has the unrestricted right and authority to execute this Agreement and to grant to Grantee the rights granted hereunder. Each person signing this Agreement on behalf of Owner is authorized to do so, and all persons having any ownership or possessory interest in the Property have signed this Agreement as Owner. There are no liens, encumbrances, leases, mortgages, deeds of trust, mineral or oil and gas rights, options, rights of refusal, preferential rights to purchase or lease, or other interests in (or exceptions to) Owner's fee title ownership of the Property which are not recorded in the public records of the county in which the Property is located.

7. **Assignment**. Grantee shall have the right at any time, without need for Owner's consent, to assign or convey all or any portion of this Agreement to an assignee or assignees, on an exclusive or nonexclusive basis, or to mortgage or collaterally assign all or any part of its interest in the Agreement and its rights under the Agreement to any entity (a "**Lender**") without the consent of Owner. Any Lender will have no obligations under this Agreement until such time as it exercises its rights to acquire Grantee's interest subject to the lien of Lender's mortgage by foreclosure or otherwise or assumes the obligations of Grantee under this Agreement. So long as any mortgage with a Lender remains in effect, this Agreement shall not be modified, and Owner shall not accept a surrender of the Property or a termination or release of this Agreement, without the prior consent of all Lenders. Owner, upon providing Grantee any notice of default under this Agreement, shall at the same time provide a copy of such notice to each Lender. Owner shall accept any performance by or at the instigation of any such Lender as if the same had been done by Grantee (but no Lender shall have any obligation to remedy or cause the remedy of any default).

8. **Reasonable Assistance.** Owner agrees to use all reasonable efforts to assist Grantee in complying with any applicable laws, codes and statutes concerning the placement of Wind Facilities on the Wind Farm Property. Owner agrees to promptly evidence its consent, in writing or as otherwise required, allowing Grantee to place Wind Facilities on the Wind Farm Property, as may be required or requested by any agency or entity asserting jurisdiction, authority or an interest in any issues concerning or in any way affecting placement of Wind Facilities on the Wind Farm Property. Owner consents to allowing Grantee to act on Owner's behalf to evidence Owner's consent as set forth in this Agreement. Owner agrees to and shall execute such estoppel certificates (certifying as to such matters as Grantee may reasonably request) and/or consents to assignment and/or non-disturbance agreements as Grantee or any Lender may reasonably request from time to time. Owner agrees to support and not object to the Wind Farm and to use reasonable efforts to assist Grantee's reasonable requests. In the event Owner has concerns or issues with regard to the construction, installation, maintenance, use or operation of Wind Facilities, Owner agrees to have informal discussions with Grantee, including in-person meetings, for a period of thirty (30) days before pursuing other means to resolve the issues or concerns.

9. **Events of Default**. Each of the following shall constitute an event of default, which shall permit the non-defaulting party, at its discretion, to terminate this Agreement and/or pursue such other remedies as are available to it at law or in equity:

(a) any failure by Grantee to pay any amount owed pursuant to Section 5 above if the failure to pay continues for thirty (30) days after Grantee's receipt of written notice from Owner; and

(b) any other material breach of this Agreement by either party which continues for thirty (30) days after written notice of default from the non-defaulting party or, if the cure will take longer than thirty (30) days, the length of time necessary to effect such cure so long as the defaulting party commences to cure within the thirty (30) day period and continuously and diligently pursues the cure to completion.

10. **Notice**. All notices, requests, demands, waivers, approvals, consents and other communications required or permitted by this Agreement ("**Notices**") shall be given in writing by personal delivery (confirmed by courier delivery service), or facsimile, receipt confirmed, or first-class U.S. mail, postage prepaid, return receipt requested, certified, addressed as follows:

If to Owner:

[_____]

If to Grantee:

Coles Wind, LLC
c/o Apex Clean Energy, Inc.
Attention: Land Manager
120 Garrett Street, Suite 700
Charlottesville, VA 22902
Phone: (434) 220-7595

Any party may change its address for purposes of this paragraph by giving Notice of such change to the other parties in the manner provided in this paragraph. Any Notice provided for herein shall become effective only upon actual receipt by the party to whom it is given, unless such Notice is only mailed by certified mail, return receipt requested, in which case it shall be deemed to be received five (5) business days after the date it is mailed.

11. **Recording**. Owner and Grantee agree that this Agreement (without the Fee Schedule) shall be recorded in the real property records of the county in which the Property is located.

12. **Confidentiality**. Owner shall maintain in confidence all information pertaining to the financial terms of or payments under this Agreement, whether disclosed by Grantee or discovered by Owner, unless such information is in the public domain by reason of prior publication through no act or omission of Owner or its employees or agents. Owner shall not publish or otherwise disclose such information to others except to accountants, lawyers, or other professionals who receive such information under an obligation of confidentiality; buyers of the Property; lenders that have a security interest in the Property; or family members who agree to keep such information confidential. The provisions of this Section 12 shall survive the termination or expiration of this Agreement.

13. **Wind Energy Lease**. In the event that Owner and Grantee enter into a Wind Energy Lease or other similar instrument whereby Owner grants Grantee the exclusive right to install Wind Turbines and/or Wind Facilities on the Property, then this Agreement shall be superseded by such instrument and this Agreement and all payment obligations hereunder shall terminate as of the effective date of such instrument. The foregoing shall not obligate either party to enter into any Wind Energy Lease or other similar instrument unless it determines in its own best interest to do so. For the avoidance of doubt, this Agreement does not grant Grantee the right to install Wind Turbines and/or Wind Facilities on the Property.

14. **Legal Fees**. In the event of any controversy, claim or dispute arising out of or relating to this Agreement or the enforcement or breach hereof, the prevailing party shall be entitled to recover from the losing party the prevailing party's reasonable costs, expenses and attorneys' fees (including but not limited to those incurred at trial, on appeal and on petition for review).

15. **Binding Effect; Governing Law**. All the terms, conditions, covenants and other provisions contained in this Agreement, including benefits and burdens, shall be binding upon and shall run with the land and shall inure to the benefit of and be enforceable by Owner and Grantee, and their respective heirs, successors and assigns. The provisions hereof shall be governed by and construed in accordance with the laws of the State of Illinois, excluding the choice of law provisions thereof.

[*signature pages follow*]

IN WITNESS WHEREOF, AND INTENDING TO BE LEGALLY BOUND HEREBY, Owner and Grantee have caused this Agreement to be duly executed and delivered by their authorized representatives to be effective as of the date first written above.

OWNER:

By: _____
Name: _____

THE STATE OF _____ §
§
COUNTY OF _____ §

This instrument was acknowledged before me on the ___ day of _____, 20___ by _____.

_____
Printed Name: _____
Notary Public in and for the State of _____
My Commission Expires: _____

[SEAL]

GRANTEE:

COLES WIND, LLC,
a Delaware limited liability company

By: Apex Clean Energy Finance, LLC,
a Delaware limited liability company,
its Sole Member

By: Apex GBR, LLC,
a Delaware limited liability company,
its Sole Member

By: Apex Clean Energy Holdings, LLC,
a Delaware limited liability company,
its Manager

By: _____
Name: Jeanine G. Wolanski
Title: Senior Vice President of Land Management

COMMONWEALTH OF VIRGINIA

CITY OF CHARLOTTESVILLE

The foregoing instrument was acknowledged before me this _____ day of _____, 20___, by Jeanine G. Wolanski, the Senior Vice President of Land Management of Apex Clean Energy Holdings, LLC, a Delaware limited liability company, Manager of Apex GBR, LLC, a Delaware limited liability company, Sole Member of Apex Clean Energy Finance, LLC, a Delaware limited liability company, Sole Member of Coles Wind, LLC, a Delaware limited liability company, on behalf of the company.

_____
Notary Public
Commission Expires:_____
Commission No.:_____

(SEAL)

EXHIBIT A

LEGAL DESCRIPTION OF PROPERTY

All that real property located in _____County, Illinois, more fully described as follows:

Tax Parcel Reference: _____ (____ acres)

CONFIDENTIAL – DO NOT RECORD

FEE SCHEDULE

Grantee shall make the following payments to Owner during the Term:

1. Within sixty (60) days after the Effective Date of this Agreement, a one-time payment of Five Thousand Dollars ($5,000.00); and

2. During each year of the Operations Term, an annual payment equal to Five Thousand Dollars ($5,000.00), which payment shall increase by two percent (2%) each year or CPI, whichever is greater, as set forth below. The first annual payment shall be paid by Grantee within thirty (30) days after the Commercial Operations Date and then subsequent payments will be paid annually within thirty (30) days after each anniversary of the Commercial Operations Date. During the Operations Term, the annual payment shall be adjusted annually by the increase (if any) in the Consumer Price Index ("**CPI**") for "All Urban Consumers, U.S. City Average, All Items" issued by the Bureau of Labor Statistics of the United States Department of Labor, or by two percent (2%), whichever is greater; provided that in no event shall the CPI adjustment exceed five percent (5%). The base for computing the CPI increase (the "**Beginning Index**") shall be the CPI for the third calendar quarter of the calendar year immediately preceding the calendar year in which the Operations Term commences. The adjustment shall be determined by multiplying the subject fee by a fraction, the numerator of which is the CPI published for the third calendar quarter of the calendar year immediately prior to the calendar year of each adjustment and the denominator of which is the Beginning Index. If the CPI is discontinued or revised, such other government index or computation by which it is replaced shall be used in order to obtain substantially the same result as would be obtained if the CPI had not been discontinued or revised. Notwithstanding the foregoing, if the CPI based increase determined based on the CPI method described above would result in an increase of less than two percent (2.0%), then the annual payment for such year shall be adjusted by two percent (2.0%) instead. Such increases will be compounded, that is, added to the prior year's annual payment for the next annual period, thereby becoming part of the payment amount and being subject to the two percent (2%) or CPI increase, as applicable, in the following year.

Appendix B.6

Template Grant of Easement and Easement Agreement for Underground Facilities

(*SUP Application, §B.2 and §B.10*)

(SPACE ABOVE THIS LINE RESERVED FOR RECORDER'S USE)

Prepared by and When Recorded Return to: Apex Clean Energy, Inc.; 120 Garrett Street, Suite 700; Charlottesville, VA 22902; Attn. Nicholas H. Grainger, Esq.

GRANT OF EASEMENT AND EASEMENT AGREEMENT FOR UNDERGROUND FACILITIES

THIS GRANT OF EASEMENT AND EASEMENT AGREEMENT FOR UNDERGROUND FACILITIES (this "Agreement") is made as of the last date executed by a party hereto (the "Effective Date") between **«Current_Legal_Name»** ("Grantor"), and Coles Wind, LLC, a Delaware limited liability company ("Grantee"). Grantor is the sole owner of certain property located in Coles County, Illinois, as more particularly described on Exhibit A attached hereto and made part hereof (the "Property").

1. Grant of Underground Easement. For good and valuable consideration, the receipt and legal sufficiency of which is hereby acknowledged by Grantor, Grantor grants, conveys and warrants to Grantee and its successors and assigns, an exclusive easement ("Underground Easement") on, along, over, under and across the portion of the Property shown and described as "_____" on Exhibit B attached hereto (such portion of the Property, the "Easement Area"), for the right to construct, reconstruct, replace, repair, remove, maintain, operate and use underground wires and cables for the transmission of electrical energy and/or for communication purposes, above-ground junction boxes, and all necessary and proper appliances, fixtures and facilities, including, without limitation, above-ground junction boxes, for use in connection with said wires and cables along, under and across the Easement Area; together with a right-of way on, along, over, under and across the Easement Area. Said wires, cables, appliances, fixtures and facilities are collectively referred to herein as the "Underground Facilities".

2. Construction Activities. Grantee shall notify Grantor of the commencement and completion of any construction or maintenance. During construction, reconstruction, maintenance, replacement and removal of the Underground Facilities, Grantee may use an additional twenty (20) feet on either or both sides of the Easement Area. Grantee will use commercially reasonable efforts to minimize surface disturbance on the portion of the Property lying outside of the Easement Area during construction or maintenance.

3. Setback Waiver. Grantee has acquired, or will acquire, certain leases, easements and other related rights covering real property located adjacent to and/or in the vicinity of the Property (collectively, the "Wind Farm Property") for purposes of the construction, installation, maintenance, use and operation of wind energy conversion turbines ("Wind Turbines"), electrical distribution and transmission facilities and related roads and facilities (collectively, the "Wind Facilities"). To the extent that any applicable law, ordinance, regulation or permit establishes, or has established, minimum setbacks from the exterior

boundaries of the Property (or any structures thereon) for Wind Facilities constructed on the Wind Farm Property (as defined below), Grantor hereby waives any and all such setback requirements (the "Setback Waiver"). The Property line may or may not end up within the minimum applicable setback distance established in Coles County, Illinois. The Setback Waiver is for the benefit of Grantee, the owner(s) of adjacent Wind Farm Property, and their respective successors and assigns, and shall run with the land. Further, if requested by Grantee, Grantor shall execute and deliver to Grantee one or more separate setback waivers and/or easements evidencing the intent of this Section 3, in a form provided by Grantee, which Grantee may then record at its expense. The Setback Waiver shall survive the termination of this Lease for so long as Wind Turbines or other Wind Facilities exist on real property adjacent to the Property.

4. Access. Accompanying the Underground Easement is the further right in Grantee to enter and depart over and on the Property to access the Underground Facilities (whether located on the Property or elsewhere) to effect the purposes described in this Agreement. Grantee may use any roads and lanes on the Property and shall have the right to maintain and improve such roads and lanes. Grantee shall have the further right to use any fences and gates on the Property.

5. Term and Termination. The parties recognize that Grantee is developing an integrated wind energy project (the "Project") on the Easement Area and on other adjacent or nearby real property, and the easements granted pursuant to this Agreement are and shall be beneficial easements for Grantee's development of the Project. The "Development Period" of this Agreement shall commence on the Effective Date and expire seven (7) years after the Effective Date, unless earlier terminated by Grantee upon written notice to Grantor. The "Operations Period" shall commence on the earlier of (i) the Commercial Operations Date (defined below), or (ii) the first day after the end of the Development Period and shall expire thirty (30) years thereafter, unless earlier terminated by Grantee upon written notice to Grantor; provided however, if the term of this Agreement has been extended for the Operations Period, Grantee shall have the right to extend the Operations Period for two (2) additional ten (10) year periods by providing written notice thereof to Grantor no later than thirty (30) days before the then-existing expiration date of the Operations Period. This Agreement may only be terminated (i) by Grantee upon written notice to Grantor, (ii) by Grantor upon Grantee's failure to pay Grantor any sum due hereunder by its due date, and such failure has remained uncured for a period of sixty (60) days after written notice thereof from Grantor to Grantee, or (iii) automatically upon the expiration of the Operations Period. The "Commercial Operations Date" means the date the date that Commercial Operations (or a similar concept) is declared under the interconnection agreement(s) for the Project. Upon the termination of this Agreement in whole or in part, Grantee shall promptly de-energize any electrical lines, cables or other facilities on the portion of the Property being terminated.

6. Assignment. Grantee may assign this Agreement or its rights with respect to the Underground Easement, in whole or in part, without the need for Grantor's consent. This Agreement shall run with the land. This Agreement shall inure to the benefit of, and be binding upon, Grantor and Grantee and their respective transferees, legal representatives, heirs, successors and assigns and all persons claiming under them.

7. Payment. As consideration for the Underground Easement, Grantee shall make the payments to Grantor as set forth in the Fee Schedule attached hereto as Exhibit D (the "Fee Schedule"). The Fee Schedule shall be omitted from the recorded version of the Agreement as provided in Section 14 below.

8. Costs. All costs and expenses incident to the erection, construction, reconstruction, replacement, removal, maintenance, operation and use of the Underground Facilities including the trimming and cutting of any trees and underbrush shall be borne by Grantee.

9. Grantor's Right to Use the Property. Grantor retains the right to use the Property for all purposes not inconsistent with the rights granted to Grantee by this Agreement. Notwithstanding the foregoing, Grantor shall not conduct any activity, nor grant any rights to any third party, whether on the Property or elsewhere,

that would materially interfere with Grantee's use of the Property or the rights granted under this Agreement and Grantor shall exercise reasonable care not to disturb, uncover or damage any Underground Facilities.

10. Indemnity. Grantee shall, at all times, save and hold harmless and indemnify Grantor, its officers, partners, agents, contractors and employees, from and against all losses, damages, expenses, claims, demands, suits and actions, including, but not limited to, all claims for personal injuries and property damage to the extent caused by the negligence or willful misconduct of Grantee, its officers, partners, agents, contractors and employees. Grantor shall, at all times, save and hold harmless and indemnify Grantee, its officers, partners, agents, contractors and employees, from and against all losses, damages, expenses, claims, demands, suits and actions, including, but not limited to, all claims for personal injuries and property damage to the extent caused by the negligence or willful misconduct of Grantor, its officers, partners, agents, contractors and employees.

11. Surface Damage. Grantee shall pay Grantor fair compensation based on market rates, for losses or damage to crops (based on the average crop yield for the general area as determined by the local NRCS office), grass, livestock, fences, and other property or improvements on the Property as a result of Grantee's construction, reconstruction, replacement, removal, maintenance, operation and use of the Underground Facilities. Other than as expressly set forth herein, Grantee shall not be responsible to pay Grantor any losses of income, rent, business opportunities, profits or other losses arising out of Grantor's inability to grow crops or otherwise use any portion of the Property. Grantee shall also repair or replace any drainage tiles on or under the Property damaged by Grantee during construction or operation of the Underground Facilities on the Property.

12. Financing.

(a) Grantee may collaterally assign, mortgage or otherwise encumber its interest in this Agreement to any institution (including any trustee or agent on behalf of such institution) providing debt or other financing to Grantee or its successors or assigns (each, a "Financing Party") under any mortgage, deed of trust, deed to secure debt or other security instrument by which Grantee's interest under this Agreement is mortgaged, conveyed, assigned or otherwise transferred to secure a debt or other obligation to a Financing Party (each, a "Mortgage"). Each Financing Party who provides notice to Grantor of its Mortgage shall be referred to as "Mortgagee."

(b) So long as any Mortgage remains in effect, this Agreement shall not be modified, and Grantor shall not accept a surrender of the Property or a termination or release of this Agreement, without the prior consent of all Mortgagees.

(c) Grantor, upon providing Grantee any notice of default under, or termination of, this Agreement, shall at the same time provide a copy of such notice to each Mortgagee. Such Mortgagee shall have the same period, after the giving of such notice, for remedying any default or causing the same to be remedied (but shall have no obligation to remedy or cause the remedy of any default), as is given Grantee after the giving of such notice to Grantee to remedy the default specified in any such notice. Grantor shall accept such performance by or at the instigation of such Mortgagee as if the same had been done by Grantee.

(d) Grantor shall execute such estoppel certificates (certifying as to such matters as Grantee may reasonably request including, without limitation, that no default then exists under this Agreement to Grantor's knowledge, if such be the case), consents to assignment, and/or non-disturbance agreements as Grantee or any Mortgagee may reasonably request from time to time.

(e) If this Agreement is terminated as a result of any default or the bankruptcy, insolvency or appointment of a receiver in bankruptcy for Grantee, Grantor shall give prompt notice to the Mortgagees.

Grantor shall, upon written request of the first priority Mortgagee, made within forty (40) days after notice to such Mortgagee, enter into a new easement agreement with such Mortgagee, or its designee, within twenty (20) days after the receipt of such request. Such new easement agreement shall be effective as of the date of the termination of this Agreement by reason of default by Grantee and shall be for a term equal to the remainder of the term of this Agreement and upon the same terms, covenants, conditions and agreements as contained in this Agreement. Upon the execution of any such new easement agreement, the Mortgagee shall agree in writing to perform or cause to be performed all of the covenants and agreements set forth in this Agreement to be performed by Grantee to the extent that Grantee failed to perform the same prior to the execution and delivery of the new easement agreement.

13. Notices. All notices, requests and communications ("Notice") under this Agreement shall be given in writing, by first class certified mail, postage prepaid, return receipt requested, to the individuals and addresses indicated below:

(a) If to Grantor:

«Current_Legal_Name»
«Address_1_1»
«Address_2_1»
«City_1»,«State_1»«Zip_1»

(b) If to Grantee:

Coles Wind, LLC
c/o Apex Clean Energy, Inc.
Attn: Land Manager
120 Garrett Street, Suite 700
Charlottesville, VA 22902

(c) If to Mortgagee on notice of default or termination: (Address indicated in Mortgagee's notice sent to Grantor under Section 12 hereof.

Any Notice provided for herein shall be deemed to be received five (5) business days after the date on which it is mailed. Any party may, by proper written notice hereunder to the other party, change the individual address to which such Notice shall thereafter be sent.

14. Miscellaneous. This Agreement shall be construed and enforced in accordance with the laws of the State of Illinois. This Agreement, when executed, approved and delivered, together with all exhibits attached hereto, shall constitute the entire agreement between the parties and there are no other representations or agreements, oral or written, except as expressly set forth herein. This Agreement may not be amended or modified except by a written agreement signed by the parties hereto. Each party agrees that it will without further consideration execute and deliver such other documents and take such other action as may be reasonably requested by the other party to consummate more effectively the purposes or subject matter of this Agreement. In the event of any inaccuracy in the description of the Property or Easement Area in Exhibit A or Exhibit B, as applicable, or in the description of the parties in whom title to the Property is vested, Grantor and Grantee shall amend this Agreement to correct such inaccuracy in order to accomplish the intent of Grantor and Grantee. Grantor and Grantee agree that this Agreement (without the Fee Schedule and without the Construction Standards (defined below)) shall be recorded in the real property records of the county in which the Property is located. If any terms or provisions of this Agreement are deemed to be invalid or unenforceable, the remainder of this Agreement shall not be affected thereby. This Agreement may be executed in multiple counterparts, each of which shall be deemed to be an original agreement, and all of which shall constitute one agreement.

15. Wind Energy Lease. Grantor and Grantee (or an affiliate of Grantee) have previously entered into or may in the future enter into a wind energy lease (the "Lease"). To the extent there is any inconsistency between the terms of this Agreement and the terms of the Lease, with respect to the Underground Facilities, the terms of this Agreement shall prevail. Notwithstanding any provision in the

Lease to the contrary, Grantor shall receive no payments or consideration from Grantee in exchange for Grantee's location of Underground Facilities within the Easement Area except as provided in this Agreement.

16. Construction Standards. Grantor and Grantee hereby incorporate the construction guidelines set forth in Exhibit C attached to this Agreement (together, the "Construction Standards"), with the understanding that Grantee will use commercially reasonable efforts to comply with the Construction Standards when undertaking construction and decommissioning activities on the Property to the extent that the Property consists of privately owned agricultural land. Exhibit C containing the Construction Standards shall be omitted from the recorded version of the Agreement as provided in Section 14 above.

17. AIMA. The Parties agree that in the event the terms of this Agreement conflict with the terms set forth in any Agricultural Impact Mitigation Agreement ("AIMA") between Grantee and the Illinois Department of Agriculture, the terms of this Agreement will control.

[*Signature pages follow*]

IN WITNESS WHEREOF, and intending to be legally bound hereby, Grantor and Grantee have caused this Agreement to be executed and delivered by their duly authorized representatives on the date set forth below the respective signatures of Grantor and Grantee.

"GRANTOR"

By: _____
Name: «Current_Legal_Name»

STATE OF _____

COUNTY OF _____

The foregoing instrument was acknowledged before me this _____ day of _____, 20___, by «Current_Legal_Name».

_____
Notary Public

(SEAL)

_____
Typed or Printed

_____
Commission Expiration Date

Spouse's signature (if applicable)*

By: _____
Name: _____

*Spouse is joining in the execution of the Agreement for the sole purpose of waiving any rights he or she may have under or by virtue of the Homestead Exemption Laws of the State of Illinois.

STATE OF _____

COUNTY OF _____

The foregoing instrument was acknowledged before me this _____ day of _____, 20___, by _____, spouse**.**

_____
Notary Public

(SEAL)

_____
Typed or Printed

_____
Commission Expiration Date

"GRANTEE"

COLES WIND, LLC,
a Delaware limited liability company

By: Apex Clean Energy Finance, LLC,
a Delaware limited liability company,
its Sole Member

By: Apex GBR, LLC,
a Delaware limited liability company,
its Sole Member

By: Apex Clean Energy Holdings, LLC,
a Delaware limited liability company,
its Manager

By: _____
Name: Jeanine G. Wolanski
Title: Senior Vice President of Land Management

COMMONWEALTH OF VIRGINIA

CITY OF CHARLOTTESVILLE

The foregoing instrument was acknowledged before me this _____ day of _____, 20___, by Jeanine G. Wolanski as the Senior Vice President of Land Management for Apex Clean Energy Holdings, LLC, a Delaware limited liability company, the Manager of Apex GBR, LLC, a Delaware limited liability company, the Sole Member of Apex Clean Energy Finance, LLC, a Delaware limited liability company, the Sole Member of Coles Wind LLC, a Delaware limited liability company, on behalf of the company.

_____
Notary Public

(SEAL)

EXHIBIT A

DESCRIPTION OF PROPERTY

The Property is all of the following tracts or parcels of land, situated in Coles County, State of Illinois, consisting of «Verified_Acres» acres, more particularly described as follows:

Tax Parcel Reference: «Parcel_ID_1» («Verified_Acres_1» acres)

In the event of inaccuracies in the foregoing legal description, Grantor and Grantee shall amend this Agreement to correct such inaccuracies.

EXHIBIT B

EASEMENT AREA

EXHIBIT C

CONFIDENTIAL – DO NOT RECORD

CONSTRUCTION AND DESIGN STANDARDS

The following standards and policies have been established by Grantee for the construction of Underground Facilities components on the Property. The standards and policies described herein shall be applicable to construction and decommissioning activities undertaken by Grantee and occurring partially or wholly on privately owned agricultural land within the Project of which the Property is a part of.

1. Support Structures

A. Where an electric line is adjacent and parallel to highway and/or railroad right-of-way, but on privately owned property, the support structures will be placed as close as reasonably practicable and allowable by the applicable county engineer or other applicable authorities to the highway or railroad right-of-way.

B. Grantee may select and use any pole structures it deems appropriate for the Project including H-frame transmission poles or single pole support structures.

2. Underground Facilities

Grantee reserves the right to make all final siting decisions related to the proposed sites and locations of the Underground Facilities within the Easement Area.

3. Guy Wires and Anchors

A. When it is feasible, Grantee shall try to place guy wires and their anchors in a manner so as to minimize guy wire impact on cropland.

B. All guy wires will be shielded with highly visible guards.

4. Underground Cabling Depth

Underground electrical cables constructed within the Easement Area will be buried with:

1. a minimum of 60 inches of top cover where it crosses cropland.
2. a minimum of 60 inches of top cover where it crosses pastureland or other agricultural land comprised of soils that are classified by the USDA as being prime soils.
3. a minimum of 36 inches of top cover where it crosses pastureland and other agricultural land not comprised of prime soils.
4. a minimum of 36 inches of top cover where it crosses wooded/brushy land.

Notwithstanding the foregoing, in those areas where (i) rock in its natural formation is encountered, or (ii) a continuous stratum of gravel exceeding 200 feet in length are encountered; the minimum top cover will be 30 inches.

5. Topsoil Removal and Replacement

A. Grantee shall use commercially reasonable efforts to undertake any excavation in a manner to preserve topsoil. Grantee shall use commercially reasonable efforts to store the topsoil near the excavation site in such a manner that it will not become intermixed with subsoil materials.

B. When practicable, Grantee will use reasonable efforts to store all disturbed subsoil material near the excavation site and separate from the topsoil

C. When backfilling an excavation site, the stockpiled subsoil material will be placed back into the excavation site before replacing the topsoil.

D. When practicable, Grantee will use reasonable efforts to place the topsoil in a manner so that after settling occurs, the topsoil's original depth and contour (with an allowance for settling) will be restored as close as reasonably practicable. The same shall apply where excavations are made for road, stream, drainage ditch, or other crossings. In no instance will the topsoil materials be used for any other purpose unless agreed to otherwise by Grantor.

E. Excess subsoil material resulting from foundation excavation shall not be removed from Grantor's property, unless otherwise agreed to by Grantor.

6. Prevention of Soil Erosion

A. Grantee will work with Grantor to prevent excessive erosion on land that has been disturbed by construction or decommissioning of the Project. This is not a requirement, however, if the land is bare cropland that Grantor intends to leave bare until the next crop is planted.

B. If Grantor and Grantee cannot agree upon a reasonable method to control erosion on the Grantor's right-of-way, Grantee may – but is not required to – implement the recommendations of the appropriate Soil and Water Conservation District and such implementation will resolve the dispute.

7. Weather

Grantee shall be permitted to undertake and complete construction and decommissioning when Grantee deems appropriate regardless of weather or soil conditions.

8. Maintaining Surrounding Area Subsurface Drainage

If drainage tile lines traverse the Easement Area and are damaged during the term of this Agreement by Grantee, Grantee shall repair the lines or install new drainage tile line(s) of comparable quality and cost to the original drainage tile line(s), and of sufficient size and appropriate slope.

EXHIBIT D

CONFIDENTIAL – DO NOT RECORD

FEE SCHEDULE

1. Signing Bonus Payment. Within forty-five (45) days after the Effective Date, Grantee shall pay Grantor a one-time signing bonus payment equal to Ten Thousand and No/100 Dollars ($10,000.00).

2. Easement Payment. During each year of the Operations Period, Grantee shall pay Grantor an annual payment equal to the greater of: (i) Five Thousand and No/100 Dollars ($5,000.00), or (ii) Four Thousand and No/100 Dollars ($4,000.00) per acre of the Easement Area (prorated for partial acres), which payment shall be adjusted upward annually by two percent (2%). The first Easement Payment shall be paid by Grantee within forty-five (45) days after the Commercial Operations Date, and subsequent payments will be paid annually within thirty (30) days after each anniversary of the Commercial Operations Date.

3. Notwithstanding any provision to the contrary contained in this Agreement, Grantee shall have no obligation to make any payment to Grantor otherwise required under this Agreement until Grantor has returned to Grantee a completed Internal Revenue Service Form W-9, a payment instruction form signed by each person or entity holding record or equitable title to the Property, and documentation (if applicable) evidencing signing authority.

Appendix B.7

Template Grant of Easement and Easement Agreement for Aircraft Detection Lighting System

(*SUP Application, §B.4*)

Prepared by and return to: Coles, Wind, LLC, c/o Apex Clean Energy, Inc.; 120 Garrett Street, Suite 700; Charlottesville, VA 22902; Attn. Nicholas Grainger, Esq.

GRANT OF EASEMENT AND EASEMENT AGREEMENT FOR AIRCRAFT DETECTION LIGHTING SYSTEM

This GRANT OF EASEMENT AND EASEMENT AGREEMENT FOR AIRCRAFT DETECTION LIGHTING SYSTEM (this "Agreement") is dated as of _____, 20____ (the "Effective Date"), by and between «Current_Legal_Name» ("Grantor"), and Coles Wind LLC, a Delaware limited liability company ("Grantee"). Grantor is the sole owner of certain property located in Coles County, Illinois, as more particularly described on Exhibit A attached hereto and made part hereof (the "Property").

1. Grant of Easement. For good and valuable consideration, the receipt and legal sufficiency of which is hereby acknowledged by Grantor, Grantor grants, conveys and warrants to Grantee and its successors and assigns, an exclusive easement (the "Easement") on, along, over, under and across the portion of the Property more particularly shown and described as "_____" on Exhibit B attached hereto (such portion of the Property, the "Easement Area"), for the right to construct, reconstruct, replace, repair, remove, maintain, operate and use radar-activated lighting equipment and an Aircraft Detection Lighting System tower, together with all necessary and proper appliances, fixtures and facilities, including, without limitation, fencing (collectively, the "Equipment"); together with a right-of way on, along, over, under and across the Easement Area. All data, information and related work product obtained and created by Grantee pursuant to this Agreement shall be the sole property of Grantee, and Grantor shall have no right to such data and information. Grantor further agrees to cooperate with Grantee in connection with Grantee's pursuit of any necessary permits and approvals from any governmental agency and with any governmental inspections of the Equipment.

2. Construction Activities. Grantee shall notify Grantor of the commencement and completion of any construction or maintenance. Grantee will use commercially reasonable efforts to minimize surface disturbance on the portion of the Property lying outside of the Easement Area during construction.

3. Access. Accompanying the Easement is the further right in Grantee to enter and depart over and on the Property to access the Equipment to effect the purposes described in this Agreement. Grantee may use any roads and lanes on the Property and shall have the right to maintain and improve such roads and lanes. Grantee shall have the further right to use any fences and gates on the Property.

4. Term and Termination. The parties recognize that Grantee is developing an integrated wind energy project (the "Project") on the Easement Area and on other adjacent or nearby real property, and the easement rights granted pursuant to this Agreement are and shall be beneficial for Grantee's development of the Project. The "Development Period" of this Agreement shall commence on the Effective Date and expire three (3) years after the Effective Date. The "Operations Period" shall commence on the earlier of (i) the Commercial Operations Date (defined below), or (ii) the first day after the end of the Development Period and shall expire fifty (50) years thereafter. This Agreement may only be terminated (i) by Grantee upon written notice to Grantor, (ii) by Grantor upon Grantee's failure to pay Grantor the first Easement Payment (as defined and described in the attached Fee Schedule) on or before the last day of the Development Period, and such failure has remained uncured for a period of sixty (60) days after written notice thereof from Grantor to Grantee, or (iii) automatically upon the expiration of the Operations Period. The "Commercial Operations Date" means the date that wind turbines representing at least ninety-five percent (95%) of the installed capacity of the Project are authorized and able to continuously and reliably generate and deliver commercial quantities of energy. As used herein, "Term" refers collectively to the Development Period and any Operations Period.

5. Assignment. Grantee may assign this Agreement or its rights with respect to the Easement, in whole or in part, without the need for Grantor's consent. This Agreement and the rights granted hereunder shall run with the land. This Agreement and the rights granted hereunder shall inure to the benefit of, and be binding upon, Grantor and Grantee and their respective transferees, heirs, successors and assigns and all persons claiming under them. Any sale or other transfer of the Property by Grantor shall be subject to this Agreement and the rights granted hereunder.

6. Payment. As consideration for the Easement, Grantee shall make payments to Grantor as set forth on the Fee Schedule attached hereto as Exhibit D (the "Fee Schedule"). The Fee Schedule shall be omitted from the recorded version of the Agreement as provided in Section 16 below.

7. Costs. All costs and expenses incident to the erection, construction, reconstruction, replacement, removal, maintenance, operation and use of the Equipment shall be borne by Grantee.

8. Grantor's Right to Use the Property. Grantor retains the right to use the Property for all purposes not inconsistent with the rights granted to Grantee by this Agreement. Notwithstanding the foregoing, Grantor shall not conduct any activity, nor grant any rights to any third party, whether on the Property or elsewhere, that would materially interfere with Grantee's use of the Easement Area or the rights granted under this Agreement, and Grantor shall exercise reasonable care not to disturb or damage any Equipment.

9. Indemnity. Grantee shall, at all times, save and hold harmless and indemnify Grantor, its officers, partners, agents, contractors and employees, from and against all losses, damages, expenses, claims, demands, suits and actions, including, but not limited to, all claims for personal injuries and property damage to the extent caused by the negligence or willful misconduct of Grantee, its officers, partners, agents, contractors and employees. Grantor shall, at all times, save and hold harmless and indemnify Grantee, its officers, partners, agents, contractors and employees, from and against all losses, damages, expenses, claims, demands, suits and actions, including, but not limited to, all claims for personal injuries and property damage to the extent caused by the negligence or willful misconduct of Grantor, its officers, partners, agents, contractors and employees.

10. Surface Damage; Drainage System. Grantee shall pay Grantor fair compensation based on market rates, for losses or damage to crops (based on the average crop yield for the general area as determined by the local NRCS office), grass, livestock, fences, and other property or improvements on the Property as a result of Grantee's construction, reconstruction, replacement, removal, maintenance, operation and use of the

Equipment. Other than as expressly set forth herein, Grantee shall not be responsible to pay Grantor any losses of income, rent, business opportunities, profits or other losses arising out of Grantor's inability to grow crops or otherwise use any portion of the Property. In addition, if during construction or maintenance of the Equipment, Grantee damages Grantor's drainage system(s), including, but not limited to, drain tile and other aboveground or underground facilities used to manage drainage and irrigation of the Property existing on the Property during the term of this Agreement (the "Drainage System"), then Grantee shall make or cause to be made such repairs to the Drainage System as are necessary to return the Drainage System to a condition substantially similar to the condition that existed immediately prior to the point in time when such damage occurred.

11. Financing.

a. Grantee may collaterally assign, mortgage or otherwise encumber its interest in this Agreement to any institution (including any trustee or agent on behalf of such institution) providing debt or other financing to Grantee or its successors or assigns (each, a "Financing Party") under any mortgage, deed of trust, deed to secure debt or other security instrument by which Grantee's interest under this Agreement is mortgaged, conveyed, assigned or otherwise transferred to secure a debt or other obligation to a Financing Party (each, a "Mortgage"). Each Financing Party who provides notice to Grantor of its Mortgage shall be referred to as "Mortgagee".

b. So long as any Mortgage remains in effect, this Agreement shall not be modified, and Grantor shall not accept a surrender of the Easement Area or a termination or release of this Agreement, without the prior consent of all Mortgagees.

c. Grantor, upon providing Grantee any notice of default under, or termination of, this Agreement, shall at the same time provide a copy of such notice to each Mortgagee. Such Mortgagee shall have the same period, after the giving of such notice, for remedying any default or causing the same to be remedied (but shall have no obligation to remedy or cause the remedy of any default), as is given Grantee after the giving of such notice to Grantee to remedy the default specified in any such notice. Grantor shall accept such performance by or at the instigation of such Mortgagee as if the same had been done by Grantee.

d. Grantor shall execute estoppel certificates (certifying as to such matters as Grantee may reasonably request, including, without limitation, that no default then exists under this Agreement to Grantor's knowledge, if such be the case), consents to assignment and/or non-disturbance agreements as Grantee or any Mortgagee may reasonably request from time to time.

e. If this Agreement is terminated as a result of any default or the bankruptcy, insolvency or appointment of a receiver in bankruptcy for Grantee, Grantor shall give prompt notice to the Mortgagees. Grantor shall, upon written request of the first priority Mortgagee, made within forty (40) days after notice to such Mortgagee, enter into a new easement agreement with such Mortgagee, or its designee, within twenty (20) days after the receipt of such request. Such new easement agreement shall be effective as of the date of the termination of this Agreement by reason of default by Grantee, and shall be for a term equal to the remainder of the term of this Agreement and upon the same terms, covenants, conditions and agreements as contained in this Agreement. Upon the execution of any such new easement agreement, the Mortgagee shall agree in writing to perform or cause to be performed all of the covenants and agreements set forth in this Agreement to be performed by Grantee to the extent that Grantee failed to perform the same prior to the execution and delivery of the new easement agreement.

12. Notices. All notices or other communications required or permitted by this Lease, including payments to Grantor, shall be in writing and shall be deemed given when personally delivered, or in lieu of such personal service, five days after deposit in the United States mail, first class, postage

prepaid, certified, or the next business day if sent by reputable overnight courier, provided receipt is obtained and charges prepaid by the delivering party. Any notice shall be addressed as follows:

If to Grantor:

«Current_Legal_Name»
«Address_1_1»
«Address_2_1»
«City_1», «State_1» «Zip_1»

If to Grantee:

Coles Wind, LLC
c/o Apex Clean Energy, Inc.
120 Garrett Street, Suite 700
Charlottesville, VA 22902
Attention: Land Manager
Phone: (434) 220-7595

If to Mortgagee on notice of default or termination: (Address indicated in Mortgagee's notice sent to Grantor under Section 11 hereof.

Any party may change its contact information by written notice thereof to the other party.

13. AIMA. The Parties agree that in the event the terms of this Agreement conflict with the terms set forth in any Agricultural Impact Mitigation Agreement ("AIMA") between Grantee and the Illinois Department of Agriculture, the terms of this Agreement will control.

14. Construction Standards. Grantor and Grantee hereby incorporate the construction guidelines set forth in Exhibit C attached to this Agreement (together, the "Construction Standards"), with the understanding that Grantee will use commercially reasonable efforts to comply with the Construction Standards when undertaking construction and decommissioning activities on the Property to the extent that the Property consists of privately owned agricultural land. Exhibit C containing the Construction Standards shall be omitted from the recorded version of the Agreement as provided in Section 16 below.

15. Wind Energy Lease. Grantor and Grantee (or an affiliate of Grantee) have previously entered into or may in the future enter into a wind energy lease (the "Lease"). To the extent there is any inconsistency between the terms of this Agreement and the terms of the Lease, with respect to the Equipment, the terms of this Agreement shall prevail. Notwithstanding any provision in the Lease to the contrary, Grantor shall receive no payments or consideration from Grantee in exchange for Grantee's location of Equipment within the Easement Area except as provided in this Agreement.

16. Miscellaneous. This Agreement shall be construed and enforced in accordance with the laws of the State of Illinois. This Agreement, when executed, approved and delivered, together with all exhibits attached hereto, shall constitute the entire agreement between the parties and there are no other representations or agreements, oral or written, except as expressly set forth herein. This Agreement may not be amended or modified except by a written agreement signed by the parties hereto. Each party agrees that it will without further consideration execute and deliver such other documents and take such other action as may be reasonably requested by the other party to consummate more effectively the purposes or subject matter of this Agreement. In the event of any inaccuracy in the description of the Property or Easement Area in Exhibit A or Exhibit B, as applicable, or in the description of the parties in whom title to the Property is vested, Grantor and Grantee shall amend this Agreement to correct such inaccuracy in order to accomplish the intent of Grantor and Grantee. Grantor and Grantee agree that this Agreement (without the Fee Schedule and without the Construction Standards) shall be recorded in the real property records of the county in which the Property is located. If any terms or provisions of this Agreement are deemed to be invalid or unenforceable, the remainder of this Agreement shall not be affected thereby. This Agreement may be executed in multiple counterparts, each of which shall be deemed to be an original agreement, and

all of which shall constitute one agreement.

[s*ignature pages follow*]

IN WITNESS WHEREOF, Grantor and Grantee have caused this Agreement to be executed and delivered as of the Effective Date.

"GRANTOR"

By: _____
Name: «Current_Legal_Name»

STATE OF _____

COUNTY OF _____

The foregoing instrument was acknowledged before me this _____ day of _____, 20___, by «Current_Legal_Name».

_____
Notary Public

(SEAL)

_____
Typed or Printed

_____
Commission Expiration Date

Spouse's signature (if applicable)*

By: _____
Name: _____

*Spouse is joining in the execution of the Agreement for the sole purpose of waiving any rights he or she may have under or by virtue of the Homestead Exemption Laws of the State of Illinois.

STATE OF _____

COUNTY OF _____

The foregoing instrument was acknowledged before me this _____ day of _____, 20___, by _____, spouse.

_____
Notary Public

(SEAL)

_____
Typed or Printed

_____
Commission Expiration Date

GRANTEE

COLES WIND, LLC,
a Delaware limited liability company

By: Apex Clean Energy Finance, LLC,
a Delaware limited liability company,
its Sole Member

By: Apex GBR, LLC,
a Delaware limited liability company,
its Sole Member

By: Apex Clean Energy Holdings, LLC,
a Delaware limited liability company,
its Manager

By: _____
Name: Jeanine G. Wolanski
Title: Senior Vice President of Land Management

COMMONWEALTH OF VIRGINIA

CITY OF CHARLOTTESVILLE

The foregoing instrument was acknowledged before me this _____ day of _____, 20___, by Jeanine G. Wolanski as the Senior Vice President of Land Management for Apex Clean Energy Holdings, LLC, a Delaware limited liability company, the Manager of Apex GBR, LLC, a Delaware limited liability company, the Sole Member of Apex Clean Energy Finance, LLC, a Delaware limited liability company, the Sole Member of Coles Wind LLC, a Delaware limited liability company, on behalf of the company.

_____
Notary Public

(SEAL)

EXHIBIT A

DESCRIPTION OF PROPERTY

The Property is all of the following tracts or parcels of land, situated in Coles County, State of Illinois, consisting of «Verified_Acres» acres, more particularly described as follows:

Tract 1:

Tax Parcel Reference: «Parcel_ID_1» («Verified_Acres_1» acres)

In the event of inaccuracies in the foregoing legal description, Grantor and Grantee shall amend this Agreement to correct such inaccuracies.

EXHIBIT B

DEPICTION OF EASEMENT AREA

EXHIBIT C

CONFIDENTIAL – DO NOT RECORD

CONSTRUCTION AND DESIGN STANDARDS

The following standards and policies have been established by Grantee for the construction of Equipment on the Property. The standards and policies described herein shall be applicable to construction and decommissioning activities undertaken by Grantee and occurring partially or wholly on privately owned agricultural land within the Project of which the Property is a part of.

1. Support Structures

A. Where an electric line is adjacent and parallel to highway and/or railroad right-of-way, but on privately owned property, the support structures will be placed as close as reasonably practicable and allowable by the applicable county engineer or other applicable authorities to the highway or railroad right-of-way.

B. Grantee may select and use any pole structures it deems appropriate for the Project including H-frame transmission poles or single pole support structures.

2. Guy Wires and Anchors

A. When it is feasible, Grantee shall try to place guy wires and their anchors in a manner so as to minimize guy wire impact on cropland.

B. All guy wires will be shielded with highly visible guards.

3. Underground Cabling Depth

A. Underground electrical cables will be buried with:

1. a minimum of 48 inches of top cover where it crosses cropland.

2. a minimum of 48 inches of top cover where it crosses pasture land or other agricultural land comprised of soils that are classified by the USDA as being prime soils.

3. a minimum of 3 feet of top cover where it crosses pasture land and other agricultural land not comprised of prime soils.

4. a minimum of 3 feet of top cover where it crosses wooded/brushy land.

B. Notwithstanding the foregoing, in those areas where (i) rock in its natural formation and/or (ii) a continuous strata of gravel exceeding 200 feet in length are encountered, the minimum top cover will be 30 inches.

4. Topsoil Removal and Replacement

A. Grantee shall use commercially reasonable efforts to undertake any excavation in a manner to preserve topsoil. Grantee shall use commercially reasonable efforts to store the topsoil near the excavation site in such a manner that it will not become intermixed with subsoil materials.

B. When practicable, Grantee will use reasonable efforts to store all disturbed subsoil material near the excavation site and separate from the topsoil

C. When backfilling an excavation site, the stockpiled subsoil material will be placed back into the excavation site before replacing the topsoil.

D. When practicable, Grantee will use reasonable efforts to place the topsoil in a manner so that after settling occurs, the topsoil's original depth and contour (with an allowance for settling) will be restored as close as reasonably practicable. The same shall apply where excavations are made for road, stream, drainage ditch, or other crossings. In no instance will the topsoil materials be used for any other purpose unless agreed to otherwise by Grantor.

E. Excess subsoil material resulting from wind turbine foundation excavation shall not be removed from Grantor's property, unless otherwise agreed to by Grantor.

5. Prevention of Soil Erosion

A. Grantee will work with Grantor to prevent excessive erosion on land that has been disturbed by construction or decommissioning of the Project. This is not a requirement, however, if the land is bare cropland that Grantor intends to leave bare until the next crop is planted.

B. If Grantor and Grantee cannot agree upon a reasonable method to control erosion on the Grantor's right-of-way, Grantee may – but is not required to – implement the recommendations of the appropriate Soil and Water Conservation District and such implementation will resolve the dispute.

6. Weather

Grantee shall be permitted to undertake and complete construction and decommissioning when Grantee deems appropriate regardless of weather or soil conditions.

(*CONFIDENTIAL – DO NOT RECORD*)

EXHIBIT D

FEE SCHEDULE

1. Pre-Construction Payment. Within sixty (60) days after the Effective Date, Grantee shall pay Grantor the sum of _____ and No/100 Dollars ($_____).

2. Easement Payments. During each year of the Operations Period, Grantee shall pay Grantor an annual payment of Five Thousand and No/100 Dollars ($5,000.00), which payment shall be adjusted upward annually commencing on the first (1st) anniversary of the Commercial Operations Date by the greater of (i) two percent (2%), or (ii) the Inflation Adjustment Factor (defined below). The first Easement Payment shall be paid by Grantee within thirty (30) days after the Commercial Operations Date, and subsequent payments will be paid annually within thirty (30) days after each anniversary of the Commercial Operations Date. For purposes of this Agreement, the "Inflation Adjustment Factor" shall mean the annual increase or decrease (if any) in the Consumer Price Index for "All Urban Consumers, U.S. City Average, All Items (unadjusted index)" issued by the Bureau of Labor Statistics of the United States Department of Labor ("CPI"). The annual adjustment to such payments shall be determined by multiplying the applicable fee (as adjusted in the previous year) by the greater of: (a) 1.02, or (b) a fraction, the numerator of which is the average of the CPI unadjusted indexes published for the third calendar quarter months of the calendar year immediately prior to the calendar year of each adjustment (the "Numerator Year") and the denominator of which is the average of the CPI unadjusted indexes published for the third calendar quarter months for the calendar year immediately preceding the Numerator Year. If the CPI is discontinued or revised, such other government index or computation by which it is replaced shall be used in order to obtain substantially the same result as would be obtained if the CPI had not been discontinued or revised.

3. Notwithstanding any provision to the contrary contained in this Agreement, Grantee shall have no obligation to make any payment to Grantor otherwise required under this Agreement until Grantor has returned to Grantee a completed Internal Revenue Service Form W-9, a payment instruction form signed by each person or entity holding record or equitable title to the Property, and documentation (if applicable) evidencing signing authority.

Appendix B.8

Template Gate and Liability Waiver

(*Design and Installation, §S.3*)

Gate and Liability Waiver

The undersigned landowner(s) ([collectively,] "Landowner") own(s) the real property identified on Exhibit A attached hereto (the "Property"). The Property is located in the footprint of the Coles Wind Project (the "Project") in Coles County, Illinois, being developed by Coles Wind, LLC ("Coles Wind"), and Landowner is a participating landowner in the Project.

The Coles County Amended Ordinance Standards for Wind Energy Conversion Systems Over 500kW (May 9, 2023) (the "Ordinance"), Design and Installation Section S.3, requires that Coles Wind install locked metal gates or a locked chain at the access road entrances of all the wind turbine generator locations in the Project. The Ordinance provides that an exception may be made when the Landowner has filed a written statement with the County which states that the Landowner does not want a locked metal gate installed and has provided a signed liability waiver to the County.

Landowner has agreed to host a turbine on the Property with one or more access roads. Landowner understands and agrees that the locations of the turbine(s) and access road(s) may be shifted, or may not be installed at all, at the discretion of Coles Wind.

- Landowner does not want a locked gate or chain installed at the access road entrance(s) on the Property.

- Landowner hereby waives claims for and releases Coles County from any liability resulting from unauthorized access to the Property via the access road entrance(s).

The foregoing waivers are limited to this issue and do not alter, amend, or otherwise change the provisions of any other agreement entered into between Coles Wind and Landowner. Landowner agrees that Coles Wind may file this waiver document with the Coles County Board.

Dated: _____

Landowner(s):

_____ _____

Signature Signature

_____ _____

Printed Name Printed Name

Exhibit A

Property

Appendix C

Compliance with Federal Aviation Administration Requirements

(*SUP Application, §B.4*)

1. Representative Determination of No Hazard from Federal Aviation Administration for 53 Turbines to a height of 737 feet Above Ground Level (September 2021)
2. U.S. Department of Defense Letter (March 2024)
3. Representative Determination of No Hazard Extension Letter (March 2024)
4. December 2024 Turbine Layout and ADLS submitted to Federal Aviation Administration

Appendix C.1

Representative Determination of No Hazard from Federal Aviation Administration for 53 Turbines to a Height of 737 feet Above Ground Level (September 2021)

Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2020-WTE-5908-OE

Issued Date: 09/02/2021

Julianna Pianelli
Coles Wind, LLC
310 4th St. NE
Suite 300
Charlottesville, VA 22902

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Wind Turbine T1
Location:	Charleston, IL
Latitude:	39-33-10.05N NAD 83
Longitude:	88-12-42.45W
Heights:	681 feet site elevation (SE)
	737 feet above ground level (AGL)
	1418 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure would have no substantial adverse effect on the safe and efficient utilization of the navigable airspace by aircraft or on the operation of air navigation facilities. Therefore, pursuant to the authority delegated to me, it is hereby determined that the structure would not be a hazard to air navigation provided the following condition(s) is(are) met:

As a condition to this Determination, the structure is to be marked/lighted in accordance with FAA Advisory circular 70/7460-1 M, Obstruction Marking and Lighting, white paint/sychronized red lights-Chapters 4,13(Turbines),&15.

Any failure or malfunction that lasts more than thirty (30) minutes and affects a top light or flashing obstruction light, regardless of its position, should be reported immediately to (877) 487-6867 so a Notice to Airmen (NOTAM) can be issued. As soon as the normal operation is restored, notify the same number.

It is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be e-filed any time the project is abandoned or:

__X__ At least 60 days prior to start of construction (7460-2, Part 1)
__X__ Within 5 days after the construction reaches its greatest height (7460-2, Part 2)

See attachment for additional condition(s) or information.

This determination expires on 03/02/2023 unless:

(a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
(b) extended, revised, or terminated by the issuing office.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

This determination is subject to review if an interested party files a petition that is received by the FAA on or before October 02, 2021. In the event a petition for review is filed, it must contain a full statement of the basis upon which it is made and be submitted to the Manager of the Rules and Regulations Group. Petitions can be submitted via mail to Federal Aviation Administration, 800 Independence Ave, SW, Washington, DC 20591, via email at OEPetitions@faa.gov, or via facsimile (202) 267-9328.

This determination becomes final on October 12, 2021 unless a petition is timely filed. In which case, this determination will not become final pending disposition of the petition. Interested parties will be notified of the grant of any review. For any questions regarding your petition, please contact Rules and Regulations Group via telephone – 202-267-8783.

This determination is based, in part, on the foregoing description which includes specific coordinates and heights. This determination is valid for coordinates within one (1) second latitude/longitude and up to the approved AMSL height listed above. If a certified 1A or 2C accuracy survey was required to mitigate an adverse effect, any change in coordinates or increase in height will require a new certified accuracy survey and may require a new aeronautical study.

If construction or alteration is dismantled or destroyed, you must submit notice to the FAA within 5 days after the construction or alteration is dismantled or destroyed.

Additional wind turbines or met towers proposed in the future may cause a cumulative effect on the national airspace system. All information from submission of Supplemental Notice (7460-2 Part 2) will be considered the final data (including heights) for this structure. Any future construction or alteration, including but not limited to changes in heights, requires separate notice to the FAA.

Obstruction marking and lighting recommendations for wind turbine farms are based on the scheme for the entire project. ANY change to the height, location or number of turbines within this project will require a reanalysis of the marking and lighting recommendation for the entire project. In particular, the removal of previously planned or built turbines/turbine locations from the project will often result in a change in the marking/lighting recommendation for other turbines within the project. It is the proponent's responsibility to contact the FAA to discuss the process for developing a revised obstruction marking and lighting plan should this occur.

In order to ensure proper conspicuity of turbines at night during construction, all turbines should be lit with temporary lighting once they reach a height of 200 feet or greater until such time the permanent lighting configuration is turned on. As the height of the structure continues to increase, the temporary lighting should be relocated to the uppermost part of the structure. The temporary lighting may be turned off for periods when they would interfere with construction personnel. If practical, permanent obstruction lights should be installed and operated at each level as construction progresses. An FAA Type L-810 steady red light fixture shall be

used to light the structure during the construction phase. If power is not available, turbines shall be lit with self-contained, solar powered LED steady red light fixture that meets the photometric requirements of an FAA Type L-810 lighting system. The lights should be positioned to ensure that a pilot has an unobstructed view of at least one light at each level. The use of a NOTAM (D) to not light turbines within a project until the entire project has been completed is prohibited.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

This aeronautical study considered and analyzed the impact on existing and proposed arrival, departure, and en route procedures for aircraft operating under both visual flight rules and instrument flight rules; the impact on all existing and planned public-use airports, military airports and aeronautical facilities; and the cumulative impact resulting from the studied structure when combined with the impact of other existing or proposed structures. The study disclosed that the described structure would have no substantial adverse effect on air navigation.

An account of the study findings, aeronautical objections received by the FAA during the study (if any), and the basis for the FAA's decision in this matter can be found on the following page(s).

If we can be of further assistance, please contact Lan Norris, at (404) 305-6645, or Lan.norris@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2020-WTE-5908-OE.

Signature Control No: 453149009-493526376 (DNH -WT)
Steve Phillips
Manager, Obstruction Evaluation Group

Attachment(s)
Additional Information
Map(s)

All FAA determinations and circularized cases are public record and available at the FAA's public website; https://oeaaa.faa.gov. The distribution for proposals circularized for public comments includes all "known" aviation interested persons and those who do not have an aeronautical interest but may become involved with specific aeronautical studies. Notification includes both postcard mailers and email notifications to those with registered FAA accounts. The FAA does not have a database for all persons with an aeronautical and non-aeronautical interest. Therefore, the public is encouraged to re-distribute and forward notices of circularized cases to the maximum extent possible. Additionally, it is incumbent upon local state, county and city officials to share notice of circularized cases with their concerned citizens.

A list of commonly used acronyms and abbreviations is available at the end of this document. A full list is available at the FAA's public website at https://oeaaa.faa.gov/oeaaa/downloads/external/content/FAA_Acronyms.pdf.

1. PROPOSAL DESCRIPTION

Proposed are 55 wind turbines for a wind farm project that would be located approximately 5.04 NM - 9.35 NM north, then clockwise to approximately 4.89 NM - 12.61 NM northeast of the Airport Reference Point for Coles County Memorial (MTO) Mattoon/Charleston, IL. For the sake of efficiency, all wind turbines in this project that have similar impacts are included in this narrative. The proposed wind turbines' described heights and locations are listed on page one of the determination letters for each structure. The heights and locations are expressed in Above Ground Level (AGL) height, Above Mean Sea Level (AMSL) height and latitude / longitude.

2. TITLE 14 CFR PART 77 - OBSTRUCTION STANDARDS EXCEEDED

a. Section 77.17(a)(1); a height that exceeds 499 feet AGL. The turbines at 737 feet AGL would exceed this standard by 238 feet. The turbine at 704 feet AGL would exceed by 205 feet.

b. Section 77.17(a)(2); a height that is 200 feet AGL, or above the established airport elevation, whichever is higher, within 3 NM miles of the established reference point of MTO, and that height increases in the proportion of 100 feet for each additional NM from the airport up to a maximum of 499 feet. The following would exceed this standard by:

2020-WTE-5908-OE - 246
2020-WTE-5910-OE - 240
2020-WTE-5922-OE - 268
2020-WTE-5932-OE - 212
2020-WTE-5934-OE - 312
2020-WTE-5936-OE - 269
2020-WTE-5958-OE - 218

c. Section 77.17(a)(3); a height that increases a minimum instrument flight altitude within a terminal area. The proposal would require amending the following IFR procedures:

- Terre Haute ATCT/TRACON (HUF) Terre Haute, IN: MVA increase for HUF_MVA_FUS3_2019 and HUF_MVA_FUS5_2019, Sector D from 2300 feet to 2400 feet.

- Coles County Memorial (MTO) Mattoon/Charleston, IL: The following obstacle would penetrate the RWY 06, 40:1 departure surface by 33 feet requiring TAKE-OFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES for RWY 06; STD with a minimum climb gradient (CG) increase from 200 feet to 210 feet per NM to 1700 feet. Per negotiations with the sponsor, the turbine was reduced to the No Effect Height (NEH) of 704 feet AGL / 1379 feet AMSL. At the reduced height, the structure will have no IFR effect.

2020-WTE-5922-OE

- Shelby County (2H0) Shelbyville, IL: The following would increase the MSA for the RNAV (GPS) RWY 36 and NDB-A from 2400 feet to 2500 feet. (Obstacle located in 4 NM buffer).

2020-WTE-5934-OE
2020-WTE-5936-OE
2020-WTE-5958-OE

3. TITLE 14 CFR PART 77 - EFFECT ON AERONAUTICAL OPERATIONS

a. Section 77.29 (a)(1); impact on arrival, departure, and en route procedures for aircraft operating under visual flight rules.

At 737 feet AGL, the following proposals would extend into airspace normally used for VFR en route flight and located within 2 statute miles of Highway 57. Highways are identified as VFR Routes in accordance with FAAO 7400.2, Section 6-3-8. The structures would have an adverse effect upon VFR en route flights. Per negotiations with the sponsor, the two turbines were terminated and removed from the project.

2020-WTE-5919-OE
2020-WTE-5939-OE

b. Section 77.29 (a)(6); potential effect on ATC radar, direction finders, ATC tower line-of-sight visibility, and physical or electromagnetic effects on air navigation, communication facilities, and other surveillance systems.

The proposed wind farm would be within the radar line of sight (RLOS) of the Champaign, IL (CMI) ASR-11 and Terre Haute, IN (HUF) ASR-8 Radar Facilities. The proposals would affect the quality and/or availability of the primary radar signals.

4. TITLE 14 CFR PART 77 - FURTHER STUDY AND PUBLIC COMMENTS

In order to facilitate the public comment process, all 55 studies were circularized on 11/09/2020 and again on 04/23/2021 under ASN 2020-WTE-5909-OE to all known aviation interests and to non-aeronautical interests that may be affected by the proposal. There was one objection received during the public comment periods concluding on 12/16/2020 and 05/30/2021. The objection is summarized as follows:

Comment: The proposed turbines would present a "clear and present hazard" to VFR traffic flying to and from Coles County Airport (MTO) along Interstate Highway 57 during marginal VFR conditions. The turbines would pose a "clear and present danger" to IFR aircraft executing the RNAV (GPS) RWY 6 missed approach procedure. The turbines would be directly within the flight path and present a hazard to VFR and IFR aircraft. Additionally, the turbines would not be visible under instrument meteorological conditions.

FAA Response: In accordance with FAA Order 7400.2, Chapter 6-3-8; a structure would have an adverse effect upon VFR air navigation if its height is greater than 499 feet above the surface at its site, and within 2 statute miles of any regularly used VFR route. The aeronautical study identified 2 turbines within 2 statute miles of Highway 57. Per negotiations with the sponsor, the 2 turbines were terminated and removed from the project. Study for possible IFR effects identified one turbine as exceeding the MTO, Runway 06, 40:1 departure surface by 33 feet. Per negotiations with the sponsor, the structure was lowered by 33 feet to the No Effect Height (NEH) of 704 feet AGL / 1379 feet AMSL. At the reduced height, the structure will have no IFR effect. For increased conspicuity during instrument meteorological conditions, the turbines are required to be marked and lighted in accordance with FAA Advisory Circular 70/7460-1.

End of Comments

5. BASIS FOR DETERMINATION

a. IFR Effects: The aeronautical study identified an IFR effect(s) for HUF, MTO and 2H0. The MVAs are solely used by ATC, not published for public use and therefore are not circulated for public comment. A review by the controlling facility determined that increasing the altitudes in the sector would ensure the required obstacle clearances are maintained resulting in no substantial adverse effect on air traffic operations. MSAs are the minimum obstacle clearance altitudes within a specified distance from the navigation facilities upon which procedures are predicated. MSA altitudes are designed for emergency use only and are not routinely used by pilots or by air traffic control. Consequently, MSAs are not circulated for public comment as they are not considered a factor in determining the extent of adverse effect. Per negotiations with the sponsor, the 40:1 departure surface penetration for MTO was mitigated by lowering the structure height to the NEH of 704 feet AGL / 1379 feet AMSL, resulting in no IFR effect for MTO. The proposed structures would have no effect on any other existing or proposed arrival, departure, or en route IFR operations or procedures.

b. VFR Effects: Study for possible VFR effects disclosed that the proposals are beyond traffic pattern airspace for MTO and any other known public use or military airports. The proposals would have no effect on any existing or proposed VFR arrival or departure operations. At 704 feet and 737 feet AGL, the structures would be located within airspace normally used by en route VFR traffic. Further study identified 2 turbines within 2 statute miles of HWY 57. In coordination with ATC, an analysis of the VFR traffic along HWY 57 identified a significant volume of VFR traffic. Per negotiations with the sponsor, the 2 turbines were terminated and removed from the project. In accordance with FAAO 7400.2, the remaining structures would not affect a significant volume of VFR aircraft and would not have a substantial adverse effect on en route VFR operations.

The proposed structures would be published on sectional aeronautical charts and obstruction marked/lighted to make them more conspicuous to airmen should circumnavigation be necessary.

c. RADAR Effects: The aeronautical study identified the proposed structures as being within the RLOS of the CMI, ASR-11 and HUF, ASR-8 radar facilities. Impacts to radar facilities are not circularized to the public for comments as they only require review by the military services and responsible Air Traffic Control (ATC) facilities. Further review determined this would not cause a substantial adverse impact on ATC or military operations at this time.

d. Airports / Navigational Facilities Effects: The cumulative impact of the proposed structures, when combined with other proposed and existing structures, is not considered to be significant. Study did not disclose any significant adverse effect on existing or proposed public-use or military airports or navigational facilities, nor would the proposals affect the capacity of any known existing or planned public-use or military airport.

6. DETERMINATION

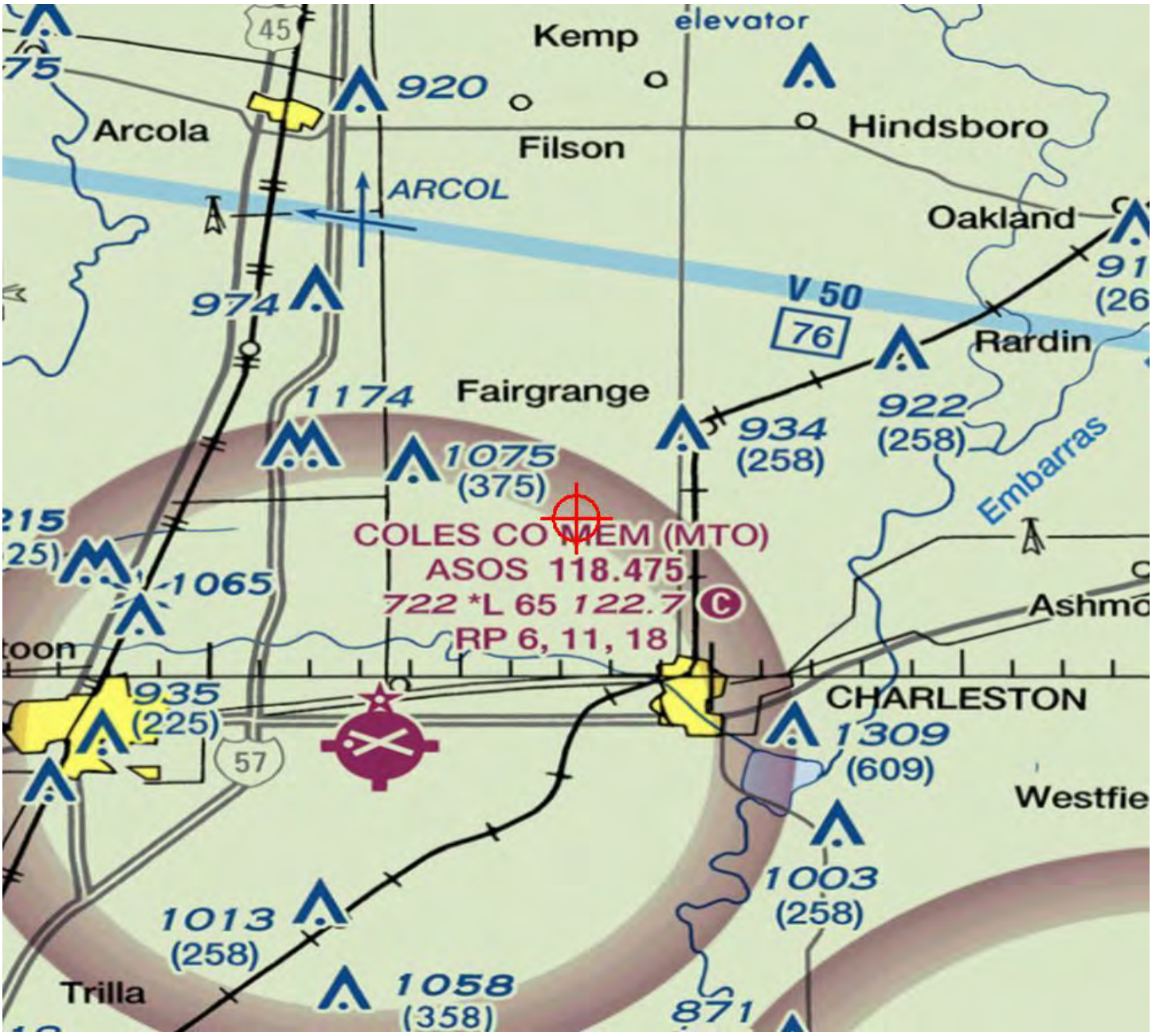
It is determined that the proposed structures would not have a substantial adverse effect on the safe and efficient utilization of the navigable airspace by aircraft or on any air navigation facility and would not be a hazard to air navigation providing the conditions set forth in this determination are met.

****

ACRONYMS AND ABBREVIATIONS

AGL, Above Ground Level
AMSL, Above Mean Sea Level
ARP, Airport Reference Point
ARSR, Air Route Surveillance Radar
ARTCC, Air Route Traffic Control Center
ASN, Aeronautical Study Number
ASR, Airport Surveillance Radar
ATC, Air Traffic Control
ATCT, Air Traffic Control Tower
CARSR, Common Air Route Surveillance Radar
CFR, Code of Federal Regulations
DME, Distance Measuring Equipment
FAA, Federal Aviation Administration
FAAO, Federal Aviation Administration Order
FUS, Fusion
GPS, Global Positioning System
IFR, Instrument Flight Rules
LAT, Latitude
LONG, Longitude
Min, Minimum
MSL, Mean Sea Level
MVA, Minimum Vectoring Altitude
NA, Not Authorized
NAS, National Airspace System
NEH, No Effect Height
NM, Nautical Mile
NOTAM, Notice to Airmen
NPF, Notice of Preliminary Findings
OE, Obstruction Evaluation
Part 77 - Title 14 Code of Federal Regulations (CFR) Part 77, Safe, Efficient Use and Preservation of the Navigable Airspace.
RLOS, Radar Line of Sight
SE, Site Elevation
SM, Statute Miles
TERPS, Terminal Instrument Procedures
V, Victor Airway
VFR, Visual Flight Rules
WTW, Wind Turbine West

Sectional Map for ASN 2020-WTE-5908-OE



Appendix C.2
U.S. Department of Defense Letter
(March 2024)

OFFICE OF THE ASSISTANT SECRETARY OF DEFENSE
3400 DEFENSE PENTAGON
WASHINGTON, DC 20301-3400

ENERGY, INSTALLATIONS,
AND ENVIRONMENT

March 21, 2024

Ms. Julianna Pianelli
Apex Clean Energy
310 4th St. NE; Suite 300
Charlottesville, VA 22902

Reference: Federal Aviation Administration Aeronautical Study Number: 2020-WTE-5908-OE and 52 associated structures

Dear Ms. Pianelli,

Thank you for your participation in the Mitigation Response Team to assess and overcome military impacts from your proposed Coles Wind project near Charleston, Illinois. In a letter dated March 1, 2023, the Department of Defense (DoD) described the potential impacts to military operations for the project.

As a result of discussions between Apex Clean Energy and the U.S. Air Force and a resulting mitigation agreement signed by the Assistant Secretary of Defense for Energy, Installations, and Environment on March 7, 2024, the Military Aviation and Installation Assurance Siting Clearinghouse (Clearinghouse) has found that construction of the Coles Wind project, with no more than 53 wind turbines up to 656 feet above ground level and no more than two permanent meteorological evaluation towers up to 390 feet above ground level, would not have adverse impacts to DoD missions in the area. The Clearinghouse has entered a determination of "No Objection with Provision" for this project via the Federal Aviation Administration's (FAA) Obstruction Evaluation/Airport Airspace Analysis system.

Our response to the FAA included a notification that additional structure proposals or an increase to the current maximum structure height may present an adverse impact. We encourage you to engage DoD prior to any proposed expansion or height increase.

If you have any concerns, please contact me at robbin.e.beard.civ@mail.mil.

Sincerely,

Robbin E. Beard
Deputy Director
Military Aviation and Installation
Assurance Siting Clearinghouse

Appendix C.3

Representative Determination of No Hazard Extension Letter (March 2024)

Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2020-WTE-5908-OE

Issued Date: 03/18/2024

Julianna Pianelli
Coles Wind, LLC
310 4th St. NE
Suite 300
Charlottesville, VA 22902

**** Extension ****

A Determination was issued by the Federal Aviation Administration (FAA) concerning:

Structure:	Wind Turbine T1
Location:	Charleston, IL
Latitude:	39-33-10.05N NAD 83
Longitude:	88-12-42.45W
Heights:	681 feet site elevation (SE) 656 feet above ground level (AGL) 1337 feet above mean sea level (AMSL)

In response to your request for an extension of the effective period of the determination, the FAA has reviewed the aeronautical study in light of current aeronautical operations in the area of the structure and finds that no significant aeronautical changes have occurred which would alter the determination issued for this structure.

This extension is subject to review if an interested party files a petition that is received by the FAA on or before April 17, 2024. In the event an interested party files a petition for review, it must contain a full statement of the basis upon which the petition is made. Petitions can be submitted to the Manager, Rules and Regulations Group via email at OEPetitions@faa.gov, or via mail to Federal Aviation Administration, Air Traffic Organization, Rules and Regulations Group, Room 425, 800 Independence Ave, SW., Washington, DC 20591. FAA encourages the use of email to ensure timely processing.

This extension becomes final on April 27, 2024 unless a petition is timely filed. In which case, this determination will not become final pending disposition of the petition. Interested parties will be notified of the grant of any review. Any questions regarding your petition, contact the Rules and Regulations Group via telephone (202) 267-8783.

Accordingly, pursuant to the authority delegated to me, the effective period of the determination issued under the above cited aeronautical study number is hereby extended and will expire on 09/18/2025 unless otherwise extended, revised, or terminated by this office. You must adhere to all conditions identified in the original determination.

This extension issued in accordance with 49 U.S.C., Section 44718 and, if applicable, Title 14 of the Code of Federal Regulations, part 77, concerns the effect of the structure on the safe and efficient use of navigable

airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (404) 305-6645, or Lan.norris@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2020-WTE-5908-OE.

Signature Control No: 453149009-615867815 (EXT -WT)
Lan Norris
Specialist

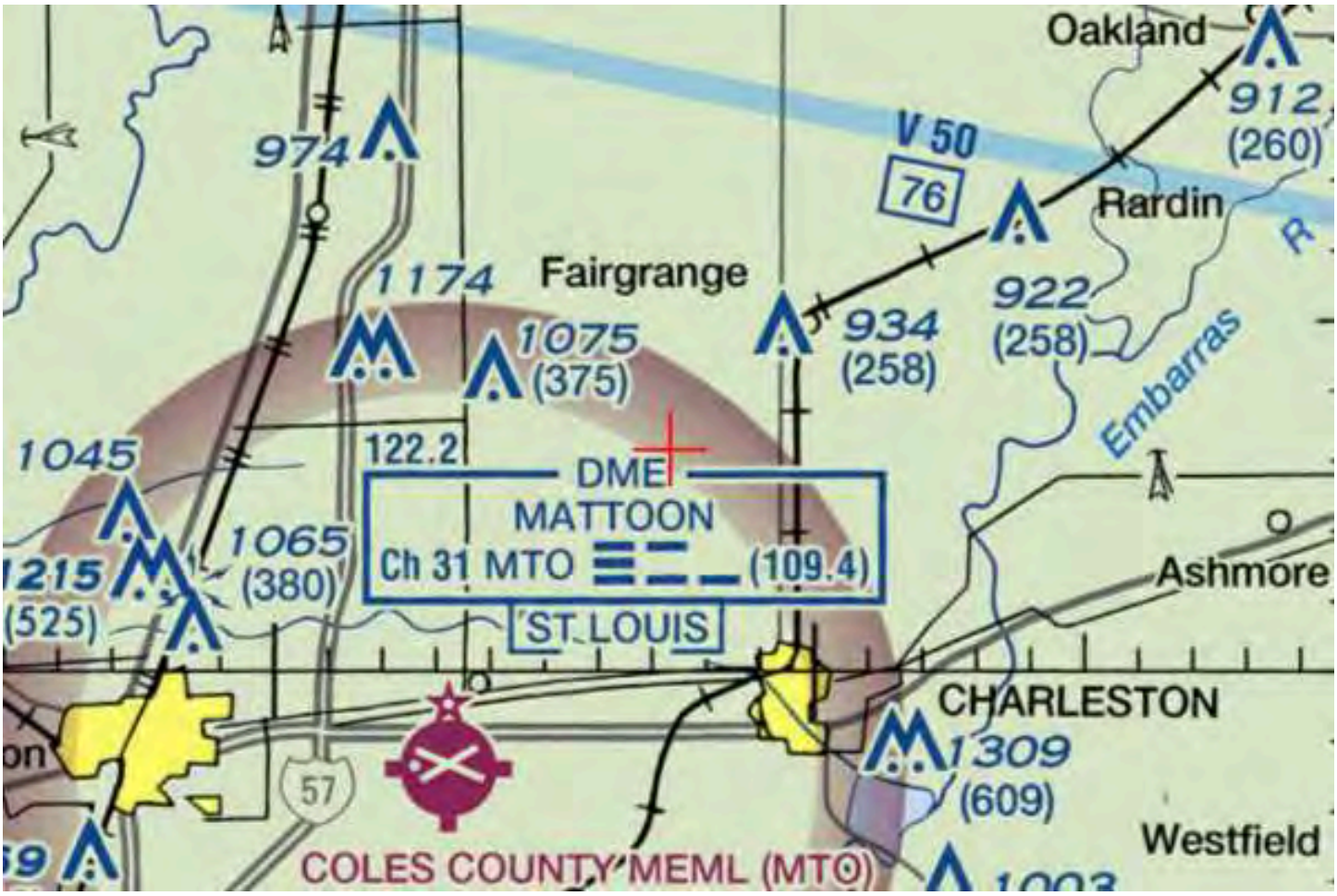
Attachment(s)
Additional Information
Map(s)

Additional information for ASN 2020-WTE-5908-OE

All conditions and instructions outlined in the FAA determination apply under this extension. If there are any changes to the coordinates of one second or more and/or increase in the overall AMSL height, the sponsor will be required to E-file a new FAA Form 7460-1 "Notice of Proposed Construction or Alteration" at the website https://oeaaa.faa.gov.

One extension is authorized for up to 18 months. If construction has not started or completed prior to the expiration date of this extension letter, the sponsor will be required to E-file a new FAA Form 7460-1 "Notice of Construction or Alteration" at the FAA public website https://oeaaa.faa.gov.

Sectional Map for ASN 2020-WTE-5908-OE



Appendix C.4

December 2024 Turbine Layout and ADLS submitted to Federal Aviation Administration

Structure Name	Latitude (DD-MM-SS.SS)	Longitude (DD-MM-SS.SS)	Site Elevation	Structure Height (AGL)	Requested M&L	ASN
T1	39-38-59.98	88-11-16.82	675	656	White Paint/Synchronized Red Lights	2024-WTE-11563-OE
T2	39-38-48.22	88-12-10.16	678	656	White Paint/Synchronized Red Lights	2024-WTE-11564-OE
T3	39-38-49.86	88-10-52.89	681	656	White Paint/Synchronized Red Lights	2024-WTE-11565-OE
T4	39-38-24.42	88-12-06.82	686	656	White Paint/Synchronized Red Lights	2024-WTE-11566-OE
T5	39-38-30.90	88-13-02.29	682	656	White Paint/Synchronized Red Lights	2024-WTE-11567-OE
T6	39-38-26.80	88-13-37.36	686	656	White Paint/Synchronized Red Lights	2024-WTE-11568-OE
T7	39-38-07.74	88-13-33.74	689	656	White Paint/Synchronized Red Lights	2024-WTE-11569-OE
T8	39-37-53.33	88-13-44.47	692	656	White Paint/Synchronized Red Lights	2024-WTE-11570-OE
T9	39-37-49.55	88-12-01.64	698	656	White Paint/Synchronized Red Lights	2024-WTE-11571-OE
T10	39-37-54.15	88-11-21.06	697	656	White Paint/Synchronized Red Lights	2024-WTE-11572-OE
T11	39-37-40.87	88-10-49.24	694	656	White Paint/Synchronized Red Lights	2024-WTE-11573-OE
T12	39-37-34.54	88-11-16.05	693	656	White Paint/Synchronized Red Lights	2024-WTE-11574-OE
T13	39-37-44.74	88-13-23.50	691	656	White Paint/Synchronized Red Lights	2024-WTE-11575-OE
T14	39-37-35.61	88-13-46.35	688	656	White Paint/Synchronized Red Lights	2024-WTE-11576-OE
T15	39-37-35.63	88-14-09.85	687	656	White Paint/Synchronized Red Lights	2024-WTE-11577-OE
T16	39-36-49.28	88-13-15.19	665	656	White Paint/Synchronized Red Lights	2024-WTE-11578-OE
T17	39-36-53.04	88-12-29.63	666	656	White Paint/Synchronized Red Lights	2024-WTE-11579-OE
T18	39-37-15.82	88-11-55.63	679	656	White Paint/Synchronized Red Lights	2024-WTE-11580-OE
T19	39-36-44.67	88-11-20.01	679	656	White Paint/Synchronized Red Lights	2024-WTE-11581-OE
T20	39-36-44.31	88-10-48.81	689	656	White Paint/Synchronized Red Lights	2024-WTE-11582-OE
T21	39-38-54.70	88-10-26.33	683	656	White Paint/Synchronized Red Lights	2024-WTE-11583-OE
T22	39-38-43.41	88-9-52.86	693	656	White Paint/Synchronized Red Lights	2024-WTE-11584-OE
T23	39-38-59.22	88-9-47.01	682	656	White Paint/Synchronized Red Lights	2024-WTE-11585-OE
T24	39-38-49.74	88-9-16.04	696	656	White Paint/Synchronized Red Lights	2024-WTE-11586-OE
T25	39-38-32.07	88-8-43.12	713	656	White Paint/Synchronized Red Lights	2024-WTE-11587-OE
T26	39-38-27.35	88-9-01.48	712	656	White Paint/Synchronized Red Lights	2024-WTE-11588-OE
T27	39-38-30.14	88-9-40.59	705	656	White Paint/Synchronized Red Lights	2024-WTE-11589-OE
T28	39-38-26.61	88-10-14.00	698	656	White Paint/Synchronized Red Lights	2024-WTE-11590-OE
T29	39-37-58.45	88-9-40.48	699	656	White Paint/Synchronized Red Lights	2024-WTE-11591-OE
T30	39-37-47.35	88-8-19.56	678	656	White Paint/Synchronized Red Lights	2024-WTE-11592-OE
T31	39-37-08.12	88-7-21.47	662	656	White Paint/Synchronized Red Lights	2024-WTE-11593-OE
T32	39-36-46.76	88-8-29.86	658	656	White Paint/Synchronized Red Lights	2024-WTE-11594-OE
T33	39-37-02.62	88-8-31.59	667	656	White Paint/Synchronized Red Lights	2024-WTE-11595-OE
T34	39-36-49.59	88-9-13.99	684	656	White Paint/Synchronized Red Lights	2024-WTE-11596-OE
T35	39-37-08.69	88-9-45.90	685	656	White Paint/Synchronized Red Lights	2024-WTE-11597-OE
T36	39-36-12.22	88-9-35.81	668	656	White Paint/Synchronized Red Lights	2024-WTE-11598-OE
T37	39-36-23.29	88-9-19.44	668	656	White Paint/Synchronized Red Lights	2024-WTE-11599-OE
T38	39-35-52.75	88-8-41.56	665	656	White Paint/Synchronized Red Lights	2024-WTE-11600-OE
T39	39-35-28.12	88-7-14.45	664	656	White Paint/Synchronized Red Lights	2024-WTE-11601-OE
T40	39-35-27.57	88-9-04.80	671	656	White Paint/Synchronized Red Lights	2024-WTE-11602-OE
T41	39-35-28.88	88-9-41.36	670	656	White Paint/Synchronized Red Lights	2024-WTE-11603-OE
T42	39-35-28.07	88-10-02.26	670	656	White Paint/Synchronized Red Lights	2024-WTE-11604-OE
T43	39-35-23.84	88-10-21.20	673	656	White Paint/Synchronized Red Lights	2024-WTE-11605-OE
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T45	39-35-04.78	88-7-02.76	671	656	White Paint/Synchronized Red Lights	2024-WTE-11607-OE
T46	39-34-28.53	88-7-05.58	675	656	White Paint/Synchronized Red Lights	2024-WTE-11608-OE
T47	39-34-21.96	88-7-56.58	673	656	White Paint/Synchronized Red Lights	2024-WTE-11609-OE
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T50	39-34-28.72	88-8-54.73	674	656	White Paint/Synchronized Red Lights	2024-WTE-11612-OE
T51	39-34-23.47	88-9-17.79	681	656	White Paint/Synchronized Red Lights	2024-WTE-11613-OE
T52	39-33-55.42	88-9-08.73	681	656	White Paint/Synchronized Red Lights	2024-WTE-11614-OE
T53	39-34-23.77	88-10-11.67	679	656	White Paint/Synchronized Red Lights	2024-WTE-11615-OE
T54	39-33-54.12	88-12-04.55	674	656	White Paint/Synchronized Red Lights	2024-WTE-11616-OE
T55	39-34-23.25	88-12-06.69	679	656	White Paint/Synchronized Red Lights	2024-WTE-11617-OE
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T57	39-34-27.87	88-13-03.93	679	656	White Paint/Synchronized Red Lights	2024-WTE-11619-OE
T58	39-34-50.93	88-14-25.53	682	656	White Paint/Synchronized Red Lights	2024-WTE-11620-OE
T59	39-35-14.16	88-14-09.16	688	656	White Paint/Synchronized Red Lights	2024-WTE-11621-OE
T60	39-35-07.15	88-12-41.84	687	656	White Paint/Synchronized Red Lights	2024-WTE-11622-OE
T61	39-36-17.39	88-12-38.81	673	656	White Paint/Synchronized Red Lights	2024-WTE-11623-OE
T62	39-36-13.13	88-13-15.57	668	656	White Paint/Synchronized Red Lights	2024-WTE-11624-OE
ADLS_Tower1	39-34-42.99	88-10-52.34	671	125	None	2024-WTE-11625-OE

Coles Wind

FAA Filing: Layout 34-L2b

- White Paint Synchronized Red Lights
- ADLS Tower
- Project Boundary

Date: 12/20/2024 Author: MS *CONFIDENTIAL*

Coordinate System: NAD 1983 StatePlane Illinois East FIPS 1201 Feet
Projection: Transverse Mercator
Datum: North American 1983
Units: Foot US

APEX CLEAN ENERGY

T1 T2 T3 T4 T5 T6 T7 T8 T9 T10 T11 T12 T13 T14 T15 T16 T17 T18 T19 T20 T21 T22 T23 T24 T25 T26 T27 T28 T29 T30 T31 T32 T33 T34 T35 T36 T37 T38 T39 T40 T41 T42 T43 T44 T45 T46 T47 T48 T49 T50 T51 T52 T53 T54 T55 T56 T57 T58 T59 T60 T61 T62

ADLS_Tower1

DOUGLAS CO
COLES CO

HUMBOLDT
SEVEN HICKORY
MORGANVILLE

N

0 0.375 0.75 1.5 Kilometers

0 0.25 0.5 1 Miles

Document Path: G:\GIS_Projects\CLW_Coles\MXD\Planning\Submittal\FAA\CLW_FAA_Filing_Layout34_20241220.mxd

Appendix D

Project Studies, Reports, and Plans

1. Decommissioning Plan and Draft Financial Assurance (*SUP Application, §B.5)*
2. Illinois Department of Natural Resources Review Results (*SUP Application, §B.11)*
3. U.S. Fish and Wildlife Service Review Results (*SUP Application, §B.12)*
4. Telecommunications Studies (*Design and Installation, §K*)
5. Sound Modeling Report (*Design and Installation, §L*)
6. Avian and Wildlife Impact Study (*Design and Installation, §O*)
7. Emergency Action Plan (*Operation, §B.3)*
8. Shadow Flicker Report (*Operation, §D)*
9. Farmland Drainage Systems Repair and Remediation Plan (*Operation, §F)*

Appendix D.1

Decommissioning Plan and Draft Financial Assurance

(*SUP Application, §B.5*)

A DECOMMISSIONING PLAN FOR

Coles Wind Project

Coles County, Illinois

DECEMBER 20, 2024

PREPARED FOR:

COLES WIND

PREPARED BY:

Westwood

Westwood

Decommissioning and Site Reclamation Plan

Coles Wind Project – Coles County

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Project Number: 0042789.01
Date: December 20, 2024

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Attachments

Attachment A: Decommissioning Cost Estimate – V162 Turbine Model

Attachment B: Decommissioning Cost Estimate – GE158 Turbine Model

Attachment C: Draft Financial Assurance

1.0 Introduction / Project Description

The Coles Wind Project ("Facility" or "WECS project") is a wind power generation project proposed by Coles Wind LLC ("Applicant") in Coles County, Illinois. The Facility includes the construction of permanent facilities of 51 wind turbines, access roads, one aircraft detection lighting system (ADLS) tower, one LiDAR tower, a substation, underground collection lines, and an operations and maintenance (O&M) building. The Plan has been prepared to include cost estimates for two turbine models under consideration: the Vestas V162 6.0-megawatt (MW) turbines (105-meter hub height) and the GE158 6.1-MW turbines (117-meter hub height). The anticipated construction costs of the Facility are $190 million dollars.

The purpose of this Plan is to describe the means and methods to remove project facilities and reclaim, restore, and return the land altered during the construction and operation of the wind project to its predevelopment condition. This Decommissioning Plan and Reclamation ("Plan") has been prepared for the Facility in accordance with the Illinois Agricultural Impact Mitigation Agreement (AIMA) with the Illinois Department of Agriculture (IDOA) executed October 31, 2024 as guided by the Coles County Amended Ordinance (Standard for Wind Energy Conversions Systems (WECS) Over 500kW) Chapter V, adopted May 9, 2023. The Plan identifies components that must be removed and the areas that may be restored if the Facility's Special Use Permit expires, or at the end of its "useful life," when no electricity is generated for a continuous period of 12 months.

Following AIMA guidelines, the Plan and cost estimate will be updated and re-filed with the Coles County Board after the tenth anniversary of commercial operation, and every five years thereafter. The revised plans will reflect advancements in construction techniques, reclamation equipment, and standards. The Decommissioning Plan will be certified by a Professional Engineer.

The land leases for the Facility are 30 years. After 30 years, the Facility will either be decommissioned or repowered with newer technology. This Plan reflects the full decommissioning of the Facility, including removal of all infrastructure and equipment and reclamation of the site to match previous land use, unless otherwise specified.

2.0 Proposed Future Land Use

Prior to the development of the Facility, the land use of the Facility site was primarily agricultural land planted with row crops. After the developed areas of the Facility are decommissioned, they will be returned to their predevelopment condition via grading and seeding. Please refer to Section 3.2 for a detailed description of reclamation activities.

3.0 Engineering Techniques

Decommissioning of the wind farm includes multiple phases and activities such as:

- Application of necessary sediment and erosion controls during and following decommissioning activities.
- Public road modifications (if required) and access road improvements to accommodate heavy equipment traffic during decommissioning.

- Removal of aboveground components (turbines, transformers, and substation) for either resale or scrap.
- Removal of turbine foundations to a depth of five feet (60 inches) below grade.
- Removal of other underground components (junction boxes, transformer and substation foundations) to a depth of five feet (60 inches) below grade.
- Removal of access roads (unless the landowners request the roads to remain) and decompaction.
- Reclamation, re-grading, and restoration of disturbed areas including topsoil reapplication and decompaction of soils.
- Repair and/or restoration of public roads and culverts to pre-decommissioning conditions, as required.

During decommissioning, the landowners will be consulted to identify the extent and type of work to be completed. If a Landowner has agreed in writing, access roads and culverts may remain. Underground utility lines and portions of foundations deeper than five feet below ground surface elevation will be left in place to minimize land disturbance and associated impacts to future land use.

Decommissioning will include the removal and transportation of all turbine components from the Facility site. Decommissioning will also include the removal of electrical components, foundations, and any other associated facilities in the manner described in the Plan, unless otherwise agreed upon by Applicant and the applicable landowner(s). All dismantling, removal, recycling, and disposal of materials generated during decommissioning will comply with rules, regulations, and prevailing Federal, State, and local laws at the time decommissioning is initiated and will use approved local or regional disposal or recycling sites as available. Recyclable materials will be recycled to the furthest extent practicable. Non-recyclable materials will be disposed of in accordance with State and Federal law.

3.1 Decommissioning of Project Components

3.1.1 Public Road Improvement and Access Road Modifications and Removal

As the cost estimate is based on scrapping and recycling turbine components where possible, sections of public roads that have insufficient strength to accommodate the construction traffic necessary for decommissioning will need to be improved prior to the start of hauling operations. Intersection turning radius modifications are not anticipated since turbine components will be cut to fit on standard semitrailer trucks. The roads subjected to decommissioning traffic will be restored to a condition equal to or better than the condition of the road prior to decommissioning activities. Aggregate removed from the Facility access roads is a potential source for the public road restoration material. A pre-decommissioning road survey, similar to a pre-construction survey, may be prepared so that road conditions pre- and post-decommissioning can be accurately assessed.

3.1.2 Crane Path and Crane Pad Preparation and Removal

This cost estimate is based on the felling of all turbines, which eliminates the need for large industrial cranes and the associated crane paths and crane pads.

3.1.3 Wind Turbine Felling

This cost estimate assumes that the turbines will be brought to the ground using the technique of “felling.” Once on the ground, the turbines will be disassembled and processed

for recycling. The felling technique has been used on numerous wind decommissioning projects and has several advantages over disassembly using large crawler cranes. Felling of a turbine eliminates the use of crane paths and crane pads that are otherwise necessary to disassemble the components of a turbine. In addition to avoiding costs associated with preparing crane paths and pads, this method will reduce the total disturbed area that needs to be reclaimed and restored during the decommissioning process. The elimination of the use of large cranes also reduces the number of trucks delivering and removing equipment and reduces the time required for decommissioning.

3.1.4 Wind Turbine Removal

Each wind turbine consists of steel tower segments, a nacelle, a rotor and hub assembly, and three blades. These modular components can be disassembled and then processed into pieces small enough (less than 40 feet by eight feet by eight feet and less than 20 tons) to be loaded onto standard semitrailer trucks and transported off site. If there are facilities for recycling of turbine blades offering cost effective recycling options within a reasonable distance of the Facility at the time the turbines are decommissioned, the blades will be transported to the facility for recycling. At this time, blade recycling facilities are not operating at the scale necessary for the volume of waste that will be generated from decommissioning this project. As a result, this cost estimate assumes the blades and other components that cannot be recycled will be disposed of at a licensed landfill.

3.1.5 Turbine Foundation Removal and Restoration

The turbine foundations are constructed from concrete and rebar. Little topsoil stripping will be required since the portion of the foundation less than five feet deep is within the gravel ring around each turbine. The foundation will first be exposed using backhoes or other earth moving equipment. The pedestal (upper part of the turbine foundation) will then be removed to a depth of at least five feet below grade using hydraulic vibratory hammers to break up the concrete. The rebar can be cut with torches or cutoff saws. The concrete will be broken into pieces sized for transport. The foundation debris will be hauled off site to be recycled or disposed of, depending on market prices for aggregate at the time of decommissioning[1]. The rebar will be recycled.

Following removal of the turbine foundation, the resulting void will be backfilled with native subsoils and compacted to at least 90% of the fill material's standard Proctor density. Topsoil will be reapplied to the site and graded to match surrounding grade to preserve existing drainage patterns. In the event of topsoil deficiency, topsoil that is consistent with the quality of that at the affected site will be imported. If subgrade fill is required, it shall be composed of clean subgrade material of similar quality to that of the immediate surrounding area. The topsoil and subsoil will be decompacted in accordance with the IDOA decompaction standards and tilled to an agricultural condition.

[1] For the purposes of this Plan, Westwood conservatively assumes turbine foundations cannot be recycled and therefore have a cost.

3.1.6 ADLS and LiDAR Towers

Following disconnection of electrical components, towers will be gradually lowered to the ground for disassembly. The steel structures will be cut into pieces sized to meet recycling requirements so the scrap value may be maximized. The components will then be loaded on tractor-trailers and transported to a metal recycling facility.

The concrete pads, along with any anchoring components, will be excavated to a depth of 5 feet. Concrete will be broken into transportable pieces and hauled off site[2]. Following removal of the foundations, subsoil will be decompacted in accordance with the IDOA decompaction standards and tilled to an agricultural condition.

3.1.7 Access Roads

Unless otherwise required by the landowner, removal of access roads will entail removal of the road base aggregate and any other materials used for constructing the roads. During removal, the topsoil adjacent to both sides of the roads will be stripped and stockpiled in a windrow paralleling the road. The road base materials will then be removed by bulldozers, wheeled loaders, or backhoes and hauled off site in dump trucks to be recycled or disposed of at an off-site facility. On-site processing may allow much of the aggregate to be re-used to improve public roads. The aggregate base can often be used by local landowners for driveway or clean fill. Another option is to use the aggregate base as "daily cover" at a landfill, where it is usually accepted without cost[3]. If geotextile fabric was utilized under the aggregate base, it will be removed and disposed of in a landfill off site. The access road removal will proceed from the turbine area to the public roads to limit tracking and provide stable access during removal. Following removal, topsoil will be reapplied and graded to blend with surrounding contours to promote pre-construction drainage patterns. Topsoil to cover the access roads, turbine rings, and met tower rings will be acquired from the areas where it was stockpiled (or wasted) during the original construction. Since topsoil stayed with each landowner during the construction of the wind farm, there will be adequate topsoil to restore each area to its pre-construction condition. The topsoil and subsoil will be decompacted in accordance with the IDOA decompaction standards and tilled to an agricultural condition.

3.1.8 Underground Electrical Collection Lines

The electrical cables and fiber optic conduits contain no material known to be harmful to the environment and will be left in place, non-functional. Any cables at a depth of less than five feet, such as cables entering and exiting the turbine foundations, junction boxes, or substation components, will be removed. Following any necessary removal, the area affected will be restored by reapplication of topsoil to match the surrounding grade and preserve existing drainage patterns. The topsoil and subsoil will be decompacted in accordance with the IDOA decompaction standards and tilled to an agricultural condition.

[2] For the purposes of this Plan, Westwood conservatively assumes the ADLS and LiDAR concrete pad(s) cannot be recycled and therefore have a cost.

[3] For the purposes of this Plan, Westwood conservatively assumes access road aggregate cannot be recycled and therefore has a cost.

3.1.9 Substation

Decommissioning of the project substation will be performed with the rest of the Facility. All steel, conductors, switches, transformers, and other components of the substation will be disassembled and taken off site to be recycled or reused. Foundations and underground components will be removed to a depth of five feet. The rock base will be removed using bulldozers and backhoes or front loaders. The material will be hauled from the site using dump trucks to be recycled or disposed at on off-site facility. Additionally, any permanent stormwater treatment facilities (e.g., infiltration ponds and engineered drainage swales) will be removed. Topsoil will be reapplied to match surrounding grade to preserve existing drainage patterns. Topsoil and subsoil will be decompacted in accordance with the IDOA decompaction standards and tilled to an agricultural condition.

3.1.10 Operations and Maintenance Building

The O&M Building is a sturdy, general purpose steel building. If the building is not repurposed, decommissioning will include disconnection of the utilities and demolition of the building structure, foundation, rock base parking lot, and associated vegetated/stormwater handling facilities. All associated materials will be removed from the site using wheeled loaders or backhoes and bulldozers and hauled off site in dump trucks. All recyclable materials will be brought to appropriate facilities and sold; the remaining materials will be disposed of at an approved landfill facility. Subgrade soils will be decompacted and graded to blend with the adjacent topography. Topsoil will be decompacted in accordance with the IDOA decompaction standards and tilled to an agricultural condition.

3.2 Reclamation

In addition to the reclamation activities described above for each decommissioning activity, all unexcavated areas compacted by equipment and activity during the decommissioning will be decompacted using a ripper or subsoiling tool with a shank length of no less than 18 inches and a shank spacing of approximately the same measurement as the shank length, as summarized in the IDOA decompaction standards. All materials and debris associated with the Facility decommissioning will be removed and properly recycled or disposed of at off-site facilities.

As necessary, the topsoil will be stripped and isolated prior to removal of structures and facilities for reapplication to promote future land use activities. Preservation of topsoil will be key for re-establishing vegetation at the site. The topsoil will be reapplied following backfill, as necessary, and graded to blend with adjacent contours to maintain pre-construction drainage patterns. Areas formerly used for agriculture shall be re-tilled to a farmable condition in accordance with IDOA AIMA guidelines.

An independent drainage engineer shall be present to ensure drainage tiles, waterways, culverts, etc. are repaired as work progresses.

4.0 Best Management Practices (BMPs)

During decommissioning, erosion and sediment control BMPs will be implemented to minimize potential

for erosion of site soils and sedimentation of surface waters and waters of the state. Because decommissioning will entail disturbance of more than one acre of soil, the Applicant will prepare a SWPPP and obtain coverage under the Illinois National Pollutant Discharge Elimination System (NPDES) permit prior to initiating soil disturbing activities. Potential BMPs to be implemented during decommissioning activities are described below and will be subject to refinement in the SWPPP. The decommissioning team will review the permitting requirements at the time of decommissioning and obtain any other necessary permits.

4.1 Erosion Control

Erosion control measures will be refined based on the standard of practice current at the time the SWPPP is developed for decommissioning. All disturbed areas without permanent impermeable or gravel surfaces, or planned for use as crop land, will be vegetated for final stabilization. All slopes steeper than 4:1 should be protected with erosion control blankets. Restoration should include seed application prior to application of the blanket. All slopes 4:1 or flatter should be restored with seed and mulch, which will be disc anchored.

Project Phasing/Design BMP: Time periods during which disturbed soils are exposed should be minimized to the degree possible. Stabilization of soils will generally be accomplished immediately following decommissioning of the access roads, turbine sites, electrical cables, step-up substation, and the O&M facility. Where this is not possible, temporarily exposed soils will be temporarily stabilized with vegetation in accordance with the SWPPP for decommissioning.

Erosion Control Blankets and Seed BMP: Erosion control blanket (double sided netting with wood fiber or weed-free straw fiber blanket) will be used as temporary stabilization for areas of slopes steeper than 4:1 and for areas of concentrated flow, such as ditches, swales, and similar areas around culverts. Additionally, seed will be applied in these areas as necessary for temporary and/or permanent vegetative growth. The SWPPP developed for decommissioning will provide detailed specifications for erosion control blankets to be used under various slope and drainage conditions.

Ditch/Channel Protection: Where new channels are formed, as in the case of culverts removed from access roads and the removal of low water crossings, the resulting channel will be protected with erosion control blankets as described in the section above.

Surface Roughening: Surface roughening, or slope tracking, is the act of running a dozer or other heavy tracked equipment perpendicular to the grade of disturbed slopes. The tracks will provide a rough surface to decrease erosion potential during an interim period until a smooth grade, seed, and erosion control blanket can be applied.

Temporary Mulch Cover and Seed BMP: Temporary mulch cover (wood fiber to resist loss from grazing by wildlife or domestic animals) will be applied at a rate of two tons per acre to provide temporary erosion protection of exposed soils on slopes flatter than or equal to 3:1. Seed will be applied with the mulch for temporary and/or permanent vegetative growth as called for in the SWPPP. Mulch will be used for all soil types where slopes are flatter than 3:1 and no significant concentrated flows are present. The mulch will be disc-anchored to the soil to keep it from blowing away. The mulch prohibits the impact of raindrop impact from dislodging soil and subsequently

carrying the soil away during sheet drainage. If there is a challenge securing mulch to sandy soils, tackifier may be used to assist in disc anchoring.

Soil Stockpiles: Topsoil and subsoils that are stripped from the construction site will be stockpiled separately on site. Stockpiles will be located in areas that will not interfere with the decommissioning activities nor encroach upon pavement, site drainage routes, or other areas of concentrated flow. Stockpiles should also be located away from wetlands and surface waters. Perimeter controls, such as silt fence, will be installed around all stockpiles that are not placed within existing silt fences or other sediment control, where the potential exists for material to be eroded and transported to sensitive nature resources. Soils that are stockpiled for longer durations will be temporarily seeded and mulched or stabilized with a bonded fiber polymer emulsion.

Permanent Seed and Temporary Mulch and/or Erosion Control Blanket BMP: In areas at final grade that will not be used for agriculture, permanent seed will be applied to promote vegetative cover for permanent erosion control. Temporary mulch and/or erosion control blanket will be applied where appropriate to provide temporary erosion protection until the permanent seed is established.

4.2 Sediment Control

Removal of Ditch Crossing BMP: Temporary ditch crossings may be needed to accommodate the movements of cranes or other heavy equipment. Perimeter controls such as silt fence will be used at crossing locations to minimize runoff from exposed soils. Crossings will occur during dry conditions, if possible. If a stream is wet at the time of the crossing, alternative BMPs may be used, such as installing a temporary dam or using a bypass pump to create dry conditions at the proposed crossing location. Timber construction mats will be used as needed to prevent compaction and rutting at crossing locations. All temporary fills and construction mats will be removed immediately after the crossing is successfully completed and the temporarily disturbed area is restored using the appropriate BMPs as described above.

Dewatering: A temporary sump and rock base will be used if a temporary pump is used to dewater an area of accumulated water. If a rock base cannot be used, the pump intake will be elevated to draw water from the top of the water column to avoid the intake and discharge of turbid water. Energy dissipation riprap will be applied to the discharge area of the pump hose. The water will be discharged to a large flat vegetated area for filtration/infiltration prior to draining into receiving waters of conveyances/ditches. If discharge water is unavoidably turbid, dewatering bags, temporary traps, rock weepers, or other adequate BMP will be used to control sediment discharge.

Silt Fence BMP or Fiber Logs: Silt fences or fiber logs will be used as perimeter controls downgradient of exposed soils during construction to capture suspended sediment particles on site, to the extent possible. The standard silt fence or fiber logs will also be used in smaller watershed areas where the contributing areas are typically less than 1/4 acre of drainage per 100 feet of standard silt fence or fiber logs. Standard silt fence or fiber logs will also be used for stockpiles eight feet high or higher which have slopes of 3:1 or steeper. Standard silt fence or fiber logs should not be used in areas of highly erodible soils which are found within streams, slopes, or banks of creeks and streams within the Facility's site.

Rock Entrance/Exit Tracking Control BMP: Rock construction entrances will be installed where access to a construction area from adjacent paved surfaces is needed.

Street Scraping/Sweeping BMP: Street scraping and sweeping will be used to retrieve sediment tracked or washed onto paved surfaces at the end of each working day, or as needed.

4.3 Controlling Stormwater Flowing Onto and Through the Project

Given the low gradient of the slopes in the project area, controlling stormwater flow that enters the project area will likely require minimal effort during decommissioning activities. Only newly disturbed areas may require new, temporary stormwater control.

Diversion Berms/Swales/Ditches: It may be necessary to direct diverted flow toward temporary settling basins via berms, swales, or ditches. If diversion controls are deemed necessary for decommissioning activities, these must be stabilized by temporary mulch and seeding, erosion control blankets, or by installing riprap to protect the channel from erosive forces.

Rock Check Dams: It may be necessary to install temporary check dams within swales or ditches that convey stormwater from areas disturbed by decommissioning activities. Rock check dams effectively control flow velocity and sediment, augmenting temporary stabilization of channels. Filter fabric can help filter the flow, minimize the scour of the soil under the rock, and facilitate removal of the check dams once permanent stabilization is achieved. The height of check dams should be at least two feet. Spacing depends upon slope. Downgradient rock checks should have a top elevation equal to the bottom elevation of the previous (upgradient) rock check.

Temporary Sedimentation Basins: Sedimentation basins serve to remove sediment from runoff from disturbed areas of the site. The basins detain runoff long enough to allow the majority of the sediment to settle out prior to discharge. The location and dimensions of temporary sedimentation basins, if any are necessary, will be verified in accordance with the Illinois Environmental Protection Agency (IEPA) requirements at the time of decommissioning.

4.4 Permitting

All decommissioning and reclamation activities will comply with Federal and State permit requirements. Decommissioning activities that will disturb more than one acre of soil will require coverage under the state-specific NPDES permit for construction stormwater. The permits will be applied for and received prior to decommissioning construction activities commencing. A SWPPP will be developed prior to filing for construction stormwater permit coverage.

If necessary for decommissioning activities, wetlands and waters permits will be obtained from the US Army Corps of Engineers (USACE) or IEPA. A Spill Prevention, Control, and Countermeasures (SPCC) Plan for decommissioning will likely also be required for decommissioning work.

Please see below for a table listing the potentially necessary permits for decommissioning the Facility.

POTENTIALLY NECESSARY PERMITS FOR DECOMMISSIONING

ENTITY	Type of Permit	Description
US EPA/USACE	Wetland and water quality protection under Clean Water Act §§ 401 and 404	Section 401/404 permit or coverage under a nationwide permit if the decommissioning will impact wetlands or waters of the United States
ILLINOIS EPA	NPDES permit for construction activities, including Storm Water Pollution Prevention Plan (SWPPP)	Preparation and electronic submittal of SWPPP and Notice of Intent, as well as permit fee, to Illinois EPA for coverage under Illinois General Storm Water NPDES Permit for Construction Activities (ILR10).
ILL. DEPT. OF TRANSPORTATION (IDOT)	Size and weight limitations for vehicles on any Illinois roads.	Permits for over-size or over-weight vehicles.
IDOT	Permits required for driveway entrance.	Permits for work that may damage state roads or constructing/modifying entrances/exits to state roads.
IDOT	Permits required for road work	Permits for utility work in IDOT right-of-ways

4.5 Health and Safety Standards

Work will be conducted in strict accordance with the Applicant's health and safety plan. The construction contractor hired to perform the decommissioning will also be required to prepare a site-specific health and safety plan. All site workers, including subcontractors, will be required to read, understand, and abide by the health and safety plan. A site safety office will be designated by the construction contractor to ensure compliance. This official will have stop-work authority over all activities on the site should unsafe conditions or lapses in the safety plan be observed.

5.0 Timeline

In accordance with the AIMA, the Facility shall be decommissioned upon the expiration of the Special Use Permit, or at the end of its "useful life," when no electricity is generated for a continuous period of twelve (12) months. It is anticipated that decommissioning activities for the Facility can be completed in (12 months. The Facility shall be decommissioned, at the Applicant's (or its successors-in-interest's and assign's) expense, within eighteen (18) months after the end of the useful life. The estimated costs for decommissioning are tied to assumptions about the amount of equipment mobilized, the crew sizes, weather and climate conditions, and the productivity of the equipment and crews.

6.0 Decommissioning and Reclamation Costs

The cost estimate for decommissioning and reclamation of the Facility was prepared in current dollars with salvage value of equipment or materials included. The estimate includes:

(i) An analysis of the physical activities necessary to implement the approved reclamation plan, with physical construction and demolition costs based on applicable Department of Transportation unit bid prices from surrounding states and RS Means material and labor cost indices;
(ii) The level of effort or number of crews required to perform each of the activities; and
(iii) An amount to cover contingencies above the calculated cost.

The following information was used to develop the cost estimate:

1. Project quantities for the Facility are based on initial site layout.
2. The Estimate is shown on a total cost and a per-turbine basis. In accordance with the AIMA, the decommissioning plan and cost estimate will be reviewed on the tenth (10^{th}) anniversary of Facility operations and every 5 years thereafter. Based on their review, the County may require changes to the Plan.
3. Turbines that are not resold will be assumed to have all applicable components recycled as scrap. The estimate uses a current structural scrap price of $300 per ton, in the Midwest, based on prices posted on scrapmonster.com, December 2024. The posted prices are three months old. The posted spot prices used in the cost estimate were discounted by twenty-five percent (25%) to reflect the difficultly of realizing spot prices from local recyclers.
4. Electrical transformers have significant value due to aluminum or copper used in the windings and the steel used in other parts of the transformer. Newer transformers can be resold. Older transformers are recycled as scrap. Few companies accept used transformers for resale or recycling, so finding pricing is difficult. For this estimate, we used pricing posted on scrapmonster.com of $0.43 per pound for used transformers. We assumed the posted price is similar to the price offered by McCallister Power Systems located in Terr Haute, IN, which was identified as the regional transformer recycling location.
5. Spot prices for insulated copper wire (85% recovery) are $1.69 per pound, scrap electrical motors are $0.44 per pound, and E.C. aluminum wire is $1.08 per pound. The posted spot prices used in the cost estimate were discounted be twenty-five percent (25%) to reflect the difficultly of realizing spot prices from local recyclers.

The total estimated cost of the decommissioning of the Coles Wind Project is summarized in the table below. Please see Attachments A and B for the full Decommissioning Cost Estimates.

Turbine Model	**Cost of Decommissioning** *($ Per Turbine)*	**Salvage Value** *($ Per Turbine)*	**Net Costs** *($ Per Turbine)*
Vestas V162	$13,468,794 *($264,094)*	$5,065,650 *($99,326)*	$8,403,144 *($164,767)*
GE158	$14,629,519 *($286,853)*	$5,444,205 *($106,749)*	$9,185,314 *($180,104)*

7.0 Financial Assurance

Prior to receiving any construction permit approval, the Illinois Department of Agriculture's AIMA with Coles Wind requires that Coles Wind provides a financial assurance ("Financial Assurance") that protects

Coles County from having to pay the costs of decommissioning the Project. In accordance with this requirement, the Applicant shall provide the County with Financial Assurance to cover the estimated costs of decommissioning of the Facility at the time of its building permit submission. The form of Financial Assurance to be provided is attached as Attachment C to this Plan.

In accordance with the AIMA, the form of financial assurance that is attached is a decommissioning surety bond. A surety bond is a legal agreement where the surety guarantees that the Applicant performs its decommissioning obligations for the benefit of Coles County. In exchange for this guarantee, the Applicant pays the surety an annual premium. Thus, a surety bond is similar to an insurance policy for Coles County: it insures that decommissioning will occur even if something happens to Coles Wind or Apex Clean Energy. Yet, a surety bond provides even more protection for a county than insurance because under the bond, the surety must ensure that decommissioning actually occurs, rather than simply pay out an insurance claim.

In accordance with the requirements of the AIMA, the Financial Assurance shall be phased in over the first 11 years of the Facility's operation as follows:

1. On or before the first anniversary of the Commercial Operation Date, the Owner will provide the County with Financial Assurance to cover 10 percent of the estimated costs of decommissioning the facility, as determined by the Decommissioning Plan provided during the initial permitting process.

2. On or before the sixth anniversary of the Commercial Operation Date, the Owner will provide the County with Financial Assurance to cover 50 percent of the estimated costs of decommissioning the facility, as determined by the Decommissioning Plan provided during the initial permitting process.

3. On or before the tenth anniversary of the Commercial Operation Date, the Owner will provide the County with Financial Assurance to cover 100 percent of the estimated costs of decommissioning the facility, as determined by the updated Decommissioning Plan provided during the 10th year after the Commercial Operation Date.

Also in accordance with the AIMA, under the Financial Assurance, the surety is not released from liability to the County until either decommissioning fully occurs or the Applicant provides a replacement Financial Assurance that protects the County.

The AIMA has two further provisions that protect a county by addressing the amount of the Financial Assurance. First, under Section 21.E of the AIMA, Coles County may periodically reevaluate the estimated costs of decommissioning to ensure that the Financial Assurance amount is adequate. Specifically, Section 21.E states that a county may reevaluate the estimated costs of Deconstruction of any Commercial Wind Energy Facility after the 10th anniversary, and every five years thereafter, of the Commercial Operation Date which reevaluation must be performed by an independent third-party Professional Engineer licensed in the State of Illinois. The County shall provide the Facility Owner with a copy of any reevaluation report. Based on any reevaluation, the County may require changes in the level of Financial Assurance used to calculate the phased coverages described in Section 21 D. required from the Facility Owner. The Facility Owner shall be responsible for the cost of any reevaluation by a third-party Professional Engineer. Second, Section 21.D of the AIMA states that, in determining the Financial Assurance amount, the salvage value of the Facility may only be used to reduce the estimated costs of Deconstruction if the County agrees that

all interests in the salvage value are subordinate or have been subordinated to that of the County if Abandonment occurs.

Finally, Section 21.F of the AIMA states that, upon Abandonment, the County may take all appropriate actions for decommissioning, including drawing upon the Financial Assurance. In the event the County declines to take any action for decommissioning, the Landowners may draw upon the Financial Assurance.

The draft Financial Assurance included here, along with this Decommissioning Plan, are in accordance with these AIMA provisions.

Attachment A

Decommissioning Cost Estimate
V162

Coles Wind Facility Decommissioning Cost Estimate				
Number of Turbines	51	Each		
	Quantity	Unit	Unit Cost	Total Cost
Mobilization/Demobilization	1	Lump Sum	$756,000.00	$756,000
Permitting				
County/Municipal Permits	1	Lump Sum	$10,000.00	$10,000
State Permits (SWPPP, SPCC)	1	Lump Sum	$25,000.00	$25,000
Subtotal Permits				**$35,000**
Wind Turbine Generators				
Disconnect Turbine Wiring	51	Each	$3,060.80	$156,101
Fell Turbine	51	Each	$2,043.25	$104,206
Process to Size and Load Turbine Components	17,710	Tons	$160.18	$2,836,788
Haul Turbine Components Offsite for Recycling (except blades)	17,710	Tons	$6.23	$110,333
Haul Turbine Components For Disposal (except blades)	3,694	Tons	$4.78	$17,657
Turbine Component Disposal (except blades)	3,694	Tons	$81.00	$299,214
Haul Fiberglass Blades For Disposal	1,645	Tons	$4.78	$7,863
Confirm Removal of Turbine Residue	51	Each	$2,191.65	$111,774
Fiberglass Blades Disposal	1,645	Tons	$81.00	$133,245
Excavate Around Turbine Foundation	51	Each	$21.14	$1,078
Remove Turbine Foundation and Load	2,678	Cubic Yards	$275.99	$739,101
Backfill Excavation Area from Turbine Foundation Removal	51	Each	$224.49	$11,449
Haul Concrete (Turbine Foundation)	5,423	Tons	$23.26	$126,139
Disposal of Concrete from Turbine Foundation	2,678	Cubic Yards	$81.00	$216,918
Decompact Wind Turbine Generator Site	51	Each	$160.81	$8,201
Grade Wind Turbine Generator Site	51	Each	$2,642.75	$134,780
Erosion and Sediment Control at Turbine/Transformer Site	51	Each	$1,313.19	$66,973
Topsoil and Revegetation at Turbine/Transformer Sites	51	Each	$994.84	$50,737
Till to Farmable Condition	36.8	Acres	$177.52	$6,533
Subtotal Wind Turbine Generators				**$5,139,090**
LiDAR & ADLS Towers				
Disconnect Tower Wiring	2	Each	$1,530.40	$3,061
Dismantle, Disassemble, and Load Tower Components	2	Each	$5,208.79	$10,418
Haul Tower Components Off Site	8.0	Tons	$6.23	$50
Excavate Around Tower Foundation	2	Each	$4.71	$9
Remove Tower Foundation and Load	2.3	Cubic Yards	$275.99	$635
Haul Concrete (Tower Foundation)	0.2	Tons	$23.26	$5
Disposal Concrete from Tower	0.2	Tons	$81.00	$16
Grade Tower Site	2	Each	$1,500.50	$3,001
Erosion and Sediment Control at Tower Site	2	Each	$418.00	$836
Topsoil and Revegetation at Tower Site	0.1	Acre	$1,379.40	$138
Subtotal LiDAR/ADLS Towers				**$18,168**
Electrical Collection System				
Removal of Underground Collector System Cables Shallower than 5 Feet	55	Locations	$400.00	$22,000
Haul Underground Collector System Cables	3.8	Tons	$6.23	$24
Disposal of Removed Cables (See Salvage Value)	3.8	Tons	$0.00	$0
Removal of Junction Box	4	Each	$100.00	$400
Erosion and Sediment Control at Junction Box Location	160	Feet	$4.18	$669
Topsoil and Revegetation at Junction Box Locations	0.04	Acres	$1,379.40	$55
Subtotal Electrical Collection System				**$23,148**
Access Roads				
Remove and Load Gravel Surfacing from Access Roads	36,614	Cubic Yards	$2.85	$104,350
Haul Gravel Removed from Access Roads	59,315	Tons	$23.26	$1,379,667
Disposal of Gravel Removed from Access Roads	59,315	Tons	$0.00	$0
Remove and Load Geotextile Fabric	205,957	Square Yards	$0.91	$187,421
Haul Geotextile Fabric	45	Tons	$4.78	$215
Dispose of Geotextile Fabric	45	Tons	$81.00	$3,645
Remove and Load Culvert from Beneath Access Roads	32	Each	$448.00	$14,336
Haul Culvert Removed from Access Roads	10	Tons	$4.78	$49
Disposal of Culverts	10	Tons	$81.00	$826
Remove Low Water Crossing from Access Roads	1	Each	$3,400.00	$3,400
Haul Low Water Crossing Materials Removed from Access Roads	1	Each	$4.78	$5
Disposal of Low Water Crossing Materials	1	Each	$162.00	$162
Decompact Access Road Corridor	92,680	Linear Feet	$0.08	$7,414
Grade Access Road Corridor	92,680	Linear Feet	$1.56	$144,581
Erosion and Sediment Control Along Access Roads	69,510	Linear Feet	$4.18	$290,552
Topsoil and Revegetation on Removed Access Road Area	51	Acres	$1,379.40	$70,349
Subtotal Access Roads				**$2,206,973**

Substation				
Disassembly and Removal of Main Power Transformer(s)	1	Each	$4,500.00	$4,500.00
Freight Transformer(s) Offsite	1	Each	$560.70	$560.70
Disposal of Transformer (Including Oil; Assume Salvage Value)	1	Each	$0.00	$0.00
Excavate Around Transformer Foundation(s)	1	Each	$1,843.74	$1,843.74
Remove Complete Transformer Foundation(s)	1	Each	$25,198.95	$25,198.95
Backfill Excavation Area from Transformer Foundation Removal	1	Each	$315.17	$315.17
Haul Concrete (Transformer, Switch Gear, etc. Foundations)	213	Tons	$23.26	$4,954.38
Disposal of Concrete from Transformer Foundation	213	Tons	$81.00	$17,253.00
Demolish Substation Site Improvements (fences, etc.)	1	Lump Sum	$3,500.00	$3,500.00
Demolish Control Building and Foundation	1	Lump Sum	$12,000.00	$12,000.00
Remove Medium/High Voltage Equipment	1	Lump Sum	$3,500.00	$3,500.00
Remove Structural Steel Substation Frame	1	Lump Sum	$3,500.00	$3,500.00
Haul - Demolition Materials, Removed Equipment & Structural Steel	1	Lump Sum	$1,246.00	$1,246.00
Disposal of Demolition Materials, Removed Equipment and Structural Steel (Salvage)	1	Lump Sum	$0.00	$0.00
Remove and Load Gravel Surfacing from Substation Site	807	Cubic Yards	$2.85	$2,299.95
Haul Gravel Removed from Substation Site	1,307	Tons	$23.26	$30,400.82
Disposal of Gravel from Substation Site	1,307	Tons	$0.00	$0.00
Decompact Substation Site	1.0	Acre	$222.97	$222.97
Grade Substation Site	1.0	Acre	$4,240.48	$4,240.48
Erosion and Sediment Control at Substation Site	626	Linear Feet	$4.18	$2,616.68
Topsoil and Revegetation at Substation Site	1.0	Acre	$1,379.40	$1,379.40
Subtotal Substation				**$119,532**
O&M Building				
Demolish O&M Building and Foundation	1	Lump Sum	$5,000.00	$5,000
Demolish O&M Site Improvements (fences, etc.)	1	Lump Sum	$3,000.00	$3,000
Haul Concrete (O&M Building Foundation)	613	Ton	$23.26	$14,258
Disposal of Concrete from O&M Building Foundation	613	Ton	$81.00	$49,653
Cap and Abandon Well	1	Lump Sum	$1,000.00	$1,000
Remove & Restore Septic and Drainfield area	1	Lump Sum	$3,000.00	$3,000
Disposal of O&M Building Demolition and Removed Site Improvements	1	Lump Sum	$2,500.00	$2,500
Remove and Load Gravel Surfacing of O&M Site	4,033	Cubic Yards	$2.85	$11,494
Haul Gravel Removed from O&M Site	4,033	Cubic Yards	$23.26	$93,808
Disposal of Gravel from O&M Site	4,033	Cubic Yards	$0.00	$0
Decompact O&M Building Site	5.0	Acre	$222.97	$1,115
Grade O&M Building Site	5.0	Acre	$4,240.48	$21,202
Erosion and Sediment Control at O&M Building Site	1,400	Linear Feet	$4.18	$5,852
Topsoil and Revegetation at O&M Building Site	5.0	Acres	$1,379.40	$6,897
Subtotal O&M Building				**$218,780**
Public Roads Restoration	70	Miles	$44,000.00	$3,080,000
Total Direct Costs				**$11,596,691**
Contingency and County Administration Costs (15%)	15%	Percent		$1,739,504
Crop Loss (102 Acres)	102	Acres	$1,300.00	$132,600
Total Cost				**$13,468,794**
Salvage/Recycle				
Turbine Towers (Structural Steel)	16,930	Tons	$225.00	$3,809,250
Turbine Nacelles (Structural Steel)	3,694	Tons	$225.00	$831,150
ADLS and LiDAR Towers (Structural Steel)	7.6	Tons	$225.00	$1,710
Substation (Structural Steel)	10	Tons	$225.00	$2,250
Turbine Generators	1,217,369	Pounds	$0.33	$401,732
Aluminum Electrical Conductor (Supported)	7,600	Pounds	$0.81	$6,156
Transformers (copper windings)	9,000	Pounds	$0.32	$2,903
Transformers (oil)	15,000	Gallons	$0.70	$10,500
Subtotal Salvage				**$5,065,650**
Total Demolition Minus Resale and Salvage Value				**$8,403,144**

This estimate uses disposal facilities that are currently operational for the basis of this estimate. The estimate does not gurarantee the facilities will be operational at the time of decommissioning. Disposal facilities identified for the purposes of this estimate are listed below:

Facility Name	Disposal Type	Distance (mi)	Travel Time (min)
WM - Coles County Transfer Station, 6111 W State St, Charleston, IL 61920	Landfill	10	13
Harris Metals & Recycling, 1213 N 11th St, Mattoon, IL 61938	Recycling	15	20
Springfield Concrete Recycling, 2100 E Moffat, Springfield, IL 62702	Concrete Recycling	95.5	102
McCallister Power Systems, 20 W Margaret Dr, Terre Haute, IN 47803	Transformer Recycling	56	67
Global Fiberglass Solutions, 927 N 19th Avenue E, Newton, IA 50208	Fiberglass Recycling	360	315

Attachment B

Decommissioning Cost Estimate
GE158

Coles Wind Facility	Decommissioning Cost Estimate			
Number of Turbines	51	Each		
	Quantity	Unit	Unit Cost	Total Cost
Mobilization/Demobilization	1	Lump Sum	$822,000.00	$822,000
Permitting				
County/Municipal Permits	1	Lump Sum	$10,000.00	$10,000
State Permits (SWPPP, SPCC)	1	Lump Sum	$25,000.00	$25,000
Subtotal Permits				**$35,000**
Wind Turbine Generators				
Disconnect Turbine Wiring	51	Each	$3,060.80	$156,101
Fell Turbine	51	Each	$2,043.25	$104,206
Process to Size and Load Turbine Components	20,130	Tons	$160.18	$3,224,423
Haul Turbine Components Offsite for Recycling (except blades)	20,130	Tons	$6.23	$125,410
Haul Turbine Components For Disposal (except blades)	4,712	Tons	$4.78	$22,523
Turbine Component Disposal (except blades)	4,712	Tons	$81.00	$381,672
Haul Fiberglass Blades For Disposal	1,687	Tons	$4.78	$8,064
Confirm Removal of Turbine Residue	51	Each	$2,191.65	$111,774
Fiberglass Blades Disposal	1,687	Tons	$81.00	$136,647
Excavate Around Turbine Foundation	51	Each	$21.14	$1,078
Remove Turbine Foundation and Load	2,678	Cubic Yards	$275.99	$739,101
Backfill Excavation Area from Turbine Foundation Removal	51	Each	$224.49	$11,449
Haul Concrete (Turbine Foundation)	5,423	Tons	$23.26	$126,139
Disposal of Concrete from Turbine Foundation	2,678	Cubic Yards	$81.00	$216,918
Decompact Wind Turbine Generator Site	51	Each	$160.81	$8,201
Grade Wind Turbine Generator Site	51	Each	$2,642.75	$134,780
Erosion and Sediment Control at Turbine/Transformer Site	51	Each	$1,313.19	$66,973
Topsoil and Revegetation at Turbine/Transformer Sites	51	Each	$994.84	$50,737
Till to Farmable Condition	36.8	Acres	$177.52	$6,533
Subtotal Wind Turbine Generators				**$5,632,730**
LiDAR & ADLS Towers				
Disconnect Tower Wiring	2	Each	$1,530.40	$3,061
Dismantle, Disassemble, and Load Tower Components	2	Each	$5,208.79	$10,418
Haul Tower Components Off Site	8	Tons	$6.23	$50
Excavate Around Tower Foundation	2	Each	$4.71	$9
Remove Tower Foundation and Load	2.3	Cubic Yards	$275.99	$635
Haul Concrete (Tower Foundation)	0.2	Tons	$23.26	$5
Disposal of Concrete from Tower	0.2	Tons	$81.00	$16
Grade Tower Site	2	Each	$1,500.50	$3,001
Erosion and Sediment Control at Tower Site	2	Each	$418.00	$836
Topsoil and Revegetation at Tower Site	0.1	Acre	$1,379.40	$138
Subtotal LiDAR/ADLS Towers				**$18,168**
Electrical Collection System				
Removal of Underground Collector System Cables Shallower than 5 Feet	55	Locations	$400.00	$22,000
Haul Underground Collector System Cables	3.8	Tons	$6.23	$24
Disposal of Removed Cables (See Salvage Value)	3.8	Tons	$0.00	$0
Removal of Junction Box	4	Each	$100.00	$400
Erosion and Sediment Control at Junction Box Location	160	Feet	$4.18	$669
Topsoil and Revegetation at Junction Box Locations	0.04	Acres	$1,379.40	$55
Subtotal Electrical Collection System				**$23,148**
Access Roads				
Remove and Load Gravel Surfacing from Access Roads	36,614	Cubic Yards	$2.85	$104,350
Haul Gravel Removed from Access Roads	59,315	Tons	$23.26	$1,379,667
Disposal of Gravel Removed from Access Roads	59,315	Tons	$0.00	$0
Remove and Load Geotextile Fabric	205,957	Square Yards	$0.91	$187,421
Haul Geotextile Fabric	45	Tons	$4.78	$215
Dispose of Geotextile Fabric	45	Tons	$81.00	$3,645
Remove and Load Culvert from Beneath Access Roads	32	Each	$448.00	$14,336
Haul Culvert Removed from Access Roads	10	Tons	$4.78	$48
Disposal of Culverts	10	Tons	$81.00	$810
Remove Low Water Crossing from Access Roads	1	Each	$3,400.00	$3,400
Haul Low Water Crossing Materials Removed from Access Roads	1	Each	$4.78	$5
Disposal of Low Water Crossing Materials	1	Each	$162.00	$162
Decompact Access Road Corridor	92,680	Linear Feet	$0.08	$7,414
Grade Access Road Corridor	92,680	Linear Feet	$1.56	$144,581
Erosion and Sediment Control Along Access Roads	69,510	Linear Feet	$4.18	$290,552
Topsoil and Revegetation on Removed Access Road Area	51	Acres	$1,379.40	$70,349
Subtotal Access Roads				**$2,206,955**

Substation				
Disassembly and Removal of Main Power Transformer(s)	1	Each	$4,500.00	$4,500
Freight Transformer(s) Offsite	1	Each	$560.70	$561
Disposal of Transformer (Including Oil; Assume Salvage Value)	1	Each	$0.00	$0
Excavate Around Transformer Foundation(s)	1	Each	$1,843.74	$1,844
Remove Complete Transformer Foundation(s)	1	Each	$25,198.95	$25,199
Backfill Excavation Area from Transformer Foundation Removal	1	Each	$315.17	$315
Haul Concrete (Transformer, Switch Gear, etc. Foundations)	213	Tons	$23.26	$4,954
Disposal of Concrete from Transformer Foundation	213	Tons	$81.00	$17,253
Demolish Substation Site Improvements (fences, etc.)	1	Lump Sum	$3,500.00	$3,500
Demolish Control Building and Foundation	1	Lump Sum	$12,000.00	$12,000
Remove Medium/High Voltage Equipment	1	Lump Sum	$3,500.00	$3,500
Remove Structural Steel Substation Frame	1	Lump Sum	$3,500.00	$3,500
Haul - Demolition Materials, Removed Equipment & Structural Steel	1	Lump Sum	$1,246.00	$1,246
Disposal of Demolition Materials, Removed Equipment and Structural Steel (Salvage)	1	Lump Sum	$0.00	$0
Remove and Load Gravel Surfacing from Substation Site	807	Cubic Yards	$2.85	$2,300
Haul Gravel Removed from Substation Site	1,307	Tons	$23.26	$30,401
Disposal of Gravel from Substation Site	1,307	Tons	$81.00	$105,867
Decompact Substation Site	1	Acre	$222.97	$223
Grade Substation Site	1	Acre	$4,240.48	$4,240
Erosion and Sediment Control at Substation Site	626	Linear Feet	$4.18	$2,617
Topsoil and Revegetation at Substation Site	1.0	Acre	$1,379.40	$1,379
Subtotal Substation				**$225,399**
O&M Building				
Demolish O&M Building and Foundation	1	Lump Sum	$5,000.00	$5,000
Demolish O&M Site Improvements (fences, etc.)	1	Lump Sum	$3,000.00	$3,000
Haul Concrete (O&M Building Foundation)	613	Ton	$23.26	$14,258
Crush Concrete	613	Ton	$28.00	$17,164.00
Disposal of Concrete from O&M Building Foundation	613	Ton	$81.00	$49,653
Cap and Abandon Well	1	Lump Sum	$1,000.00	$1,000
Remove & Restore Septic and Drainfield area	1	Lump Sum	$3,000.00	$3,000
Disposal of O&M Building Demolition and Removed Site Improvements	1	Lump Sum	$2,500.00	$2,500
Remove and Load Gravel Surfacing of O&M Site	4,033	Cubic Yards	$2.85	$11,494
Haul Gravel Removed from O&M Site	4,033	Cubic Yards	$23.26	$93,808
Disposal of Gravel from O&M Site	4,033	Cubic Yards	$81.00	$326,673
Decompact O&M Building Site	5.0	Acre	$222.97	$1,115
Grade O&M Building Site	5.0	Acre	$4,240.48	$21,202
Erosion and Sediment Control at O&M Building Site	1,400	Linear Feet	$4.18	$5,852
Topsoil and Revegetation at O&M Building Site	5.0	Acres	$1,379.40	$6,897
Subtotal O&M Building				**$562,617**
Public Roads Restoration	70	Miles	$44,000.00	$3,080,000
Total Direct Costs				**$12,606,017**
Contingency and County Administration Costs (15%)	15%	Percent		$1,890,903
Crop Loss (102 Acres)	102	Acres	$1,300.00	$132,600
Total Cost				**$14,629,519**
Salvage/Recycle				
Turbine Towers (Structural Steel)	17,106	Tons	$225.00	$3,848,850
Turbine Nacelles (Structural Steel)	4,712	Tons	$225.00	$1,060,200
ADLS and LiDAR Towers (Structural Steel)	7.6	Tons	$225.00	$1,710
Substation (Structural Steel)	10	Tons	$225.00	$2,250
Turbine Generators	1,550,415	Pounds	$0.33	$511,637
Aluminum Electrical Conductor (Supported)	7,600	Pounds	$0.81	$6,156
Transformers (copper windings)	9,000	Pounds	$0.32	$2,903
Transformers (oil)	15,000	Gallons	$0.70	$10,500
Subtotal Salvage				**$5,444,205**
Total Demolition Minus Resale and Salvage Value				**$9,185,314**

This estimate uses disposal facilities that are currently operational for the basis of this estimate. The estimate does not gurarantee the facilities will be operational at the time of decommissioning. Disposal facilities identified for the purposes of this estimate are listed below:

Facility Name	Disposal Type	Distance (mi)	Travel Time (min)
WM - Coles County Transfer Station, 6111 W State St, Charleston, IL 61920	Landfill	10	13
Harris Metals & Recycling, 1213 N 11th St, Mattoon, IL 61938	Recycling	15	20
Springfield Concrete Recycling, 2100 E Moffat, Springfield, IL 62702	Concrete Recycling	95.5	102
McCallister Power Systems, 20 W Margaret Dr, Terre Haute, IN 47803	Transformer Recycling	56	67
Global Fiberglass Solutions, 927 N 19th Avenue E, Newton, IA 50208	Fiberglass Recycling	360	315

Attachment C

Draft Financial Assurance

Bond No.

DECOMMISSIONING BOND

KNOW ALL BY THESE PRESENTS: That we, Coles Wind, LLC, as Principal, and, _____, an _____corporation duly authorized under the laws of the State of Illinois, as Surety, are held and firmly bound unto Coles County, Illinois, as Obligee in the maximum aggregate penal sum of _____Dollars ($ _____), lawful money of the United States of America, to be paid to the said Obligee, successors or assigns; for which payment, well and truly to be made, we bind ourselves, our heirs, executors, successors, administrators and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THE OBLIGATION IS SUCH THAT:

Whereas, the Obligee approved Coles County Amended Ordinance: Standards for Wind Energy Conversion Systems Over 500kW, dated May 9, 2023 ("WECS Siting Regulations Ordinance"), which sets forth the terms and conditions that govern the siting approval process, development, construction, operation, maintenance and decommissioning of wind energy conversion systems ("WECS") in Coles County, Illinois;

Whereas, under the WECS Siting Regulations Ordinance, said Principal is required to furnish a decommissioning plan and a decommissioning surety bond for the faithful performance of the decommissioning of any Wind Energy Conversion System over 500kW.

Now, Therefore, the condition of this obligation is such that if the above bounded Principal, his or its heirs, executors, administrators, successors or assigns, shall in all thing stand to and abide by, and well and truly keep and perform the decommissioning provisions in the said decommissioning plan and any alteration thereof made as therein provided, on his or their part, to be kept and performed at the time and in the manner therein specified, and in all respects according to their true intent and meaning, and shall indemnify and save harmless the Obligee, its officers, agents and employees, as therein stipulated, then this obligation shall become null and void; otherwise it shall be and remain in full force and effect.

Provided further, that if the Principal fails to respond to the Obligee's notice of default or fails to perform its Decommissioning responsibilities as outlined in said decommissioning plan the Surety shall promptly and at the Surety's election and expense take one of the following actions:

1. Arrange for the Principal, with consent of the Obligee, to perform and complete the Decommissioning; or
2. Undertake to perform and complete the Decommissioning itself, through its agents or through independent contractors; or
3. Waive its right to perform the Decommissioning and forfeit the full bond penalty to the Obligee.

The surety may cancel this bond at any time by giving the Obligee sixty (60) days written notice of its desire to be relieved of Liability. However, the failure or inability of the Principal to file a replacement bond or other security in the event the Surety exercises its right to cancel this Bond, shall not itself constitute a loss to the Obligee recoverable under this Bond or any extension thereof.

Nonpayment of the premiums associated with this Bond will not invalidate this Bond nor shall Obligee be obligated for the payment thereof.

The liability of the Surety under this bond and all continuation certificates issued in connection therewith shall not be cumulative and shall in no event exceed the amount as set forth in this bond or in any additions, riders, or endorsements properly issued by the Surety as supplements thereto.

IN WITNESS WHEREOF, the signature of said Principal is hereto affixed and the corporate seal and the name of the Surety is hereto affixed and attested by its duly authorized Attorney-in-Fact, _____ day of _____ , 20__.

_____

By:_____

_____

By:_____

DUAL OBLIGEE RIDER

(To be attached to Bond at time of issuance)

TO BE ATTACHED TO AND FORM PART OF Bond No._____, dated concurrently with the execution of this Rider, by_____, as Surety, on behalf of, Coles Wind, LLC, as Principal, and in favor of Coles County, Illinois ("Primary Obligee") and each of the landowners whose land is improved with Project improvements based on signed lease agreements, license agreements, or easement agreements with the Principal or units of local government whose public utility easements or public rights of way have Project improvements to be located or located within them, as "Secondary Obligees".

IT IS HEREBY UNDERSTOOD AND AGREED that the attached Bond is hereby amended to include the following:

In accordance with the terms of the Decommissioning Agreement, the Secondary Obligees are not authorized to make a claim(s) upon this Bond, unless the Primary Obligee fails to make a claim on behalf of one or more of the Secondary Obligees after Abandonment (as defined in the Agricultural Impact Mitigation Agreement or the WECS Siting Regulations Ordinance) relative to the failure by the Principal or the Surety to perform or complete or pay for the Decommission and Restoration Work. In no event shall the liability of the Principal and the Surety to the Obligee, or either of them, in the aggregate, exceed the penal sum stated in the attached Bond.

IT IS FURTHER UNDERSTOOD AND AGREED that nothing contained in this Rider shall be held to change, alter, or vary the terms of the attached Bond except as set forth hereinabove. In the event of a conflict between the Bond and this Rider, the parties agree that this Rider shall govern and control. All references to the Bond, either in the Bond or in this Rider, shall include and refer to the Bond as supplemented and amended by this Rider. Except as provided by this Rider, all other terms and conditions of the Bond remain in full force and effect.
This Rider may be executed in two or more counterparts, each of which shall be deemed an original, but which together shall constitute one and some instrument.

SIGNED, SEALED AND DATED this ___ day of _____, 2025.

PRINCIPAL:

Signature:_____

Name and Title:_____

SURETY:

Signature:_____
Attorney-in-Fact

Name and Title: _____

Agreed to and accepted by:

OBLIGEE:
Signature: _____ Name and Title: _____

Appendix D.2

Illinois Department of Natural Resources Review Results

(*SUP Application, §B.11*)

EcoCAT
Ecological Compliance Assessment Tool

ILLINOIS DEPARTMENT OF NATURAL RESOURCES

Applicant: Coles Wind, LLC
Contact: Ashley Reed
Address: 120 Garrett Street, Suite 700
Charlottesville, VA 22902

IDNR Project Number: 2505794
Date: 11/04/2024

Project: Coles Wind
Address: 120 Garrett Street, Suite 700, Charlottesville

Description: utility scale wind facility

Natural Resource Review Results

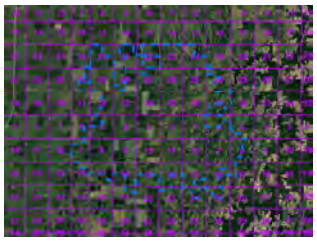
Consultation for Endangered Species Protection and Natural Areas Preservation (Part 1075)

The Illinois Natural Heritage Database contains no record of State-listed threatened or endangered species, Illinois Natural Area Inventory sites, dedicated Illinois Nature Preserves, or registered Land and Water Reserves in the vicinity of the project location.

Consultation is terminated. This consultation is valid for two years unless new information becomes available that was not previously considered; the proposed action is modified; or additional species, essential habitat, or Natural Areas are identified in the vicinity. If the project has not been implemented within two years of the date of this letter, or any of the above listed conditions develop, a new consultation is necessary. Termination does not imply IDNR's authorization or endorsement.

Location

The applicant is responsible for the accuracy of the location submitted for the project.



County: Coles	*County:* Douglas
Township, Range, Section:	*Township, Range, Section:*
13N, 10E, 5	, ,
13N, 10E, 6	, ,
13N, 10E, 7	, ,
13N, 10E, 8	, ,
13N, 10E, 17	, ,
13N, 10E, 18	, ,
13N, 10E, 19	, ,
13N, 9E, 1	, ,
13N, 9E, 2	, ,
13N, 9E, 3	, ,
13N, 9E, 4	, ,
13N, 9E, 5	, ,
13N, 9E, 6	, ,
13N, 9E, 7	, ,
13N, 9E, 8	, ,
13N, 9E, 9	, ,
13N, 9E, 10	, ,
13N, 9E, 11	, ,
13N, 9E, 12	, ,
13N, 9E, 13	, ,

13N, 9E, 14	, ,
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13N, 9E, 22	, ,
13N, 9E, 23	, ,
13N, 9E, 24	, ,
14N, 10E, 19	, ,
14N, 10E, 30	, ,
14N, 10E, 31	, ,
14N, 9E, 19	, ,
14N, 9E, 20	, ,
14N, 9E, 21	, ,
14N, 9E, 22	, ,
14N, 9E, 23	, ,
14N, 9E, 24	, ,
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14N, 9E, 32	, ,
14N, 9E, 33	, ,
14N, 9E, 34	, ,
14N, 9E, 35	, ,
14N, 9E, 36	, ,
, ,	14N, 9E, 13
, ,	14N, 9E, 14
, ,	14N, 9E, 15
, ,	14N, 9E, 16
, ,	14N, 9E, 17
, ,	14N, 9E, 18

IL Department of Natural Resources Contact
Adam Rawe
217-785-5500
Division of Ecosystems & Environment

Government Jurisdiction
Coles County Regional Planning
Kelly Lockhart
651 Jackson Ave
Charleston, Illinois 61920

Disclaimer

The Illinois Natural Heritage Database cannot provide a conclusive statement on the presence, absence, or condition of natural resources in Illinois. This review reflects the information existing in the Database at the time of this inquiry, and should not be regarded as a final statement on the site being considered, nor should it be a substitute for detailed site surveys or field surveys required for environmental assessments. If additional protected resources are encountered during the project's implementation, compliance with applicable statutes and regulations is required.

Terms of Use

By using this website, you acknowledge that you have read and agree to these terms. These terms may be revised by IDNR as necessary. If you continue to use the EcoCAT application after we post changes to these terms, it will mean that you accept such changes. If at any time you do not accept the Terms of Use, you may not continue to use the website.

1. The IDNR EcoCAT website was developed so that units of local government, state agencies and the public could request information or begin natural resource consultations on-line for the Illinois Endangered Species Protection Act, Illinois Natural Areas Preservation Act, and Illinois Interagency Wetland Policy Act. EcoCAT uses databases, Geographic Information System mapping, and a set of programmed decision rules to determine if proposed actions are in the vicinity of protected natural resources. By indicating your agreement to the Terms of Use for this application, you warrant that you will not use this web site for any other purpose.

2. Unauthorized attempts to upload, download, or change information on this website are strictly prohibited and may be punishable under the Computer Fraud and Abuse Act of 1986 and/or the National Information Infrastructure Protection Act.

3. IDNR reserves the right to enhance, modify, alter, or suspend the website at any time without notice, or to terminate or restrict access.

Security

EcoCAT operates on a state of Illinois computer system. We may use software to monitor traffic and to identify unauthorized attempts to upload, download, or change information, to cause harm or otherwise to damage this site. Unauthorized attempts to upload, download, or change information on this server is strictly prohibited by law.

Unauthorized use, tampering with or modification of this system, including supporting hardware or software, may subject the violator to criminal and civil penalties. In the event of unauthorized intrusion, all relevant information regarding possible violation of law may be provided to law enforcement officials.

Privacy

EcoCAT generates a public record subject to disclosure under the Freedom of Information Act. Otherwise, IDNR uses the information submitted to EcoCAT solely for internal tracking purposes.

EcoCAT
Ecological Compliance Assessment Tool

ILLINOIS DEPARTMENT OF NATURAL RESOURCES

EcoCAT Receipt

Project Code 2505794

APPLICANT	DATE
Coles Wind, LLC Ashley Reed 120 Garrett Street, Suite 700 Charlottesville, VA 22902	11/4/2024

DESCRIPTION	FEE	CONVENIENCE FEE	TOTAL PAID
EcoCAT Consultation	$ 125.00	$ 2.81	$ 127.81

TOTAL PAID $ 127.81

Illinois Department of Natural Resources
One Natural Resources Way
Springfield, IL 62702
217-785-5500
dnr.ecocat@illinois.gov

Illinois Department of Natural Resources
JB Pritzker, Governor • Natalie Phelps Finnie, Director
One Natural Resources Way • Springfield, Illinois 62702-1271
www.dnr.illinois.gov

November 15, 2024

Kelly Lockhart
Coles County Regional Planning
651 Jackson Ave
Charleston, IL 61920

RE: Coles Wind
Consultation Program
EcoCAT Review # 2505757
Coles and Douglas County

Dear Mr. Lockhart:

The Department has received your submission for this project for the purposes of consultation pursuant to the *Illinois Endangered Species Protection Act* [520 ILCS 10/11], the *Illinois Natural Areas Preservation Act* [525 ILCS 30/17], and Title 17 *Illinois Administrative Code* Part 1075.

The proposed action consists of a proposed installation of a wind facility in Coles and Douglas County, Illinois. This review is only for the operation and construction of the facility as described, separate consultations with the Department will be required for any additional infrastructure associated with this facility.

The Illinois Natural Heritage Database shows the following protected resources may be in the vicinity of the project location:

State Threatened or Endangered Species
Black-billed Cuckoo (*Coccyzus erythropthalmus*)[*]
Indiana Bat (*Myotis sodalis*)*
Northern Long-eared Bat (*Myotis septentrionalis*)*
Upland Sandpiper (*Bartramia longicauda*)*

Due to the project scope and proximity to protected resources, the Department offers the following comments and recommends the following actions be taken to avoid adversely impacting listed species and protected natural areas in the vicinity of the project:

[*] This species was not indicated to be in the vicinity of the project by the Illinois Natural Heritage Database, however, due to the potential suitable habitat in the project area and occurrence of records in the vicinity, it was added to the list of species being reviewed for this project.

Black-billed Cuckoo, Indiana Bat, Northern Long-eared Bat, and Upland Sandpiper

The Department recommends that the County require the project proponent to curtail wind turbine operations below wind speeds of 6.9 meters per second, from sunset to sunrise, between July 15 and October 15, to avoid the unlawful take of State-listed bats and birds, and to minimize mortality of all bat species. Wind turbines should be feathered (minimal rotations) during these curtailment events.

- If the above recommendations cannot be implemented, the Department has determined adverse impacts are likely and thus recommends the project proponent seek an Incidental Take Authorization (ITA) pursuant to Part 1080 and Section 5.5 of the *Illinois Endangered Species Protection Act* for the Black-billed Cuckoo, Indiana Bat, Northern Long-eared Bat, and Upland Sandpiper.
- All questions pertaining to ITA should be directed to the ITA coordinator, Heather Osborn (Heather.Osborn@Illinois.gov). Visit the link below for information on the ITA process: Incidental Take Authorizations - Species Conservation (illinois.gov) Incidental Take Authorizations - Species Conservation (illinois.gov)

Please note that due to the federal status of the Indiana Bat and Northern Long-eared Myotis, and their potential occurrence in the project area, coordination with the U.S. Fish and Wildlife Service may be necessary and is separate from this consultation and Illinois State regulations.

Given the above recommendations are adopted, the Department has determined that impacts to these protected resources are unlikely. The Department has determined impacts to other protected resources in the vicinity of the project location are also unlikely. If the recommended ITA is pursued and issued, that authorization and associated permits provide legal protection should the project take a listed species.

In accordance with 17 Ill. Adm. Code 1075.40(h), please notify the Department of your decision regarding these recommendations.

Consultation on the part of the Department is closed, unless the applicant desires additional information or advice related to this proposal. Consultation for Part 1075 is valid for two years unless new information becomes available which was not previously considered; the proposed action is modified; or additional species, essential habitat, or Natural Areas are identified in the vicinity. If the action has not been implemented within two years of the date of this letter, or any of the above listed conditions develop, a new consultation is necessary.

The natural resource review reflects the information existing in the Illinois Natural Heritage Database at the time of the project submittal and should not be regarded as a final statement on the project being considered, nor should it be a substitute for detailed site surveys or field surveys required for environmental assessments. If additional protected resources are unexpectedly encountered during the project's implementation, the applicant must comply with the applicable statutes and regulations.

This letter does not serve as permission to take any listed or endangered species. As a reminder, no take of an endangered species is permitted without an Incidental Take Authorization or the required permits. Anyone who takes a listed or endangered species without an Incidental Take Authorization or required permit may be subject to criminal and/or civil penalties pursuant to the *Illinois Endangered Species Act*, the *Fish and Aquatic Life Act*, the *Wildlife Code* and other applicable authority.

The Department also offers the following conservation measures be considered to help protect native wildlife and enhance natural areas in the project area:

- Where industry standards allow required night lighting should follow International Dark-Sky Association (IDA) guidance to minimize the effects of light pollution on wildlife; including shielding fixtures so no light travels upward, using "warm-white" or filtered LEDs (CCT < 3,000 K) to minimize blue light emission, and avoiding over-lighting.
- Demand-controlled night marking, which switch off the permanent night-time lighting and only activate it when an approaching flying object is near, should be implemented to minimize impacts on native bats and birds.
- Soil erosion and sediment control BMPs should be implemented and properly maintained. If erosion control blanket is to be used, wildlife-friendly plastic-free blanket should be used to prevent the entanglement of native wildlife.
- The applicant should consider implementing smart curtailment technology, such as the Turbine-Integrated Mortality Reduction (TIMR) System, or other relevant best available technologies, to further minimize impacts to bats.
- The applicant should consider contributing Post-Construction Mortality (PCM) data to the American Wind Wildlife Information Center (AWWIC). For more information, visit: AWWIC Data Contributor Guide - Renewable Energy Wildlife Institute (rewi.org)

To avoid and minimize potential impacts to aquatic life in perennial streams and wildlife in stream riparian zones, forested areas, and CREP enrolled properties, the Department suggests the following setbacks be implemented:

- 1 mile linear from any Illinois Nature Preserves Commission (INPC) properties
- 1 mile linear from any IDNR owned, managed, and leased properties
- 0.25 mile linear from any Illinois Natural Area Inventory Sites
- 0.25 mile linear from any biologically significant streams (BSS). For more information, visit: Biological Stream Ratings (illinois.gov)
- 1,000' linear from any CREP enrolled property
- 1,000' linear from any forested riparian corridor
- 1,000' linear from any 5-acre forested block
- 300' linear from any perennial stream

Please contact Isabella Newingham (Isabella.newingham@illinois.gov) with any questions about this review.

Sincerely,

Bradley Hayes
Manager, Impact Assessment Section
Division of Real Estate Services and Consultation
Office of Realty & Capital Planning
Illinois Department of Natural Resources
One Natural Resources Way
Springfield, IL 62702
Bradley.Hayes@Illinois.gov
Phone: (217) 782-0031

Cc. Heather Osborn – Incidental Take Authorization Coordinator
Ashley Reed – Environmental Resources Specialist

Appendix D.3

U.S. Fish and Wildlife Service Review Results

(*SUP Application, §B.12*)

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

NOT FOR CONSULTATION

Project information

NAME

Coles Wind

LOCATION

Coles and Douglas counties, Illinois

DESCRIPTION

None

Local office

Southern Illinois Sub-Office

(618) 998-5945

Marion@fws.gov

MAILING ADDRESS

Southern Illinois Sub-office
8588 Route 148
Marion, IL 62959-5822

PHYSICAL ADDRESS

6987 Headquarters Road
Marion, IL 62959

https://www.fws.gov/office/illinois-iowa-ecological-services

NOT FOR CONSULTATION

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Log in to IPaC.
2. Go to your My Projects list.
3. Click PROJECT HOME for this project.
4. Click REQUEST SPECIES LIST.

Listed species[1] and their critical habitats are managed by the Ecological Services Program of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries[2]).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact NOAA Fisheries for species under their jurisdiction.

---

1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the listing status page for more information. IPaC only shows species that are regulated by USFWS (see FAQ).
2. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of

NOT FOR CONSULTATION

Commerce.

The following species are potentially affected by activities in this location:

Mammals

NAME	STATUS
Indiana Bat Myotis sodalis Wherever found There is **final** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/5949	Endangered
Northern Long-eared Bat Myotis septentrionalis Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/9045	Endangered
Tricolored Bat Perimyotis subflavus Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/10515	Proposed Endangered

Birds

NAME	STATUS
Whooping Crane Grus americana No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/758	EXPN

Clams

NAME	STATUS
Snuffbox Mussel Epioblasma triquetra Wherever found There is **proposed** critical habitat for this species. https://ecos.fws.gov/ecp/species/4135	Endangered

Insects

NAME	STATUS

NOT FOR CONSULTATION

Monarch Butterfly Danaus plexippus — Proposed Threatened

Wherever found

There is **proposed** critical habitat for this species.
https://ecos.fws.gov/ecp/species/9743

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

There are no critical habitats at this location.

You are still required to determine if your project(s) may have effects on all above listed species.

Bald & Golden Eagles

Bald and golden eagles are protected under the Bald and Golden Eagle Protection Act[1] and the Migratory Bird Treaty Act[2].

Any person or organization who plans or conducts activities that may result in impacts to bald or golden eagles, or their habitats[3], should follow appropriate regulations and consider implementing appropriate conservation measures, as described in the links below. Specifically, please review the "Supplemental Information on Migratory Birds and Eagles".

Additional information can be found using the following links:

- Eagle Management https://www.fws.gov/program/eagle-management
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide conservation measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf
- Supplemental Information for Migratory Birds and Eagles in IPaC https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action

NOT FOR CONSULTATION

There are likely bald eagles present in your project area. For additional information on bald eagles, refer to Bald Eagle Nesting and Sensitivity to Human Activity

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, see the PROBABILITY OF PRESENCE SUMMARY below to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Bald Eagle *Haliaeetus leucocephalus* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.	Breeds Oct 15 to Aug 31
Golden Eagle *Aquila chrysaetos* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1680	Breeds elsewhere

NOT FOR CONSULTATION

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read "Supplemental Information on Migratory Birds and Eagles", specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted

Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.

2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

Breeding Season ( )
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

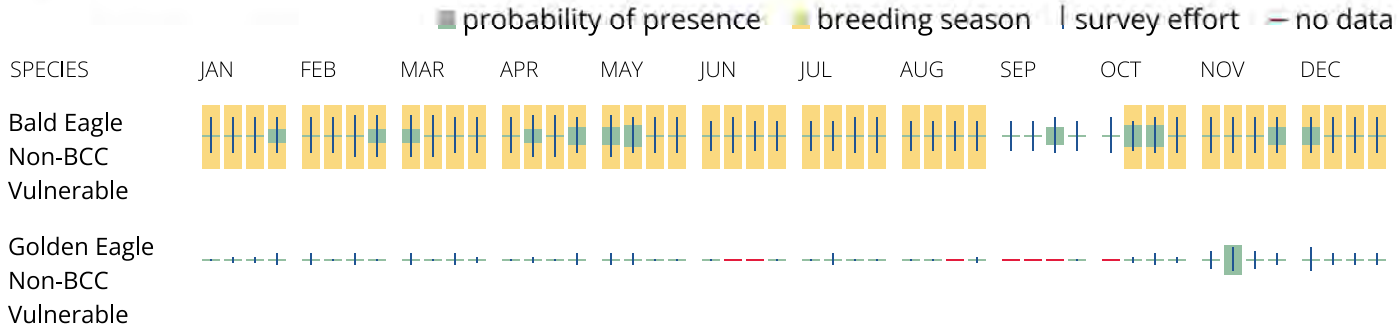
Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.

NOT FOR CONSULTATION



What does IPaC use to generate the potential presence of bald and golden eagles in my specified location?

The potential for eagle presence is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply). To see a list of all birds potentially present in your project area, please visit the Rapid Avian Information Locator (RAIL) Tool.

What does IPaC use to generate the probability of presence graphs of bald and golden eagles in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the Rapid Avian Information Locator (RAIL) Tool.

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur. Please contact your local Fish and Wildlife Service Field Office if you have questions.

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Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats[3] should follow appropriate regulations and consider implementing appropriate conservation measures, as described in the links below. Specifically, please review the "Supplemental Information on Migratory Birds and Eagles".

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.

Additional information can be found using the following links:

- Eagle Management https://www.fws.gov/program/eagle-management

- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide conservation measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf
- Supplemental Information for Migratory Birds and Eagles in IPaC https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action

The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ below. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the E-bird data mapping tool (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found below.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, see the PROBABILITY OF PRESENCE SUMMARY below to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
American Golden-plover Pluvialis dominica This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds elsewhere
Bald Eagle Haliaeetus leucocephalus This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.	Breeds Oct 15 to Aug 31
Black-billed Cuckoo Coccyzus erythropthalmus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9399	Breeds May 15 to Oct 10

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Bobolink Dolichonyx oryzivorus — Breeds May 20 to Jul 31

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Cerulean Warbler Setophaga cerulea — Breeds Apr 21 to Jul 20

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/2974

Chimney Swift Chaetura pelagica — Breeds Mar 15 to Aug 25

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Golden Eagle Aquila chrysaetos — Breeds elsewhere

This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.
https://ecos.fws.gov/ecp/species/1680

Grasshopper Sparrow Ammodramus savannarum perpallidus — Breeds Jun 1 to Aug 20

This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA
https://ecos.fws.gov/ecp/species/8329

Henslow's Sparrow Centronyx henslowii — Breeds May 1 to Aug 31

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/3941

Kentucky Warbler Geothlypis formosa — Breeds Apr 20 to Aug 20

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Lesser Yellowlegs Tringa flavipes — Breeds elsewhere

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9679

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Pectoral Sandpiper *Calidris melanotos* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds elsewhere
Prairie Loggerhead Shrike *Lanius ludovicianus excubitorides* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/8833	Breeds Feb 1 to Jul 31
Prothonotary Warbler *Protonotaria citrea* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Apr 1 to Jul 31
Red-headed Woodpecker *Melanerpes erythrocephalus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 10 to Sep 10
Rusty Blackbird *Euphagus carolinus* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds elsewhere
Semipalmated Sandpiper *Calidris pusilla* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds elsewhere
Short-billed Dowitcher *Limnodromus griseus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9480	Breeds elsewhere
Upland Sandpiper *Bartramia longicauda* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/9294	Breeds May 1 to Aug 31
Wood Thrush *Hylocichla mustelina* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 10 to Aug 31

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Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read "Supplemental Information on Migratory Birds and Eagles", specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (▪)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

Breeding Season (▪)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

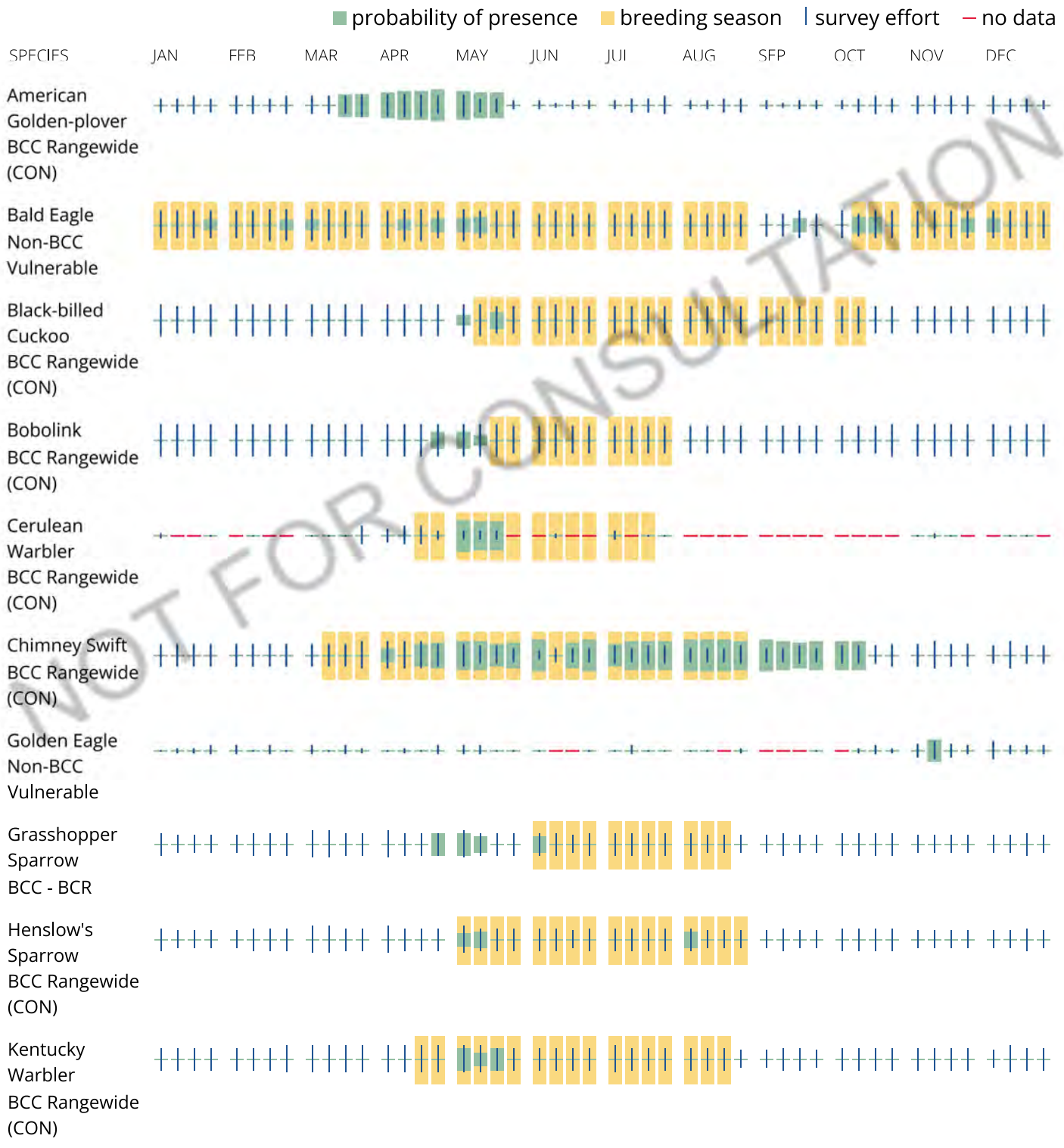
Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

NOT FOR CONSULTATION

To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.



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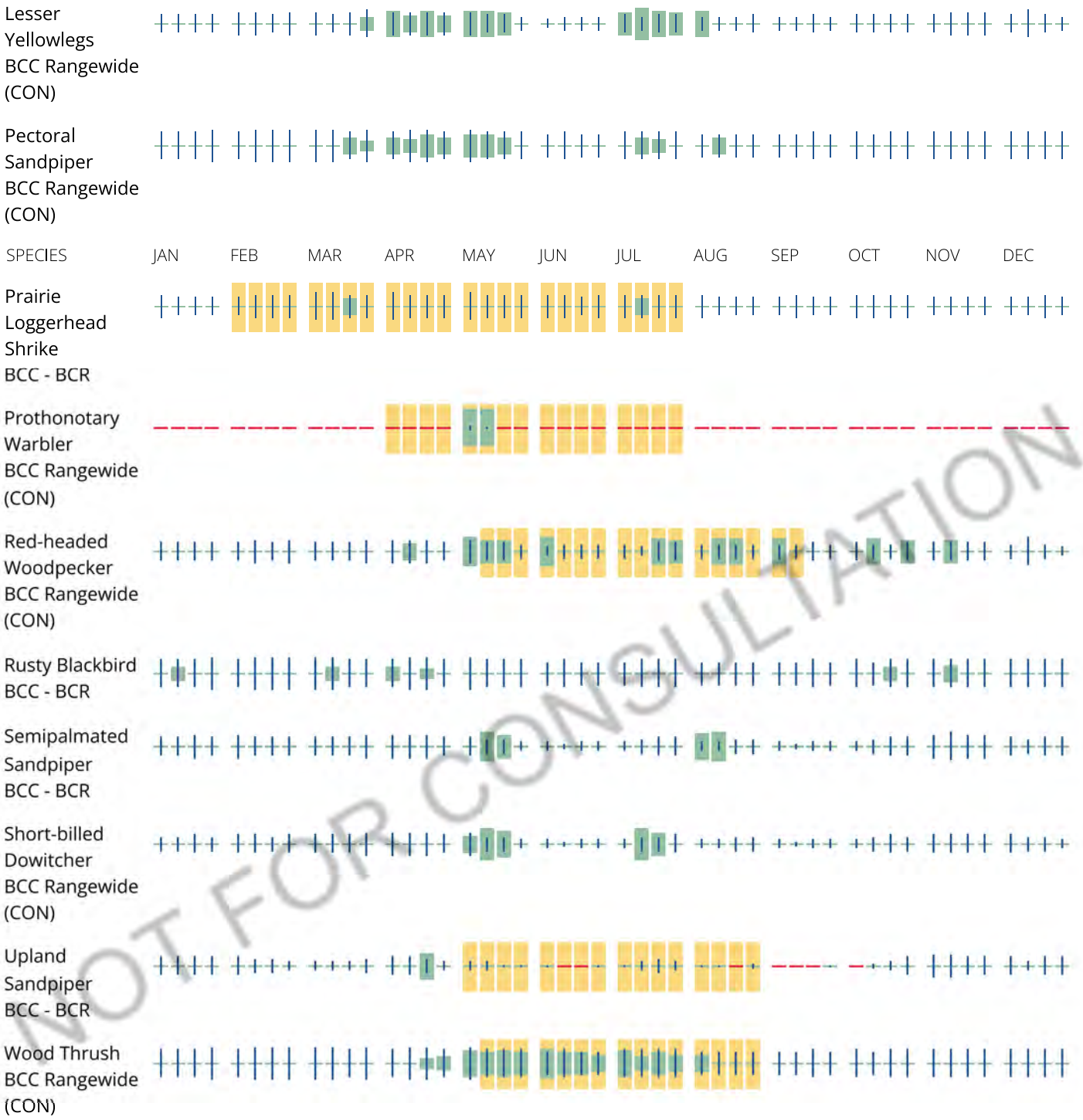

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Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the list of migratory birds that potentially occur in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the Rapid Avian Information Locator (RAIL) Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets.

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering or migrating in my area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may query your location using the RAIL Tool and look at the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

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Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel or Pam Loring.

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

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Facilities

National Wildlife Refuge lands

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

There are no refuge lands at this location.

Fish hatcheries

There are no fish hatcheries at this location.

Wetlands in the National Wetlands Inventory (NWI)

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

Wetland information is not available at this time

This can happen when the National Wetlands Inventory (NWI) map service is unavailable, or for very large projects that intersect many wetland areas. Try again, or visit the NWI map to view wetlands at this location.

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

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The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate Federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

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Appendix D.4

Telecommunication Studies

(*Design and Installation, §K*)

Outlook

Coles Wind - third-party resumes per WECS Ordinance

From Alan Moore <alan.moore@apexcleanenergy.com>
Date Tue 10/29/2024 2:21 PM
To Kelly Lockhart - Coles Co Regional Planning <KLockhart@co.coles.il.us>

2 attachments (254 KB)
Coles Wind - Avian and Wildlife Resume.pdf; Coles Wind - Telecommunications Analysis Qualifications.pdf;

Good afternoon, Kelly

Coles Wind, LLC (Coles Wind) is developing the approximately 300-megawatt Coles Wind Project (Project) in northern Coles County. Coles Wind is preparing a Special Use Permit application (Application) to submit in the first of quarter 2025. As part of the Application process, the Coles County Amended Ordinance, Standard for Wind Energy Conversion Systems over 500kw (dated May 9, 2023; WECS Ordinance), lists a requirement to provide resumes of third-party qualified professionals in two places:

- **Design and Installation, K.1 - Communications Analysis, Interference** - "The Applicant, at its expense, shall have a third party, qualified professional (after submission of resume and relevant work experience) conduct an appropriate analysis of the television reception documenting the television stations that are received within one and one-half (1 ½) miles of the footprint of the WECS Project."
- **Design and Installation, O - Avian and Wildlife Impact Study** - "The Applicant, at its expense, shall have a third party, qualified professional (after submission of resume and relevant work experience) conduct an avian and wildlife impact study and submit said study to the County as part of the Special Use Permit application."

Therefore, Coles Wind respectfully submits the qualifications of Comsearch, who will conduct the telecommunications analysis, and T. Travis Brown of Western EcoSystems Technology, Inc. (WEST), who will conduct the Avian and Wildlife Impact Study.

We look forward to submitting our Application in the coming months.

Sincerely,

Alan

ALAN MOORE
Director of Development

Apex Clean Energy
120 Garrett Street, Suite 700, Charlottesville, VA 22902
office: 434-328-2303 | cell: 434-249-8831 | fax: 434-220-3712
alan.moore@apexcleanenergy.com | www.apexcleanenergy.com

APEX CLEAN ENERGY

Safety • Integrity • Entrepreneurship • Sustainability • Professionalism

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Not printing this email saves energy and conserves resources.

INTRODUCTION

Comsearch has been supporting the Wind Energy and Electrical Power Industry in providing invaluable telecommunication engineering studies and evaluations for more than 20 years. As the leading US provider of microwave spectrum engineering services and ancillary support, Comsearch is in a unique position to provide the Energy Industry with a full range of services in support of the industry's efforts to proactively identify and mitigate any issues relating to the telecommunications environment in and around planned projects. Consider the following points when evaluating Comsearch to support your telecommunications engineering requirements.

- Comsearch is one of the largest and most trusted spectrum management engineering firms in the US, conducting hundreds of energy obstruction studies each year.
- Comsearch has developed and maintains comprehensive technical databases containing information on licensed telecom networks for over 45 years.
- Because we continue to verify, update, research and manage our databases daily, we have amassed one of the largest, most accurate private collections of engineering data in the telecommunications industry.
- Comsearch has been an active participant in AWEA events regarding siting issues, presenting at AWEA Wind Energy conferences and contributing to the AWEA siting guide.
- Comsearch has provided expert witness and testimony for zoning boards, land use committees and historical committees.
- Our experienced engineers, software products, and information databases continually address the specific challenges of identifying, analyzing, and resolving radio frequency interference and obstructions.
- Comsearch provides analysis support for hundreds of energy installations annually in the wind, solar, and transmission line arena. We have the expertise and experience in all areas.

We firmly believe no one else can offer the breadth of databases, tools, and experience to tackle the obstruction and telecommunications interference issues for any proposed renewable energy project.

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COMPANY DESCRIPTION

Headquartered in Sterling, Virginia, Comsearch is an engineering firm specializing in spectrum management of terrestrial microwave, satellite, and mobile telecommunications systems. Comsearch interacts with the Federal Communications Commission (Commission) and the National Telecommunications and Information Administration (NTIA) and actively participates in various industry groups such as the National Spectrum Managers Association (NSMA), the Telecommunications Industry Association (TIA), and the Institute of Electrical and Electronics Engineers (IEEE) to develop rules, industry recommendations, and standards that promote the efficient use of the radio spectrum. Since 1977, Comsearch has been a leading provider of engineering services and software both domestically and internationally for microwave, satellite, and mobile communications systems. In this role, we have gained extensive experience in developing industry-standard coordination processes, creating and maintaining state-of-the-art software and databases, performing interference analyses of complex environments, and understanding regulatory requirements. Comsearch offers the wireless industry unparalleled knowledge and expertise in wireless technologies involving AWS, PCS, Cellular, Microwave, Broadcast, and Satellite systems. Our foundation of quality is built on being a leading provider of engineering services, software, and web-based interactive solutions for companies that use wireless communications systems. Comsearch is able to staff teams nationwide to support any need.

Comsearch is a business unit within CommScope, Inc. (www.commscope.com). CommScope is a world leader in infrastructure solutions for communication networks. Through its Andrew Wireless Solutions® brand, it is a global leader in radio frequency subsystem solutions for wireless networks. Through its SYSTIMAX® SolutionsTM and Uniprise® Solutions brands CommScope is the global leader in structured cabling systems for business enterprise applications. It is also the premier manufacturer of coaxial cable for broadband cable television networks and one of the leading North American providers of environmentally secure cabinets for DSL and FTTN applications. Backed by strong research and development, CommScope combines technical expertise and proprietary technology with global manufacturing capability to provide customers with infrastructure solutions for evolving global communications networks in more than 130 countries around the world.

CommScope has continued to expand with the acquisition of ARRIS International plc, a global leader in entertainment and communications solutions. The acquisition brought together two companies—established and respected leaders in their respective markets—with a unique set of complementary assets and capabilities that enable end-to-end communications infrastructure and connectivity solutions, something that neither company could achieve on its own. The combination of the companies, which includes Ruckus Networks, creates new opportunities across multiple markets, while increasing the companies' relevance and importance with existing networking customers.

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COMSEARCH CONTACT

David Meyer

Senior Manager, Spectrum Engineering

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Office 703 726 5656 | david.meyer@commscope.com

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Wind Power GeoPlanner™

Off-Air TV Analysis

Coles Wind Project

Prepared on Behalf of
Cole Wind, LLC

December 18, 2024

COMSEARCH®
A CommScope Company

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1. Introduction

Off-air television stations broadcast signals from terrestrially-based facilities directly to television receivers. Comsearch identified those off-air stations whose service could potentially be affected by the proposed Coles Wind Project in Coles County, Illinois. Comsearch then examined the coverage of the stations and the communities in the area that could potentially have degraded television reception due to the location of the proposed wind turbines.

2. Summary of Results

The proposed wind energy project area and local communities are depicted in Figure 1, below.

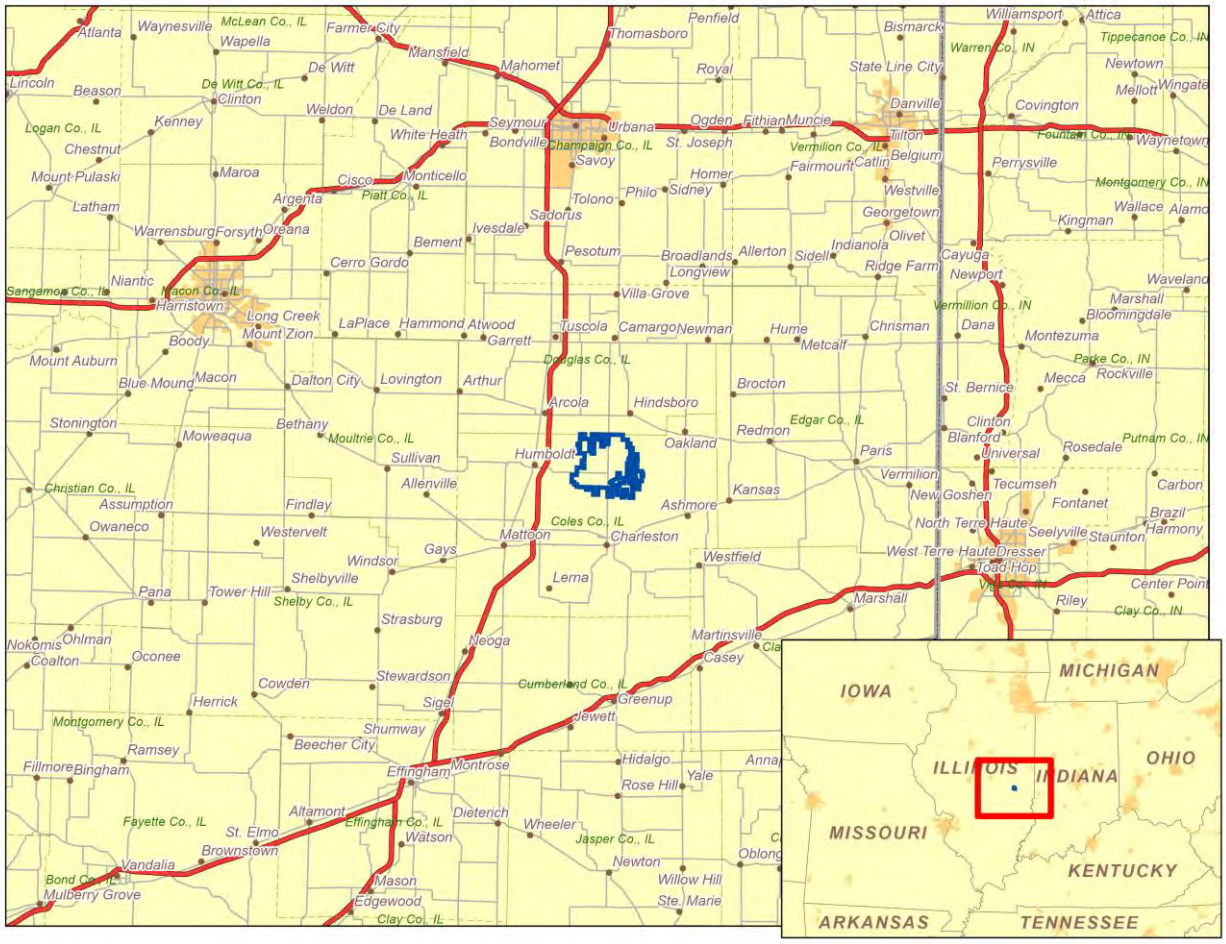

Figure 1: Wind Farm Project Area and Local Communities

To begin the analysis, Comsearch compiled all off-air television stations[1] within 150 kilometers of the proposed turbines. TV stations at a distance of 150 kilometers or less are the most likely to provide off-air coverage to the project area and neighboring communities. These stations are listed in Table 1, on the next page, and a plot depicting their locations is provided in Figure 2. There are a total of 36 database records for stations within approximately 150 kilometers of the proposed turbines. Of these stations, only 28 stations are currently licensed and operating, 11 of which are low-power stations or translators. Translator stations are low-power stations that receive signals from distant broadcasters and retransmit the signal to a local audience. These stations serve local audiences and have limited range, which is a function of their transmit power and the height of their transmit antenna.

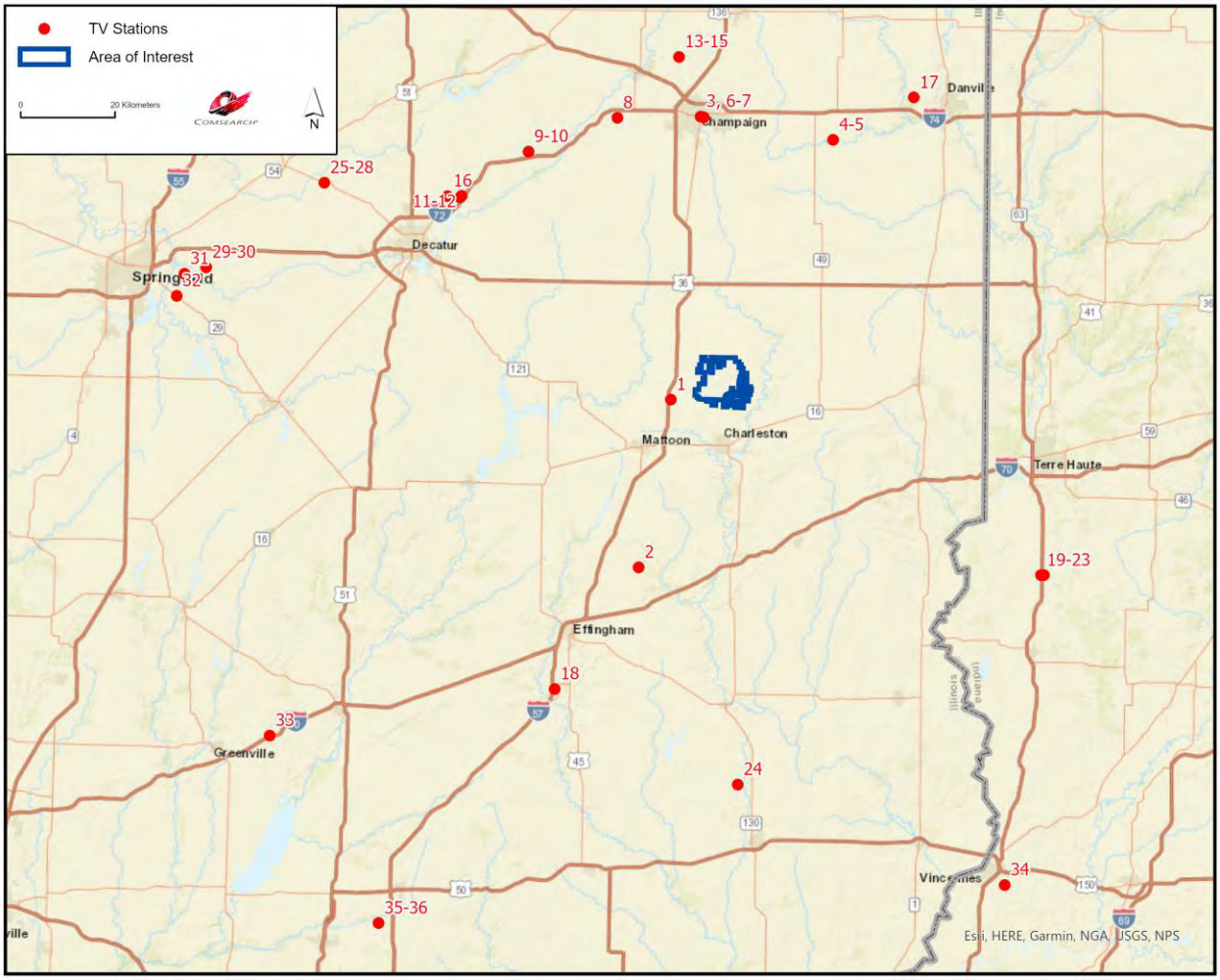

Figure 2: Plot of Off-Air TV Stations within 150 Kilometers of Proposed Turbines

[1] Comsearch makes no warranty as to the accuracy of the data included in this report beyond the date of the report. The data presented in this report is derived from the TV station's FCC license and governed by Comsearch's data license notification and agreement located at http://www.comsearch.com/files/data_license.pdf.

ID	Call Sign	Status	Service[2]	Channel	Transmit ERP[3] (kW)	Latitude (NAD 83)	Longitude (NAD 83)	Distance to the Closest Turbine (km)
1	WEIU-TV	LIC	DTV	30	174.0	39.570833	-88.307083	5.83
2	W33EK-D	LIC	LPT	33	15.0	39.250361	-88.379611	38.15
3	W27EL-D	LIC	LPD	27	15.0	40.109361	-88.234889	51.15
4	WCCU	LIC	DTV	36	125.0	40.069444	-87.912778	51.23
5	WICD	LIC	DTV	32	1000.0	40.069444	-87.912778	51.23
6	WBXC-CD	STA	DCA	18	3.0	40.111111	-88.243056	51.40
7	WBXC-CD	LIC	DCA	18	15.0	40.111111	-88.243056	51.40
8	WCIA	LIC	DTV	34	681.0	40.105833	-88.450000	55.03
9	WILL-TV	LIC	DTV	9	30.0	40.038889	-88.669444	58.19
10	WILL-TV	APP	DTV	9	35.0	40.038889	-88.669444	58.19
11	WAND	LIC	DTV	20	1000.0	39.952389	-88.832389	62.32
12	WBUI	LIC	DTV	22	325.0	39.948889	-88.836917	62.43
13	W07DD-D	STA	LPD	7	0.1	40.224167	-88.298889	64.44
14	W07DD-D	LIC	LPD	7	0.28	40.224167	-88.298889	64.44
15	W26FN-D	CP	LPD	26	15.0	40.224167	-88.298889	64.44
16	WLCF-LD	LIC	LPD	17	15.0	39.950833	-88.868056	64.79
17	W23EQ-D	LIC	LPT	23	12.1	40.151611	-87.713556	67.50
18	WEDK-LD	LIC	LPD	25	0.1	39.015806	-88.580778	69.19
19	WAWV-TV	LIC	DTV	18	250.0	39.242500	-87.391389	72.62
20	WTWO	LIC	DTV	35	464.0	39.242500	-87.391389	72.62
21	W19FD-D	LIC	LPD	19	15.0	39.242361	-87.391278	72.64
22	W24FB-D	LIC	LPD	24	15.0	39.242361	-87.391278	72.64
23	WTHI-TV	LIC	DTV	10	30.0	39.242417	-87.384917	73.11

[2] Definitions of service and status codes:
ACA - Analog Class A
DCA - Digital Class A
DRT - Digital Replacement Translator
DT - ETL testing
DTS - Distributed Transmission System
DTV - Full Service Television
DTX - Digital TV Auxiliary
LPA - Low Power Analog TV
LPD - Low Power Digital TV
LPT - Digital TV Translator
LPX - Analog TV Translator
TS - Legacy Service for Analog TV Auxiliary
TV - Analog TV legacy

LIC – Licensed and operational station
CP – Construction permit granted
CP MOD – Modification of construction permit
APP – Application for construction permit, not yet operational
STA – Special transmit authorization, usually granted by FCC for temporary operation
AMD - Amendment

[3] ERP = Transmit Effective Radiated Power

ID	Call Sign	Status	Service[2]	Channel	Transmit ERP[3] (kW)	Latitude (NAD 83)	Longitude (NAD 83)	Distance to the Closest Turbine (km)
24	WUSI-TV	LIC	DTV	23	110.0	38.838611	-88.129722	80.63
25	WCQA-LD	STA	LPD	12	1.5	39.971056	-89.174361	88.99
26	WCQA-LD	STA	LPD	12	1.5	39.971056	-89.174361	88.99
27	WCQA-LD	LIC	LPD	12	3.0	39.971056	-89.174361	88.99
28	WCQA-LD	CP	LPD	33	15.0	39.971056	-89.174361	88.99
29	WICS	LIC	DTV	15	300.0	39.804167	-89.461111	106.87
30	WRSP-TV	LIC	DTV	16	310.0	39.804167	-89.461111	106.87
31	WCIX	LIC	DTV	11	8.5	39.790944	-89.514722	111.15
32	W23EW-D	LIC	LPD	23	15.0	39.748417	-89.532639	112.03
33	WXSL-LD	LIC	LPD	21	15.0	38.915417	-89.274944	115.88
34	WVUT	LIC	DTV	31	69.4	38.651667	-87.476944	116.14
35	W29CI-D	STA	DCA	29	4.5	38.562778	-88.999444	130.70
36	W29CI-D	LIC	DCA	29	15.0	38.562778	-88.999444	130.70

Table 1: Off-Air TV Stations within 150 Kilometers of Proposed Turbines

3. Impact Assessment

Based on a contour analysis of the licensed stations within 150 kilometers of the proposed turbines, it was determined that 13 of the full-power digital stations, identified below in Table 2, along with low-power digital station W33EK-D, may have their reception disrupted in and around the project. The areas primarily affected would include TV service locations within 10 kilometers of the turbines that have clear line-of-sight (LOS) to a proposed wind turbine but not to the respective station. After the wind turbines are installed, communities and homes in these locations may have degraded reception of these stations. This is due to multipath interference caused by signal scattering as TV signals are reflected by the rotating wind turbine blades and mast.

ID	Call Sign	Status	Service	Channel	Transmit ERP (kW)	Latitude (NAD 83)	Longitude (NAD 83)	Distance to the Closest Turbine (km)
1	WEIU-TV	LIC	DTV	30	174.0	39.570833	-88.307083	5.83
2	W33EK-D	LIC	LPT	33	15.0	39.250361	-88.379611	38.15
4	WCCU	LIC	DTV	36	125.0	40.069444	-87.912778	51.23
5	WICD	LIC	DTV	32	1000.0	40.069444	-87.912778	51.23
8	WCIA	LIC	DTV	34	681.0	40.105833	-88.450000	55.03
9	WILL-TV	LIC	DTV	9	30.0	40.038889	-88.669444	58.19
11	WAND	LIC	DTV	20	1000.0	39.952389	-88.832389	62.32
12	WBUI	LIC	DTV	22	325.0	39.948889	-88.836917	62.43
19	WAWV-TV	LIC	DTV	18	250.0	39.242500	-87.391389	72.62
20	WTWO	LIC	DTV	35	464.0	39.242500	-87.391389	72.62
23	WTHI-TV	LIC	DTV	10	30.0	39.242417	-87.384917	73.11
24	WUSI-TV	LIC	DTV	23	110.0	38.838611	-88.129722	80.63
29	WICS	LIC	DTV	15	300.0	39.804167	-89.461111	106.87
30	WRSP-TV	LIC	DTV	16	310.0	39.804167	-89.461111	106.87

Table 2: Licensed Off-Air TV Stations Subject to Degradation

4. Recommendations

While TV signals are reflected by wind turbines, which can cause multipath interference to the TV receiver, modern digital TV receivers have undergone significant improvements to mitigate the effects of signal scattering. When used in combination with a directional antenna, it becomes even less likely that signal scattering from wind farms will cause interference to digital TV reception.

Nevertheless, signal scattering could still impact certain areas currently served by the TV station mentioned above, especially those that would have line-of-sight to at least one wind turbine but not to the station antenna. In the unlikely event that interference is observed in any of the TV service areas, it is recommended that a high-gain directional antenna be used, preferably outdoors, and oriented towards the signal origin in order to mitigate the interference.

Both cable service and direct broadcast satellite service will be unaffected by the presence of the wind turbine facility and may be offered to those residents who can show that their off-air TV reception has been disrupted by the presence of the wind turbines after they are installed.

5. Contact

For questions or information regarding the Off-Air TV Analysis, please contact:

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Company: Comsearch
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Email: David.Meyer@CommScope.com
Web site: www.comsearch.com

Wind Power GeoPlanner™

Land Mobile & Emergency Services Report

Coles Wind Project

Prepared on Behalf of
Coles Wind, LLC

December 17, 2024

COMSEARCH®
A CommScope Company

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1. Introduction

An assessment of the emergency services in the Coles Wind Project area was performed by Comsearch to identify potential impact from the planned turbines. We evaluated the registered frequencies for the following types of first responder entities: police, fire, emergency medical services, emergency management, hospitals, public works, transportation and other state, county, and municipal agencies. We also identified all industrial and business land mobile radio (LMR) systems and commercial E911 operators within the proposed wind energy facility boundaries. This information is useful in the planning stages of the wind energy facility because the data can be used in support of facility communications needs and to evaluate any potential impact on the emergency services provided in that region. An overview of the project area, which is located in Coles County, Illinois, appears below in Figure 1.

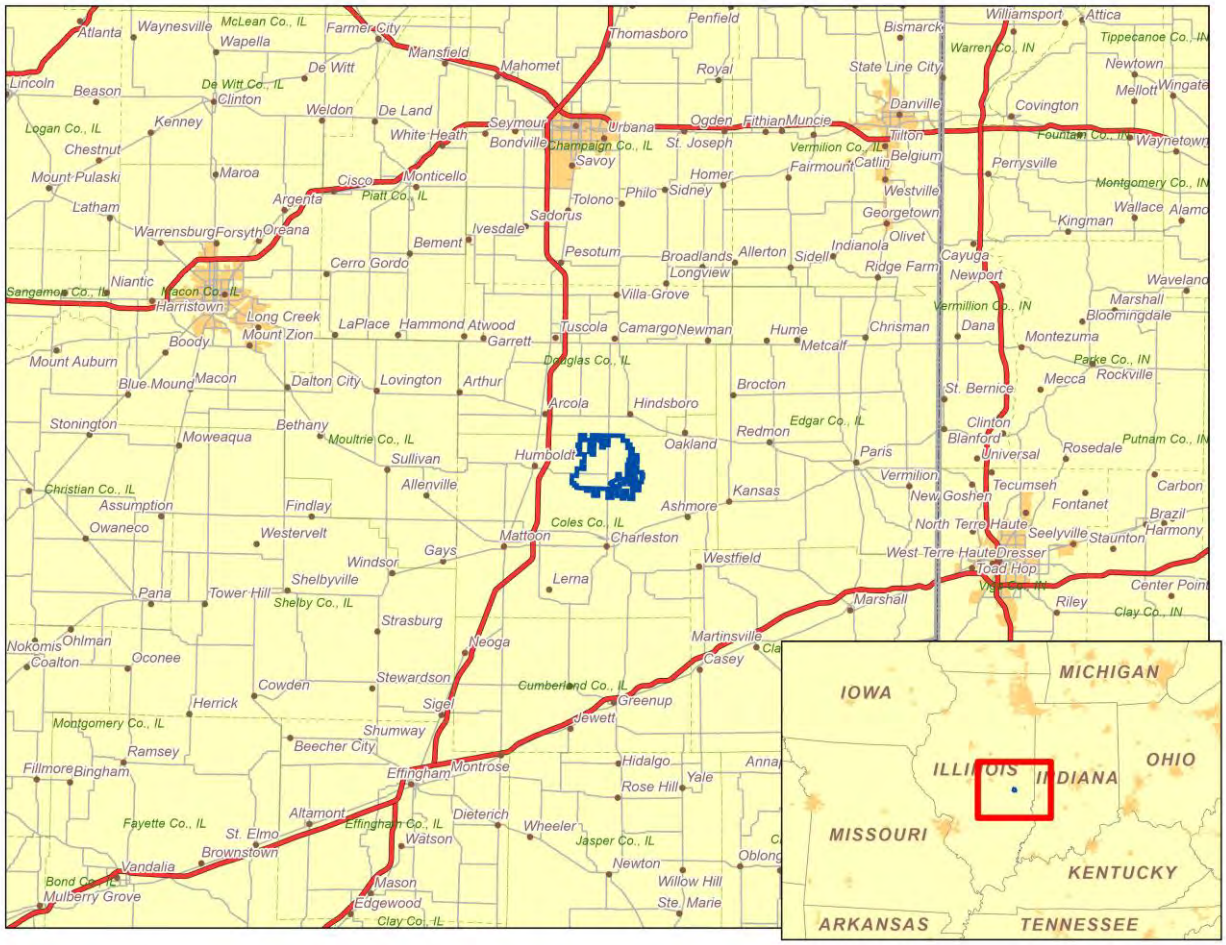

Figure 1: Area of Interest (AOI)

2. Summary of Results

Our land mobile and emergency services incumbent data[1] was derived from the FCC's Universal Licensing System (ULS) and the FCC's Public Safety & Homeland Security bureau. We identified both site-based licenses as well as regional area-wide licenses designated for public safety use.

Site-Based Licenses

The site-based licenses were imported into GIS software and geographically mapped relative to the wind energy project area of interest as defined by the customer. A depiction of the fixed-site licenses in and around the project area appears in Figure 2.

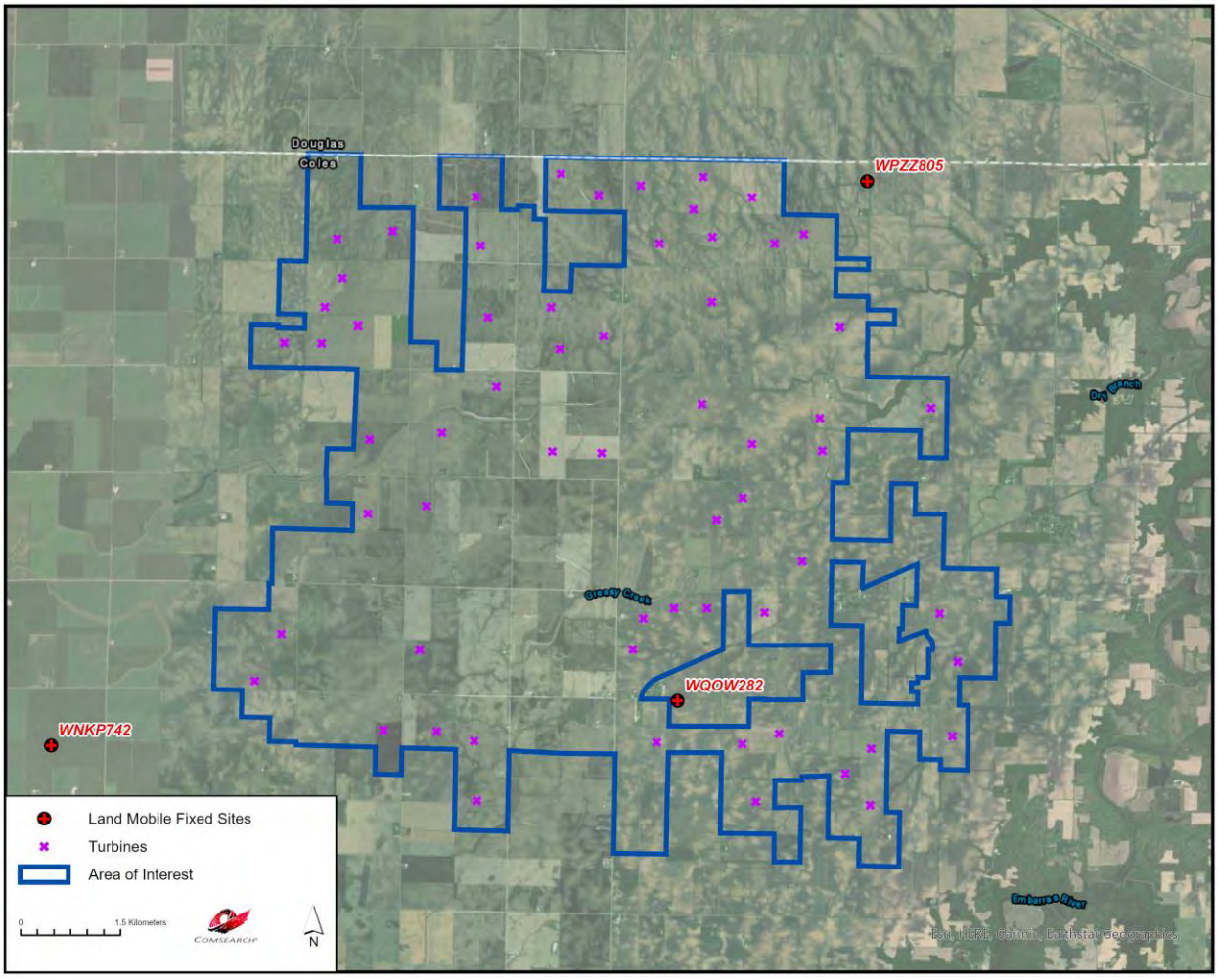

Figure 2: Land Mobile & Emergency Service Sites in and around the Area of Interest

[1] Comsearch makes no warranty as to the accuracy of the data included in this report beyond the date of the report. The data presented in this report is derived from the land mobile station's FCC license and governed by Comsearch's data license notification and agreement located at http://www.comsearch.com/files/data_license.pdf

Figure 2 identifies three site-based licenses in and around the Coles Wind Project area of interest. Specific information about these sites is provided in Table 1.

Call Sign	Frequency Band (MHz)	Licensee	Antenna Height AGL (m)	Latitude (NAD83)	Longitude (NAD83)	Distance to Nearest Turbine (km)
WQOW282	150-174	SEVEN HICKORY MORGAN FIRE PROTECTION DISTRICT	18.9	39.578889	-88.166389	0.69
WPZZ805	450-470	EMBARRAS AREA WATER DISTRICT	53	39.649500	-88.134333	1.24
WNKP742	150-174	EASTERN ILLINI ELECTRIC COOPERATIVE	6	39.571694	-88.275889	3.21

Table 1: Land Mobile & Emergency Service Sites in and around the Area of Interest

Mobile Licenses

In addition to the fixed-site licenses above, 393 mobile licenses defined by center point and radius were found to intersect the Coles Wind Project area. Appendix A contains a tabular summary of these stations.

Area-Wide Licenses

The regional area-wide licenses were compiled from FCC data sources and identified for each county intersected by the wind energy project area. The Coles Wind Project is located in Coles County, Illinois, part of Public Safety Region #13, which contains all the counties in Illinois, excluding the greater Chicago metropolitan area. The regional public safety operations are overseen by the entity listed below.

William J. Carter
Chairperson, Public Safety Region #13
Illinois Department of Public Health
122 South Michigan Avenue, 7th Floor
Chicago, IL 60603
phone: 312-814-5208
email: billy.carter@illinois.gov

The chairperson for Region #13 serves as the representative for all public safety entities in the area and is responsible for coordinating current and future public safety use in the wireless spectrum. In the bands licensed by the FCC for area-wide first responders, which include 220 MHz, 700 MHz, 800 MHz and 4.9 GHz, as well as the traditional Part 90 public safety pool of frequencies, fifty-two licenses were found for the State of Illinois and two for the County of Coles (see Table 2). These area-wide licenses are designated for mobile use only.

ID	Licensee	Area of Operation	Frequency Band (MHz)
1	ADVANCED MEDICAL TRANSPORT OF CENTRAL ILLINOIS	Statewide: IL	150-174
2	ALEXIS NORTH HENDERSON AMBULANCE SERVICE	Statewide: IL	150-174
3	AMERICAN MEDICAL RESPONSE INC	Statewide: IL	150-174, 450-470
4	American National Red Cross	Statewide: IL	25-50
5	Beecher Fire Protection District	Statewide: IL	150-174
6	Buncombe Fire Department	Statewide: IL	150-174
7	BUNKER HILL, CITY OF	Statewide: IL	150-174
8	CARMI, CITY OF	Statewide: IL	150-174
9	CAVE EASTERN FIRE PROTECTION DISTRICT	Statewide: IL	150-174
10	City of Charleston	Statewide: IL	150-174
11	City of Chicago Heights Police Department	Statewide: IL	4940-4990
12	Coles County Sheriff's Office	Countywide: COLES, IL	4940-4990
13	COLES, COUNTY OF	Countywide: COLES, IL	150-174
14	Deaconess regional Healthcare Services Illinois, Inc	Statewide: IL	150-174
15	DOWNERS GROVE, VILLAGE OF	Statewide: IL	450-470
16	EVERGREEN PARK, VILLAGE OF	Statewide: IL	150-174
17	Farina, Village of	Statewide: IL	150-174
18	Findlay Fire Protection District	Statewide: IL	150-174
19	GALESBURG HOSPITALS AMBULANCE SERVICE	Statewide: IL	150-174
20	GALVA, CITY OF	Statewide: IL	150-174
21	GLENDALE HEIGHTS, VILLAGE OF	Statewide: IL	150-174

ID	Licensee	Area of Operation	Frequency Band (MHz)
22	ILLINI NON EMERGENCY PATIENT TRANSPORT	Statewide: IL	150-174
23	Illinois Law Enforcement Alarm System	Statewide: IL	0-10, 25-50, 150-174, 450-470, 800/900
24	Illinois State Toll Highway Authority	Statewide: IL	0-10, 450-470, 800/900, 4940-4990
25	Illinois, State of	Statewide: IL	0-10, 25-50, 150-174, 406-413, 421-430, 450-470, 769-775/799-805, 800/900, 2450-2500
26	Illinois, State of Department of Transportation	Statewide: IL	0-10, 25-50, 150-174
27	JERSEY, COUNTY OF SHERIFF DEPARTMENT	Statewide: IL	150-174
28	JOHNSON COUNTY 9 1 1 ETSB	Statewide: IL	150-174
29	Lakeside EMS, LLC	Statewide: IL	150-174
30	LJH Ambulance dba Ambulnz by DocGo	Statewide: IL	150-174
31	Lovington Fire Protection District	Statewide: IL	150-174
32	Maine Township Emergency Management Agency	Statewide: IL	25-50, 150-174
33	MEDICONE MEDICAL RESPONSE	Statewide: IL	150-174
34	METAMORA, CITY OF	Statewide: IL	150-174
35	MIDLOTHIAN, VILLAGE OF	Statewide: IL	150-174
36	MORGAN COUNTY ESDA	Statewide: IL	150-174
37	MOUNT ZION FIRE PROTECTION DISTRICT	Statewide: IL	150-174
38	MURPHYSBORO, CITY OF	Statewide: IL	150-174
39	MUTUAL AID BOX ALARM SYSTEM - IL	Statewide: IL	25-50, 150-174, 450-470
40	NATIONAL SKI PATROL SYSTEM INC	Statewide: IL	150-174
41	ONEIDA WATAGA FIRE PROTECTION DISTRICT	Statewide: IL	150-174
42	ORION FIRE PROTECTION DISTRICT	Statewide: IL	150-174
43	PARATECH AMBULANCE SERVICE INC	Statewide: IL	150-174
44	RuralMed, LLC	Statewide: IL	150-174
45	Search And Rescue Mutual Aid (SARMA)	Statewide: IL	150-174

ID	Licensee	Area of Operation	Frequency Band (MHz)
46	SOUTH HOLLAND, VILLAGE OF	Statewide: IL	150-174
47	Stickney, Village of	Statewide: IL	150-174
48	Superior Air Ground Ambulance Inc.	Statewide: IL	150-174
49	United Life Care Ambulance Service Inc	Statewide: IL	150-174
50	United Medical Response, LLC	Statewide: IL	150-174
51	Village of University Park	Statewide: IL	150-174
52	WAYNE COUNTY AMBULANCE SERVICE	Statewide: IL	150-174
53	WEST CITY, VILLAGE OF	Statewide: IL	150-174
54	WILLIAMSFIELD FIRE PROTECTION DIST	Statewide: IL	150-174

Table 2: Regional Licenses

E911 Operators

Wireless operators are granted area-wide licenses from the FCC to deploy their cellular networks, which often include handsets with E911 capabilities. Since mobile phone market boundaries differ from service to service, we disaggregated the carriers' licensed areas down to the county level. We have identified the type of service for each carrier in Coles County, Illinois, in Table 3.

Mobile Phone Carrier	Service[2]
AT&T	700 MHz, AWS, Cellular, PCS, WCS
DISH Network	700 MHz, AWS
T-Mobile	AWS, PCS
US Cellular	700 MHz
Verizon	700 MHz, AWS, Cellular, PCS

Table 3: Mobile Phone Carriers in Area of Interest with E911 Service

3. Impact Assessment

The first responder, industrial/business land mobile sites, area-wide public safety, and commercial E-911 communications as described in this report are typically unaffected by the presence of wind turbines, and we do not anticipate any significant harmful effect to these services in the Coles Wind Project area. Although each of these services operates in different frequency ranges and provides different types of service including voice, video and data applications, there is commonality among these different networks with regard to the impact of wind turbines on their service. Each of these networks is designed to operate reliably in a non-line-of-sight (NLOS) environment. Many land mobile systems are designed with multiple base transmitter stations covering a large geographic area with overlap between adjacent transmitter sites in order to provide handoff between cells. Therefore, any signal blockage caused by the wind turbines does not materially degrade the reception because the end user is likely receiving signals from multiple transmitter locations. Additionally, the frequencies of operation for these services have characteristics that allow the signal to propagate through wind turbines. As a result, very little, if any, change in their coverage should occur when the wind turbines are installed.

[2] AWS: Advanced Wireless Service at 1.7/2.1 GHz
CELL: Cellular Service at 800 MHz
PCS: Personal Communication Service at 1.9 GHz
WCS: Wireless Communications Service at 2.3 GHz
700 MHz: Lower 700 MHz Service

When planning the wind energy turbine locations in the area of interest, a conservative approach would dictate not locating any turbines within 77.5 meters of land mobile fixed-base stations to avoid any possible impact to the communications services provided by these stations. This distance is based on FCC interference emissions from electrical devices in the land mobile frequency bands. As long as the turbines are located more than 77.5 meters from the land mobile stations, they will meet the setback distance criteria for FCC interference emissions in the land mobile bands.

4. Recommendations

All turbines are sited at least 77.5 m or further from the land mobile stations and therefore will not interfere with the land mobile and emergency services. In the event that a public safety entity believes its coverage has been compromised by the presence of the wind energy facility, it has many options to improve its signal coverage to the area through optimization of a nearby base station or even adding a repeater site. Utility towers, meteorological towers or even the turbine towers within the wind project area can serve as the platform for a base station or repeater site.

5. Contact

For questions or information regarding the Land Mobile & Emergency Services Report, please contact:

Contact person: David Meyer
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Company: Comsearch
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Fax: 703-726-5595
Email: David.Meyer@CommScope.com
Web site: www.comsearch.com

Appendix A

ID	Call Sign	Frequency Band (MHz)	Licensee	Mobile Area Radius (km)	Latitude (NAD83)	Longitude (NAD83)
1	WQLD588	150-174	Air Evac EMS, Inc.	40	39.265000	-88.153889
2	WQLS271	450-470	Alliance Tractor, LLC	32	39.550778	-88.343556
3	WQLS271	450-470	Alliance Tractor, LLC	32	39.452056	-88.334333
4	WQNQ846	450-470	Alliance Tractor, LLC	32	39.414639	-88.382500
5	WRFS933	450-470	AMEREN ILLINOIS	32	39.501611	-88.009833
6	WNQJ842	800/900	Ameren Services Company	402	38.669194	-92.208528
7	WPMP607	800/900	Ameren Services Company	113	39.883917	-87.916972
8	WPWB280	25-50	ANDERSON, ED	50	39.280056	-88.599167
9	WQLV439	450-470	Andy Wurm Tire & Wheel Co Inc	320	38.740667	-90.304083
10	WNSQ553	150-174	APPLEBY, JACK	40	39.833361	-88.383944
11	WPDK982	450-470	ARCHER DANIELS MIDLAND COMPANY	72	39.865861	-88.897028
12	WQAL967	150-174	Archer Daniels Midland Company	32	39.655000	-88.021306
13	WPKY417	150-174	ARCOLA FIRE PROTECTION DISTRICT	32	39.686417	-88.307278
14	WQPG775	150-174	ARCOLA SCHOOLS	32	39.683889	-88.316444
15	WPQH279	150-174	ARCOLA, CITY OF	15	39.685028	-88.306167
16	WRMI749	150-174	Arcola, City of	40	39.685028	-88.306167
17	WQFV367	150-174	ARCOLA/TUSCOLA JOINT WATER COMMISSION	32	39.799194	-88.330056
18	WQJJ614	450-470	Area E-7 Hospital Assn dba Sarah Bush Lincoln Health Center	16	39.485917	-88.275806
19	WQJJ614	450-470	Area E-7 Hospital Assn dba Sarah Bush Lincoln Health Center	16	39.488056	-88.273278
20	WPTH211	450-470	ARROW AMBULANCE LLC	32	39.388056	-88.287500
21	WPTH211	450-470	ARROW AMBULANCE LLC	32	39.791972	-88.284472
22	WPGR807	150-174, 450-470	ARTHUR RURAL FIRE PROTECTION DISTRICT	32	39.714472	-88.472278
23	WRPG384	450-470	ARTHUR, JUSTIN	32	39.685000	-88.134722

ID	Call Sign	Frequency Band (MHz)	Licensee	Mobile Area Radius (km)	Latitude (NAD83)	Longitude (NAD83)
24	KNIW452	150-174	ASHMORE FIRE PROTECTION DISTRICT	29	39.536139	-88.025028
25	WQYC608	150-174	Atwood Fire Protection District	40	39.808361	-88.462833
26	WQYC608	150-174	Atwood Fire Protection District	40	39.808750	-88.462750
27	WRDD579	450-470	BABY TALK INC.	80	39.839361	-88.965250
28	WPUT980	450-470	BARBECK COMMUNICATIONS GROUP INC.	32	39.549972	-88.343194
29	WNVD659	150-174	BEACHY ICE COMPANY	72	39.691417	-88.306444
30	WPMZ946	450-470	BEARDSLEY, CRAIG L	250	41.694194	-87.687556
31	WQFB702	25-50, 150-174, 450-470, 470-512, 800/900	B-K ELECTRIC INC	300	39.713278	-90.722639
32	WQCE278	450-470	BOARD OF TRUSTEES OF EASTERN ILLINOIS UNIVERSITY	15	39.473917	-88.171694
33	WQYN266	150-174	BOLIN ENTERPRISES, INC.	40	39.309833	-87.989917
34	WPWC246	150-174	Bourbon Township	40	39.705028	-88.391167
35	KD28606	450-470	BRINK'S INCORPORATED	121	39.850028	-88.950083
36	KD28634	450-470	BRINK'S INCORPORATED	120.6999969	39.467528	-87.407250
37	WQVM733	150-174	BROWN, TONY	35	39.710722	-88.579222
38	KNHV627	450-470	Bunge Milling, Inc.	48	40.034750	-87.953639
39	WRZR835	450-470	C.H.I. OVERHEAD DOORS	24	39.708667	-88.455889
40	KA73983	450-470	CABOT CORPORATION	32	39.794750	-88.339778
41	KA73983	150-174	CABOT CORPORATION	40	39.794750	-88.339778
42	KBM663	25-50, 150-174	CASEY, CITY OF	56	39.295861	-87.988361
43	WQSI821	150-174	Casey, City of Emergency Management Agency	32	39.295167	-87.982194
44	WRJG625	450-470	CCI REDI MIX	32	39.508056	-88.309444
45	WQWY651	450-470	CENTRAL POWER PRODUCTS	80	39.718000	-88.461500
46	KB32636	150-174	CERRO GORDO, VILLAGE OF	56	39.891139	-88.728694

ID	Call Sign	Frequency Band (MHz)	Licensee	Mobile Area Radius (km)	Latitude (NAD83)	Longitude (NAD83)
47	WPXQ468	150-174	CHARLESTON CITY OF	40	39.498722	-88.172306
48	KRV932	150-174	CHARLESTON, CITY OF	16	39.505583	-88.172250
49	WPCI708	150-174	CHARLESTON, CITY OF	24	39.478250	-88.195472
50	WPMG254	150-174	CHARLESTON, CITY OF	24	39.480028	-88.196139
51	WSFN905	150-174	Charleston, City of	40	39.493083	-88.268861
52	WSFN905	150-174	Charleston, City of	40	39.478222	-88.195528
53	WSFN905	150-174	Charleston, City of	40	39.508250	-88.173306
54	WSFN905	150-174	Charleston, City of	40	39.473417	-88.151389
55	WSFN905	150-174	Charleston, City of	40	39.530306	-88.025250
56	KJU218	150-174	City of Charleston	40	39.478250	-88.195528
57	KNIB610	450-470	City of Saint Elmo	80	39.027833	-88.847556
58	KSC766	150-174	CLARK, COUNTY OF	40	39.333361	-87.881972
59	KSC766	25-50, 150-174	CLARK, COUNTY OF	48	39.391139	-87.697250
60	KSC766	25-50	CLARK, COUNTY OF	48	39.390583	-87.694194
61	WQEJ355	150-174	CLARK, COUNTY OF	32	39.303889	-87.996389
62	WQEJ355	150-174	CLARK, COUNTY OF	32	39.456139	-87.995028
63	WPWD531	450-470	CLARK-EDGAR RURAL WATER DISTRICT	32	39.506417	-87.878639
64	WQIK535	450-470	CLARKSON GRAIN	32	39.481333	-88.308111
65	WQSW648	150-174	Coles County Council On Aging Inc	40	39.493083	-88.268861
66	KSD458	450-470	COLES MOULTRIE ELECTRIC COOPERATIVE	32	39.490028	-88.349500
67	WQMJ544	450-470	COLES MOULTRIE ELECTRIC COOPERATIVE	32	39.650833	-88.526944
68	WQMJ544	450-470	COLES MOULTRIE ELECTRIC COOPERATIVE	32	39.410000	-88.380000
69	WQMJ544	450-470	COLES MOULTRIE ELECTRIC COOPERATIVE	32	39.490000	-88.349722
70	WQMJ544	450-470	COLES MOULTRIE ELECTRIC COOPERATIVE	32	39.464722	-88.163056
71	KSC428	150-174	COLES, COUNTY OF	40	39.490583	-88.174472

ID	Call Sign	Frequency Band (MHz)	Licensee	Mobile Area Radius (km)	Latitude (NAD83)	Longitude (NAD83)
72	KXT997	150-174	COLES, COUNTY OF	40	39.493333	-88.175833
73	KXT997	25-50, 150-174	COLES, COUNTY OF	32	39.491694	-88.175028
74	WNDS474	150-174	COLES, COUNTY OF	48	39.490583	-88.174472
75	WQCX450	150-174	COLES, COUNTY OF	40	39.495722	-88.162667
76	WSFN890	150-174	Coles, County of	40	39.481361	-88.330389
77	WSFN890	150-174	Coles, County of	40	39.654306	-88.027917
78	WSFN903	150-174	Coles, County of	40	39.579556	-88.405611
79	WSFN903	150-174	Coles, County of	40	39.418556	-88.383139
80	WSFN903	150-174	Coles, County of	40	39.493083	-88.268861
81	WSFN903	150-174	Coles, County of	40	39.508250	-88.173306
82	WSFN903	150-174	Coles, County of	40	39.447972	-88.082056
83	WSFN903	150-174	Coles, County of	40	39.530306	-88.025250
84	KNAG760	150-174	COMER, RICHARD	32	39.352528	-88.075028
85	KNAG760	150-174	COMER, RICHARD	48	39.352528	-88.075028
86	WQGS357	450-470	COMMUNICATIONS RADIO REPEATER SERVICE INC	32	39.509167	-87.878056
87	WQVQ936	450-470	ConAgra Foods Packaged Foods, LLC	32	39.489472	-88.400611
88	WQVG503	450-470	CONNOR & CONNOR, INC	75	38.997917	-87.724250
89	WNLC269	150-174	County LIne Farms L.L.C.	48	39.538917	-88.678389
90	WQQK368	450-470	COUNTY MATERIALS CORPORATION	8	39.516389	-88.098333
91	WPBG252	800/900	Craig Antenna Service	113	39.614722	-87.961944
92	WNBP267	450-470	CRAIG, LARRY	80	39.851417	-89.099528
93	WNBS384	450-470	CRAIG, LARRY	64	39.648083	-88.745639
94	WPEJ774	450-470	CRAIG, LARRY	121	39.306694	-88.932583
95	WPET830	450-470	CRAIG, LARRY	80	39.306611	-88.932667
96	WPGK253	450-470	CRAIG, LARRY	121	39.306611	-88.932667

ID	Call Sign	Frequency Band (MHz)	Licensee	Mobile Area Radius (km)	Latitude (NAD83)	Longitude (NAD83)
97	WPGR470	450-470	CRAIG, LARRY W	112	39.306694	-88.932583
98	WPTA577	800/900	Craig, Larry W	113	39.306667	-88.932500
99	WPUB488	800/900	Craig, Larry W	113	39.851667	-89.099444
100	WPUC732	800/900	Craig, Larry W	113	39.511944	-89.250556
101	WQSH560	150-174	CSX Transportation Inc	20	39.798806	-88.329750
102	WQSI455	150-174	CSX Transportation Inc	20	39.799000	-88.159972
103	WQSK637	150-174	CSX Transportation Inc	40	39.799361	-88.610028
104	WQST825	150-174	CSX Transportation Inc	20	39.798944	-88.354944
105	WQSZ482	150-174	CSX Transportation Inc	40	39.245250	-88.146083
106	WQSZ482	150-174	CSX Transportation Inc	40	39.263278	-88.097833
107	WQSZ482	150-174	CSX Transportation Inc	40	39.344278	-87.850111
108	WQSZ482	150-174	CSX Transportation Inc	40	39.354861	-87.823333
109	WQSZ482	150-174	CSX Transportation Inc	40	39.362361	-87.804528
110	WQSZ482	150-174	CSX Transportation Inc	40	39.401500	-87.705778
111	WQUZ950	150-174	CSX Transportation Inc	40	39.798444	-88.284028
112	WQUZ950	150-174	CSX Transportation Inc	40	39.799056	-87.804472
113	WROM272	150-174	Cumberland County ETSB	40	39.271667	-88.245833
114	WROM272	150-174	Cumberland County ETSB	40	39.250556	-88.167222
115	WROM272	150-174	Cumberland County ETSB	40	39.332500	-88.063611
116	WROM273	150-174	Cumberland County ETSB	40	39.273333	-88.473333
117	WROM273	150-174	Cumberland County ETSB	40	39.318611	-88.454167
118	WROM273	150-174	Cumberland County ETSB	40	39.388889	-88.256389
119	KSC770	25-50, 150-174	CUMBERLAND COUNTY SHERIFF DEPARTMENT	40	39.272250	-88.244750
120	WPKT965	150-174	CUMBERLAND COUNTY SHERIFF DEPARTMENT	40	39.272250	-88.244750
121	WNBV983	150-174	CUMBERLAND, COUNTY OF	56	39.272528	-88.241139

ID	Call Sign	Frequency Band (MHz)	Licensee	Mobile Area Radius (km)	Latitude (NAD83)	Longitude (NAD83)
122	WQEJ223	150-174	CUMBERLAND, COUNTY OF	40	39.318000	-88.453972
123	WNIH213	450-470	DAGUE, ARCHIE	32	39.655583	-88.025028
124	WPFU963	450-470	DE LAND RADIO PARTNERS	64	40.120028	-88.644500
125	WRCK797	150-174	Decatur & Eastern Illinois RR	40	39.798667	-88.287889
126	WRCK797	150-174	Decatur & Eastern Illinois RR	40	39.799000	-87.807889
127	WRCK797	150-174	Decatur & Eastern Illinois RR	40	39.603306	-87.703333
128	WPGA701	150-174	DECATUR JUNCTION RAILWAY CO	56	39.833361	-88.833417
129	WPHV937	150-174	DECATUR, CITY OF	72	39.871139	-88.940639
130	WPMV648	450-470	DETECTION SECURITY COMPANY INC	120	39.478083	-88.389778
131	WNVV334	150-174	DOTY, JOHN L	56	39.528361	-88.471167
132	KSC240	25-50	DOUGLAS, COUNTY OF	40	39.816694	-88.270333
133	KSH907	450-470	DOUGLAS, COUNTY OF	32	39.797250	-88.273944
134	KSH907	25-50, 150-174	DOUGLAS, COUNTY OF	40	39.797250	-88.273944
135	WQFQ647	150-174	DOUGLAS, COUNTY OF	24	39.797250	-88.273944
136	KNCD439	800/900	Duke Energy Business Services, LLC	113	38.806667	-87.251667
137	KNCD488	800/900	Duke Energy Business Services, LLC	113	39.630028	-87.355556
138	WPUA907	800/900	Duke Energy Business Services, LLC	113	39.070694	-87.012889
139	WPUA983	800/900	Duke Energy Business Services, LLC	113	39.803361	-87.393611
140	WPUA984	800/900	Duke Energy Business Services, LLC	113	40.282250	-87.221556
141	WPUB255	800/900	Duke Energy Business Services, LLC	113	39.184167	-87.166389
142	WPUB897	800/900	Duke Energy Business Services, LLC	113	39.116056	-87.410917
143	WPUC362	800/900	Duke Energy Business Services, LLC	113	38.691972	-87.497583
144	WPUC594	800/900	Duke Energy Business Services, LLC	113	39.523222	-87.131778
145	WQAP770	800/900	Duke Energy Business Services, LLC	113	39.026167	-87.191333
146	WQAP770	800/900	Duke Energy Business Services, LLC	113	39.527500	-87.000833

ID	Call Sign	Frequency Band (MHz)	Licensee	Mobile Area Radius (km)	Latitude (NAD83)	Longitude (NAD83)
147	WQAP770	800/900	Duke Energy Business Services, LLC	113	39.382778	-86.999333
148	WQBB468	800/900	Duke Energy Business Services, LLC	113	39.403667	-87.497111
149	WQBG572	800/900	Duke Energy Business Services, LLC	113	39.538028	-86.804889
150	WRJC458	800/900	Duke Energy Business Services, LLC	113	39.231111	-87.570833
151	WRJC458	800/900	Duke Energy Business Services, LLC	113	39.070694	-87.012889
152	WRJK468	800/900	Duke Energy Business Services, LLC	113	38.691917	-87.497750
153	WRJK468	800/900	Duke Energy Business Services, LLC	113	38.806694	-87.251417
154	WRJK884	800/900	Duke Energy Business Services, LLC	113	39.403667	-87.497111
155	WRJK884	800/900	Duke Energy Business Services, LLC	113	39.920389	-87.434944
156	WRJK884	800/900	Duke Energy Business Services, LLC	113	39.476583	-87.373333
157	WRJK884	800/900	Duke Energy Business Services, LLC	113	39.630028	-87.355556
158	WRJP309	800/900	Duke Energy Business Services, LLC	113	40.282250	-87.221556
159	WRJP309	800/900	Duke Energy Business Services, LLC	113	39.382778	-86.999333
160	WRJP309	800/900	Duke Energy Business Services, LLC	113	40.090833	-86.978889
161	WQIT800	150-174	DUNNS AMBULANCE SERVICE, INC.	40	39.477333	-88.376639
162	WQYL591	450-470	EAGLE GROVE FARMS	40	39.633417	-88.619111
163	WQCQ868	25-50	EARL WALKER COMPANY, INC.	32	39.604917	-88.616889
164	WNKP742	150-174, 450-470	EASTERN ILLINI ELECTRIC COOPERATIVE	129	40.453083	-88.103111
165	WPIU622	150-174	EDGAR COUNTY 911	40	39.613000	-87.695917
166	WPLS985	150-174	EDGAR, COUNTY OF	40	39.713889	-87.965556
167	WPLS985	150-174	EDGAR, COUNTY OF	40	39.755833	-87.713333
168	WPLS985	150-174	EDGAR, COUNTY OF	40	39.552222	-87.700000
169	WPQJ542	150-174	EDGAR, COUNTY OF	40	39.628639	-87.685583
170	WQPJ704	150-174	EDGAR, COUNTY OF	40	39.605472	-87.725444
171	WSY356	150-174	EFFINGHAM EQUITY	40	39.680861	-88.370333

ID	Call Sign	Frequency Band (MHz)	Licensee	Mobile Area Radius (km)	Latitude (NAD83)	Longitude (NAD83)
172	WSY356	150-174	EFFINGHAM EQUITY	72	39.058111	-88.367833
173	KSH222	25-50, 150-174	EFFINGHAM, COUNTY OF	80	39.122278	-88.545056
174	WPNY754	800/900	EFFINGHAM, COUNTY OF	113	39.125028	-88.516444
175	WQYK527	150-174	ELLIOTT, GLEN	40	39.458583	-88.018861
176	WSAW943	450-470	F. E. MORAN FIRE PROTECTION, INC.	80	40.151111	-88.275833
177	WNRI679	450-470	FAYCO TRANSPORTATION SERVICE	80	39.306694	-88.932583
178	WNFR662	25-50	FAYETTE, COUNTY OF	122	38.959778	-89.099778
179	WQXL563	450-470	FIRST BAPTIST CHURCH OF CASEY	32	39.300556	-87.991861
180	WPBM588	150-174	First Student Inc	80	40.105861	-88.192833
181	WPEW923	150-174	First Student Inc	40	39.485028	-88.164194
182	WRAH411	450-470	FORTNEY FAMILY FARMS	32	39.712611	-88.159194
183	WQPP891	150-174	FOX, BRODY	121	40.497167	-87.417083
184	WPWY702	800/900	Francis Ms., Bini	113	40.180861	-88.317833
185	KUL574	450-470	GINGERICH FARMS	64	39.624194	-88.638667
186	WQTV825	150-174	GOBLE, STUART	40	39.480389	-87.990778
187	WQVK651	150-174	GOULD TRANSPORTATION SERVICES	40	39.680222	-88.303250
188	WRXW750	450-470	GRABER BUILDING SUPPLY	16	39.680139	-88.311083
189	WRXW750	450-470	GRABER BUILDING SUPPLY	32	39.680444	-88.311028
190	WQTP741	150-174	GREENUP, VILLAGE OF	40	39.251806	-88.153111
191	KSE889	25-50	GROHNE CONCRETE PRODUCTS COMPANY	113	39.832528	-88.955083
192	WPPD445	150-174	GUNDERSEN LUTHERAN MEDICAL CENTER	600	43.794417	-91.249583
193	WQSD784	450-470	HANNER, CARSON L	32	39.551972	-87.949750
194	WPCI895	450-470	HARRELL, JACK D	121	38.665333	-88.354500
195	WRFJ805	450-470	Havest Ridge Wind Farm	32	39.847778	-87.975000
196	WQRS793	450-470	HELENA AGRI-ENTERPRISES, LLC	32	39.489167	-88.355556

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197	WRAM960	450-470	HELENA CHEMICAL	32	39.509167	-87.878056
198	WRXF928	450-470	Herff Jones, LLC	16	39.686667	-88.285278
199	WRZL634	150-174	HERITAGE FAMILY FARMS	40	39.704194	-88.391389
200	WPEY269	150-174	HERITAGE FS INC	121	40.572250	-88.247278
201	WPEY269	150-174	HERITAGE FS INC	121	40.569167	-88.247111
202	WPEY269	150-174	HERITAGE FS INC	121	40.555306	-87.885306
203	WPEY269	150-174	HERITAGE FS INC	121	40.538361	-87.680861
204	WQQH335	450-470	HI TECH FARMS INC	121	39.436167	-89.550083
205	WRXD366	450-470	HILLIGOSS, DARRELL D	32	39.495556	-88.587500
206	WPKY435	150-174	HINDSBORO, CITY OF	16	39.683917	-88.133444
207	KC25111	450-470	HOLY FAMILY COMMUNICATIONS, INC	402	40.766167	-83.837167
208	WQGE980	450-470	HONN, STEVE E	32	39.704194	-88.391722
209	WQRM638	25-50	Hoosier Energy Rural Electric Cooperative, Inc.	240	39.093750	-86.914056
210	WQUX278	150-174	HOPPER FARM INC	32	39.439694	-88.492000
211	WREI404	450-470	HOUSE, MICHAEL K	24	39.582250	-88.054083
212	WNVV559	150-174	HOWARD, CHARLES L	40	39.405583	-88.397222
213	KNIF490	150-174	HUMBOLDT, TOWNSHIP OF	40	39.607806	-88.318111
214	WQTS636	150-174	HUTCHENS, BRANDON	40	39.363833	-87.807889
215	WNRV838	150-174	HUTTON FIRE PROTECTION DISTRICT	40	39.448528	-88.081833
216	KFQ439	150-174	ILLINOIS CENTRAL RAILROAD COMPANY	40	39.474472	-88.379778
217	KQU230	150-174	ILLINOIS CENTRAL RAILROAD COMPANY	40	39.836667	-88.366389
218	KTE732	150-174	ILLINOIS CENTRAL RAILROAD COMPANY	40	39.983361	-88.257000
219	WNHW926	150-174	ILLINOIS CENTRAL RAILROAD COMPANY	40	39.479722	-88.389722
220	WNIZ344	150-174	ILLINOIS CENTRAL RAILROAD COMPANY	40	39.798917	-88.291167
221	WPBC387	150-174	ILLINOIS CENTRAL RAILROAD COMPANY	16	39.577639	-88.331361

ID	Call Sign	Frequency Band (MHz)	Licensee	Mobile Area Radius (km)	Latitude (NAD83)	Longitude (NAD83)
222	WPBC387	150-174	ILLINOIS CENTRAL RAILROAD COMPANY	16	39.711806	-88.304361
223	WQZI961	450-470	ILLINOIS CENTRAL SCHOOL BUS LLC	32	39.485000	-88.164194
224	WNXS419	800/900	ILLINOIS PUBLIC SAFETY AGENCY NETWORK	80.5	40.111417	-88.186722
225	WPMF678	800/900	ILLINOIS PUBLIC SAFETY AGENCY NETWORK	80	40.151694	-87.714194
226	KNAB704	150-174	ILLINOIS, STATE OF	24	39.493333	-88.175833
227	KNNU245	150-174	ILLINOIS, STATE OF	145	39.829222	-89.646222
228	WPLH463	450-470	Illinois, State of	8	39.495028	-88.175861
229	WPMV426	800/900	ILLINOIS, STATE OF	60	39.490028	-88.349500
230	WPMV426	800/900	ILLINOIS, STATE OF	60	39.552250	-87.700028
231	WQBK832	800/900	ILLINOIS, STATE OF	32	39.907500	-88.282500
232	WQBV381	800/900	ILLINOIS, STATE OF	32	39.490000	-88.349444
233	WQBY294	800/900	ILLINOIS, STATE OF	32	39.907500	-88.282500
234	WQCE890	800/900	ILLINOIS, STATE OF	32	39.339861	-87.926472
235	WQCX725	800/900	ILLINOIS, STATE OF	32	39.907500	-88.282500
236	WQIP783	450-470	ILLINOIS, STATE OF	24	39.493333	-88.175833
237	WPIR776	800/900	Indiana, State of (IPSC)	64.4000015	39.431972	-87.505028
238	WQLU840	450-470	J BAR K LLC	32	39.855167	-87.992389
239	WQMJ416	450-470	JACOB, PHIL	32	39.797778	-88.281667
240	WQII281	450-470	JOHNS, JEFFREY W	40	39.685583	-88.296167
241	WQSR648	450-470	JSK FARMS	32	39.810194	-88.122278
242	WQDD982	150-174	KANSAS AMBULANCE	40	39.552806	-87.939750
243	WRCH295	450-470	KAUFFMAN BROTHERS FARM INC	32	39.687889	-88.453556
244	KNGS251	450-470	KLEISS FARMS	40	39.996694	-88.190611
245	WNDK374	150-174	KNIERIM COMPANY INC	40	39.302806	-87.982250
246	KDI825	150-174	KRESIN, KENNETH: KRESIN, TAMMY	24	39.839472	-88.368667

ID	Call Sign	Frequency Band (MHz)	Licensee	Mobile Area Radius (km)	Latitude (NAD83)	Longitude (NAD83)
247	WQAT206	450-470	KU-DEW INC	32	39.620556	-88.587778
248	WNBH421	150-174	LA GRANGE, CITY OF	290	38.407556	-85.384667
249	WQUN201	150-174	LAKEY, JASON	40	39.906750	-88.274667
250	WSBY650	150-174	LANG FARMS	40	39.502222	-87.997778
251	KNHW458	450-470	LARRY W CRAIG CANDICE D CRAIG DBA CRAIG ANTENNA SERVICE	64	39.712250	-88.806472
252	WNRW864	450-470	LEERKAMP, CARY	64	39.979194	-88.070861
253	WQYX582	150-174	LEIGH, BRIAN P	40	39.451278	-87.741194
254	WQTX554	450-470	LESTER BUILDING SYSTEMS	32	39.497111	-88.183833
255	KAG286	150-174, 450-470	LIFESTAR AMBULANCE SERVICE INC	145	38.538111	-89.129806
256	WQSD722	25-50	LINVILLE FARMS	80	39.875028	-88.623111
257	WQWN885	450-470	LITTLE, BRADLEY D	12	39.753611	-88.149583
258	WQZF750	150-174	LOVELL FARMS	40	39.480694	-87.974861
259	WRCV645	150-174	LOVINGTON COMMUNITY AMBULANCE	40	39.715028	-88.633944
260	WQZV852	450-470	Luth, Ethan	80	39.792444	-87.939750
261	WPYN668	150-174	MARSHALL FIRE PROTECTION DISTRICT AMBULANCE & RESCUE SVC	48	39.394194	-87.693083
262	KNIW451	150-174	MARTINSVILLE FIRE PROTECTION DISTRICT	48	39.335028	-87.882528
263	KNIW451	150-174	MARTINSVILLE FIRE PROTECTION DISTRICT	40	39.328194	-87.877306
264	WQFS770	450-470	MASTERFOODS USA	32	39.535278	-88.280306
265	WPHZ793	450-470	MATERIAL SERVICE CORPORATION	80	40.041139	-87.866694
266	WPIT504	150-174	MATTOON CITY OF	24	39.483639	-88.379500
267	WRDV936	450-470	MATTOON CUSD #2	32	39.480583	-88.375750
268	KNNP400	150-174	MATTOON FIRE DEPARTMENT	24	39.483917	-88.377000
269	KDO332	150-174	MATTOON, CITY OF	32	39.478361	-88.344222
270	KSA874	150-174, 450-470	MATTOON, CITY OF	19	39.480583	-88.375611

ID	Call Sign	Frequency Band (MHz)	Licensee	Mobile Area Radius (km)	Latitude (NAD83)	Longitude (NAD83)
271	WPQF682	150-174	MATTOON, CITY OF	16	39.480583	-88.375611
272	WRWS922	150-174	Mattoon, City of	40	39.469083	-88.340889
273	WPKT612	450-470	MATTOON, TOWNSHIP OF	27	39.460861	-88.420889
274	WQNM254	450-470	MC CLAIN FARMS LLC	32	39.716806	-87.857500
275	WNGD468	150-174	MELTON, RANDY	32	39.298639	-87.983917
276	WPSG931	150-174	Melvin, Gary	38	39.525639	-88.477389
277	WPBY934	800/900	METCAD 9-1-1 / CHAMPAIGN, CITY OF	56	40.115583	-88.237278
278	WQME378	450-470	MID ILLINOIS CONCRETE INC	32	39.466417	-88.161972
279	WPTW859	450-470	MID ILLINOIS CONCRETE, INC.	32	39.496139	-88.333250
280	WQSB223	450-470	MID-STATE TANK COMPANY INC	32	39.599778	-88.538278
281	WPOB837	150-174	MITCHELL-JERDAN FUNERAL HOME	40	39.480583	-88.369778
282	WPBW403	800/900	Mobile Communications America, Inc.	113	40.149778	-89.371194
283	WPEN242	800/900	Mobile Communications America, Inc.	113	39.953472	-88.864722
284	WPER444	800/900	Mobile Communications America, Inc.	113	40.126389	-88.290278
285	WPHA805	800/900	Mobile Communications America, Inc.	113	40.161417	-87.696417
286	WPII376	800/900	Mobile Communications America, Inc.	112	39.490000	-88.349444
287	WPJI402	800/900	Mobile Communications America, Inc.	113	39.953472	-88.864722
288	WPLY590	800/900	Mobile Communications America, Inc.	113	39.552222	-87.700000
289	WPPE955	800/900	Mobile Communications America, Inc.	113	38.964139	-88.223250
290	WPRH230	800/900	Mobile Communications America, Inc.	113	40.161528	-87.696444
291	WPRM207	800/900	Mobile Communications America, Inc.	113	39.953472	-88.864722
292	WPRW835	800/900	Mobile Communications America, Inc.	113	39.566917	-89.196028
293	WPSM629	800/900	Mobile Communications America, Inc.	113	39.490000	-88.349444
294	WPTA328	800/900	Mobile Communications America, Inc.	113	39.953472	-88.864722
295	WPTB208	800/900	Mobile Communications America, Inc.	113	39.953472	-88.864722

ID	Call Sign	Frequency Band (MHz)	Licensee	Mobile Area Radius (km)	Latitude (NAD83)	Longitude (NAD83)
296	WPTF624	800/900	Mobile Communications America, Inc.	113	40.126389	-88.290278
297	WPTF927	800/900	Mobile Communications America, Inc.	112	40.126389	-88.290278
298	WPUI397	800/900	Mobile Communications America, Inc.	113	40.161528	-87.696444
299	WPQE447	800/900	MOBILE RADIO SPECIALISTS	113	38.735889	-87.813917
300	WQVQ940	450-470	MONROE, ERIC M	32	39.575528	-88.587083
301	WPFA620	450-470	MOULTRIE COUNTY REDI MIX	48	39.420583	-88.602278
302	WQYG839	150-174	NED A. HELTSLEY DBA HELTSLEY FARMS	40	39.511194	-87.899472
303	KNIW851	150-174	NEOGA, CITY OF	64	39.318361	-88.455333
304	KSK273	150-174	NEWMAN COMMUNITY FIRE PROTECTION DIST	24	39.797250	-87.985861
305	WQWG970	450-470	NIEMEYER, CURT	16	39.564444	-88.295000
306	WPHN481	150-174	Niemeyer, Kirk	90	39.018389	-88.825333
307	WQVJ775	150-174	NOGGLE, BRYAN	80	39.937694	-87.520778
308	WQRZ434	150-174	Norfolk Southern Railway Company	40	39.958389	-88.387833
309	WPXN411	150-174	NORTH OAKAW, TOWNSHIP OF	32	39.582083	-88.407167
310	WPAH495	800/900	NORTHERN INDIANA PUBLIC SERVICE COMPANY	257	41.116167	-86.163889
311	WQSJ209	450-470	NORTHERN INDIANA PUBLIC SERVICE COMPANY	257	41.116167	-86.163889
312	KNIU606	450-470	NUTRIEN AG SOLUTIONS INC	40	39.322806	-88.451167
313	KNIU606	450-470	NUTRIEN AG SOLUTIONS INC	48	39.552250	-87.945306
314	KNIU606	150-174	NUTRIEN AG SOLUTIONS INC	40	39.616139	-87.725028
315	KNIU606	450-470	NUTRIEN AG SOLUTIONS INC	48	39.616139	-87.725028
316	WNR813	450-470	NUTRIEN AG SOLUTIONS INC	40	39.798917	-87.777806
317	WQV341	450-470	O NEILL, EUGENE DBA O NEILL FARMS INC	80	40.069750	-87.912528
318	WQOQ856	150-174	OAKLAND COMMUNITY FIRE PROTECTION DISTRICT	24	39.653861	-88.027806
319	WQYI601	450-470	OAKLAND COMMUNITY UNIT SCHOOL DISTRICT #5	32	39.658639	-88.021444
320	WRAW201	150-174	OAKLAND POLICE DEPARTMENT	40	39.654306	-88.027917

ID	Call Sign	Frequency Band (MHz)	Licensee	Mobile Area Radius (km)	Latitude (NAD83)	Longitude (NAD83)
321	WNFH351	150-174	OAKWOOD COMMUNITY UNIT 76	121	40.113639	-87.828083
322	WNWC408	150-174	OSF Healthcare System, d/b/a OSF Heart of Mary Medical Center (Urbana)	121	40.117778	-88.227500
323	WSDI682	150-174	OSF Healthcare System, d/b/a OSF Heart of Mary Medical Center (Urbana)	121	40.117778	-88.227500
324	WNGJ407	150-174	OWANECO FIRE PROTECTION DISTRICT	121	39.482278	-89.193139
325	KVU371	150-174	PARIS COMMUNITY HOSPITAL	40	39.607250	-87.676750
326	WQGL475	150-174	PARIS COMMUNITY HOSPITAL	40	39.599750	-87.672250
327	WQEE733	150-174	PARIS COMMUNITY UNIT SCHOOL DISTRICT #4	40	39.610028	-87.729194
328	WRQM331	450-470	PARKE COUNTY REMC	80	39.761056	-87.228556
329	KNGR803	150-174	PEAK, GARY DBA G AND S ASPHALT	64	39.385306	-87.695861
330	KMF525	450-470	PETCO PETROLEUM CORPORATION	80	39.090889	-88.876444
331	WQCS655	150-174, 450-470	PETERSON RADIO INC	482.7999878	38.754806	-83.536111
332	WPKU741	450-470	Petrogas Terminals, LLC	32	39.766694	-88.300056
333	WQDJ528	150-174	PHI AIR MEDICAL, LLC	120	38.805056	-87.454750
334	WPRX861	25-50, 150-174	PIATT COUNTY OF	40	39.913861	-88.538861
335	KCO839	150-174	PIATT, COUNTY OF	40	39.913917	-88.538944
336	WPCK711	450-470	PLUNK BROTHERS	64	40.151139	-88.558944
337	WPLG464	450-470	POLICE TRAINING INSTITUTE	80	40.108917	-88.233389
338	WQEV221	450-470	PORTILLO'S HOT DOGS LLC	80	40.144194	-88.257028
339	WQLS200	450-470	PRAIRIELAND FARMS, INC.	32	39.704167	-88.391722
340	WQLS200	450-470	PRAIRIELAND FARMS, INC.	40	39.704167	-88.391722
341	WRCD819	450-470	PRECISION PLUGGING AND SALES	112	38.712250	-88.114861
342	WQGW296	450-470	Presence Care Transformation Corporation	80	40.117778	-88.227500
343	WNQD349	450-470	RADI COM EAST INC	72	39.984750	-88.259500
344	WRWM203	150-174	RAMSAY, GREG	40	39.262389	-88.007083

ID	Call Sign	Frequency Band (MHz)	Licensee	Mobile Area Radius (km)	Latitude (NAD83)	Longitude (NAD83)
345	WRPU287	150-174	RICHARDSON, ROGER	40	39.681667	-88.100556
346	WRJY761	450-470	RING FARMS	32	39.773000	-88.232278
347	WRDR378	150-174	ROLLING PRAIRIE FARM, INC	40	39.506889	-88.463833
348	WNRG708	450-470	RONEY, PAUL	24	39.557806	-88.438111
349	WQPF798	150-174	RYAN FARMS	32	39.336472	-87.994444
350	WPIA329	450-470	S & K COLE FARMS	48.2999992	39.643361	-88.738417
351	KR7442	150-174	S.J. BROADCASTING, LLC	60	40.116778	-88.311056
352	KC25309	450-470	SAGA COMMUNICATIONS OF ILLINOIS, LLC	80.5	40.126389	-88.290278
353	KC62825	450-470	SAGA COMMUNICATIONS OF ILLINOIS, LLC	80.5	40.126389	-88.290278
354	WNXM535	450-470	SARAH BUSH LINCOLN HEALTH CENTER	18	39.488083	-88.273389
355	WNBR792	450-470	SCHABLE FARMS	40	39.850861	-88.514500
356	WQJP685	450-470	Securitas Technology Corporation	75	39.079167	-88.543667
357	WQJP685	450-470	Securitas Technology Corporation	80	40.096278	-88.249250
358	WRMF506	800/900	SEQUOIA HOLDINGS, LLC	80	39.806556	-88.968583
359	WQOW282	150-174	SEVEN HICKORY MORGAN FIRE PROTECTION DISTRICT	32	39.578889	-88.166389
360	WQQA521	450-470	SLOAN IMPLEMENT COMPANY	32	39.681667	-88.309722
361	WSCS502	450-470	Sloan Implement Company	32	39.704167	-88.391667
362	WRPV690	450-470	STATE LINE FARMS	121	40.193889	-87.522583
363	WPDX295	450-470	STEPHENS, DANNY R DBA BAR S INC	121	39.612556	-89.341750
364	WQIX502	450-470	STEWART SECURITY	80	39.001083	-87.730750
365	WQFP723	150-174	SULLIVAN FIRE PROTECTION DISTRICT	40	39.715389	-88.634306
366	WQFP723	150-174	SULLIVAN FIRE PROTECTION DISTRICT	40	39.596639	-88.602694
367	WSDP492	450-470	SULLIVAN, CITY OF	32	39.596778	-88.612139
368	WNGS881	800/900	SUPREME RADIO COMMUNICATIONS, INC	113	40.483056	-88.995278
369	WQWZ467	800/900	Tate & Lyle Ingredients Americas LLC	113	39.841139	-88.924528

ID	Call Sign	Frequency Band (MHz)	Licensee	Mobile Area Radius (km)	Latitude (NAD83)	Longitude (NAD83)
370	WSAL529	150-174	Terhune, Austin	40	39.781972	-87.753806
371	WQMI805	150-174	Texas Eastern Communications, LLC	80	39.460111	-89.024000
372	WSCR563	150-174, 450-470	THOMPSON, BRUCE	80	39.883889	-87.916944
373	KNIF756	150-174	TOLEDO UTILITIES SERVICE COMPANY	40	39.274472	-88.241417
374	WPGU772	150-174	TOTAL GRAIN MARKETING LLC	80	39.020056	-88.833389
375	KSG812	25-50	TRACY TRUCKING COMPANY	80	39.009500	-87.810028
376	WQTL798	450-470	Tri County Welding	32	39.709194	-88.460944
377	KBS983	150-174	TUSCOLA, CITY OF	32	39.793694	-88.286833
378	KBS983	150-174	TUSCOLA, CITY OF	32	39.800778	-88.286833
379	WPEC646	150-174	TUSCOLA, CITY OF	24	39.799889	-88.289500
380	WPEC646	150-174	TUSCOLA, CITY OF	24	39.799194	-88.283111
381	WPPU375	150-174	TUSCOLA, TOWNSHIP OF	24	39.793917	-88.273111
382	KSH548	150-174	UNION PACIFIC RAILROAD COMPANY	40	39.860306	-88.162056
383	KB82881	216-220	UNIVERSITY OF MEMPHIS	640	36.000056	-86.000000
384	WPQK771	450-470	VILLA GROVE COMMUNITY UNIT SCHOOL DISTRICT 302	40	39.868083	-88.161167
385	WQBS672	150-174	WABASH FIRE PROTECTIONS DISTRICT	32	39.405583	-88.397222
386	WRQT570	450-470	Walnut Grove Packaging	32	39.681167	-88.359278
387	BLP00730	150-174, 470-512	WAND TV, Inc.	80	39.824472	-88.967556
388	WQXF642	150-174	WATKINS, JORDAN	32	39.714722	-88.471944
389	WQZJ737	150-174	WILEY, TOBY	40	39.651806	-88.444556
390	WNSC797	150-174	WILSON, JAMES E	40	39.415306	-88.415611
391	WQYZ380	450-470	WIND SWEPT GRAIN FARMS LLC	32	39.678889	-88.522944
392	WPEH585	800/900	Wireless US LC	113	40.180861	-88.317833
393	WPEY408	800/900	Young, Joseph	113	40.181111	-88.317500

Table A: Mobile Licenses Intersecting Project Area

Wind Power GeoPlanner™

AM and FM Radio Report

Coles Wind Project

Prepared on Behalf of
Coles Wind, LLC

December 17, 2024

COMSEARCH®
A CommScope Company

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1. Introduction

Comsearch analyzed AM and FM radio broadcast stations whose service could potentially be affected by the proposed Coles Wind Project in Coles County, Illinois.

2. Summary of Results

Project Information

Name: Coles Wind Project
County: Coles
State: Illinois

Number of Turbines: 62
Blade Diameter: 158 / 162 meters
Hub Height: 117 / 105 meters

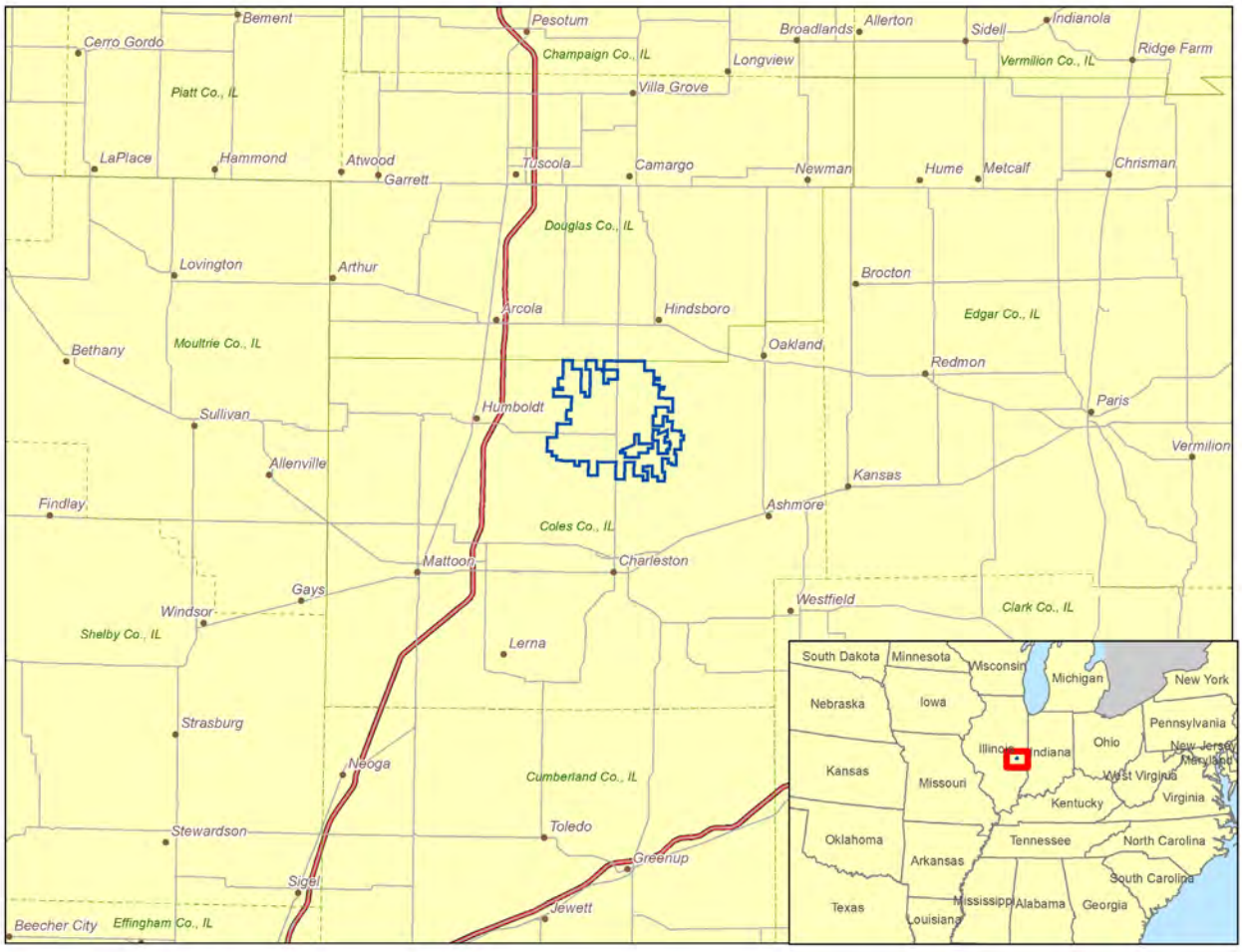

Figure 1: Area of Interest

AM Radio Analysis

Comsearch found no database records[1] for AM stations within approximately 30 kilometers of the project.

FM Radio Analysis

Comsearch determined that there were twelve database records for FM stations within a 30-kilometer radius of the Coles Wind Project, as shown in Table 2 and Figure 2. Ten of the stations are currently licensed and operating, six of which are translator stations, and one is a low power station that operates with limited range. The closest stations are WHOZ and W213AW, both licensed in Charleston, Illinois, to the south of the project area, 7.55 km from the nearest proposed turbine location.

ID	Call Sign	Service[2]	Status[3][4]	Frequency (MHz)	Transmit ERP[5] (kW)	Latitude (NAD 83)	Longitude (NAD 83)	Distance to Nearest Turbine (km)
1	WHOZ	FM	CP	90.5	0.1	39.499472	-88.174194	7.55
2	W213AW	FX	LIC	90.5	0.055	39.499472	-88.174194	7.55
3	WEIU	FM	LIC	88.9	4.0	39.478639	-88.172528	9.78
4	W225BY	FX	LIC	92.9	0.1	39.527778	-88.356389	11.57
5	WWGO	FM	LIC	92.1	6.0	39.527806	-88.356444	11.58
6	W243AM	FX	LIC	96.5	0.14	39.527806	-88.356444	11.58
7	W280EK	FX	LIC	103.9	0.25	39.527806	-88.356444	11.58
8	W292DW	FX	LIC	106.3	0.25	39.527806	-88.356444	11.58
9	W273CF	FX	LIC	102.5	0.055	39.490000	-88.349444	13.76
10	WTGD-LP	FL	CP	101.9	0.085	39.480833	-88.376944	16.15
11	WLKL	FM	LIC	89.9	1.3	39.418639	-88.381972	21.73
12	WDWS-FM	FM	LIC	107.9	3.6	39.878639	-88.197556	25.39

Table 2: FM Radio Stations within 30 km

[1] Comsearch makes no warranty as to the accuracy of the data included in this report beyond the date of the report. The data presented in this report is derived from the AM/FM station's FCC license and governed by Comsearch's data license notification and agreement located at http://www.comsearch.com/files/data_license.pdf.

[2] FM = FM broadcast station; FX = FM translator station; FS = FM auxiliary (backup) station; FL = FM low power station.

[3] LIC = Licensed and operational station; APP = Application for construction permit; CP=Construction permit granted; CP MOD = Modification of construction permit.

[4] FM = FM broadcast station; FX = FM translator station; FS = FM auxiliary (backup) station; FB = FM booster station.

[5] ERP = Transmit Effective Radiated Power.

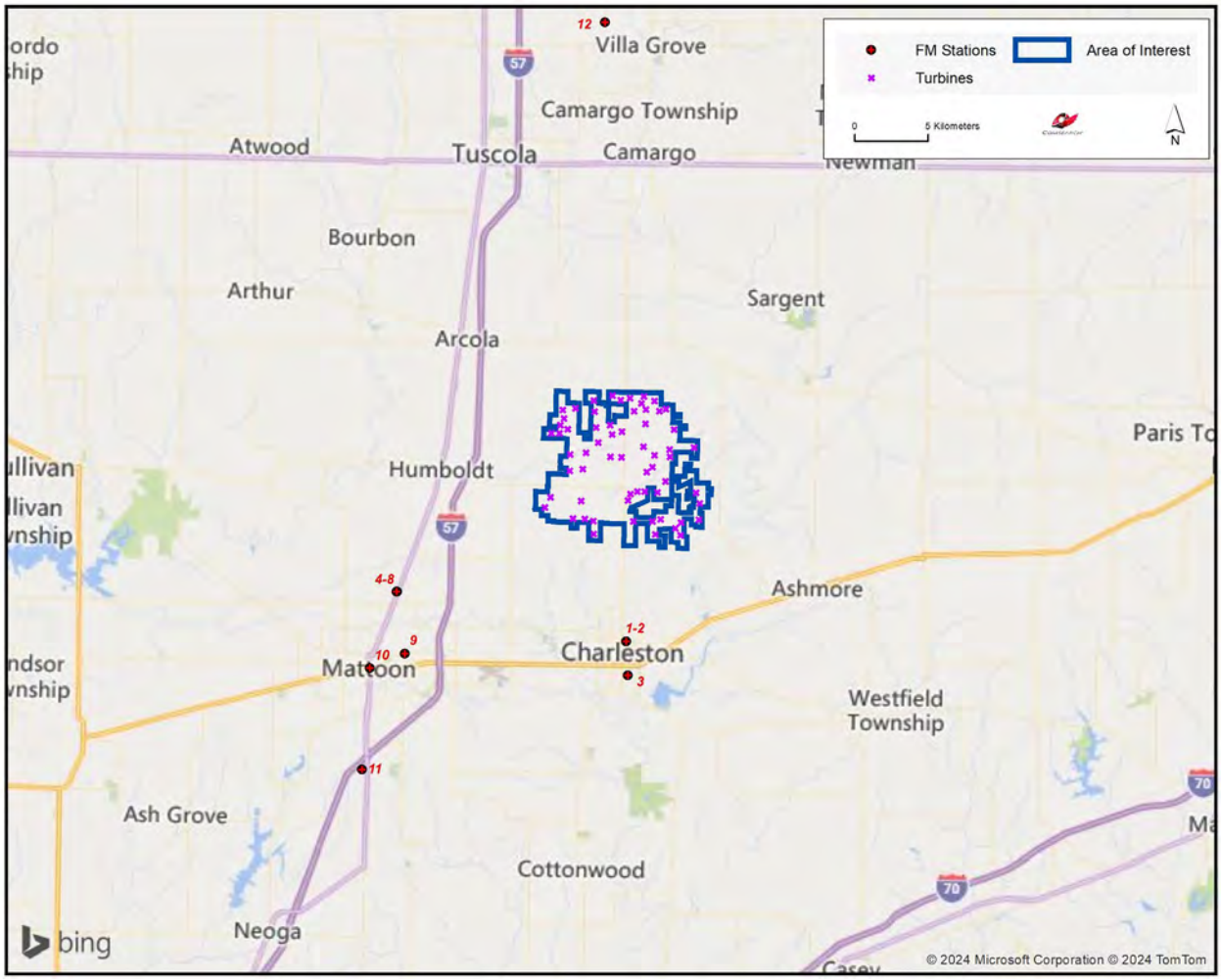

Figure 2: FM Radio Stations within 30 km

3. Impact Assessment

The exclusion distance for AM broadcast stations varies as a function of the antenna type and broadcast frequency. For directional antennas, the exclusion distance is calculated by taking the lesser of 10 wavelengths or 3 kilometers. For non-directional antennas, the exclusion distance is simply equal to 1 wavelength. Potential problems with AM broadcast coverage are only anticipated when AM broadcast stations are located within their respective exclusion distance limit from wind turbine towers. A search radius of 30 km found no AM station records. As there were no stations found within 30 kilometers of the project, which is the maximum possible exclusion distance based on a directional AM antenna broadcasting at 1000 KHz or less, the project should not impact the coverage of local AM stations.

The coverage of FM stations is generally not sensitive to interference due to wind turbines, especially when large objects (e.g., wind turbines) are located in the far field region of the radiating antenna to avoid the risk of distorting its radiation pattern. Stations WHOZ and W213AW are the nearest FM stations to any given turbine at 7.55 km away. At this distance there should be adequate separation to avoid radiation pattern distortion.

4. Recommendations

Since no impact on licensed and operational AM or FM broadcast stations was identified in our analysis, no recommendations or mitigation techniques are required for this project.

5. Contact

For questions or information regarding the AM and FM Radio Report, please contact:

Contact person:	David Meyer
Title:	Senior Manager
Company:	Comsearch
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Wind Power GeoPlanner™

Microwave Study

Coles Wind Project

Prepared on Behalf of
Coles Wind, LLC

December 13, 2024

COMSEARCH®
A CommScope Company

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1. Introduction

Microwave bands that may be affected by the installation of wind turbine facilities operate over a wide frequency range (900 MHz – 23 GHz). Comsearch has developed and maintains comprehensive technical databases containing information on licensed microwave networks throughout the United States. These systems are the telecommunication backbone of the country, providing long-distance and local telephone service, backhaul for cellular and personal communication service, data interconnects for mainframe computers and the Internet, network controls for utilities and railroads, and various video services. This report focuses on the potential impact of wind turbines on licensed, proposed and applied non-federal government microwave systems.

2. Project Overview

Project Information

Name: Coles Wind Project
County: Coles
State: Illinois

Number of Turbines: 62
Blade Diameter: 158 / 162 meters
Hub Height: 117 / 105 meters

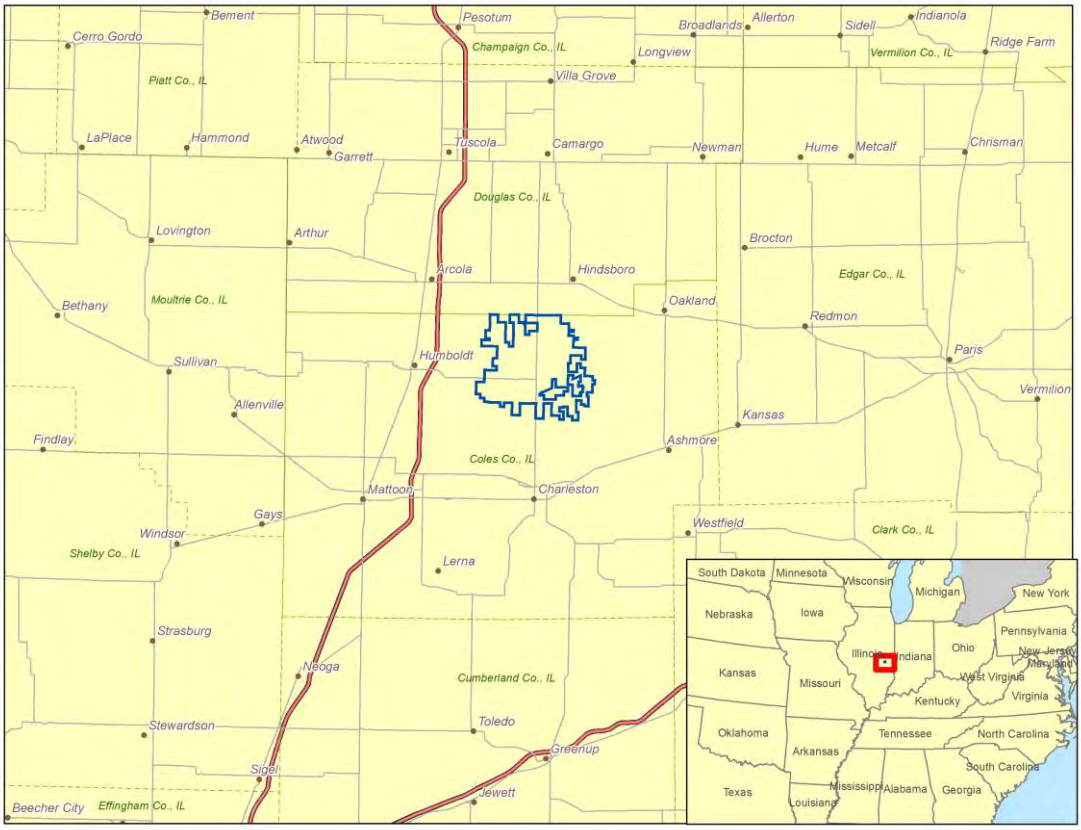


Figure 1: Area of Interest

3. Two-Dimensional Fresnel Zone Analysis

Methodology

Our obstruction analysis was performed using Comsearch's proprietary microwave database, which contains all non-government licensed, proposed and applied paths from 0.9 - 23 GHz[1]. First, we determined all microwave paths that intersect the area of interest[2] and listed them in Table 1. These paths and the area of interest that encompasses the planned turbine locations are shown in Figure 2.

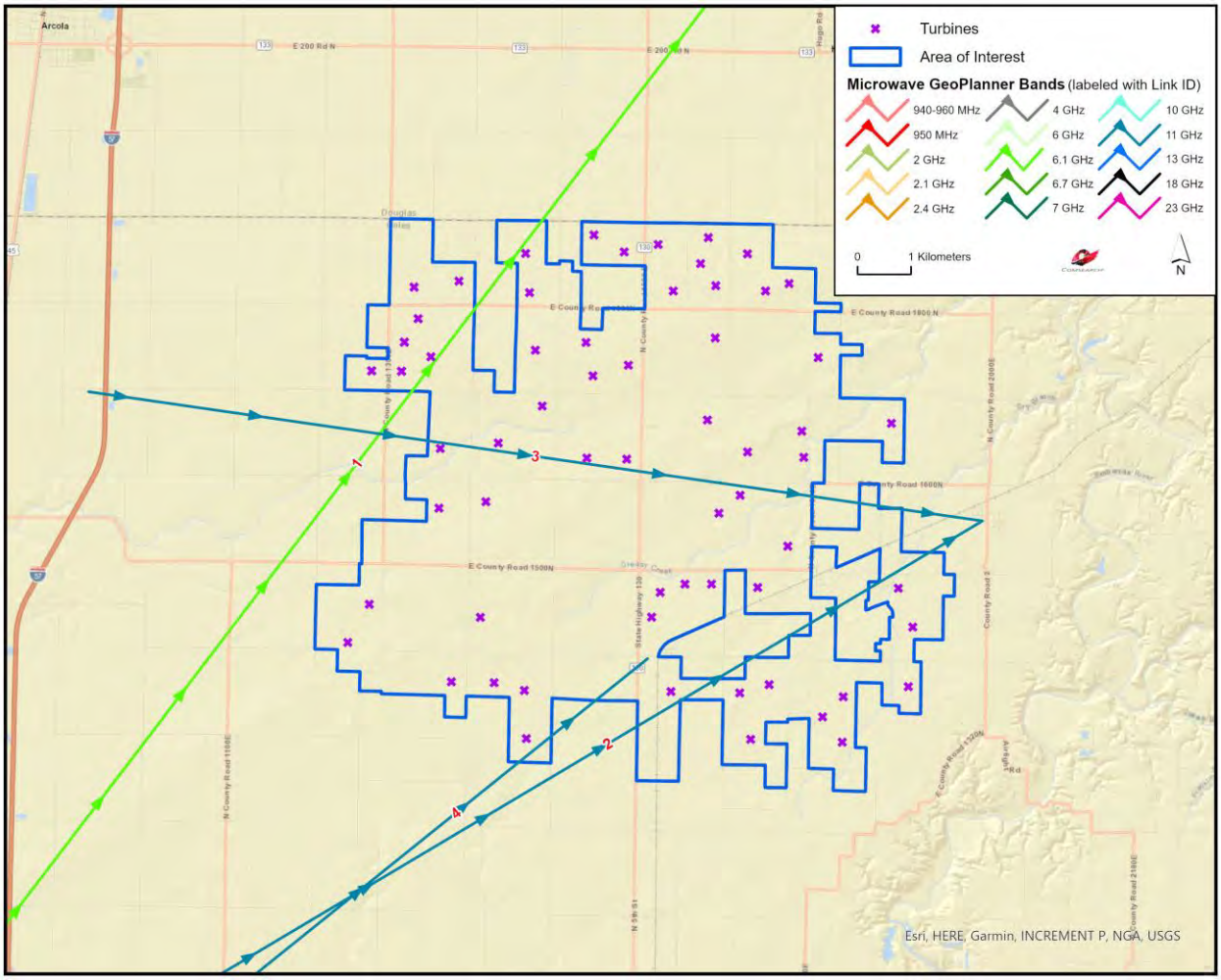


Figure 2: Microwave Paths that Intersect the Area of Interest

[1] Please note that this analysis does not include unlicensed microwave paths or federal government paths that are not registered with the FCC.

[2] We use FCC-licensed coordinates to determine which paths intersect the area of interest. It is possible that as-built coordinates may differ slightly from those on the FCC license.

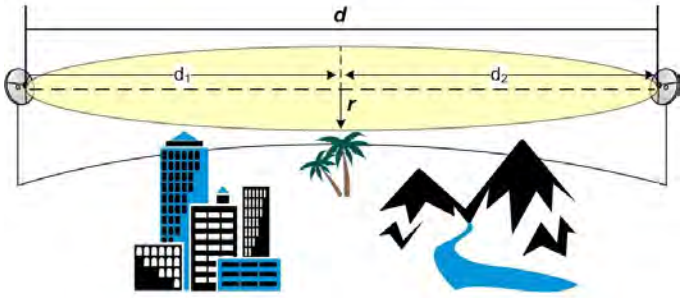
ID	Status	Callsign 1	Callsign 2	Band	Path Length (km)	Licensee
1	Licensed	KSE47	KSI36	6.1 GHz	44.75	Ameren Services Company
2	Licensed	WRDQ712	WRDQ713	11 GHz	26.75	Consolidated Communications of Illinois
3	Licensed	WRUS245	WRUS244	11 GHz	16.90	T-Mobile License LLC
4	Licensed	WRVI961	WRVA510	11 GHz	10.14	T-Mobile License LLC

Table 1: Summary of Microwave Paths that Intersect the Area of Interest
(See enclosed mw_geopl.xlsx for more information and
GP_dict_matrix_description.xls for detailed field descriptions)

Verification of Coordinate Accuracy
It is possible that as-built coordinates may differ from those on the FCC license. For this project, all four path cross within close proximity of the proposed turbines and the tower locations for this path will have a critical impact on the result. Therefore, we verified these locations using aerial photography. One tower was found to be slightly off and were moved to its locations based on the aerial photos[3].

Next, we calculated a Fresnel Zone for each path based on the following formula:

$$r \cong 17.3\sqrt{\frac{n}{F_{GHz}}\left(\frac{d_1 d_2}{d_1 + d_2}\right)}$$



Where,
r = Fresnel Zone radius at a specific point in the microwave path, meters
n = Fresnel Zone number, 1
F_{GHz} = Frequency of microwave system, GHz
d_1 = Distance from antenna 1 to a specific point in the microwave path, kilometers
d_2 = Distance from antenna 2 to a specific point in the microwave path, kilometers

[3] See enclosed mw_geopl.shp (adjusted locations based on aerial photography/basis for report images and results) and mw_geopl_fcc.shp (locations solely based on FCC licensed information) for details.

In general, this is the area where the planned wind turbines should be avoided, if possible. Likewise, Comsearch recommends that an area directly in front of each microwave antenna should be avoided. This corresponds to the Consultation Zone which measures 1 kilometer along the main beam of the antenna and 24 ft (7.3 meters) wide. A depiction of the Fresnel Zones and Consultation Zones for each microwave path listed can be found in Figure 3, and is also included in the enclosed shapefiles[4,5].

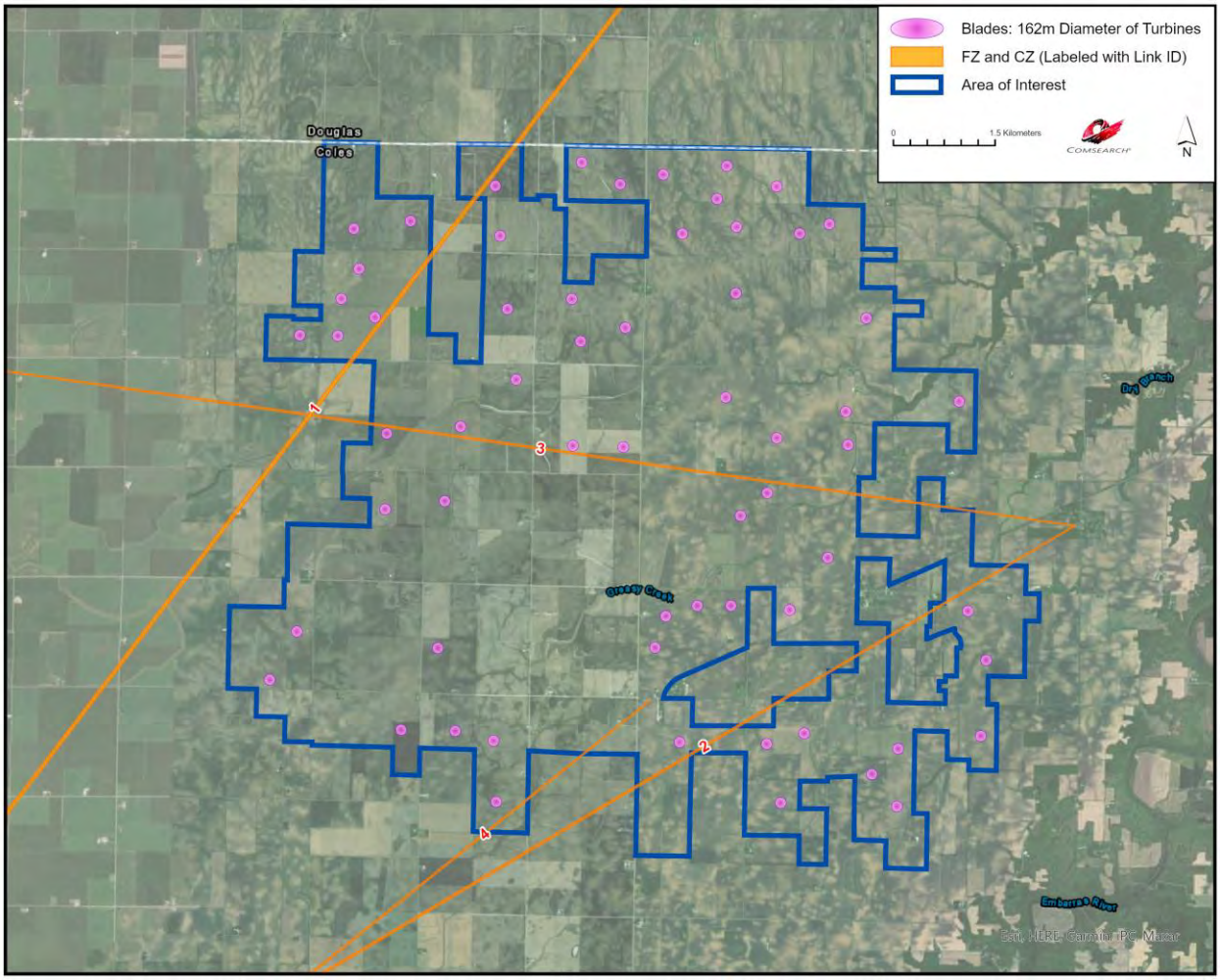


Figure 3: Microwave Paths with Fresnel Zones

[4] The ESRI® shapefiles enclosed are in NAD 83 UTM Zone 16 projected coordinate system.

[5] Comsearch makes no warranty as to the accuracy of the data included in this report beyond the date of the report. The data provided in this report is governed by Comsearch's data license notification and agreement located at http://www.comsearch.com/files/data_license.pdf.

4. Conclusion

Total Microwave Paths	Paths with Affected Fresnel Zones	Total Turbines	Turbines intersecting the Fresnel Zones
4	0	62	0

Table 2: Fresnel Zone Analysis Result

Our study identified four microwave paths intersecting the Coles Wind Project area of interest. The Fresnel and Consultation Zones for these microwave paths were calculated and mapped in order to assess the potential impact from the turbines. A total of sixty-two turbines were considered in the analysis, each with a maximum blade diameter of 162 meters. Of those turbines locations, none were found to have potential obstruction with the microwave systems in the area with regard to both turbine dimensions considered.

5. Contact

For questions or information regarding the Microwave Study, please contact:

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Title: Senior Manager
Company: Comsearch
Address: 21515 Ridgetop Circle, Suite 300, Sterling, VA 20166
Telephone: 703-726-5656
Fax: 703-726-5595
Email: David.Meyer@CommScope.com
Web site: www.comsearch.com

Appendix: Turbine Locations

Name	Latitude	Longitude
T1	39.649995	-88.188005
T2	39.646727	-88.202823
T3	39.647183	-88.181358
T4	39.640117	-88.201895
T5	39.641917	-88.217304
T6	39.640777	-88.227044
T7	39.635483	-88.226039
T8	39.631481	-88.229020
T9	39.630431	-88.200456
T10	39.631708	-88.189183
T11	39.628019	-88.180344
T12	39.626261	-88.187792
T13	39.629093	-88.223195
T14	39.626559	-88.229542
T15	39.626564	-88.236070
T16	39.613690	-88.220885
T17	39.614735	-88.208232
T18	39.621062	-88.198786
T19	39.612409	-88.188892
T20	39.612310	-88.180226
T21	39.648528	-88.173981
T22	39.645392	-88.164683
T23	39.649785	-88.163058
T24	39.647149	-88.154455
T25	39.642241	-88.145311
T26	39.640932	-88.150410
T27	39.641706	-88.161275
T28	39.640726	-88.170557
T29	39.632904	-88.161243
T30	39.629819	-88.138768
T31	39.618923	-88.122631
T32	39.612989	-88.141627
T33	39.617396	-88.142108
T34	39.613774	-88.153886
T35	39.619080	-88.162749
T36	39.603394	-88.159948
T37	39.606469	-88.155401
T38	39.597987	-88.144878
T39	39.591143	-88.120681
T40	39.590992	-88.151334
T41	39.591356	-88.161489
T42	39.591131	-88.167294
T43	39.589955	-88.172555
T44	39.585767	-88.174319

Name	Latitude	Longitude
T45	39.584660	-88.117432
T46	39.574592	-88.118216
T47	39.572765	-88.132383
T48	39.565118	-88.132451
T49	39.569341	-88.136830
T50	39.574644	-88.148535
T51	39.573187	-88.154941
T52	39.565394	-88.152425
T53	39.573270	-88.169910
T54	39.565034	-88.201263
T55	39.573124	-88.201857
T56	39.574363	-88.208448
T57	39.574408	-88.217758
T58	39.580814	-88.240424
T59	39.587266	-88.235878
T60	39.585320	-88.211622
T61	39.604831	-88.210781
T62	39.603647	-88.220991

UNITED STATES DEPARTMENT OF COMMERCE
National Telecommunications and Information Administration
Washington, D.C. 20230

February 2, 2023

Lindsey DeLuga,
Radar Analyst,
WESTSLOPE CONSULTING
3940 W. Tecumseh Road, Ste. 200
Norman, Oklahoma 73072

Re: Coles Wind Project: Coles, IL

Dear Ms. DeLuga:

In response to your request on December 7, 2022, the National Telecommunications and Information Administration provided to the federal agencies represented in the Interdepartment Radio Advisory Committee (IRAC) the plans for the Coles Wind Project, located in Coles County, Illinois.

After a 45+ day period of review, no reviewing agencies had concerns with turbine construction in the designated build areas.

Commerce has completed our review of the subject wind farm proposal and found the project area is over 108 km ESE of the Lincoln, IL NEXRAD. Based upon distance and terrain this project appears to be radar neutral. No further contact with the developer is requested at this time.

While the other IRAC agencies did not identify any concerns regarding radio frequency blockage, this does not eliminate the need for the wind energy facilities to meet any other requirements specified by law related to these agencies. For example, this review by the IRAC does not eliminate any need that may exist to coordinate with the Federal Aviation Administration concerning flight obstruction.

Thank you for the opportunity to review these proposals.

Sincerely,
JOHN MCFALL
Digitally signed by JOHN MCFALL
Date: 2023.02.02 13:54:09 -05'00'
John R. McFall
Deputy Chief, Spectrum Services Division
Office of Spectrum Management

Appendix D.5

Sound Modeling Report

(*Design and Installation, §L*)

RSG
the science of insight

Apex Clean Energy

COLES WIND SOUND MODELING

January 3, 2025

55 Railroad Row
White River Junction, VT 05001
802.295.4999
www.rsginc.com

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1.0 INTRODUCTION

Coles Wind, LLC ("Coles Wind" or the "Applicant"), an indirect subsidiary of Apex Clean Energy Holdings, LLC ("Apex"), is developing a wind power project with nameplate capacity of up to 311.1 MW ("Project") in Coles County, Illinois. This report presents sound propagation modeling of the Project layout. Two different turbine models are currently under consideration: the GE 6.1-158 and the Vestas V162-6.0. This report includes:

- A Project description;
- Comparison of applicable sound level thresholds;
- Sound propagation modeling procedures;
- Mitigation (where necessary); and
- Conclusions.

Appendix A includes a primer on the science of sound, including descriptions of some of the acoustical terms used in this report, and Appendix B includes a discussion of sound topics that are particular to wind farms.

2.0 PROJECT DESCRIPTION

Coles Wind ("Project") is an up to 311.1 MW wind power project proposed for Coles County in Illinois. The area around the Project is composed of agricultural land, rural residences and scattered population centers. The closest city is Charleston, located approximately 7 km (4.4 miles) south of the Project area.

The Project includes 62 proposed turbine locations and a substation, all contained within Coles County. A total of 51 of these turbine locations are primary locations and will be constructed. Eleven are spare locations and will not be constructed. All 62 locations are included in the sound modeling of this report. Wind turbine models currently considered for the Project are the Vestas V162 6.0 MW with a hub height of 105 meters (344 feet) and the GE 6.1-158 with a hub height of 117 meters (384 feet). The Project substation will be in the west-central region of the Project area 75 meters (250 feet) west of E 1400th Street and 900 meters (3,000 feet) north of East County Road 1500 N.

A map of the Project area is shown in Figure 1. US Interstate 57 is approximately 5.8 kilometers (4 miles) to the west. Illinois Route 130 runs north to south through the Project area. The southern extent is 6.4 kilometers (4 miles) north of Illinois Route 16 and the northern extent is 3.2 kilometers (2 miles) south of Illinois Route 133.

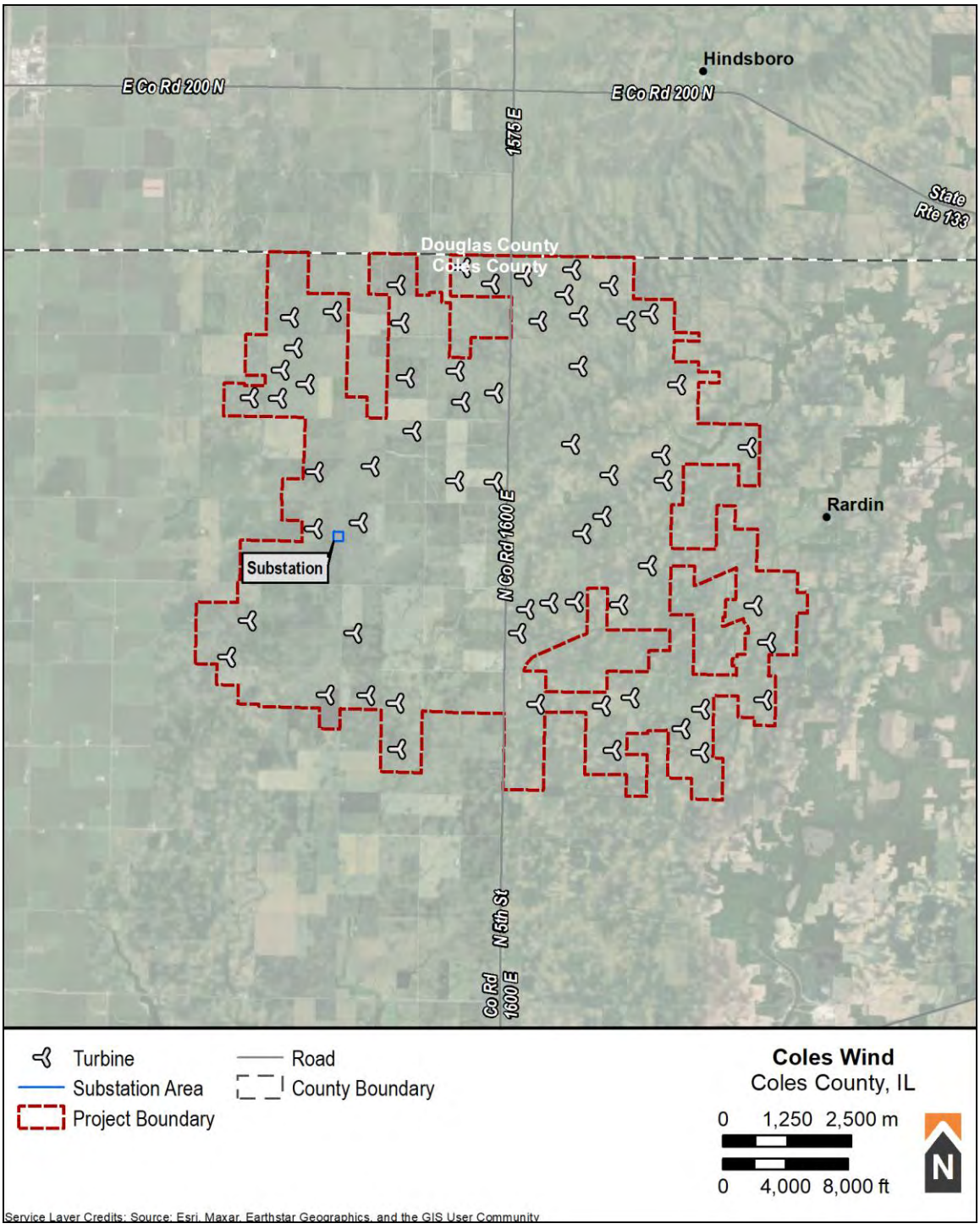

FIGURE 1: AREA MAP[1]

[1] A total of 51 of the 62 displayed locations will be constructed.

3.0 APPLICABLE SOUND LEVEL CRITERIA

3.1 LOCAL

The local sound requirements for the project are found in the Coles County *Amended Ordinance*, published on May 9, 2023. The sound provision is found in the Design and Installation provisions under Section L, which is reproduced below.

> L. Noise Levels
>
> > Noise levels from each WECS or WECS Project shall be in compliance with applicable Illinois Pollution Control Board (IPCB) regulations. The Applicant shall submit manufacturer's wind turbine sound power level characteristics and other relevant data regarding wind turbine noise characteristics necessary for a competent noise analysis. The Applicant, through the use of a qualified professional, shall appropriately demonstrate compliance with the applicable noise requirements in its Special Use Permit application.

This requires that wind power projects comply with IPCB noise limits. Compliance with these limits needs to be shown through a noise study prepared by a qualified professional and the sound power characteristics of the turbines need to be published.

The Illinois Pollution Control Board (IPCB) noise standards referred to in the zoning ordinance are detailed below. To address the requirement that this report be prepared by a qualified professional, we note that:

- RSG has conducted sound analyses on over 100 wind projects in the United States,
- RSG staff are active in publishing papers on wind turbine noise research (e.g. Massachusetts Study on Wind Turbine Acoustics and Lawrence Berkely National Laboratory's wind turbine acceptance research).
- Mr. Kaliski, one of RSG's principals, is the co-chair of the Institute of Noise Control Engineering's Wind Turbine Noise Technical Activity Committee.
- Mr. Old, RSG's manager for this project, is Board Certified through the Institute of Noise Control Engineering and has prepared multiple noise studies for Illinois projects.

3.2 STATE

The State of Illinois regulates noise through Title 35, Subtitle H of the Illinois Administrative Code (the "Code"). In Section 900.102 the Code states:

> *No person shall cause or allow the emission of sound beyond the boundaries of his property, as property is defined in Section 25 of the Illinois Environmental Protection Act, so as to cause noise pollution in Illinois, or as to violate any provision of this Chapter.*

Noise pollution is defined in the Code as, "the emission of sound that unreasonably interferes with the enjoyment of life or with any lawful business or activity."

Part 910 details basic measurement procedures with references to several common ANSI standards.

Quantitative sound level limits that are applicable to the proposed Project are defined in Part 901: "Sound Emission Standards and Limitations for Property Line-Noise-Sources." Section 901.102 and 901.103 provide sound pressure level limits for each full octave band center frequency from 31.5 Hz to 8 kHz.

The IPCB standard is based on the land use of the sound source and receiver. Both alternative energy sources and agriculture are considered Class C. Residences are considered Class A, as is the land subject to residential use directly surrounding them. Therefore, impacts to individual residences, and the land subject to residential use immediately surrounding them are evaluated according to the Class C to Class A standard. The applicable standards are shown in Table 1.

It is important to point out that the Illinois standard is frequency based, and is intended to protect against specific low-frequency noise impacts, as well as impacts due to overall sound levels.

TABLE 1: ALLOWABLE OCTAVE BAND SOUND PRESSURE LEVELS (dBZ) OF SOUND EMITTED TO RECEIVING CLASS A LAND FROM CLASS C LAND

LIMIT TIME	SOUND LEVEL LIMIT (dBZ) BY OCTAVE BAND CENTER FREQUENCY								
	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz	8 kHz
Class C to A Daytime	75	74	69	64	58	52	47	43	40
Class C to A Nighttime	69	67	62	54	47	41	36	32	32

Additionally, the regulation states that "no person shall cause or allow the emission of any prominent discrete tone." In Section 900.101, the Code defines prominent discrete tones as:

> *Prominent discrete tone: sound, having a one-third octave band sound pressure level which, when measured in a one-third octave band at the preferred frequencies, exceeds the arithmetic average of the sound pressure levels of the two adjacent one-third octave bands on either side of such one-third octave band by:*
>
> *5 dB for such one-third octave band with a center frequency from 500 Hertz to 10,000 Hertz, inclusive. Provided: such one-third octave band sound pressure level exceeds the sound pressure level of each adjacent one-third octave band, or;*

> *8 dB for such one-third octave band with a center frequency from 160 Hertz to 400 Hertz, inclusive. Provided: such one-third octave band sound pressure level exceeds the sound pressure level of each adjacent one-third octave band, or;*
>
> *15 dB for such one-third octave band with a center frequency from 25 Hertz to 125 Hertz, inclusive. Provided: such one-third octave band sound pressure level exceeds the sound pressure level of each adjacent one-third octave band.*

The regulation also adds the following clause for prominent discrete tones:

> *This rule shall not apply to prominent discrete tones having a one-third octave band sound pressure level 10 or more dB below the allowable octave band sound pressure level specified in Sections 901.102 through 901.104 for the octave band which contains such one-third octave band. In the application of this sub-section, the applicable numeric standard for sound emitted from any existing property-line-noise-source to receiving Class A land, for both daytime and nighttime operations, is found in Section 901.102(a).*

Each residence and associated residential use has been evaluated using the nighttime Class C to Class A limits and for the presence of prominent discrete tones.

4.0 SOUND PROPAGATION MODELING

4.1 PROCEDURES

Modeling for the Project was in accordance with the standard ISO 9613-2, "Acoustics – Attenuation of sound during propagation outdoors, Part 2: General Method of Calculation." The ISO standard states,

> *This part of ISO 9613 specifies an engineering method for calculating the attenuation of sound during propagation outdoors in order to predict the levels of environmental noise at a distance from a variety of sources. The method predicts the equivalent continuous A-weighted sound pressure level … under meteorological conditions favorable to propagation from sources of known sound emissions. These conditions are for downwind propagation … or, equivalently, propagation under a well-developed moderate ground-based temperature inversion, such as commonly occurs at night.*

The model considers source sound power levels, surface reflection and absorption, atmospheric absorption, geometric divergence, meteorological conditions, walls, barriers, berms, and terrain. The acoustical modeling software used here was CadnaA, from Datakustik GmbH. CadnaA is a widely accepted acoustical propagation modeling tool, used by many noise control professionals in the United States and internationally.

ISO 9613-2 assumes downwind sound propagation between every source and every receiver, consequently, all wind directions, including the prevailing wind directions, are taken into account.

The sound modeling procedure follows the ANSI/ACP American National Standard for wind turbine sound modeling.[2] These include the use of a ground absorption factor of G=0.5 (half hard/half porous ground) and a +2 dB factor added to the turbine sound power level.

A search distance up to 10,000 meters (6.2 miles) allows for the contributions of distant turbines to be considered at receivers. Other modeling parameters can be found in Appendix C.

A total of 196 receptors were modeled at a height of 4 meters (13 feet) above ground level throughout the Project area. The receptors are the same as those identified in Appendix D as the residences. Since the receptor in Illinois includes not only the structure, but also similar surrounding land use, residential portions of the land were also checked to ensure sound levels were at or below limits. In addition to the discrete receptors, a 20-meter by 20-meter (66 feet by 66 feet) grid of receptors was set up in the model covering 369 square kilometers (142 square miles) in and around the Project. The grid is used to calculate the sound pressure level contours

[2] ANSI/ACP Standard 111-1, "Wind Turbine Sound Modeling," American National Standards Institute, 2022.

in the result maps. A total of 62 turbine locations were modeled for each turbine model, though only up to 51 of these locations will be constructed. This means that model results shown here are conservative since more sound sources are modeled than will be constructed.

4.2 RESULTS

Full Octave Band Results

A summary of sound propagation modeling results is shown in Table 2. The full discrete receiver results by octave band are provided in Appendix D. Sound level contour maps are found in Appendix E.

Modeled results show that IPCB C to A nighttime sound level limits will be met at all participating and nonparticipating residences and the surrounding residential use. The octave band results closest to IPCB limits are 500 Hz and 1 kHz, with highest modeled results of 44 and 41 dBZ in the GE configuration and 43 and 39 dBZ in the Vestas configuration, compared to limits of 47 and 41 dBZ respectively.

TABLE 2: SOUND PROPAGATION MODELING RESULTS SUMMARY

Turbine Type	Receiver Type	Maximum Modeled 1/1 Octave Band Center Frequency Sound Level (dBZ)								
		31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz	8 kHz
IPCB C -> A Nighttime Limits		**69**	**67**	**62**	**54**	**47**	**41**	**36**	**32**	**32**
GE	Residence	62	58	50	47	44	41	33	12	0
Vestas	Residence	63	61	55	48	43	39	33	13	0

Modeling assumes the Vestas turbines are equipped with Serrated Trailing Edges (STEs) at each of the 62 locations. The GE configuration does as well, though GE calls STEs Low Noise Trailing Edges (or LNTEs).

In addition, to achieve results described above with all 62 locations modeled, seventeen of the GE turbines need to be placed in noise reduced operations (NROs) to meet IPCB C to A nighttime limits. Of these, fourteen require the NRO102 mode, one requires the NRO101 mode, and two require the NRO100 mode. Since only up to approximately 51 locations will be constructed, the number of NROs will be reduced for the constructed array. No NROs are needed for the Vestas V162-6.0 turbines.

Tonality

Tonal prominence for the equipment proposed for this Project is shown Figure 2. The modeled transformer in ONAF[3] mode is slightly tonal and in ONAN mode it is clearly tonal. However, both modes are at least 10 dB below the limits and therefore excluded from IPCB tonality limits. The

[3] ONAN – Oil Natural Air Natural (Fans off), ONAF – Oil Natural Air Forced (Fans On)

maximum transformer-only sound levels are shown in Table 3. Based on these results, the tonality threshold of the IPCB regulations is not met. The turbine models proposed for this project do not meet the criteria necessary to be considered tonal.

It is important to note that the spectrum used for the transformer is based on a similar transformer RSG measured and not the manufacturer data. Therefore, the modeled tonal prominence may be different than the built transformer. If measurements show a tonal exceedance, the transformer can be mitigated with common noise mitigation measures, such as noise walls, tank panels, etc. The overall sound power of the transformer was based on the proposed transformer equipment specifications. Tonal prominence based on sound emissions spectra does not take into account propagation effects or masking that tend to reduce tonal prominence at receptor locations.

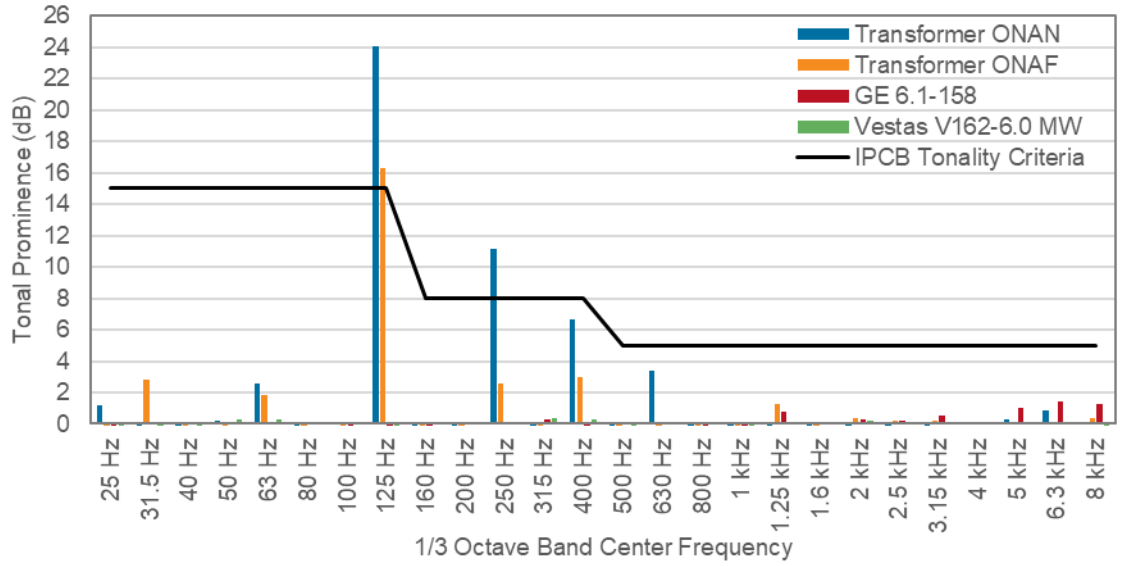

FIGURE 2 PROPOSED EQUIPMENT TONAL PROMINENCE

TABLE 3: SOUND PROPAGATION MODELING TRANSFORMER ONLY RESULTS

Equipment	Maximum Modeled Transformer Only 1/1 Octave Band Center Frequency Sound Level (dBZ)								
	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz	8 kHz
IPCB C -> A Limits	**69**	**67**	**62**	**54**	**47**	**41**	**39**	**32**	**32**
Transformer - ONAN	20	19	43	30	31	9	0	0	0
Transformer - ONAF	30	32	42	34	34	28	15	0	0

5.0 CONCLUSIONS

RSG conducted sound propagation modeling of the proposed Coles Wind project ("Project") in Coles County, IL in preparation for the Project's Special Use Permit application.

The Project will include up to 51 turbines with a total capacity of up to 311.1 MW. For this modeling assessment, a total of 62 turbine locations were modeled with either a.) Vestas V162-6.0 MW turbines with 105-meter hub heights or b.) GE 6.1-158 turbines with 117-meter hub heights. The model also included two high voltage transformers at the Project substation location.

Noise from the Project is regulated in the Coles County, Illinois *Amended Ordinance*, published on May 9, 2023. This applies Illinois Pollution Control Board (IPCB) limits to regulate sound from wind turbines. The most stringent IPCB limit is the Class C to Class A nighttime limit discussed in Section 3.2. These limits are applied to each octave band, including low-, mid-, and high-frequencies of sound.

Sound levels from the Project were modeled at 196 residential receivers throughout the Project area. Model results are presented in Section 4.2, Appendix D, and Appendix E. All modeled receivers are below the IPCB Class C to Class A nighttime limit.

Given this, all primary receivers, and the surrounding residential land use, are modeled to meet the IPCB regulations and the noise requirements of the Coles County *Amended Ordinance* with all primary and spare turbine locations modeled for both the Vestas V162-6.0 MW and GE 6.1-158 turbine models.

APPENDIX A. ACOUSTICS PRIMER

Expressing Sound in Decibel Levels

The varying air pressure that constitutes sound can be characterized in many different ways. The human ear is the basis for the metrics that are used in acoustics. Normal human hearing is sensitive to sound fluctuations over an enormous range of pressures, from about 20 micropascals (the "threshold of audibility") to about 20 pascals (the "threshold of pain").[4] This factor of one million in sound pressure difference is challenging to convey in engineering units. Instead, sound pressure is converted to sound "levels" in units of "decibels" (dB, named after Alexander Graham Bell). Once a measured sound is converted to dB, it is denoted as a level with the letter "L".

The conversion from sound pressure in pascals to sound level in dB is a four-step process. First, the sound wave's measured amplitude is squared, and the mean is taken. Second, a ratio is taken between the mean square sound pressure and the square of the threshold of audibility (20 micropascals). Third, using the logarithm function, the ratio is converted to factors of 10. The final result is multiplied by 10 to give the decibel level. By this decibel scale, sound levels range from 0 dB at the threshold of audibility to 120 dB at the threshold of pain.

Typical sound sources, and their sound pressure levels, are listed on the scale in Figure 3.

Human Response to Sound Levels: Apparent Loudness

For every 20 dB increase in sound level, the sound pressure increases by a *factor* of 10; the sound *level* range from 0 dB to 120 dB covers 6 factors of 10, or one million, in sound *pressure*. However, for an increase of 10 dB in sound *level* as measured by a meter, humans perceive an approximate doubling of apparent loudness: to the human ear, a sound level of 70 dB sounds about "twice as loud" as a sound level of 60 dB. Smaller changes in sound level, less than 3 dB up or down, are generally not perceptible.

[4] The pascal is a measure of pressure in the metric system. In Imperial units, they are themselves very small: one pascal is only 145 millionths of a pound per square inch (psi). The sound pressure at the threshold of audibility is only 3 one-billionths of one psi: at the threshold of pain, it is about 3 one-thousandths of one psi.

FIGURE 3: A SCALE OF SOUND PRESSURE LEVELS FOR TYPICAL SOUND SOURCES

Frequency Spectrum of Sound

The “frequency” of a sound is the rate at which it fluctuates in time, expressed in Hertz (Hz), or cycles per second. Very few sounds occur at only one frequency: most sound contains energy at many different frequencies, and it can be broken down into different frequency divisions, or bands. These bands are similar to musical pitches, from low tones to high tones. The most common division is the standard octave band. An octave is the range of frequencies whose upper frequency limit is twice its lower frequency limit, exactly like an octave in music. An octave band is identified by its center frequency: each successive band’s center frequency is twice as high (one octave) as the previous band. For example, the 500 Hz octave band includes all sound whose frequencies range between 354 Hz (Hertz, or cycles per second) and 707 Hz. The next band is centered at 1,000 Hz with a range between 707 Hz and 1,414 Hz. The range of human hearing is divided into 10 standard octave bands: 31.5 Hz, 63 Hz, 125 Hz, 250 Hz, 500 Hz, 1,000 Hz, 2,000 Hz, 4,000 Hz, 8,000 Hz, and 16,000 Hz. For analyses that require finer frequency detail, each octave-band can be subdivided. A commonly-used subdivision creates three smaller bands within each octave band, or so-called 1/3-octave bands.

Human Response to Frequency: Weighting of Sound Levels

The human ear is not equally sensitive to sounds of all frequencies. Sounds at some frequencies seem louder than others, despite having the same decibel level as measured by a sound level meter. In particular, human hearing is much more sensitive to medium pitches (from about 500 Hz to about 4,000 Hz) than to very low or very high pitches. For example, a tone measuring 80 dB at 500 Hz (a medium pitch) sounds quite a bit louder than a tone measuring 80 dB at 60 Hz (a very low pitch). The frequency response of normal human hearing ranges from 20 Hz to 20,000 Hz. Below 20 Hz, sound pressure fluctuations are not “heard”, but sometimes can be “felt”. This is known as “infrasound”. Likewise, above 20,000 Hz, sound can no longer be heard by humans; this is known as “ultrasound”. As humans age, they tend to lose the ability to hear higher frequencies first; many adults do not hear very well above about 16,000 Hz. Most natural and man-made sound occurs in the range from about 40 Hz to about 4,000 Hz. Some insects and birdsongs reach to about 8,000 Hz.

To adjust measured sound pressure levels so that they mimic human hearing response, sound level meters apply filters, known as “frequency weightings”, to the signals. There are several defined weighting scales, including “A”, “B”, “C”, “D”, “G”, and “Z”. The most common weighting scale used in environmental noise analysis and regulation is A-weighting. This weighting represents the sensitivity of the human ear to sounds of low to moderate level. It attenuates sounds with frequencies below 1000 Hz and above 4000 Hz; it amplifies very slightly sounds between 1000 Hz and 4000 Hz, where the human ear is particularly sensitive. The C-weighting scale is sometimes used to describe louder sounds. The B- and D- scales are seldom used. All of these frequency weighting scales are normalized to the average human hearing response at

1000 Hz: at this frequency, the filters neither attenuate nor amplify. G-weighting is a standardized weighting used to evaluate infrasound.

When a reported sound level has been filtered using a frequency weighting, the letter is appended to “dB”. For example, sound with A-weighting is usually denoted “dBA”. When no filtering is applied, the level is denoted “dB” or “dBZ”. The letter is also appended as a subscript to the level indicator “L”, for example “L_A” for A-weighted levels.

Time Response of Sound Level Meters

Because sound levels can vary greatly from one moment to the next, the time over which sound is measured can influence the value of the levels reported. Often, sound is measured in real time, as it fluctuates. In this case, acousticians apply a so-called “time response” to the sound level meter, and this time response is often part of regulations for measuring sound. If the sound level is varying slowly, over a few seconds, “Slow” time response is applied, with a time constant of one second. If the sound level is varying quickly (for example, if brief events are mixed into the overall sound), “Fast” time response can be applied, with a time constant of one-eighth of a second.[5] The time response setting for a sound level measurement is indicated with the subscript “S” for Slow and “F” for Fast: L_S or L_F. A sound level meter set to Fast time response will indicate higher sound levels than one set to Slow time response when brief events are mixed into the overall sound, because it can respond more quickly.

In some cases, the maximum sound level that can be generated by a source is of concern. Likewise, the minimum sound level occurring during a monitoring period may be required. To measure these, the sound level meter can be set to capture and hold the highest and lowest levels measured during a given monitoring period. This is represented by the subscript “max”, denoted as “L_{max}”. One can define a “max” level with Fast response L_{Fmax} (1/8-second time constant), Slow time response L_{Smax} (1-second time constant), or Continuous Equivalent level over a specified time period $L_{eq\text{-}max}$.

Accounting for Changes in Sound Over Time

A sound level meter’s time response settings are useful for continuous monitoring. However, they are less useful in summarizing sound levels over longer periods. To do so, acousticians apply simple statistics to the measured sound levels, resulting in a set of defined types of sound level related to averages over time. An example is shown in Figure 4. The sound level at each instant of time is the grey trace going from left to right. Over the total time it was measured (1 hour in the figure), the sound energy spends certain fractions of time near various levels, ranging from the minimum (about 27 dB in the figure) to the maximum (about 65 dB in the figure). The simplest descriptor is the average sound level, known as the Equivalent Continuous

[5] There is a third time response defined by standards, the “Impulse” response. This response was defined to enable use of older, analog meters when measuring very brief sounds; it is no longer in common use.

Sound Level. Statistical levels are used to determine for what percentage of time the sound is louder than any given level. These levels are described in the following sections.

Equivalent Continuous Sound Level - L_{eq}

One straightforward, common way of describing sound levels is in terms of the Continuous Equivalent Sound Level, or L_{eq}. The L_{eq} is the average sound pressure level over a defined period of time, such as one hour or one day. L_{EQ} is the most commonly used descriptor in noise standards and regulations. L_{eq} is representative of the overall sound to which a person is exposed. Because of the logarithmic calculation of decibels, L_{EQ} tends to favor higher sound levels: loud and infrequent sources have a larger impact on the resulting average sound level than quieter but more frequent sounds. For example, in Figure 4, even though the sound levels spends most of the time near about 34 dBA, the L_{eq} is 41 dBA, having been "inflated" by the maximum level of 65 dBA and other occasional spikes over the course of the hour.

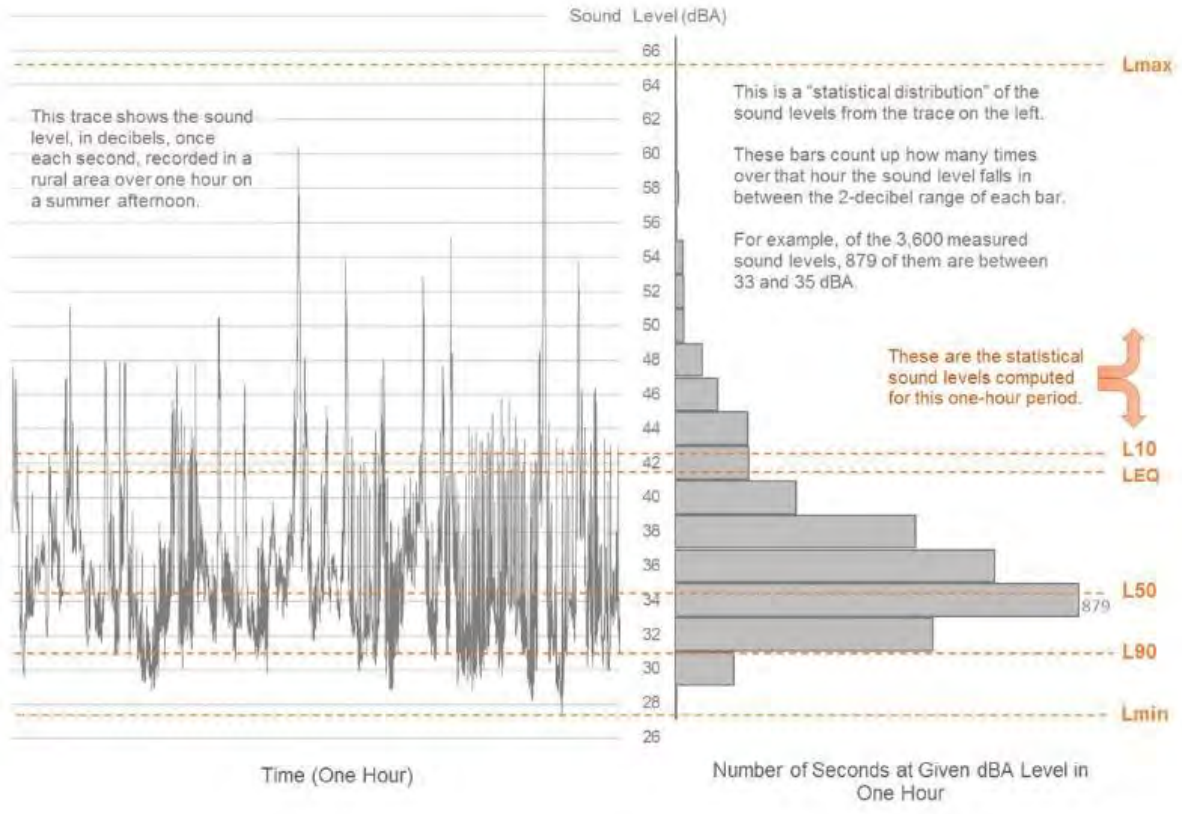

FIGURE 4: EXAMPLE OF DESCRIPTIVE TERMS OF SOUND MEASUREMENT OVER TIME

Percentile Sound Levels – Ln

Percentile sound levels describe the statistical distribution of sound levels over time. "L_N" is the level above which the sound spends "N" percent of the time. For example, L_{90} (sometimes called the "residual base level") is the sound level exceeded 90% of the time: the sound is louder than L_{90} most of the time. L_{10} is the sound level that is exceeded only 10% of the time. (the "median level") is exceeded 50% of the time: half of the time the sound is louder than , and half the time it is quieter than . Note that (median) and L_{eq} (pressure-weighted mean) are not always the same, for reasons described in the previous section.

The L_{90} is the sound level that is exceeded 90 percent of the time. It is the sound that persists for longer periods, and below which the overall sound level seldom falls. It tends to filter out other short-term environmental sounds that aren't part of the source being investigated. L_{10} represents the higher, but less frequent, sound levels. These could include such events as barking dogs, vehicles driving by and aircraft flying overhead, gusts of wind, and work operations. L_{90} represents the background sound that is present when these event sounds are excluded.

Note that if one sound source is very constant and dominates the soundscape in an area, all of the descriptive sound levels mentioned here tend toward the same value. It is when the sound is varying widely from one moment to the next that the statistical descriptors are useful

APPENDIX B. WIND TURBINE ACOUSTICS PRIMER

Sources of Sound Generation by Wind Turbines

Wind turbines generate two principal types of sound: aerodynamic, produced from the flow of air around the blades, and mechanical, produced from mechanical and electrical components within the nacelle.

Aerodynamic sound is the primary source of sound associated with wind turbines. These acoustic emissions can be either tonal or broadband. Tonal sound occurs at discrete frequencies, whereas broadband sound is distributed with little peaking across the frequency spectrum. While unusual, tonal sound can also originate from unstable air flows over holes, slits, or blunt trailing edges on blades. The majority of audible aerodynamic sound from wind turbines is broadband at the middle frequencies, roughly between 200 Hz and 1,000 Hz.

Wind turbines emit aerodynamic broadband sound as the rotating blades interact with atmospheric turbulence and as air flows along their surfaces. This produces a characteristic “whooshing” sound through several mechanisms (Figure 5):

- Inflow turbulence sound occurs when the rotor blades encounter atmospheric turbulence as they pass through the air. Uneven pressure on a rotor blade causes variations in the local angle of attack, which affects the lift and drag forces, causing aerodynamic loading fluctuations. This generates sound that varies across a wide range of frequencies but is most significant at frequencies below 500 Hz.
- Trailing edge sound is produced as boundary-layer turbulence as the air passes into the wake, or trailing edge, of the blade. This sound is distributed across a wide frequency range but is most notable at high frequencies between 700 Hz and 2 kHz.
- Tip vortex sound occurs when tip turbulence interacts with the surface of the blade tip. While this is audible near the turbine, it tends to be a small component of the overall sound further away.
- Stall or separation sound occurs due to the interaction of turbulence with the blade surface.

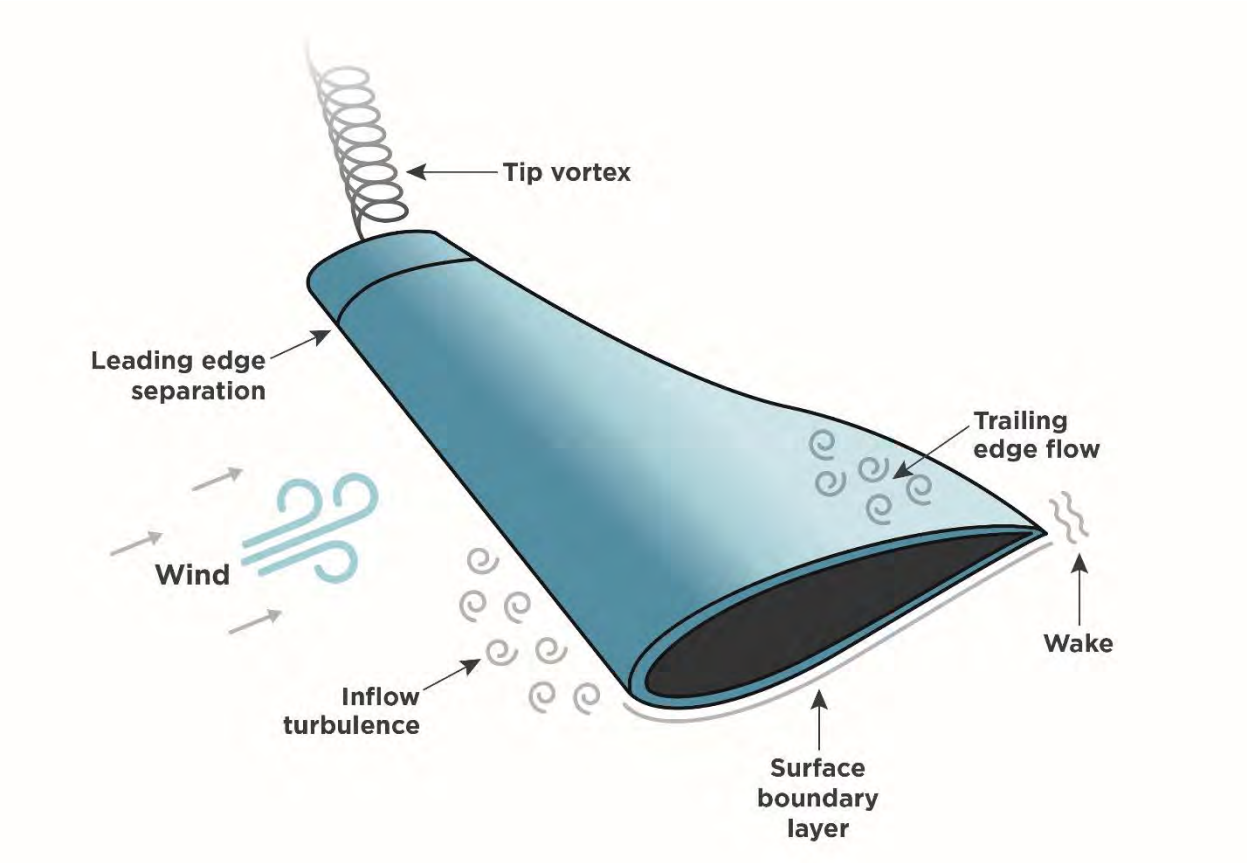

FIGURE 5: AIRFLOW AROUND A ROTOR BLADE

Mechanical sound from machinery inside the nacelle tends to be tonal in nature but can also have a broadband component. Potential sources of mechanical sound include the gearbox, generator, yaw drives, cooling fans, and auxiliary equipment. These components are housed within the nacelle, whose surfaces, if untreated, radiate the resulting sound. However modern wind turbines have nacelles that are designed to reduce the transmission of internal sound, and rarely is this a significant portion of the total wind turbine sound.

Amplitude Modulation

Amplitude modulation (AM) is a fluctuation in sound level that occurs at the blade passage frequency. There is no consistent definition how much of a sound level fluctuation is necessary for blade swish to be considered AM. Fluctuations in individual 1/3 octave bands are typically greater. Fluctuations in individual 1/3 octave bands can sometimes synchronize and desynchronize over periods, leading to increases and decreases in magnitude of the A-weighted fluctuations. Similarly, in wind farms with multiple turbines, fluctuations can

synchronize and desynchronize, leading to variations in amplitude modulation depth.[6] Most amplitude modulation is in the mid-frequencies and most overall A-weighted AM is less than 4.5 dB in depth.[7]

There are many confirmed and hypothesized causes of amplitude modulation including: blade passage in front of the tower, blade tip sound emission directivity, wind shear, inflow turbulence, transient blade stall, and turbine blade yaw error. It has recently been noted that although wind shear can contribute to the extent of amplitude modulation, wind shear does not contribute to the existence of amplitude modulation in and of itself. Instead, there needs to be detachment of airflow from the blades for wind shear to contribute to amplitude modulation.[8] While factors like the blade passing in front of the tower are intrinsic to wind turbine design, other factors vary with turbine design, local meteorology, topography, and turbine layout. Mountainous areas, for example, are more likely to have turbulent airflow, less likely to have high wind shear, and less likely to have turbine layouts that allow for blade passage synchronization for multiple turbines. Amplitude modulation extent varies with the relative location of a receptor to the turbine. Amplitude Modulation is usually experienced most when the receptor is between 45 and 60 degrees from the downwind or upwind position and is experienced least directly with the receptor directly upwind or downwind of the turbines.

Meteorology

Meteorological conditions can significantly affect sound propagation. The two most important conditions to consider are wind shear and temperature lapse. Wind shear is the difference in wind speeds by elevation and temperature lapse rate is the temperature gradient by elevation. In conditions with high wind shear (large wind speed gradient), sound levels upwind from the source tend to decrease and sound levels downwind tend to increase due to the refraction, or bending, of the sound (Figure 6).

[6] McCunney, Robert, et al. “Wind Turbines and Health: A Critical Review of the Scientific Literature.” *Journal of Occupational and Environmental Medicine.* 56(11) November 2014: pp. e108-e130.
[7] RSG, et al., “Massachusetts Study on Wind Turbine Acoustics,” Massachusetts Clean Energy Center and Massachusetts Department of Environmental Protection, 2016
[8] “Wind Turbine Amplitude Modulation: Research to Improve Understanding as to its Cause and Effect.” *RenewableUK.* December 2013.

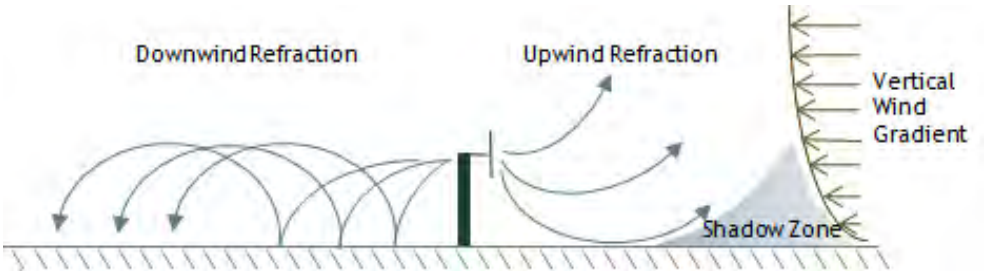

FIGURE 6: SCHEMATIC OF THE REFRACTION OF SOUND DUE TO VERTICAL WIND GRADIENT (WIND SHEAR)

With temperature lapse, when ground surface temperatures are higher than those aloft, sound will tend to refract upwards, leading to lower sound levels near the ground. The opposite is true when ground temperatures are lower than those aloft (an inversion condition).

High winds and/or high solar radiation can create turbulence which tends to break up and dissipate sound energy. Highly stable atmospheres, which tend to occur on clear nights with low ground-level wind speeds, tend to minimize atmospheric turbulence and are generally more favorable to downwind propagation.

In general terms, sound propagates along the ground best under stable conditions with a strong temperature inversion. This tends to occur during the night and is characterized by low ground level winds. As a result, worst-case conditions for wind turbines tend to occur downwind under moderate nighttime temperature inversions. Therefore, this is the default condition for modeling wind turbine sound.

Masking

As mentioned above, sound levels from wind turbines are a function of wind speed. Background sound is also a function of wind speed, i.e., the stronger the winds, the louder the resulting background sound. This effect is amplified in areas covered by trees and other vegetation.

The sound from a wind turbine can often be masked by wind sound at downwind receptors because the frequency spectrum from wind is very similar to the frequency spectrum from a wind turbine. Figure 7 compares the shape of the sound spectrum measured during a 5 m/s wind event to that of the V163 4.5 MW wind turbine. As shown, the shapes of the spectra are very similar. As a result, the masking of turbine sound occurs at higher wind speeds for some meteorological conditions. Masking will occur most, when ground wind speeds are relatively high, creating wind-caused sound such as wind blowing through the trees and interaction of wind with structures.

It is important to note that while winds may be blowing at turbine height, there may be little to no wind at ground level. This is especially true during strong wind gradients (high wind shear),

which mostly occur at night. This can also occur on the leeward side of ridges where the ridge blocks the wind.

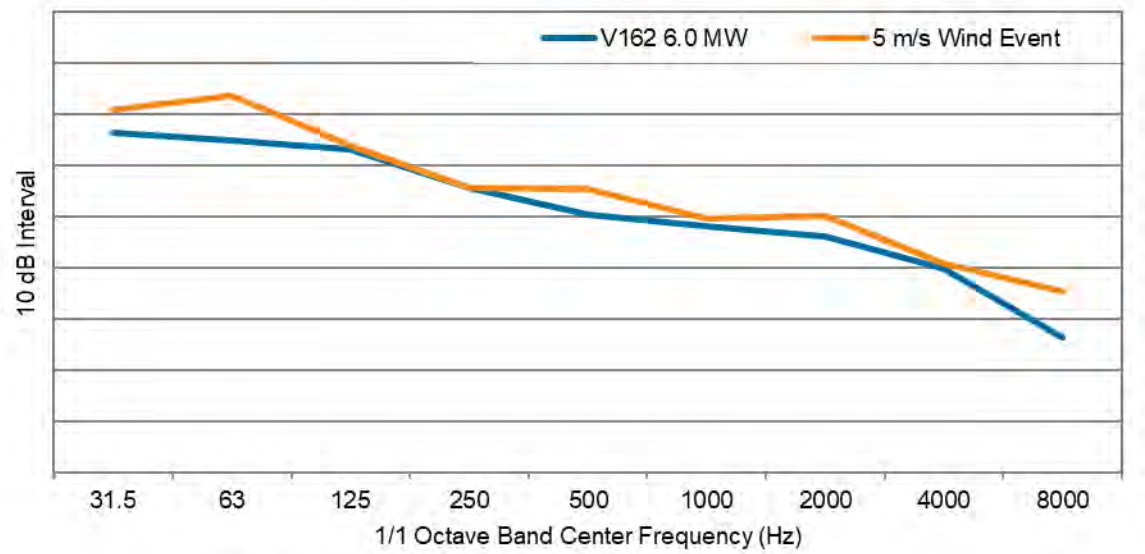

FIGURE 7: COMPARISON OF NORMALIZED FREQUENCY SPECTRA FROM WIND AND THE V162-6.0 MW TURBINE[9]

Infrasound and Low Frequency Sound

Infrasound is sound pressure fluctuations at frequencies below about 20 Hz. Sound below this frequency is only audible at very high magnitudes (90 dBG[10] and higher). Low frequency sound is in the audible range of human hearing, that is, above 20 Hz, but below 100 to 200 Hz depending on the definition.

Low frequency aerodynamic tonal sound is typically associated with downwind rotors on horizontal axis wind turbines. In this configuration, the rotor plane is behind the tower relative to the oncoming wind. As the turbine blades rotate, each blade crosses behind the tower's aerodynamic wake and experiences brief load fluctuations. This causes short, low-frequency pulses or thumping sounds. Large modern wind turbines are "upwind", where the rotor plane is upwind of the tower. As a result, this type of low frequency sound is at a much lower magnitude with upwind turbines than downwind turbines, well below established infrasonic hearing thresholds.

Figure 8 shows the sound levels 350 meters (1,148 feet) from a wind turbine when the wind turbine was operating (T-on) and shut down (T-off) for wind speeds at hub height greater than 9

[9] The purpose of this Figure is to show the shapes to two spectra relative to one another and not the actual sound level of the two sources of sound. The level of each source was normalized independently.
[10] See Appendix A for additional information on frequency-weighted sound levels.

m/s. Measurements were made over approximately two weeks.[11] The red 90 dBG line is shown here as the ISO 7196:1995 perceptibility threshold. As shown, the wind turbines generated measurable infrasound, but at least 20 dB below audibility thresholds.

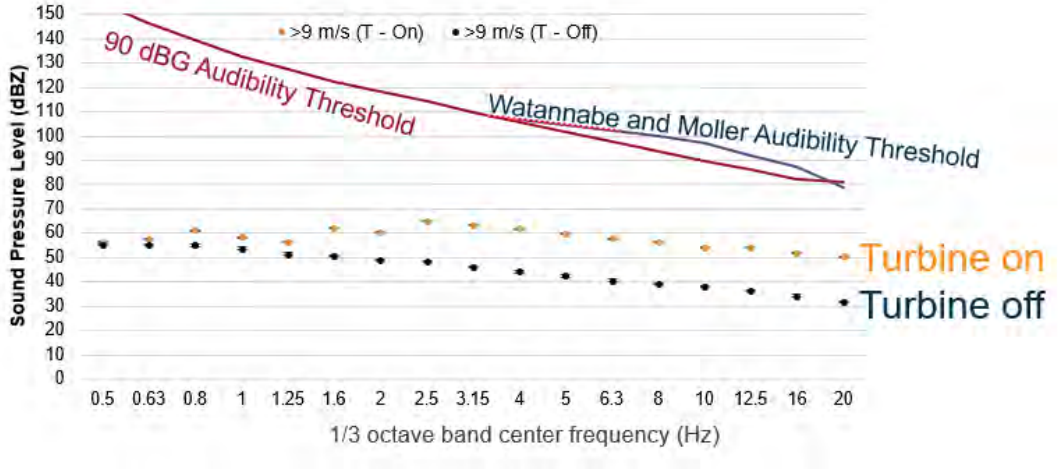

FIGURE 8: INFRASOUND FROM A WIND TURBINE AT 350 METERS (1,148 FEET) COMPARED WITH PERCEPTION THESHOLDS

Low frequency sound is primarily generated by the generator and mechanical components. Much of the mechanical sound has been reduced in modern wind turbines through improved sound insulation at the hub. Low frequency sound can also be generated by the blades at higher wind speeds when the inflow air is very turbulent. However, at these wind speeds, low frequency sound from the wind turbine blades is often masked by wind sound at the downwind receptors.

Finally, low frequency sound is absorbed less by the atmosphere and ground than higher frequency sound. This is taken into account in our modeling by using frequency-specific ground attenuation and atmospheric absorption factors.

Use of Sound Level Weighting Networks for Wind Turbine Sound

The human ear is not equally sensitive to sound pressure levels at all frequencies and magnitudes. Some frequencies, despite being the same decibel level (that is, magnitude), seem louder than others. For example, a 500 Hz tone at 80 dB will sound louder than a 63 Hz tone at the same level. In addition, the relative loudness of these tones will change with magnitude. For example, the perceived difference in loudness between those two tones is less when both are at 110 dB than when they are at 40 dB.

[11] RSG, et al., “Massachusetts Study on Wind Turbine Acoustics,” Massachusetts Clean Energy Center and Massachusetts Department of Environmental Protection, 2016 – Graphic from RSG presentation to MassDEP WNTAG, March, 2016

To account for the difference in the perceived loudness of a sound by frequency and magnitude, acousticians apply frequency weightings to sound levels. The most common weighting scale used in environmental noise analysis is the “A-weighting”, which represents the sensitivity of the human ear at lower sound pressure levels. The A-weighting is the most appropriate weighting when overall sound pressure levels are relatively low (up to about 70 dBA). The A-weighting de-emphasizes sounds at lower and very high frequencies, since the human ear is insensitive to sound at these frequencies at low magnitude. The A-weighting is indicated by “dBA” or “dB(A)”.

At higher sound pressure levels (greater than approximately 70 dBA), a different weighting must be used since human hearing sensitivity does not change as much with frequency. The “C-weighting” mimics the sensitivity of the human ear for these moderate to higher sound levels (greater than approximately 70 dBA, which is higher ground-based sound levels produced by wind power projects). C-weighted sound levels are indicated by “dBC” or “dB(C)”.

The “Z-weighting” does not emphasize or de-emphasize sound at any frequency. “Z” weighted sound levels are sometimes labeled as “Flat” or “Linear”. The difference is that the “Z-weighting” is defined as being unweighted in a specific range, whereas “Flat” or “Linear” indicate that no weighting has been used. Z-weighting or unweighted levels are typically used when reporting sound levels at individual octave bands.

The most appropriate weighting for wind turbine sound is A-weighting, for two reasons. The first is that sound pressure levels due to wind turbine sound are typically in the appropriate range for the A-weighting at typical receiver distances (50 dBA or less). The second is that various studies of wind turbine acoustics have shown that the potential effects of wind turbine noise on people are correlated with A-weighted sound level (i.e. Pedersen et al, 2008[12]) as well as to the perceived loudness of wind turbine sound.[13,14] Other researchers found that 51% of the energy making up a C-weighted measurement of wind turbine sound is not audible. Thus, it is more difficult to relate the level of C-weighted sound to human perception. That is, two sounds may be perceived exactly alike, but there could be significant variations in the C-weighted sound level depending on the content of inaudible sound in each.[7]

[12] Pedersen, Eja and Waye, Kerstin. “Perception and annoyance due to wind turbine noise - a dose-response relation.” Journal of the Acoustical Society of America. 116(6). pp. 3460-3470.
[13] Yokoyama S., et al. “Perception of low frequency components in wind turbine noise.” Noise Control Engr. J. 62(5) 2014
[14] Yokoyama et al. “Loudness evaluation of general environmental noise containing low frequency components.” Proceedings of InterNoise2013, 2013

APPENDIX C. SOURCE INFORMATION

TABLE 4: SOUND PROPAGATION MODELING PARAMETERS

Parameter	Setting
Ground Absorption	Spectral for all sources, mixed ground (G=0.5)
Atmospheric Attenuation	Based on 10 Celsius, 70% relative humidity
Receiver Height	4 meters for residences and isoline contours
Search Distance	10,000 meters

TABLE 5: SOURCE 1/1 OCTAVE BAND SOUND POWER LEVEL SPECTRA (dBZ)[15]

Source	1/1 Octave Band Center Frequency (dBZ)								
	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz	8 kHz
Transformer (ONAF)	96	98	115	106	106	102	99	93	85

TABLE 6: MODELED SOURCES LOCATIONS

Source ID	Source Type	Height (m)	Coordinates (WGS 1984 Z16N)		
			X (m)	Y (m)	Z (m)
Both Configurations					
Transformer 1	Transformer	4	395653	4384357	209
Transformer 2	Transformer	4	395652	4384317	209
Vestas Configuration					
T1	V162 6.0	105	398075	4389586	311
T2	V162 6.0	105	396798	4389241	312
T3	V162 6.0	105	398641	4389267	313
T4	V162 6.0	105	396868	4388506	314
T5	V162 6.0	105	395549	4388724	313
T6	V162 6.0	105	394711	4388608	314
T7	V162 6.0	105	394789	4388020	315
T8	V162 6.0	105	394527	4387579	316
T9	V162 6.0	105	396977	4387429	318
T10	V162 6.0	105	397947	4387558	318
T11	V162 6.0	105	398700	4387139	316
T12	V162 6.0	105	398058	4386952	316
T13	V162 6.0	105	395024	4387307	316

[15] Turbine data is confidential and will be provided under separate cover.

Source ID	Source Type	Height (m)	Coordinates (WGS 1984 Z16N)		
			X (m)	Y (m)	Z (m)
T14	V162 6.0	105	394475	4387033	315
T15	V162 6.0	105	393915	4387042	314
T16	V162 6.0	105	395199	4385595	308
T17	V162 6.0	105	396287	4385696	308
T18	V162 6.0	105	397107	4386388	312
T19	V162 6.0	105	397943	4385416	312
T20	V162 6.0	105	398687	4385395	315
T22	V162 6.0	105	400069	4389049	316
T23	V162 6.0	105	400215	4389535	313
T24	V162 6.0	105	400949	4389233	317
T25	V162 6.0	105	401727	4388678	322
T26	V162 6.0	105	401287	4388538	322
T29	V162 6.0	105	400346	4387659	318
T30	V162 6.0	105	402271	4387292	312
T34	V162 6.0	105	400950	4385528	314
T35	V162 6.0	105	400197	4386127	314
T36	V162 6.0	105	400415	4384383	309
T37	V162 6.0	105	400810	4384719	309
T39	V162 6.0	105	403769	4382980	307
T40	V162 6.0	105	401137	4382997	309
T42	V162 6.0	105	399767	4383030	309
T44	V162 6.0	105	399156	4382443	311
T45	V162 6.0	105	404039	4382257	310
T46	V162 6.0	105	403958	4381141	311
T47	V162 6.0	105	402739	4380953	310
T49	V162 6.0	105	402352	4380578	311
T51	V162 6.0	105	400802	4381025	313
T52	V162 6.0	105	401007	4380157	313
T53	V162 6.0	105	399516	4381051	312
T54	V162 6.0	105	396811	4380172	310
T55	V162 6.0	105	396772	4381071	312
T56	V162 6.0	105	396208	4381216	310
T57	V162 6.0	105	395408	4381231	312
T58	V162 6.0	105	393471	4381969	313
T59	V162 6.0	105	393871	4382680	315
T60	V162 6.0	105	395952	4382435	314

Source ID	Source Type	Height (m)	Coordinates (WGS 1984 Z16N)		
			X (m)	Y (m)	Z (m)
T61	V162 6.0	105	396053	4384600	310
T62	V162 6.0	105	395175	4384480	309
T21	V162 6.0	105	399276	4389408	313
T27	V162 6.0	105	400356	4388636	320
T28	V162 6.0	105	399558	4388538	318
T31	V162 6.0	105	403640	4386066	307
T32	V162 6.0	105	402001	4385428	306
T33	V162 6.0	105	401966	4385917	308
T38	V162 6.0	105	401701	4383766	308
T41	V162 6.0	105	400266	4383048	309
T43	V162 6.0	105	399313	4382905	310
T48	V162 6.0	105	402722	4380105	312
T50	V162 6.0	105	401354	4381179	310
GE Configuration					
T1	GE 158 6.1	117	398075	4389586	323
T2	GE 158 6.1	117	396798	4389241	324
T3	GE 158 6.1	117	398641	4389267	325
T4	GE 158 6.1	117	396868	4388506	326
T5	GE 158 6.1	117	395549	4388724	325
T6	GE 158 6.1	117	394711	4388608	326
T7	GE 158 6.1	117	394789	4388020	327
T8	GE 158 6.1	117	394527	4387579	328
T9	GE 158 6.1	117	396977	4387429	330
T10	GE 158 6.1	117	397947	4387558	330
T11	GE 158 6.1	117	398700	4387139	328
T12	GE 158 6.1	117	398058	4386952	328
T13	GE 158 6.1	117	395024	4387307	328
T14	GE 158 6.1	117	394475	4387033	327
T15	GE 158 6.1	117	393915	4387042	326
T16	GE 158 6.1	117	395199	4385595	320
T17	GE 158 6.1	117	396287	4385696	320
T18	GE 158 6.1	117	397107	4386388	324
T19	GE 158 6.1	117	397943	4385416	324
T20	GE 158 6.1	117	398687	4385395	327
T22	GE 158 6.1	117	400069	4389049	328
T23	GE 158 6.1	117	400215	4389535	325

Source ID	Source Type	Height (m)	Coordinates (WGS 1984 Z16N)		
			X (m)	Y (m)	Z (m)
T24	GE 158 6.1	117	400949	4389233	329
T25	GE 158 6.1	117	401727	4388678	334
T26	GE 158 6.1	117	401287	4388538	334
T29	GE 158 6.1	117	400346	4387659	330
T30	GE 158 6.1	117	402271	4387292	324
T34	GE 158 6.1	117	400950	4385528	326
T35	GE 158 6.1	117	400197	4386127	326
T36	GE 158 6.1	117	400415	4384383	321
T37	GE 158 6.1	117	400810	4384719	321
T39	GE 158 6.1	117	403769	4382980	319
T40	GE 158 6.1	117	401137	4382997	321
T42	GE 158 6.1	117	399767	4383030	321
T44	GE 158 6.1	117	399156	4382443	323
T45	GE 158 6.1	117	404039	4382257	322
T46	GE 158 6.1	117	403958	4381141	323
T47	GE 158 6.1	117	402739	4380953	322
T49	GE 158 6.1	117	402352	4380578	323
T51	GE 158 6.1	117	400802	4381025	325
T52	GE 158 6.1	117	401007	4380157	325
T53	GE 158 6.1	117	399516	4381051	324
T54	GE 158 6.1	117	396811	4380172	322
T55	GE 158 6.1	117	396772	4381071	324
T56	GE 158 6.1	117	396208	4381216	322
T57	GE 158 6.1	117	395408	4381231	324
T58	GE 158 6.1	117	393471	4381969	325
T59	GE 158 6.1	117	393871	4382680	327
T60	GE 158 6.1	117	395952	4382435	326
T61	GE 158 6.1	117	396053	4384600	322
T62	GE 158 6.1	117	395175	4384480	321
T21	GE 158 6.1	117	399276	4389408	325
T27	GE 158 6.1	117	400356	4388636	332
T28	GE 158 6.1	117	399558	4388538	330
T31	GE 158 6.1	117	403640	4386066	319
T32	GE 158 6.1	117	402001	4385428	318
T33	GE 158 6.1	117	401966	4385917	320
T38	GE 158 6.1	117	401701	4383766	320

Source ID	Source Type	Height (m)	Coordinates (WGS 1984 Z16N)		
			X (m)	Y (m)	Z (m)
T41	GE 158 6.1	117	400266	4383048	321
T43	GE 158 6.1	117	399313	4382905	322
T48	GE 158 6.1	117	402722	4380105	324
T50	GE 158 6.1	117	401354	4381179	322

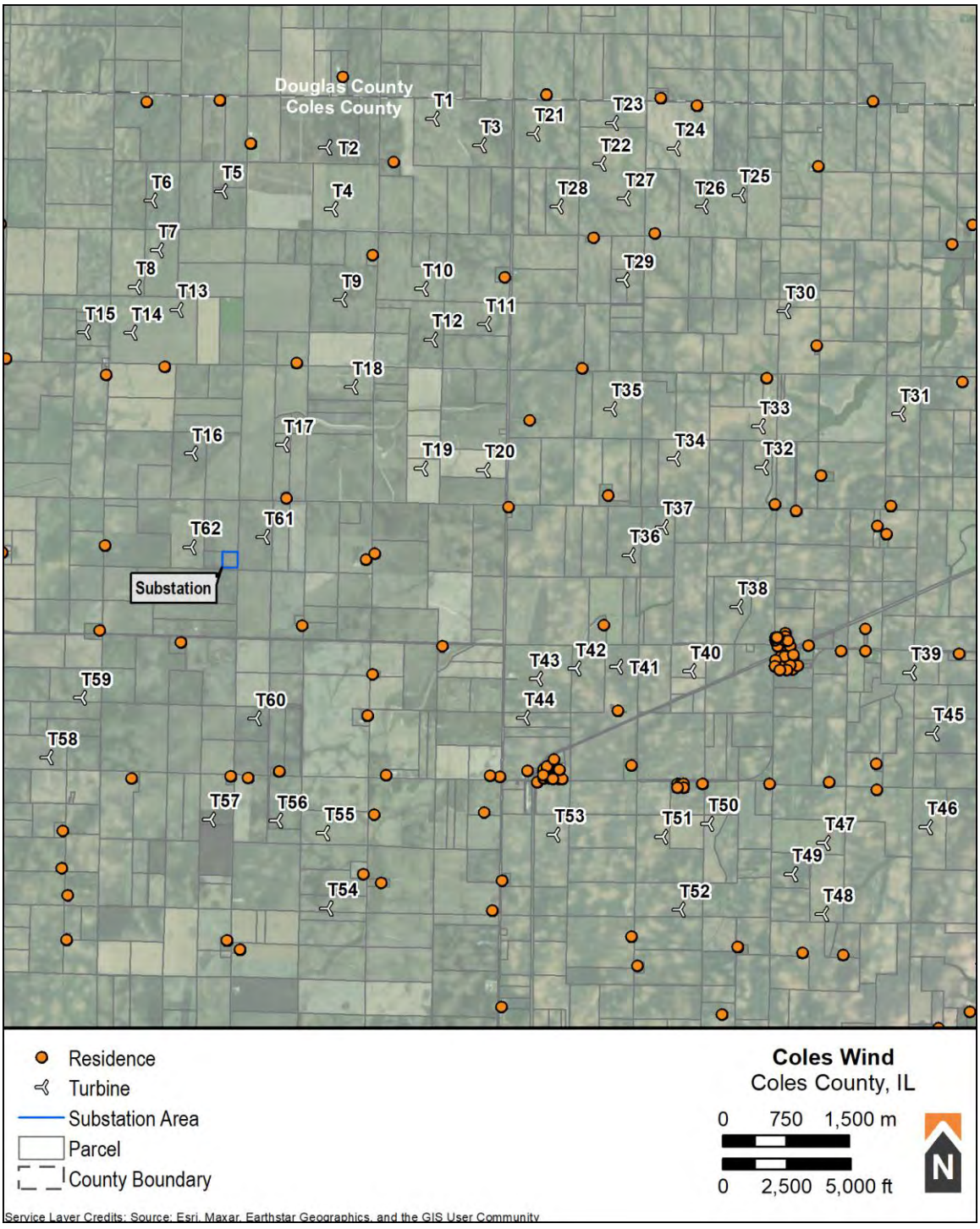

FIGURE 9: TURBINE MAP (ONLY UP TO 51 LOCATIONS WILL BE CONSTRUCTED)

APPENDIX D. RECEIVER INFORMATION

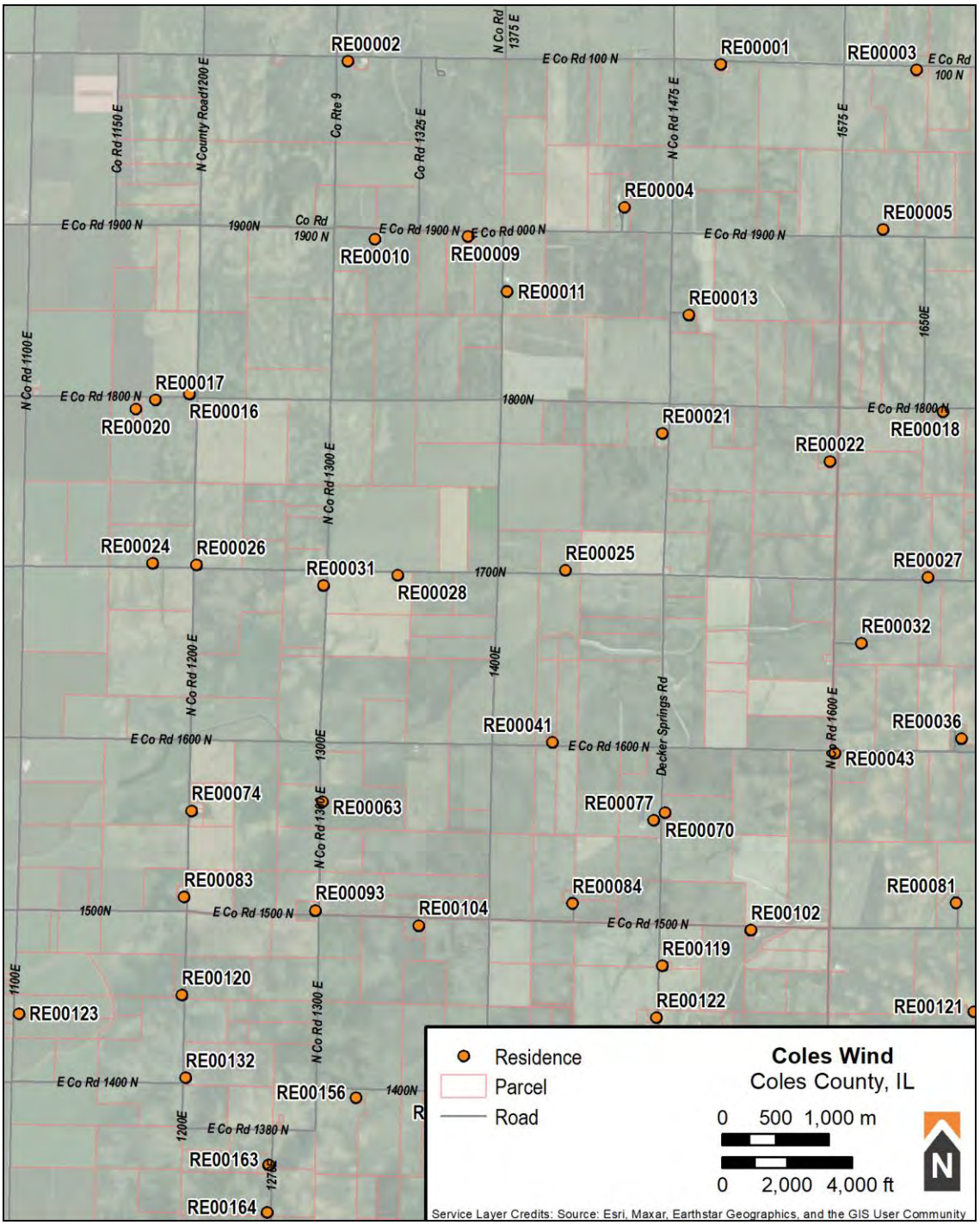

FIGURE 10: RECEIVER MAP NORTHWEST

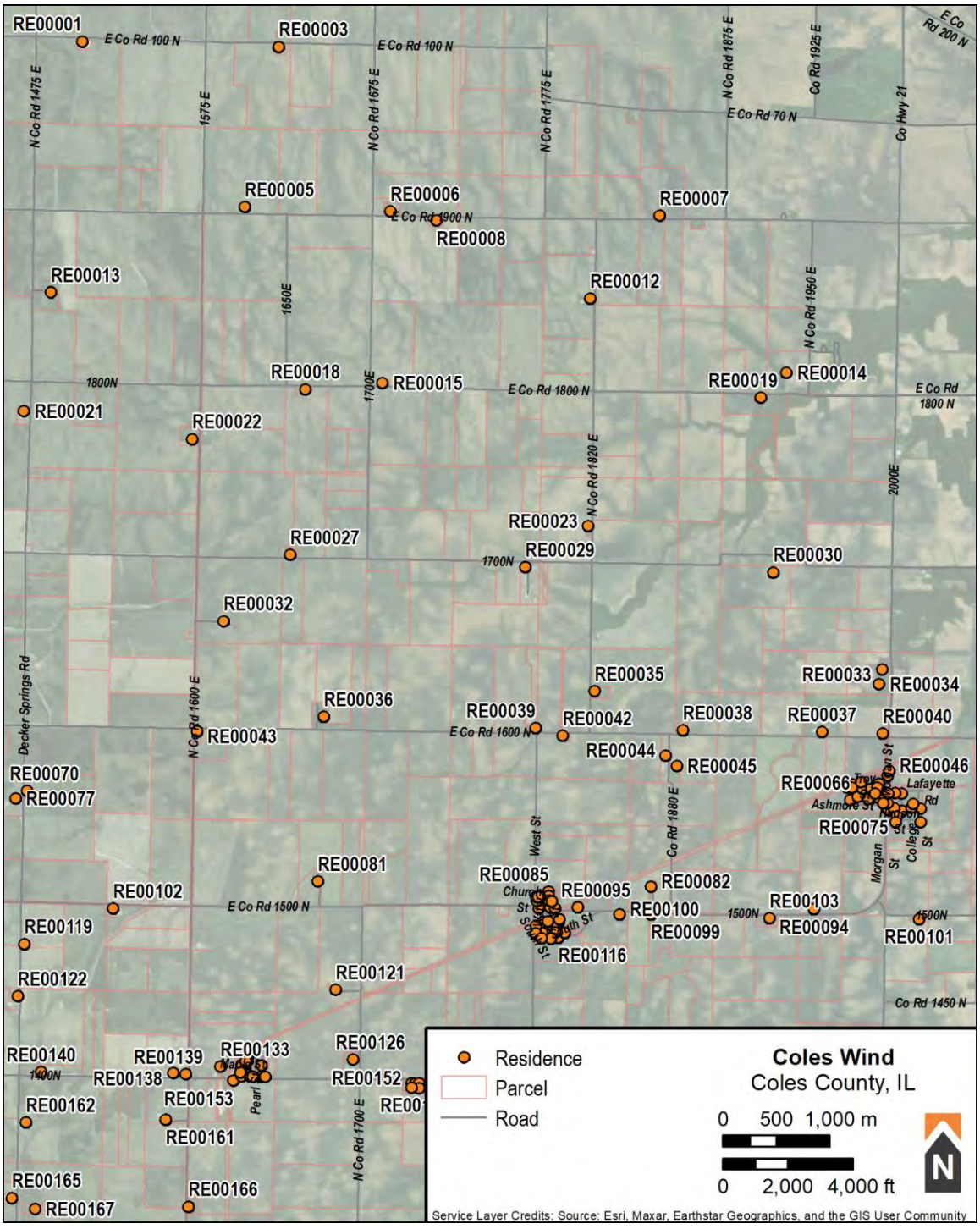

FIGURE 11: RECEIVER MAP NORTHEAST

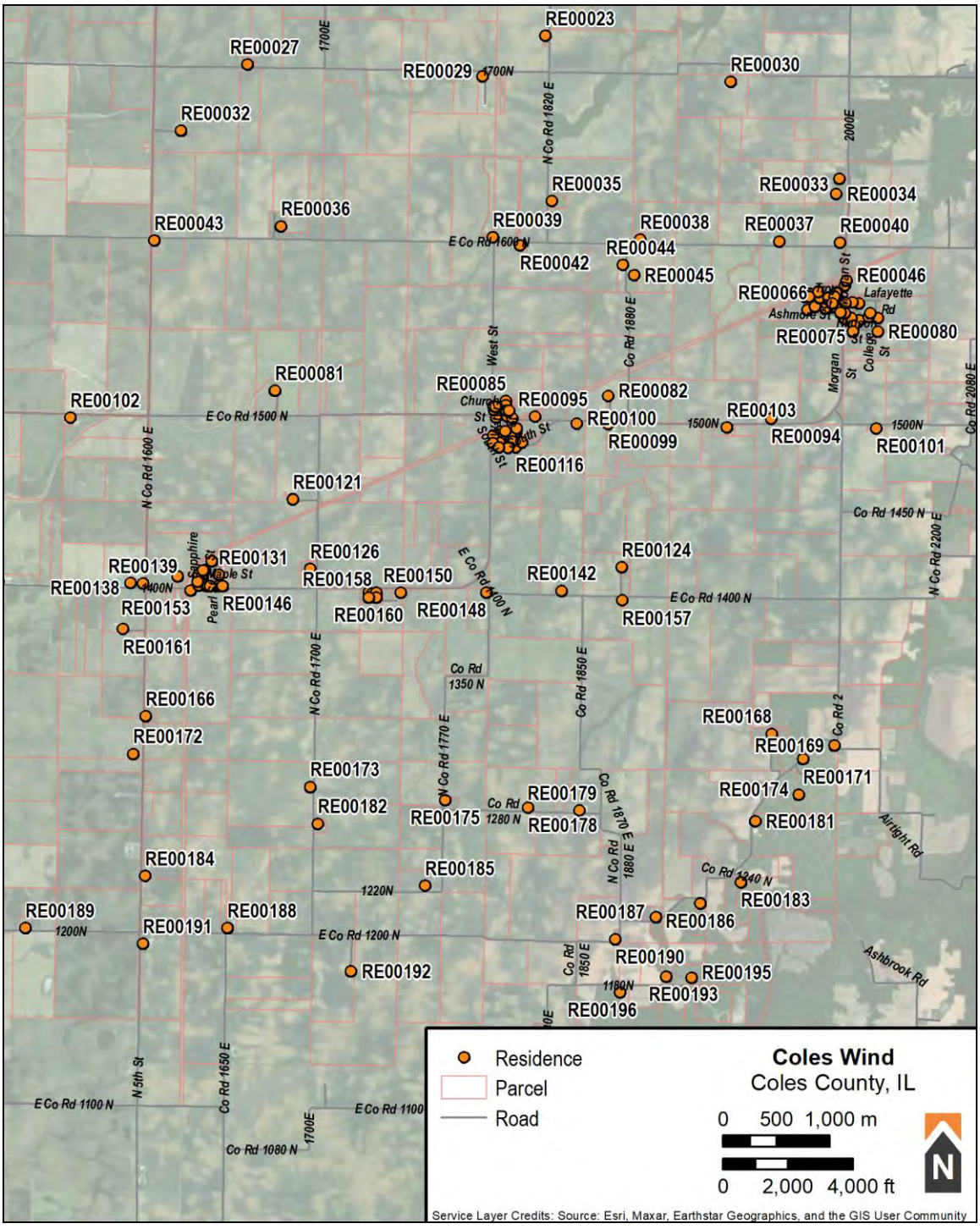

FIGURE 12: RECEIVER MAP SOUTHEAST

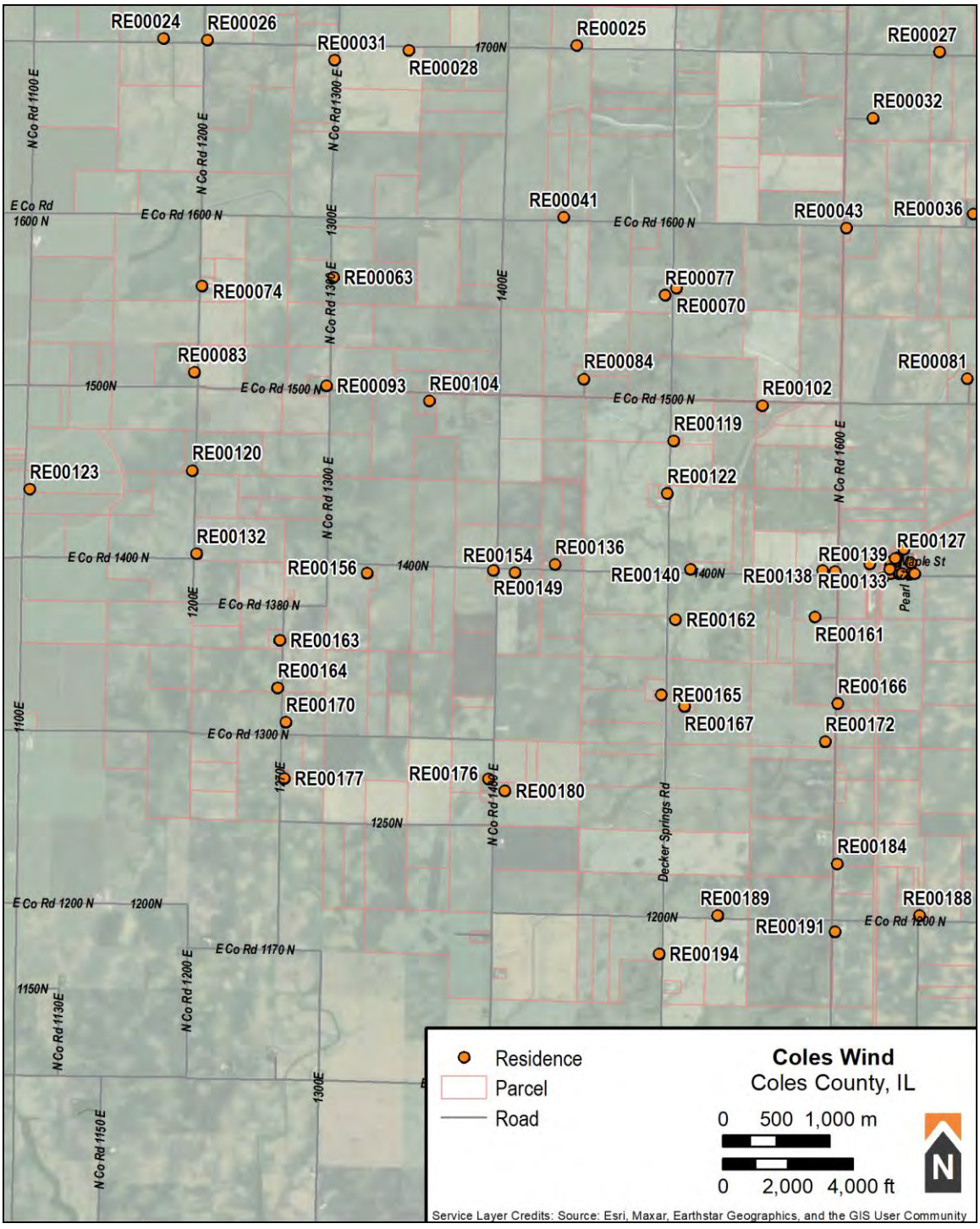

FIGURE 13: RECEIVER MAP SOUTHWEST

TABLE 7: DISCRETE RECEIVER RESULTS - VESTAS V162-6.0 MW

Receiver ID	1/1 Octave Band Center Frequency Sound Level (dBZ)									Receiver Height (m)	Coordinates (WGS 1984 UTM Z16N)		
	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz	8 kHz		X (m)	Y (m)	Z (m)
IPCB C->A Nighttime Limits	**69**	**67**	**62**	**54**	**47**	**41**	**36**	**32**	**32**				
Maximum Receiver	**63**	**61**	**55**	**48**	**43**	**39**	**33**	**13**	**0**				
RE00001	55	53	46	38	31	23	8	0	0	4	397903	4391424	205
RE00002	53	51	44	34	26	17	0	0	0	4	394405	4391454	205
RE00003	55	53	47	38	31	25	9	0	0	4	399745	4391373	205
RE00004	58	56	50	42	36	32	23	0	0	4	397001	4390083	210
RE00005	61	60	54	47	41	37	31	12	0	4	399426	4389873	211
RE00006	61	59	53	46	41	37	30	8	0	4	400792	4389832	212
RE00007	55	53	46	37	30	22	6	0	0	4	403319	4389790	218
RE00008	60	58	53	45	40	36	29	8	0	4	401224	4389744	214
RE00009	57	56	49	41	35	30	20	0	0	4	395531	4389808	210
RE00010	57	55	48	40	34	29	18	0	0	4	394659	4389784	210
RE00011	60	58	52	44	39	35	27	4	0	4	395900	4389289	210
RE00012	57	55	49	41	35	30	20	0	0	4	402668	4389015	221
RE00013	61	59	53	46	40	36	28	4	0	4	397605	4389071	212
RE00014	54	52	45	36	28	20	2	0	0	4	404507	4388319	204
RE00015	62	61	55	48	42	39	32	11	0	4	400718	4388219	221
RE00016	56	54	47	39	33	27	13	0	0	4	392915	4388329	213
RE00017	55	53	46	38	31	25	10	0	0	4	392596	4388274	213
RE00018	63	61	55	48	43	39	33	12	0	4	399992	4388163	220
RE00019	54	53	46	37	29	22	5	0	0	4	404264	4388085	202
RE00020	54	53	46	37	30	24	8	0	0	4	392414	4388186	214
RE00021	61	60	54	47	41	37	30	7	0	4	397355	4387957	216
RE00022	61	59	54	46	41	36	29	7	0	4	398933	4387695	219
RE00023	60	58	52	44	39	35	29	9	0	4	402647	4386878	211
RE00024	55	54	47	39	32	26	14	0	0	4	392570	4386738	211
RE00025	61	59	53	45	40	35	27	2	0	4	396447	4386672	213
RE00026	57	55	49	41	35	30	20	0	0	4	392982	4386722	212
RE00027	61	59	53	45	40	35	28	7	0	4	399852	4386609	213
RE00028	61	60	54	47	41	37	31	9	0	4	394874	4386627	213
RE00029	60	59	53	45	40	36	29	8	0	4	402055	4386495	211
RE00030	57	55	48	40	34	30	22	0	0	4	404385	4386446	206
RE00031	61	59	54	46	41	37	31	11	0	4	394176	4386532	213
RE00032	60	58	52	45	39	34	25	0	0	4	399227	4385988	213

Receiver ID	1/1 Octave Band Center Frequency Sound Level (dBZ)									Receiver Height (m)	Coordinates (WGS 1984 UTM Z16N)		
	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz	8 kHz		X (m)	Y (m)	Z (m)
IPCB C->A Nighttime Limits	**69**	**67**	**62**	**54**	**47**	**41**	**36**	**32**	**32**				
Maximum Receiver	**63**	**61**	**55**	**48**	**43**	**39**	**33**	**13**	**0**				
RE00033	48	46	42	33	26	20	6	0	0	4	405403	4385537	200
RE00034	51	49	45	35	27	19	4	0	0	4	405376	4385396	205
RE00035	59	58	52	44	38	34	27	2	0	4	402704	4385329	207
RE00036	61	59	53	46	40	36	29	4	0	4	400165	4385091	216
RE00037	55	53	46	37	30	23	9	0	0	4	404838	4384949	208
RE00038	57	55	49	41	34	29	18	0	0	4	403534	4384966	208
RE00039	61	59	54	46	41	37	31	13	0	4	402153	4384986	205
RE00040	54	52	45	36	28	20	3	0	0	4	405409	4384936	205
RE00041	61	59	54	46	42	38	31	11	0	4	396327	4385059	210
RE00042	60	58	52	44	39	34	27	4	0	4	402407	4384912	208
RE00043	60	59	53	45	40	36	29	10	0	4	398977	4384957	214
RE00044	57	55	49	41	34	28	16	0	0	4	403373	4384728	210
RE00045	57	55	49	40	34	28	15	0	0	4	403480	4384632	213
RE00046	53	51	45	36	28	20	2	0	0	4	405469	4384583	206
RE00047	54	52	45	36	28	20	3	0	0	4	405455	4384537	206
RE00048	54	52	45	36	29	22	5	0	0	4	405204	4384476	207
RE00049	54	52	45	36	28	21	4	0	0	4	405375	4384462	207
RE00050	52	50	45	36	29	22	6	0	0	4	405125	4384456	207
RE00051	54	52	45	36	28	21	4	0	0	4	405360	4384427	207
RE00052	52	51	45	36	29	22	6	0	0	4	405122	4384428	207
RE00053	55	53	46	37	29	22	7	0	0	4	405083	4384428	207
RE00054	54	52	45	36	29	21	5	0	0	4	405301	4384419	207
RE00055	54	52	45	36	28	21	4	0	0	4	405374	4384416	207
RE00056	54	52	45	36	29	22	5	0	0	4	405221	4384417	207
RE00057	54	52	45	36	28	20	3	0	0	4	405528	4384378	208
RE00058	54	52	45	36	28	20	3	0	0	4	405458	4384373	207
RE00059	52	50	44	35	27	20	2	0	0	4	405585	4384369	208
RE00060	54	52	45	36	29	21	4	0	0	4	405338	4384370	207
RE00061	54	52	45	37	29	22	6	0	0	4	405175	4384339	206
RE00062	54	52	45	36	29	21	5	0	0	4	405325	4384334	207
RE00063	57	56	50	42	38	32	21	0	0	4	394166	4384499	208
RE00064	54	52	45	36	29	21	4	0	0	4	405375	4384331	207
RE00065	54	52	45	36	29	22	5	0	0	4	405270	4384320	207
RE00066	55	53	46	37	30	22	7	0	0	4	405107	4384308	206

Receiver ID	1/1 Octave Band Center Frequency Sound Level (dBZ)									Receiver Height (m)	Coordinates (WGS 1984 UTM Z16N)		
	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz	8 kHz		X (m)	Y (m)	Z (m)
IPCB C->A Nighttime Limits	**69**	**67**	**62**	**54**	**47**	**41**	**36**	**32**	**32**				
Maximum Receiver	**63**	**61**	**55**	**48**	**43**	**39**	**33**	**13**	**0**				
RE00067	54	52	45	36	28	21	4	0	0	4	405414	4384280	207
RE00068	53	51	44	35	27	19	1	0	0	4	405695	4384276	208
RE00069	54	52	45	36	28	21	4	0	0	4	405457	4384278	208
RE00070	59	57	51	42	36	31	19	0	0	4	397382	4384398	217
RE00071	51	49	43	35	27	19	2	0	0	4	405676	4384239	208
RE00072	53	51	44	35	27	19	1	0	0	4	405765	4384231	207
RE00073	54	52	45	36	28	20	4	0	0	4	405518	4384231	210
RE00074	55	53	46	38	31	23	7	0	0	4	392934	4384415	207
RE00075	54	52	45	36	28	21	4	0	0	4	405459	4384221	208
RE00076	53	51	45	35	28	20	3	0	0	4	405585	4384209	210
RE00077	58	57	51	42	36	31	19	0	0	4	397277	4384327	217
RE00078	53	51	44	36	28	21	4	0	0	4	405543	4384158	208
RE00079	53	51	44	36	28	21	4	0	0	4	405529	4384102	208
RE00080	53	51	44	35	27	19	2	0	0	4	405766	4384102	206
RE00081	62	60	55	47	42	38	32	12	0	4	400112	4383548	209
RE00082	58	56	50	43	37	32	24	0	0	4	403233	4383499	209
RE00083	55	53	47	38	32	26	14	0	0	4	392863	4383606	209
RE00084	58	56	50	42	37	31	20	0	0	4	396513	4383544	215
RE00085	59	58	52	44	38	34	27	4	0	4	402275	4383453	208
RE00086	59	58	51	44	38	34	26	3	0	4	402277	4383412	208
RE00087	60	58	52	45	39	35	28	7	0	4	402160	4383401	208
RE00088	60	58	52	44	39	34	27	6	0	4	402192	4383399	208
RE00089	60	58	52	44	39	35	28	7	0	4	402177	4383399	208
RE00090	60	58	52	44	39	34	28	6	0	4	402161	4383366	208
RE00091	59	57	51	44	38	33	26	2	0	4	402278	4383363	208
RE00092	59	57	51	44	38	33	25	1	0	4	402305	4383361	208
RE00093	58	56	50	42	36	31	23	0	0	4	394101	4383481	211
RE00094	56	54	48	40	34	29	20	0	0	4	404762	4383287	209
RE00095	58	57	50	43	37	31	22	0	0	4	402551	4383304	209
RE00096	59	57	51	43	38	33	25	0	0	4	402288	4383305	208
RE00097	59	57	51	43	37	33	24	0	0	4	402336	4383293	208
RE00098	59	58	52	44	38	34	26	3	0	4	402183	4383296	208
RE00099	59	57	51	44	38	34	28	7	0	4	403234	4383237	208
RE00100	58	57	50	42	37	32	23	0	0	4	402941	4383240	208

Receiver ID	1/1 Octave Band Center Frequency Sound Level (dBZ)									Receiver Height (m)	Coordinates (WGS 1984 UTM Z16N)		
	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz	8 kHz		X (m)	Y (m)	Z (m)
IPCB C->A Nighttime Limits	**69**	**67**	**62**	**54**	**47**	**41**	**36**	**32**	**32**				
Maximum Receiver	**63**	**61**	**55**	**48**	**43**	**39**	**33**	**13**	**0**				
RE00101	54	52	45	36	29	22	7	0	0	4	405748	4383193	208
RE00102	58	56	50	42	36	30	19	0	0	4	398190	4383295	211
RE00103	58	57	51	43	38	34	27	6	0	4	404346	4383202	208
RE00104	58	56	50	42	37	32	22	0	0	4	395068	4383339	214
RE00105	59	57	51	43	37	32	23	0	0	4	402375	4383194	209
RE00106	59	57	51	43	37	33	24	0	0	4	402270	4383171	208
RE00107	59	57	51	43	37	32	23	0	0	4	402370	4383165	209
RE00108	59	57	51	43	38	33	24	0	0	4	402219	4383166	209
RE00109	59	57	51	44	38	33	25	0	0	4	402158	4383130	208
RE00110	59	57	51	43	37	32	23	0	0	4	402322	4383121	208
RE00111	59	57	51	43	37	33	24	0	0	4	402220	4383104	208
RE00112	59	57	51	43	37	32	22	0	0	4	402335	4383072	208
RE00113	59	57	51	43	37	31	21	0	0	4	402425	4383064	208
RE00114	59	57	51	43	37	32	23	0	0	4	402212	4383064	208
RE00115	59	57	51	43	38	33	24	0	0	4	402153	4383059	208
RE00116	59	57	51	43	37	31	21	0	0	4	402365	4383018	208
RE00117	59	57	51	43	37	32	23	0	0	4	402209	4383015	208
RE00118	59	57	51	43	37	32	22	0	0	4	402294	4383010	208
RE00119	58	56	49	41	35	28	14	0	0	4	397355	4382960	215
RE00120	56	55	48	40	35	30	22	0	0	4	392843	4382685	210
RE00121	61	60	54	47	42	38	31	11	0	4	400280	4382530	214
RE00122	58	56	50	41	35	29	17	0	0	4	397298	4382471	213
RE00123	51	49	43	33	26	18	2	0	0	4	391316	4382511	208
RE00124	59	57	51	44	38	34	26	0	0	4	403361	4381893	214
RE00125	61	59	53	45	40	36	29	7	0	4	399518	4381948	212
RE00126	60	58	52	44	39	34	25	0	0	4	400439	4381876	212
RE00127	60	59	53	45	40	36	29	5	0	4	399451	4381866	211
RE00128	60	59	53	45	40	36	29	5	0	4	399433	4381861	211
RE00129	60	59	53	45	40	36	28	5	0	4	399392	4381828	211
RE00130	60	59	53	45	40	35	28	5	0	4	399426	4381824	211
RE00131	60	58	52	45	39	35	28	3	0	4	399582	4381820	211
RE00132	58	56	50	42	37	34	28	7	0	4	392882	4381907	213
RE00133	60	58	53	45	40	35	28	6	0	4	399198	4381810	212
RE00134	60	59	53	45	40	35	28	4	0	4	399432	4381798	211

Receiver ID	1/1 Octave Band Center Frequency Sound Level (dBZ)									Receiver Height (m)	Coordinates (WGS 1984 UTM Z16N)		
	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz	8 kHz		X (m)	Y (m)	Z (m)
IPCB C->A Nighttime Limits	**69**	**67**	**62**	**54**	**47**	**41**	**36**	**32**	**32**				
Maximum Receiver	**63**	**61**	**55**	**48**	**43**	**39**	**33**	**13**	**0**				
RE00135	60	59	53	45	40	35	28	5	0	4	399388	4381793	211
RE00136	60	59	53	46	40	37	30	9	0	4	396246	4381805	212
RE00137	60	58	53	45	40	35	28	4	0	4	399385	4381757	211
RE00138	59	57	51	43	38	33	25	0	0	4	398753	4381749	209
RE00139	59	58	52	44	38	34	26	0	0	4	398873	4381740	210
RE00140	58	56	50	42	36	31	20	0	0	4	397514	4381760	210
RE00141	60	58	53	45	40	35	28	5	0	4	399483	4381718	211
RE00142	59	58	52	44	38	34	26	1	0	4	402799	4381672	209
RE00143	60	58	52	45	39	35	28	4	0	4	399578	4381715	211
RE00144	60	58	53	45	40	35	28	5	0	4	399394	4381720	211
RE00145	60	58	53	45	40	35	28	5	0	4	399469	4381718	211
RE00146	59	58	52	45	39	35	28	4	0	4	399617	4381716	211
RE00147	60	58	53	45	40	35	28	5	0	4	399503	4381716	211
RE00148	59	58	52	44	38	34	25	0	0	4	402090	4381656	210
RE00149	60	58	53	46	40	37	30	9	0	4	395664	4381747	214
RE00150	61	59	54	46	41	37	31	13	0	4	401289	4381655	209
RE00151	61	59	53	46	41	37	30	10	0	4	401063	4381655	209
RE00152	61	59	53	46	40	36	30	9	0	4	400991	4381656	209
RE00153	60	58	52	45	39	35	28	5	0	4	399316	4381677	212
RE00154	61	59	53	46	41	37	31	9	0	4	395869	4381727	213
RE00155	61	59	53	46	41	37	30	9	0	4	401020	4381646	209
RE00156	58	56	50	42	36	32	23	0	0	4	394482	4381722	217
RE00157	59	58	52	44	39	35	27	2	0	4	403368	4381582	211
RE00158	61	59	54	46	41	37	31	11	0	4	401020	4381616	209
RE00159	61	59	54	46	41	37	31	12	0	4	401063	4381610	209
RE00160	61	59	54	46	41	37	31	10	0	4	400989	4381611	209
RE00161	58	57	50	42	37	32	23	0	0	4	398683	4381312	211
RE00162	59	57	51	44	38	34	27	5	0	4	397374	4381285	210
RE00163	56	54	48	40	34	30	21	0	0	4	393662	4381092	214
RE00164	55	53	46	38	32	26	14	0	0	4	393645	4380646	213
RE00165	60	58	52	45	40	36	30	9	0	4	397243	4380578	211
RE00166	58	56	50	42	36	31	22	0	0	4	398898	4380497	212
RE00167	59	57	51	43	38	33	26	2	0	4	397460	4380475	209
RE00168	54	52	47	39	32	27	17	0	0	4	404770	4380331	209

Receiver ID	1/1 Octave Band Center Frequency Sound Level (dBZ)									Receiver Height (m)	Coordinates (WGS 1984 UTM Z16N)		
	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz	8 kHz		X (m)	Y (m)	Z (m)
IPCB C->A Nighttime Limits	**69**	**67**	**62**	**54**	**47**	**41**	**36**	**32**	**32**				
Maximum Receiver	**63**	**61**	**55**	**48**	**43**	**39**	**33**	**13**	**0**				
RE00169	53	51	44	36	29	23	9	0	0	4	405357	4380225	207
RE00170	54	52	45	37	30	24	10	0	0	4	393719	4380327	213
RE00171	52	51	45	37	30	24	11	0	0	4	405066	4380093	209
RE00172	56	55	48	40	34	28	17	0	0	4	398781	4380144	214
RE00173	59	57	51	43	38	33	27	4	0	4	400443	4379834	213
RE00174	45	43	40	31	23	18	6	0	0	4	405025	4379762	195
RE00175	58	57	51	43	38	33	25	0	0	4	401705	4379711	213
RE00176	56	54	48	40	34	28	18	0	0	4	395618	4379792	213
RE00177	52	50	44	35	28	21	4	0	0	4	393703	4379797	212
RE00178	59	58	52	45	39	36	30	10	0	4	402483	4379637	214
RE00179	59	57	51	44	39	35	29	9	0	4	402967	4379612	213
RE00180	56	54	48	40	34	28	18	0	0	4	395774	4379682	211
RE00181	54	52	45	37	30	23	9	0	0	4	404617	4379512	209
RE00182	57	55	49	41	36	31	23	0	0	4	400513	4379488	214
RE00183	52	50	44	35	28	21	5	0	0	4	404480	4378937	208
RE00184	55	53	46	37	30	22	5	0	0	4	398889	4378997	213
RE00185	55	53	47	39	33	27	15	0	0	4	401519	4378906	215
RE00186	51	49	44	35	28	22	6	0	0	4	404100	4378739	211
RE00187	50	49	45	36	28	22	8	0	0	4	403680	4378612	217
RE00188	54	52	45	36	29	21	4	0	0	4	399664	4378512	214
RE00189	54	52	45	36	28	21	5	0	0	4	397768	4378511	212
RE00190	51	49	43	35	29	22	7	0	0	4	403302	4378404	217
RE00191	53	51	44	35	27	19	0	0	0	4	398873	4378363	213
RE00192	51	49	45	35	27	20	4	0	0	4	400824	4378106	216
RE00193	52	50	43	34	27	19	1	0	0	4	403777	4378055	214
RE00194	53	51	44	35	27	19	3	0	0	4	397217	4378152	211
RE00195	51	49	43	34	26	18	0	0	0	4	404015	4378045	211
RE00196	52	50	43	34	27	19	1	0	0	4	403346	4377908	213

TABLE 8: DISCRETE RECEIVER RESULTS – GE 6.1-158

Receiver ID	1/1 Octave Band Center Frequency Sound Level (dBZ)									Receiver Height (m)	Coordinates (WGS 1984 UTM Z16N)		
	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz	8 kHz		X (m)	Y (m)	Z (m)
IPCB C->A Nighttime Limits	**69**	**67**	**62**	**54**	**47**	**41**	**36**	**32**	**32**				
Maximum Receiver	**62**	**58**	**50**	**47**	**44**	**41**	**33**	**12**	**0**				
RE00001	55	52	43	38	34	27	11	0	0	4	397903	4391424	205
RE00002	54	50	40	35	30	22	0	0	0	4	394405	4391454	205
RE00003	55	52	43	39	34	28	11	0	0	4	399745	4391373	205
RE00004	59	55	47	44	40	36	26	0	0	4	397001	4390083	210
RE00005	61	57	49	46	43	39	31	9	0	4	399426	4389873	211
RE00006	60	57	49	46	43	39	31	8	0	4	400792	4389832	212
RE00007	55	51	42	37	33	26	9	0	0	4	403319	4389790	218
RE00008	59	56	48	45	42	37	28	5	0	4	401224	4389744	214
RE00009	58	55	46	43	39	35	23	0	0	4	395531	4389808	210
RE00010	58	54	45	42	38	33	21	0	0	4	394659	4389784	210
RE00011	61	57	49	46	43	39	31	6	0	4	395900	4389289	210
RE00012	57	54	45	42	38	34	23	0	0	4	402668	4389015	221
RE00013	61	58	50	47	44	40	32	6	0	4	397605	4389071	212
RE00014	54	51	41	36	31	24	5	0	0	4	404507	4388319	204
RE00015	62	58	50	47	44	40	32	9	0	4	400718	4388219	221
RE00016	56	53	44	40	36	31	16	0	0	4	392915	4388329	213
RE00017	56	52	43	39	35	29	13	0	0	4	392596	4388274	213
RE00018	61	58	50	47	44	39	30	8	0	4	399992	4388163	220
RE00019	55	51	42	37	33	26	9	0	0	4	404264	4388085	202
RE00020	55	52	42	38	34	28	11	0	0	4	392414	4388186	214
RE00021	62	58	50	47	44	41	32	8	0	4	397355	4387957	216
RE00022	62	58	50	47	44	40	32	9	0	4	398933	4387695	219
RE00023	60	57	49	46	43	39	32	11	0	4	402647	4386878	211
RE00024	56	52	44	39	35	30	17	0	0	4	392570	4386738	211
RE00025	61	58	49	46	43	39	30	4	0	4	396447	4386672	213
RE00026	57	54	45	42	38	34	23	0	0	4	392982	4386722	212
RE00027	61	58	49	46	43	39	31	9	0	4	399852	4386609	213
RE00028	61	58	50	47	44	40	32	8	0	4	394874	4386627	213
RE00029	61	58	49	46	43	40	32	10	0	4	402055	4386495	211
RE00030	57	54	45	41	38	34	25	0	0	4	404385	4386446	206
RE00031	61	58	50	47	44	40	33	11	0	4	394176	4386532	213
RE00032	61	57	49	46	42	38	29	1	0	4	399227	4385988	213
RE00033	49	45	38	34	29	24	9	0	0	4	405403	4385537	200

Receiver ID	1/1 Octave Band Center Frequency Sound Level (dBZ)									Receiver Height (m)	Coordinates (WGS 1984 UTM Z16N)		
	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz	8 kHz		X (m)	Y (m)	Z (m)
IPCB C->A Nighttime Limits	**69**	**67**	**62**	**54**	**47**	**41**	**36**	**32**	**32**				
Maximum Receiver	**62**	**58**	**50**	**47**	**44**	**41**	**33**	**12**	**0**				
RE00034	51	47	41	36	30	23	7	0	0	4	405376	4385396	205
RE00035	59	56	47	44	41	36	27	0	0	4	402704	4385329	207
RE00036	61	57	49	46	43	39	30	4	0	4	400165	4385091	216
RE00037	55	51	42	38	33	27	12	0	0	4	404838	4384949	208
RE00038	57	54	45	41	37	32	21	0	0	4	403534	4384966	208
RE00039	60	57	48	45	42	38	29	10	0	4	402153	4384986	205
RE00040	54	50	41	36	31	24	6	0	0	4	405409	4384936	205
RE00041	61	58	50	47	44	40	32	10	0	4	396327	4385059	210
RE00042	59	56	47	44	40	36	25	1	0	4	402407	4384912	208
RE00043	61	58	50	46	44	40	33	12	0	4	398977	4384957	214
RE00044	57	54	45	41	37	31	18	0	0	4	403373	4384728	210
RE00045	57	53	44	41	36	31	17	0	0	4	403480	4384632	213
RE00046	54	50	41	36	31	23	4	0	0	4	405469	4384583	206
RE00047	54	50	41	36	31	23	4	0	0	4	405455	4384537	206
RE00048	54	51	41	37	32	24	6	0	0	4	405204	4384476	207
RE00049	54	50	41	36	31	24	5	0	0	4	405375	4384462	207
RE00050	52	49	41	37	32	25	7	0	0	4	405125	4384456	207
RE00051	54	50	41	36	31	24	5	0	0	4	405360	4384427	207
RE00052	53	49	41	37	32	25	7	0	0	4	405122	4384428	207
RE00053	55	51	41	37	32	25	7	0	0	4	405083	4384428	207
RE00054	54	51	41	36	31	24	5	0	0	4	405301	4384419	207
RE00055	54	50	41	36	31	24	5	0	0	4	405374	4384416	207
RE00056	54	51	41	37	32	24	6	0	0	4	405221	4384417	207
RE00057	54	50	41	36	31	23	3	0	0	4	405528	4384378	208
RE00058	54	50	41	36	31	23	4	0	0	4	405458	4384373	207
RE00059	53	49	40	36	30	23	3	0	0	4	405585	4384369	208
RE00060	54	50	41	36	31	24	5	0	0	4	405338	4384370	207
RE00061	54	51	41	37	32	25	7	0	0	4	405175	4384339	206
RE00062	54	50	41	36	31	24	5	0	0	4	405325	4384334	207
RE00063	58	55	47	43	40	35	24	0	0	4	394166	4384499	208
RE00064	54	50	41	36	31	24	5	0	0	4	405375	4384331	207
RE00065	54	51	41	37	31	24	6	0	0	4	405270	4384320	207
RE00066	55	51	41	37	32	25	7	0	0	4	405107	4384308	206
RE00067	54	50	41	36	31	24	5	0	0	4	405414	4384280	207

Receiver ID	1/1 Octave Band Center Frequency Sound Level (dBZ)									Receiver Height (m)	Coordinates (WGS 1984 UTM Z16N)		
	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz	8 kHz		X (m)	Y (m)	Z (m)
IPCB C->A Nighttime Limits	**69**	**67**	**62**	**54**	**47**	**41**	**36**	**32**	**32**				
Maximum Receiver	**62**	**58**	**50**	**47**	**44**	**41**	**33**	**12**	**0**				
RE00068	53	50	40	35	30	22	2	0	0	4	405695	4384276	208
RE00069	54	50	41	36	31	23	4	0	0	4	405457	4384278	208
RE00070	59	56	47	43	39	34	22	0	0	4	397382	4384398	217
RE00071	52	48	40	35	30	22	2	0	0	4	405676	4384239	208
RE00072	53	50	40	35	30	22	2	0	0	4	405765	4384231	207
RE00073	54	50	41	36	31	23	4	0	0	4	405518	4384231	210
RE00074	56	52	43	38	34	27	10	0	0	4	392934	4384415	207
RE00075	54	50	41	36	31	24	5	0	0	4	405459	4384221	208
RE00076	54	50	40	36	30	23	3	0	0	4	405585	4384209	210
RE00077	59	55	47	43	39	34	21	0	0	4	397277	4384327	217
RE00078	53	49	40	36	31	23	4	0	0	4	405543	4384158	208
RE00079	53	49	40	36	31	23	5	0	0	4	405529	4384102	208
RE00080	53	49	40	35	30	22	2	0	0	4	405766	4384102	206
RE00081	62	58	50	47	44	41	32	10	0	4	400112	4383548	209
RE00082	57	54	45	42	38	33	22	0	0	4	403233	4383499	209
RE00083	56	52	43	39	35	30	17	0	0	4	392863	4383606	209
RE00084	58	55	47	43	39	34	21	0	0	4	396513	4383544	215
RE00085	59	55	47	43	40	35	24	1	0	4	402275	4383453	208
RE00086	59	55	47	43	39	35	24	0	0	4	402277	4383412	208
RE00087	59	55	47	44	40	36	26	4	0	4	402160	4383401	208
RE00088	59	55	47	44	40	35	25	3	0	4	402192	4383399	208
RE00089	59	55	47	44	40	35	26	3	0	4	402177	4383399	208
RE00090	59	55	47	44	40	35	26	3	0	4	402161	4383366	208
RE00091	59	55	46	43	39	34	24	0	0	4	402278	4383363	208
RE00092	58	55	46	43	39	34	23	0	0	4	402305	4383361	208
RE00093	58	55	47	43	40	36	26	0	0	4	394101	4383481	211
RE00094	56	53	44	40	36	31	20	0	0	4	404762	4383287	209
RE00095	58	55	46	42	38	33	20	0	0	4	402551	4383304	209
RE00096	58	55	46	43	39	34	23	0	0	4	402288	4383305	208
RE00097	58	55	46	43	39	34	23	0	0	4	402336	4383293	208
RE00098	59	55	47	43	40	35	25	0	0	4	402183	4383296	208
RE00099	58	55	46	43	39	34	25	4	0	4	403234	4383237	208
RE00100	58	54	46	42	38	33	21	0	0	4	402941	4383240	208
RE00101	54	50	41	36	31	25	9	0	0	4	405748	4383193	208

Receiver ID	1/1 Octave Band Center Frequency Sound Level (dBZ)									Receiver Height (m)	Coordinates (WGS 1984 UTM Z16N)		
	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz	8 kHz		X (m)	Y (m)	Z (m)
IPCB C->A Nighttime Limits	**69**	**67**	**62**	**54**	**47**	**41**	**36**	**32**	**32**				
Maximum Receiver	**62**	**58**	**50**	**47**	**44**	**41**	**33**	**12**	**0**				
RE00102	59	55	47	43	39	34	22	0	0	4	398190	4383295	211
RE00103	58	54	46	42	39	35	26	3	0	4	404346	4383202	208
RE00104	58	55	47	43	40	35	24	0	0	4	395068	4383339	214
RE00105	58	55	46	43	39	34	22	0	0	4	402375	4383194	209
RE00106	58	55	46	43	39	34	23	0	0	4	402270	4383171	208
RE00107	58	55	46	43	39	34	22	0	0	4	402370	4383165	209
RE00108	58	55	47	43	39	35	24	0	0	4	402219	4383166	209
RE00109	59	55	47	43	40	35	24	0	0	4	402158	4383130	208
RE00110	58	55	46	43	39	34	22	0	0	4	402322	4383121	208
RE00111	59	55	46	43	39	34	23	0	0	4	402220	4383104	208
RE00112	58	55	46	43	39	34	22	0	0	4	402335	4383072	208
RE00113	58	55	46	42	39	33	21	0	0	4	402425	4383064	208
RE00114	59	55	46	43	39	34	23	0	0	4	402212	4383064	208
RE00115	59	55	47	43	40	35	24	0	0	4	402153	4383059	208
RE00116	58	55	46	43	39	34	21	0	0	4	402365	4383018	208
RE00117	59	55	46	43	39	34	23	0	0	4	402209	4383015	208
RE00118	58	55	46	43	39	34	22	0	0	4	402294	4383010	208
RE00119	58	55	46	42	38	32	17	0	0	4	397355	4382960	215
RE00120	57	54	45	42	39	35	26	0	0	4	392843	4382685	210
RE00121	61	58	50	47	44	40	31	8	0	4	400280	4382530	214
RE00122	58	55	46	42	38	33	19	0	0	4	397298	4382471	213
RE00123	52	49	40	34	29	23	5	0	0	4	391316	4382511	208
RE00124	59	56	48	45	42	38	29	2	0	4	403361	4381893	214
RE00125	61	58	50	47	44	40	32	9	0	4	399518	4381948	212
RE00126	60	57	48	45	42	38	27	0	0	4	400439	4381876	212
RE00127	61	58	49	46	43	40	32	8	0	4	399451	4381866	211
RE00128	61	58	49	46	43	40	32	8	0	4	399433	4381861	211
RE00129	61	58	49	46	43	40	32	7	0	4	399392	4381828	211
RE00130	61	58	49	46	43	40	31	7	0	4	399426	4381824	211
RE00131	61	57	49	46	43	40	31	5	0	4	399582	4381820	211
RE00132	59	55	47	44	41	38	31	9	0	4	392882	4381907	213
RE00133	61	58	49	46	43	40	32	8	0	4	399198	4381810	212
RE00134	61	58	49	46	43	40	31	6	0	4	399432	4381798	211
RE00135	61	58	49	46	43	40	31	7	0	4	399388	4381793	211

Receiver ID	1/1 Octave Band Center Frequency Sound Level (dBZ)									Receiver Height (m)	Coordinates (WGS 1984 UTM Z16N)		
	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz	8 kHz		X (m)	Y (m)	Z (m)
IPCB C->A Nighttime Limits	**69**	**67**	**62**	**54**	**47**	**41**	**36**	**32**	**32**				
Maximum Receiver	**62**	**58**	**50**	**47**	**44**	**41**	**33**	**12**	**0**				
RE00136	60	57	49	46	43	39	31	8	0	4	396246	4381805	212
RE00137	61	58	49	46	43	40	31	7	0	4	399385	4381757	211
RE00138	60	56	48	45	41	37	28	0	0	4	398753	4381749	209
RE00139	60	57	48	45	42	38	29	3	0	4	398873	4381740	210
RE00140	58	55	46	43	39	34	23	0	0	4	397514	4381760	210
RE00141	61	58	49	46	43	40	31	7	0	4	399483	4381718	211
RE00142	60	56	48	45	42	38	29	4	0	4	402799	4381672	209
RE00143	61	57	49	46	43	40	31	7	0	4	399578	4381715	211
RE00144	61	58	49	46	43	40	31	7	0	4	399394	4381720	211
RE00145	61	58	49	46	43	40	31	7	0	4	399469	4381718	211
RE00146	60	57	49	46	43	40	31	6	0	4	399617	4381716	211
RE00147	61	58	49	46	43	40	31	7	0	4	399503	4381716	211
RE00148	60	56	48	44	41	37	26	0	0	4	402090	4381656	210
RE00149	59	56	48	45	42	38	30	7	0	4	395664	4381747	214
RE00150	60	57	49	46	43	39	30	10	0	4	401289	4381655	209
RE00151	61	57	49	46	43	39	31	8	0	4	401063	4381655	209
RE00152	61	57	49	46	43	39	31	8	0	4	400991	4381656	209
RE00153	61	58	49	46	43	40	31	7	0	4	399316	4381677	212
RE00154	60	57	48	45	42	39	31	7	0	4	395869	4381727	213
RE00155	61	57	49	46	43	39	31	8	0	4	401020	4381646	209
RE00156	58	55	46	43	39	35	25	0	0	4	394482	4381722	217
RE00157	60	57	48	45	42	39	30	4	0	4	403368	4381582	211
RE00158	61	57	49	46	43	40	31	10	0	4	401020	4381616	209
RE00159	61	57	49	46	43	40	31	10	0	4	401063	4381610	209
RE00160	61	58	49	46	43	40	32	10	0	4	400989	4381611	209
RE00161	59	56	47	44	40	36	26	0	0	4	398683	4381312	211
RE00162	59	56	48	45	42	38	30	7	0	4	397374	4381285	210
RE00163	57	53	45	41	38	34	25	0	0	4	393662	4381092	214
RE00164	55	52	43	39	35	30	17	0	0	4	393645	4380646	213
RE00165	60	57	49	46	43	40	33	11	0	4	397243	4380578	211
RE00166	58	55	46	43	39	35	26	0	0	4	398898	4380497	212
RE00167	59	56	47	44	41	38	29	4	0	4	397460	4380475	209
RE00168	55	51	43	39	36	31	20	0	0	4	404770	4380331	209
RE00169	53	50	41	37	33	27	12	0	0	4	405357	4380225	207

Receiver ID	1/1 Octave Band Center Frequency Sound Level (dBZ)									Receiver Height (m)	Coordinates (WGS 1984 UTM Z16N)		
	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz	8 kHz		X (m)	Y (m)	Z (m)
IPCB C->A Nighttime Limits	**69**	**67**	**62**	**54**	**47**	**41**	**36**	**32**	**32**				
Maximum Receiver	**62**	**58**	**50**	**47**	**44**	**41**	**33**	**12**	**0**				
RE00170	54	51	42	37	33	27	12	0	0	4	393719	4380327	213
RE00171	53	50	41	37	33	28	14	0	0	4	405066	4380093	209
RE00172	57	54	45	41	37	32	20	0	0	4	398781	4380144	214
RE00173	59	56	47	44	41	38	30	7	0	4	400443	4379834	213
RE00174	46	42	37	33	28	24	9	0	0	4	405025	4379762	195
RE00175	59	55	47	44	41	37	27	0	0	4	401705	4379711	213
RE00176	56	53	44	40	36	31	19	0	0	4	395618	4379792	213
RE00177	53	49	40	36	31	24	6	0	0	4	393703	4379797	212
RE00178	59	55	47	44	41	37	28	7	0	4	402483	4379637	214
RE00179	58	54	46	43	40	36	27	6	0	4	402967	4379612	213
RE00180	56	53	44	40	36	32	21	0	0	4	395774	4379682	211
RE00181	54	50	41	37	33	27	12	0	0	4	404617	4379512	209
RE00182	58	54	46	42	39	35	26	0	0	4	400513	4379488	214
RE00183	52	49	40	36	31	24	6	0	0	4	404480	4378937	208
RE00184	55	51	42	38	33	26	8	0	0	4	398889	4378997	213
RE00185	55	52	43	40	36	31	18	0	0	4	401519	4378906	215
RE00186	52	48	40	36	31	25	6	0	0	4	404100	4378739	211
RE00187	51	48	40	36	31	25	7	0	0	4	403680	4378612	217
RE00188	54	51	41	37	32	25	7	0	0	4	399664	4378512	214
RE00189	54	50	41	36	32	25	8	0	0	4	397768	4378511	212
RE00190	51	47	39	36	31	25	7	0	0	4	403302	4378404	217
RE00191	54	50	41	36	31	23	2	0	0	4	398873	4378363	213
RE00192	52	49	41	36	31	24	7	0	0	4	400824	4378106	216
RE00193	52	48	39	34	29	22	0	0	0	4	403777	4378055	214
RE00194	53	50	40	35	30	23	6	0	0	4	397217	4378152	211
RE00195	52	48	39	34	29	21	0	0	0	4	404015	4378045	211
RE00196	52	49	39	35	29	22	1	0	0	4	403346	4377908	213

APPENDIX E. SOUND LEVEL CONTOUR MAPS

The results for each octave band are also shown in map format in Figure 14 through Figure 22. The sound level contour lines in each map range from 30 dBZ to 65 dBZ. The IPCB Class C to Class A nighttime limit for each octave band is represented by a pink dashed line. Each map shows the results with all 62 turbine locations modeled. Only up to 51 locations will be constructed.

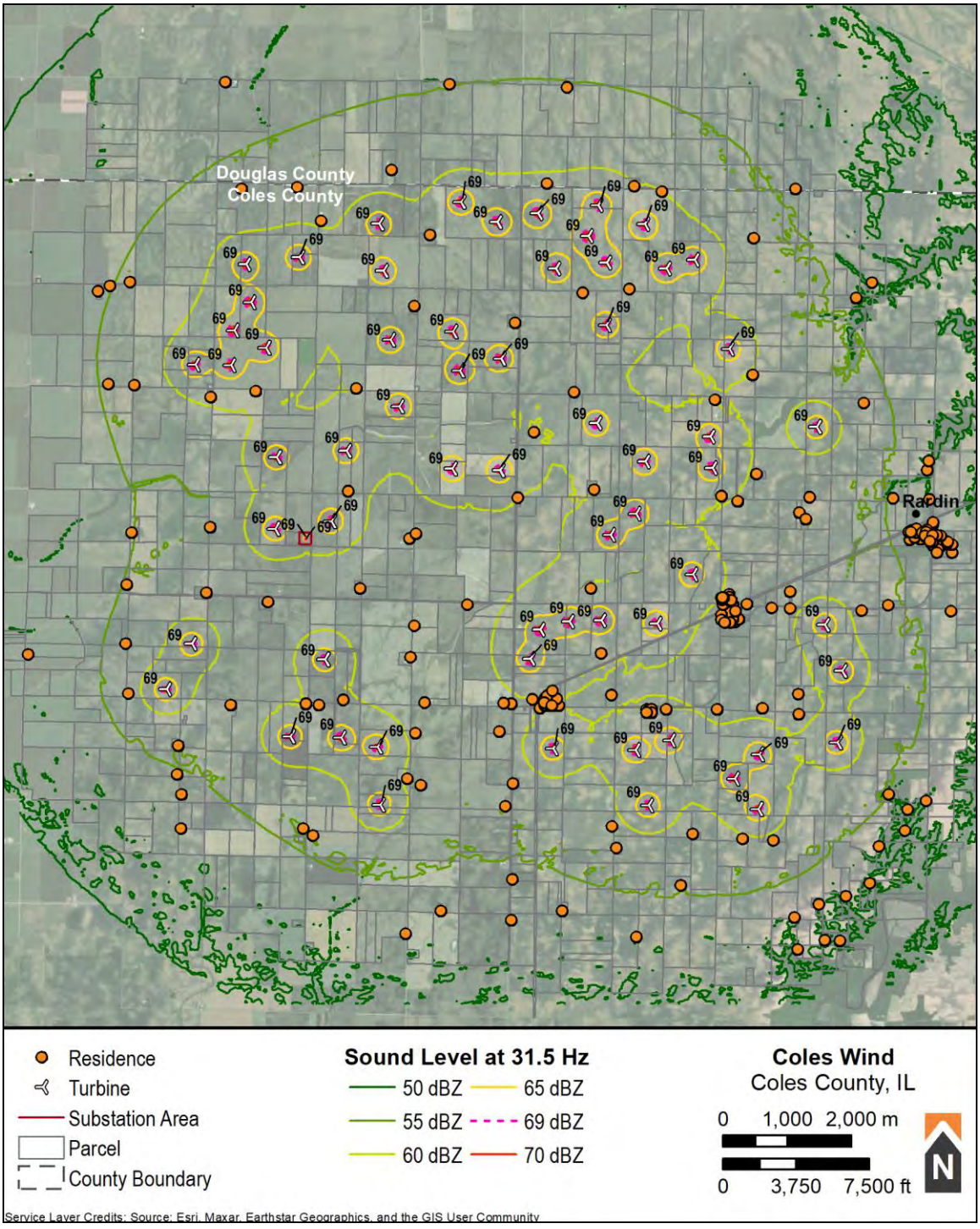

FIGURE 14: VESTAS V162-6.0 MW SOUND PROPAGATION MODELING RESULTS - 31.5 HZ 1/1 OCTAVE BAND

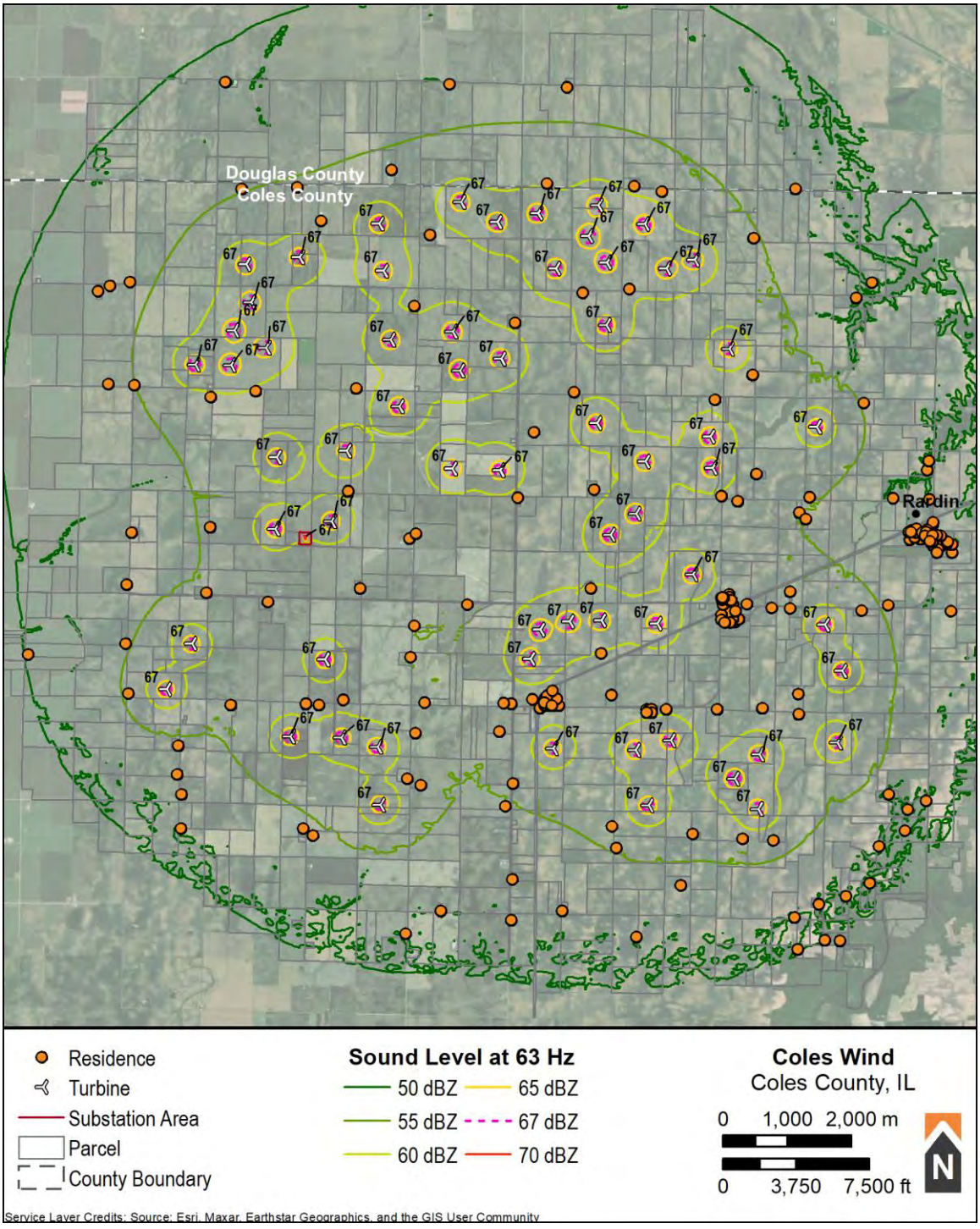

FIGURE 15: VESTAS V162-6.0 MW SOUND PROPAGATION MODELING RESULTS - 63 HZ 1/1 OCTAVE BAND

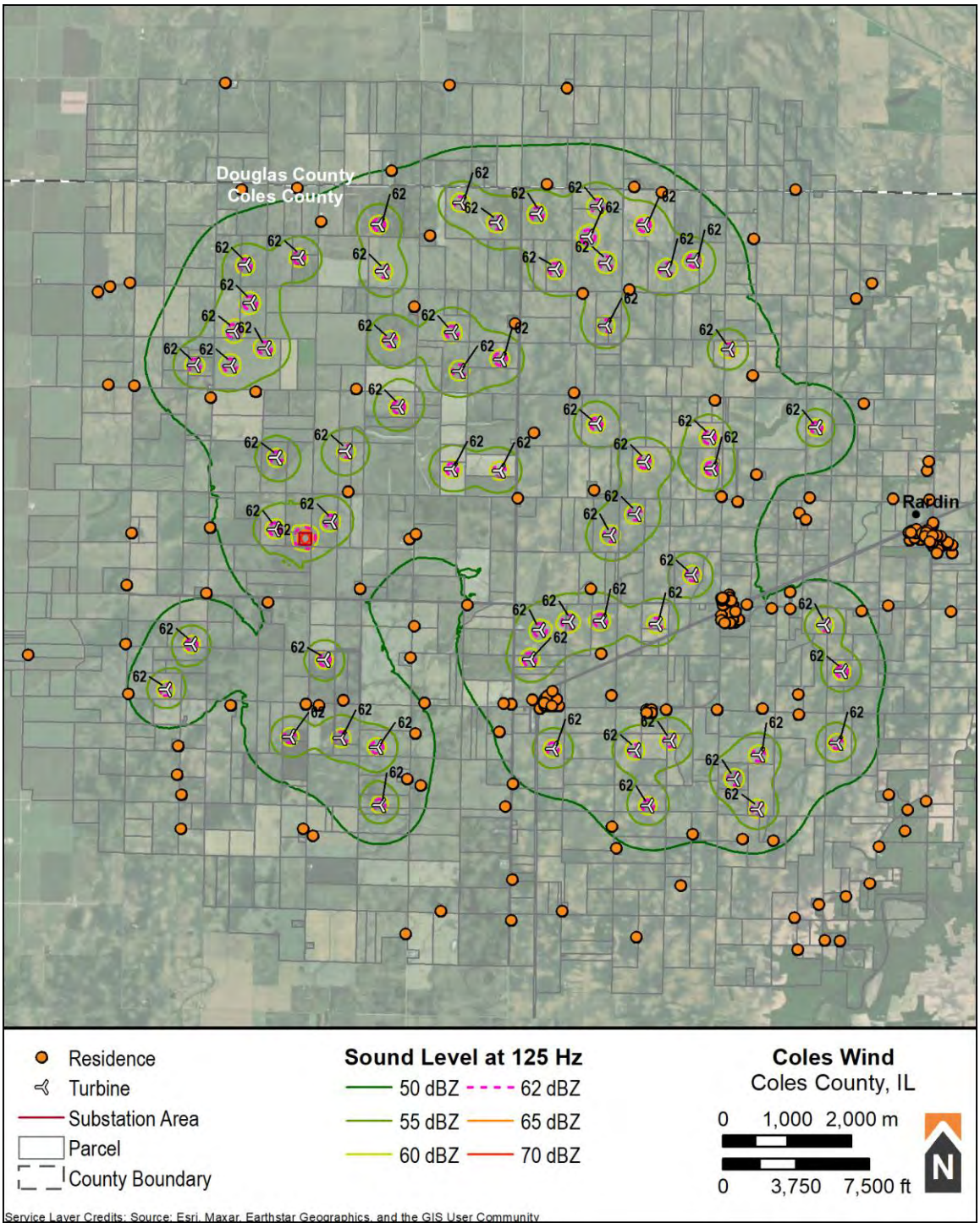

FIGURE 16: VESTAS V162-6.0 MW SOUND PROPAGATION MODELING RESULTS - 125 HZ 1/1 OCTAVE BAND

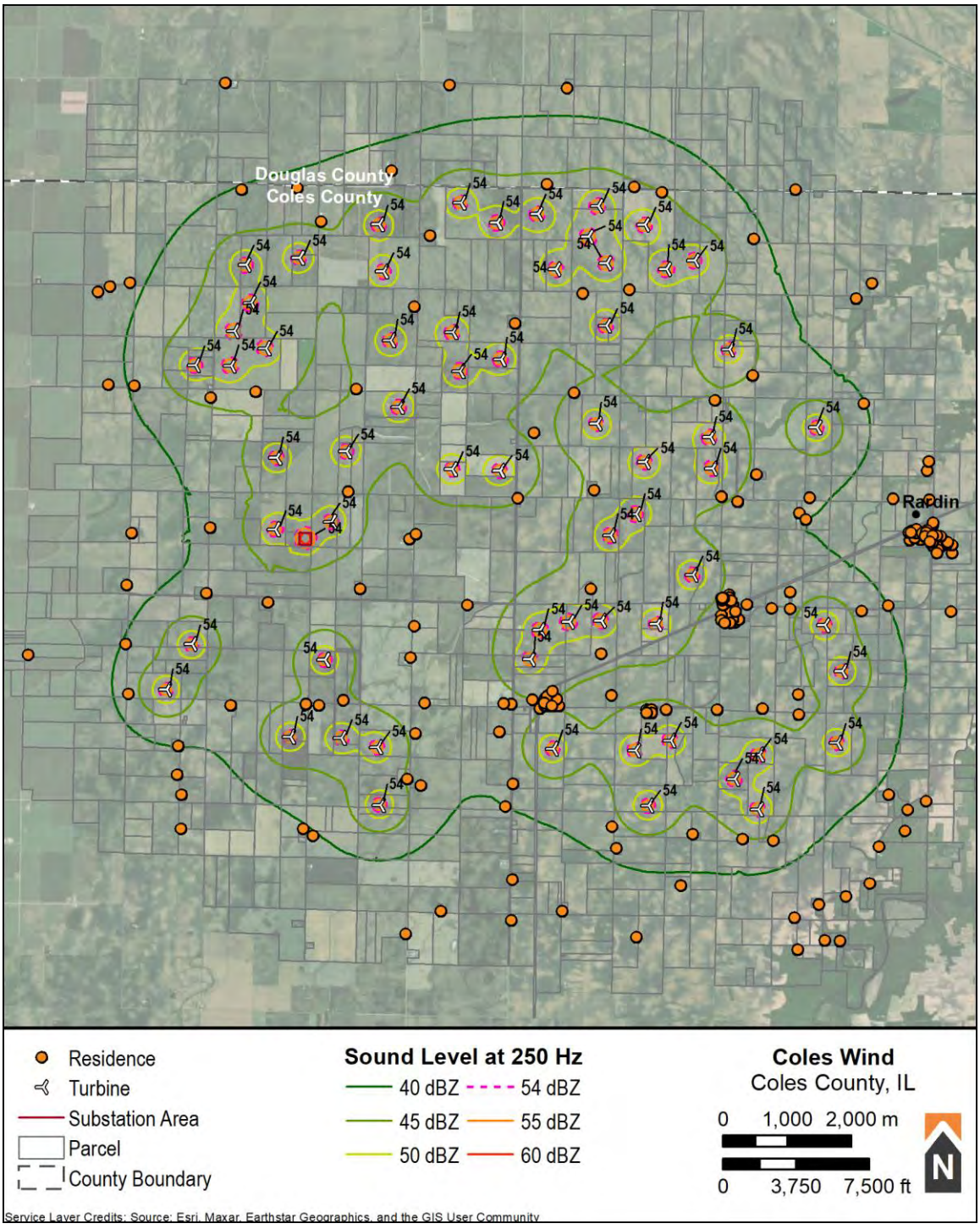

FIGURE 17: VESTAS V162-6.0 MW SOUND PROPAGATION MODELING RESULTS - 250 HZ 1/1 OCTAVE BAND

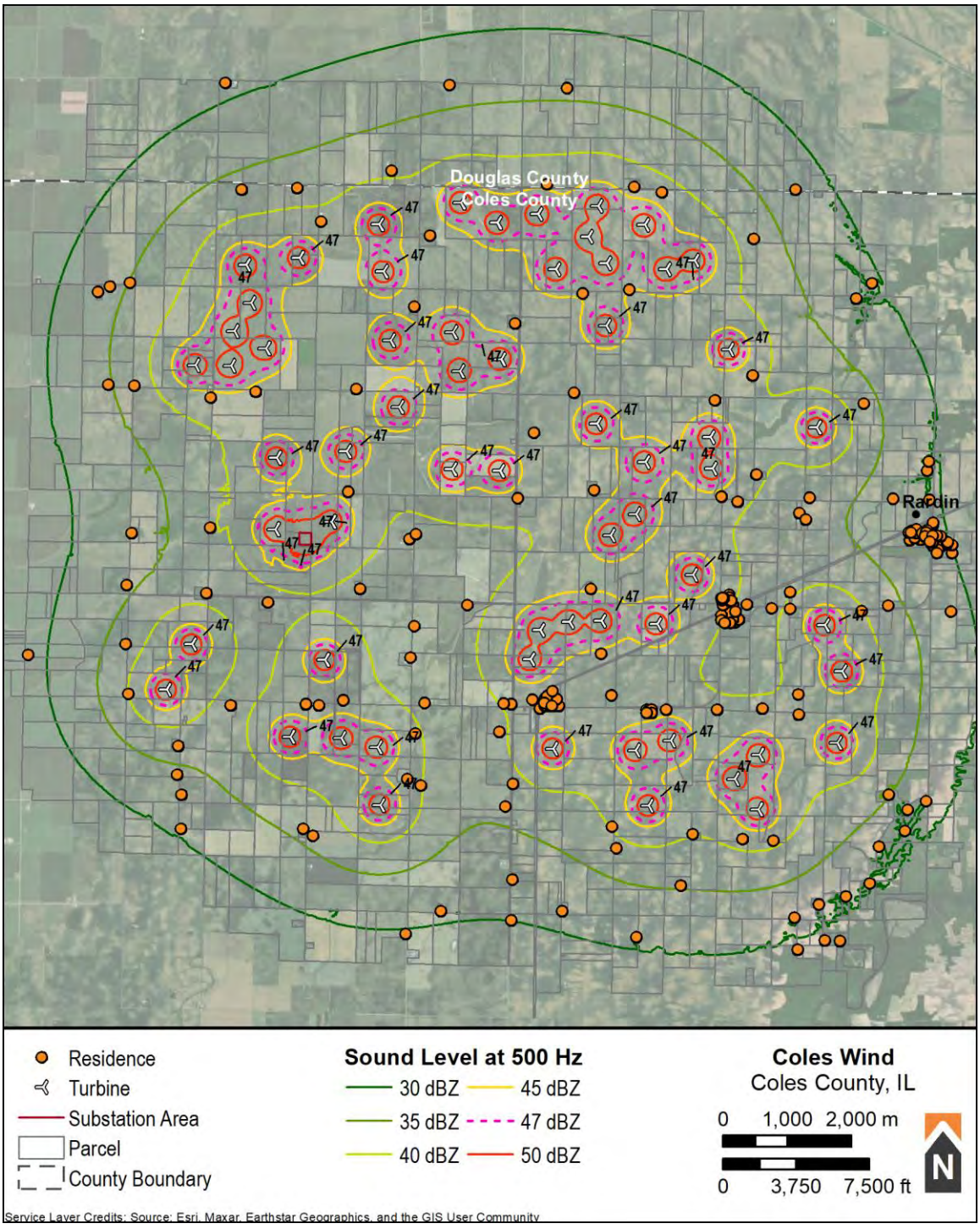

FIGURE 18: VESTAS V162-6.0 MW SOUND PROPAGATION MODELING RESULTS - 500 HZ 1/1 OCTAVE BAND

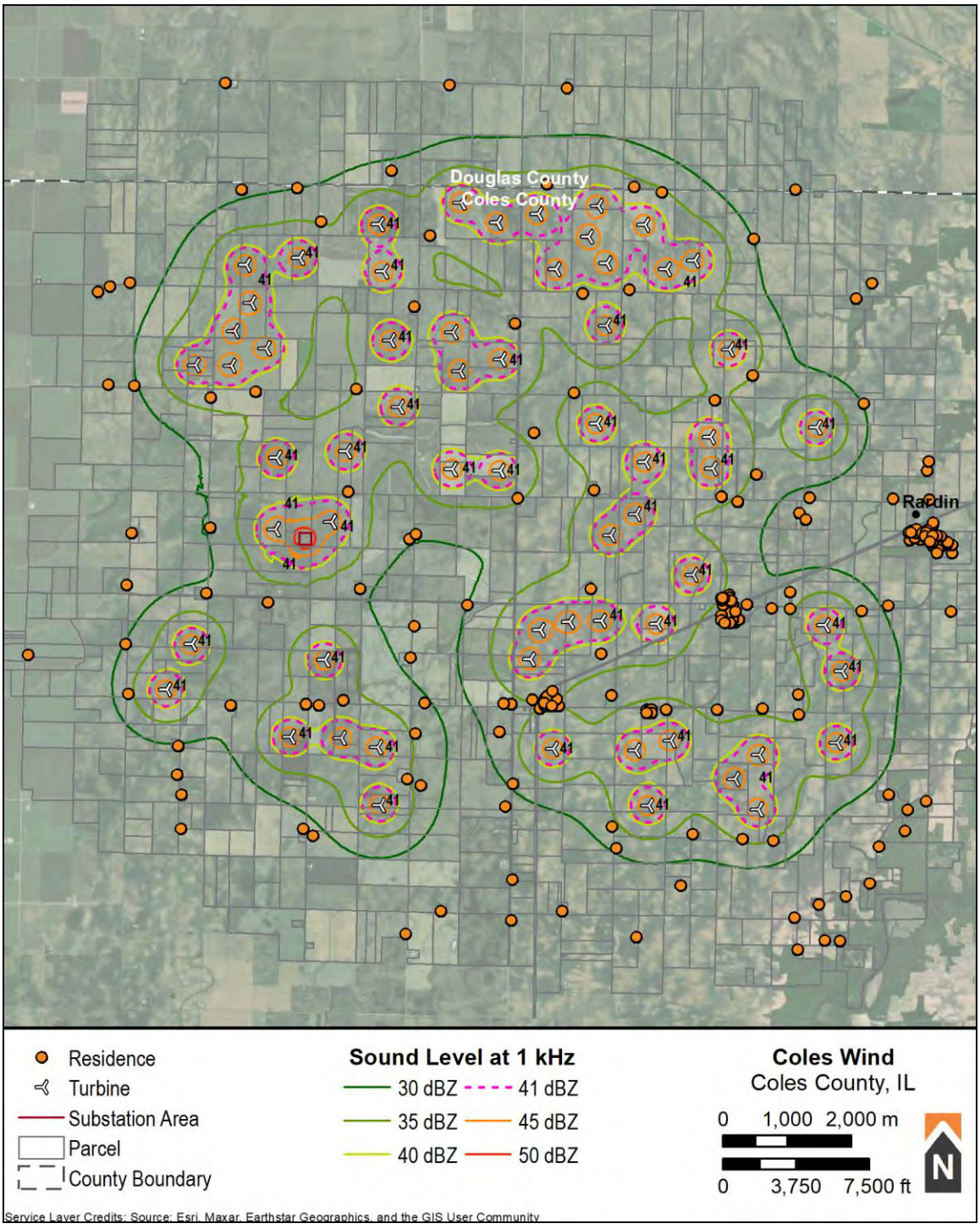

FIGURE 19: VESTAS V162-6.0 MW SOUND PROPAGATION MODELING RESULTS - 1000 HZ 1/1 OCTAVE BAND

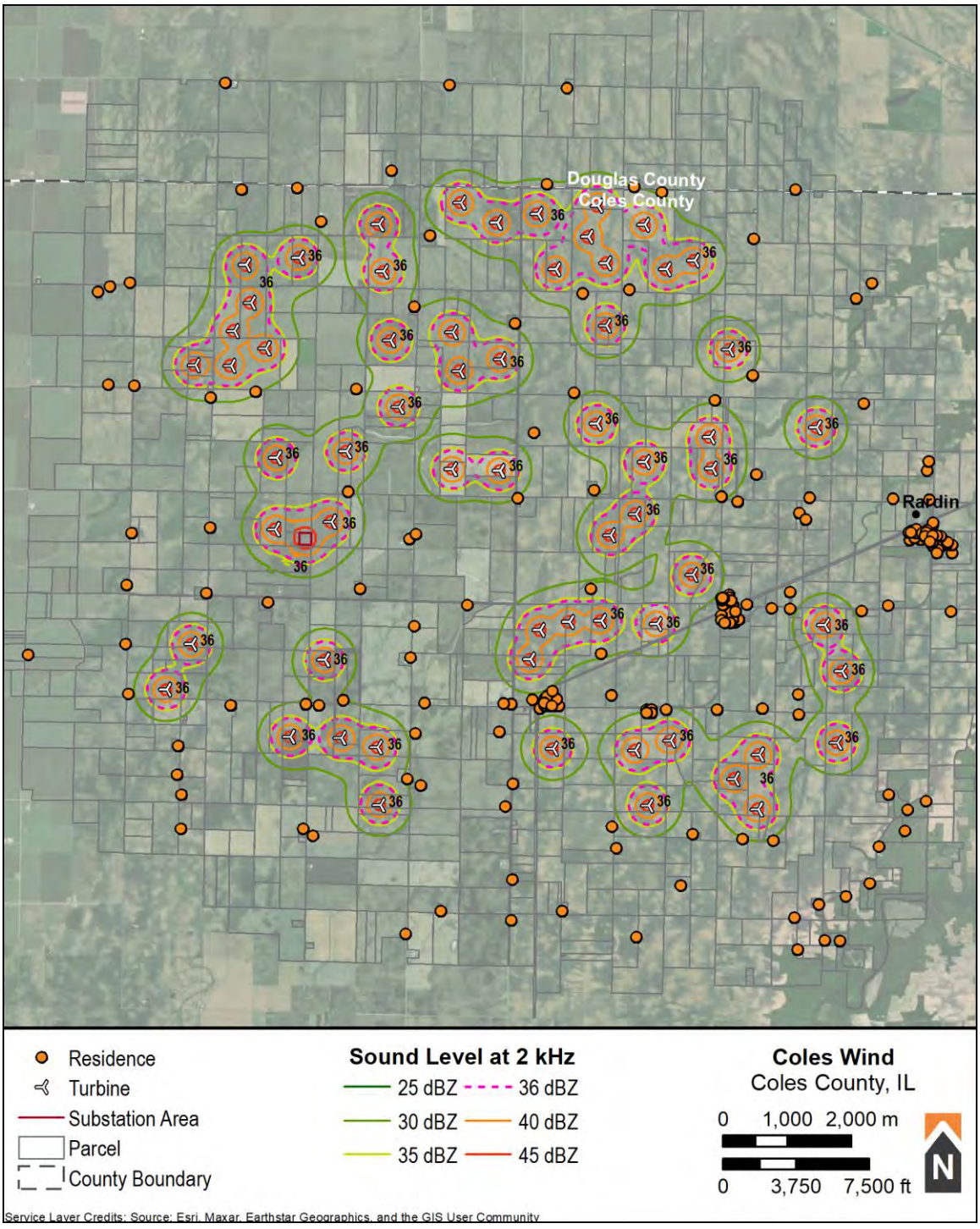

FIGURE 20: VESTAS V162-6.0 MW SOUND PROPAGATION MODELING RESULTS – 2000 HZ 1/1 OCTAVE BAND

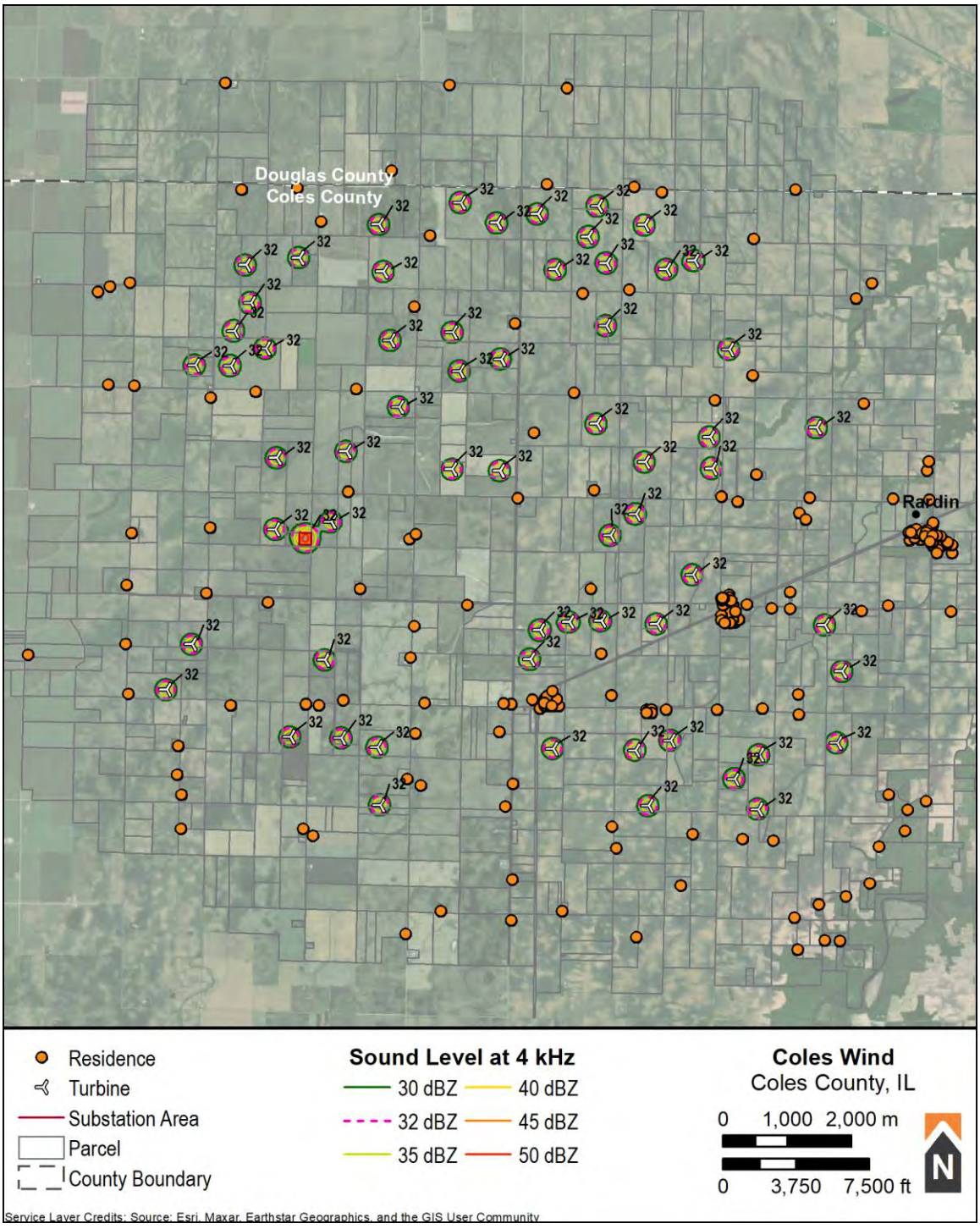

FIGURE 21: VESTAS V162-6.0 MW SOUND PROPAGATION MODELING RESULTS - 4000 HZ 1/1 OCTAVE BAND

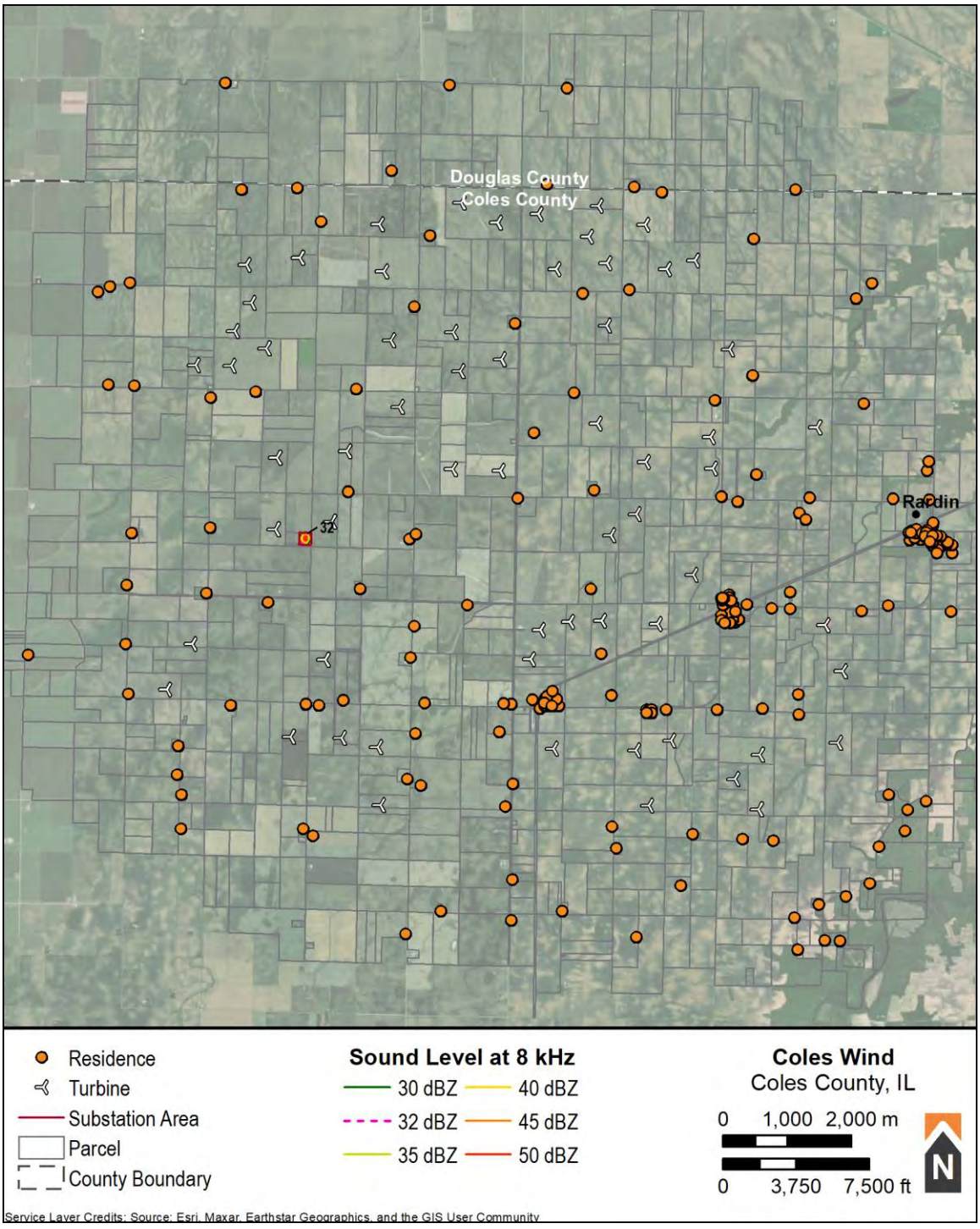

FIGURE 22: VESTAS V162-6.0 MW SOUND PROPAGATION MODELING RESULTS - 8000 HZ 1/1 OCTAVE BAND

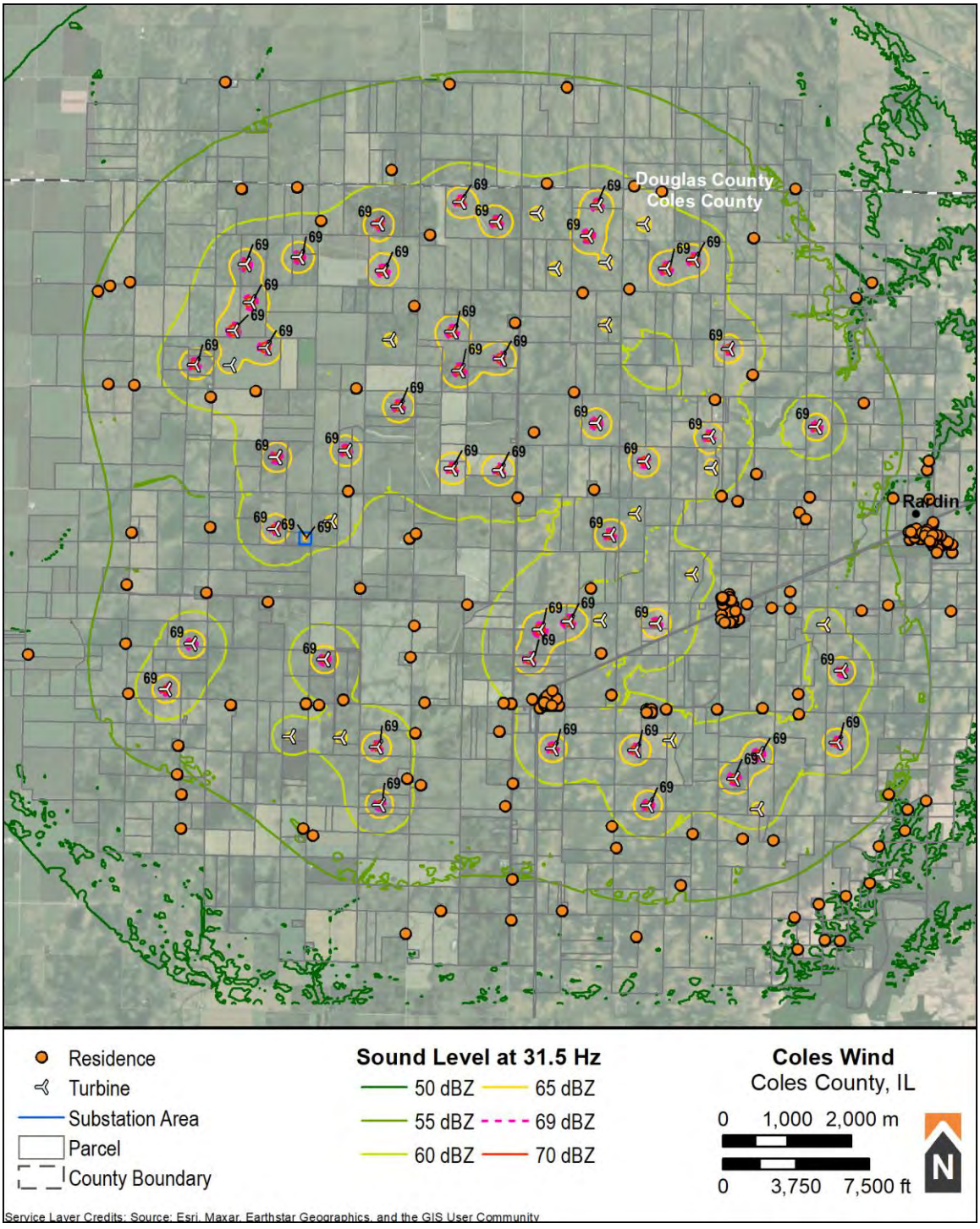

FIGURE 23: GE 6.1-158 SOUND PROPAGATION MODELING RESULTS - 31.5 HZ 1/1 OCTAVE BAND

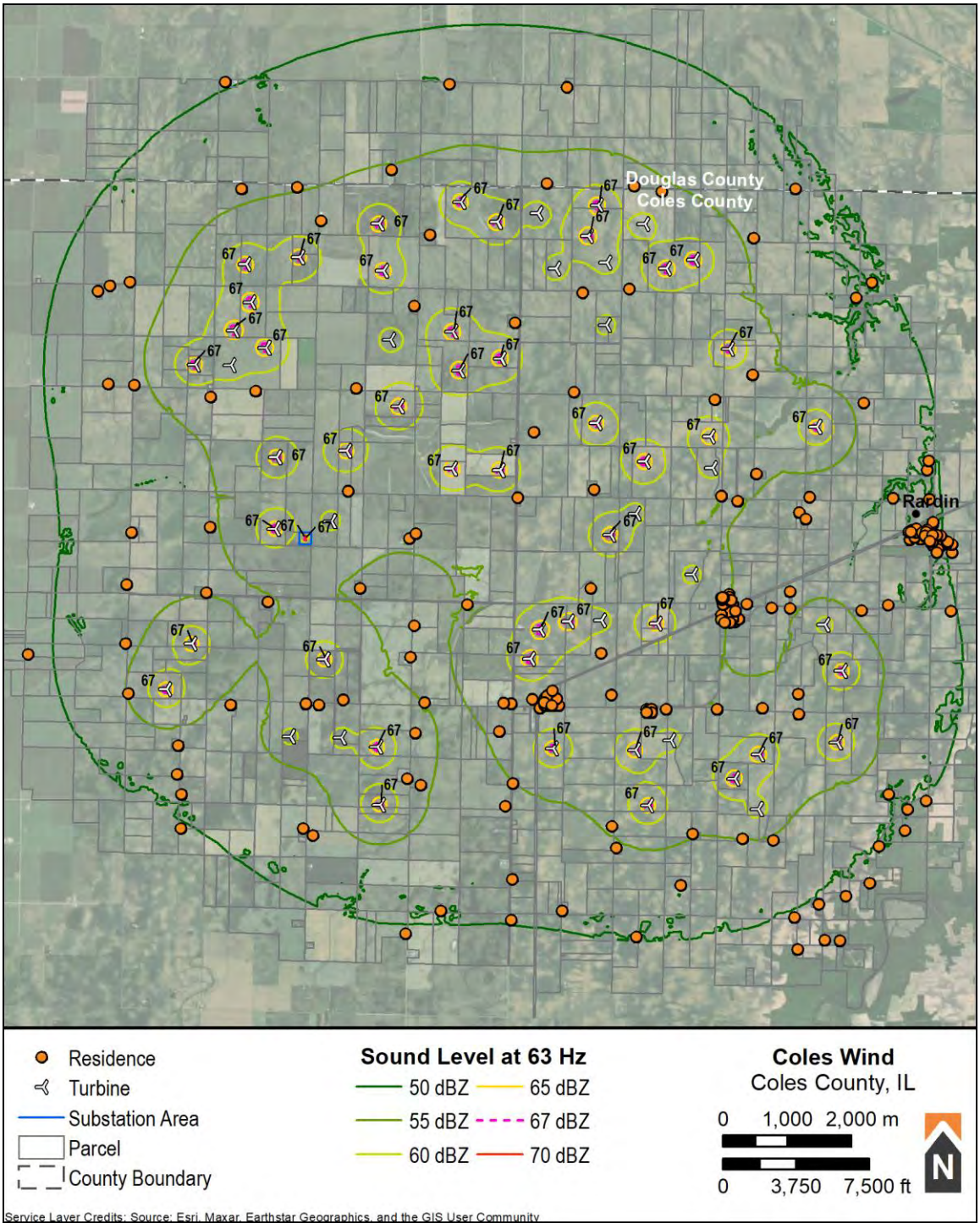

FIGURE 24: GE 6.1-158 SOUND PROPAGATION MODELING RESULTS - 63 HZ 1/1 OCTAVE BAND

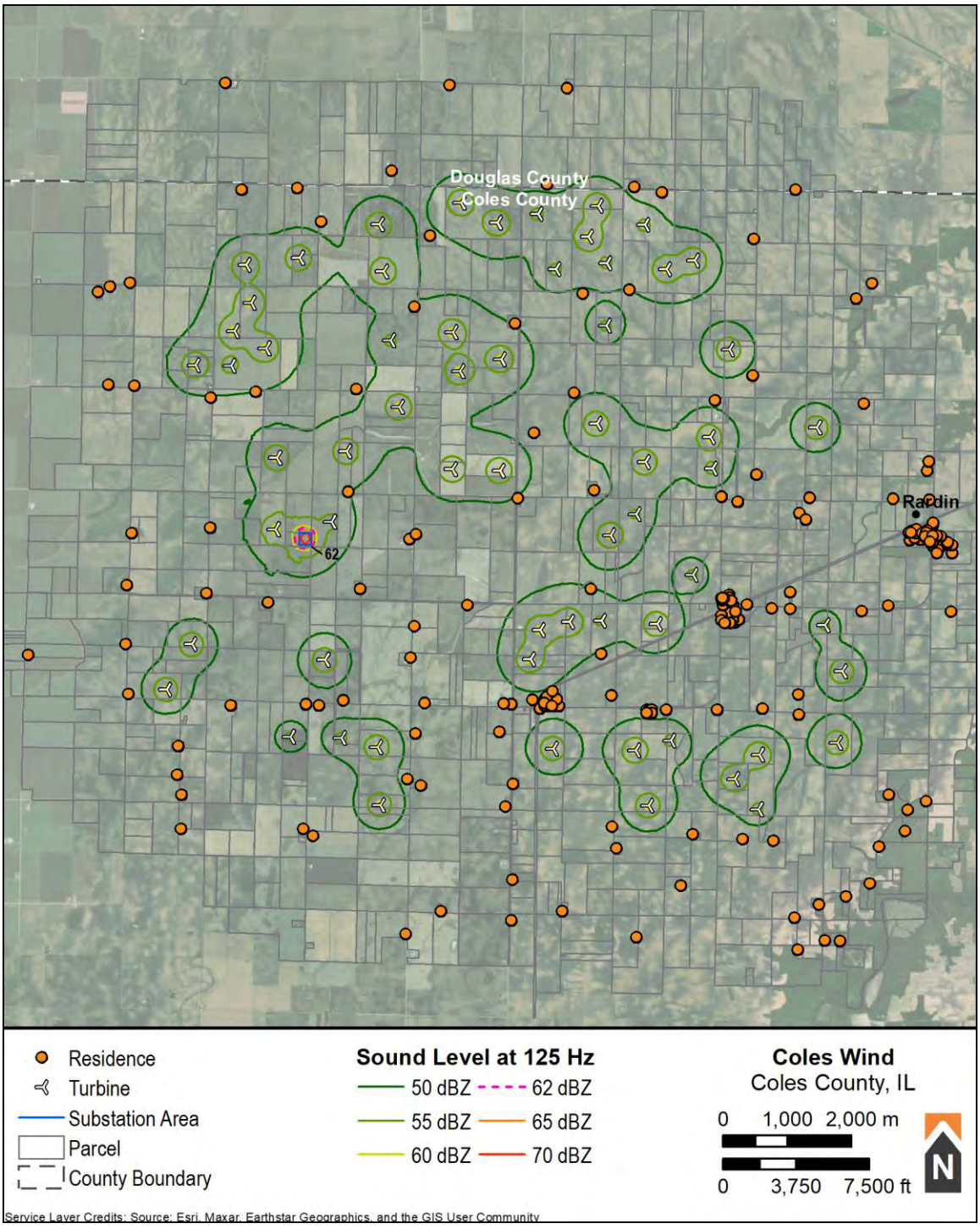

FIGURE 25: GE 6.1-158 PROPAGATION MODELING RESULTS - 125 HZ 1/1 OCTAVE BAND

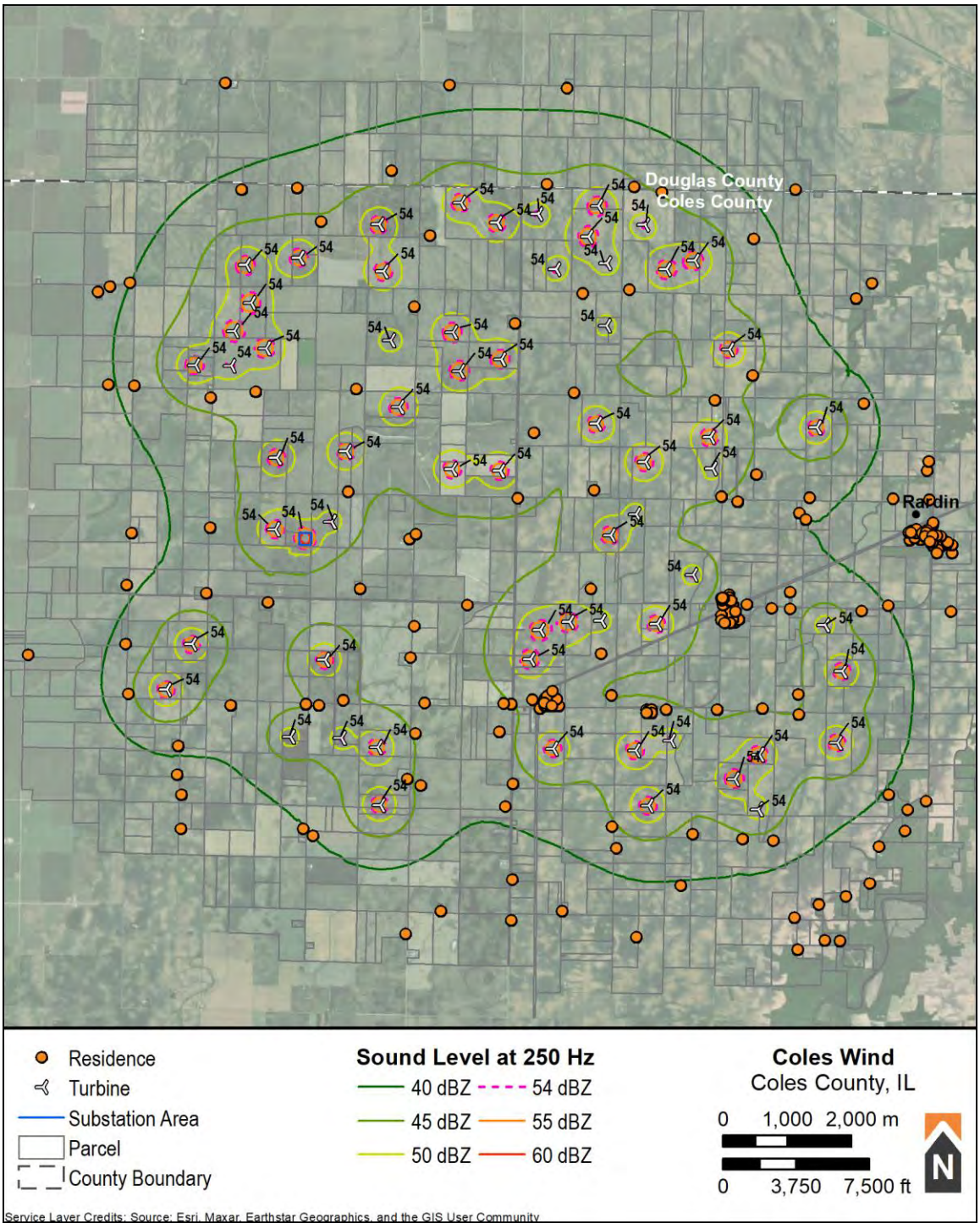

FIGURE 26: GE 6.1-158 SOUND PROPAGATION MODELING RESULTS - 250 HZ 1/1 OCTAVE BAND

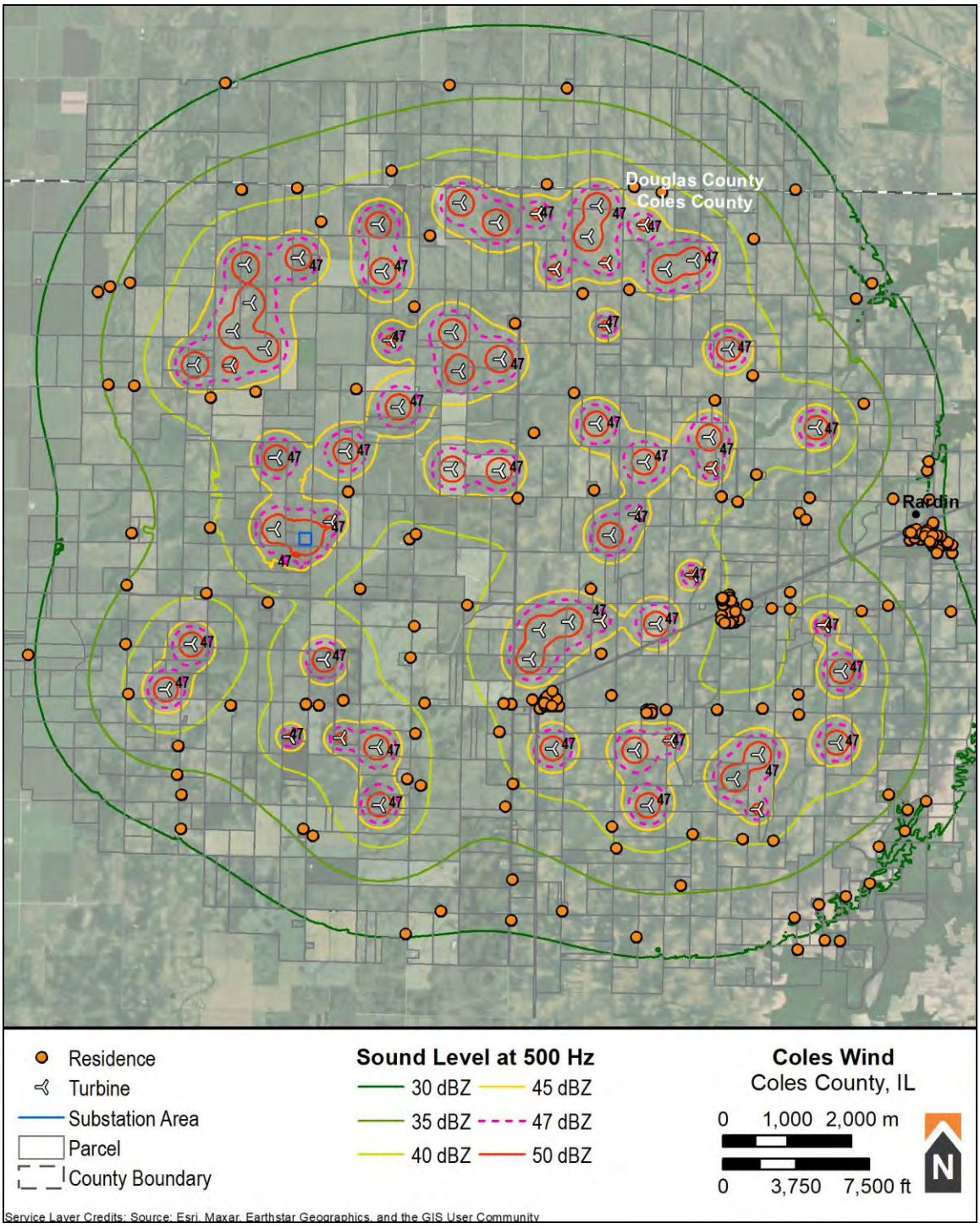

FIGURE 27: GE 6.1-158 SOUND PROPAGATION MODELING RESULTS - 500 HZ 1/1 OCTAVE BAND

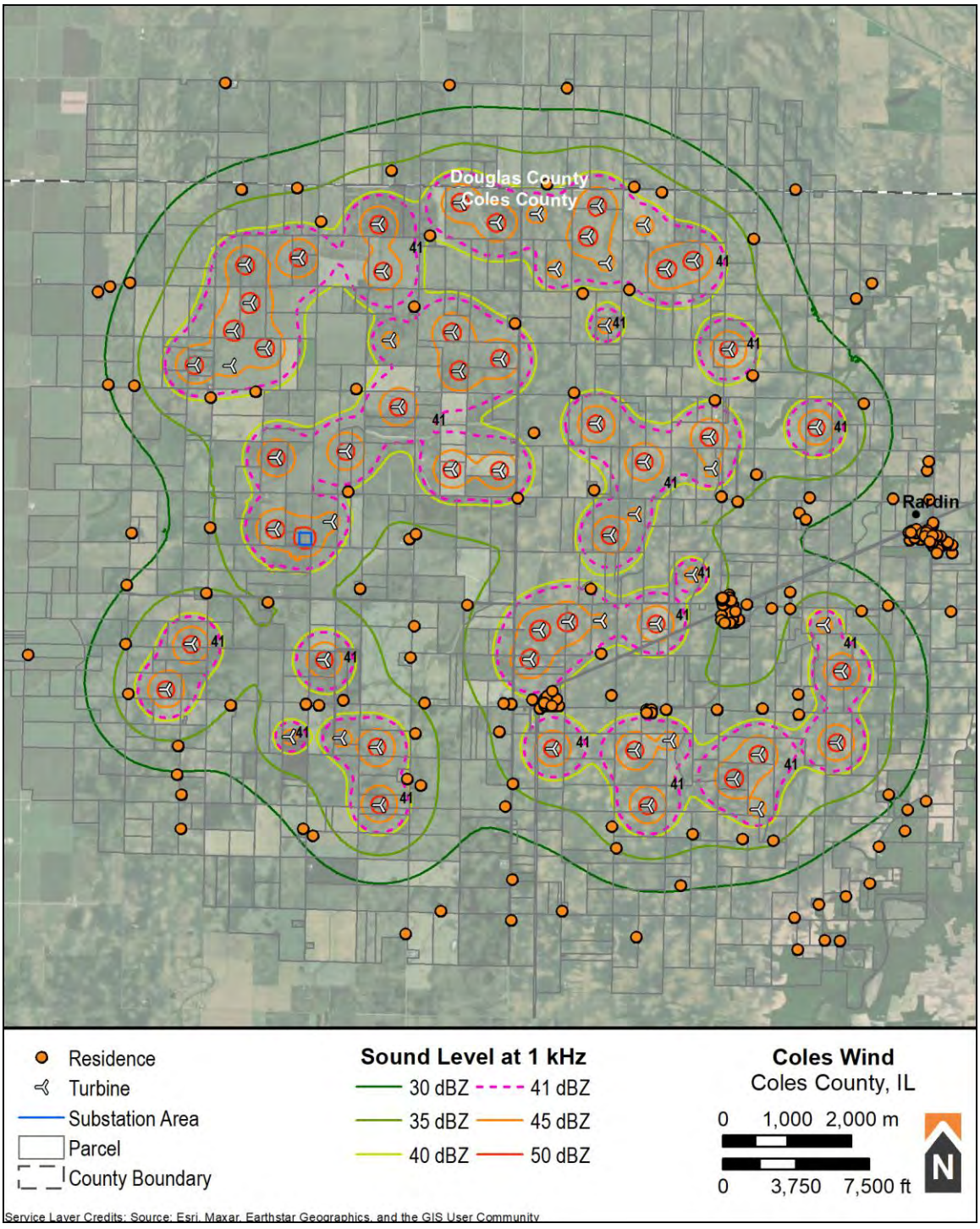

FIGURE 28: GE 6.1-158 SOUND PROPAGATION MODELING RESULTS - 1000 HZ 1/1 OCTAVE BAND

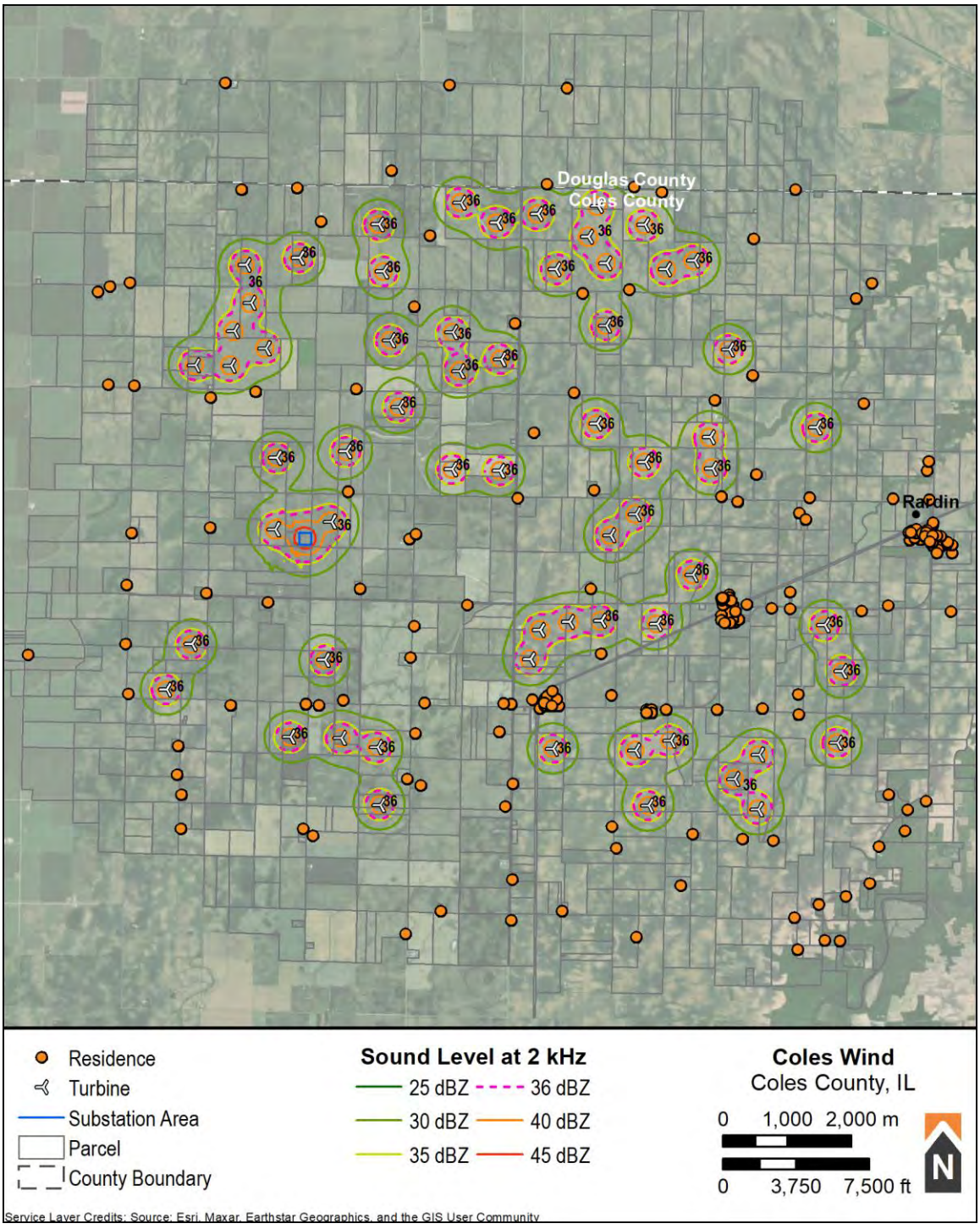

FIGURE 29: GE 6.1-158 SOUND PROPAGATION MODELING RESULTS – 2000 HZ 1/1 OCTAVE BAND

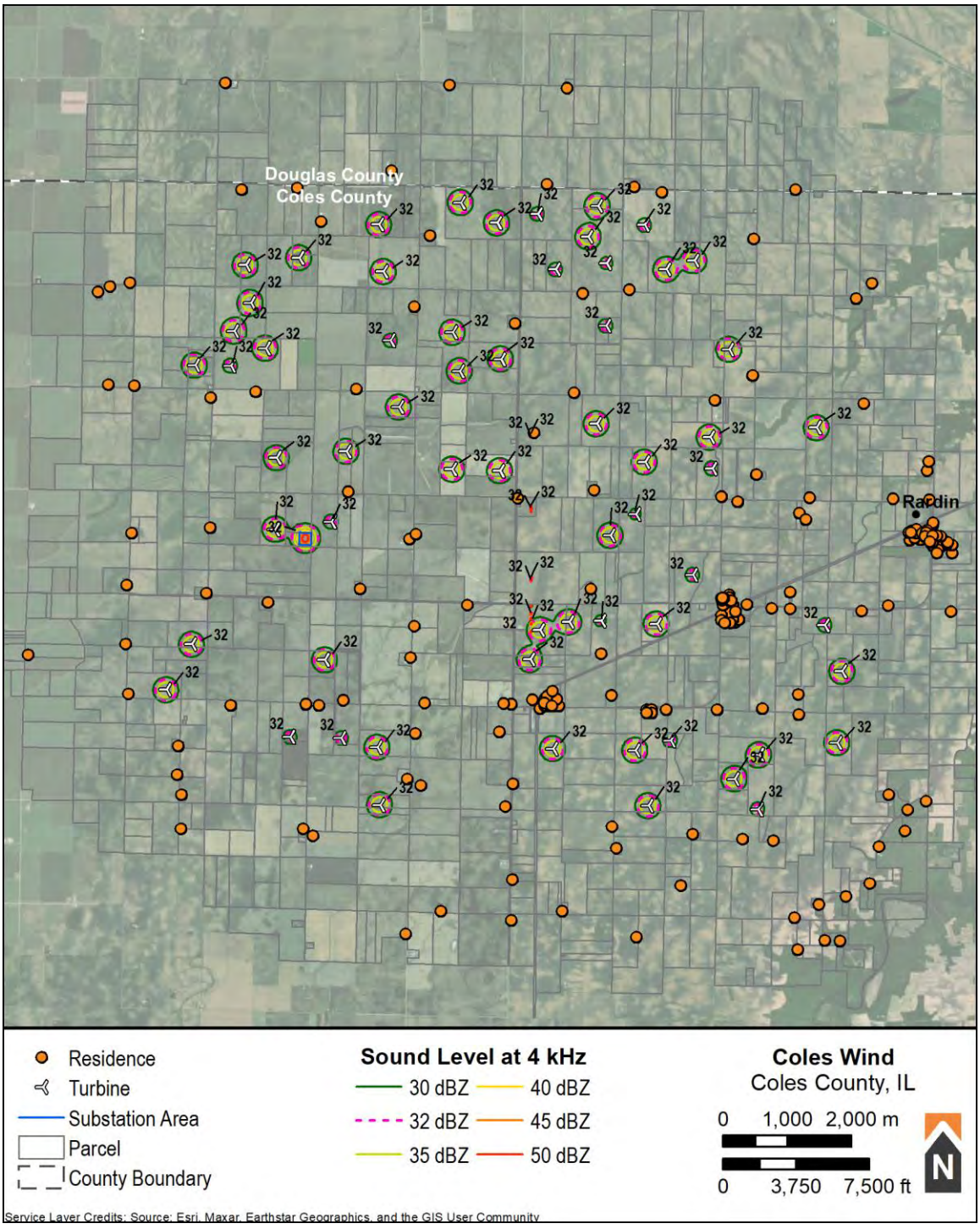

FIGURE 30: GE 6.1-158 SOUND PROPAGATION MODELING RESULTS - 4000 HZ 1/1 OCTAVE BAND

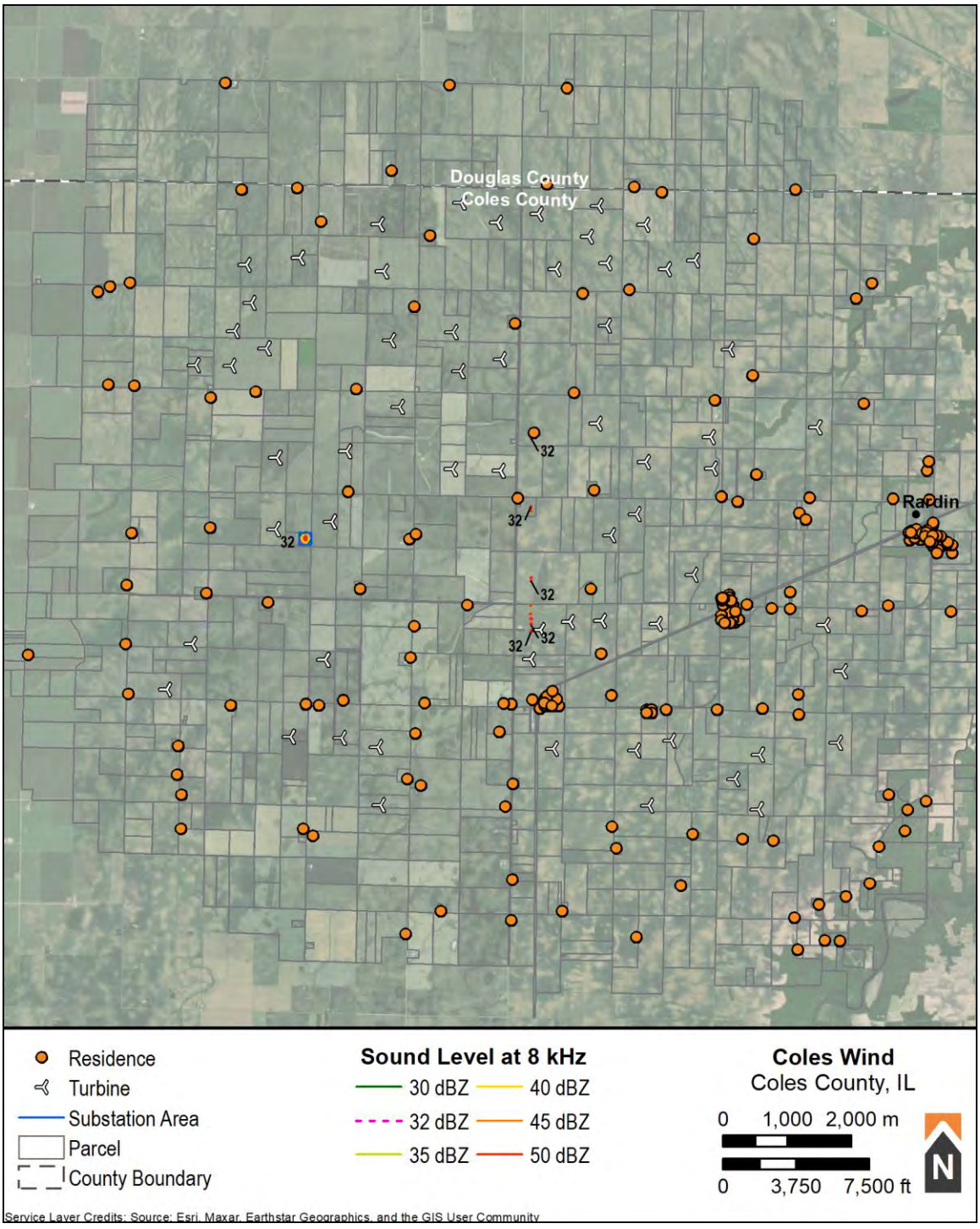

FIGURE 31: GE 6.1-158 SOUND PROPAGATION MODELING RESULTS - 8000 HZ 1/1 OCTAVE BAND

APPENDIX F. MODEL RESULT MAPS OF RECEPTORS WITHIN 1 DB OF IPCB LIMITS

There are no receivers within 1 dB of the limit for the Vestas V162 configuration.

FIGURE 32: ZOOMED-IN MAP OF RECEIVER R00013 AT 1000 HZ, GE 6.1-158 TURBINE MODEL

FIGURE 33: ZOOMED-IN MAP OF RECEIVER RE00015 AT 1000 HZ, GE 6.1-158 TURBINE MODEL

FIGURE 34: ZOOMED-IN MAP OF RECEIVER RE00021 AT 1000 HZ, GE 6.1-158 TURBINE MODEL

FIGURE 35: ZOOMED-IN MAP OF RECEIVER R00022 AT 1000 HZ, GE 6.1-158 TURBINE MODEL

FIGURE 36: ZOOMED-IN MAP OF RECEIVER R00028 AT 1000 HZ, GE 6.1-158 TURBINE MODEL

FIGURE 37: ZOOMED-IN MAP OF RECEIVER R00029 AT 1000 HZ, GE 6.1-158 TURBINE MODEL

FIGURE 38: ZOOMED-IN MAP OF RECEIVER R00031 AT 1000 HZ, GE 6.1-158 TURBINE MODEL

FIGURE 39: ZOOMED-IN MAP OF RECEIVER R00041 AT 1000 HZ, GE 6.1-158 TURBINE MODEL

FIGURE 40: ZOOMED-IN MAP OF RECEIVER R00043 AT 1000 HZ, GE 6.1-158 TURBINE MODEL

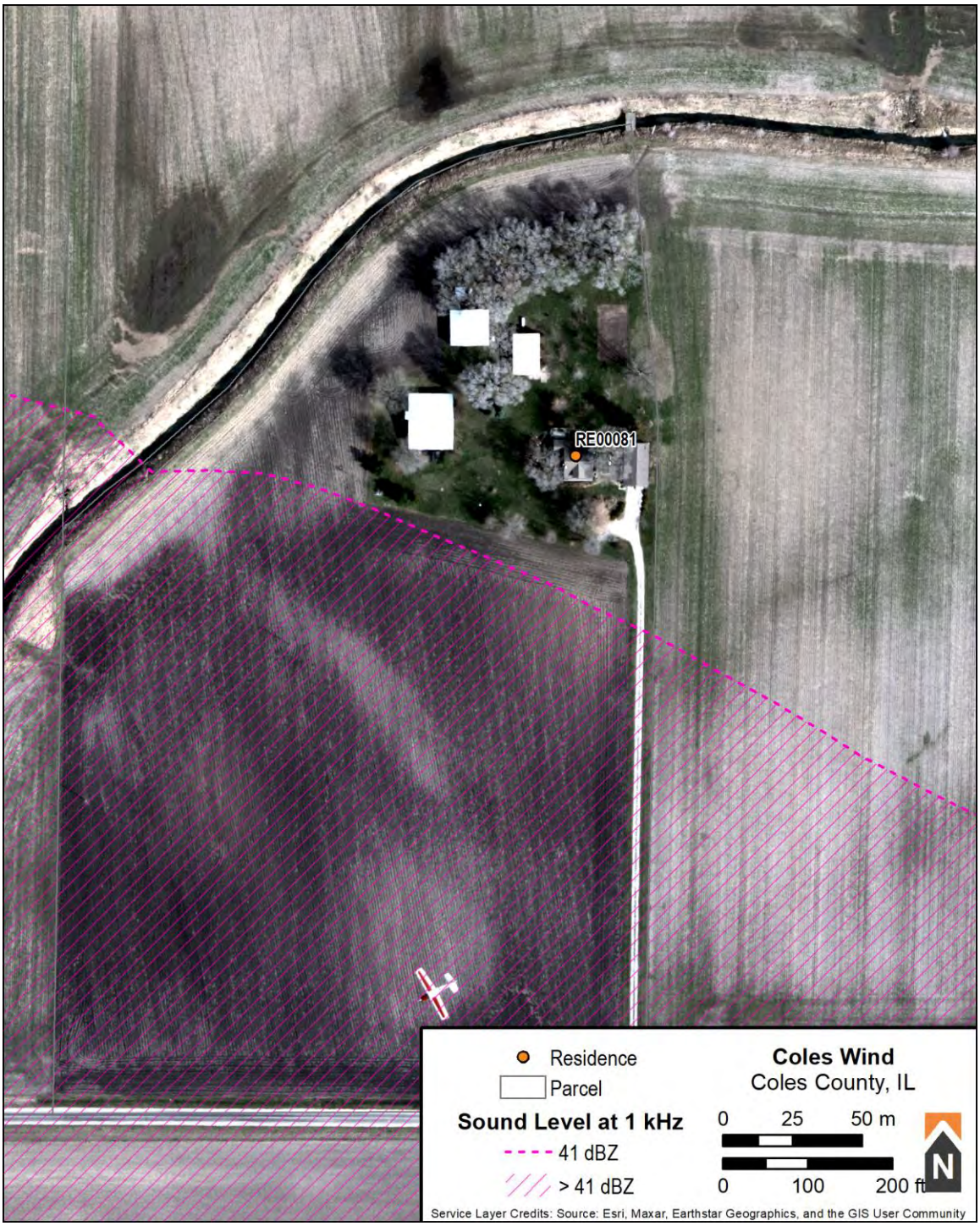

FIGURE 41: ZOOMED-IN MAP OF RECEIVER RE00081 AT 1000 HZ, GE 6.1-158 TURBINE MODEL

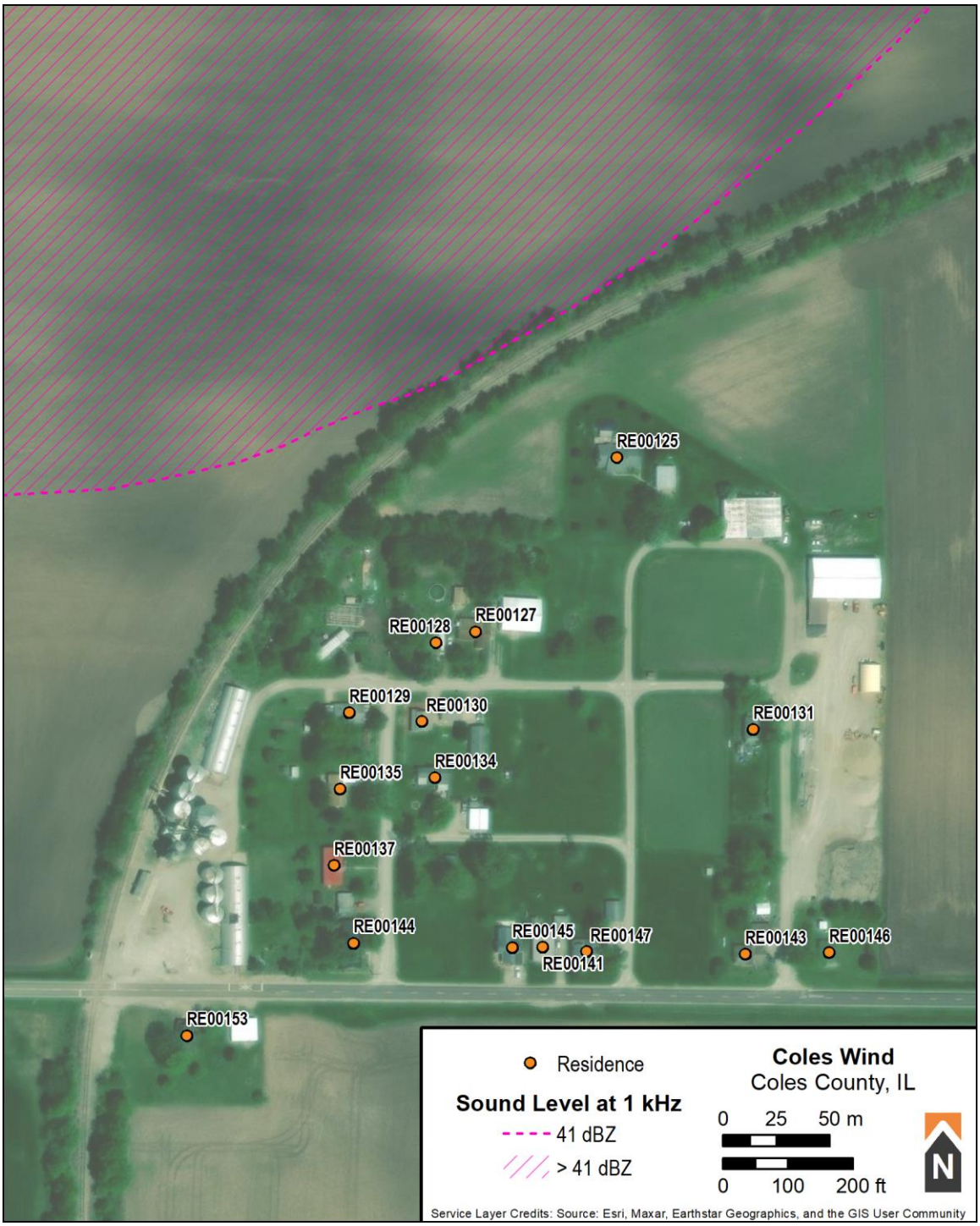

FIGURE 42: ZOOMED-IN MAP OF RESIDENCES NEAR IPCB LIMIT AT 1000 HZ, GE 6.1-158 TURBINE MODEL

FIGURE 43: ZOOMED-IN MAP OF RECEIVER R00165 AT 1000 HZ, GE 6.1-158 TURBINE MODEL

Appendix D.6

Avian and Wildlife Impact Study

(*Design and Installation, §O*)

From:	Alan Moore
To:	Kelly Lockhart - Coles Co Regional Planning
Subject:	Coles Wind - third-party resumes per WECS Ordinance
Date:	Tuesday, October 29, 2024 2:21:36 PM
Attachments:	Coles Wind - Avian and Wildlife Resume.pdf image001.png Coles Wind - Telecommunications Analysis Qualifications.pdf

---

Good afternoon, Kelly

Coles Wind, LLC (Coles Wind) is developing the approximately 300-megawatt Coles Wind Project (Project) in northern Coles County. Coles Wind is preparing a Special Use Permit application (Application) to submit in the first of quarter 2025. As part of the Application process, the Coles County Amended Ordinance, Standard for Wind Energy Conversion Systems over 500kw (dated May 9, 2023; WECS Ordinance), lists a requirement to provide resumes of third-party qualified professionals in two places:

- **Design and Installation, K.1 - Communications Analysis, Interference** - "The Applicant, at its expense, shall have a third party, qualified professional (after submission of resume and relevant work experience) conduct an appropriate analysis of the television reception documenting the television stations that are received within one and one-half (1 ½) miles of the footprint of the WECS Project."
- **Design and Installation, O - Avian and Wildlife Impact Study** - "The Applicant, at its expense, shall have a third party, qualified professional (after submission of resume and relevant work experience) conduct an avian and wildlife impact study and submit said study to the County as part of the Special Use Permit application."

Therefore, Coles Wind respectfully submits the qualifications of Comsearch, who will conduct the telecommunications analysis, and T. Travis Brown of Western EcoSystems Technology, Inc. (WEST), who will conduct the Avian and Wildlife Impact Study.

We look forward to submitting our Application in the coming months.

Sincerely,

Alan

ALAN MOORE
Director of Development

Apex Clean Energy
120 Garrett Street, Suite 700, Charlottesville, VA 22902
office: 434-328-2303 | cell: 434-249-8831 | fax: 434-220-3712
alan.moore@apexcleanenergy.com | www.apexcleanenergy.com

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Not printing this email saves energy and conserves resources.

T. TRAVIS BROWN

Senior Ecologist *20 years of experience*

T. Travis Brown is a Senior Ecologist, Project Manager, and Branch Manager of WEST's Bloomington, Indiana, office. He leads projects ranging from pre-construction bat and bird studies to wetland delineations and freshwater mussel surveys. Travis is permitted to survey for more than 50 federally listed species, including four eastern bats, 12 fish species, and most mussel species found in the upper Mississippi and Ohio River drainages. He manages survey work related to wind energy developments, military base inventories, pipelines, and airports, as well as provides support to habitat conservation planning and mitigation projects. Travis also assists clients with agency communication and permitting strategies for projects involving streams and wetlands.

PROFESSIONAL EXPERIENCE

General Experience

Travis is experienced in a wide range of environmental consultation issues, including compliance with the Endangered Species Act, the Clean Water Act, and numerous state environmental laws

Natural Resources Inventory

Travis has managed and participated in a diverse array of natural resources inventory projects, including bat surveys, herpetofaunal inventories, breeding bird surveys, fish inventories, rare plant surveys, freshwater mussel surveys, sensitive species habitat assessments, and post-construction mortality studies at wind energy facilities. Travis is also the co-author of two field guides to stream and wetland ecosystems.

SELECTED PROFESSIONAL PUBLICATIONS

Schmitt, R., W. Conway, and **T. T. Brown**. 2018. Pre-Construction Aquatic Species Inventory Surveys for a Wind Energy Project in McLean Co., IL. Client Report.

Earl, J. E., M. O'Brien, **T. Brown**, A. West, and H. A. Whiteman. 2016. Note: *Siren intermedia nettingii* (western lesser siren) Oviposition. Herpetological Review 47(4).

Brown, T. T. 2016. Pre-Construction Freshwater Mussel Survey for a Wind Energy Project in Paulding Co., OH. Client Report.

Brown, T.T. et al. WEST, Inc. 2014. Bat survey reports for federally-listed/proposed bat species along a 468 mile environmental survey corridor in the upper Midwest.

Brown, T. T. et al. Eco-Tech, Inc. 2012. Fish and Macroinvertebrate Aquatic Bioassessment of The Nature Conservancy's Mosquito Creek Property, Harrison Co., IN. Client Report.

Brown, T. T. and S. Brown. 2014. Pocketguide to Eastern Wetlands. 300 pp.

Brown, T. T. and Shanda Brown. 2011. Pocketguide to Eastern Streams. 266 pp.

Brown, T. T., T. L. Derting, and K. Fairbanks. 2008. The Effects of Stream Channelization and Restoration on Mammal Species and Habitat in Riparian Corridors. Journal of the Kentucky Academy of Science 69:37-49.

SPECIALTY AREAS

- Bat Ecology & Consultation
- Herpetofauna
- Freshwater Mussel Ecology
- Avian Use Surveys
- Natural Resource Inventories
- Wetland Ecology

EDUCATION

MS, Biology
Murray State University

BS, Wildlife Biology
Murray State University

PROFESSIONAL ROLES

Research Biologist,
WEST
2014–Present

Project Ecologist,
Eco-Tech Consultants, Inc.
2008–2014

Biologist,
CZR Consultants, Inc.
2007–2008

PROFESSIONAL AFFILIATIONS

Freshwater Mollusk Conservation Society
North American Native Fish Association
Kentucky Bat Working Group
Southeastern Bat Diversity Network

PERMITS

TE234121-7
4 bat species

TE234121-7
12 fish, 40 freshwater mussels

State permits for various taxa

WEST
Environmental & Statistical Consultants
www.west-inc.com

ENVIRONMENTAL & STATISTICAL CONSULTANTS
400 West 7th Street, Suite 200, Bloomington, Indiana 47404
Phone: 812-727-6422 ◆ www.west-inc.com

TECHNICAL MEMORANDUM

Date: December 20, 2024

To: Coles Wind, LLC.

From: T. Travis Brown, Western EcoSystems Technology, Inc. (WEST)

Subject: Avian and Wildlife Impact Study

BACKGROUND

Coles Wind, LLC (Coles Wind) is developing the proposed Coles Wind Project (Project) in Coles County, Illinois. The Project consists of 62 turbine locations, however, no more than 51 will be constructed for a nameplate capacity of up to 311.1 megawatts. The Coles County Amended Ordinance Standards for Wind Energy Conversion Systems [WECs] over 500 kilowatt requires the following: "The Applicant (for a Special Use Permit), at its expense, shall have a third party, qualified professional (after submission of resume and relevant work experience) conduct an avian and wildlife impact study and submit said study to the county as part of the Special Use Permit application. Each WECS or WECS Project shall be located, designed, constructed, and operated, so as to avoid and if necessary mitigate the impacts to wildlife".

Coles Wind retained Western EcoSystems, Inc. (WEST), an environmental and statistical consulting firm, to study the potential impacts of the Project on wildlife. WEST has conducted research on the interaction of wildlife and energy for over 30 years, and WEST staff have worked on thousands of pre-construction and post-construction studies of wildlife and their habitats at wind energy facilities across the US. WEST staff, including T. Travis Brown, a Senior Ecologist, prepared many of the reports associated with this Project. Travis holds a B.S. degree in Wildlife Biology and an M.S. degree in Biology and has 20 years of experience as a wildlife biologist. Travis is federally permitted to survey over 50 species of federally listed animals and has experience with over 70 wind projects in various parts of the US, including over 30 proposed or existing projects in Illinois.

The purpose of this memo is to summarize the avian and wildlife studies completed for the Project, as well as the conservation measures proposed to avoid and/or minimize potential impacts to wildlife and their habitats.

EARLY SITE ASSESSMENT AND COORDINATION

Consistent with the tiered approach presented in the US Fish and Wildlife Service (USFWS) *Land-based Wind Energy Guidelines* (Wind Energy Guidelines; USFWS 2012[1]) and the *Eagle Conservation Plan Guidance* (ECPG; USFWS 2013), Coles Wind has completed desktop assessments and iterative field surveys to evaluate risk to birds and bats in coordination with the USFWS and Illinois Department of Natural Resources (IDNR).

Consistent with recommendations in the USFWS Wind Energy Guidelines, the Project area is sited in a landscape that generally avoids natural habitats that are considered high quality and regionally significant. The Project area encompasses approximately 19,476 acres, 95.9% of which is cultivated cropland. Project facilities – turbines, access roads, Project substation, operations and maintenance building, and radar – will be sited within cultivated cropland and will occupy less than 45 acres dispersed across nearly 30 square miles.

Based on agency databases (USFWS Information for Planning and Consultation [IPaC] tool and IDNR Ecological Compliance Assessment Tool [EcoCAT]) and agency coordination, seven sensitive species (i.e., species protected by the federal Endangered Species Act (ESA), the Illinois Endangered Species Act, or the Bald and Golden Eagle Protection Act) were identified with potential to occur within the Project area (Table 1).

Table 1. Sensitive species with potential to occur at the Coles Wind Project in Coles County, Illinois.

Common Name	Scientific Name	Status[1]
Indiana bat	*Myotis sodalis*	FE, SE
Northern long-eared bat	*Myotis septentrionalis*	FE, ST
Tricolored bat	*Perimyotis subflavus*	FPE
Snuffbox mussel	*Epioblasma triquetra*	FE, SE
Upland sandpiper	*Bartramia longicauda*	SE
Bald eagle	*Haliaeetus leucocephalus*	BGEPA
Monarch butterfly	*Danaus plexippus*	FPT

[1] BGEPA = Bald and Golden Eagle Protection Act, FE = Federally Endangered, FPE = Federally Proposed Endangered, FPT = Federally Proposed Threatened, SE = State Endangered, ST = State Threatened

AVIAN AND WILDLIFE STUDIES

Based on available information and communication with the USFWS and IDNR, Coles Wind conducted a series of wildlife surveys and habitat assessments for sensitive species that had potential to occur in the Project area (Table 2). The results of these studies were reviewed with the USFWS and IDNR. Surveys or habitat assessments were completed for all sensitive species with potential to occur at the Project, except for the snuffbox mussel because their aquatic habitats are avoided by Project turbines.

[1] All citations available upon request

Table 2. Wildlife and habitat studies at the Coles Wind Project in Coles County, Illinois.

Study Type[1]	Study Period
Avian Use Surveys – Year 1	June 2020 – May 2021
Avian Use Surveys – Year 2	June 2021 – May 2022
Habitat Assessment for Upland Sandpiper	September 2022
Indiana Bat, Northern Long-Eared Bat, and Tricolored Bat Habitat Assessment	March 2024
Raptor Nest Survey	March 2021
Raptor Nest Survey	March 2023

[1] All surveys were designed and completed in coordination with USFWS and IDNR.

SUMMARY OF IMPACT AVOIDANCE AND MINIMIZATION

Coles Wind used the results from avian and wildlife studies, along with recommendations from the USFWS and IDNR, to inform development of appropriate impact avoidance, minimization, monitoring, and adaptive management measures for the Project. The Project has been sited in a landscape with relatively little habitat for sensitive wildlife species, and Coles Wind has applied the agency-recommended buffers and construction timing restrictions to avoid impacts to habitat for sensitive species (Table 3; Figure 1). The Project is more than 1 mile away from Illinois Nature Preserves Commission (INPC) properties and IDNR owned, managed and leased properties, and more than 0.25 miles away from Illinois Natural Area Inventory Sites and Biologically Significant Streams, as recommended in the EcoCAT.

In addition to siting away from sensitive habitats, Coles Wind has agreed to implement operational measures that have been shown to reduce impacts to sensitive bat species, including curtailment of turbines during the wind conditions and seasons when bats are most likely to be at risk. The siting and operational measures employed are likely to be successful in avoiding impacts to sensitive wildlife, and Coles Wind has agreed to conduct at least one year of post-construction monitoring to confirm this is the case.

Table 3. Avoidance of habitats of sensitive species at the Coles Wind Project in Coles County, Illinois.

Species	Status[1]	Agency Recommended Avoidance and Setback Implemented by Coles Wind
Indiana bat	FE, SE	All proposed turbine rotor swept areas are sited at least 1,000 feet from suitable bat habitat, as recommended by USFWS. In addition, all turbines are sited at least 1,000 ft from 5-acres forested blocks as recommended by the IDNR to minimize impacts to bats.
Northern long-eared bat	FE, SE	All proposed turbine rotor swept areas are sited at least 1,000 feet from suitable bat habitat, as recommended by USFWS. In addition, all turbines are sited at least 1,000 ft from 5-acres forested blocks as recommended by the IDNR to minimize impacts to bats.
Tricolored bat	FPE	All turbines are sited at least 1,000 ft from 5-acres forested blocks as recommended by the IDNR to minimize impacts to bats. The majority (90%) of proposed turbine rotor swept areas are sited at least 1,000 feet from suitable tricolored bat-only habitat, as recommended by USFWS.[2]
Snuffbox mussel	FE, SE	While this species is unlikely to occur in the Project Area, all proposed turbines are sited at least 300 feet from perennial streams, per IDNR best management practices/conservation measures.
Upland sandpiper	SE	Turbines are sited outside upland sandpiper habitat. As agreed to with IDNR, construction activities will avoid the breeding season (April 15 – July 31) to the extent practicable. If construction activities occur during the breeding season, suitable habitat will either be removed prior to April 15 (i.e., mowed) or nest surveys may be conducted by a biological monitor to determine if upland sandpiper nests are present.
Bald eagle	BGEPA	There are no bald eagle nests in the Project Area; the nearest known bald eagle nest is located 4.7miles from the nearest proposed turbine.
Monarch[3]	FPT	All proposed turbines are sited in cultivated cropland; therefore, impacts to suitable habitat are not anticipated. Recently proposed species; avoidance measures pending USFWS final listing rule.[3]

[1] BGEPA = Bald and Golden Eagle Protection Act, FE = Federally Endangered, FPE = Federally Proposed Endangered, FPT = Federally Proposed Threatened, SE = State Endangered, ST = State Threatened

[2]USFWS defines tricolored bat habitat more conservatively by considering any tree or forested patch as habitat regardless of size.

[3]On December 12, 2024 the USFWS published its proposal to list the monarch butterfly as threatened; protections would not apply until the effective date of a final rule. The ESA requires that the USFWS issue a final listing rule or withdraw the proposed rule within one year of publication of the proposed rule (i.e., by December 12, 2025). Coles Wind will continue to monitor the listing proposal for this species and will incorporate applicable measures based on formal guidance from the USFWS at the time of a final listing rule.

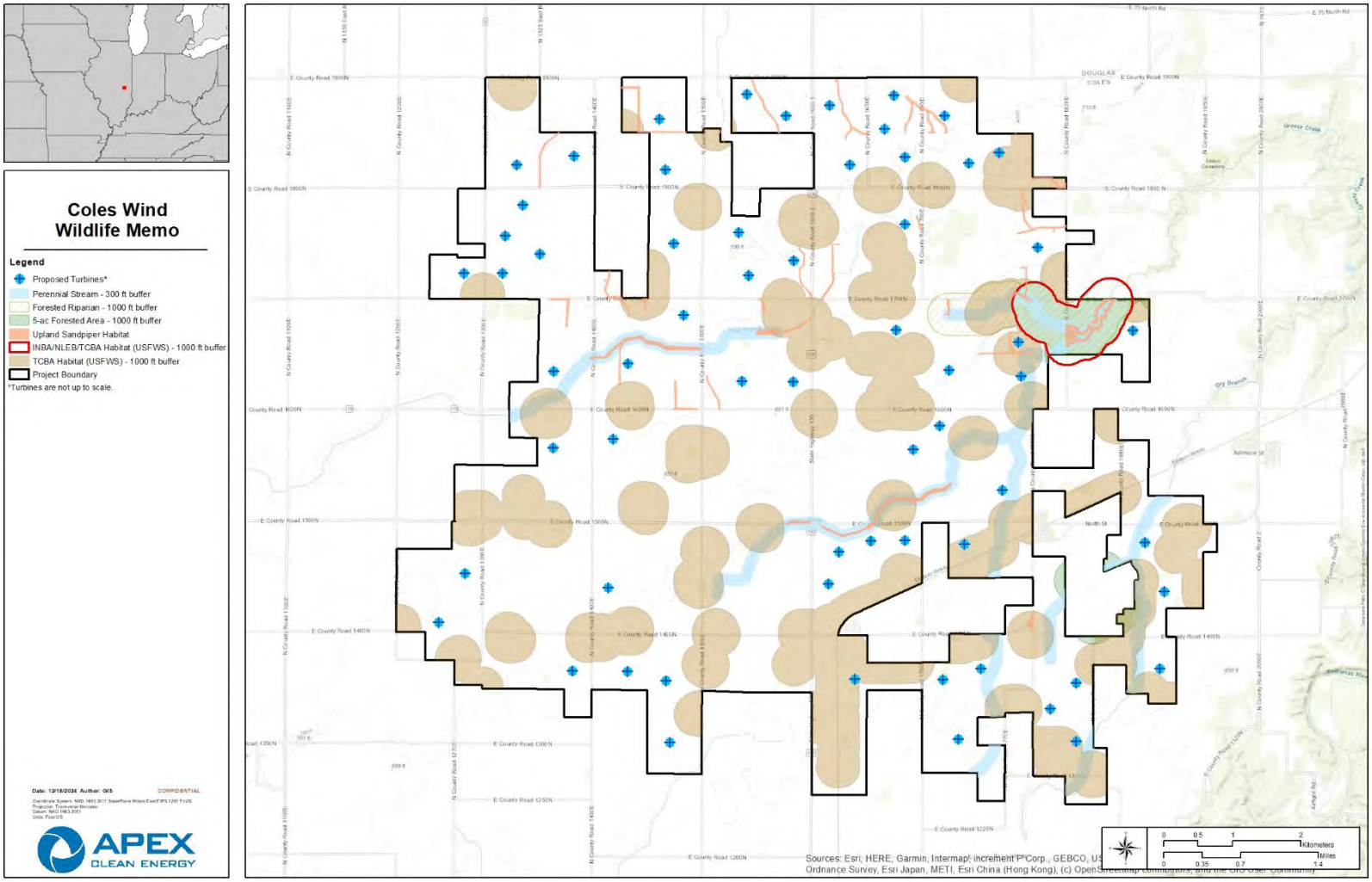

Figure 1. Proposed wind turbine locations avoid sensitive species habitat at the Coles Wind Project in Coles County, Illinois.

Appendix D.7
Emergency Action Plan
(*Operation, §B.3*)

Coles Wind Emergency Action Plan
OVERVIEW

Equipment Shut-down During Emergencies

Equipment (turbines, inverters, etc.) and the substation have redundant automated systems that shut the equipment down when a fault condition is detected. Human intervention is not required.

As an example, Apex utilizes a 24/7 365 Remote Operation Control Center (ROCC) connected to the Facility that also has control capabilities with individual equipment, groups of equipment or the substation breakers to isolate in an emergency. Other Operators will have a similar type of control center.

The Facility will also have on-site technicians.

Emergency, Fire, and Explosive Hazards

Unlike thermal power plants, wind power facilities pose minimal explosion or fire potential, as there is no need to combust fuel to generate power. However, as with any major construction undertaking, construction of the Project does present some minimal fire risks. Fire risk mitigation starts with facility design, especially with electrical design, which needs to comply with the National Electric Code (NEC), National Electric Safety Code (NESC) and the National Fire Protection Agency (NFPA).

Emergency Preparedness Training

The site and project leadership will hold a pre-construction coordination meeting with the appropriate County emergency management personnel, along with project contractors to discuss preventive measures prior to the start of Construction.

After COD, the site leadership for the project will check-in with the County Emergency

Management annually to determine what form of emergency drills (in-person, on-line, or other options that may become available over the life of the Project) are appropriate to train and coordinate efforts with local emergency responders.

Fire and Explosion Sources and Mitigation Measures

Lightning-induced fires are rare in project areas, but regardless, the equipment and substation are equipped with specially engineered lightning protection systems.

For wind projects – as is the case with almost any complex machine, there is some potential for fire inside the wind turbine generators. With the types of modern wind turbines proposed for the Project, however, turbine malfunctions leading to fires in the nacelle are extremely rare. The turbine-control system detects overheating in turbine machinery, and internal fires would be detected by these sensors. The machines would shut down immediately and send an alarm signal to the central SCADA system, which would notify operators of the problem by cell phone or pager.

In terms of Project decommissioning, the potential fire risks are similar in nature to those during Project construction but are lower in probability.

Handling of Hazardous Material During Construction and Operation

Construction

Diesel fuel is the only potentially hazardous material that will be used in any significant quantity during construction of the Project. It will be used for operating construction equipment and vehicles. Construction of the Project will not result in the generation of any hazardous wastes in quantities regulated by State or Federal law. During construction, the primary wastes generated will be solid construction debris such as scrap metal, cable, wire, wood pallets, plastic packaging materials and cardboard. This waste will be accumulated on-site until it is hauled away to a licensed transfer station or landfill.

Operations

Operation of the Project will not result in the generation of regulated quantities of hazardous wastes. Wind projects, no fuel is burned to power the wind turbine generators, there will be no spent fuel, ash, sludge or other process waste generated. The primary type of waste generated by Project's operations will be municipal solid waste generated at the O&M facility, consisting of typical office wastes (paper, cardboard, food waste, etc.) which will be stored in a dumpster until it is collected by the local solid waste collection service provider. The periodic changing of lubricating oils and hydraulic fluids used in the individual wind turbine generators will also result in the generation of small quantities of these materials. These waste fluids will be generated in small quantities because they need to be changed only infrequently and the changing of these fluids is not done all at

once, but rather on an individual turbine-by-turbine basis. These waste fluids will be stored for short periods of time in appropriate containers at the O&M facility for collection by a licensed collection service for recycling or disposal.

On-Site Emergency Plans

On-site emergency plans will be prepared to protect the public health, safety and environment on and off the Project site in the case of a major natural disaster or industrial accident relating to or affecting the Project. The Project shall prepare the plans and be responsible for implementing the plan with its construction and operations teams in coordination with the local emergency response agencies. The plans will describe the emergency response procedures to be implemented during various emergency situations that may affect the Project or the surrounding community or environment.

The emergency plans described in this section are an outline of the details that will be included in the emergency plans to be developed prior to the construction and operating phases of the Project. This outline is based on the Applicant's experience in operating other similar Projects. The key element of an effective emergency and safety plan is the ability to communicate. Therefore, during both construction and operation of the Project, all operations and construction team leaders will be equipped with two-way short-band radios and cellular phones.

During the Project's construction and start-up period, the emergency plans will be updated to conform to manufacturer and vendor safety information for the specific equipment installed at the Project.

Events Covered by Emergency Plans

The emergency plans cover multiple events that may occur at or near the Project site by natural causes, equipment failure or by human mistake. The following is a list of potential events that will be covered by the emergency plans.

- Personnel injury;
- Construction emergencies;
- Facility evacuation;
- Fire or explosion;
- Floods;
- Extreme weather abnormalities.

The Project O&M group and third-party contractors will receive annual emergency response-and safety training to assure that effective and safe action will be taken to reduce and limit the impact of an emergency at the Project site.

Information Signs

The project will post information signage to be placed at the substation and O&M buildings with contact information to the ROCC and relevant onsite personnel (if needed). If called, the operator will take action notifying the on-call technician and if needed initiate the emergency action plan. Local emergency responders and County Commissioners will be given an up-to-date map prior to construction showing the turbine ID numbers in relation to all public roads.

Coles Wind

Preliminary Turbine Layout

- Preliminary Turbine Layout*
- Project Boundary
- Lease and Easement
- Easement for Underground Facilities
- Participation and Support

*There are 62 turbine locations in the preliminary layout; no more than 51 will be constructed

Date: 11/18/2024 Author: MS *CONFIDENTIAL*

Coordinate System: NAD 1983 StatePlane Illinois East FIPS 1201 Feet
Projection: Transverse Mercator
Datum: North American 1983
Units: Foot US

APEX CLEAN ENERGY

Douglas County
Coles County

T1 T2 T3 T4 T5 T6 T7 T8 T9 T10 T11 T12 T13 T14 T15 T16 T17 T18 T19 T20 T21 T22 T23 T24 T25 T26 T27 T28 T29 T30 T31 T32 T33 T34 T35 T36 T37 T38 T39 T40 T41 T42 T43 T44 T45 T46 T47 T48 T49 T50 T51 T52 T53 T54 T55 T56 T57 T58 T59 T60 T61 T62

EWING RD (1100E) 1150E PUBLIC RD (1200E) FILSON RD 1325E MT GILEAD RD (1475E) WINGLER RD (1675E) 1775E 1875E RARDIN RD 2100E

1900 N 1800 N 1700N 1600 N 1500 N 1400 N 1380 N 1300 N 1250 N 1200 N 1170 N 1175 N 1500N 1475 N 1450 N 1425 N 1400 N 1350 N 1275 N 1240 N 1220 N 1200N 1150N 1650 N 1650N 1700 N 1500 N

09 08 16 28 02 21 130

1650 E 1700 E 1820E 1950 E 2000 E 2060 E 2080 E 2150 E 1100 E 1200 E 1300 E 1400 E 1250 E 1770 E 1800 E 1850 E 1880 E 1930E 1940E 1840E

075N

MAPLE ST/1410N
NORTH ST/1500N
MORGAN ST/1985E
MATTOON ST/2020E
COLLEGE ST/2020E
AIRFLIGHT RD/1320 N
DECKER SPRINGS RD/1500E

N

0 0.5 1 2 Kilometers
0 0.35 0.7 1.4 Miles

Document Path: Y:\GIS_Projects\CLW_ColesWind\MXD\ConstructionFeatures\CLW_Safety_Map.mxd

Appendix D.8

Shadow Flicker Report

(*Operation, §D*)

Shadow Flicker Report

Coles Wind Project

Coles County, Illinois

Prepared for:

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Charlottesville, VA 22902

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December 2024

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Figure 4. Projected Shadow Flicker – GE158 Turbine

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Attachment A. Wind Rose and Sunshine Data

Attachment B. Tabular Shadow Flicker Results

1.0 PROJECT OVERVIEW

Coles Wind, LLC (Coles or the Applicant), an indirect subsidiary of Apex Clean Energy Holdings, LLC (Apex), is developing an up to 311.1-megawatt (MW) wind energy facility known as the Coles Wind Project (Project) in Coles County, Illinois (see Figure 1). The Project includes 62 turbines, although no more than 51 will be constructed. This report provides an assessment of the potential shadow flicker that could be experienced at participating and non-participating residences and occupied community buildings located around all 62 proposed turbines.

Two wind turbine models are being considered for the Project (see Table 1). Therefore, this analysis evaluated the potential shadow flicker for each turbine model. In addition, for each turbine model, modeling considered all 62 turbine locations. This is a conservative approach since no more than 51 turbines will be constructed. Each wind turbine consists of three major mechanical components: the tower, nacelle, and rotor. The dimensions for both wind turbine models under consideration for the Project are provided in Table 1. The Project's turbine layout is depicted in Figure 2.

Table 1. Coles Wind Turbine Model Characteristics

Turbine Model	Hub Height	Rotor Diameter	Total Height
Vestas V162	105 meters (344 feet)	162 meters (531 feet)	186 meters (610 feet)
GE 158	117 meters (384 feet)	158 meters (518 feet)	196 meters (643 feet)

The Project is located within Coles County, Illinois, approximately 5 miles north of Charleston and 30 miles south of the City of Champaign. Elevations in the area range from approximately 585 feet above mean sea level (amsl) to 710 feet amsl. Land cover within the Project area is dominated by active agriculture, with farms and single-family residences generally occurring along the road frontage.

2.0 INTRODUCTION

Shadow flicker refers to the moving shadows that an operating wind turbine casts at times of the day when the turbine rotor is between the sun and a structure's position. Shadow flicker is most pronounced in northern latitudes during winter months because of the lower angle of the sun in the winter sky. However, it is possible to encounter shadow flicker anywhere for brief periods after sunrise and before sunset (U.S. Department of the Interior, 2005). During intervals of sunshine, wind turbine generators will cast a shadow on surrounding areas as the rotor blades pass in front of the sun, and if these moving shadows pass over a window they can cause a flickering effect. Shadow flicker does not occur when fog or clouds obscure the sun, or when turbines are not operating.

The distance between a wind turbine and a structure (residence or occupied community building) affects the intensity of the shadows cast by the blades, and therefore the intensity of flickering. Shadows cast close to a turbine will be more intense, distinct, and focused. This is because a greater proportion of the sun's disc is intermittently blocked by the turbine (BERR, 2009). Obstacles such as terrain, vegetation, and/or

buildings occurring between structures and wind turbines may significantly reduce or eliminate shadow-flicker effects. At distances beyond roughly 10 rotor diameters shadow-flicker effects are generally considered negligible (BERR, 2009; DECC, 2011; DOER, 2011).

The location and duration of shadow flicker can be predicted using computer modeling programs and input data regarding turbine characteristics and weather conditions. An "expected case" shadow flicker scenario is presented in this report based on a combination of real case data and conservative assumptions. The expected case aspects include sunshine frequency weather data (inclusion of percentage of monthly sunshine) and turbine rotor position (on-site wind direction data), while conservatively assumes that wind conditions allow continuous turbine operation. In addition, sunlight intensity and duration vary daily and seasonally, and obstacles that block shadows (terrain, vegetation, and buildings) exist in the landscape; these factors are not considered in the modeling, adding additional conservative measures.

3.0 METHODS

3.1 Shadow Flicker Analysis

This shadow flicker analysis evaluated the potential impact of 62 wind turbines for the two different turbine models listed in Table 1. A maximum distance of potential effect of 10 rotor diameters based on the wind turbine model (1,620 meters for the Vestas V162 and 1,580 meters for the GE 158) was used for these analyses to ensure that all potentially impacted residences and occupied community buildings were assessed.

The shadow flicker analysis for the proposed Project used *WindPRO 4.1* software and associated Shadow module. *WindPRO* is a widely accepted modeling software package developed specifically for the design and evaluation of wind power projects. Input variables and assumptions used for shadow flicker modeling calculations for the proposed Project include:

- The latitude and longitude coordinates of 62 proposed wind turbine sites (provided by the Applicant).
- The latitude and longitude coordinates of 198 receptors including participating residences, non-participating residences, and occupied community buildings located within the vicinity of the proposed turbines (within one mile of the Project Area; provided by the Applicant).
- USGS DEM Elevation Data.
- The rotor diameter and hub height both turbine models under consideration.
- Annual wind rose data (provided by the Applicant), which is depicted in Table A1 of Attachment A (to determine the approximate directional frequency of rotor orientation throughout the year).
- To account for the occurrence of cloudy conditions, the average monthly percent of possible sunshine for the nearest National Oceanic and Atmospheric Administration (NOAA) weather station in Springfield, Illinois was used. Data were obtained from NOAA's "Comparative Climatic Data for the United States through 2018" (see Table A2 of Attachment A) (http://www.ncdc.noaa.gov).
- No allowance was made for wind being below or above generation speeds. Blades are assumed to be moving during all daylight hours when the sun's elevation is more than 3 degrees above the

horizon. Shadow flicker is generally considered imperceptible when the sun is less than 3 degrees above the horizon (due to the scattering effect of the atmosphere on low angle sunlight) (States Committee for Pollution Control, 2002).

3.2 Shadow Flicker Threshold

The Coles County Amended Ordinance: Standards for Wind Energy Operation Systems Over 500 kW (May 2023) Operations Section D states, "The Applicant shall appropriately demonstrate to the County Board through industry standard modeling that no occupied community building or non-participating residence will experience an expected duration of 30 hours or more per year." Accordingly, a threshold of 30 shadow flicker hours per year was applied to the analysis of the proposed Project to identify any non-participating residence or occupied community building not in compliance with this threshold. Furthermore, Special Use Permit Application Section B.9 indicates waivers from shadow flicker mitigation requirements "must bear a file stamp from the County Recorder of Deeds Office confirming that the waiver was recorded against title to the affected real property" for those residences or occupied community buildings that exceed 30 hours per year.

4.0 RESULTS

Output from the model includes the following information:

- Calculated shadow-flicker time (total hours per year when shadow flicker is expected) at each of the 198 residences and occupied community buildings.
- Shadow isolines, which are used to create maps showing turbine locations, receptors, and projected shadow-flicker duration (hours per year) without taking into consideration the effect of screening provided by vegetation and structures (see Figure 3).

These data are presented in the tables included in Attachment B.

A summary of the projected shadow flicker at each of the receptors is presented in Table 2 below

Table 2. Summary of Expected Shadow Flicker

Hours/Year	Number of Receptors			
	Non-Participating Residence	Participating Residence	Occupied Community Building	Total
	V162 with 105-meter hub height			
0	79	7	1	87
0 – 1	0	0	0	0
1 – 10	51	13	1	65
10 – 20	24	4	0	28
20 – 30	14	2	0	16
Over 30	0	2	0	2
Max Hours/Year	**27:25**	**34:25**	**7:59**	--
	GE158 with 117-meter hub height			
0	83	11	1	95
0 – 1	0	0	0	0
1 – 10	46	10	1	57
10 – 20	21	2	0	23
20 – 30	18	3	0	21
Over 30	0	2	0	2
Max Hours/Year	**26:23**	**35:51**	**5:56**	--

As these results indicate, all non-participating residences and occupied community buildings are modeled to receive less than 30 hours of shadow flicker per year for both turbine models (V162 and GE158). At most receptor locations, shadow flicker will occur primarily in the early morning or late afternoon.

For both turbine models, there are two participating residences modeled over 30 hours per year (the same two residences are modeled over 30 hours per year amongst each turbine model; RE00121 and RE00013). For these participating landowners, both have signed a waiver of the shadow flicker mitigation required by the Ordinance; these waivers have been filed with the County Recorder of Deeds Office against title to the affected real property.

Attachment B provides the results of the predicted shadow flicker at each receptor. The times of day and duration of shadow flicker experienced by each structure will vary throughout the calendar year based on the position of the sun in the sky and the direction of prevailing winds.

5.0 DISCUSSION

As outlined above, results of the shadow flicker analysis for the Project indicate that no non-participating residence or occupied community building are modeled to receive over 30 hours of shadow flicker per year.

In addition, the shadow flicker calculations presented herein do not take into account the actual location and orientation of windows, or the screening effects associated with existing, site-specific conditions and obstacles such as trees (i.e., does not take into account the results of a viewshed analysis) and/or buildings.

Further, this analysis assumes turbine rotors are continuously in motion and that each receptor location is occupied year-round.

Given these assumptions, the predicted shadow-flicker frequency represents a conservative scenario, and almost certainly overstates the actual frequency of shadow flicker that would be experienced at any given receptor location. In addition, many of the modeled shadow flicker hours are expected to be low intensity because they would occur during the early morning or late afternoon hours when the sun is low in the sky. As the sun sinks too low on the horizon and the distance to the sun becomes too long, the shadow dissipates before it reaches the ground (or the receptor) (EMD, 2021).

6.0 CONCLUSIONS

The WindPRO analysis indicates no non-participating residence or occupied community building will receive more than 30 hours of shadow flicker per year for both the V162 and GE158 turbine models. For those two residences modeled over 30 hours per year, those landowners have signed a shadow flicker mitigation waiver recorded with the County. Therefore, all turbines are sited in compliance with the Coles County Wind Ordinance in regard to shadow flicker and for both turbine models.

7.0 REFERENCES

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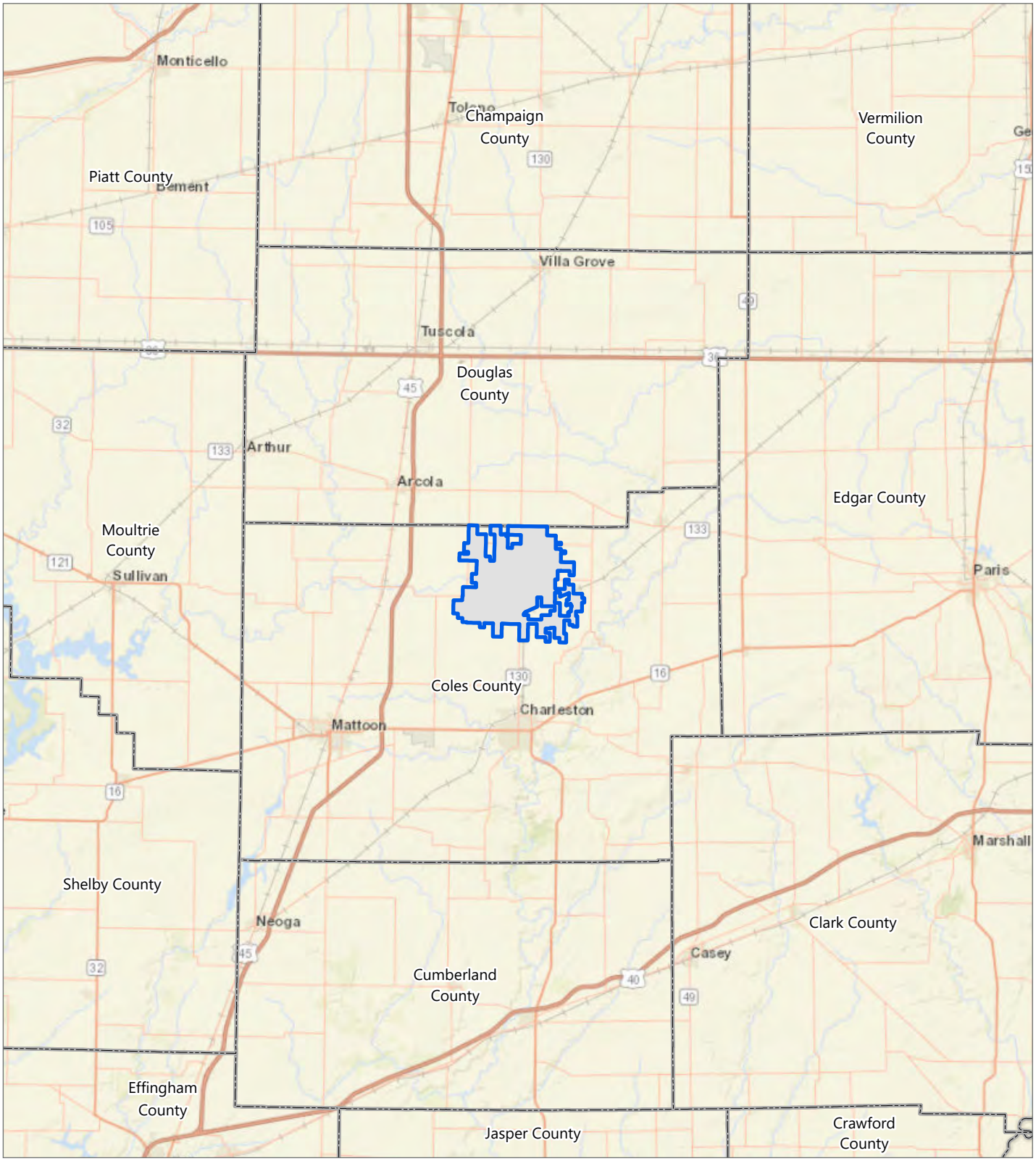
FIGURES

Figure 1. Regional Project Location



Coles Wind Project

Coles County, Illinois

Shadow Flicker Analysis

Project Boundary

0 2.5 5 10

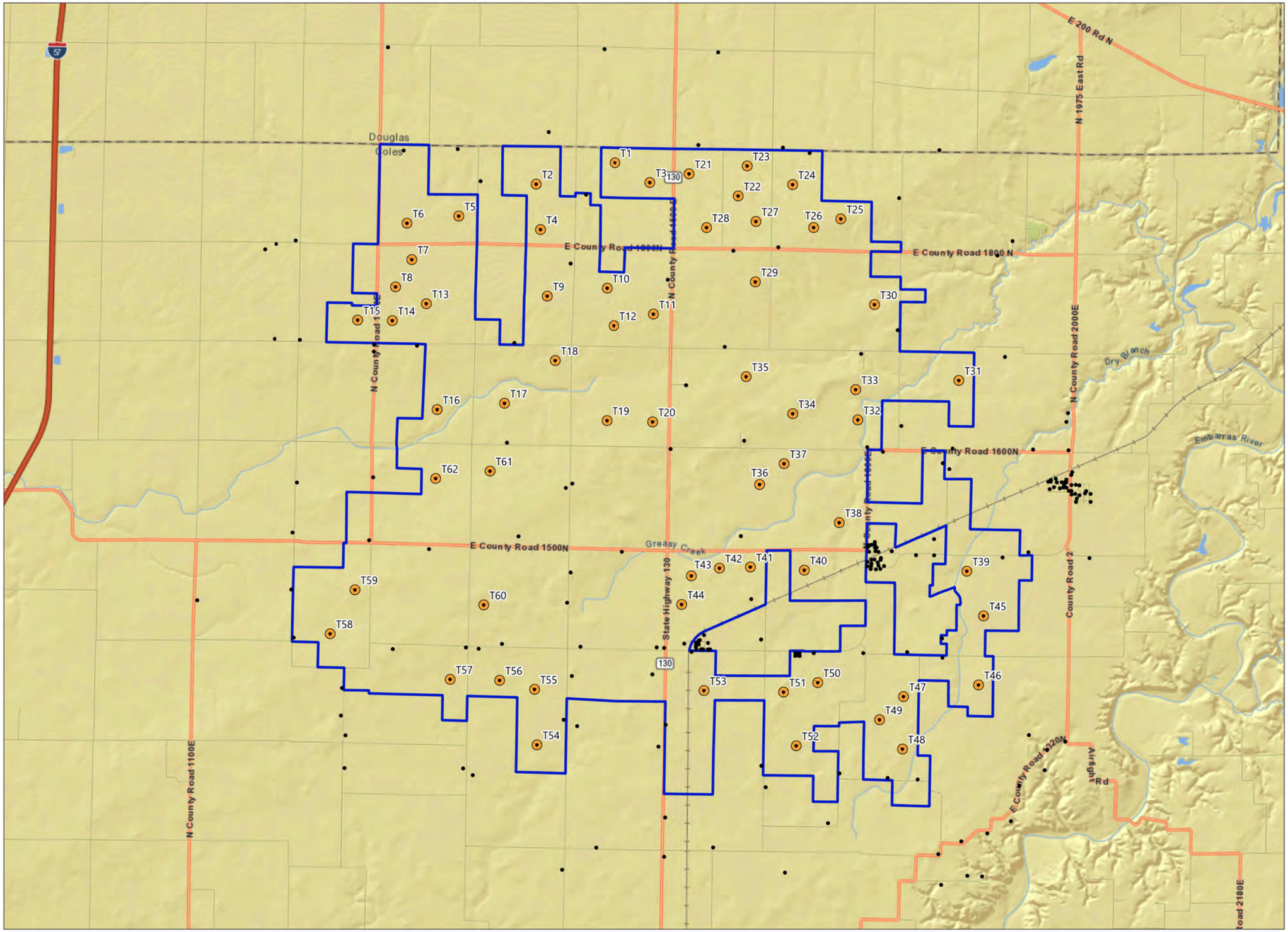
Miles

Prepared December 18, 2024

Basemap: Esri "World Street Map" map service

EDR

Figure 2. Proposed Project Layout



Coles Wind Project

Coles County, Illinois

Shadow Flicker Analysis

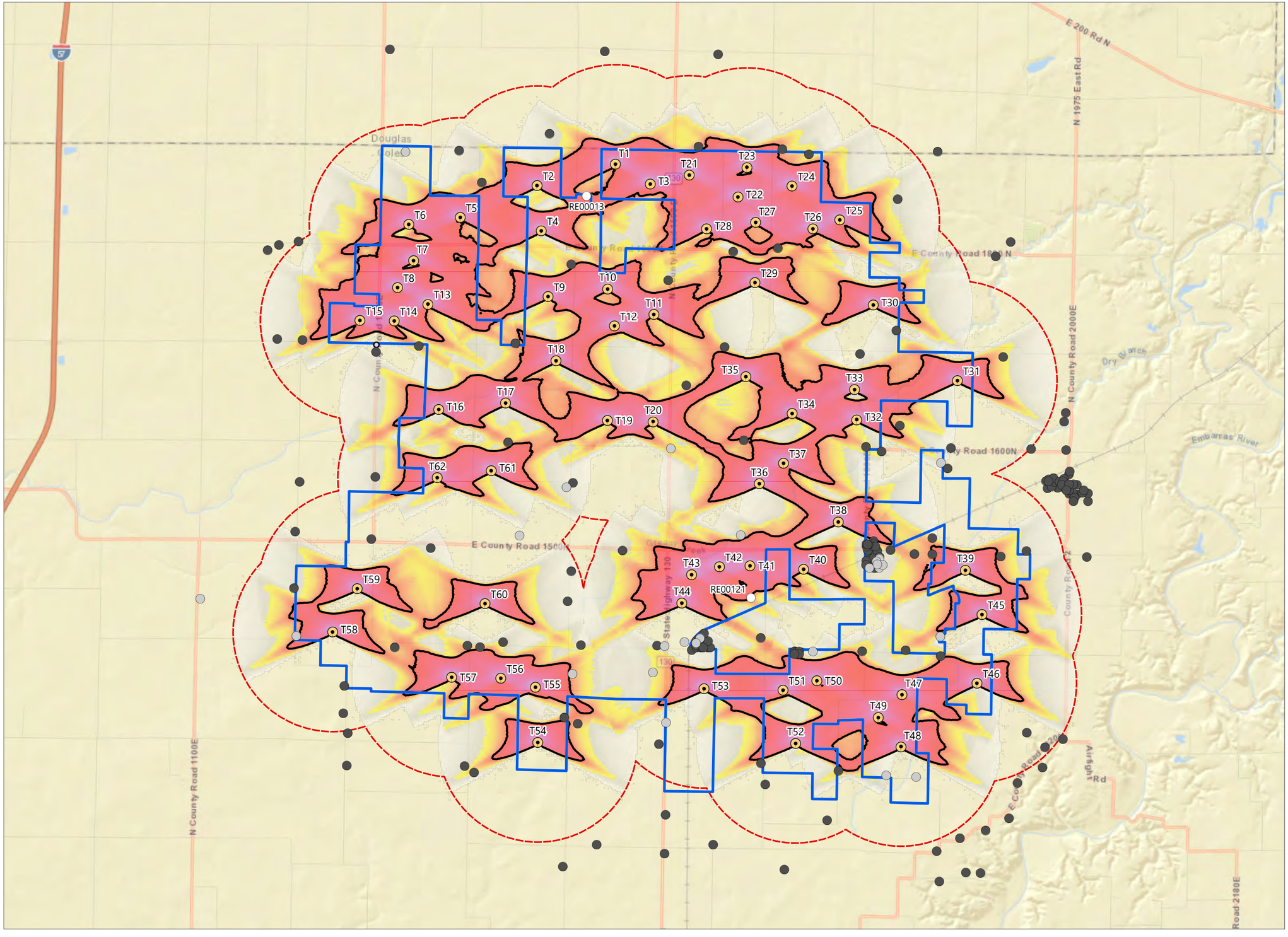
- Receptor
- Wind Turbine
- Project Boundary

0 0.5 1 2
Miles

Prepared December 19, 2024
Note: Only 51 of the 62 turbines shown will be constructed
Basemap: Esri "World Street Map" map service

EDR

Figure 3. Projected Shadow Flicker – Vestas V162



Coles Wind Project

Coles County, Illinois

Shadow Flicker Analysis

- Wind Turbine
- Occupied Community Building < 30 Hours/Year
- Non-Participating Residence < 30 hours/year
- Participating Residence < 30 hours/year
- Participating Residence > 30 hours/year
- 1,620-Meter Study Area
- Project Boundary

Shadow Flicker Isoline

- 30 hours/year

Shadow Flicker (hours/year)

- < 1
- 1 - 10
- 10 - 20
- 20 - 30
- > 30

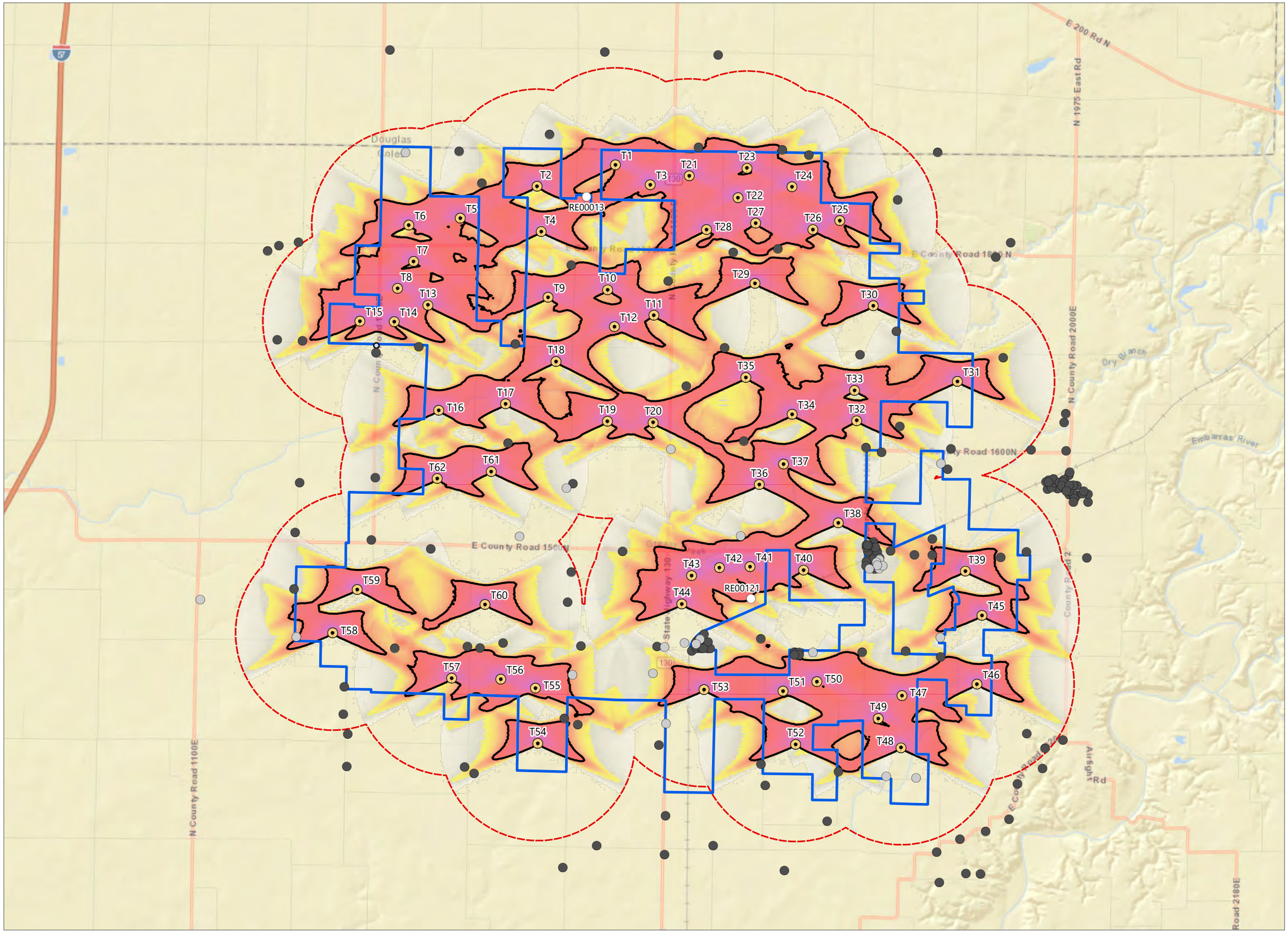
0 0.5 1 2

Miles

Prepared December 18, 2024
Note: Only 51 of the 62 turbines shown will be constructed.
Basemap: Esri "World Street Map" map service

EDR

Figure 4. Projected Shadow Flicker – GE 158



Coles Wind Project

Coles County, Illinois

Shadow Flicker Analysis

- Wind Turbine
- Occupied Community Building < 30 Hours/Year
- Non-Participating Residence < 30 hours/year
- Participating Residence < 30 hours/year
- Participating Residence > 30 hours/year
- 1,580-Meter Study Area
- Project Boundary

Shadow Flicker Isoline

- 30 hours/year

Shadow Flicker (hours/year)

- < 1
- 1 - 10
- 10 - 20
- 20 - 30
- > 30

0 0.5 1 2

Miles

Prepared December 18, 2024
Note: Only 51 of the 62 turbines shown will be constructed.
Basemap: Esri "World Street Map" map service

EDR

ATTACHMENT A

Windrose and Sunshine Data

Table A1. Wind Rose Data

SECTOR	N	NNE	NE	ENE	E	ESE	SE	SSE
Frequency	3.652	4.009	4.730	4.969	3.961	4.077	5.175	7.358
Hours of Operation	320	351	414	435	347	357	453	645

SECTOR	S	SSW	SW	WSW	W	WNW	NW	NNW
Frequency	12.161	10.280	6.302	5.410	6.610	8.298	7.553	5.79
Hours of Operation	1,065	901	552	474	579	727	662	507

Source: Wind rose data provided by Apex Clean Energy, LLC

Table A2. Sunshine Probability Data

Month	JAN	FEB	MAR	APRIL	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
Sunshine Probability[2]	0.50	0.53	0.51	0.54	0.61	0.68	0.71	0.67	0.66	0.61	0.45	0.40

Source: NOAA Comparative Climatic Data for the United States through 2018 – Springfield, Illinois.
Defined by NOAA as the total time that sunshine reaches the surface of the earth, expressed as the percentage of the maximum amount possible from sunrise to sunset with clear sky conditions.

ATTACHMENT B

Tabular Shadow Flicker Results

Receptor ID	Receptor Type	X Coordinate	Y Coordinate	Projected Expected Case Annual Shadow Flicker (hh:mm/year)	
				Vestas V162	GE 158
RE00001	Non-Participating Residence	397903	4391423	0:00	0:00
RE00002	Non-Participating Residence	394405	4391453	0:00	0:00
RE00003	Non-Participating Residence	399746	4391372	0:00	0:00
RE00004	Non-Participating Residence	397002	4390082	6:01	6:13
RE00005	Non-Participating Residence	399427	4389872	25:40	26:23
RE00006	Non-Participating Residence	400792	4389831	24:43	23:56
RE00007	Non-Participating Residence	403319	4389790	0:00	0:00
RE00008	Non-Participating Residence	401224	4389743	12:32	13:03
RE00009	Non-Participating Residence	395532	4389807	3:55	4:11
RE00010	Participating Residence	394659	4389784	0:00	0:00
RE00011	Non-Participating Residence	395901	4389288	20:08	20:59
RE00012	Non-Participating Residence	402668	4389014	7:58	8:16
RE00013	Participating Residence	397605	4389070	34:25	35:51
RE00014	Non-Participating Residence	404507	4388318	0:00	0:00
RE00015	Non-Participating Residence	400718	4388219	20:39	21:15
RE00016	Non-Participating Residence	392915	4388328	0:00	0:00
RE00017	Non-Participating Residence	392597	4388273	0:00	0:00
RE00018	Non-Participating Residence	399992	4388162	5:47	8:48
RE00019	Non-Participating Residence	404265	4388084	0:00	0:00
RE00020	Non-Participating Residence	392415	4388185	0:00	0:00

Receptor ID	Receptor Type	X Coordinate	Y Coordinate	Projected Expected Case Annual Shadow Flicker (hh:mm/year)	
				Vestas V162	GE 158
RE00021	Non-Participating Residence	397355	4387956	24:24	25:15
RE00022	Non-Participating Residence	398933	4387694	12:27	13:40
RE00023	Non-Participating Residence	402647	4386878	4:13	4:46
RE00024	Non-Participating Residence	392571	4386737	4:12	4:28
RE00025	Non-Participating Residence	396447	4386671	24:34	25:41
RE00026	Non-Participating Residence	392982	4386722	21:36	23:07
RE00027	Non-Participating Residence	399852	4386608	17:11	20:15
RE00028	Non-Participating Residence	394874	4386627	19:23	19:42
RE00029	Non-Participating Residence	402056	4386494	0:00	0:00
RE00030	Non-Participating Residence	404385	4386445	13:09	13:08
RE00031	Non-Participating Residence	394176	4386532	0:00	0:00
RE00032	Non-Participating Residence	399227	4385987	12:19	13:56
RE00033	Non-Participating Residence	405403	4385536	0:00	0:00
RE00034	Non-Participating Residence	405376	4385395	0:00	0:00
RE00035	Non-Participating Residence	402705	4385328	18:47	18:53
RE00036	Non-Participating Residence	400166	4385091	27:25	26:10
RE00037	Non-Participating Residence	404839	4384948	0:00	0:00
RE00038	Non-Participating Residence	403535	4384965	3:05	0:00
RE00039	Non-Participating Residence	402153	4384985	16:48	17:20
RE00040	Non-Participating Residence	405410	4384935	0:00	0:00

Receptor ID	Receptor Type	X Coordinate	Y Coordinate	Projected Expected Case Annual Shadow Flicker (hh:mm/year)	
				Vestas V162	GE 158
RE00041	Non-Participating Residence	396327	4385058	17:49	19:37
RE00042	Non-Participating Residence	402407	4384911	8:08	0:00
RE00043	Participating Residence	398977	4384956	19:31	20:06
RE00044	Participating Residence	403374	4384727	7:19	7:41
RE00045	Non-Participating Residence	403480	4384631	0:00	0:00
RE00046	Non-Participating Residence	405470	4384583	0:00	0:00
RE00047	Non-Participating Residence	405455	4384536	0:00	0:00
RE00048	Non-Participating Residence	405205	4384475	0:00	0:00
RE00049	Non-Participating Residence	405376	4384461	0:00	0:00
RE00050	Non-Participating Residence	405126	4384455	0:00	0:00
RE00051	Non-Participating Residence	405360	4384426	0:00	0:00
RE00052	Non-Participating Residence	405122	4384428	0:00	0:00
RE00053	Non-Participating Residence	405084	4384427	0:00	0:00
RE00054	Non-Participating Residence	405301	4384418	0:00	0:00
RE00055	Non-Participating Residence	405374	4384415	0:00	0:00
RE00056	Non-Participating Residence	405222	4384416	0:00	0:00
RE00057	Non-Participating Residence	405529	4384377	0:00	0:00
RE00058	Non-Participating Residence	405458	4384373	0:00	0:00
RE00059	Non-Participating Residence	405586	4384368	0:00	0:00
RE00060	Non-Participating Residence	405338	4384369	0:00	0:00

Receptor ID	Receptor Type	X Coordinate	Y Coordinate	Projected Expected Case Annual Shadow Flicker (hh:mm/year)	
				Vestas V162	GE 158
RE00061	Non-Participating Residence	405176	4384338	0:00	0:00
RE00062	Non-Participating Residence	405325	4384333	0:00	0:00
RE00063	Non-Participating Residence	394166	4384498	7:15	7:28
RE00064	Non-Participating Residence	405375	4384330	0:00	0:00
RE00065	Non-Participating Residence	405271	4384320	0:00	0:00
RE00066	Non-Participating Residence	405107	4384307	0:00	0:00
RE00067	Non-Participating Residence	405415	4384279	0:00	0:00
RE00068	Non-Participating Residence	405695	4384275	0:00	0:00
RE00069	Non-Participating Residence	405458	4384278	0:00	0:00
RE00070	Non-Participating Residence	397382	4384397	3:51	4:08
RE00071	Non-Participating Residence	405677	4384238	0:00	0:00
RE00072	Non-Participating Residence	405766	4384230	0:00	0:00
RE00073	Non-Participating Residence	405518	4384231	0:00	0:00
RE00074	Non-Participating Residence	392935	4384414	0:00	0:00
RE00075	Non-Participating Residence	405460	4384220	0:00	0:00
RE00076	Non-Participating Residence	405586	4384208	0:00	0:00
RE00077	Participating Residence	397277	4384327	5:09	5:29
RE00078	Non-Participating Residence	405544	4384157	0:00	0:00
RE00079	Non-Participating Residence	405530	4384101	0:00	0:00
RE00080	Non-Participating Residence	405767	4384101	0:00	0:00

Receptor ID	Receptor Type	X Coordinate	Y Coordinate	Projected Expected Case Annual Shadow Flicker (hh:mm/year)	
				Vestas V162	GE 158
RE00081	Participating Residence	400113	4383547	16:13	14:53
RE00082	Non-Participating Residence	403233	4383498	15:02	16:33
RE00083	Non-Participating Residence	392864	4383605	0:00	0:00
RE00084	Participating Residence	396513	4383543	0:00	0:00
RE00085	Non-Participating Residence	402276	4383452	25:04	23:43
RE00086	Non-Participating Residence	402277	4383411	13:55	10:25
RE00087	Non-Participating Residence	402161	4383400	6:32	6:49
RE00088	Non-Participating Residence	402192	4383398	6:06	6:22
RE00089	Non-Participating Residence	402177	4383398	6:17	6:34
RE00090	Non-Participating Residence	402161	4383365	6:35	6:52
RE00091	Non-Participating Residence	402278	4383362	7:42	8:08
RE00092	Non-Participating Residence	402305	4383360	7:33	7:58
RE00093	Non-Participating Residence	394101	4383480	0:00	0:00
RE00094	Non-Participating Residence	404763	4383286	7:07	7:21
RE00095	Non-Participating Residence	402551	4383303	17:25	17:33
RE00096	Non-Participating Residence	402288	4383304	7:29	7:56
RE00097	Non-Participating Residence	402336	4383292	7:14	7:39
RE00098	Non-Participating Residence	402184	4383295	8:20	6:27
RE00099	Non-Participating Residence	403234	4383236	26:32	25:16
RE00100	Non-Participating Residence	402942	4383239	20:40	22:26

Receptor ID	Receptor Type	X Coordinate	Y Coordinate	Projected Expected Case Annual Shadow Flicker (hh:mm/year)	
				Vestas V162	GE 158
RE00101	Non-Participating Residence	405748	4383192	0:00	0:00
RE00102	Non-Participating Residence	398190	4383294	8:24	7:18
RE00103	Non-Participating Residence	404347	4383201	22:26	21:37
RE00104	Non-Participating Residence	395068	4383338	4:33	4:48
RE00105	Non-Participating Residence	402375	4383194	7:04	7:32
RE00106	Non-Participating Residence	402270	4383170	7:33	8:01
RE00107	Participating Residence	402370	4383164	7:06	7:32
RE00108	Non-Participating Residence	402219	4383165	7:56	8:18
RE00109	Non-Participating Residence	402159	4383130	8:35	6:44
RE00110	Participating Residence	402322	4383121	7:22	7:45
RE00111	Non-Participating Residence	402221	4383103	8:03	8:28
RE00112	Participating Residence	402336	4383071	7:22	7:50
RE00113	Participating Residence	402425	4383063	7:09	7:40
RE00114	Non-Participating Residence	402213	4383063	8:12	8:36
RE00115	Non-Participating Residence	402153	4383058	8:50	6:59
RE00116	Participating Residence	402366	4383017	7:24	7:52
RE00117	Participating Residence	402209	4383014	8:25	8:49
RE00118	Non-Participating Residence	402294	4383009	7:45	8:11
RE00119	Non-Participating Residence	397355	4382959	2:54	3:08
RE00120	Non-Participating Residence	392843	4382684	6:59	7:13

Receptor ID	Receptor Type	X Coordinate	Y Coordinate	Projected Expected Case Annual Shadow Flicker (hh:mm/year)	
				Vestas V162	GE 158
RE00121	Participating Residence	400280	4382529	30:17	30:44
RE00122	Non-Participating Residence	397298	4382470	3:17	3:33
RE00123	Participating Residence	391317	4382510	0:00	0:00
RE00124	Participating Residence	403361	4381892	10:14	8:51
RE00125	Non-Participating Residence	399518	4381947	4:44	0:00
RE00126	Non-Participating Residence	400439	4381875	19:48	21:15
RE00127	Participating Residence	399452	4381865	3:54	0:00
RE00128	Non-Participating Residence	399433	4381860	3:32	0:00
RE00129	Non-Participating Residence	399393	4381827	0:00	0:00
RE00130	Participating Residence	399427	4381823	3:13	0:00
RE00131	Non-Participating Residence	399582	4381819	5:45	6:09
RE00132	Participating Residence	392883	4381906	28:09	27:51
RE00133	Participating Residence	399198	4381809	0:00	0:00
RE00134	Non-Participating Residence	399433	4381797	3:10	3:23
RE00135	Participating Residence	399388	4381792	2:46	0:00
RE00136	Non-Participating Residence	396246	4381804	11:33	12:05
RE00137	Non-Participating Residence	399385	4381756	2:40	0:00
RE00138	Non-Participating Residence	398753	4381748	3:55	4:53
RE00139	Participating Residence	398874	4381739	0:00	0:00
RE00140	Non-Participating Residence	397514	4381759	4:19	5:36

Receptor ID	Receptor Type	X Coordinate	Y Coordinate	Projected Expected Case Annual Shadow Flicker (hh:mm/year)	
				Vestas V162	GE 158
RE00141	Non-Participating Residence	399483	4381717	3:19	3:32
RE00142	Non-Participating Residence	402799	4381671	16:42	17:29
RE00143	Non-Participating Residence	399578	4381714	4:15	4:29
RE00144	Non-Participating Residence	399395	4381719	2:43	2:56
RE00145	Non-Participating Residence	399469	4381717	3:12	3:24
RE00146	Non-Participating Residence	399618	4381715	4:49	5:02
RE00147	Non-Participating Residence	399504	4381716	3:29	3:42
RE00148	Non-Participating Residence	402090	4381655	18:29	19:22
RE00149	Non-Participating Residence	395664	4381746	17:12	18:41
RE00150	Participating Residence	401290	4381655	2:33	0:00
RE00151	Non-Participating Residence	401063	4381654	0:00	2:41
RE00152	Non-Participating Residence	400991	4381655	9:16	9:19
RE00153	Non-Participating Residence	399316	4381676	0:00	0:00
RE00154	Non-Participating Residence	395870	4381726	17:49	20:22
RE00155	Non-Participating Residence	401020	4381645	8:17	8:45
RE00156	Non-Participating Residence	394483	4381721	17:06	17:49
RE00157	Non-Participating Residence	403368	4381581	23:40	25:19
RE00158	Non-Participating Residence	401020	4381615	15:11	15:19
RE00159	Non-Participating Residence	401063	4381609	9:51	12:59
RE00160	Non-Participating Residence	400990	4381610	19:14	21:34

Receptor ID	Receptor Type	X Coordinate	Y Coordinate	Projected Expected Case Annual Shadow Flicker (hh:mm/year)	
				Vestas V162	GE 158
RE00161	Participating Residence	398684	4381311	10:48	10:55
RE00162	Participating Residence	397375	4381284	25:26	25:04
RE00163	Non-Participating Residence	393663	4381091	0:00	0:00
RE00164	Non-Participating Residence	393646	4380645	0:00	0:00
RE00165	Non-Participating Residence	397243	4380578	22:17	22:55
RE00166	Participating Residence	398898	4380496	0:00	0:00
RE00167	Non-Participating Residence	397460	4380474	19:15	18:49
RE00168	Non-Participating Residence	404770	4380330	0:00	0:00
RE00169	Non-Participating Residence	405358	4380224	0:00	0:00
RE00170	Non-Participating Residence	393719	4380326	0:00	0:00
RE00171	Non-Participating Residence	405066	4380092	0:00	0:00
RE00172	Non-Participating Residence	398782	4380143	0:00	0:00
RE00173	Non-Participating Residence	400444	4379833	7:20	3:09
RE00174	Non-Participating Residence	405026	4379761	0:00	0:00
RE00175	Non-Participating Residence	401705	4379711	18:11	17:49
RE00176	Non-Participating Residence	395619	4379791	7:37	8:08
RE00177	Non-Participating Residence	393704	4379796	0:00	0:00
RE00178	Participating Residence	402483	4379636	3:54	4:19
RE00179	Participating Residence	402968	4379612	0:00	0:00
RE00180	Non-Participating Residence	395775	4379681	11:36	11:47

Receptor ID	Receptor Type	X Coordinate	Y Coordinate	Projected Expected Case Annual Shadow Flicker (hh:mm/year)	
				Vestas V162	GE 158
RE00181	Non-Participating Residence	404617	4379511	0:00	0:00
RE00182	Non-Participating Residence	400514	4379487	0:00	0:00
RE00183	Non-Participating Residence	404481	4378936	0:00	0:00
RE00184	Non-Participating Residence	398890	4378997	0:00	0:00
RE00185	Non-Participating Residence	401520	4378905	0:00	0:00
RE00186	Non-Participating Residence	404100	4378739	0:00	0:00
RE00187	Non-Participating Residence	403681	4378611	0:00	0:00
RE00188	Non-Participating Residence	399664	4378511	0:00	0:00
RE00189	Non-Participating Residence	397769	4378510	0:00	0:00
RE00190	Non-Participating Residence	403303	4378403	0:00	0:00
RE00191	Non-Participating Residence	398874	4378362	0:00	0:00
RE00192	Non-Participating Residence	400825	4378105	0:00	0:00
RE00193	Non-Participating Residence	403778	4378054	0:00	0:00
RE00194	Non-Participating Residence	397218	4378151	0:00	0:00
RE00195	Non-Participating Residence	404015	4378044	0:00	0:00
RE00196	Non-Participating Residence	403347	4377907	0:00	0:00
CB00197	Occupied Community Building	394183	4386647	0:00	0:00
CB00198	Occupied Community Building	402225	4383408	7:59	5:56

Appendix D.9

Farmland Drainage Systems Repair and Remediation Plan

(*Operation, §F*)

Coles Wind Farmland Drainage Systems Repair and Remediation Plan

WHEREAS, Section 55 ILCS 5/12020(j-5) of Illinois Compiled Statutes, *Commercial Wind Energy Facilities and Commercial Solar Energy* ("**Code**"), requires the Applicant to file a farmland drainage plan with the county and impacted drainage districts outlining how surface and subsurface drainage of farmland will be restored during and following Construction or Deconstruction of the facility. The plan is to be created independently by the facility developer and shall include the location of any potentially impacted drainage district facilities to the extent this information is publicly available from the county or the drainage district, plans to repair any subsurface drainage affected during Construction or Deconstruction using procedures outlined in the agricultural impact mitigation agreement ("**AIMA**") entered into by the Commercial Wind Energy Facility owner, and procedures for the repair and restoration of surface drainage affected during construction or deconstruction.

WHEREAS, Coles Wind, LLC ("**Coles Wind**") is seeking Coles County's ("**County's**" or "**Coles County's**") approval of a Special Use Permit to construct and operate the Coles Wind Commercial Wind Energy Facility ("**Project**");

THEREFORE, Coles Wind submits the following Farmland Drainage System Repair and Remediation Plan ("**Plan**") to the County pursuant to Section 5/5-12020(j-5) of the Code to demonstrate the steps Coles Wind is taking to protect public and private drainage systems in Coles County.

1. Definitions

All capitalized terms used in this Plan shall have the definition provided for them in the AIMA entered into between Coles Wind and the Illinois Department of Agriculture on October 24, 2024. Further, definitions of certain terms used in the Plan are provided below:

"**Best Efforts**" – Diligent, good faith, and commercially reasonable efforts to achieve a given objective or obligation.

"**Commercial Wind Energy Facility**" – A wind energy conversion facility of equal or greater than 500 kilowatts in total nameplate generating capacity.

"**Construction**" – The installation, preparation for installation, and/or repair of a Commercial Wind Energy Facility.

"**Deconstruction**" – The removal of a Commercial Wind Energy Facility from the property of a Landowner and the restoration of that property as provided in the AIMA.

"**Department**" – The Illinois Department of Agriculture.

"**Landowner**" – Any person with an ownership interest in property that is used for agricultural purposes and that is a party to an Underlying Agreement.

"**Professional Engineer**" – An engineer licensed to practice engineering in the State of Illinois, and who is determined to be qualified to perform the work described herein by mutual agreement of the County and the Commercial Wind Energy Facility Owner.

"**Soil and Water Conservation District**" – A local unit of government that provides technical and financial assistance to eligible landowners for the conservation of soil and water resources.

"**Underlying Agreement**" – The written agreement with a Landowner(s) including, but not limited to, an easement, option, lease, or license under the terms of which another person has constructed, constructs, or intends to construct a Commercial Wind Energy Facility on the property of the Landowner.

"**Underground Cable**" – Electrical power lines installed below grade to be utilized for conveyance of power from the wind turbine(s) to the wind facility substation.

2. Pre-Construction Activities

A. **Identify Tile Lines**.

(i) Coles Wind will work with the Landowners to identify the tile lines traversing the property included within the Underlying Agreement.

(ii) To ensure all drainage tiles have been located, reasonable measures will be made to locate all existing tile in the vicinity of the private access roads by exploratory trench or other appropriate methods.

B. **Pre-Construction Plans**

(i) All tile lines identified pursuant to Section 2(A)(i) and (ii) will be shown on the Construction and Deconstruction site plans submitted to the County prior to Construction ("**Site Plans**"), and the locations of tile lines so identified will be staked or flagged prior to Construction or Deconstruction to alert Construction and Deconstruction crews to the possible need for tile line repairs.

(ii) To the extent practicable, there will be a minimum of one foot of separation between the tile line and the Underground Cable whether the Underground Cable passes over or under a tile line, and such separation will be shown on the Site Plans.

3. Construction/Deconstruction Phase

A. **Tile Line Repair Standards**

(i) If underground drainage tile is damaged by Construction or Deconstruction activities, Coles Wind will repair the tile in a manner that assures the drainage tile's proper operation at the point of repair.

(ii) Where tile lines are severed by an excavation trench, repairs will be made using the Department's Drain Tile Repair guidelines, as set forth in the AIMA, Figures 1 and 2. Copies of Figures 1 and 2 are attached hereto.

(iii) If the tile line was damaged as part of the excavation for installation of an Underground Cable, the Underground Cable will be installed with a minimum one-foot clearance below or over the tile line to be repaired or otherwise to the extent practicable.

(iv) The original tile line alignment and gradient will be maintained to the greatest extent possible. If the tile needs to be relocated, the installation angle may vary due to site specific conditions and Landowner recommendations. A laser transit will be used to ensure the proper gradient is maintained. A laser operated tiling machine will be used to install or replace tiling segments of 100 linear feet or more.

B. **Tile Line Repair Procedures**

(i) Coles Wind will comply with the following procedures when repairing damages caused to drainage tiles:

(1) (a) record the date that the damage occurred, if observed by Coles Wind, and the date the damage was reported, if reported by a Landowner; (b) record the Global Positioning Systems ("**GPS**") coordinates of broken tile; (c) complete an inspection form indicating that the tile has been damaged; and (d) log the form.

(2) Take a "before" photograph of the broken tile.

(3) Make repairs to the tile using methods prescribed by this Plan (to be determined on a case-by-case basis).

(4) Take an "after" photograph of the repaired tile.

(5) Provide all photographs and forms to Coles Wind's Operations and Maintenance facility.

(6) Upon request, provide information about the tile repair to the impacted Landowner and Coles County.

C. **Tile Line Repair Process and Schedule**

(i) Tile lines that are damaged, cut, or removed will be staked or flagged with stakes or flags placed in such a manner they will remain visible until the permanent repairs are completed.

(ii) If water is flowing through any damaged tile line, Coles Wind will utilize Best Efforts to immediately, upon discovery or notification, repair the tile line in a temporary manner until such time as Coles Wind can make permanent repairs.

(iii) All permanent tile line repairs must be made within 14 days of identification or notification of the damage; provided, however, if the tile lines are dry and water is not flowing, temporary repairs may be made if the permanent repairs cannot be completed within 14 days due to weather or soil conditions. As soon as practical, exposed tile lines will be screened or otherwise protected to prevent the entry of foreign materials or animals into the tile lines.

4. Post-Construction Phase

A. **Restoration and Tile Line Repair Obligations**

(i) Following Construction and/or Deconstruction activities, Coles Wind will utilize best practices to restore the drainage in the area to the condition it was in before commencement of the Construction/Deconstruction activities.

(ii) Following completion of the work, Coles Wind will be responsible for correcting all tile line repairs that fail due to Construction and/or Deconstruction activities, provided those repairs were made by Coles Wind.

(iii) Notwithstanding Sections 4(A)(i) and (ii), for those Landowners that request to perform the tile line repairs themselves, Coles Wind will offer the Landowners the area commercial rate for their machinery and labor costs, and Coles Wind will not be responsible for such tile line repairs.

B. **Dispute Resolution**

(i) If the Landowner and Coles Wind cannot agree upon a reasonable method of permanent tile line repair, Coles Wind may – but is not required to – implement the recommendations of the Coles County Soil and Water Conservation District and such

implementation will be deemed to have resolved the dispute. If Coles Wind chooses not to implement the recommendations of the Coles County Soil and Water Conservation District, it will engage a Professional Engineer acceptable to Landowner, at Coles Wind's sole cost and expense, to inspect the site and recommend a method of repair in accordance with the specifications set forth in this Plan. The Professional Engineer's recommendation shall be binding on Coles Wind and the Landowner and will be implemented by Coles Wind.

C. **Final Site Plans**

(i) Coles Wind will update the Site Plans with any underground field drainage tiles encountered during construction and not previously included in the Site Plans.

(ii) Coles Wind will provide such updated Site Plans to Coles County at any time during construction upon reasonable request and shall deliver to Coles County the final Site Plans after completion of Construction. In addition, following completion of Construction, Coles Wind will provide all affected Landowners with a copy of the portion of updated Site Plans showing tile repairs on their property with GPS coordinates identified as the electric cable crosses said property.

(iii) After Construction, in accordance with the AIMA, Coles Wind will provide the Department with "as built" drawings (strip maps) showing the location of all tile lines by survey station encountered during Construction so that the Department may distribute the drawings and GPS tile line repair coordinates to the Coles County Soil and Water Conservation District for the purpose of assisting Landowners with future drainage needs.

Appendix E

Supporting Documentation

(*SUP Application, §B.6*)

1. Community Engagement Summary
2. Economic Impact Analysis
3. Property Value Impact Report

Appendix E.1
Community Engagement Summary

Coles Wind

Community Engagement Summary

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1.0 INTRODUCTION

Since 2020, Coles Wind has engaged in a robust and wide-ranging community engagement campaign to build public support for the project and address community concerns. Coles Wind's commitment to meaningful and authentic community engagement has been demonstrated through a consistent community presence, frequent dissemination of project information, and responses to public comments and community questions both online and in person over the project's roughly four-year development period. These efforts are summarized below.

2.0 LOCAL GOVERNMENT CONSULTATIONS

Coles Wind is located in Coles County, Illinois. The project overlaps with both Mattoon Community Unit School District #2 and Charleston Community Unit School District #1. Stakeholders engaged throughout the development process include school board members, superintendents, staff members, and consultants representing these bodies. Our team gave full presentations of the project and its potential benefits to both school boards. The project does not overlap with tribal lands or cultural resources requiring additional consultations.

No incorporated villages exist within the boundaries of the project, requiring siting conversations. However, we have presented contact information and offered consultations with township governments and directly engaged their road commissioners and emergency services. Our team also met with the village board of Humbolt, which is outside the project boundary, but we did want to engage them and answer any questions they had.

We have a long-standing relationship with the Coles County Board going back to the beginning of the project. Upon our introduction to the county, the board undertook a grueling ordinance update process, and our development and Public Engagement (PE) team worked directly with the board to help them develop their rules, attending every public meeting and offering completely open industry opinion and standards. We also provided multiple sample ordinances and engaged external and internal council to assist, as well as third party industry experts to provide opinions.

After state-wide reform, we continued to assist where requested in the updating of their ordinance to conform with the new state standards.

Our team has also directly engaged township and other first responders in the area, introducing them to our future Emergency Action Plan. We take their input very seriously, and we work with them closely to directly address their concerns. Early engagement with these local professionals gives us important information about the area.

One other local government group we directly engage are township road commissioners. We approach them with the guidance of the County Engineer and get the input early about our future Road Use Agreement needs.

3.0 COMMUNITY ENGAGEMENT

Apex understands that utility-scale renewable energy facilities are significant infrastructure projects, typically built in rural communities where land uses have traditionally been agricultural. Apex's Public PE team has been determined to build relationships and community support around our projects. Each project has a detailed plan devoted to transparency, authenticity, and forming cornerstone relationships that will carry the project through its life cycle. The Apex community engagement strategy is proactive, meaningful, and strategic community outreach. This has helped us build inroads into local non-profits, the business community, and Coles County. Apex is happy to share that Coles Wind enjoys strong community support.

Specific methods of engaging stakeholders included:

- Hosting a Website and Facebook page
- Community Presentations
- Door-to-Door canvassing and consultations with neighboring property owners
- Local Government Meetings
- Stakeholder Briefings
- Landowner Events
- Community Event Sponsorships & Grant Program

These efforts are described below. Please note, the information presented below is a summary of major activities and not an itemized list of every meeting and community consultation.

3.1 Hosting a Website and Facebook page

The project created and maintained a project website (https://www.coleswind.com/) and a project Facebook page (https://www.facebook.com/coleswind/) to inform and engage the public regarding the benefits and impacts of the project and solar energy more broadly.

The website also included contact information and avenues for interaction with project staff, news updates from the project, event information, community grant program information and application, and a local vendor sign-up form.

The website and Facebook page will be maintained during construction and operations to ensure stakeholders and the public have access to project contacts and other important information.

3.2 Door-to-door canvassing and consultations with neighboring property owners

Coles Wind prioritized direct consultations with neighboring residents and property owners throughout project development, including direct door-to-door canvassing, face-to-face meetings, phone calls, e-mails, and certified mailings.

As a result of this personal engagement, many of the neighboring property owners decided to formally join the project as community participants and share in the project's benefits through direct compensation.

Our team approached residents of unincorporated villages like Fairgrange to offer Good Neighbor Agreements, a financial incentive to smaller landowners within the project boundary. Quite a number of Coles County residents have signed on to the project through this program as well.

3.3 Local Government Meetings

Members of the Coles Wind project team have attended dozens of County Board and committee meetings from 2020-2024 to consult with local government officials, answer questions, and work through multiple changes to the county's WECS ordinance. We have also directly engaged the Regional Planning Commission Director on their rules and requirements, local first responders for our Emergency Action Plan, and township road commissioners on our Road Use Agreement.

3.4 Stakeholder Briefings

Briefings for key local stakeholders were held throughout the project development cycle, including a safety briefing for local emergency responders. The event included representatives from local fire departments, and covered topics including emergency response plans for construction and operations. It also included direct communication with Sara Bush Lincoln Hospital to ensure there are no potential impacts the project could have on their activities, including Life Flight operations. We spoke with local groups like the Charleston Chamber, Coles Together, and the Lions Club.

4.0 COMMUNITY GIVING

One of Apex's primary goals is to be a dependable, long-term community partner with residents, local governments, and community organizations where our projects are located. We achieve this by giving back to host communities in a variety of ways aimed at enhancing the benefits our projects provide to rural America. Please see the below tables on Diamond Grove's Community investments to date.

4.1 Apex Community Grant Program

Throughout the project's development, the Coles Wind Community Grant Program has supported community organizations throughout Coles County. The program focuses its support on non-profit organizations and entities seeking to build safe and healthy communities, support economic development, foster environmental sustainability, and promote education. Since its inception, the program has provided more than $100,000 in funding to support community organizations in the project area. Specific beneficiaries and projects of note include Special Olympics of Illinois District 1, Coles County Veterans Assistance Commission, Charleston Elks, Embarrass Valley Assistance Agency, and the University of Illinois Extension Gardens at Sara Bush Lincoln Hospital.

Table 1. Community Grant Program

Organization	Project	Date	Amount
University of Illinois Extension	Equipment, SBL community garden	Q2 23, Q4 23	$5000 each
Salvation Army	Assistance and memberships for low-income families	Q1 21, Q3 21	$5000 each
United Way of Coles County	School supplies and equipment	Q2 21, Q4 22	$7500
Coles County Veterans Support Coalition	Programs for veterans in need	Q1 23, Q2 24	$5500
Charleston Elks Lodge #623	Community service and educational initiatives	Q1 24, Q2 24	$5500
Special Olympics	Sponsor	Q1 22	$5000
Embarras River Basin Agency Inc.	Financial assistance for low-income families	Q3 24	$5000
Mattoon Community Unit School District #2	Solar and wind energy labs	Q3 22	$5000
Douglas Hart Nature Center	Maintain the nature preserve	Q2 21	$2500
Fit 2 Serve, Inc	Community garden	Q4 22	$2000
CTF Illinois	Job employment assistance	Q1 24	$2000

4.2 Other Apex Community Donations and Sponsorships

The grant program isn't the only way Apex endeavors to be a dependable, long-term community partner. Often, community partners host events or drive initiatives that require additional support that we are eager to provide. This often results in donations or sponsorships.

Since the project started, Coles Wind has provided over $50,000 in funding to support community events and causes in the project area. Specific beneficiaries of note include a total $25,000 sponsorship to the Eastern Illinois Foodbank. Since 2019, child food insecurity in eastern Illinois has risen by nearly 30%. In the past year, the Eastern Illinois Foodbank provided 10.8 million pounds of food to those in need. Apex has been a continuing partner of EIF, winning their corporate partner of the year award in 2021.

We created a $25,000 endowed scholarship at Lake Land College that will be providing $1,000 annually to a student in a STEM program, especially those interested in working in renewable energy technology.

And as a part of our creation of Coles Wind, we hosted a logo design contest for Mattoon and Charleston High School Students. The winner received a $5,000 scholarship for a college, art, or technical school of their choice, while the runners up both received $1,000.

Table 2. Donations and Sponsorships

Organization	Project	Date	Amount
Coles County Fair	Fairground sponsorship	2021, 2022, 2023, 2024	$1,000-$2000 each year
Tour De Charleston	$1,000 sponsorship	2022	$1,000
Lake Land College Golf Fundraiser	$1,000 hole sponsorship	2022, 2023	$1,000 each year
Eastern Illinois Foodbank	Corporate sponsorship	2021, 2024	$15,000 and $10,000 from Coles Wind in each 3-year cycle
Lake Land College	$25,000 STEM Endowment	2023	Permanent annual $1,000 scholarship
Charleston Farmer's Market Sponsorship	$1,000 Corporate sponsor	2024, 2025	$1,000 per summer
Mattoon and Charleston Chamber	Dues, dinners, and multiple other events	2020-2025	Various amounts.

Appendix E.2
Economic Impact Analysis

Strategic Economic Research, LLC

ECONOMIC IMPACT ANALYSIS FOR THE COLES WIND PROJECT

January 2025

Dr. David G. Loomis, Bryan Loomis, and Chris Thankan

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Dr. Loomis has published 40 peer-reviewed articles in leading energy policy and economics journals. He has raised and managed over $7 million in grants and contracts from government, corporate and foundation sources. He received the 2011 Department of Energy's Midwestern Regional Wind Advocacy Award and the 2006 Best Wind Working Group Award. Dr. Loomis received his Ph.D. in economics from Temple University in 1995.

Bryan Loomis, MBA

Vice President of Strategic Economic Research, LLC

Bryan Loomis has been conducting economic impact, property tax, and land use analyses at Strategic Economic Research since 2019. He has performed or overseen over 200 wind and solar analyses, and has also provided expert testimony for permitting hearings and open houses in many states, including Colorado, Kansas, Indiana, Illinois, and Iowa. He improved the property tax analysis methodology at SER by researching various state taxing laws and implementing depreciation, taxing jurisdiction millage rates and other factors into the tax analysis tool. Before working with SER, Bryan ran a consulting agency, working with over 30 technology startups on growth and marketing. Bryan received his MBA from Belmont University in 2016.

Chris Thankan

Director of Economic Analysis

Christopher Thankan directs the production of the economic impact studies including sourcing, analyzing, and graphing government data. He also performs economic and property tax analysis for wind, solar, and transmission projects. Chris has a Bachelor of Science degree in Sustainable & Renewable Energy and minored in Economics.

Strategic Economic Research, LLC (SER) provides economic consulting for renewable energy projects across the U.S. We have produced over 400 economic impact reports in 32 states. Research Associates who performed work on this project include Paige Afram, Amanda Battaglia, Lindsey Cohn, Sawyer Keithley, Clara Lewis, Ethan Loomis, Hannah Loomis, Nita Loomis, Jessica Lucht, Mandi Mitchell, Russell Piontek, Isabelle Piwowarczyk, Tim Roberts, Krista Rust, Rachel Swanson, and Ashley Thompson.

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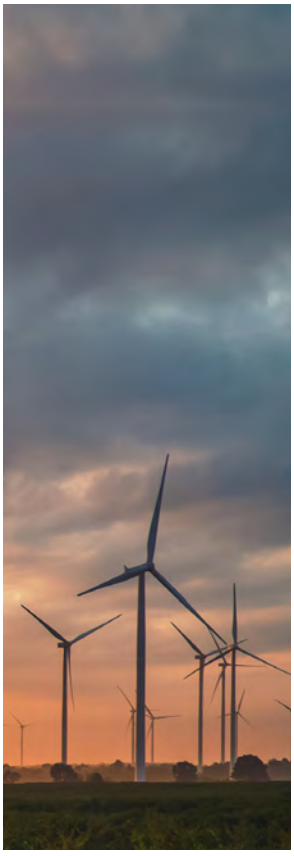

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I. Executive Summary

Apex Clean Energy is developing the Coles Wind Project in Coles County, Illinois. The purpose of this report is to evaluate the economic impact of this Project on Coles County and the State of Illinois. The basis of this analysis is to study the direct, indirect, and induced impacts on job creation, wages, and total economic output.

The Coles Wind Project consists of an estimated 300 megawatts ("MW") of capacity of wind turbines and the associated access roads, transmission and communication equipment, storage areas, and control facilities (the "Project"). For purposes of this report, a total name plate capacity of 300 MW in Coles County was assumed. The Project represents an investment of over $649 million in Coles County. The total development is anticipated to result in the following:

Property Taxes

- Over $48.6 million in total school district property taxes over the life of the Project
- Over $13.0 million in total county property taxes for Coles County over the life of the Project
- Over $81.2 million in total property taxes for all taxing districts over the life of the Project

Jobs

- 286 new jobs during construction for Coles County
- 916 new jobs during construction for the State of Illinois
- 35.2 new long-term jobs for Coles County
- 56.6 new long-term jobs for the State of Illinois

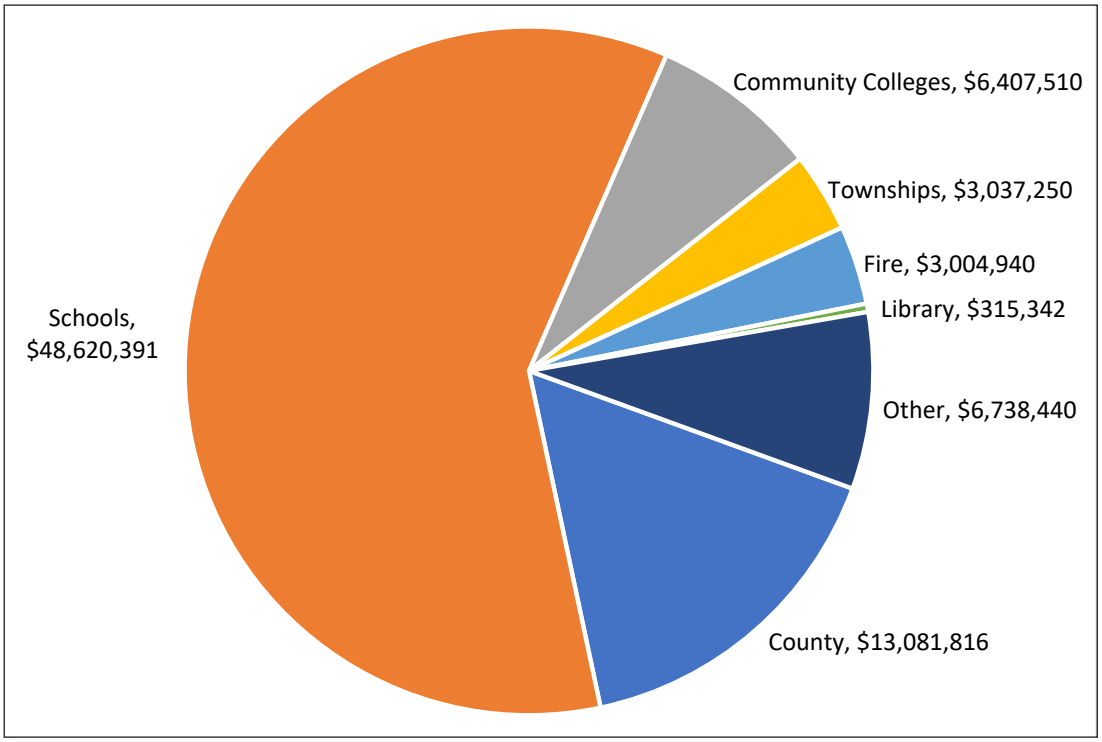
Earnings – the wages and benefits that result from the employment impacts above

- Over $27.1 million in new earnings during construction for Coles County
- Over $83.0 million in new earnings during construction for the State of Illinois
- Over $2.5 million in new long-term earnings for Coles County annually
- Over $4.1 million in new long-term earnings for the State of Illinois annually

Output - the value of production in the state or local economy. It is an equivalent measure to the Gross Domestic Product.

- Over $68.0 million in new output during construction for Coles County
- Over $251 million in new output during construction for the State of Illinois
- Over $4.9 million in new long-term output for Coles County annually
- Over $9.8 million in new long-term output for the State of Illinois annually

Figure 1.1 – Total Property Taxes Paid by the Coles Wind Project



II. Wind Industry Growth and Economic Development

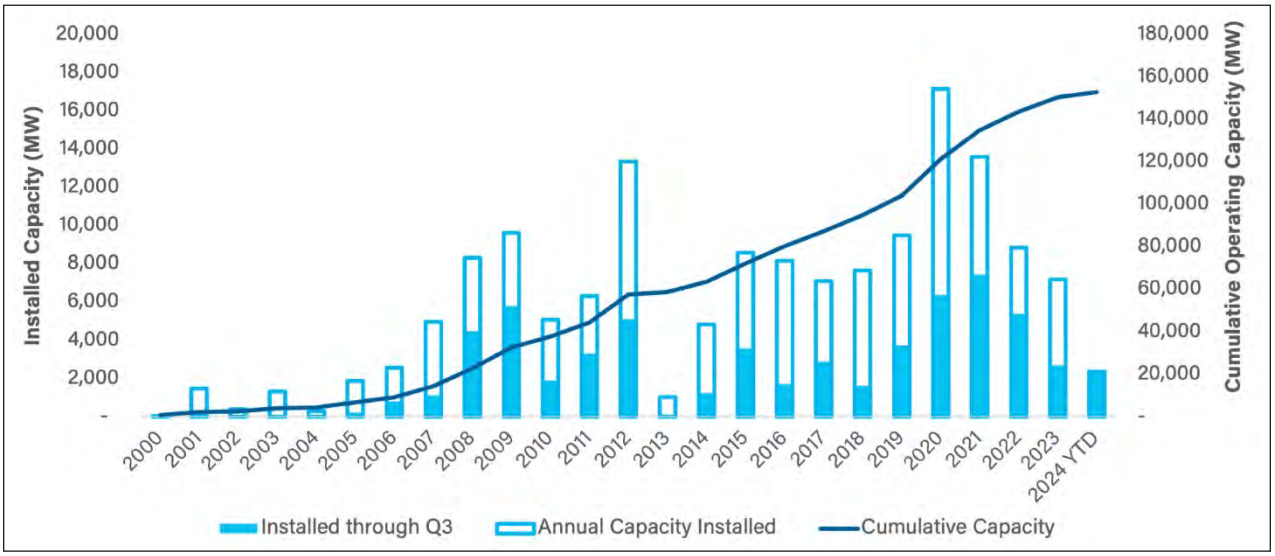
a. United States Wind Industry Growth

The United States wind industry grew at a rapid pace from 2006-2020. In 2020, the U.S. set a record of 16,913 MW far surpassing the previous annual peak of 13,131 MW of wind power installed in 2012 (American Clean Power (ACP), 2021). The total cumulative wind capacity in 2023 was over 150,000 MW (ACP, Q3, 2024). In 2023, there was a total capacity of over 7,000 MW installed which is about equal to the 2015-2019 annual installation amounts.

The total amount of wind capacity in the U.S. by the end of 2023 was 150,455 MW (ACP, 2023). China is the global leader with 403,325 MW of installed capacity, with Germany in third place with 61,139 MW of installed capacity (2023 figures with the United States in second place) (GWEC, 2024). Figure 2.1 shows the growth in installed annual capacity and cumulative capacity in the U.S., and Figure 2.2 shows the state-by-state breakdown of installed capacity by June 2024.

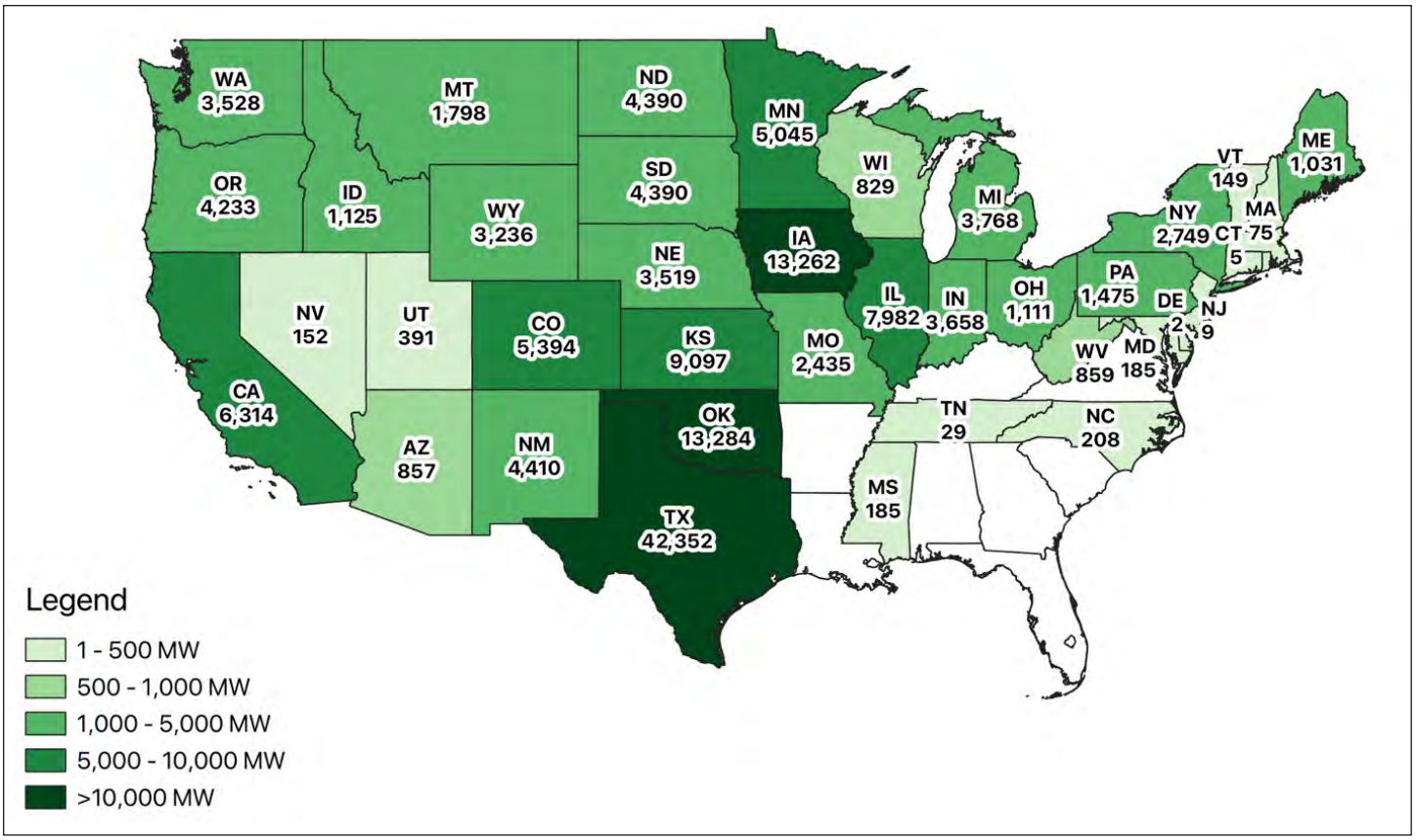
Several factors have spurred the continued growth of wind energy in recent years. First, new technology and rigorous competition among turbine manufacturers lowered the cost of wind turbines. Second, larger capacity wind turbines and higher hub heights produced more output and lowered the cost of wind energy production. Finally, several large corporate buyers increased the demand for wind energy beyond the traditional electric utility market.

Figure 2.1 – United States Annual and Cumulative Land-Based Wind Power Capacity Growth



Source: ACP, Clean Power Market Report, Q3 2024

Figure 2.2 – Total Wind Capacity by State



Source: American Clean Power Database, Q2 2024, Authors' Calculations

b. Illinois Wind Industry Growth

Illinois is a national leader in the wind energy industry (American Clean Power, 2024). As of June 2024, Illinois is ranked sixth in the United States in existing wind, solar, and energy storage capacity with over 9,447 MW (ACP, 2024).

Table 2.1 has a list of the operational wind farms in Illinois through 2023 (some small projects below 70 MW were omitted from the table). The year-by-year and cumulative growth in Illinois' wind energy capacity is shown in Figure 2.3. In 2012, Illinois had eight projects completed with an annual total installed capacity of 823.335 MW. Growth sharply increased in 2020 in Illinois with six projects completed with the largest annual total installed capacity of 1,059.02 MW. In 2023, six projects were completed with an annual installed capacity of 933.4 MW.

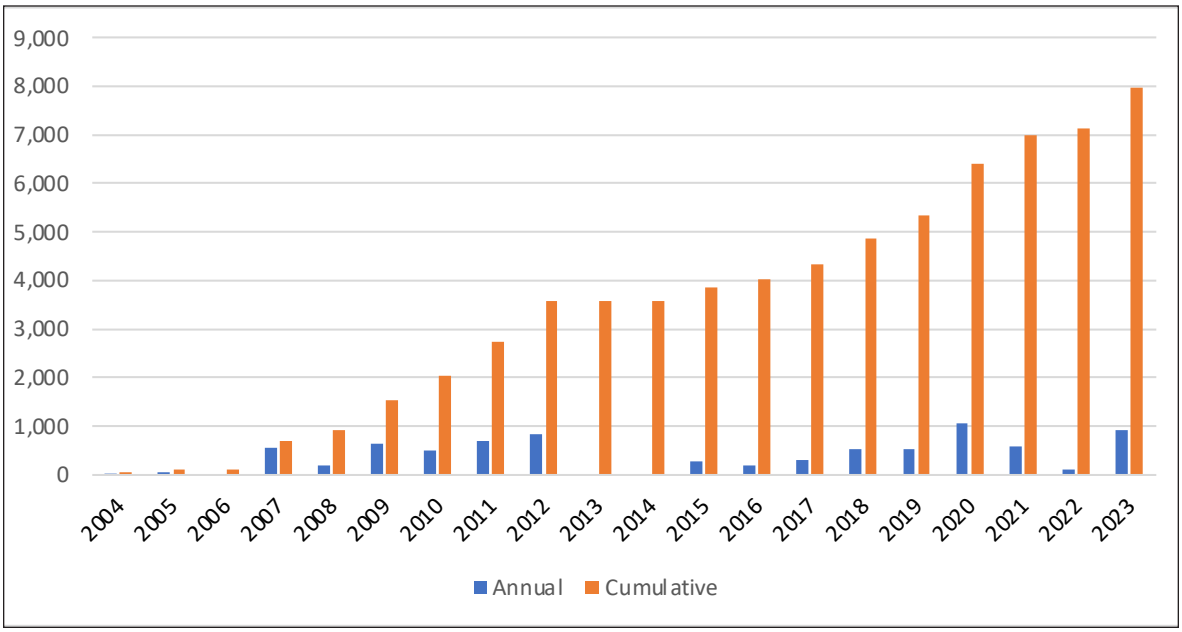
The Energy Information Administration (EIA) calculated the number of megawatt-hours generated from different energy sources in 2023. As shown in Figure 2.4, the greatest percentage of electricity generated in Illinois came from nuclear energy with 54.9% followed by natural gas with 15.9% and coal with 15.3%. Approximately 12.4% of the total electricity power generated in Illinois came from wind in 2023.

The U.S. Department of Energy sponsors the U.S. Energy and Employment Report each year. Electric Power Generation covers all utility and non-utility employment across electric generating technologies, including fossil fuels, nuclear, and renewable technologies. It also includes employees engaged in facility construction, turbine and other generation equipment manufacturing, operations and maintenance, and wholesale parts distribution for all electric generation technologies. According to Figure 2.5, employment in Illinois in the wind energy industry (9,389) is much larger than solar energy generation (6,988), natural gas generation (4,385), and nuclear energy generation (4,236).

Table 2.1 – Illinois Wind Projects

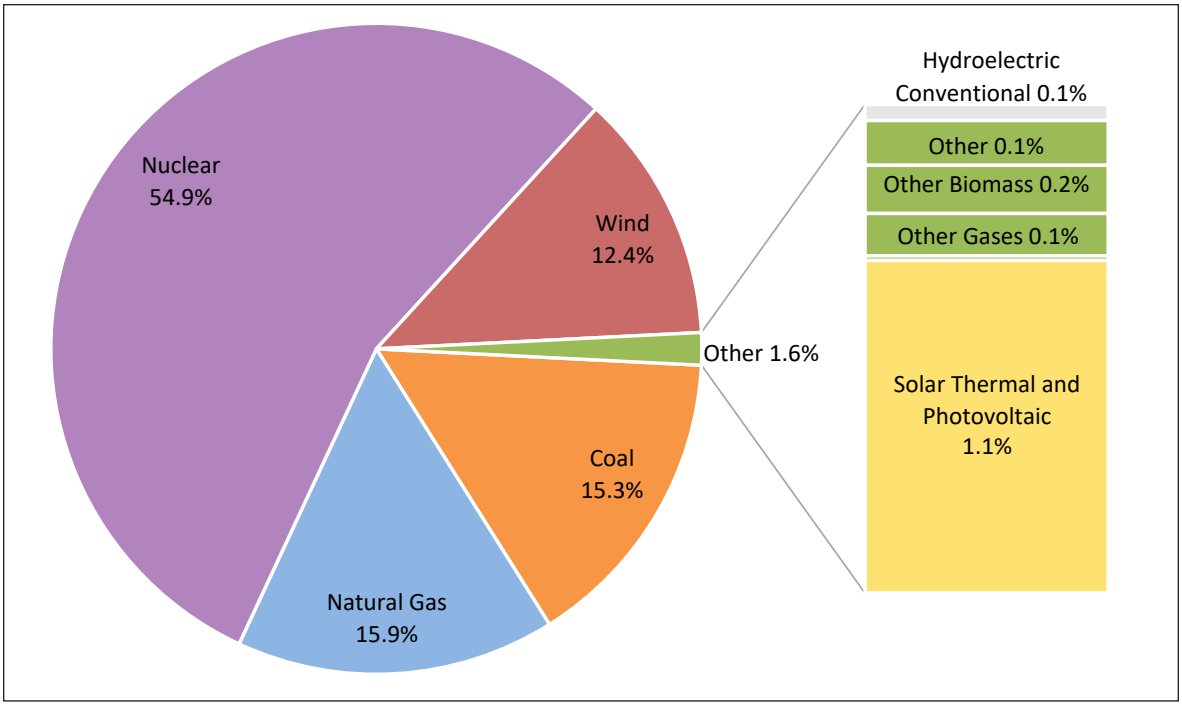
Wind Farm	Capacity (MW)	Year Online
Twin Groves	396	2007
Camp Grove	150	2007
Grand Ridge	210	2008
Providence Heights Wind Farm	72	2008
Top Crop Wind Farm	300	2009
Lee/DeKalb	217.5	2009
EcoGrove	100.5	2009
Rail Splitter	100.5	2009
Streator Cayuga Ridge Wind	300	2010
Big Sky Wind Facility	250.3	2011
Pioneer Trail Wind Farm	150.4	2011
Settlers Trail Wind Farm	150.4	2011
White Oak Energy Center	150	2011
Bishop Hill	424.48	2012
Shady Oaks	217.7	2012
California Ridge	217.08	2012
Minonk	200	2012
Pilot Hill	175.1	2015
Hoopeston Wind	98	2015
Kelly Creek	184	2016
Radford's Run	305.8	2017
Walnut Ridge	212	2018
HillTopper	185	2018
Bright Stalk Wind Farm	205.2	2019
Green River	194.25	2019
Mendota Hills Wind Farm	76.125	2019
Blooming Grove	260.92	2020
Sugar Creek	202	2020
Harvest Ridge Wind Farm	199.8	2020
Otter Creek	158.2	2020
Cardinal Point	150	2020
Lone Tree	88.1	2020
Glacier Sands	355.9	2021
Lincoln Land	301.74	2021
Bennington	93.06	2021
Ford Ridge	120.4	2022
Sapphire Sky	259.8	2023
Alta Farms II	200.5	2023
Midland Wind	105.5	2023
GSG Wind Farm	88.4	2023

Figure 2.3 – Installed Capacity of Illinois Wind Projects



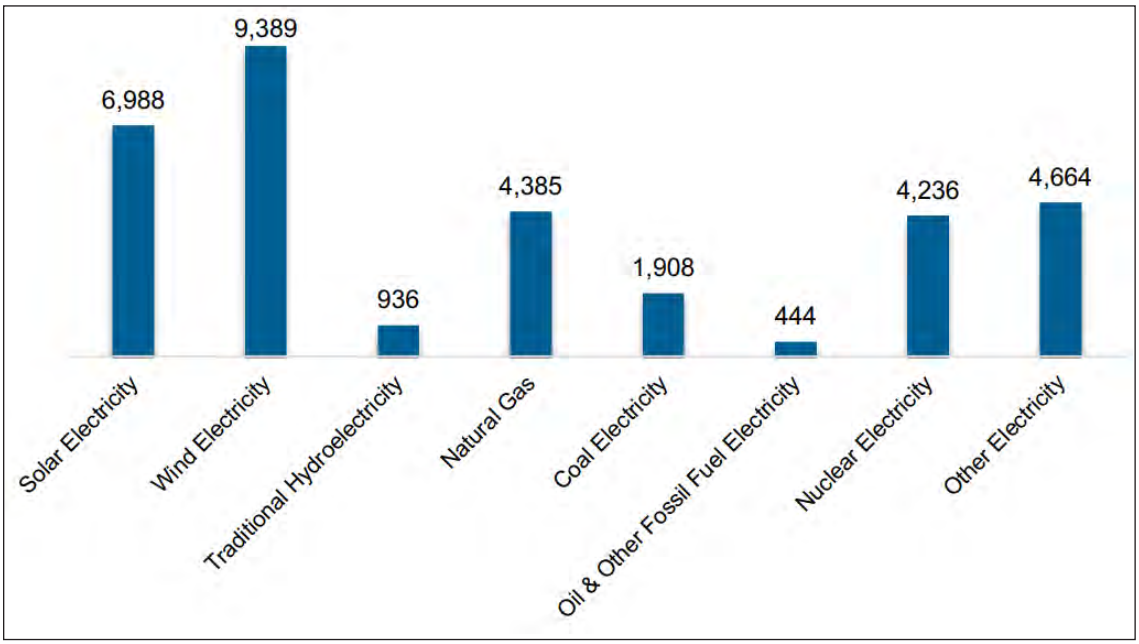
Source: American Clean Power, December 2024, Illinois

Figure 2.4 – Electric Generation by Fuel Type for Illinois in 2023



Source: U.S. Energy Information Association (EIA): Illinois, 2023

Figure 2.5 – Electric Generation Employment by Technology



Source: U.S. Energy and Employment Report 2024: Illinois

c. Economic Benefits of Wind Farms

Wind farms create numerous and significant economic benefits that continue to last for decades. Wind farms create job opportunities in the local area during both the short-term construction phase and the long-term operational phase. Short-term construction jobs include both workers at the wind farm site and jobs created along the supply chain. Long-term operational jobs include wind turbine technicians, supervisors and supply chain jobs.

Wind developers typically lease the land for the turbines from local landowners without materially affecting ongoing agricultural uses. Only a small portion of the total project footprint is used for the turbines, access roads, feeder lines and substations. For most wind projects, it is anticipated that less than 1% of the total leased land will contain facilities. Each turbine and the associated access road will use approximately half an acre to one acre of farmland. Lease payments made to landowners provide a reliable source of long-term income to offset the fluctuating prices received from crops or the impact of weather events on production. Landowners then have additional funds to make purchases in the local economy and elsewhere.

Wind projects enhance the equalized assessed value of property within the county. Typically, wind developers pay taxes based on that improved value unless preempted by law or mutual agreement. Wind farms strengthen the local tax base helping to improve county services, schools, police and fire departments and fund infrastructure improvements, such as public roads.

Numerous studies have quantified the economic benefits across the United States. The National Renewable Energy Laboratory has produced economic impact reports for the State of Arizona (NREL, 2008a), State of Idaho (NREL, 2008b), State of Indiana (NREL, 2014), State of Iowa (NREL, 2013), State of Maine (NREL, 2008c), State of Montana (NREL, 2008d), State of New Mexico (NREL, 2008e), State of Nevada (NREL, 2008f), State of North Carolina (NREL, 2009), State of Pennsylvania (NREL, 2008g), State of South Dakota (NREL, 2008h), State of Utah (NREL 2008i), State of West Virginia (NREL, 2008j), and the State of Wisconsin (NREL, 2008k).

The Center for Renewable Energy at Illinois State University released a report examining the economic impact of Illinois' wind farms and the economic impact of the related wind turbine supply chain in Illinois (see https://renewableenergy.illinoisstate.edu/wind/pubs.php). According to the Economic Impact: Wind Energy Development in Illinois (June 2016), "the 25 largest wind farms in Illinois:

- Support local economies by generating $30.4 million in annual property taxes
- Generate $13.8 million annually in extra income for Illinois landowners who lease their land to the wind farm developer
- Created approximately 20,173 full-time equivalent jobs during construction periods
- Support approximately 869 permanent jobs in rural Illinois areas
- Will generate a total economic benefit of $6.4 billion over the life of the projects."

Loomis (2020) estimates the economic impact of wind and solar energy in Illinois resulting from the proposed Path to 100 legislation. The legislation is expected to result in constructing over 15,000 MW of wind and solar over the next 15 years yielding over 53,000 jobs during construction and over 3,200 jobs during operations. The analysis also looks at the 39 largest existing wind farms in Illinois and finds that they supported 29,295 jobs during construction and 1,307 jobs during operations for a total economic benefit of $10.2 billion over the life of the projects. In addition, a review of historical property tax records finds that existing utility-scale wind and solar projects paid over $305 million in property taxes statewide since 2003 and over $41.4 million in 2019 alone.

Jenniches (2018) performed a review of the literature assessing the regional economic impacts of renewable energy sources. After reviewing all of the different techniques for analyzing the economic impacts, he concludes "for assessment of current renewable energy developments, beyond employment in larger regions, IO [Input-Output] tables are the most suitable approach" (Jenniches, 2018, 48). Input-Output analysis is the basis for the methodology used in the economic impact analysis of this report.

More recently, Brunner and Schwegman (2022) examined the economic impacts of wind installations across the United States from 1995 to 2018. They found that wind energy projects resulted in "economically meaningful increases in county GDP per-capita, income per-capita, median household income, and median home values" (p. 165).

Finally, Gilbert et. al (2024) studied the employment impact of wind energy on a 20-mile radius around each turbine using individual employment data and discovered "economically and statistically significant employment and earnings gain from wind development within 20 miles of a worker's residence" (p. 31). Further, they find that county-level employment impacts like the ones in this report tend to be underestimated when examined using individual data.

III. Project Description and Location

a. Coles Wind Project

Apex Clean Energy is developing the Coles Wind Project in Coles County, Illinois. The Project consists of an estimated 300 megawatts ("MW") of capacity of wind turbines and the associated access roads, transmission and communication equipment, storage areas, and control facilities. The Project represents an investment of over $649 million.

b. Coles County, Illinois

Coles County is located in the eastern part of Illinois (see Figure 3.1). It has a total area of 510 square miles, and the U.S. Census estimates that the 2023 population was 46,060 with 22,669 housing units. The county has a population density of 90.6 (persons per square mile) compared to 225 for the State of Illinois (2023). Median household income in the county was $53,732 in 2022 (U.S. Census Bureau, 2024).

Figure 3.1 – Location of Coles County, Illinois

As shown in Table 3.1, the largest industries in the county are "Health Care and Social Assistance" followed by "Administrative Government," "Retail Trade," and "Professional, Scientific, and Technical Services." These data for Table 3.1 come from IMPLAN covering the year 2022 (the latest year available).

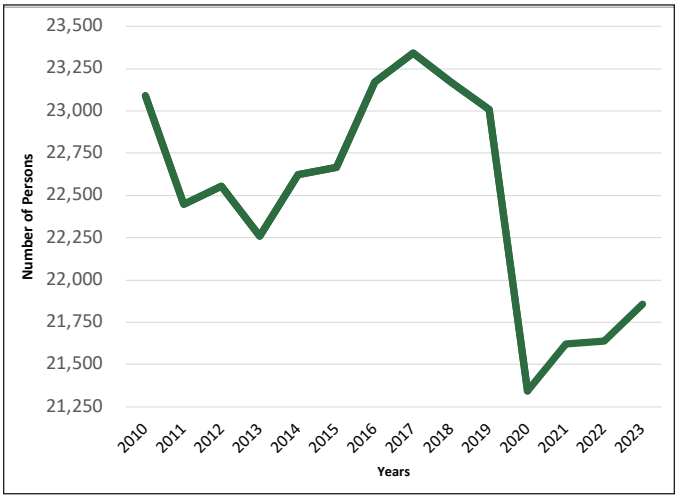
Table 3.1 – Employment by Industry in Coles County

Industry	Number	Percent
Health Care and Social Assistance	5,718	18.3%
Administrative Government	4,496	14.4%
Retail Trade	2,685	8.6%
Professional, Scientific, and Technical Services	2,564	8.2%
Administrative and Support and Waste Management and Remediation Services	2,436	7.8%
Accommodation and Food Services	2,268	7.3%
Other Services (except Public Administration)	1,891	6.0%
Manufacturing	1,671	5.3%
Construction	1,421	4.5%
Finance and Insurance	1,170	3.7%
Agriculture, Forestry, Fishing and Hunting	796	2.5%
Wholesale Trade	741	2.4%
Management of Companies and Enterprises	741	2.4%
Transportation and Warehousing	641	2.0%
Real Estate and Rental and Leasing	619	2.0%
Information	510	1.6%
Arts, Entertainment, and Recreation	299	1.0%
Government Enterprises	270	0.9%
Utilities	157	0.5%
Mining, Quarrying, and Oil and Gas Extraction	94	0.3%
Educational Services	77	0.2%

Source: Impact Analysis for Planning (IMPLAN), County Employment by Industry, 2022

Table 3.1 provides the most recent snapshot of total employment but does not examine the historical trends within the county. Figure 3.2 shows the number of employed persons in Coles County from 2010 to 2022. The total number of employed persons in Coles County was at its highest at 23,344 in 2017 and its lowest at 21,345 in 2020 (BEA, 2024).

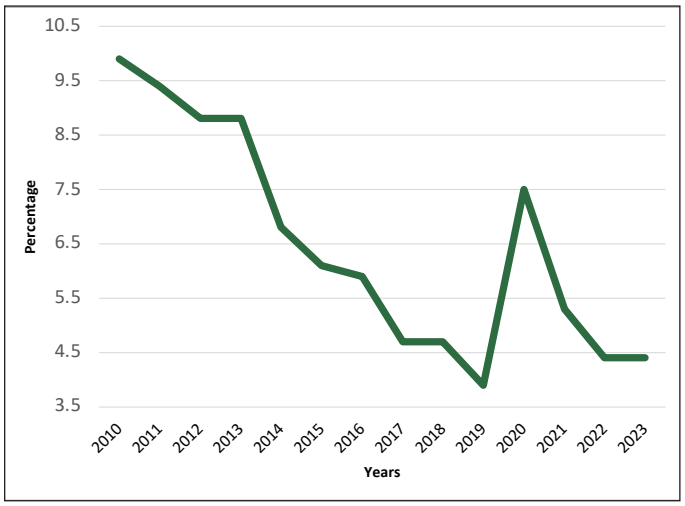
Figure 3.2 – Total Employed Persons in Coles County from 2010 to 2023



Source: Bureau of Economic Analysis, Regional Data, GDP and Personal Income, 2010-2022

The unemployment rate signifies the percentage of the labor force without employment in the county. Figure 3.3 shows the unemployment rates from 2010 to 2023. Unemployment in Coles County was at its highest at 9.9% in 2010 and its lowest at 3.9% in 2019 (FRED, 2024). The unemployment rate spiked to 7.5% in 2020 but normalized to 4.4% in 2022 and 2023.

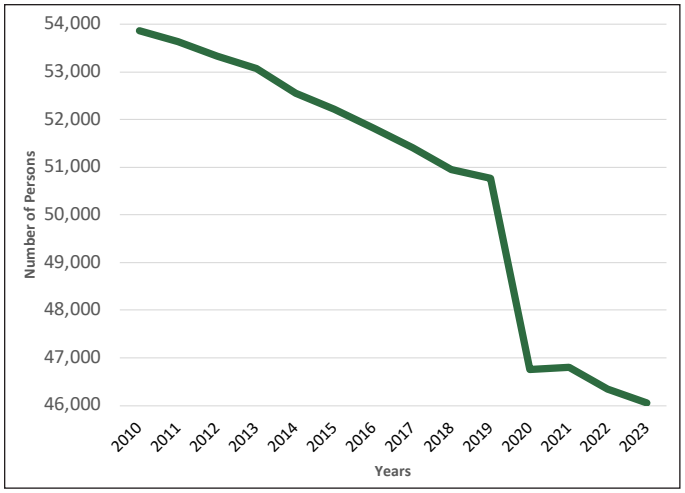
Figure 3.3 – Unemployment Rate in Coles County from 2010 to 2023



Source: Federal Reserve Bank of St. Louis Economic Data, U.S. Census Bureau, Unemployment Rates, 2010-2023

The overall population in the county has decreased steadily, as shown in Figure 3.4. Coles County's population was 53,865 in 2010 and 46,060 in 2023, a loss of 7,805 people (FRED, 2024). The average annual population decrease over this time period was 600 people.

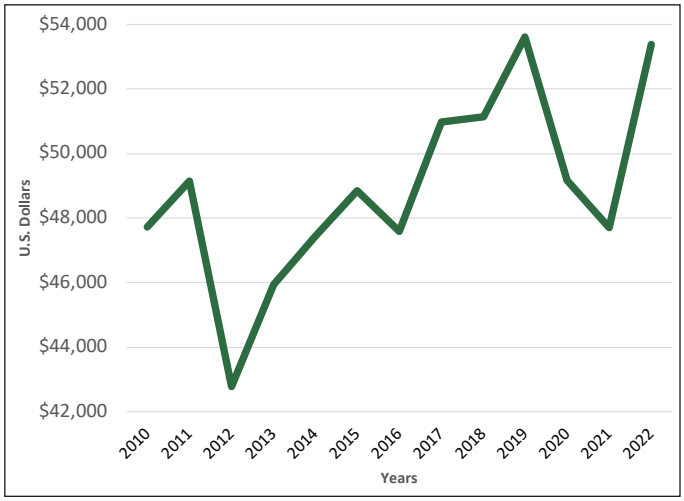
Figure 3.4 – Population in Coles County from 2010 to 2023



Source: Federal Reserve Bank of St. Louis Economic Data, U.S. Census Bureau, Population Estimates, 2010-2023

Household income has trended upward in the county. Figure 3.5 shows the real median household income in Coles County from 2010 to 2022. Using the national Consumer Price Index (CPI), the nominal median household income for each year was adjusted to 2022 dollars. Household income was at its lowest at $42,767 in 2012 and its highest at $53,609 in 2019 (FRED, 2024).

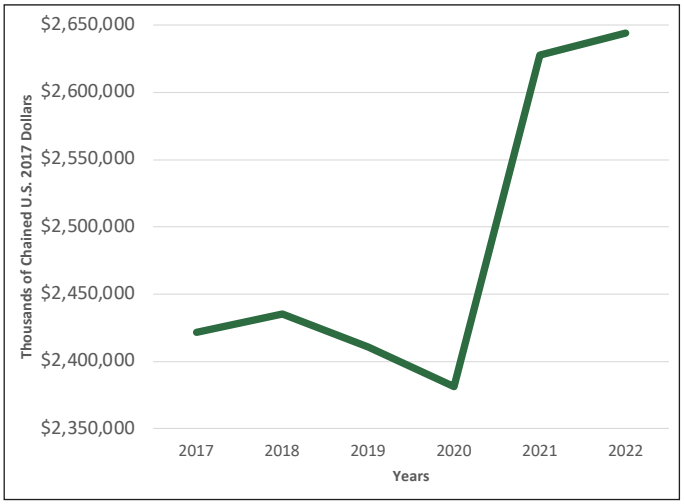
Figure 3.5 – Real Median Household Income in Coles County from 2010 to 2022



Source: Federal Reserve Bank of St. Louis Economic Data, U.S. Census Bureau, Estimate of Median Household Income, 2010-2022

Real Gross Domestic Product (GDP) is a measure of the value of goods and services produced in an area and adjusted for inflation over time. The Real GDP for Coles County has increased since hitting a low in 2020, as shown in Figure 3.6 (FRED, 2024).

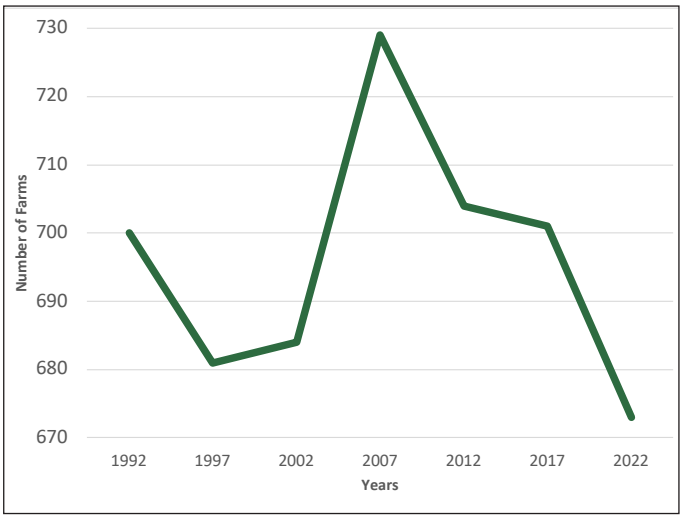
Figure 3.6 – Real Gross Domestic Product (GDP) in Coles County from 2017 to 2022



Source: Federal Reserve Bank of St. Louis Economic Data, U.S. Census Bureau, Real Gross Domestic Product, 2017-2022

The farming industry has fluctuated in Coles County. As shown in Figure 3.7, the number of farms hit a high of 729 in 2007 and a low of 673 in 2022.

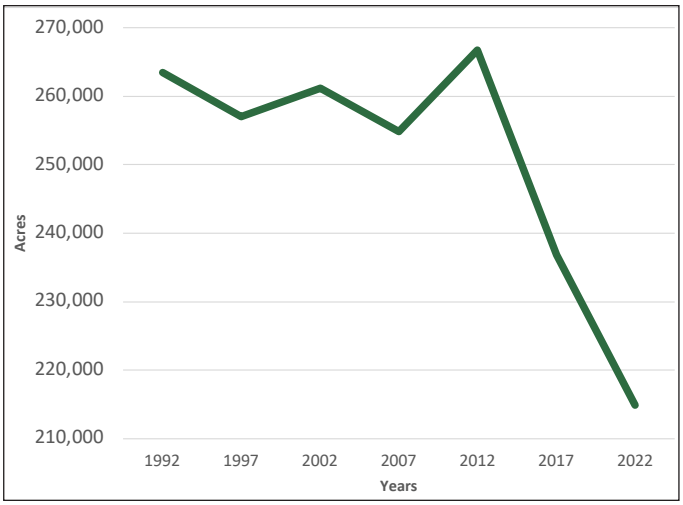
Figure 3.7 – Number of Farms in Coles County from 1992 to 2022



Source: USDA National Agricultural Statistics Service, Census of Agriculture, 1992-2022

The amount of land in farms has decreased since hitting a high of 266,773 acres in 2012. The county farmland hit a low of 214,931 acres in 2022, according to Figure 3.8.

Figure 3.8 – Land in Farms in Coles County from 1992 to 2022



Source: USDA National Agricultural Statistics Service, Census of Agriculture, 1992-2022

IV. Property Taxes

Wind power projects increase the property tax base of a county creating a new revenue source for education and other local government services such as fire protection, park districts, and road maintenance. According to state law (Public Act 095-0644), the fair cash value for a utility-scale wind turbine in Illinois is $360,000 per megawatt of capacity beginning in 2007 and is annually adjusted for inflation and depreciation. The inflation adjustment, as known as the Trending Factor, increases each year according to the Bureau of Labor Statistics' Consumer Price Index for all cities for all items. Depreciation is allowed at 4% per year up to a maximum total depreciation of 70% of the trended real property cost basis (calculated by taking the fair cash value of the turbine and multiplying by the Trending Factor).

Tables 4.1 to 4.4 detail the tax implications of the Coles Wind Project. There are several important assumptions built into the analysis in these tables.

- The analysis assumes that the valuation of the wind farm is the same as set forth in Public Act 095-0644.
- The tables assume future inflation is constant at 2.33% annually and the depreciation is 4% annually until it reaches the maximum of 70%.
- All tax rates are assumed to stay constant at their 2024 (2023 tax year) rates.
- The analysis assumes that the Project is placed in service on January 1st, 2026 at a fair cash value of $176 million according to Public Act 095-0644.
- It assumes that the Project is decommissioned in 30 years and pays no more taxes after that date.
- The analysis was based on current expected turbine locations. However, if alternate turbine locations are used instead, the actual taxes paid could vary depending on the relative tax rates between districts.
- The names of the taxing bodies used in this section come from the county and state tax websites.
- The comprehensiveness and accuracy of the analysis below is dependent upon the assumptions listed above and used to calculate the property tax results. The analysis is to serve as a projection of property tax benefits to the local community and is not a guarantee of property tax revenue.
- If the inputs received from Apex Clean Energy, the laws surrounding renewable energy taxation in Illinois, or the tax rates in Coles County change in a material way after the completion of this report, this analysis may no longer accurately reflect the property taxes to be paid by the Coles Wind Project.
- No comprehensive tax payment was calculated, and these calculations are only to be used to illustrate the economic impact of the Project.

Figure 4.1 – Percentages of Property Taxes Paid to Taxing Jurisdictions

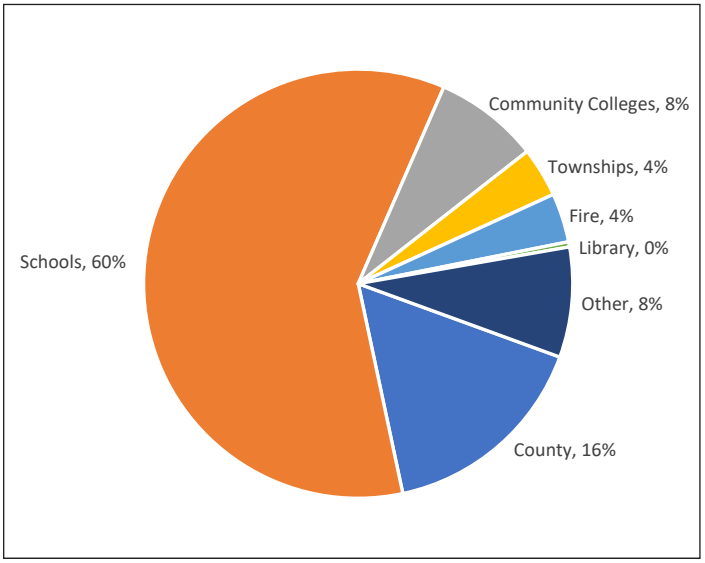


Table 4.1 – Total Property Taxes Paid by the Coles Wind Project

Year	Total Taxes Paid
2026	$4,017,632
2027	$3,946,793
2028	$3,870,472
2029	$3,788,452
2030	$3,700,508
2031	$3,606,410
2032	$3,505,917
2033	$3,398,784
2034	$3,284,754
2035	$3,163,566
2036	$3,034,947
2037	$2,898,618
2038	$2,754,287
2039	$2,601,657
2040	$2,440,420
2041	$2,270,256
2042	$2,090,837
2043	$1,901,826
2044	$1,824,505
2045	$1,867,016
2046	$1,910,517
2047	$1,955,032
2048	$2,000,584
2049	$2,047,198
2050	$2,094,898
2051	$2,143,709
2052	$2,193,657
2053	$2,244,769
2054	$2,297,073
2055	$2,350,594
TOTAL	$81,205,690
AVG ANNUAL	$2,706,856

As shown in Table 4.1, a conservative estimate of the total property taxes paid by the Project starts out at over $4.0 million and declines due to depreciation (and offset by the trending factor) until it reaches the maximum depreciation in 2044. After that, the Project is fully depreciated, and the trending factor causes the taxable value and taxes to increase. The expected total property taxes paid over the 30-year lifetime of the Project are over $81.2 million, and the average annual property taxes paid will be over $2.7 million.

Table 4.2 shows an estimate of the likely taxes paid to the following taxing bodies: Coles County, Seven Hickory Township, Morgan Township, Multi Township Assessment District 6, Parkland Community College 505, and Lakeland Community College 517.

According to Table 4.2, the total amounts paid are over $13.0 million for Coles County, over $2.1 million for Seven Hickory Township, over $574 thousand for Morgan Township, over $343 thousand for Multi Township Assessment District (MTAD) 6, over $897 thousand for Parkland Community College 505, and over $5.5 million for Lakeland Community College 517 over the life of the Project.

Table 4.3 shows an estimate of the likely taxes paid to the following taxing bodies: Seven Hickory Morgan Fire, Humboldt Community Fire District, Hindsboro Community Fire District, Arcola Public Library District, Seven Hickory Road District, Morgan Road District, and the Airport Authority.

According to Table 4.3, the total amounts paid are over $2.2 million for Seven Hickory Morgan Fire, over $90.7 thousand for Humboldt Community Fire District, over $643 thousand for Hindsboro Community Fire District, over $315 thousand for Arcola Public Library District, over $5.3 million for Seven Hickory Road District, over $743 thousand for Morgan Road District, and over $670 thousand for the Airport Authority over the life of the Project.

Table 4.2 – Tax Benefits from the Coles Wind Project for the County, Townships, and Community Colleges[1]

Year	Coles County	Seven Hickory Township	Morgan Township	MTAD 6	Parkland Community College 505	Lakeland Community College 517
2026	$647,220	$104,815	$28,435	$17,017	$44,410	$272,600
2027	$635,808	$102,967	$27,934	$16,717	$43,627	$267,793
2028	$623,513	$100,976	$27,394	$16,394	$42,784	$262,615
2029	$610,300	$98,836	$26,813	$16,046	$41,877	$257,050
2030	$596,133	$96,541	$26,191	$15,674	$40,905	$251,083
2031	$580,974	$94,087	$25,525	$15,275	$39,865	$244,698
2032	$564,785	$91,465	$24,814	$14,850	$38,754	$237,879
2033	$547,526	$88,670	$24,055	$14,396	$37,570	$230,610
2034	$529,157	$85,695	$23,248	$13,913	$36,309	$222,873
2035	$509,634	$82,533	$22,391	$13,400	$34,970	$214,651
2036	$488,914	$79,178	$21,480	$12,855	$33,548	$205,924
2037	$466,952	$75,621	$20,515	$12,277	$32,041	$196,674
2038	$443,701	$71,856	$19,494	$11,666	$30,445	$186,881
2039	$419,114	$67,874	$18,414	$11,020	$28,758	$176,525
2040	$393,139	$63,667	$17,272	$10,337	$26,976	$165,585
2041	$365,726	$59,228	$16,068	$9,616	$25,095	$154,039
2042	$336,823	$54,547	$14,798	$8,856	$23,112	$141,865
2043	$306,374	$49,616	$13,460	$8,055	$21,022	$129,040
2044	$293,918	$47,599	$12,913	$7,728	$20,168	$123,794
2045	$300,767	$48,708	$13,214	$7,908	$20,638	$126,679
2046	$307,774	$49,843	$13,522	$8,092	$21,119	$129,630
2047	$314,946	$51,004	$13,837	$8,281	$21,611	$132,651
2048	$322,284	$52,193	$14,159	$8,474	$22,114	$135,741
2049	$329,793	$53,409	$14,489	$8,671	$22,629	$138,904
2050	$337,477	$54,653	$14,827	$8,873	$23,157	$142,141
2051	$345,340	$55,927	$15,172	$9,080	$23,696	$145,452
2052	$353,387	$57,230	$15,526	$9,291	$24,248	$148,841
2053	$361,621	$58,563	$15,888	$9,508	$24,813	$152,310
2054	$370,047	$59,928	$16,258	$9,729	$25,391	$155,858
2055	$378,669	$61,324	$16,637	$9,956	$25,983	$159,490
TOTAL	$13,081,816	$2,118,550	$574,745	$343,955	$897,636	$5,509,875
AVG ANNUAL	$436,061	$70,618	$19,158	$11,465	$29,921	$183,662

[1] The assumed tax rates are 1.07863% for Coles County, 0.1985% for Seven Hickory Township, 0.3491% for Morgan Township, 0.02836% for Multi Township Assessment District 6, 0.52866% for Parkland Community College 505, and 0.52826% for Lakeland Community College 517.

Table 4.3 – Tax Benefits from the Coles Wind Project for Other Taxing Bodies[2]

Year	Seven Hickory Morgan Fire	Humboldt Community Fire District	Hindsboro Community Fire District	Arcola Public Library District	Seven Hickory Road District	Morgan Road District	Airport Authority
2026	$112,332	$4,488	$31,849	$15,601	$263,468	$36,763	$33,152
2027	$110,351	$4,409	$31,287	$15,326	$258,822	$36,114	$32,568
2028	$108,217	$4,323	$30,682	$15,030	$253,817	$35,416	$31,938
2029	$105,924	$4,232	$30,032	$14,712	$248,439	$34,666	$31,261
2030	$103,465	$4,133	$29,335	$14,370	$242,672	$33,861	$30,535
2031	$100,834	$4,028	$28,589	$14,005	$236,501	$33,000	$29,759
2032	$98,025	$3,916	$27,792	$13,614	$229,911	$32,080	$28,930
2033	$95,029	$3,796	$26,943	$13,198	$222,885	$31,100	$28,046
2034	$91,841	$3,669	$26,039	$12,756	$215,407	$30,057	$27,105
2035	$88,453	$3,534	$25,079	$12,285	$207,460	$28,948	$26,105
2036	$84,856	$3,390	$24,059	$11,785	$199,025	$27,771	$25,043
2037	$81,045	$3,238	$22,978	$11,256	$190,085	$26,523	$23,918
2038	$77,009	$3,077	$21,834	$10,696	$180,620	$25,203	$22,727
2039	$72,742	$2,906	$20,624	$10,103	$170,611	$23,806	$21,468
2040	$68,234	$2,726	$19,346	$9,477	$160,038	$22,331	$20,138
2041	$63,476	$2,536	$17,997	$8,816	$148,879	$20,774	$18,733
2042	$58,459	$2,335	$16,575	$8,119	$137,113	$19,132	$17,253
2043	$53,175	$2,124	$15,076	$7,385	$124,718	$17,402	$15,693
2044	$51,013	$2,038	$14,463	$7,085	$119,647	$16,695	$15,055
2045	$52,201	$2,085	$14,800	$7,250	$122,435	$17,084	$15,406
2046	$53,418	$2,134	$15,145	$7,419	$125,288	$17,482	$15,765
2047	$54,662	$2,184	$15,498	$7,592	$128,207	$17,889	$16,132
2048	$55,936	$2,235	$15,859	$7,769	$131,194	$18,306	$16,508
2049	$57,239	$2,287	$16,229	$7,950	$134,251	$18,733	$16,893
2050	$58,573	$2,340	$16,607	$8,135	$137,379	$19,169	$17,286
2051	$59,938	$2,395	$16,994	$8,325	$140,580	$19,616	$17,689
2052	$61,334	$2,450	$17,390	$8,519	$143,855	$20,073	$18,101
2053	$62,763	$2,507	$17,795	$8,717	$147,207	$20,540	$18,523
2054	$64,226	$2,566	$18,210	$8,920	$150,637	$21,019	$18,955
2055	$65,722	$2,626	$18,634	$9,128	$154,147	$21,509	$19,396
TOTAL	$2,270,492	$90,707	$643,742	$315,342	$5,325,298	$743,059	$670,082
AVG ANNUAL	$75,683	$3,024	$21,458	$10,511	$177,510	$24,769	$22,336

[2] The assumed tax rates are 0.23401% for Seven Hickory Morgan Fire, 0.12465% for Humboldt Community Fire District, 0.37913% for Hindsboro Community Fire District, 0.18572% for Arcola Public Library District, 0.49896% for Seven Hickory Road District, 0.51056% for Morgan Road District, and 0.05525% for the Airport Authority.

Table 4.4 – Tax Benefits from the Coles Wind Project for the School Districts[3]

Year	Arcola CUSD 306	Charleston CUSD 1	Oakland CUSD 5
2026	$364,622	$1,721,805	$319,055
2027	$358,193	$1,691,447	$313,429
2028	$351,267	$1,658,738	$307,368
2029	$343,823	$1,623,587	$300,855
2030	$335,841	$1,585,898	$293,871
2031	$327,301	$1,545,571	$286,398
2032	$318,181	$1,502,504	$278,418
2033	$308,458	$1,456,590	$269,910
2034	$298,109	$1,407,722	$260,854
2035	$287,111	$1,355,785	$251,230
2036	$275,438	$1,300,664	$241,016
2037	$263,065	$1,242,238	$230,190
2038	$249,967	$1,180,383	$218,728
2039	$236,115	$1,114,972	$206,607
2040	$221,481	$1,045,872	$193,803
2041	$206,038	$972,946	$180,289
2042	$189,755	$896,054	$166,041
2043	$172,601	$815,051	$151,031
2044	$165,584	$781,914	$144,891
2045	$169,442	$800,132	$148,266
2046	$173,390	$818,775	$151,721
2047	$177,430	$837,853	$155,256
2048	$181,564	$857,375	$158,874
2049	$185,794	$877,352	$162,575
2050	$190,123	$897,794	$166,363
2051	$194,553	$918,713	$170,240
2052	$199,086	$940,119	$174,206
2053	$203,725	$962,023	$178,265
2054	$208,472	$984,439	$182,419
2055	$213,329	$1,007,376	$186,669
TOTAL	$7,369,862	$34,801,691	$6,448,838
AVG ANNUAL	$245,662	$1,160,056	$214,961

[3] The assumed tax rates are 4.34046% for Arcola CUSD 306, 3.87769% for Charleston CUSD 1, and 4.43103% for Oakland CUSD 5.

The largest taxing jurisdictions for property taxes are local school districts. However, the tax implications for school districts are more complicated than for other taxing bodies. School districts receive state aid based on the assessed value of the taxable property within its district. As assessed value increases, the state aid to the school district decreases. The Center for Renewable Energy at Illinois State University did a report titled *Wind Farm Implications for School District Revenue* which details how a wind farm affects the local school district's revenue. Although the school district collects increased local property tax revenue from the wind farm, it receives less in state aid because of the increases in Equalized Assessed Value (EAV) due to the wind farm. **However, the reduction in state aid is much smaller than the increased tax revenue.**

Although the exact amount of the reduction in state aid to the school districts is uncertain, local project tax revenue is superior to relying on state aid for the following reasons: (1) the wind turbines can't relocate – it is a permanent structure that will be within the school district's footprint for the life of the Project; (2) the school district can raise the tax rate and increase its revenues as needed; (3) the school district does not have to deal with the year-to-year uncertainty of state aid amounts; (4) the school district does not have to wait for months (or even into the next Fiscal Year!) for payment; (5) the Project does not increase the overall cost of education in the way that a new residential development would.

Table 4.4 shows the direct property tax revenue coming from the Project to Arcola Community Unit School District (CUSD) 306, Charleston CUSD 1, and Oakland CUSD 5. This tax revenue uses the assumptions outlined earlier to calculate the other tax revenue and assumes that 14% of the turbines are in Arcola CUSD 306, 74% are in Charleston CUSD 1, and 12% are in Oakland CUSD 5. Over the 50-year life of the Project, the school districts are expected to receive over $48.6 million in tax revenue.

Having considered all these benefits, it is still important to determine the net impact of the wind energy project after taking into account the reduction in school funding from the State of Illinois. Determining the reduction in state aid is complicated by the fact that there is a new law for distributing state funds to education.

On August 31, 2017, Governor Rauner signed into law PA 100-0465 that fundamentally changes the way that the state distributes state aid to school districts. The funding consists of two parts – a Base Funding Minimum and a Tier Funding. The Base Funding Minimum in FY18 is based on what the district received in FY17 under the old funding formula. Some call this the "Hold Harmless" provision and ensures that there are no "losing" districts in the transition to the new funding formula. The Tier Funding is additional money and goes in higher portion to the districts that demonstrate a higher need under the new formula. Because of the "Hold Harmless" provision, no school district will see a reduction in their GSA from what they received in the year before the wind farm was installed. However, the higher EAV caused by the wind farm will reduce its eligibility for new money allocated in the state budget.

There are several sources of uncertainty with the new school funding formula concerning this new money. First, the total amount of new funding to be distributed over the next ten years is unknown at this point. It will be determined year-by-year in the state budget passed by the legislature and signed by the governor. For FY21, no new money was allocated for the school funding formula though FY22 does have new money in the budget. Second, data for the formula funding changes each year based on the school's student population and its "need" and it is difficult to forecast its school's student population over time. Third, each school district is competing with all other school districts for this new funding and so the EAV and student population for all other school districts in the state will impact what a single school district receives. Fourth, the school district's EAV could also change due to other property changes in the district.

To determine the net impact of the Project on a school district's eligibility for new state aid money, we can make the following assumptions: (1) that the State of Illinois continues to provide $350 million in NEW state aid to education ANNUALLY. For reference, the new law passed in 2017 provided $350 million and the FY19 state budget has $350 million. The state budget has failed to include this increase in FY20 and FY21; (2) that the school districts will forfeit ALL of the new Tier funding for schools. It seems more likely that the school districts will switch tiers rather than lose all funding; (3) that the school districts would be entitled to the same tiered funding annually for the 10 years covered by the new school funding law without the wind farm; (4) that other school districts in the State of Illinois have a constant EAV and Evidence Based Funding needs.

For FY25, Arcola CUSD 306 had 80% adequacy, was assigned Tier 2 status, and will receive $46,130 in "new money." Charleston CUSD 1 had 73% adequacy, was assigned Tier 1 status, and will receive $880,391 in "new money." And Oakland CUSD 5 had 89% adequacy, was assigned Tier 2 status, and will receive $5,958 in "new money." As outlined in Table 6.5, there is no year in which Arcola or Oakland school districts receive less than $144,891. Charleston school district would need to reach 78% adequacy before it would lose any "new money." If new money is allocated in the future, it is unlikely that these districts will lose all of the "new money" and their EBF funding cannot go down from the previous year. Thus, the school districts will receive a net positive flow of funds because of the wind project if "new money" remains the same. School boards generally like local tax dollars because they can control the levy and tax rate locally. State tax dollars are subject to congressional budget negotiations that are outside of any local control.

V. Methodology

SER's economic impact analysis of wind projects uses IMPLAN (IMpact analysis for PLANning). IMPLAN software and parameters are based on government data collected at federal, state, and local levels. IMPLAN Group LLC is a leading provider of economic development software that is widely used by economists and economic development professionals across the United States. More information about IMPLAN can be found at implan.com.

IMPLAN is an input-output model that measures the spending patterns and location-specific economic structures that reflect expenditures supporting varying levels of employment, income, and output. That is, IMPLAN considers that the output of one industry can be used as an input for another. For example, when a wind farm developer purchases turbines to build a wind farm, those wind turbines are made of components such as fiberglass, aluminum, steel, copper, etc. Therefore, purchases of wind turbines impact the demand for these components. In addition, when a wind farm developer purchases a wind turbine from a manufacturing facility, the manufacturer uses some of that money to pay employees, and then the employees spend that money on goods and services within their community. In essence, IMPLAN modeling reveals how purchases of wind project materials not only benefit turbine manufacturers but also the local industries that supply the concrete, rebar, and other materials (Reategui et al., 2009). IMPLAN modeling uses construction cost data, operating cost data, and data relating to the percentage of goods and services acquired in the county and state to calculate jobs, earnings, and economic activities that are associated with this information. The results are broken down into the construction period and the operation period of the wind project. Within each period, impacts are further divided into direct, indirect, and induced impacts.

- **Direct impacts during the construction period** refer to the changes that occur in the onsite construction industries in which the direct final demand (i.e., spending on construction labor and services) change is made. Final demands are goods and services purchased for their ultimate use by the end user. Onsite construction-related services include engineering, design, and other professional services.

- **Direct impacts during operating years** refer to the final demand changes that occur in the onsite spending for wind farm workers. Direct jobs consist primarily of onsite wind turbine technicians but can also include managers and administrative staff.

The initial spending on the construction and operation of the wind farm creates a second layer of impacts, referred to as "indirect impacts" or "turbine and supply chain impacts."

- **Indirect impacts during the construction period** consist of the changes in inter-industry purchases resulting from the direct final demand changes and include construction spending on materials and wind farm equipment and other purchases of goods and offsite services. Essentially, these impacts can result from spending on turbines, blades, towers, transformers, electrical wire, concrete, rebar, fasteners, etc., and construction services such as materials transportation, road repairs, accounting/payroll, legal guidance, etc. For example, concrete that is used in turbine foundations increases the demand for gravel, sand, and cement. Due to the expenditure for concrete, there is increased economic activity at quarries and cement factories, and these changes are indirect impacts. The accountant for the construction firm and the banker who finances the contractor are both considered indirect impacts. All supply chain component impacts/manufacturing-related activities are included under indirect impacts.

Indirect impacts during operating years refer to the changes in inter-industry purchases resulting from the direct final demand changes. Essentially, these impacts result from spending on equipment/materials pertaining to wind farm annual operations and maintenance such as vehicles, gasoline, tools, etc., and from services such as repair work, vegetation management, wildlife monitoring, etc. Property tax payments during annual operations create indirect impacts in the county and state that show up in the operations portion of the results because these payments do not support the day-to-day operations and maintenance of the wind farm but instead are more of a latent effect that results from the wind farm being present.

Induced impacts during construction refer to the changes that occur in household spending as household income increases or decreases due to the direct and indirect effects of final demand changes during construction. Local employees, working directly or indirectly on the wind farm project, who receive their paychecks and then spend money in the community, support additional local jobs and economic activity. Thus, for example, the increased economic activity at quarries and cement factories during construction results in increased revenues for the affected firms and raises individual incomes. Individuals employed by these companies then spend more money in the local economy at local restaurants, grocery stores, retail establishments, hospitals, medical offices, etc.

Induced impacts during operating years refer to the changes that occur in household spending as household income increases or decreases as a result of the direct and indirect effects from final demand changes during annual operations and maintenance work. For example, onsite wind turbine technicians and contracted landscapers residing in the local area see increased individual incomes which are also spent at local establishments which spurs more local economic activity.

To show the economic impact of the Project, SER used two separate Multi-Regional Input-Output (MRIO) IMPLAN models with 2023 economic data, the most recent data year available at the time of analysis. The first IMPLAN model was used to calculate construction period impacts using Coles County economic data in conjunction with economic data aggregated from every other county in the state. Costs were assigned to each region according to client provided expected spending patterns, SER industry knowledge honed from over 400 previous analyses, and IMPLAN data related to the availability of relevant goods and services within the county and state economy. When results for the two regions are combined, they create the state's total construction period impacts. This method allows for more precise assignment of construction spending within the project county and construction spending outside the project county but within the project state.

The second model was used to calculate impacts stemming from annual operations and maintenance of the wind project. Like the construction period model, the operations period model also utilizes county specific data and the economic data collected from all other counties in the state. These combined data create the state's total annual operations period economic impacts. A sample of occupations, the education/training needed, and percentile wages is contained in Table 7.1 in the Appendix. A larger description of those occupations, their work environment, and future job growth is found in Table 7.2 in the Appendix.

SER's studies analyze the gross jobs that a new wind project development supports and does not analyze the potential loss of jobs due to declines in other forms of electricity generation. Impacts are determined by the robustness and applicability of the county and state economy, the client's intended spending in the project county and state, and the labor levels within the county and state.

VI. Results

The results from these models are shown in Tables 6.1 to 6.3. Table 6.1 lists the total employment impact from the Project for Coles County and the State of Illinois. Table 6.2 shows the impact on total earnings, and Table 6.3 contains the impact on total output. The results are divided into one-time construction impacts and ongoing annually recurring operations impacts that are expected to last for the full life of the Project which is estimated to be 25-40 years. Project Development and Onsite Labor Impacts correspond to direct impacts as defined in the methodology section. Turbine and Supply Chain Impacts are the indirect impacts during construction and Local Revenue and Supply Chain Impacts are indirect impacts during operations.

Results are not intended to be a precise forecast; they are an estimate of potential activity resulting from a specific set of intended costs and assumed spending in-county and in-state.

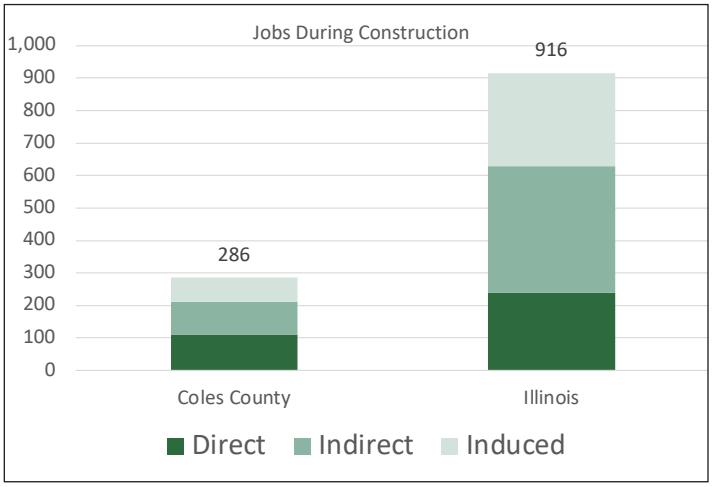
Table 6.1 – Total Employment Impact from the Coles Wind Project

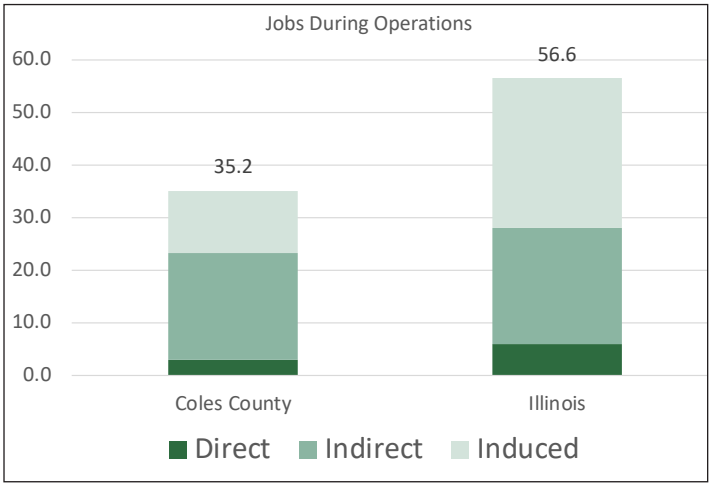
	Coles County Jobs	State of Illinois Jobs
Construction		
Project Development and Onsite Labor Impacts	110	240
Turbine and Supply Chain Impacts	102	390
Induced Impacts	74	286
New Local Jobs during Construction	286	916
Operations		
Onsite Labor Impacts	3.0	6.0
Local Revenue and Supply Chain Impacts	20.4	22.1
Induced Impacts	11.8	28.5
New Local Long-Term Jobs	35.2	56.6

The results from the IMPLAN model show significant employment impacts from the Coles Wind Project. Employment impacts can be broken down into several different components. Direct jobs created during the construction phase typically last anywhere from 6 months to over a year depending on the size of the project; however, the direct job numbers present in Table 6.1 from the IMPLAN model are based on a full-time equivalent (FTE) basis for a year. In other words, 1 job = 1 FTE = 2,080 hours worked in a year. A part time, temporary, or seasonal job would constitute only a fraction of a job according to the IMPLAN model. For example, the IMPLAN model results show 110 new onsite jobs during construction in Coles County, though the construction of the Project could actually involve closer to 220 workers working half-time for a year. Thus, due to the short-term nature of construction projects, IMPLAN often significantly understates the actual number of people, i.e., "boots on the ground," hired to work on the project. It is important to keep this fact in mind when viewing or reporting the numbers.

As shown in Table 6.1, new local jobs created or retained during construction total 286 for Coles County and 916 for the State of Illinois. New local long-term jobs created from the Project total 35.2 for Coles County and 56.6 for the State of Illinois.

Figure 6.1 – Total Employment Impact for the Coles Wind Project





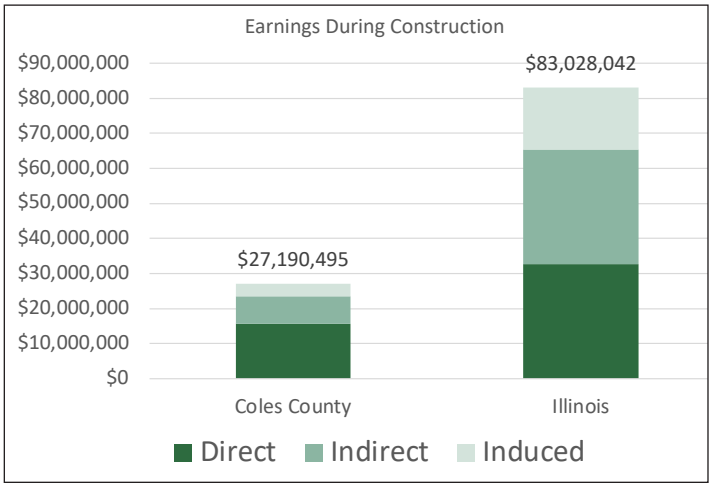
Direct jobs created during the operational phase last the life of the wind farm, typically 25-40 years. Direct construction jobs, and operations and maintenance jobs both require highly skilled workers in the fields of construction, management, and engineering. These well-paid professionals boost economic development in rural communities where new employment opportunities are welcome due to economic downturns. For a list of occupations expected to be employed, their wages, benefits, total compensation, and hours worked, please see Tables 7.3 to 7.5 in the Appendix.

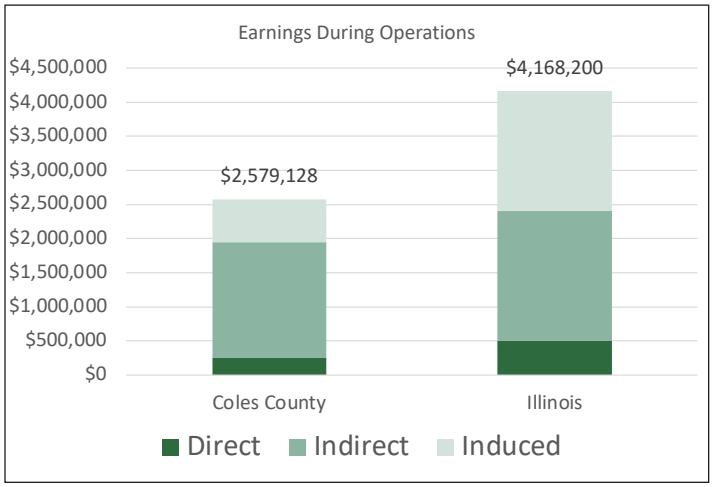
Accordingly, it is important to not just look at the number of jobs but also the earnings that they produce. The earnings impacts from the Project are shown in Table 6.2 and are categorized by construction impacts and annual operations impacts. The new local earnings during construction total over $27.1 million for Coles County and over $83.0 million for the State of Illinois. The new local long-term earnings total over $2.5 million for Coles County and over $4.1 million for the State of Illinois.

Table 6.2 – Total Earnings Impact from the Coles Wind Project

	Coles County	State of Illinois
Construction		
Project Development and Onsite Earnings Impacts	$15,568,794	$32,654,718
Turbine and Supply Chain Impacts	$7,995,627	$32,753,470
Induced Impacts	$3,626,074	$17,619,854
New Local Earnings during Construction	$27,190,495	$83,028,042
Operations (Annual)		
Onsite Labor Impacts	$251,100	$502,200
Local Revenue and Supply Chain Impacts	$1,701,267	$1,901,458
Induced Impacts	$626,761	$1,764,542
New Local Long-Term Earnings	$2,579,128	$4,168,200

Figure 6.2 – Total Earnings Impact from the Coles Wind Project





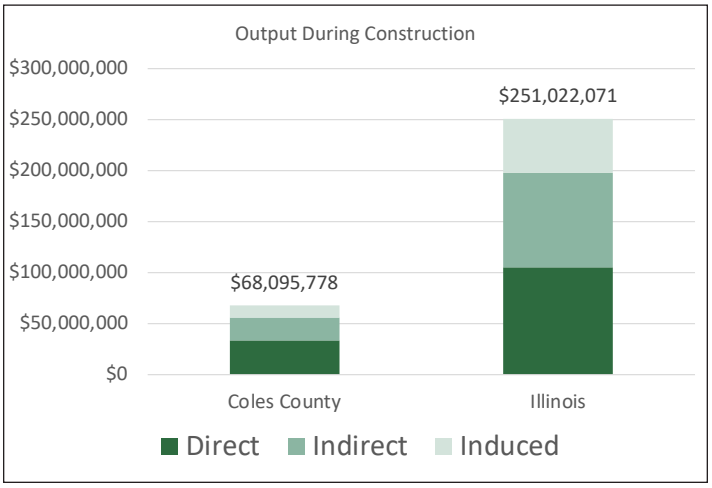
Output refers to economic activity or the value of production in the state or county economy, akin to Gross Domestic Product (GDP). Economic output includes the earnings reported in Table 6.2 but also measures other factors such as landowner payments, property taxes, and other economic activity that is neither earnings nor benefits from employment.

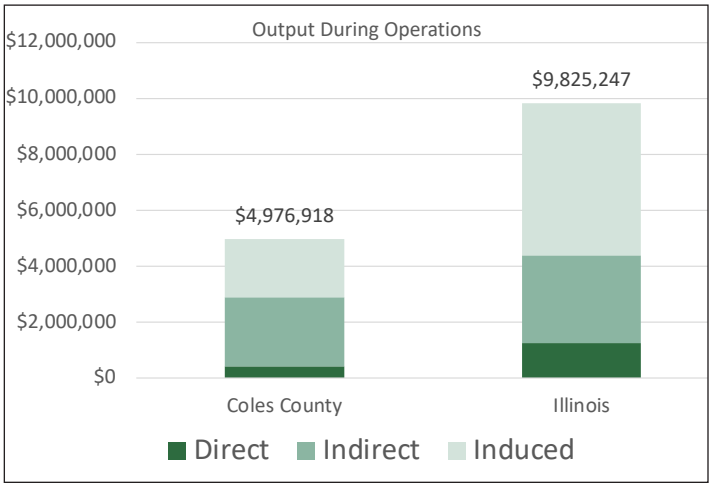
According to Table 6.3, the new local output during construction totals over $68.0 million for Coles County and over $251 million for the State of Illinois. The new local long-term output totals over $4.9 million for Coles County and over $9.8 million for the State of Illinois.

Table 6.3 – Total Output Impact from the Coles Wind Project

	Coles County	State of Illinois
Construction		
Project Development and Onsite Jobs Impacts on Output	$33,563,286	$105,460,769
Turbine and Supply Chain Impacts	$22,479,154	$92,706,541
Induced Impacts	$12,053,338	$52,854,761
New Local Output during Construction	$68,095,778	$251,022,071
Operations (Annual)		
Onsite Labor Impacts	$411,710	$1,264,267
Local Revenue and Supply Chain Impacts	$2,471,269	$3,127,507
Induced Impacts	$2,093,939	$5,433,473
New Local Long-Term Output	$4,976,918	$9,825,247

Figure 6.3 – Total Output Impact from the Coles Wind Project





VII . Appendix

Table 7.1 – Local and Statewide Compensation by Occupation

BLS Occupation Code	Job Type	Education/Training Required	Illinois 10th Percentile of Wages	Illinois 90th Percentile of Wages	Illinois Mean Wages	Champaign-Urbana, IL 10th Percentile of Wages	Champaign-Urbana, IL 90th Percentile of Wages	Champaign-Urbana, IL Mean Wages	US Fringe Benefits Median	Total Compensation Local mean wages plus US Fringe
	Jobs during Construction									
47-2231	Solar Photovoltaic Installers	High school diploma or equivalent	$23,680	$49,600	$35,140	N/A	N/A	N/A	$27,394	N/A
47-3013	Helpers – Electricians	High school diploma or equivalent	$37,000	$89,400	$59,750	$46,420	$103,940	$78,090	$27,394	$105,484
47-2111	Electricians	High school diploma or equivalent	$28,020	$52,320	$39,400	$35,980	$81,410	$56,680	$27,394	$84,074
47-2061	Construction Laborers	No formal educational credential	$34,440	$71,360	$48,960	$47,080	$104,610	$83,200	$27,394	$110,594
47-2073	Operating Engineers and Other Construction Equipment Operators	High school diploma or equivalent	$46,840	$99,780	$71,040	$51,410	$110,030	$85,870	$27,394	$113,264
47-1011	First-Line Supervisors of Construction Trades	High school diploma or equivalent	$49,580	$128,290	$90,240	$50,010	$123,790	$82,080	$27,394	$109,474
13-1082	Project Management Specialists and Business Operations Specialists		$27,790	$62,350	$42,910	$27,890	$63,780	$47,660	$27,394	$75,054
49-9071	Maintenance and Repair Workers, General (Operations)	High school diploma or equivalent	$42,870	$124,220	$80,940	$54,720	$167,230	$103,500	$27,394	$130,894
13-1111	Management Analysts	Bachelor's degree	$43,960	$168,380	$98,580	$40,630	$204,210	$107,380	$27,394	$134,774
11-1021	General and Operations Managers	Bachelor's degree	$64,390	$139,400	$98,630	$62,450	$127,570	$89,880	$27,394	$117,274
17-2071	Electrical Engineers		$30,380	$147,250	$76,130	$32,830	$102,980	$61,960	$27,394	$89,354
41-3091	Sales Representatives of Services		$27,980	$48,060	$37,970	$27,030	$45,800	$35,920	$27,394	$63,314
53-7062	Laborers and Freight, Stock and Material Movers	No formal educational credential	$26,100	$56,950	$40,960	$29,890	$63,430	$45,790	$27,394	$73,184
43-3031	Bookkeeping, Accounting and Auditing	Some college, no degree	$33,560	$82,290	$59,050	N/A	N/A	N/A	$27,394	N/A
	Jobs during Operations									
51-8013	Power Plant Operators	High school diploma or equivalent	$44,760	$88,260	$57,850	N/A	N/A	N/A	$27,394	N/A
37-3011	Landscaping and Groundskeeping	No formal educational credential	$22,060	$44,700	$33,580	$28,200	$54,840	$39,370	$27,394	$66,764
51-1011	First-Line Supervisors of Production and Operating Workers	High school diploma or equivalent	$43,850	$99,610	$68,460	$38,950	$85,550	$61,740	$27,394	$89,134

Table 7.2 – Occupational Description and Future Outlook

Occupation Code	Occupation Title	Description	Work Environment	Current Employment	Job Growth, 2021-2031 (percent)
11-1021	General and Operations Managers	Plan, direct, or coordinate the operations of public or private sector organizations, overseeing multiple departments or locations. Duties and responsibilities include formulating policies, managing daily operations, and planning the use of materials and human resources, but are too diverse and general in nature to be classified in any one functional area of management or administration, such as personnel, purchasing, or administrative services. Usually manage through subordinate supervisors. Excludes First-Line Supervisors.	Top executives work in nearly every industry, for both small and large organizations. They often have irregular schedules, which may include working evenings and weekends. Travel is common, particularly for chief executives.	3,328,200	209,800 (7%)
13-1082	Project Management Specialists and Business Operations Specialists	Analyze and coordinate the schedule, timeline, procurement, staffing, and budget of a product or service on a per project basis. Lead and guide the work of technical staff. May serve as a point of contact for the client or customer. Excludes "Management Occupations" (11-0000), "Logisticians" (13-1081), "Meeting, Convention, and Event Planners" (13-1121), and "Production, Planning, and Expediting Clerks" (43-5061).	Project management specialists usually work in an office setting. Although project management specialists may collaborate on teams, some work independently. Project management specialists also may travel to their clients' places of business.	781,400	56,300 (7%)
13-1111	Management Analysts	Conduct organizational studies and evaluations, design systems and procedures, conduct work simplification and measurement studies, and prepare operations and procedures manuals to assist management in operating more efficiently and effectively. Includes program analysts and management consultants. Excludes "Computer Systems Analysts" (15-1211) and "Operations Research Analysts" (15-2031).	Management analysts may travel frequently to meet with clients. Some work more than 40 hours per week.	950,600	108,400 (11%)
17-2071	Electrical Engineers	Research, design, develop, test, or supervise the manufacturing and installation of electrical equipment, components, or systems for commercial, industrial, military, or scientific use. Excludes "Computer Hardware Engineers" (17-2061).	Electrical and electronics engineers work in industries including research and development, engineering services, manufacturing, telecommunications, and the federal government. Electrical and electronics engineers generally work indoors in offices. However, they may have to visit sites to observe a problem or a piece of complex equipment.	303,800	9,800 (3%)
41-3091	Sales Representatives of Services	Sell services to individuals or businesses. May describe options or resolve client problems. Excludes "Advertising Sales Agents" (41-3011), "Insurance Sales Agents" (41-3021), "Securities, Commodities, and Financial Services Sales Agents" (41-3031), "Travel Agents" (41-3041), "Sales Representatives, Wholesale and Manufacturing" (41-4010), and "Telemarketers" (41-9041).	Wholesale and manufacturing sales representatives work under pressure because their income and job security depend on the amount of merchandise they sell. Some sales representatives travel frequently.	1,597,600	63,300 (4%)
43-3031	Bookkeeping, Accounting and Auditing	Compute, classify, and record numerical data to keep financial records complete. Perform any combination of routine calculating, posting, and verifying duties to obtain primary financial data for use in maintaining accounting records. May also check the accuracy of figures, calculations, and postings pertaining to business transactions recorded by other workers. Excludes "Payroll and Timekeeping Clerks" (43-3051).	Most accountants and auditors work full time. Overtime hours are typical at certain periods of the year, such as for quarterly audits or during tax season.	1,449,800	81,800 (6%)
47-1011	First-Line Supervisors of Construction Trades	Directly supervise and coordinate activities of construction or extraction workers.	N/A	735,500	29,900 (4%)
47-2061	Construction Laborers	Perform tasks involving physical labor at construction sites. May operate hand and power tools of all types: air hammers, earth tampers, cement mixers, small mechanical hoists, surveying and measuring equipment, and a variety of other equipment and instruments. May clean and prepare sites, dig trenches, set braces to support the sides of excavations, erect scaffolding, and clean up rubble, debris, and other waste materials. May assist other craft workers. Construction laborers who primarily assist a particular craft worker are classified under "Helpers, Construction Trades" (47-3010). Excludes "Hazardous Materials Removal Workers" (47-4041).	Most construction laborers and helpers typically work full time and do physically demanding work. Some work at great heights or outdoors in all weather conditions. Construction laborers have one of the highest rates of injuries and illnesses of all occupations.	1,572,200	69,500 (4%)

Table 7.2 – Occupational Description and Future Outlook (Cont.)

47-2073	Operating Engineers and Other Construction Equipment Operators	Operate one or several types of power construction equipment, such as motor graders, bulldozers, scrapers, compressors, pumps, derricks, shovels, tractors, or front-end loaders to excavate, move, and grade earth, erect structures, or pour concrete or other hard surface pavement. May repair and maintain equipment in addition to other duties. Excludes "Extraction Workers" (47-5000) and "Crane and Tower Operators" (53-7021).	Construction equipment operators may work even in unpleasant weather. Most operators work full time, and some have irregular work schedules that include nights.	466,900	22,000 (5%)
47-2111	Electricians	Install, maintain, and repair electrical wiring, equipment, and fixtures. Ensure that work is in accordance with relevant codes. May install or service street lights, intercom systems, or electrical control systems. Excludes "Security and Fire Alarm Systems Installers" (49-2098).	Almost all electricians work full time. Work schedules may include evenings and weekends. Overtime is common.	711,200	50,200 (7%)
47-3013	Helpers – Electricians	Help electricians by performing duties requiring less skill. Duties include using, supplying, or holding materials or tools, and cleaning work area and equipment. Construction laborers who do not primarily assist electricians are classified under "Construction Laborers" (47-2061). Apprentice workers are classified with the appropriate skilled construction trade occupation (47-2011 through 47-2231).	Most construction laborers and helpers typically work full time and do physically demanding work. Some work at great heights or outdoors in all weather conditions. Construction laborers have one of the highest rates of injuries and illnesses of all occupations.	1,572,200	69,500 (4%)
49-9071	Maintenance and Repair Workers, General (Operations)	Perform work involving the skills of two or more maintenance or craft occupations to keep machines, mechanical equipment, or the structure of a building in repair. Duties may involve pipe fitting; HVAC maintenance; insulating; welding; machining; carpentry; repairing electrical or mechanical equipment; installing, aligning, and balancing new equipment; and repairing buildings, floors, or stairs. Excludes "Facilities Managers" (11-3013) and "Maintenance Workers, Machinery" (49-9043).	General maintenance and repair workers often carry out many different tasks in a single day. They could work at any number of indoor or outdoor locations. They may work inside a single building, such as a hotel or hospital, or be responsible for the maintenance of many buildings, such as those in an apartment complex or on a college campus.	1,539,100	76,300 (5%)
51-1011	First-Line Supervisors of Production and Operating Workers	Directly supervise and coordinate the activities of production and operating workers, such as inspectors, precision workers, machine setters and operators, assemblers, fabricators, and plant and system operators. Excludes team or work leaders.	N/A	646,800	12,200 (2%)
49-9081	Wind Turbine Service Technicians	Wind Turbine Service Technicians Inspect, diagnose, adjust, or repair wind turbines. Perform maintenance on wind turbine equipment including resolving electrical, mechanical, and hydraulic malfunctions.	Wind turbine service technicians generally work outdoors, in confined spaces, and often at great heights. Most wind techs work full time, and they also may be on call in the evening or on weekends.	11,400	6,800
(60%)	First-Line Supervisors of Production and Operating Workers	Directly supervise and coordinate the activities of production and operating workers, such as inspectors, precision workers, machine setters and operators, assemblers, fabricators, and plant and system operators. Excludes team or work leaders.	N/A	646,800	12,200 (2%)
53-7062	Laborers and Freight, Stock and Material Movers	Manually move freight, stock, luggage, or other materials, or perform other general labor. Includes all manual laborers not elsewhere classified. Excludes "Construction Laborers" (47-2061) and "Helpers, Construction Trades" (47-3011 through 47-3019). Excludes "Material Moving Workers" (53-7011 through 53-7199) who use power equipment.	Most hand laborers and material movers work full time. Because materials are shipped around the clock, some workers, especially those in warehousing, work overnight shifts.	6,473,000	358,300 (6%)
53-7021	Material Moving Machine Operators	Material moving machine operators use equipment to transport objects.	Most material moving machine operators work full time, and some work more than 40 hours per week. Because materials are shipped around the clock, some operators work overnight shifts.	847,700	22,500 (3%)

Table 7.3 – Occupational Output from IMPLAN Construction Model, Direct Jobs, Employment Greater than 1.0

Occ Code	Occupation	Wage and Salary Employment	Wage and Salary Income	Supplements to Wages and Salaries	Employee Compensation	Hours Worked
47-2000	Construction Trades Workers	32.41	$3,115,577.82	$536,596.63	$3,652,174.45	62,685.50
49-9000	Other Installation, Maintenance, and Repair Occupations	25.82	$2,921,451.51	$503,162.22	$3,424,613.73	54,625.15
47-1000	Supervisors of Construction and Extraction Workers	8.60	$1,202,877.17	$207,171.79	$1,410,048.96	18,601.47
49-1000	Supervisors of Installation, Maintenance, and Repair Workers	6.21	$943,745.67	$162,541.52	$1,106,287.19	13,508.36
13-1000	Business Operations Specialists	5.29	$766,236.96	$131,969.15	$898,206.11	10,624.26
11-9000	Other Management Occupations	4.14	$833,587.84	$143,569.01	$977,156.85	8,899.87
11-1000	Top Executives	3.06	$772,660.73	$133,075.52	$905,736.25	6,742.98
43-9000	Other Office and Administrative Support Workers	2.19	$155,327.15	$26,752.03	$182,079.18	3,550.70
43-3000	Financial Clerks	1.85	$162,259.65	$27,946.01	$190,205.67	3,306.67
49-2000	Electrical and Electronic Equipment Mechanics, Installers, and Repairers	1.69	$182,353.86	$31,406.84	$213,760.70	3,510.37
43-6000	Secretaries and Administrative Assistants	1.60	$129,692.08	$22,336.89	$152,028.98	2,804.85
53-3000	Motor Vehicle Operators	1.56	$144,120.52	$24,821.91	$168,942.42	3,192.05
53-7000	Material Moving Workers	1.51	$121,943.85	$21,002.41	$142,946.26	2,694.55
49-3000	Vehicle and Mobile Equipment Mechanics, Installers, and Repairers	1.44	$153,939.49	$26,513.03	$180,452.52	3,083.88
47-4000	Other Construction and Related Workers	1.14	$155,925.08	$26,855.01	$182,780.09	2,236.49
17-2000	Engineers	1.13	$178,534.80	$30,749.09	$209,283.89	2,279.19

Table 7.4 – Occupational Output from IMPLAN Construction Model, Indirect Jobs, Employment Greater than 1.0

Occ Code	Occupation	Wage and Salary Employment	Wage and Salary Income	Supplements to Wages and Salaries	Employee Compensation	Hours Worked
47-2000	Construction Trades Workers	20.46	$1,059,641.44	$196,272.30	$1,255,913.73	39,721.37
13-1000	Business Operations Specialists	4.37	$363,706.62	$81,071.74	$444,778.35	8,658.44
47-1000	Supervisors of Construction and Extraction Workers	3.85	$266,211.82	$49,248.03	$315,459.86	8,379.55
53-3000	Motor Vehicle Operators	3.65	$193,362.69	$45,709.20	$239,071.89	7,356.26
51-8000	Plant and System Operators	3.20	$245,183.58	$85,924.73	$331,108.31	6,127.53
49-9000	Other Installation, Maintenance, and Repair Occupations	3.18	$225,338.44	$69,663.88	$295,002.33	6,084.40
11-9000	Other Management Occupations	2.78	$303,756.09	$69,327.62	$373,083.71	5,859.52
11-1000	Top Executives	2.66	$405,677.16	$107,447.22	$513,124.39	5,710.66
53-7000	Material Moving Workers	2.40	$120,508.92	$32,537.58	$153,046.50	4,076.52
43-9000	Other Office and Administrative Support Workers	2.40	$105,850.84	$27,404.12	$133,254.96	3,864.57
43-3000	Financial Clerks	2.27	$121,861.18	$34,899.27	$156,760.45	3,955.74
43-4000	Information and Record Clerks	2.17	$118,091.56	$33,612.70	$151,704.26	3,546.00
13-2000	Financial Specialists	2.14	$142,751.45	$32,404.38	$175,155.83	4,138.74
39-3000	Entertainment Attendants and Related Workers	1.90	$117,696.84	$42,340.77	$160,037.61	2,805.00
49-3000	Vehicle and Mobile Equipment Mechanics, Installers, and Repairers	1.59	$97,910.56	$23,475.99	$121,386.56	3,260.96
43-6000	Secretaries and Administrative Assistants	1.46	$75,529.38	$19,834.37	$95,363.75	2,524.67
41-2000	Retail Sales Workers	1.44	$73,805.95	$23,799.39	$97,605.34	1,897.64
43-5000	Material Recording, Scheduling, Dispatching, and Distributing Workers	1.43	$94,437.73	$31,522.61	$125,960.34	2,619.60
41-3000	Sales Representatives, Services	1.41	$117,605.75	$24,993.31	$142,599.06	2,739.66
37-2000	Building Cleaning and Pest Control Workers	1.38	$86,760.22	$29,389.35	$116,149.58	2,079.41
35-3000	Food and Beverage Serving Workers	1.32	$61,898.53	$20,975.18	$82,873.71	1,599.30
11-3000	Operations Specialties Managers	1.22	$191,594.30	$51,937.40	$243,531.69	2,484.71
33-9000	Other Protective Service Workers	1.10	$76,699.93	$24,758.69	$101,458.62	1,684.98
15-1200	Computer Occupations	1.07	$105,414.15	$25,687.80	$131,101.94	2,066.81
17-2000	Engineers	1.03	$85,128.16	$18,607.73	$103,735.89	2,059.01

Table 7.5 – Occupational Output from IMPLAN Construction Model, Induced Jobs, Employment Greater than 1.0

Occ Code	Occupation	Wage and Salary Employment	Wage and Salary Income	Supplements to Wages and Salaries	Employee Compensation	Hours Worked
35-3000	Food and Beverage Serving Workers	5.84	$106,858.86	$15,042.89	$121,901.75	6,405.03
41-2000	Retail Sales Workers	4.89	$112,961.82	$23,916.36	$136,878.18	6,650.32
29-1000	Healthcare Diagnosing or Treating Practitioners	4.52	$584,014.02	$117,065.93	$701,079.95	8,399.19
31-1100	Home Health and Personal Care Aides; and Nursing Assistants, Orderlies, and Psychiatric Aides	3.75	$103,868.24	$21,066.48	$124,934.72	6,012.28
35-2000	Cooks and Food Preparation Workers	2.72	$59,489.67	$8,792.26	$68,281.93	3,705.00
53-7000	Material Moving Workers	2.05	$65,864.22	$12,716.24	$78,580.46	3,292.63
43-4000	Information and Record Clerks	2.04	$73,316.14	$13,817.39	$87,133.53	3,377.35
13-1000	Business Operations Specialists	2.02	$121,835.07	$21,862.21	$143,697.28	3,882.32
29-2000	Health Technologists and Technicians	1.98	$114,036.40	$23,190.97	$137,227.37	3,538.55
37-2000	Building Cleaning and Pest Control Workers	1.67	$32,638.26	$6,280.89	$38,919.15	2,668.80
11-1000	Top Executives	1.50	$145,867.36	$26,588.23	$172,455.59	3,195.29
13-2000	Financial Specialists	1.45	$103,216.80	$17,246.01	$120,462.81	2,860.40
43-6000	Secretaries and Administrative Assistants	1.38	$52,866.58	$9,994.67	$62,861.25	2,465.00
53-3000	Motor Vehicle Operators	1.31	$52,066.42	$10,115.84	$62,182.27	2,550.59
31-9000	Other Healthcare Support Occupations	1.17	$44,765.78	$8,687.58	$53,453.35	1,957.15
49-3000	Vehicle and Mobile Equipment Mechanics, Installers, and Repairers	1.14	$55,924.55	$9,904.83	$65,829.38	2,239.95
39-9000	Other Personal Care and Service Workers	1.14	$16,041.46	$2,899.56	$18,941.02	1,442.92
35-1000	Supervisors of Food Preparation and Serving Workers	1.12	$41,042.81	$5,859.83	$46,902.64	1,871.97
43-9000	Other Office and Administrative Support Workers	1.11	$34,932.44	$6,428.17	$41,360.61	1,811.20
11-9000	Other Management Occupations	1.10	$102,039.73	$19,247.85	$121,287.58	2,222.76
43-3000	Financial Clerks	1.09	$39,267.11	$7,383.54	$46,650.66	1,930.39
35-9000	Other Food Preparation and Serving Related Workers	1.04	$16,749.59	$2,376.24	$19,125.82	1,037.97

VIII. Glossary

Bb

Battery Energy Storage Systems (BESS)

An array of hundreds or thousands of small batteries that enable energy from renewables, like solar and wind, to be stored and released at a later time.

Cc

Consumer Price Index (CPI)

An index of the changes in the cost of goods and services to a typical consumer, based on the costs of the same goods and services at a base period.

Dd

Direct impacts

During the construction period: the changes that occur in the onsite construction industries in which the direct final demand change is made.

During operating years: the final demand changes that occur in the onsite spending for the solar operations and maintenance workers.

Ee

Equalized Assessed Value (EAV)

The product of the assessed value of property and the state equalization factor. This is typically used as the basis for the value of property in a property tax calculation.

Ff

Farming profit

The difference between total revenue (price multiplied by yield) and total cost regarding farmland.

Full-time equivalent (FTE)

A unit that indicates the workload of an employed person. One FTE is equivalent to one worker working 2,080 hours in a year. One half FTE is equivalent to a half-time worker or someone working 1,040 hours in a year.

Hh

HV line extension

High-voltage electric power transmission links used to connect generators to the electric transmission grid.

Ii

IMPLAN (IMpact analysis for PLANning)

A business who is the leading provider of economic impact data and analytic applications. IMPLAN data is collected at the federal, state, and local levels and used to create state-specific and county-specific industry multipliers.

Indirect impacts

Impacts that occur in industries that make up the supply chain for that industry.

During the construction period: the changes in inter-industry purchases resulting from the direct final demand changes, including construction spending on materials and equipment and other purchases of good and offsite services.

During operating years: the changes in inter-industry purchases resulting from the direct final demand changes.

Induced impacts

The changes that occur in household spending as household income increases or decreases as a result of the direct and indirect effects of final demand changes.

Inflation

A persistent rise in the general level of prices related to an increase in the volume of money and resulting in the loss of value of currency. Inflation is typically measured by the CPI.

Mm

Median Household Income (MHI)

The income amount that divides a population into two equal groups, half having an income above that amount, and half having an income below that amount.

Millage rate

The tax rate, as for property, assessed in mills per dollar.

Multiplier

A factor of proportionality that measures how much a variable changes in response to a change in another variable.

MW

A unit of power, equal to one million watts or one thousand kilowatts.

MWac (megawatt alternating current)

The power capacity of a utility-scale solar PV system after its direct current output has been fed through an inverter to create an alternating current (AC). A solar system's rated MWac will always be lower than its rated MWdc due to inverter losses. AC is the form in which electric energy is delivered to businesses and residences and that consumers typically use when plugging electric appliances into a wall socket.

MWdc (megawatt direct current)

The power capacity of a utility-scale solar PV system before its direct current output has been fed through an inverter to create an alternating current. A solar system's rated MWdc will always be higher than its rated MWac.

Nn

Net economic impact

Total change in economic activity in a specific region, caused by a specific economic event.

Net Present Value (NPV)

Cash flow determined by calculating the costs and benefits for each period of investment.

National Renewable Energy Laboratory's (NREL) Jobs and Economic Development Impacts (JEDI) Model

An input-output model that measures the spending patterns and location-specific economic structures that reflect expenditures supporting varying levels of employment, income, and output.

Oo

Output

Economic output measures the value of goods and services produced in a given area. Gross Domestic Product is the economic output of the United States as a whole.

Rr

Real Gross Domestic Product (GDP)

A measure of the value of goods and services produced in an area and adjusted for inflation over time.

Ss

Stochastic

To have some randomness.

Tt

Tax rate

The percentage (or millage) of the value of a property to be paid as a tax.

Total economic output

The quantity of goods or services produced in a given time period by a firm, industry, county, or country.

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X. Curriculum Vitae (Abbreviated)

David G. Loomis
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Education

Doctor of Philosophy, Economics, Temple University, Philadelphia, Pennsylvania, May 1995.

Bachelor of Arts, Mathematics and Honors Economics, Temple University, Magna Cum Laude, May 1985.

Experience

2011-present Strategic Economic Research, LLC
President

- Performed economic impact analyses on policy initiatives and energy projects such as wind energy, solar energy, natural gas plants and transmission lines at the county and state level
- Provided expert testimony before state legislative bodies, state public utility commissions, and county boards
- Wrote telecommunications policy impact report comparing Illinois to other Midwestern states

1996-2023 Illinois State University, Normal, IL
Professor Emeritus – Department of Economics (2023 - present)
Full Professor – Department of Economics (2010-2023)
Associate Professor - Department of Economics (2002-2009)
Assistant Professor - Department of Economics (1996-2002)

- Taught Regulatory Economics, Telecommunications Economics and Public Policy, Industrial Organization and Pricing, Individual and Social Choice, Economics of Energy and Public Policy and a Graduate Seminar Course in Electricity, Natural Gas and Telecommunications Issues
- Supervised as many as 5 graduate students in research projects each semester
- Served on numerous departmental committees

1997-2023 Institute for Regulatory Policy Studies, Normal, IL
Executive Director (2005-2023)
Co-Director (1997-2005)

- Grew contributing membership from 5 companies to 16 organizations
- Doubled the number of workshop/training events annually
- Supervised 2 Directors, Administrative Staff and internship program
- Developed and implemented state-level workshops concerning regulatory issues related to the electric, natural gas, and telecommunications industries

2006-2018 Illinois Wind Working Group, Normal, IL
Director

- Founded the organization and grew the organizing committee to over 200 key wind stakeholders
- Organized annual wind energy conference with over 400 attendees
- Organized strategic conferences to address critical wind energy issues
- Initiated monthly conference calls to stakeholders
- Devised organizational structure and bylaws

2007-2018 Center for Renewable Energy, Normal, IL
Director

- Created founding document approved by the Illinois State University Board of Trustees and Illinois Board of Higher Education
- Secured over $150,000 in funding from private companies
- Hired and supervised 4 professional staff members and supervised 3 faculty members as Associate Directors
- Reviewed renewable energy manufacturing grant applications for Illinois Department of Commerce and Economic Opportunity for a $30 million program
- Created technical "Due Diligence" documents for the Illinois Finance Authority loan program for wind farm projects in Illinois
- Published 40 articles in leading journals such as AIMS Energy, Renewable Energy, National Renewable Energy Laboratory Technical Report, Electricity Journal, Energy Economics, Energy Policy, and many others
- Testified over 80 times in formal proceedings regarding wind, solar and transmission projects
- Raised over $7.7 million in grants
- Raised over $2.7 million in external funding

Bryan A. Loomis
Strategic Economic Research, LLC
Vice President

Education

Master of Business Administration (M.B.A.), Marketing and Healthcare, Belmont University, Nashville, Tennessee, 2017.

Experience

2019-present Strategic Economic Research, LLC, Bloomington, IL
Vice President
(2021-present)
Property Tax Analysis and Land Use Director
(2019-2021)

- Directed the property tax analysis by training other associates on the methodology and overseeing the process for over twenty states
- Improved the property tax analysis methodology by researching various state taxing laws and implementing depreciation, taxing jurisdiction millage rates, and other factors into the tax analysis tool
- Executed land use analyses by running Monte Carlo simulations of expected future profits from farming and comparing that to the solar lease
- Performed economic impact modeling using JEDI and IMPLAN tools
- Improved workflow processes by capturing all tasks associated with economic modeling and report-writing, and created automated templates in Asana workplace management software

2019-2021 Viral Healthcare Founders LLC, Nashville, TN
CEO and Founder

- Founded and directed marketing agency for healthcare startups
- Managed three employees
- Mentored and worked with over 30 startups to help them grow their businesses
- Grew an email list to more than 2,000 and LinkedIn following to 3,500
- Created a Slack community and grew to 450 members
- Created weekly video content for distribution on Slack, LinkedIn and Email

Christopher Thankan
Strategic Economic Research, LLC
Director of Economic Analysis

Education

Bachelor of Science in Sustainable & Renewable Energy (B.S.), Minor in Economics, Illinois State University, Normal, IL, 2021

Experience

2021-present Strategic Economic Research, LLC, Bloomington, IL
Economic Analyst

- Create economic impact results on numerous renewable energy projects Feb 2021-Present
- Utilize IMPLAN multipliers along with NREL's JEDI model for analyses
- Review project cost Excel sheets
- Conduct property tax analysis for different US states
- Research taxation in states outside research portfolio
- Complete ad hoc research requests given by the president
- Hosted a webinar on how to run successful permitting hearings
- Research school funding and the impact of renewable energy on state aid to school districts
- Quality check coworkers JEDI models
- Started more accurate methodology for determining property taxes that became the main process used

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Appendix E.3
Property Value Impact Report

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REAL ESTATE ADJACENT PROPERTY VALUE IMPACT CONSULTING REPORT:

Academic and Peer Authored Property Value Impact Studies, Research and Analysis of Existing Wind Facilities, and Market Participant and Assessor Interviews

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January 9, 2025

LETTER OF TRANSMITTAL

January 9, 2025

Brie Anderson
Director of Project Permitting
Apex Clean Energy
120 Garrett Street, Suite 700
Charlottesville, VA 22902

SUBJECT: Property Value Impact Consulting Report
An Analysis of Existing Wind Farms

To Whom it May Concern:

CohnReznick is pleased to submit the accompanying property value impact consulting report for the proposed wind energy use known as Coles Wind Project (the "Project"). CohnReznick researched property transactions adjacent to existing wind farms, researched and analyzed articles and other published studies, and interviewed real estate professionals and Township/County Assessors active in the market where wind farms are located, to gain an understanding of actual market transactions in the presence of wind energy uses.

The purpose of this consulting assignment is to determine whether proximity to a renewable energy use (wind farm) has an impact on adjacent property values. The intended use of our findings and conclusions is to address certain criteria related to impacts on adjacent property values, in an application for a Special Use Permit for the proposed wind energy generation use, known as the Coles Wind Project, to be located in Coles County, Illinois. We have not been asked to value any specific property, and we have not done so.

The client and intended user for the assignment is Coles Wind, LLC. The report may be used only for the aforementioned purpose and may not be distributed without the written consent of CohnReznick LLP ("CohnReznick").

This consulting assignment is intended to conform to the Uniform Standards of Professional Appraisal Practice (USPAP), the Code of Professional Ethics and Standards of Professional Appraisal Practice of the Appraisal Institute, as well as applicable state appraisal regulations.

Based on the analysis in the accompanying report, and subject to the definitions, assumptions, and limiting conditions expressed in the report, our findings are:

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FINDINGS

I. Published Studies *(pages 18-21):* CohnReznick reviewed and analyzed published academic studies that specifically analyzed the impact of wind facilities on nearby property values. These studies include multiple regression analyses of hundreds and thousands of sales transactions for both residential homes and farmland properties in rural communities. The vast majority of studies with large-scale data sets concluded existing wind facilities have had no negative impact on adjacent property values.

II. CohnReznick Studies *(pages 22-97)*: Further, CohnReznick has evaluated nine existing wind farms and sales of adjacent residential properties, in which we have determined that the existing wind facilities have not caused any consistent and measurable negative impact on property values. These existing wind farms are most similar to the Project in terms of general location and size, summarized as follows:

CohnReznick - Existing Wind Farms Studied

Wind Farm #	Wind Farm	Date Placed in Service	County, State	Approximate Project Area (Acres)	MW AC	Turbine Rated Capacity	Turbines
1	Top Crop Wind Farm	Aug-10	Livingston, Grundy & LaSalle Counties, IL	28,000	300.0	1.5 MW	200
2	Pilot Hill Wind Farm	Aug-15	Kankakee and Iroquois Counties, IL	15,000	175.0	1.7 MW	103
3	Kelly Creek Wind Project	Dec-16	Kankakee and Ford Counties, IL	20,000	184.0	2.0 MW	92
4	Camp Grove Wind Farm	Dec-07	Marshall and Stark Counties, IL	14,000	150.0	1.5 MW	100
5	Lee-DeKalb Wind Energy Center	Dec-09	DeKalb and Lee Counties, IL	22,000	217.5	1.5 MW	145
6	White Oak Wind Energy Center	Jun-11	McLean County, IL	11,000	150.0	1.5 MW	100
7	Rail Splitter Wind Farm	Aug-09	Tazewell & Logan Counties, IL	11,000	100.5	1.5 MW	67
8	Bright Stalk Wind Farm	Dec-19	McClean County, IL	18,000	205.2	3.6 MW	57
9	Headwaters II Wind Farm	Jun-21	Randolph County, IN	19,000	200.0	3.6 MW - 4.2 MW	49

It is noted that proximity to the wind farms has not deterred sales of residential single-family homes, nor has it deterred the development of new single-family homes on adjacent land.

III. Market Participant Interviews *(pages 98-100)*: Our conclusions also consider interviews with County and Township Assessors, who have at least one wind farm in their jurisdiction, and in which they have determined that wind farms have not negatively affected adjacent property values.

With regards to the Project, we specifically interviewed Assessors with wind farms in their jurisdictions:

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- When discussing recent wind farm development in the county, Shelly Renken, Supervisor of Assessments in ***Livingston County, Illinois*** reported that there is no documentation that shows an impact to property values and that values have not materially increased or decreased as a result of being near a wind farm.
- We spoke with the ***Stark County, Illinois*** Tax Assessor, Renee Johnson, regarding the Camp Grove Wind Farm and she reported that she could not see a difference in the home prices between current values and before the wind farm was built in 2007.
- Bridget Nodurft, Chief Deputy of the Supervisor of Assessments Office in ***Dekalb County, Illinois***, reported that being near the turbines did not cause harm to property values.
- ***Lee County, Illinois*** Chief County Assessment Officer, Wendy Ryerson has not noticed any difference in the values of homes that are near wind turbines.
- Tracey Vinavich, Chief County Assessor of ***Henry County, Illinois*** told us that there have been no changes in values because of the wind farms that have been developed.
- Christine Anderson, GIS Coordinator in the Tax Assessor's office in ***Bureau County, Illinois***, reported that they never received any complaints about potential changes in home values, before or after any of the wind farms were built.

To give us additional insight as to how the market evaluates farmland and single-family homes with views of wind farms, we interviewed numerous real estate brokers and other market participants who were party to actual sales of property adjacent to wind farms; these professionals also confirmed that wind farms did not diminish property values or marketability in the areas they conducted their business.

CONCLUSION

Considering all of the preceding, the data indicates there is no trend of negative impacts on adjacent property values, based on their location near energy facilities.

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If you have any questions or comments, please contact the undersigned. Thank you for the opportunity to be of service.

Very truly yours,

CohnReznick LLP

Andrew R. Lines, MAI, CRE
Principal
Certified General Real Estate Appraiser
Illinois License No. 553.001841
Expires 9/30/2025

Erin C. Bowen, MAI
Director

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SCOPE OF WORK

CLIENT AND INTENDED USERS

The Client and Intended Users of this report are Coles Wind, LLC.

INTENDED USE

The intended use of our findings and conclusions is to address certain criteria related to impacts on adjacent property values, in an application for a Special Use Permit for the proposed wind energy generation use, known as the Coles Wind Project to be located in Coles County, Illinois. The report may be used only for the aforementioned purpose and may not be distributed without the written consent of CohnReznick LLP ("CohnReznick").

PURPOSE

The purpose of this consulting assignment is to determine whether proximity to the proposed wind facility will result in an impact on adjacent property values.

DEFINITION OF VALUE

This report utilizes Market Value as the appropriate premise of value. Market value is defined as:

"The most probable price which 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 are the consummation of a sale as of a specified date and the passing of title from seller to buyer under conditions whereby:

1. Buyer and seller are typically motivated;
2. Both parties are well informed or well advised, and acting in what they consider their own best interests;
3. A reasonable time is allowed for exposure in the open market.
4. Payment is made in terms of cash in U.S. dollars or in terms of financial arrangements comparable thereto; and
5. 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]

EFFECTIVE DATE & DATE OF REPORT

January 9, 2025 (Paired sale analyses contained within each study are periodically updated.)

[1] Code of Federal Regulations, Title 12, Chapter I, Part 34.42[h]

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PRIOR SERVICES

USPAP requires appraisers to disclose to the client any services they have provided in connection with the subject property in the prior three years, including valuation, consulting, property management, brokerage, or any other services.

This report is a compilation of the Existing Wind Farms which we have studied over the past year and is not evaluating a specific subject site. In this instance, there is no “subject property” to disclose.

INSPECTION

Andrew R. Lines, MAI, CRE and Erin C. Bowen, MAI have viewed the exterior of all comparable data referenced in this report in person, via photographs, or aerial imagery.

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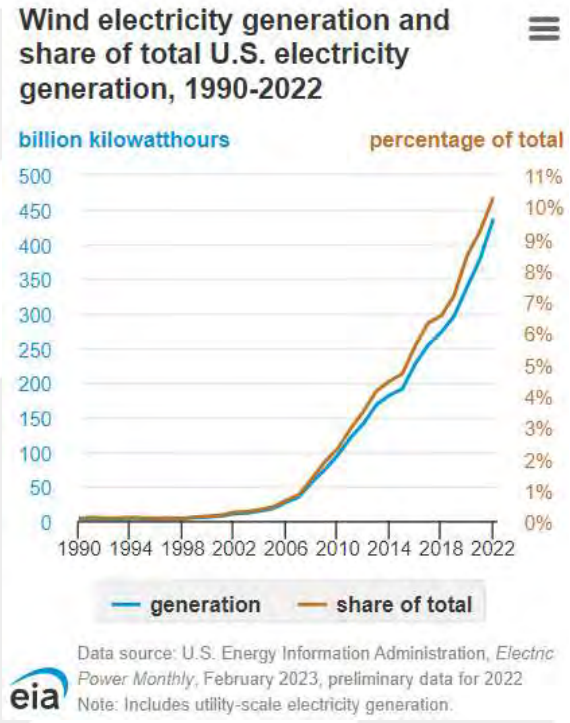
OVERVIEW OF WIND DEVELOPMENT IN THE UNITED STATES

Total annual U.S. electricity generation from wind energy increased from about 6 billion kilowatt-hours (kWh) in 2000 to about 434 billion kWh in 2022. In 2022, wind turbines were the source of about 10.3% of total U.S. utility-scale electricity generation. Utility-scale includes facilities with at least one megawatt (1,000 kilowatts) of electricity generation capacity.



By 2050, wind technology is projected to generate 404.25 GW of power across the continental United States, which is three times the amount of the existing generating capacity. With the increase of wind generating facilities across the country, wind projects have become a common and understood feature of the landscape and will continue to do so with the projected additional capacity to come online in the coming years.

Along with the development of new related technology over the past several years, the relative height of turbines has been increasing. To produce more power, larger rotors and blades cover a wider area and increase the capacity of the turbine. More power is also produced when the blades are higher in the atmosphere, where the wind blows more steadily, increasing how often it runs. According to the US Office of Energy Efficiency & Renewable Energy's report, "Land-Based Wind Market Report: 2024 Edition," long-term improvements in the cost and performance of wind power technologies have driven wind energy capacity additions. Wind turbines continued to grow in size and power, with the average nameplate capacity of newly installed wind turbines at 3.4 MW—up 5% from 2022 and 375% since 1998−1999. The average rotor diameter of newly installed turbines in 2023 was 439 feet, a 2% increase over 2022 and 178% over 1998−1999.

The average "tip height" (from ground to blade tip extended directly overhead) among projects that came online in 2023 is 558 feet, and FAA data suggest that future projects, including those under construction and in advanced development, will deploy even taller turbines. Among proposed turbines in the FAA permitting process, the average tip height reaches more than 675 feet. Historically, 500 feet was considered a ceiling due to more-involved FAA permitting and approval processes for turbines above that height. The tallest turbines in the permitting process—those with a tip height of at least 740 feet (225 meters)—are proposed for Arizona, New Mexico, Texas, Kansas, Washington, Oregon, Idaho, Montana, Maine, Ohio and central Illinois, but turbines of at least 656 feet (200 meters) appear likely to be installed in every region of the United States (see the following figure).

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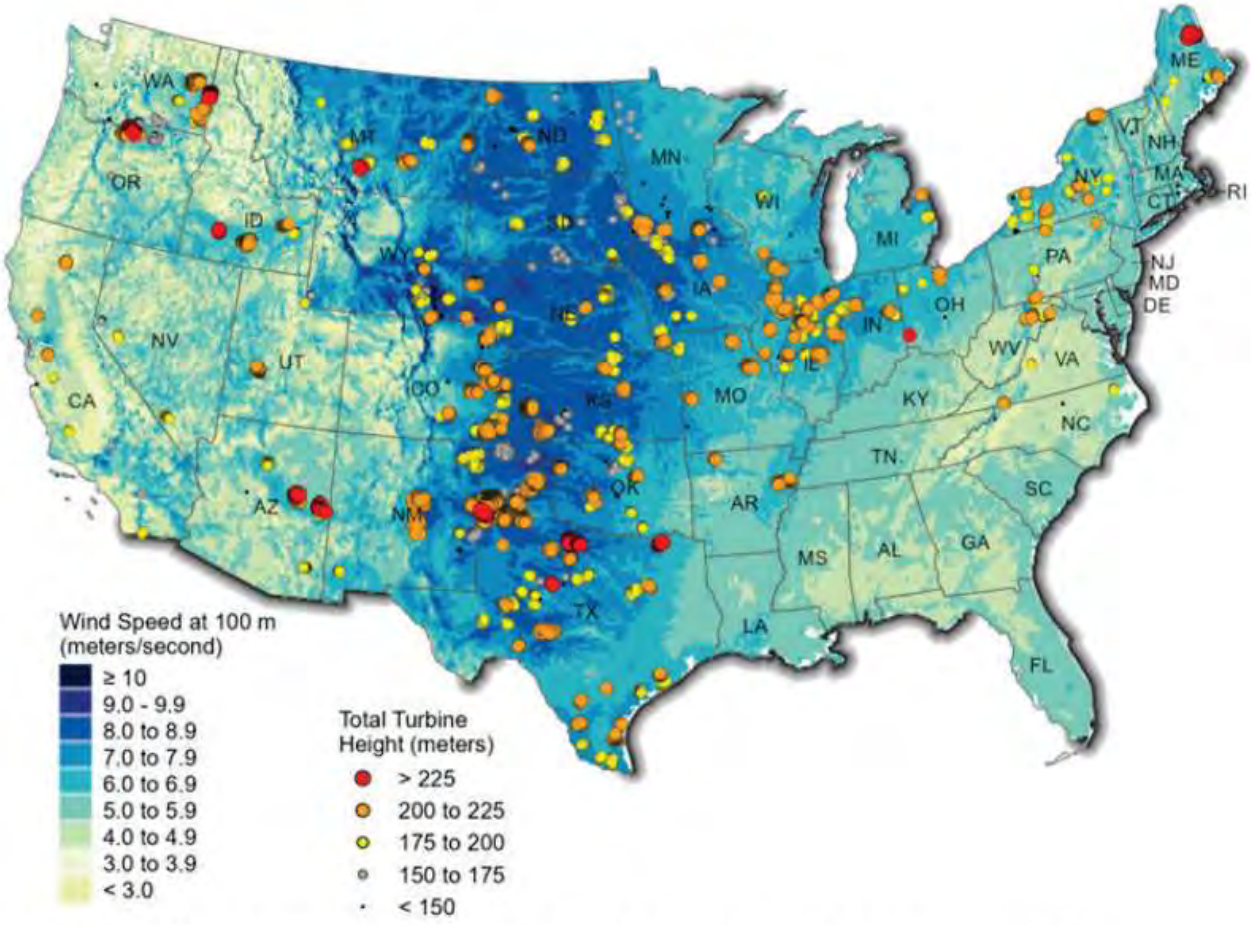

Note: Figure includes FAA data on under-construction, advanced development, pending, and proposed turbines

Sources: FAA Obstacle Evaluation / Airport Airspace Analysis files, AWS Truepower, ACP, Berkeley Lab

Figure 31. Total turbine heights proposed in FAA applications, by location

Winds farms throughout the US have setback requirements defined by distances from non-participating structures or in relation to the turbine structure height, whichever distance is shorter. For example, Illinois requires the distance from the property line and public rights of ways to a wind turbine at 110% of the height of the wind turbine. Additionally, Illinois requires the distance from non-participating residences, schools, places of worship, daycares, libraries and community centers to a wind turbine at 210% of the height of the wind turbine. Coles County requires a setback 210% of the height of the wind turbine from occupied community buildings and the nearest point on the outside wall of non-participating property. A setback of 1.1 times the turbine tower height to participating residences, 1.1 times the maximum blade tip height of the nearest wind tower from non-participating property lines, and 1.1 times the turbine tower height to public road right of ways, above ground utilities, railroads and on-site buildings.

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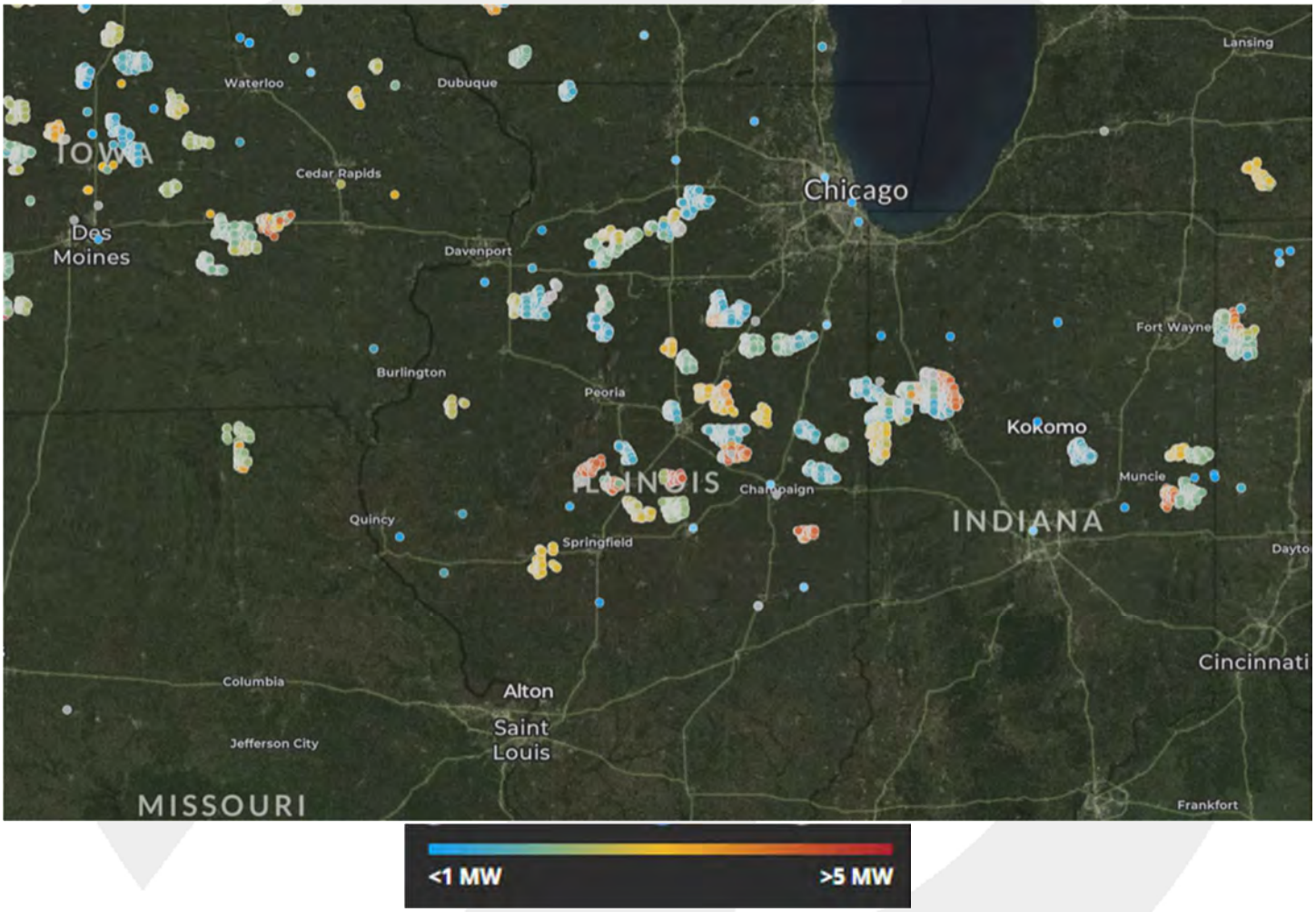
OVERVIEW OF WIND DEVELOPMENT IN ILLINOIS

According to the U.S. Energy Information Administration, there are 60 wind energy projects operating in the state of Illinois and they generate approximately 7,904 megawatts (MW) of power. The following map illustrates the regional concentration of wind farms according to the U.S. Wind Turbine Database.



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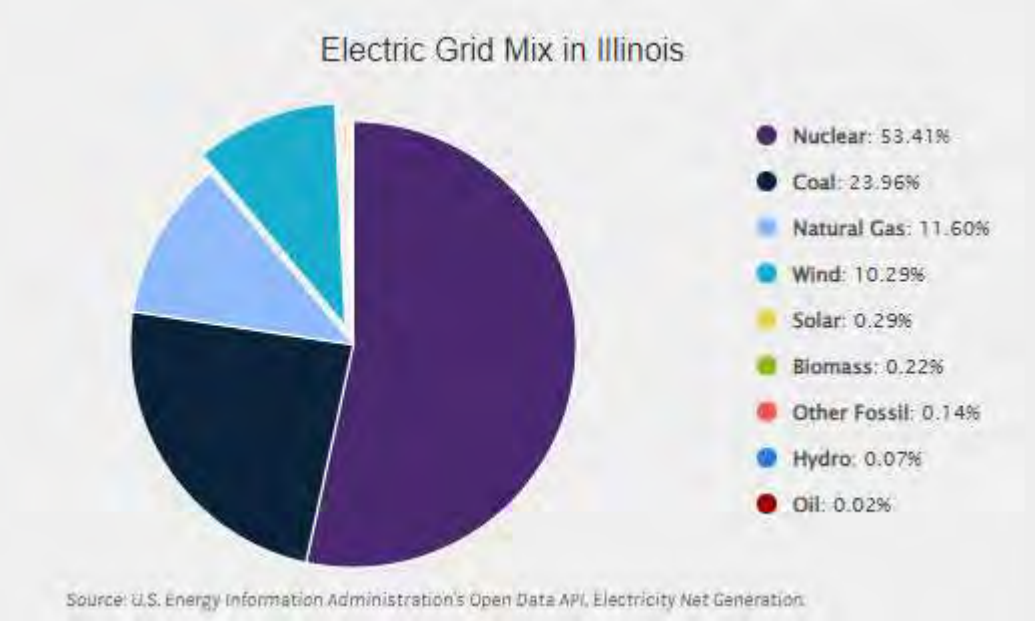
As illustrated in the following, the state's net electricity generation by source is 11.6% natural gas, 24.0% coal-fired, 53.4% nuclear (most in the nation) and 10.3% wind.



The nameplate capacity (or rated capacity) of a wind turbine is the amount of energy the turbine would produce if it ran 100 percent of the time at optimal wind speeds, according to the New York State Energy Research & Development Association (NYSERDA).[2] Of the wind developments in Illinois, the highest nameplate capacity, as measured in megawatts (MW), is the Blackstone I & II Wind Farm located in Livingston County. The Blackstone I & II Wind Farm turbines generate 306 megawatts of power and became operational in August 2010.

On average, the wind farms in Illinois produce 131.7 megawatts of power each. Installations of wind farm developments date from 2003 to 2023 in the state. There are currently two wind farms under construction in Illinois: the Osagrove Flats Wind Project in LaSalle County with a capacity of 150 MW, expected to become operational in 2026, and the Panther Creek Wind Project in Pike County with a capacity of 54.4 MW, expected to become operational in 2025. There are four other proposed wind projects in various states of approval. CohnReznick has considered the long history of wind farms within the state.

[2] Wind Energy Basics – New York State Energy Research & Development Association

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APPRAISAL THEORY – ADJACENT PROPERTY'S IMPACT ON VALUE

According to Randall Bell, Ph.D., MAI, author of the text *Real Estate Damages,* published by the Appraisal Institute in 2016, understanding the market's perceptions on all factors that may have an influence on a property's desirability (and therefore its value) is essential in determining if a diminution or enhancement of value has occurred.[3] According to Dr. Bell:

> *"There is often a predisposition to believe that detrimental conditions automatically have a negative impact on property values. However, it is important to keep in mind that if a property's value is to be affected by a negative condition, whether internal or external to the property, that condition must be given enough weight in the decision-making process of buyers and sellers to have a material effect on pricing relative to all the other positive and negative attributes that influence the value of that particular property."*[4]

Market data and empirical research through the application of the three traditional approaches to value should be utilized to estimate the market value to determine if there is a material effect on pricing due, to the influence of a particular characteristic of or on a property.

A credible impact analysis is one that is logical, innate, testable and repeatable, prepared in conformity with approved valuation techniques. In order to produce credible assignment results, more than one valuation technique should be utilized to support the primary method, or a check of reasonableness, such as the utilization of more than one approach to value, conducting a literature review, or having discussions (testimony) with market participants.[5] CohnReznick implemented the scientific method[6] to determine if a detrimental condition of proximity to a wind farm exists, further described in the next section.

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[3] Bell, Randall, PhD, MAI. Real Estate Damages. Third ed. Chicago, IL: Appraisal Institute, 2016. (Pages 1-2)
[4] Ibid, Page 314
[5] Ibid, Pages 7-8
[6] The scientific method is a process that involves observation, development of a theory, establishment of a hypothesis, and testing. The valuation process applies principles of the scientific method as a model, based upon economic principles (primarily substitution) as the hypothesis. The steps for the scientific method are outlined as follows:

1. Identify the problem.
2. Collect relevant data.
3. Propose a hypothesis.
4. Test the hypothesis.
5. Assess the validity of the hypothesis.

Bell, Randall, PhD, MAI. Real Estate Damages. Third ed. Chicago, IL: Appraisal Institute, 2016. (Pages 314-316)

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METHODOLOGY

The purpose of this report is to determine whether proximity to the proposed wind facility will result in any measurable and consistent impact on adjacent property values. To test this hypothesis, CohnReznick identified three relevant techniques to test if a detrimental condition exists.

(1) A review of published studies;
(2) Paired sale analysis of properties adjacent to existing wind generating facilities, which may include repeat sale analyses or "Before and After" analyses; and,
(3) Interviews with real estate professionals and local real estate assessors.

The paired sales analysis is an effective method of determining if there is a detrimental impact on surrounding properties.

> *"One of the most useful applications of the sales comparison approach is paired sale analysis. This type of analysis may compare the subject property or similarly impacted properties called* ***Test Areas*** *(at Points B, C, D, E, or F) with unimpaired properties called* ***Control Areas*** *(Point A). A comparison may also be made between the unimpaired value of the subject property before and after the discovery of a detrimental condition. If a legitimate detrimental condition exists, there will likely be a* ***measurable and consistent difference*** *between the two sets of market data; if not, there will likely be no significant difference between the two sets of data. This process involves the study of a group of sales with a detrimental condition, which are then compared to a group of otherwise similar sales without the detrimental condition."*[7]

As an approved method, paired sales analysis can be utilized to extract the effect of a single characteristic on value. By definition, paired data analysis is "a quantitative technique used to identify and measure adjustments to the sale prices or rents of comparable properties; to apply this technique, sales or rental data on nearly identical properties is analyzed to isolate a single characteristic's effect on value or rent."[8] The text further describes that this method is theoretically sound when an abundance of market data, or sale transactions, is available for analysis.

Where data is available, CohnReznick has also prepared "Before and After" analyses or a Repeat Sale Analysis,[9] to determine if a detrimental impact has occurred.

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[7] Bell, Randall, PhD, MAI. Real Estate Damages. Third ed. Chicago, IL: Appraisal Institute, 2016. (Page 33)
[8] The Appraisal of Real Estate 14th Edition. Chicago, IL: Appraisal Institute, 2013.
[9] Another type of paired sales analysis involves studying the sale and subsequent resale of the same property. This method is used to determine the influence of time on market values or to determine the impact of a detrimental condition by comparing values before and after the discovery of the condition.
Bell, Randall, PhD, MAI. Real Estate Damages. Third ed. Chicago, IL: Appraisal Institute, 2016. (Page 35)

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SCOPE OF WORK

The scope of work utilized to test the hypothesis stated on the prior page is as follows:

1. Review published studies, assess credibility, and validity of conclusions;
2. Prepare paired sale analyses for existing wind farms as follows:
    2.1. Identify existing wind farms comparable to the proposed project to analyze;
    2.2. Define Test Area Sales and Control Areas Sales;
    2.3. Collect market data (sale transactions) for both Test Area and Control Area Sales;
    2.4. Analyze and confirm sales, including omission of sales that are not reflective of market value;
    2.5. Prepare comparative analysis of Test Area and Control Area sales, adjusting for market conditions;
    2.6. Interpret calculations; and
3. Conduct interviews with real estate professionals and local real estate assessors who have evaluated real property adjacent to existing wind farms.

It should be noted that our impact report methodology has been previously reviewed by our peers in the field.

The following bullet points summarize important elements to consider in our scope of work:

- Due to the limited number of existing larger utility scale projects in the state of Illinois, we have incorporated other utility scale projects in other states.

- Test Area Sales consists of sales that are adjacent to an existing wind facility, within 1.0 mile of a wind turbine. Ownership and sales history for each adjoining property to an existing wind farm through the effective date of this report is maintained within our workfile. Adjoining properties with no sales data or that sold prior to the announcement of the wind farm were excluded from further analysis.

- Control Area Sales are generally located in the same market area, outside 3.0 miles of any wind turbine, although varies based on the general location of the existing wind farm under analysis. In rural areas, sales are identified first within the township, and the search expands radially outward through the county until a reliable set of data points is obtained.

- Control Area Sales are generally between 12 and 18 months before or after the date of the Test Area Sale(s), and are comparable in physical characteristics such as age, condition, style, and size.

- Sales of properties that sold in a non-arm's length transaction (such as a transaction between related parties, bank-owned transaction, or between adjacent owners) were excluded from analysis as these are not considered to be reflective of market value, as defined earlier in this report. The sales that remained after exclusions were considered for a paired sale analysis.

- The methodology employed in this report for paired sale analysis does not rely on multiple subjective adjustments that are typical in many appraisals and single-paired sales analyses. Rather, the

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methodology remains objective and the only adjustment required is for market conditions;[10] the analysis relies upon market conditions trends tracked by credible agencies such as the Federal Housing Finance Agency ("FHFA"), which maintains a House Price Index ("HPI")[11] for macro and micro regions in the United States. A market conditions adjustment is a variable that affects all properties similarly and can be adjusted for in an objective manner.

- To make direct comparisons, the sale price of the Control Area Sales was adjusted for market conditions to a common date. In this analysis, the common date is the date of the Test Area Sale(s). After adjustment, any measurable difference between the sale prices would be indicative of a possible price impact by the wind facility.

- If there is more than one Test Area Sale to evaluate, the sales are grouped if they exhibit similar transactional and physical characteristics; otherwise, they are evaluated separately with their own respective Control Area Sale groups.

A summary of the analyses completed is presented on the following pages in the section entitled Technique 2: Paired Sale Analyses. Details of these analyses is retained within our workfile.

[10] Adjusting for market conditions is necessary as described in The Appraisal of Real Estate 14th Edition as follows: "Comparable sales that occurred under market conditions different from those applicable to the subject on the effective date of appraisal require adjustment for any differences that affect their values. An adjustment for market conditions is made if general property values have increased or decreased since the transaction dates."

[11] The FHFA HPI is a weighted, repeat-sales index, meaning that it measures average price changes in repeat sales or refinancings on the same properties. This information is obtained by reviewing repeat mortgage transactions on single-family properties whose mortgages have been purchased or securitized by Fannie Mae or Freddie Mac since January 1975. The FHFA HPI serves as a timely, accurate indicator of house price trends at various geographic levels. Because of the breadth of the sample, it provides more information than is available in other house price indexes.

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TECHNIQUE 1: REVIEW OF PUBLISHED STUDIES

We have also examined various studies that consider the impact of wind farms on surrounding property values. The studies range from formal and robust statistical analyses by appraisers and economists, to less formal survey-based and qualitative research, and are summarized in a table on the following page.

Of the most cited 19 wind studies in North America, all but four concluded that the proximity of a wind farm to a residential home has no negative impact on property value. Most of these studies included data sets in the hundreds, and several in the thousands, of home sale transactions, and resulted in this conclusion: there is no statistical evidence that wind farms decrease property values.

Ben Hoen, Research Scientist at Lawrence Berkeley National Laboratory ("LBNL"), and a prolific expert on wind farms and property values, wrote of his own literature review in his 2016 study (see Study 1 in Summary table on the following page) that "One of the overall conclusions that can be drawn from this literature is that wind facilities are often predicted to negatively impact residential property values in pre-construction surveys, but **negative impacts have largely failed to materialize post-construction when actual transaction data become available for analysis.**"[12]

It is noted that the 2016 study, which focused on urban areas in Massachusetts, resulted in a conclusion consistent with the LBNL 2013 study which utilized 51,276 home sales from 27 U.S. counties related to 67 wind facilities, and 1,198 home sales were within one mile of a wind turbine.

The Springfield-Sangamon County Regional Planning Commission (SSCRPC), in Illinois, reviewed some of the most often cited literature concerning the effect of wind farms on property values and found that there was no compelling research indicating that proximity to a wind farm results in a measurable decline in property values over time. Research was found indicating that people might *believe* it would lead to such a decline, which may result in a short-term decline prior to property owners gaining experience with a wind farm.[13] Once a community lives with a wind farm in operation, property owners' fears are put to rest and any fluctuation in value stabilizes.

The SSCRPC agreed with the National Association of Realtors who report in their *Field Guide to Wind Farms and their Effect on Property Values*, "Although the research remains scant, wind farms appear to have a minimal or at most transitory impact on property values" (National Association of Realtors, 2009)." The following page summarizes the 19 most cited wind studies; we have also addressed each study which concludes to an impact, on subsequent pages.

[12] *https://pages.jh.edu/jrer/papers/pdf/past/vol38n04/9867-01.473_504.pdf*
[13] *https://www.ilarconline.org/file/67/InfoBrief-WECS-and-PropertyValue-March-2012-Update_doc.pdf*

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	Summary of Published Studies on the Impact of Wind Farms on Property Values					
	Study Title	Author	Date	Methodology	Location	Impact Found
1	The visual effect of wind turbines on property values is small and diminishing in space and time	Guo & Wenz	2024	Hedonic Regression Analysis of 300M home sales from 1997 - 2020	United States	No Impact
2	Wind turbines, amenities, and disamenities: a study of home value impacts in densely populated Massachusetts	Hoen, et al.	2016	Hedonic Regression Analysis of 122,000 home sales from 1998 - 2012	Massachusetts	No Impact
3	Impact of Industrial Wind Turbines on Residential Property Assessment in Ontario	Moore, et al.	2016	Multiple Regression Analysis of 25 market areas	Ontario, Canada	No Impact
4	Brookings County 2015 Property Value Survey	Prevailing Winds	2015	Simple observation of increase/decrease in value of 233 proximate and non-proximate properties (Ag & Res)	Brookings County, SD	No Impact
5	A Spatial Hedonic Analysis of the Effects of Wind Energy Facilities on Surrounding Property Values in the United States	Hoen, et al.	2013	Spatial-process difference-in-difference hedonic models of 50,000 home sales	27 Counties in 9 U.S. States	No Impact
* 6	Case Study: Effects of Wind Turbine Facility	Lansink	2012	Five sales & re-sales of SFR homes	Melancthon, Ontario (Canada)	Negative Impact
7	The Effect of Wind Farms on Residential Property Values in Lee County, Illinois	Carter	2011	Hedonic Regression Analysis on proximate and regional sales data of 1,298 homes from 1998 - 2010	Lee County, IL	No Impact
* 8	Values in the Wind: A Hedonic Analysis of Wind Power Facilities	Heintzelman & Tuttle	2011	Hedonic Regression Analysis of 11,369 property sales over 9 years	Clinton, Franklin, and Lewis Counties in New York	Negative Impact
9	Wind energy facilities and residential properties: the effect of proximity and view on sales prices	Hoen, et al.	2011	Hedonic Regression Analysis of 7,500 home sales	24 existing wind facilities in the United States	No Impact
10	Wind Energy Study - Effect on Real Estate Values	Canning (MAI)	2010	Multiple Regression Analysis, Paired Sale Analysis of 83 homes	Chatham-Kent, Ontario (Canada)	No Impact
11	Wind farm proximity and property values: a pooled hedonic regression analysis of property values in central Illinois	Hinman	2010	Hedonic Regression Analysis with Difference-in-Difference Estimators of 3,851 sales from 2001 - 2009	McLean County, IL	No Impact
* 12	Written Testimony	McCann	2010	Compared sale prices of SFR <2 miles (15 home sales) and > 2 miles from turbines (38 home sales).	Near Mendota Hills Wind Farm, Lee County, IL	Negative Impact
13	The Impact of Wind Power Projects on Residential Property Values in the United States: A Multi-Site Hedonic Analysis	Hoen, et al.	2009	Hedonic Regression analysis & Repeat Sales Models of 7,500 home sales	24 existing wind facilities in the United States	No Impact
* 14	Wind Turbine Impact Study	Kielisch	2009	Compared values of vacant residential lots using regression analysis	Dodge & Fond Du Lac Counties, WI	Negative Impact
15	A Real Estate Study of the Proposed White Oak Wind Energy Center, McLean & Woodford Counties, Illinois	Poletti	2007	Statistical analysis of 256 home sales in close proximity and those not proximate	McLean & Woodford Counties, IL	No Impact
16	Impacts of windmill visibility on property values in Madison County, New York	Hoen	2006	Hedonic Regression Analysis of 280 home sales from 1996 - 2005	Madison County, NY	No Impact
17	A Study on the Impact of Windmills on Property Values in Tucker County, West Virginia	Goldman	2006	Qualitative interviews	Tucker County, WV	No Impact
18	Market Impact Analysis	MaRous (MAI)	2005	Matched Pair Analysis and Interviews	Bureau County, IL	No Impact
19	The Effect of Wind Development on Local Property Values	Sterzinger	2003	Linear Regression Analysis of 25,000 home sales near 10 wind farms	7 U.S. States	No Impact

**Notes on studies located on the following pages.*

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Study 5, Case Study: Effects of Wind Turbine Facility by Ben Lansink of Lansing Appraisals and Consulting, published in 2012 is often cited as an example of a wind farm having a negative impact on property values. The Lansink report studied five single family homes that were purchased by Canadian Hydro Developments Inc. in 2007. Later in 2009, Canadian Hydro Developments Inc. sold these same five homes at a loss, averaging -29 percent, according to Lansink. Lansink also calculates that average values in the area of the subject homes increased over the same two-year period an average of 16.22 percent. Canada also experienced the Great Recession from approximately 2007 through 2009. Lansink's assertion that the market for these homes should have appreciated rather than fallen may be flawed. Additionally, Lansink does not subject his home sales data to any sort of control group study or statistical analysis. Overall, this study uses a small amount of data and uses broad averages about property appreciation that could be flawed and does not adjust or account for any differences in the homes analyzed.

Study 7, Values in the Wind: A Hedonic Analysis of Wind Power Facilities by Heintzelman and Tuttle (2011) in Clinton, Franklin, and Lewis Counties in New York presents a larger sample of data than had previously been studied (11,391 home sales over nine years). Subsequent research has studied even more data in larger magnitudes (Study 4: Hoen, et al. 2013 studied 50,000 home sales, and Study 1: Hoen et al. 2016 studied 122,000 home sales), coming to the conclusion that there is no negative impact on property values after construction of a wind farm. CohnReznick believes this study contains significant weaknesses including:

- Most of the transactions identified took place BEFORE Wind turbines were installed
- Study includes sales of property occurring after the start of the Great Recession, with no qualifiers or variables to compensate for market conditions adjustment
- Study extracts conclusions that are not consistent with basic real estate principles:
    - "Lot size is, unusually, not a significant factor" (p. 20)
    - "Homes with open water or wetlands are more valuable" (p.20)
    - "Strangely, homes classified as having 'excellent' construction quality appear to sell for less than those with average quality…" (p. 21)
- Study assumes that a sale of properties occurring "very close" to a turbine "expect that future wind development may be possible on their parcels, which would necessitate easement payments."
- Suggests there may be negative property value effects in the post-announcement/pre-construction phase; however, these anticipation effects (sometimes described as "anticipation stigma") are transitory and disappear once the operation of the wind farm commences.

The sum of these exceptions may indicate that the study was poorly put together and contains flaws that make it unreliable.

Study 11, Written Testimony from Michael McCann from 2010, about the supposed negative impacts on property values near the Mendota Hills Wind Farm, in Lee County, Illinois was disproven by the actual facts that have unfolded over time. The Lee County Tax Assessor, Wendy Ryerson, told us in an interview in March 2020, that the County has not noticed any difference in values of homes since the wind farm was completed in 2003. "We don't even see people coming forward to say, 'Reduce the assessment for my taxes'." Ryerson said. Ryerson is considered an expert in the assessment community regarding wind farms and developed the formula for assessing wind farms in 2003 that was accepted as a standard by the State of Illinois in 2007.

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In addition, McCann was rebutted by the testimony of Mark A. Thayer, Ph.D., Department of Economics at San Diego State University, in 2017 where he testified that "[McCann's] alternative literature has formed the basis for testimony by Michael McCann, who has offered basically the same testimony in a multitude of settings – specifically, residential properties located within three miles (or possibly greater distances) of wind turbines will experience a minimum 25-40 percent reduction in value for homes.

- Note that this is a minimum expected loss as McCann has on several occasions suggested that the loss could be significantly greater. In fact, in a publication/statement entitled "I Predict a Series of Rural Ghettos – Abandoned, Unmaintained Homes (III)," McCann stated in 2010 that the only thing worse than wind turbines for creating the physical and health-driven need to relocate is a nuclear reactor meltdown (e.g., Chernobyl) and indicated that damages to homes could be in the 60 – 80 percent range. Of course, no justification was provided for that damage range.
- The expected reductions in value are based on (1) McCann's own analysis; (2) an alternative literature; and (3) McCann's willful misinterpretation / misunderstanding of the existing hedonic literature in which he demonstrates a complete lack of knowledge concerning statistics and hedonic methods and draws erroneous conclusions that are exactly opposite of the conclusions drawn by the authors of specific reports.

CohnReznick concurs with Thayer's conclusions that McCann's conclusions are misinformed and should be disregarded, especially in light of the data discussed by Tax Assessor Wendy Ryerson.

Study 13, Wind Turbine Impact Study by Kurt C. Kielisch of Appraisal Group One, compared vacant residential lot sales within the wind turbine farm area to comparable sales of vacant residential lots and supposes that the negative impact observed would translate to improved single-family land. This leap is, frankly, unfounded in the appraisal community. Improved properties do not necessarily react to external influences or experience changes in value in the same way, or with the same magnitude, as vacant land.

Ultimately, the overwhelming scientific data and measurements indicate no negative impact on adjacent residential real estate – conclusions developed by industry experts using regression models, paired sales analysis, and surveys with market participants.

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TECHNIQUE 2: PAIRED SALE ANALYSIS

WIND FARM 1: TOP CROP WIND FARM, LIVINGSTON, GRUNDY, & LASALLE COUNTIES, IL

Coordinates: Latitude 41.150800, Longitude -88.623300

PINs: Multiple

Project Area: Approximately 28,000 acres

Date Project Announced: Unknown

Date Project Completed: Phase I Completed October 2009, Phase II Completed August 2010

Output: 300.0 MW AC

The Top Crop Wind Farm is a 200-turbine wind farm comprised of 1.5 MW wind turbines in portions of Livingston County, Grundy County, and LaSalle County, Illinois. The turbines are 328 feet tall from base to tip of the apex. The wind farm Is located approximately 35 miles west of the city of Kankakee and 60 miles southwest of the city of Chicago. The Project area is primarily rural, adjacent to the northwest of the town of Dwight and to the east of the town of Ransom.

The wind farm was completed in two phases, with the first phase beginning construction in April 2009 and the second phase beginning in spring 2010. Phase I of the Top Crop Wind Farm was completed in October 2009 while Phase II was completed in August 2010. The facility generates enough electricity to power the equivalent of 103,000 average Illinois homes, according to the US Energy Information Administration. In 2012, it was announced that the Top Crop Wind Project entered an agreement to sell 25 MW of energy to Commonwealth Edison. Additionally, after completion of Phase II of the Top Crop Wind Project, an agreement was made with Constellation Energy Commodities Group to purchase the energy generated by the wind farm.

We have analyzed all single-family residential sales data from properties that sold in the past five years, beginning in July 2017. We searched for homes in close proximity to a wind turbine, within one mile. We identified six single-family residential homes that qualified for a paired sales analysis that were in close proximity to a wind turbine and were open-market, arm's length transactions.

PAIRED SALES ANALYSIS

We have considered only one type of paired sales analysis, which was comparing sales of properties not proximate to the wind farm (Control Area Sales) to the sales of adjoining properties after the completion of the wind farm project (Test Area Sales). We identified two groups of Test Area Sales based primarily on location and home type. We have analyzed sales of homes that occurred in the previous five years, beginning in July 2017.

We have excluded three home sales that were initially considered for Test Area Sales due to the lack of comparable transactions in the surrounding area.

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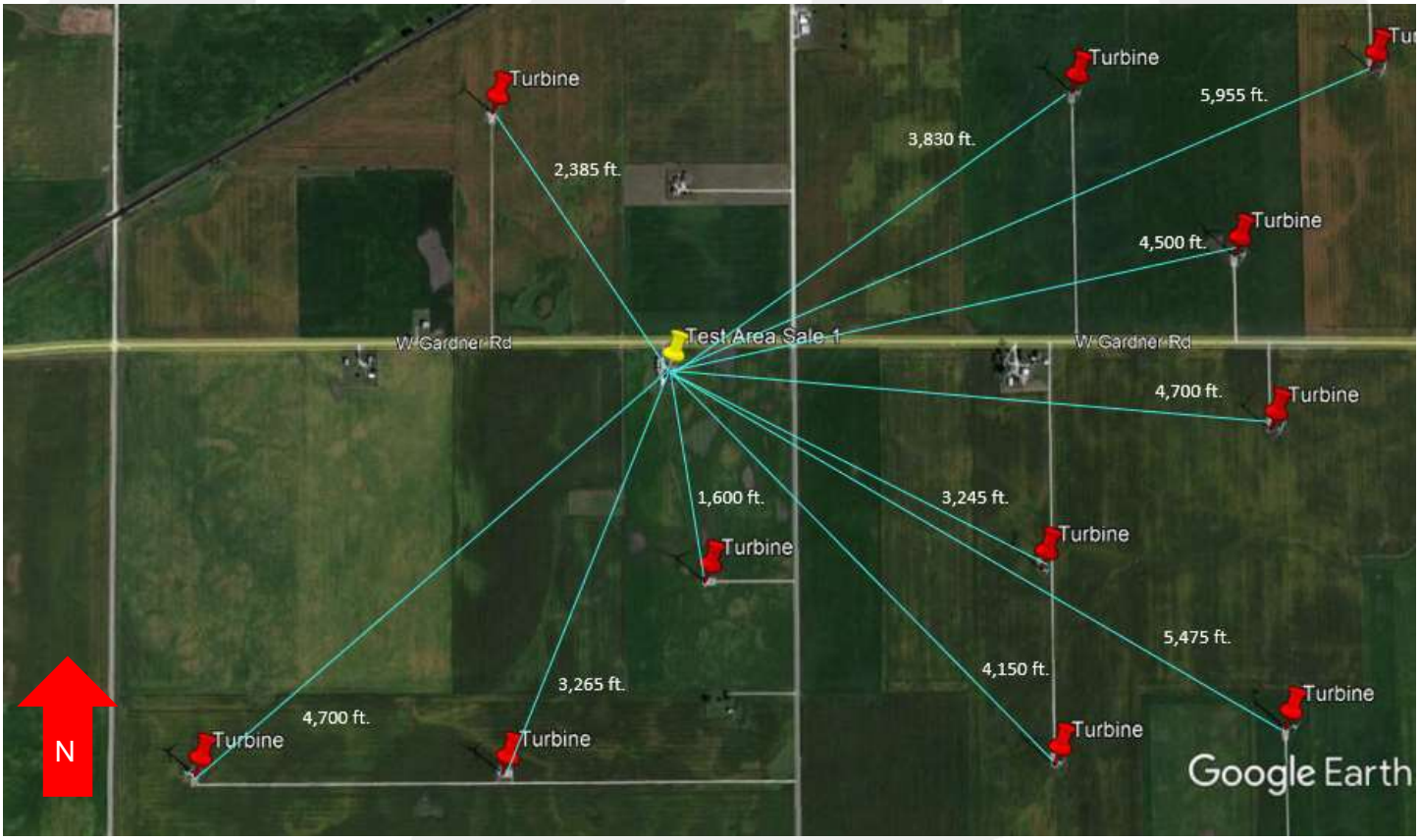
Group 1 – Improved Single-Family Residential Properties

Top Crop Wind Farm, Group 1 - Test Sales											
Test Area Sale No.	Address	Township	Sale Price	GLA SF	Type	Bedrooms	Bathrooms	Year Built	Lot Size (AC)	Sale Date	Sale Price/SF
1	8193 W. Gardner Road	Kinsman	$191,000	1,848	1-Story Single Family Home with Unfinished Basement, Attached Garage, Deck and In-Ground Pool	3	2.0	1975	1.00	6/4/2019	$103.35
2	7970 S. Kinsman Road	Kinsman	$125,000	1,532	1-Story Single Family Home with Unfinished Basement, and Attached Garage	3	2.0	1970	1.00	8/24/2022	$81.59

In Group 1, Test Area Sale 1, a single-family home, was considered for a paired sales analysis, and sold in June 2019 after the completion of the wind farm. The home is adjacent to several wind turbines and is approximately 1,600 feet from the nearest turbine, as shown below.



In Group 1, Test Area Sale 2, a single-family home, was considered for a paired sales analysis, and sold in August 2022 after the completion of the wind farm. The home is adjacent to several wind turbines and is approximately 2,060 feet from the nearest turbine, as shown in the following map.

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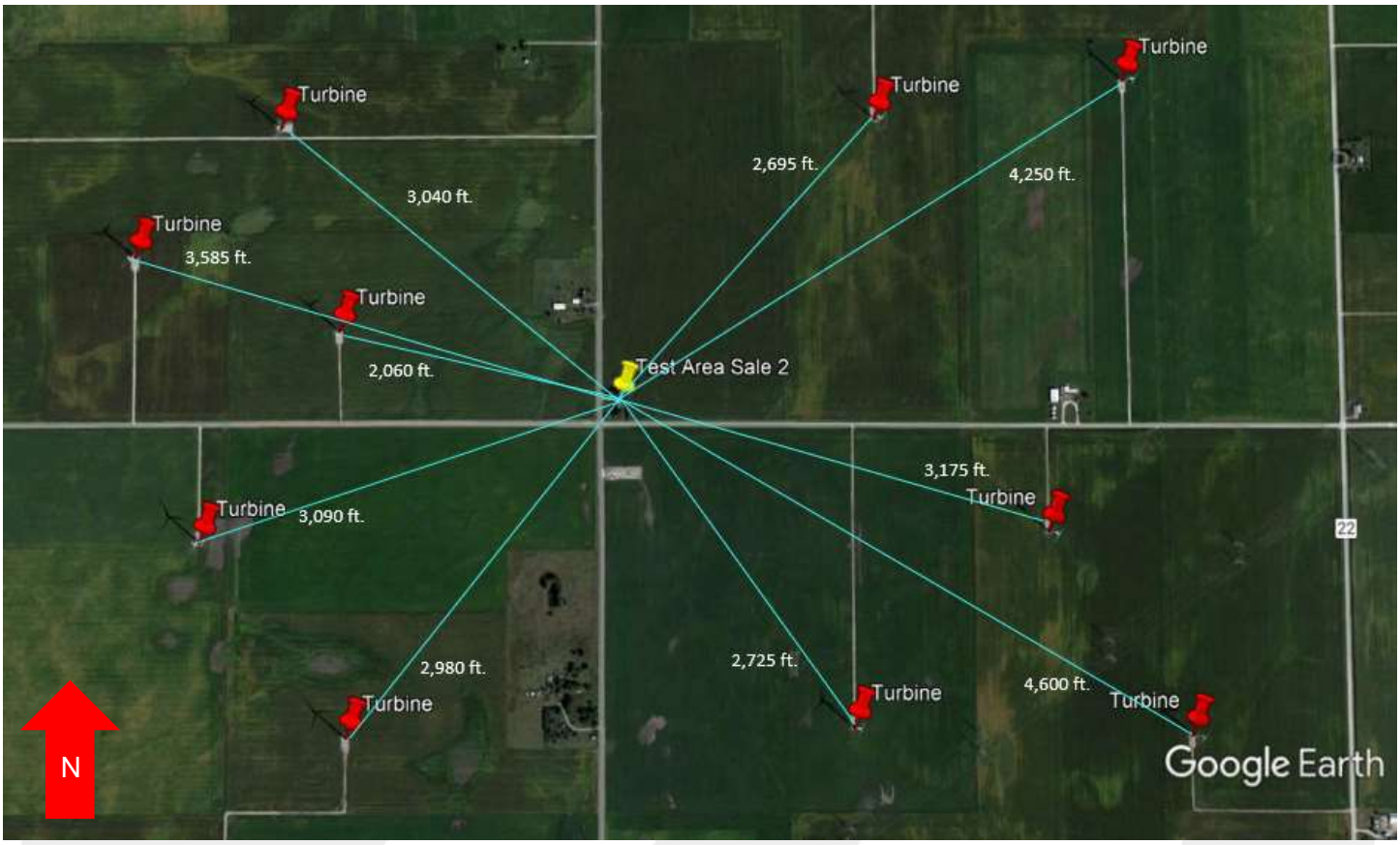

We analyzed nine Control Area Sales of single-family homes with similar construction and use that were not located in close proximity to a wind farm, more than 3 miles from the nearest turbine within Livingston County, Grundy County or LaSalle County, and that sold within a similar time frame from the sale date of the Test Area Sale. The Control Area Sales are single-family homes with three to four bedrooms and one to three baths, consisting of between 1,350 square feet and 2,100 square feet of gross living area, built between 1951 and 1982, with lot sizes of between 0.68 and 2.47 acres. Additionally, the Control Area Sales are between one and two stories, have garage parking, and do not have full finished basements. All of the Control Sales are located in rural areas, similar to the Test Sale.

For all Control Area Sales, the median price per square foot of building area (above grade) was adjusted for marketing condition using the Federal Housing Finance Agency's House Price Index (HPI), a weighted, repeated-sales index measuring the average price changes in repeat sales or refinancing of the same properties. The FHFA HPI serves as a timely, accurate indicator of house price trends at various geographic levels. The result of our analysis for Group 1 is presented on the following page, including the physical characteristics of the Test Area Sales and range of characteristics of the Control Area Sales.

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CohnReznick Paired Sale Analysis Top Crop Wind Farm - Group 1		
No. of Sales	**Potentially Impacted by Wind Farm**	**Adjusted Median Price Per SF**
Test Area Sale (2)	Adjoining wind farm	$92.47
Control Area Sales (9)	No: Not adjoining wind farm	$90.47
Difference between Unit Price of Test Area Sales and Adjusted Median Unit Price of Control Area Sales		**2.22%**

Top Crop Wind Farm - Group 1				
	Gross Finished Living Area (SF)	**Land Size (AC)**	**Year Built**	**Beds / Baths**
Test Area Sale	1,532 - 1,848	1.00	1970 - 1975	3 / 2
Control Area Sales (Range)	1,363 - 2,074	0.68 - 2.47	1951 - 1982	3 - 4 / 1-3

The days on market for the Test Area Sales was 69 days, while the median days on market for the Control Area sales was 62 days (ranging from 22 to 342 days), ***and we note no negative marketing time differential.***

Noting no negative price differential, it does not appear that the proximity Top Wind Farm use impacted the sale price of the Test Area Sales in Group 1. The Test Area Sales indicate a slightly higher unit sales price than the Control Area Sales, but the difference is relatively nominal.

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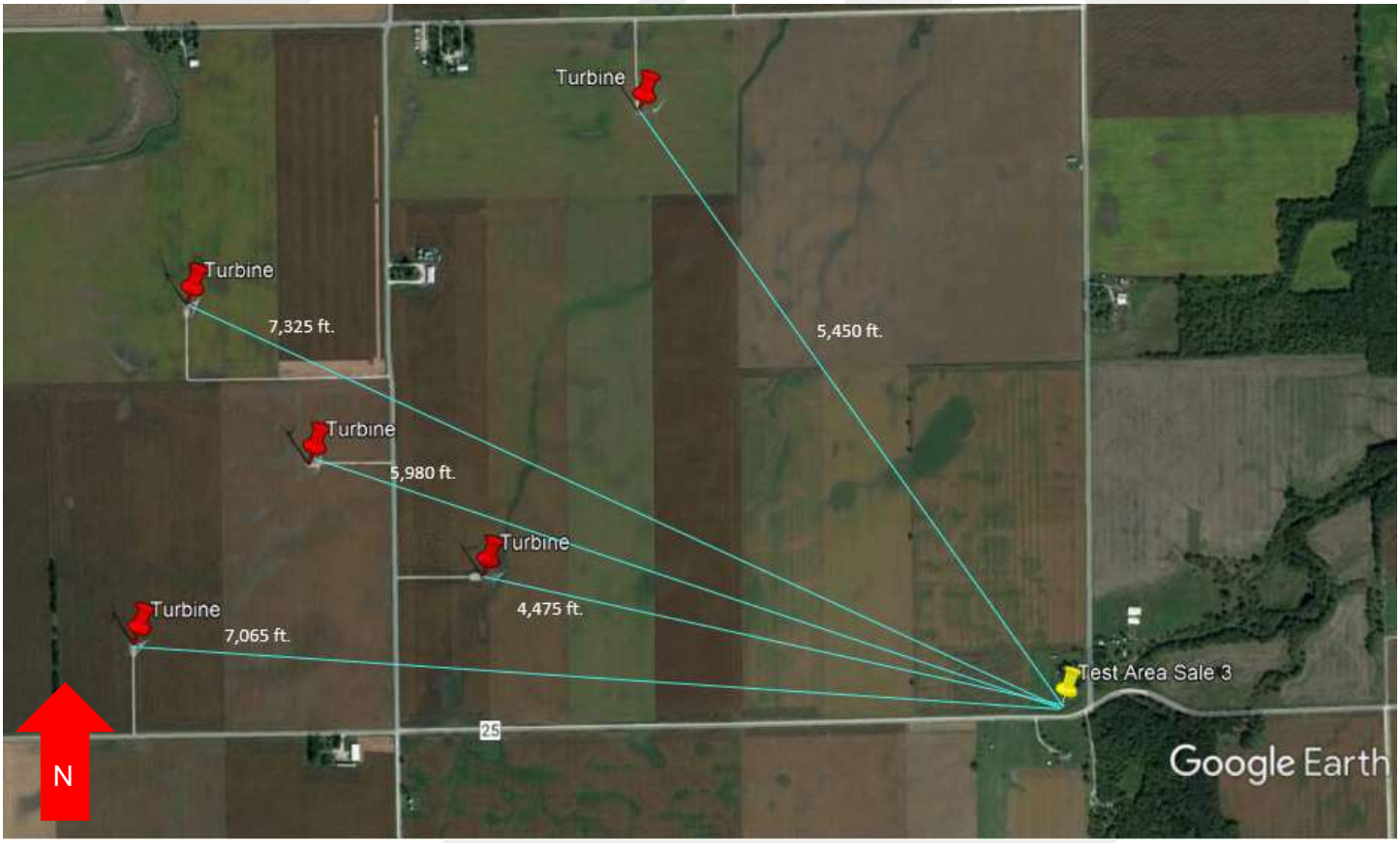
Group 2 – Improved Single-Family Residential Properties

Top Crop Wind Farm, Group 2 - Test Sale											
Test Area Sale No.	Address	Township	Sale Price	GLA SF	Type	Bedrooms	Bathrooms	Year Built	Lot Size (AC)	Sale Date	Sale Price/SF
3	8935 S. Ward Road	Dwight	$145,000	1,092	1.5-Story Single Family Home with Partially Finished Basement, Detached Garage, and Farm Structures	2	1.0	1935	5.00	7/25/2018	$132.78

Test Area Sale 3, a single-family home was considered for a paired sales analysis, and sold in July 2018 after the completion of the wind farm. The home is adjacent to several wind turbines and is approximately 4,475 feet from the nearest turbine, as shown below.



We analyzed four Control Area Sales of single-family homes with similar construction and use that were not located in close proximity to a wind farm, more than 3 miles from the nearest turbine within Livingston County, Grundy County or LaSalle County, and that sold within a similar time frame from the sale date of the Test Area Sale. The Control Area Sales are single-family homes with two to three bedrooms and one to one and a half baths, consisting of between 1,075 square feet and 1,450 square feet of gross living area, built between 1930 and 1938, with lot sizes of between 3.26 and 5.00 acres. Additionally, the Control Area Sales are between one

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and two stories, have garage parking, and unfinished basements. All of the Control Sales are located in rural areas, similar to the Test Sale.

For all Control Area Sales, the median price per square foot of building area (above grade) was adjusted for marketing condition using the Federal Housing Finance Agency's House Price Index (HPI), a weighted, repeated-sales index measuring the average price changes in repeat sales or refinancing of the same properties. The FHFA HPI serves as a timely, accurate indicator of house price trends at various geographic levels. The result of our analysis for Group 2 is presented on the following page, including the physical characteristics of the Test Area Sale and range of characteristics of the Control Area Sales.

CohnReznick Paired Sale Analysis Top Crop Wind Farm - Group 2		
No. of Sales	**Potentially Impacted by Wind Farm**	**Adjusted Median Price Per SF**
Test Area Sale (1)	Adjoining wind farm	$132.78
Control Area Sales (4)	No: Not adjoining wind farm	$121.09
Difference between Unit Price of Test Area Sales and Adjusted Median Unit Price of Control Area Sales		**9.66%**

Top Crop Wind Farm - Group 2				
	Gross Finished Living Area (SF)	**Land Size (AC)**	**Year Built**	**Beds / Baths**
Test Area Sale	1,092	5.00	1935	2 / 1
Control Area Sales (Range)	1,078 - 1,414	3.26 - 5.00	1930 - 1938	2 - 3 / 1 - 1.5

The days on market for the Test Area Sale was 40 days, while the median days on market for the Control Area sales was 107 days (ranging from 50 to 164 days), ***and we note no negative marketing time differential.***

Noting no negative price differential, it does not appear that the proximity Top Crop Wind Farm use impacted the sale price of Test Area Sale 3, 8935 S. Ward Road. The Control Area Sales indicate a lower unit sales price than the Test Area sale.

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WIND FARM 2: PILOT HILL WIND FARM, KANKAKEE AND IROQUOIS COUNTIES, ILLINOIS

Coordinates: Latitude 40.999169, Longitude -88.05625

PINs: Multiple

Owner of Record: EDF Renewable Asset Holdings, Inc.

Date Project Announced: Unknown

Date Project Completed: August 2015

Project Area: Approximately 15,000 acres

Output: 175 MW AC

Pilot Hill Wind Farm is a 103-turbine wind farm composed of 1.7 MW wind turbines (for a nameplate capacity of 175.0 megawatts), in southwest Kankakee County and northwest Iroquois County, Illinois. The turbines range from 406 to 426 feet tall from base to tip of the apex. The wind farm is located approximately 10 miles south of the city of Kankakee, which is the county seat, and 60 miles southwest of the city of Chicago. The Project area is predominantly rural and adjacent to the Kelly Creek Wind Farm Project area.

The wind farm began initial operations in August 2015. In November 2015, it was announced that the Pilot Hill project benefits from a 20-year Power Purchase Agreement (PPA) with Microsoft Corporation and will power 100% of the energy needs of Microsoft's data center in Illinois. The facility generates enough electricity to power the equivalent of 60,000 homes, according to US Energy Information Administration.

Altogether we analyzed all single-family residential home sales data from properties that sold from August 2015 to April 2022. We searched for homes in close proximity to a wind turbine, less than one mile. We identified six single-family residential homes that qualified for a paired sales analysis that were in close proximity to a wind turbine.

The aerial image on the following page displays the five Test Area properties in relation to the closest turbines. We have grouped the five test sales into three groups based on date of sale and size of property.

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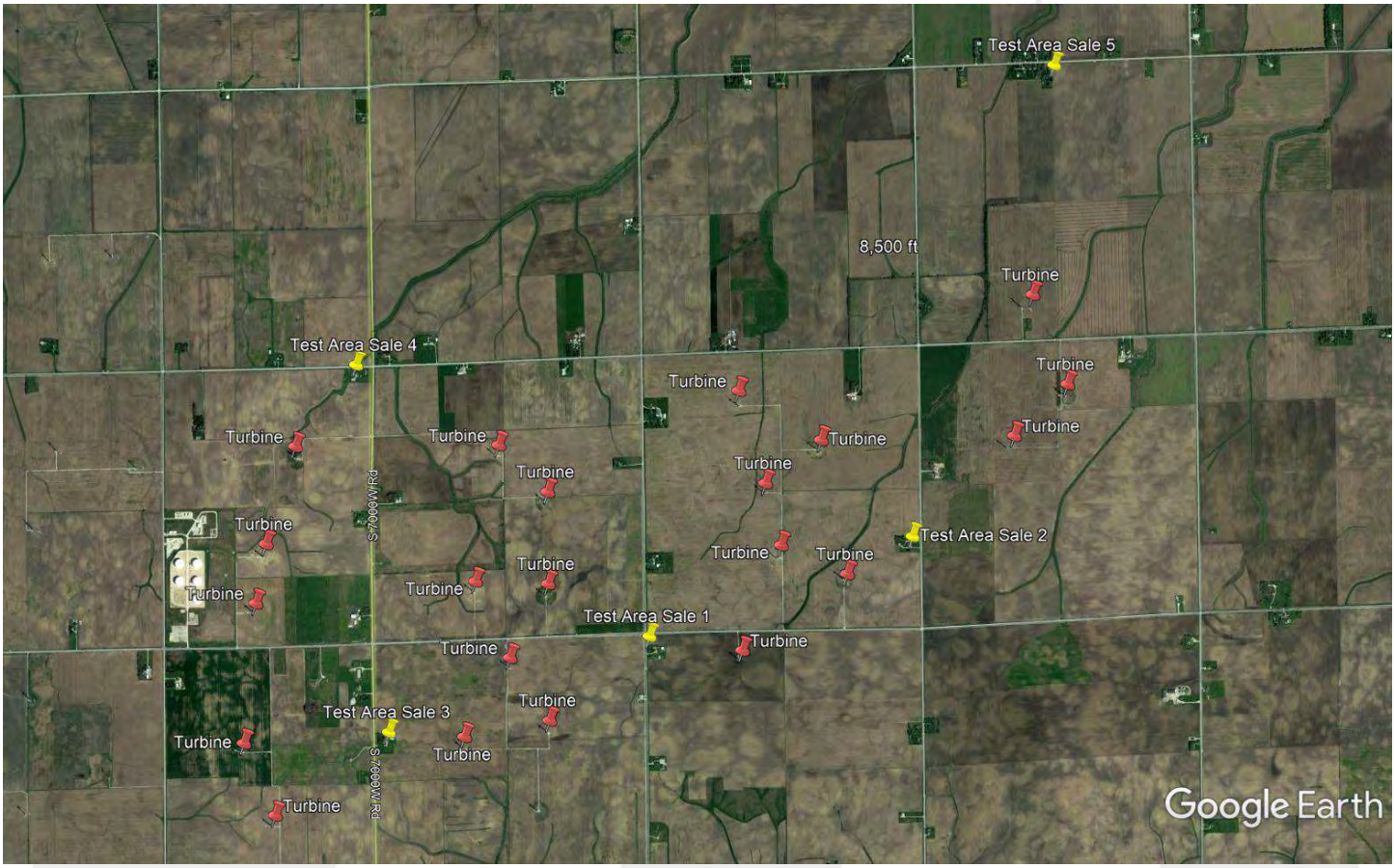

Pilot Hill Wind Farm: Test Area Properties

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Group 1 includes 3 Test Area Sales that have similar sizes, number of bedrooms, lot sizes, and sale dates.

Pilot Hill Wind Farm Group 1										
Test Area Sale #	Address	Township	Sale Date	Sale Price	Above Grade SF	Beds	Baths	Year Built	Median Site Size (Acres)	Price/ SF
1	7077 S 6000 Rd W	Chebanse	3/4/2022	$185,567	1,776	3	2.0	1974	5.00	$104.49
2	6716 S 5000 Rd W	Chebanse	5/20/2021	$223,000	1,675	3	3.5	Before 1978	3.61	$133.13
3	7365 S 7000 Rd W	Chebanse	10/1/2020	$260,000	1,900	4	2.0	Before 1978	3.65	$136.84

In Group 1, Test Area Sale 1, a single-family home was considered for a paired sales analysis, and sold in March 2022 after the completion of the wind farm. The home is adjacent to several wind turbines and is approximately 1,800 feet from the nearest turbine, as shown below.

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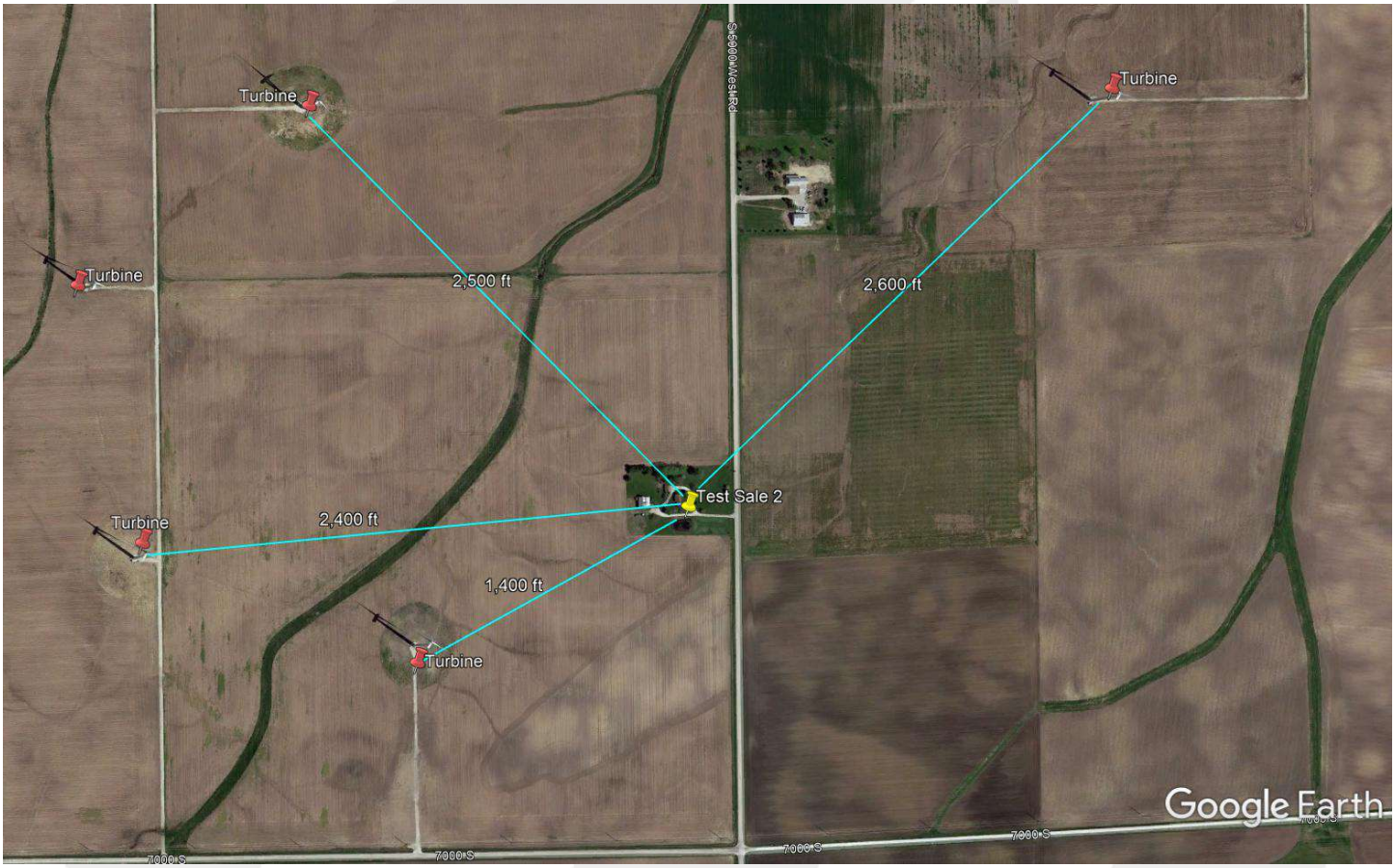
In Group 1, Test Area Sale 2, a single-family home was considered for a paired sales analysis, and sold in May 2021 after the completion of the wind farm. The home is adjacent to five wind turbines and is approximately 1,400 feet from the nearest turbine, as shown below.



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In Group 1, Test Area Sale 3, a single-family home was considered for a paired sales analysis, and sold in October 2020 after the completion of the wind farm. The home is adjacent to five wind turbines and is approximately 1,400 feet from the nearest turbine, as shown below.

Throughout our analysis we have relied on square footage data from the county assessor's office for home sizes. Due to the rural nature of the area, all of the Test Area Sales as well as all of the Control Area Sales are 1-2 story single-family homes with accessory buildings (detached garages, sheds). We searched for Control Area sales for Group 1 with the following parameters: building area of 1,400 to 2,400 square feet above ground, 3-4 bedrooms, 2+ bathrooms, located more than 3 miles from a turbine in Kankakee County, lot size of 2-8 acres, year built of 1920-1980, sold between 11/19/2019 and 4/28/2022 (present). We excluded sales that were bank-owned, those between related parties, or otherwise under duress as non-arm's length transactions.

We analyzed seven Control Area properties that sold within a reasonable time frame from the sale date of Test Area Sales 1, 2, and 3 and that were similar in several key physical characteristics, but removed geographically from the wind turbines in Kankakee and Iroquois Counties. For all Control Area Sales, the median price per square foot of building area (above grade) was adjusted for market conditions using regression analysis to identify the appropriate monthly market conditions adjustment. We utilized the Federal Housing Finance Agency House Price Index (FHFA HPI) for Kankakee County and surrounding areas in Illinois for the average monthly rate of appreciation in the market conditions adjustment. The FHFA HPI is a broad measure of the movement of

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single-family house prices. The FHFA HPI is a weighted, repeat-sales index, meaning that it measures average price changes in repeat sales or refinancings on the same properties. The FHFA HPI serves as a timely, accurate indicator of house price trends at various geographic levels.[14]

Test Area Sale 3 sold in October 2017 for $239,000 and subsequently sold in October 2020 for $260,000. Comparing the sale in October 2017 to the same property's sale in October 2020 indicates an increase in value of 8.8%, or 0.24% per month. In comparison, the FHFA HPI for Kankakee County was 0.28% per month for the same time period. Although we were unable to perform a before and after comparison as both sales occurred after the Pilot Hill Wind Farm became operational, the increase in sales price for Test Area Sale 3 was generally similar to the FHFA HPI for Kankakee County, indicating no impact from the wind farm.

The result of our analysis for Group 1 is presented below, including the physical characteristics of the Test Area Sales and range of characteristics of the Control Area Sales.

CohnReznick Paired Sale Analysis Pilot Hill Wind Farm Group 1		
No. of Sales	**Potentially Impacted by Wind Farm**	**Adjusted Median Price Per SF**
Test Area Sales (3)	Adjoining wind farm	$133.13
Control Area Sales (7)	No: Not adjoining wind farm	$132.76
Difference between Unit Price of Test Area Sales and Adjusted Median Unit Price of Control Area Sales		**0.28%**

Pilot Hill Wind Farm - Group 1				
	Gross Finished Living Area (SF)	**Land Size (AC)**	**Year Built**	**Beds / Baths**
Test Area Sales (Range)	1,675 - 1,900	3.6 - 5.0	1900 - 1974	3 - 4 / 2 - 3.5
Control Area Sales (Range)	1,500 - 2,352	2.0 - 5.17	1940 - 1978	3 - 4 / 2 - 4

The study indicates no significant price differential, with the Test Area Sales in Group 1 having a higher unit sale price than the median adjusted unit sale price of the Control Area Sales. The Test Area Sale indicates a relatively nominal price differential. Ultimately, it does not appear that the proximity to a wind farm had any negative impact on proximate property values in the Pilot Hill Wind Farm.

[14] https://www.fhfa.gov/DataTools/Downloads/Pages/House-Price-Index.aspx

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The days on market for the Control Area sales ranged from 42 to 184 days, while the Test Area Sales were on the market for a median 143 days, ***and we note minimal marketing time differential***.

Group 2

Pilot Hill Wind Farm Group 2										
Test Area Sale #	Address	Township	Sale Date	Sale Price	Above Grade SF	Beds	Baths	Year Built	Median Site Size (Acres)	Price/ SF
4	7074 W 6000 Rd S	Herscher	5/24/2021	$315,000	1,800	3	2.5	1995	2.90	$175.00

In Group 2, Test Area Sale 4, a single-family home was considered for a paired sales analysis, and sold in May 2021 after the completion of the wind farm. The home is adjacent to several wind turbines and is approximately 1,900 feet from the nearest turbine, as shown below.

Throughout our analysis we have relied on square footage data from the county assessor's office for home sizes. Due to the rural nature of the area, all of the Test Area Sales as well as all of the Control Area Sales are 1-2

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story single-family homes with accessory buildings (detached garages, sheds). We searched for Control Area sales for Group 2 with the following parameters: building area of 1,300 to 2,300 square feet above ground, 3 bedrooms, located more than 3 miles from a turbine in Kankakee County, lot size of 1-6 acres, year built of 1980 or later, sold between 11/24/2019 and 4/28/2022 (present). Test Area Sale 4 was not included in Group 1 primarily due to its newer construction date and superior condition. We excluded sales that were bank-owned, those between related parties, or otherwise under duress as non-arm's length transactions.

We analyzed 10 Control Area properties that sold within a reasonable time frame from the sale date of Test Area Sale 2 and that were similar in several key physical characteristics, but removed geographically from the wind turbines in Kankakee and Iroquois Counties. For all Control Area Sales, the median price per square foot of building area (above grade) was adjusted for market conditions using regression analysis to identify the appropriate monthly market conditions adjustment. We utilized the Federal Housing Finance Agency House Price Index (FHFA HPI) for Kankakee County and surrounding areas in Illinois for the average monthly rate of appreciation in the market conditions adjustment. The FHFA HPI is a broad measure of the movement of single-family house prices. The FHFA HPI is a weighted, repeat-sales index, meaning that it measures average price changes in repeat sales or refinancings on the same properties. The FHFA HPI serves as a timely, accurate indicator of house price trends at various geographic levels.[15]

The result of our analysis for Group 2 is presented below, including the physical characteristics of the Test Area Sale and range of characteristics of the Control Area Sales.

CohnReznick Paired Sale Analysis Pilot Hill Wind Farm Group 2		
No. of Sales	**Potentially Impacted by Wind Farm**	**Adjusted Median Price Per SF**
Test Area Sale (1)	Adjoining wind farm	$175.00
Control Area Sales (10)	No: Not adjoining wind farm	$173.98
Difference between Unit Price of Test Area Sale and Adjusted Median Unit Price of Control Area Sales		**0.59%**

[15] https://www.fhfa.gov/DataTools/Downloads/Pages/House-Price-Index.aspx

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Pilot Hill Wind Farm - Group 2				
	Gross Finished Living Area (SF)	Land Size (AC)	Year Built	Beds / Baths
Test Area Sale	1,800	2.9	1995	3 / 2.5
Control Area Sales (Range)	1,300 - 2,200	2.2 - 5.5	1985 - 2002	3 / 1.5 - 2.5

The study indicates no significant price differential, with the Test Area Sale in Group 2 having a higher unit sale price than the median adjusted unit sale price of the Control Area Sales. The Test Area Sale indicates a relatively nominal price differential. Ultimately, it does not appear that the proximity to a wind farm had any negative impact on proximate property values in the Pilot Hill Wind Farm.

The days on market for the Test Area Sale was 98 days, while the median days on market for the Control Area sales was 96 days (ranging from 62 to 299 days), ***and we note no negative marketing time differential.***

Group 3

Pilot Hill Wind Farm Group 3										
Test Area Sale #	Address	Township	Sale Date	Sale Price	Above Grade SF	Beds	Baths	Year Built	Median Site Size (Acres)	Price/ SF
5	4508 W 5000 Rd S	Kankakee	7/14/2021	$159,900	1,239	3	1.0	1959	1.00	$129.06

In Group 3, Test Area Sale 5, a single-family home was considered for a paired sales analysis, and sold in July 2021, after the completion of the wind farm. The home is approximately 4,500 feet from the nearest turbine, and 6,000 feet from another wind turbine.

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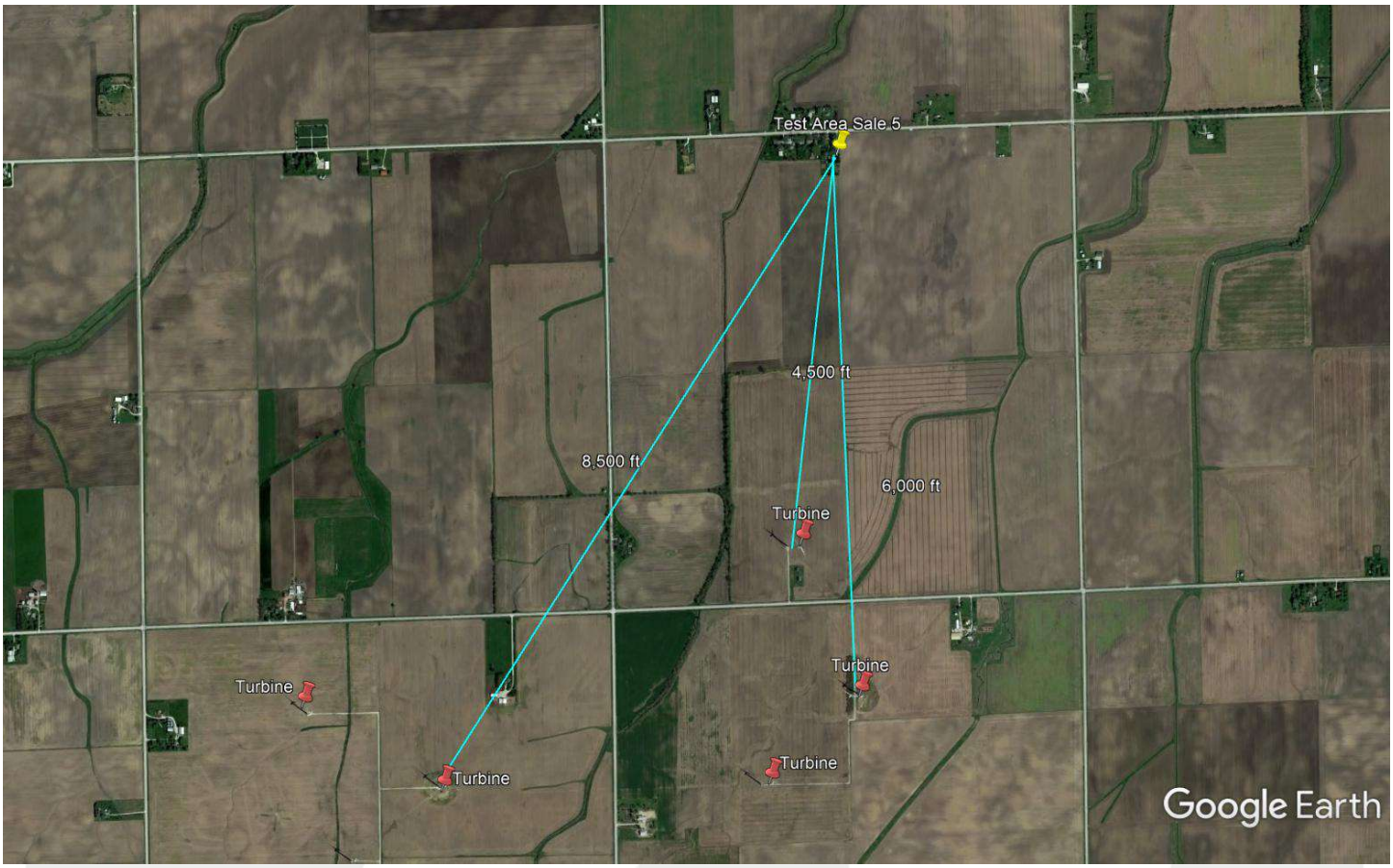

Throughout our analysis we have relied on square footage data from the county assessor's office for home sizes. Due to the rural nature of the area, all of the Test Area Sales as well as all of the Control Area Sales are 1-2 story single-family homes with accessory buildings (detached garages, sheds). We searched for Control Area sales for Group 3 with the following parameters: building area of 750 to 1,750 square feet above ground, 3 bedrooms, located more than 3 miles from a turbine in Kankakee County, lot size of 1-5 acres, sold between 2/17/2020 and 4/28/2022 (present). Test Area Sale 5 was not included in Groups 1 or 2 primarily due to its smaller size. We excluded sales that were bank-owned, those between related parties, or otherwise under duress as non-arm's length transactions.

We analyzed seven Control Area properties that sold within a reasonable time frame from the sale date of Test Area Sale 1 and that were similar in several key physical characteristics, but removed geographically from the wind turbines in Kankakee and Iroquois Counties. For all Control Area Sales, the median price per square foot of building area (above grade) was adjusted for market conditions using regression analysis to identify the appropriate monthly market conditions adjustment. We utilized the Federal Housing Finance Agency House Price Index (FHFA HPI) for Kankakee County and surrounding areas in Illinois for the average monthly rate of appreciation in the market conditions adjustment. The FHFA HPI is a broad measure of the movement of single-family house prices. The FHFA HPI is a weighted, repeat-sales index, meaning that it measures average price

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changes in repeat sales or refinancings on the same properties. The FHFA HPI serves as a timely, accurate indicator of house price trends at various geographic levels.[16]

The result of our analysis for Group 3 is presented below, including the physical characteristics of the Test Area Sale and range of characteristics of the Control Area Sales.

CohnReznick Paired Sale Analysis Pilot Hill Wind Farm Group 3		
No. of Sales	**Potentially Impacted by Wind Farm**	**Adjusted Median Price Per SF**
Test Area Sale (1)	Adjoining wind farm	$129.06
Control Area Sales (7)	No: Not adjoining wind farm	$120.73
Difference between Unit Price of Test Area Sale and Adjusted Median Unit Price of Control Area Sales		**6.90%**

Pilot Hill Wind Farm - Group 3				
	Gross Finished Living Area (SF)	**Land Size (AC)**	**Year Built**	**Beds / Baths**
Test Area Sale	1,239	1.0	1959	3 / 1
Control Area Sales (Range)	1,108 - 1,700	1.7 - 3.7	1900 - 1975	3 / 1 - 2

The study indicates a favorable price differential, with the Test Area Sale having a higher unit sale price than the median adjusted unit sale price of the Control Area Sales. The difference is likely due to the control sales having a lower price point of this group of test and control area data, thus, relatively speaking, small price considerations (e.g. - lot size or number of bathrooms) would have a correlatively larger percentage differential. Ultimately, it does not appear that the proximity to a wind farm had any negative impact on proximate property values in the Pilot Hill Wind Farm.

The days on market for the Test Area Sale was 32 days, while the median days on market for the Control Area sales was 50 days (ranging from 38 to 126 days), ***and we note no negative marketing time differential.***

[16] https://www.fhfa.gov/DataTools/Downloads/Pages/House-Price-Index.aspx

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WIND FARM 3: KELLY CREEK WIND PROJECT, FORD AND KANKAKEE COUNTIES, ILLINOIS

Coordinates: Latitude 40.967500, Longitude -88.197500

PINs: Multiple

Owner of Record: EDF Renewable Asset Holdings, Inc.

Date Project Announced: Unknown

Date Project Completed: December 2016

Project Area: Approximately 20,000 acres

Output: 184 MW AC

Kelly Creek Wind Project is a 92-turbine wind farm composed of 2.0 MW wind turbines (for a nameplate capacity of 184.0 megawatts), in southwest Kankakee County and north Ford County, Illinois. The turbines are 453 feet tall from base to tip of the apex. The wind farm is located approximately 15 miles southwest of the city of Kankakee, which is the county seat, and 65 miles southwest of the city of Chicago. The Project area is predominantly rural and adjacent to the Pilot Hill Wind Farm Project area.

The wind farm began initial operations in December 2016. The facility generates enough electricity to power the equivalent of 58,000 average Illinois homes, according to US Energy Information Administration.

Altogether we analyzed all single-family residential home sales data from properties that sold from December 2016 to April 2022. We searched for homes in close proximity to a wind turbine, less than one mile. We identified two single-family residential homes that qualified for a paired sales analysis that were in close proximity to a wind turbine.

The aerial image on the following page displays the two Test Area properties in relation to the closest turbines. We have grouped the two test sales into two groups based on date of sale and size of property.

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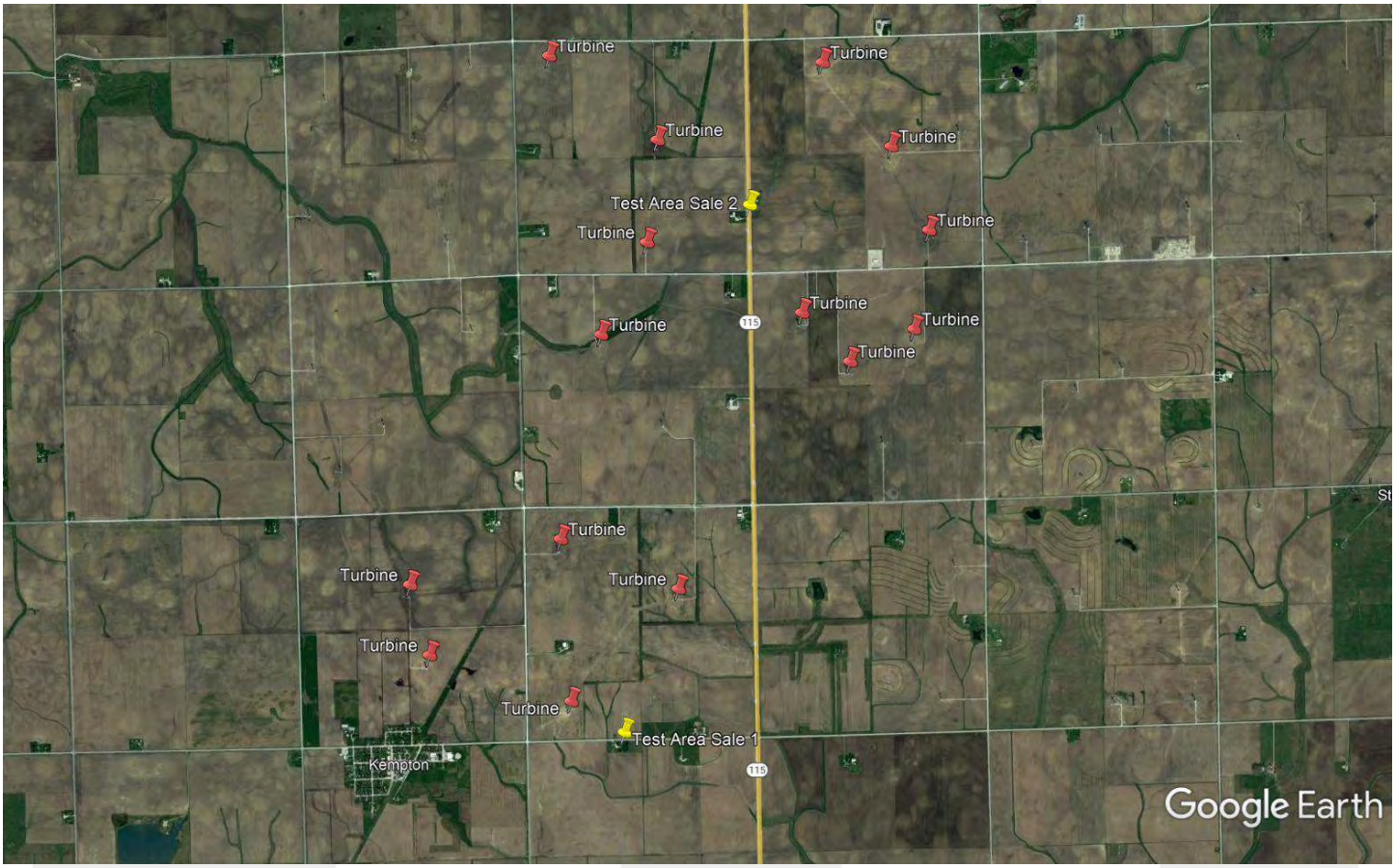

Kelly Creek Wind Project: Test Area Properties

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Kelly Creek Wind Project Group 1										
Test Area Sale #	Address	Township	Sale Date	Sale Price	Above Grade SF	Beds	Baths	Year Built	Median Site Size (Acres)	Price/ SF
1	1341 E 3700N Rd	Kempton	4/15/2019	$178,000	2,051	4	2.0	1930	5.00	$86.79

In Group 1, Test Area Sale 1, a single-family home was considered for a paired sales analysis, and sold in April 2019, after the completion of the wind farm. The home is approximately 1,400 feet from the nearest turbine, and 3,500 feet from another wind turbine.

Throughout our analysis we have relied on square footage data from the county assessor's office for home sizes. Due to the rural nature of the area, all of the Test Area Sales as well as all of the Control Area Sales are 1-2 story single-family homes with accessory buildings (detached garages, sheds). We searched for Control Area sales for Group 1 with the following parameters: building area of 1,500 to 2,500 square feet above ground, 3-4 bedrooms, located more than 3 miles from a turbine in Ford County, lot size of 2-10 acres, built before 1980, sold between 10/14/2017 and 10/14/2020. Test Area Sales 1 and 2 are in differing groups primarily due to year

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built/condition. We excluded sales that were bank-owned, those between related parties, or otherwise under duress as non-arm's length transactions.

We analyzed six Control Area properties that sold within a reasonable time frame from the sale date of Test Area Sale 1 and that were similar in several key physical characteristics, but removed geographically from the wind turbines in Kankakee and Ford Counties. For all Control Area Sales, the median price per square foot of building area (above grade) was adjusted for market conditions using regression analysis to identify the appropriate monthly market conditions adjustment. We utilized the Federal Housing Finance Agency House Price Index (FHFA HPI) for Ford County and surrounding areas in Illinois for the average monthly rate of appreciation in the market conditions adjustment. The FHFA HPI is a broad measure of the movement of single-family house prices. The FHFA HPI is a weighted, repeat-sales index, meaning that it measures average price changes in repeat sales or refinancings on the same properties. The FHFA HPI serves as a timely, accurate indicator of house price trends at various geographic levels.[17]

The result of our analysis for Group 1 is presented below, including the physical characteristics of the Test Area Sale and range of characteristics of the Control Area Sales.

CohnReznick Paired Sale Analysis Kelly Creek Wind Project Group 1		
No. of Sales	**Potentially Impacted by Wind Farm**	**Adjusted Median Price Per SF**
Test Area Sale (1)	Adjoining wind farm	$86.79
Control Area Sales (6)	No: Not adjoining wind farm	$86.99
Difference between Unit Price of Test Area Sale and Adjusted Median Unit Price of Control Area Sales		**-0.24%**

[17] https://www.fhfa.gov/DataTools/Downloads/Pages/House-Price-Index.aspx

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Kelly Creek Wind Project - Group 1				
	Gross Finished Living Area (SF)	Land Size (AC)	Year Built	Beds / Baths
Test Area Sale	2,051	5.0	1930	4 / 2
Control Area Sales (Range)	1,598 - 2,223	2.0 - 10.0	1880 - 1955	3 - 4 / 1.5 - 2

The study indicates no significant negative price differential between the Test Area Sale and the median adjusted unit sale price of the Control Area Sales. Test Area Sale 1 in Group 1 indicates a relatively nominal price differential. Ultimately, it does not appear that the proximity to a wind farm had any negative impact on proximate property values in the Kelly Creek Wind Project.

The days on market for the Test Area Sale was 172 days, while the days on market for the Control Area sales ranged from 41 to 255 days, ***and we note minimal marketing time differential***.

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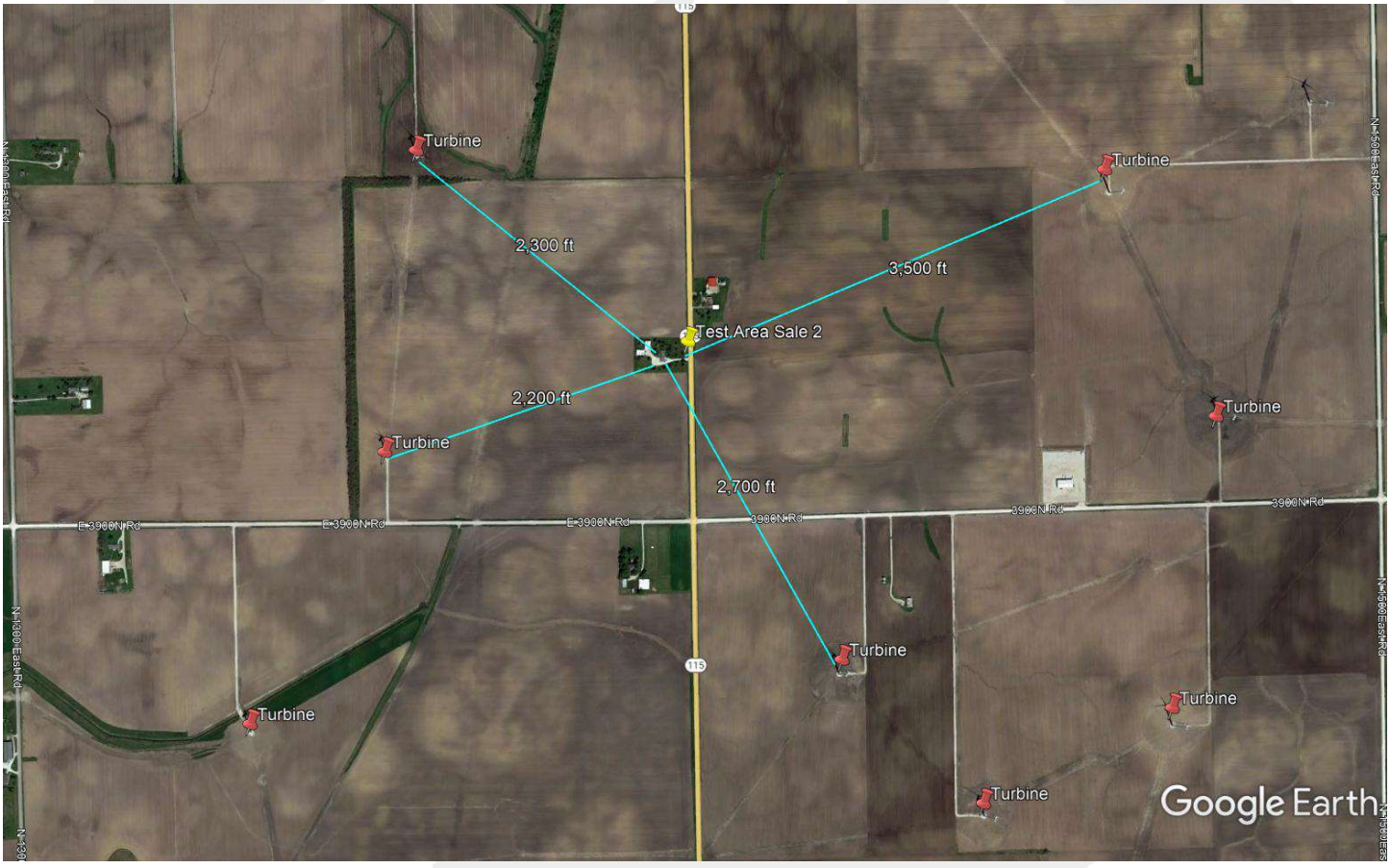
Kelly Creek Wind Project Group 2										
Test Area Sale #	Address	Township	Sale Date	Sale Price	Above Grade SF	Beds	Baths	Year Built	Median Site Size (Acres)	Price/ SF
2	3925 N St Rte 115	Cabery	2/28/2019	$180,000	1,460	4	2.0	1986	2.00	$123.29

In Group 2, Test Area Sale 2, a single-family home was considered for a paired sales analysis, and sold in January 2019, after the completion of the wind farm. The home is approximately 2,200 feet from the nearest turbine, and within 3,500 feet of wind turbines on all sides.



Throughout our analysis we have relied on square footage data from the county assessor's office for home sizes. Due to the rural nature of the area, all of the Test Area Sales as well as all of the Control Area Sales are 1-2 story single-family homes with accessory buildings (detached garages, sheds). We searched for Control Area sales for Group 2 with the following parameters: building area of 1,000 to 2,700 square feet above ground, 3-4 bedrooms, located more than 3 miles from a turbine in Ford County, lot size of 5 acres and below, built after 1970, sold between 7/25/2017 and 7/25/2020. Test Area Sales 1 and 2 are in differing groups primarily due to

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year built/condition. We excluded sales that were bank-owned, those between related parties, or otherwise under duress as non-arm's length transactions.

We analyzed four Control Area properties that sold within a reasonable time frame from the sale date of Test Area Sale 2 and that were similar in several key physical characteristics, but removed geographically from the wind turbines in Kankakee and Ford Counties. For all Control Area Sales, the median price per square foot of building area (above grade) was adjusted for market conditions using regression analysis to identify the appropriate monthly market conditions adjustment. We utilized the Federal Housing Finance Agency House Price Index (FHFA HPI) for Ford County and surrounding areas in Illinois for the average monthly rate of appreciation in the market conditions adjustment. The FHFA HPI is a broad measure of the movement of single-family house prices. The FHFA HPI is a weighted, repeat-sales index, meaning that it measures average price changes in repeat sales or refinancings on the same properties. The FHFA HPI serves as a timely, accurate indicator of house price trends at various geographic levels.[18]

The result of our analysis for Group 2 is presented below, including the physical characteristics of the Test Area Sale and range of characteristics of the Control Area Sales.

CohnReznick Paired Sale Analysis Kelly Creek Wind Project Group 2		
No. of Sales	**Potentially Impacted by Wind Farm**	**Adjusted Median Price Per SF**
Test Area Sale (1)	Adjoining wind farm	$123.29
Control Area Sales (4)	No: Not adjoining wind farm	$118.15
Difference between Unit Price of Test Area Sale and Adjusted Median Unit Price of Control Area Sales		**4.35%**

[18] https://www.fhfa.gov/DataTools/Downloads/Pages/House-Price-Index.aspx

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Kelly Creek Wind Project - Group 2				
	Gross Finished Living Area (SF)	Land Size (AC)	Year Built	Beds / Baths
Test Area Sale	1,460	2.0	1983	4 / 2.0
Control Area Sales (Range)	1,344 - 2,687	2.0 - 5.0	1978 - 2005	3 -4 / 2 - 3.5

The study indicates a favorable price differential, with the Test Area Sale having a higher unit sale price than the median adjusted unit sale price of the Control Area Sales. Ultimately, it does not appear that the proximity to a wind farm had any negative impact on proximate property values in the Kelly Creek Wind Project.

The days on market for the Test Area Sale was 87 days, while the days on market for the Control Area sales ranged from 65 to 156 days, ***and we note no negative marketing time differential.***

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WIND FARM 4: CAMP GROVE WIND FARM, STARK AND MARSHALL COUNTIES, ILLINOIS

Coordinates: Latitude 41.09058, Longitude -89.63981

PINs: Multiple

Owner of Record: Orion Energy Group, LLC

Date Project Announced: 2005

Date Project Completed: December 2007

Project Area: Approximately 14,000 acres

Output: 150 MW AC

The Camp Grove Wind Farm is a 100-turbine wind farm composed of 1.5MW wind turbines (for a nameplate capacity of 150 megawatts), in Marshall County and Stark County, approximately 25 miles north of the city of Peoria. Sixty of the turbines are located in Marshall County, and 40 in Stark County, adjacent to the west. The nearest village is Camp Grove, Marshall County, for which the wind farm is named.

The wind farm began operations in November 2007. Approximately half of the power generated by Camp Grove is sold pursuant to a 20-year contract to American Electric Power, a multi-state electrical generation holding company.

Altogether we analyzed all sales data from properties that sold from January 2008 to March 2020, after completion of the wind farm, in both Stark and Marshall Counties. We analyzed single-family residential homes in the three townships that contain the wind turbines, Penn Township in Stark County and La Prairie and Saratoga Townships in Marshall County, as well as the eight surrounding townships that do not contain wind turbines. We searched for homes in close proximity to a wind turbine. We identified two single-family residential homes in Stark County that qualified for a paired sales analysis that were in close proximity to a wind turbine. While there are homes in close proximity to wind turbines that sold in Marshall County since the wind farm was completed, there was insufficient comparable data to perform a paired sale analysis.

The aerial image on the following page displays the two Test Area properties in relation to the closest turbines.

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Camp Grove Wind Farm: Test Area Properties

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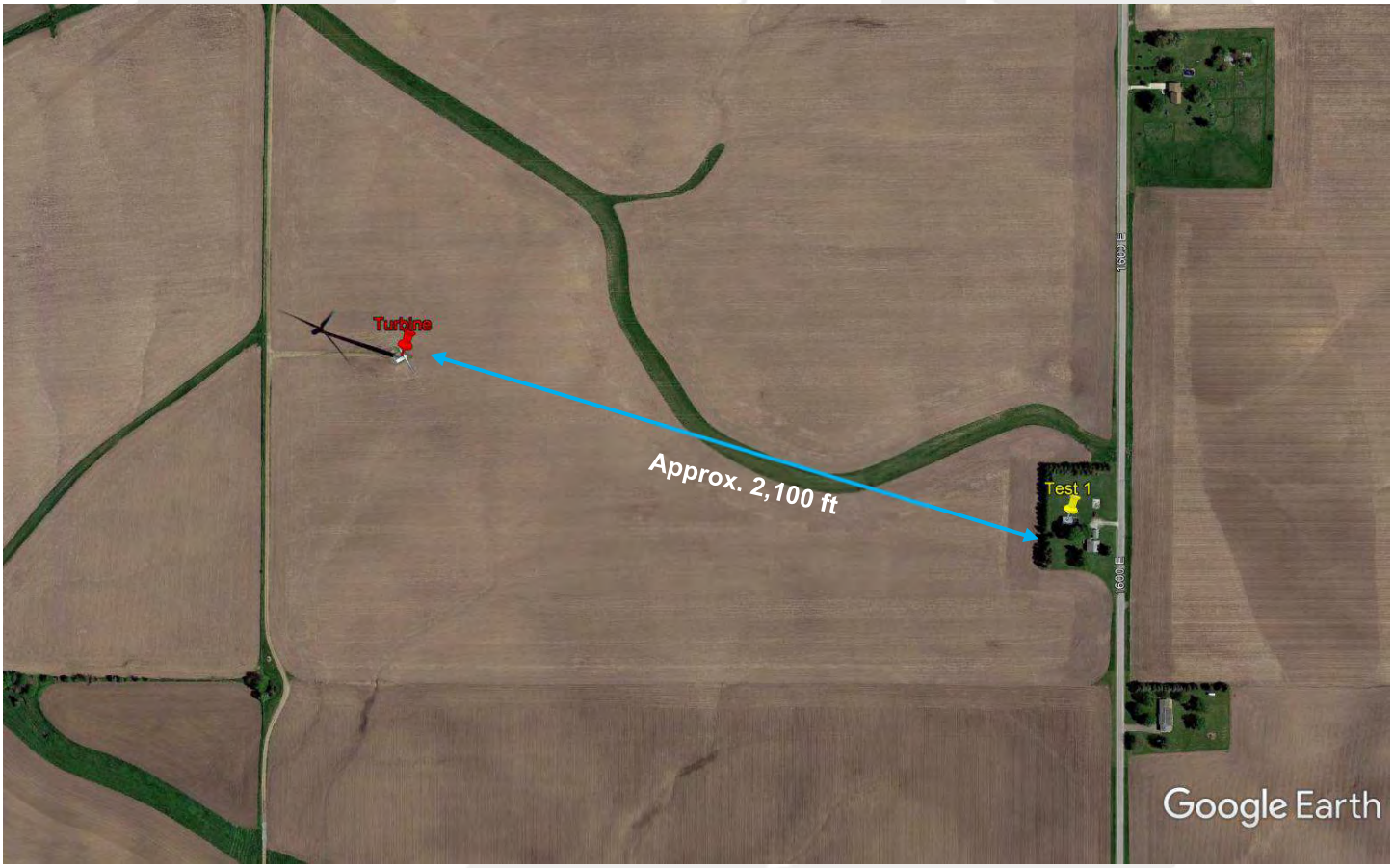
Camp Grove Wind Farm Group 1										
Test Area Sale #	Address	Township	Sale Date	Sale Price	Above Grade SF	Beds	Baths	Year Built	Median Site Size (Acres)	Price/ SF
1	8585 TWP Rd 1600E	Wyoming	01/01/2015	$60,000	1,208	3	1.0	1957	1.71	$49.67

Test Area Sale 1, in Group 1, a single-family home, was considered for a paired sales analysis, and sold in 2015, after the completion of the wind farm. The home is approximately 2,100 feet from the nearest turbine.



We analyzed six Control Area properties that sold within a reasonable time frame from the sale date of the Test Area Property and that were similar in several key physical characteristics, but removed geographically from the wind turbines in Stark County. For all Control Area Sales, the median price per square foot of building area (above grade) was adjusted for market conditions using regression analysis to identify the appropriate monthly market conditions adjustment. We utilized the Federal Housing Finance Agency House Price Index (FHFA HPI) for Stark County, Illinois for the average monthly rate of appreciation in the market conditions adjustment. The FHFA HPI is a broad measure of the movement of single-family house prices. The FHFA HPI is a weighted, repeat-sales index, meaning that it measures average price changes in repeat sales or re-financings on the

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same properties. The FHFA HPI serves as a timely, accurate indicator of house price trends at various geographic levels.[19]

The result of our analysis is presented below, including the physical characteristics of the Test Area Sale and range of characteristics of the Control Area Sales.

CohnReznick Paired Sale Analysis - Camp Grove Wind Farm Group 1		
	Potentially Impacted by Wind Farm	Adjusted Median Price Per SF
Test Area Sale (1)	Adjoining wind farm	$49.67
Control Area Sales (6)	No: Not adjoining wind farm	$49.04
Difference between Unit Price of Test Area Sale and Adjusted Median Unit Price of Control Area Sales		1.28%

Camp Grove Wind Farm - Group 1				
	Home Size (SF)	Land Size (AC)	Year Built	Beds / Baths
Test Area Sale	1,208	1.7	1957	3 / 1
Control Area Sales (Range)	1,104 - 1,300	0.18 - 0.58	1954 - 1962	3 / 1-1.5

[19] https://www.fhfa.gov/DataTools/Downloads/Pages/House-Price-Index.aspx

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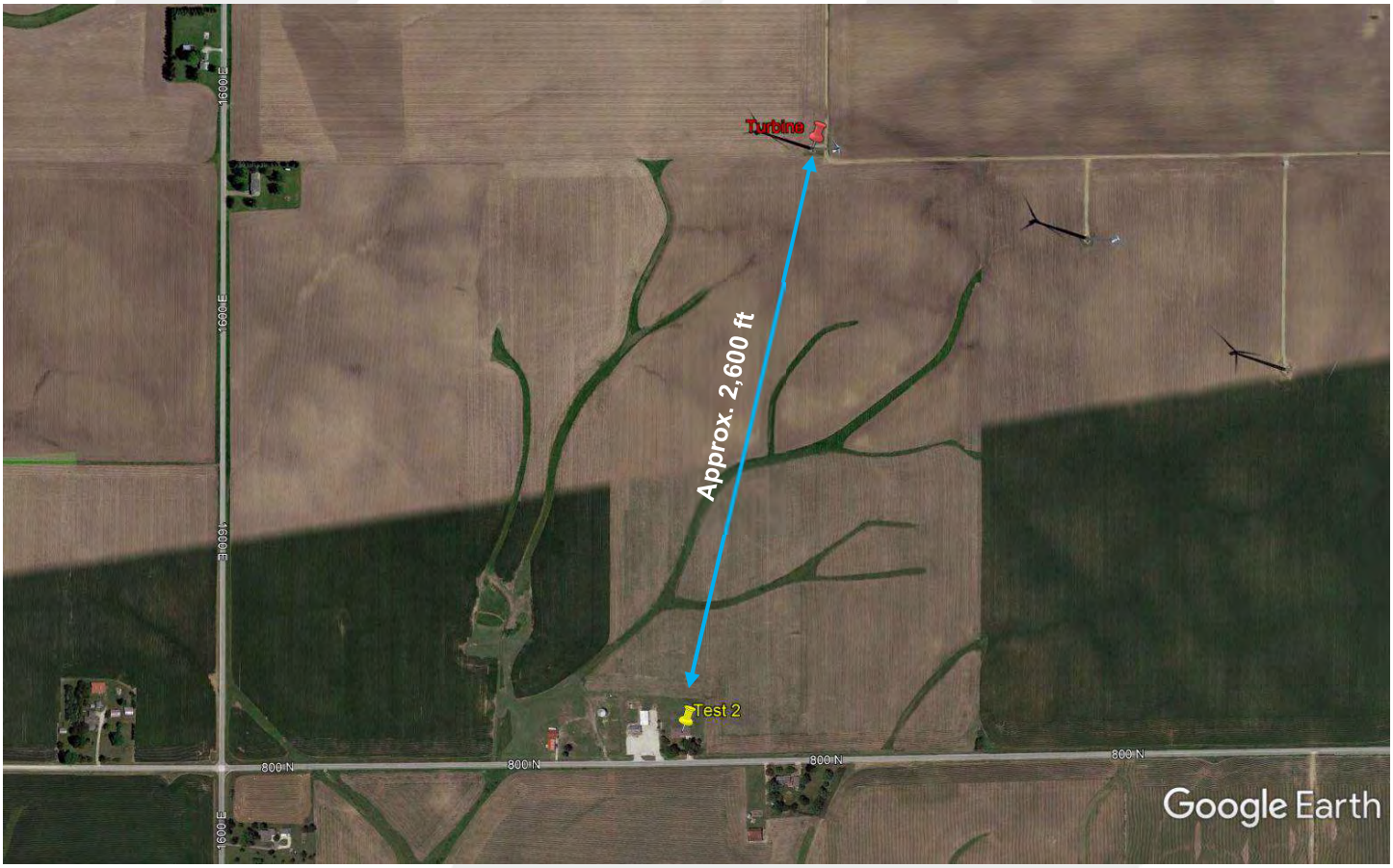
Camp Grove Wind Farm Group 2										
Test Area Sale #	Address	Township	Sale Date	Sale Price	Above Grade SF	Beds	Baths	Year Built	Median Site Size (Acres)	Price/ SF
2	16387 TWP Rd 1600E	Wyoming	11/01/2013	$139,500	1,672	4	1.5	1964	1.71	$83.43

Test Area Property 2, in Group 2, a single-family home, was considered for a paired sales analysis, and sold in 2013, after the completion of the wind farm. The home is approximately 2,600 feet from the nearest turbine, as shown below.



We analyzed seven Control Area properties that sold within a reasonable time frame from the sale date of the Test Area Property and that were similar in several key physical characteristics, but removed geographically from the wind turbines in Stark County. For all Control Area Sales, the median price per square foot of building area (above grade) was adjusted for market conditions using regression analysis to identify the appropriate monthly market conditions adjustment. Again, we utilized the FHFA HPI for our market conditions adjustment.

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The result of our analysis is presented below, including the physical characteristics of the Test Area Sale and range of characteristics of the Control Area Sales.

CohnReznick Paired Sale Analysis - Camp Grove Wind Farm Group 2		
	Potentially Impacted by Wind Farm	Adjusted Median Price Per SF
Test Area Sale (1)	Adjoining wind farm	$83.43
Control Area Sales (7)	No: Not adjoining wind farm	$79.71
Difference between Unit Price of Test Area Sale and Adjusted Median Unit Price of Control Area Sales		**4.67%**

Camp Grove Wind Farm - Group 2				
	Home Size (SF)	Land Size (AC)	Year Built	Beds/Baths
Test Area Sale	1,624	0.5	1977	3 / 2
Control Area Sales (Range)	1,448 - 1,730	0.35 - 2.85	1960 - 1999	3-4 / 1.5-2.5

Noting only a nominal price differential, with the Test Area Sales having very slightly different unit sale price than the median adjusted unit sale price of the Control Area Sales, it does not appear that the proximity to a wind farm had any negative impact on proximate property values in the Camp Grove Wind Farm study.

The days on market for the Test Area Sale was 191 days, while the days on market for the Control Area sales ranged from 7 to 477 days, ***and we note minimal marketing time differential.***

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WIND FARM 5: LEE-DEKALB WIND ENERGY CENTER IN DEKALB AND LEE COUNTIES, ILLINOIS

Coordinates: Latitude 41.7108°, Longitude -89.0414°

PINs: Multiple

Owner of Record: FPL Energy Illinois Wind, LLC

Date Project Announced: 2009

Date Project Completed: December 2009

Project Area: Approximately 22,000 acres

Output: 217.5 MW AC

The wind farm known as the Lee-DeKalb Wind Energy Center is a 145-turbine wind farm composed of 1.5MW wind turbines (for a nameplate capacity of 217.5 megawatts), in DeKalb County and Lee County, approximately 15 miles southwest of the city of DeKalb. The majority of the turbines are located in DeKalb County (134), and 11 are in Lee County, adjacent to the west. The nearest villages are Shabbona and Lee, in DeKalb County.

The wind farm began operations in December 2009 and the energy generated can power approximately 54,000 homes each year.

Altogether we analyzed all sales data from properties that sold from January 2010 to March 2020, after completion of the wind farm, in both DeKalb and Lee Counties. We analyzed single-family residential homes in the four townships that contain the wind turbines, Afton, Clinton, Milan and Shabbona Townships in DeKalb County and Willow Creek Township in Lee County, as well as the ten surrounding townships that do not contain wind turbines. We searched for homes in close proximity to a wind turbine. We identified four single-family residential homes in DeKalb County that qualified for a paired sales analysis that were in close proximity to a wind turbine.

While there were additional homes near wind turbines that sold in both DeKalb and Lee Counties (potential test area properties), we could not identify Control Area homes sales that sold that had similar ages, conditions and designs within the same or surrounding townships as the Test Area Sales, in order to complete additional paired sales analyses.

The aerial image on the following page displays the four Test Area properties in relation to the closest turbines.

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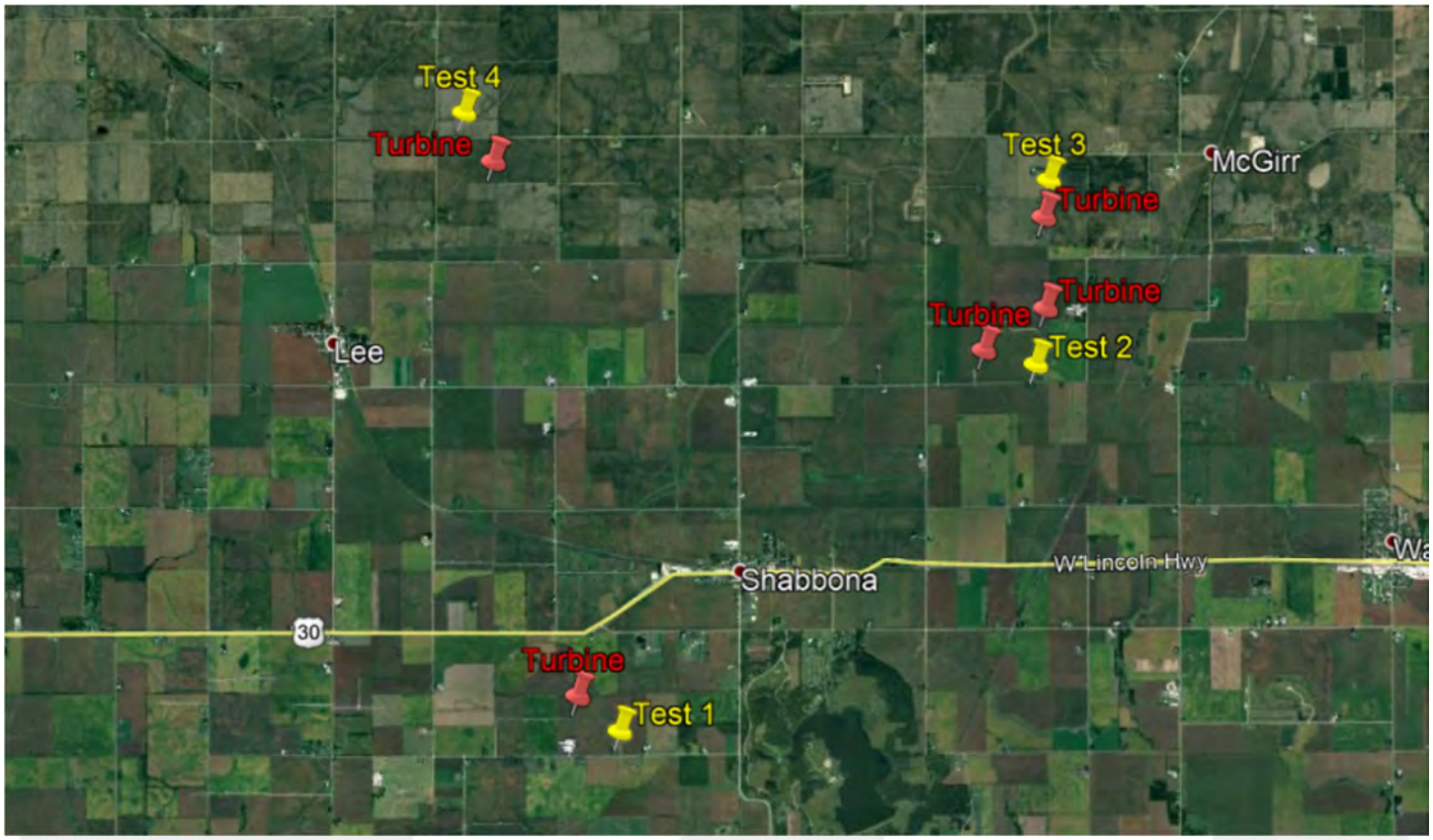

Lee-DeKalb Wind Energy Center: Test Area Properties

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Lee-DeKalb Wind Energy Center Group 1										
Test Area Sale #	Address	Township	Sale Price	Beds	Baths	Year Built	Home Size (SF)	Site Size (AC)	Sale Price / SF	Sale Date
1	2437 Houghtby Rd	Shabbona	$168,000	3	2.0	N/A	1,650	2.34	$101.82	Nov-13
2	5830 Lee Rd	Shabbona	$164,900	3	2.0	N/A	1,700	2.00	$97.00	Jun-14

In Group 1, Test Area Sale 1, a single-family home, was considered for a paired sales analysis, and sold in 2013, after the completion of the wind farm. The home is approximately 2,315 feet from the nearest turbine, as shown below.

In Group 1, Test Area Sale 2, a single-family home, was considered for a paired sales analysis, and sold in 2014, after the completion of the wind farm. The home is adjacent to several wind turbines (four) and is approximately 2,250 feet from the nearest turbine, as shown below. Test Area Sale 2 sold again in October 2019, and we analyzed both sales using two separate Control Area Sale groups (in Group 1 and Group 4).

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We analyzed five Control Area properties that sold within a reasonable time frame from the sale dates of Test Area Sale 1 and 2 and that were similar in several key physical characteristics, but removed geographically from the wind turbines in DeKalb County. For all Control Area Sales, the median price per square foot of building area (above grade) was adjusted for market conditions using regression analysis to identify the appropriate monthly market conditions adjustment. We utilized the Federal Housing Finance Agency House Price Index (FHFA HPI) for DeKalb County and surrounding areas in Illinois for the average monthly rate of appreciation in the market conditions adjustment. The FHFA HPI is a broad measure of the movement of single-family house prices. The FHFA HPI is a weighted, repeat-sales index, meaning that it measures average price changes in repeat sales or refinancings on the same properties. The FHFA HPI serves as a timely, accurate indicator of house price trends at various geographic levels.[20]

The result of our analysis for Group 1 is presented below, including the physical characteristics of the Test Area Sales and range of characteristics of the Control Area Sales.

[20] https://www.fhfa.gov/DataTools/Downloads/Pages/House-Price-Index.aspx

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CohnReznick Paired Sale Analysis Lee-DeKalb Wind Energy Center Group 1		
	Potentially Impacted by Wind Farm	**Adjusted Median Price Per SF**
Test Area Sales (2)	Adjoining wind farm	$99.41
Control Area Sales (5)	No: Not adjoining wind farm	$97.68
Difference between Unit Price of Test Area Sale and Adjusted Median Unit Price of Control Area Sales		**1.77%**

Lee-DeKalb Wind Energy Center - Group 1				
	Home Size (SF)	**Land Size (AC)**	**Use**	**Beds / Baths**
Test Area Sales	1,650 - 1,700	2.0 - 2.34	Farm House: Part one- and part two-stories	3 / 2
Control Area Sales (Range)	1,500 - 2,069	1.25 - 5	Farm House: Part one- and part two-stories	3-4 / 2- 3

Subsequent to the end date of our research data in March 2020, Test Area Sale 1 sold again on March 31, 2020 for $71,900 more than the sale in 2013 that we studied. The kitchen and baths of the home had been recently renovated, according to brokers, and the average annual appreciation in price over the 17 year period was 6.7 percent, which is in line with, or greater than, the surrounding appreciation rates for DeKalb County per the FHFA HPI data.

The median days on market for the Test Area Sales was 138 days, while the days on market for the Control Area sales ranged from 57 to 324 days, ***and we note no negative marketing time differential.***

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Lee-DeKalb Wind Energy Center Group 2										
Test Area Sale #	Address	Township	Sale Price	Beds	Baths	Year Built	Home Size (SF)	Site Size (AC)	Sale Price / SF	Sale Date
3	5440 Miller Road	Shabbona	$205,000	5	1.5	1907	2,100	3.00	$97.62	May-15

In Group 2, Test Area Sale 3, a single-family home, was considered for a paired sales analysis, and sold in 2015, after the completion of the wind farm. The home is approximately 1,600 feet from the nearest turbine, as shown below.

We analyzed five Control Area properties that sold within a reasonable time frame from the sale date of the Test Area Property 2 and that were similar in several key physical characteristics, but removed geographically from the wind turbines in DeKalb County. For all Control Area Sales, the median price per square foot of building area (above grade) was adjusted for market conditions using regression analysis to identify the appropriate monthly market conditions adjustment. Again, we utilized the FHFA HPI for our market conditions adjustment.

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The result of our analysis for Group 2 is presented below, including the physical characteristics of the Test Area Sale and range of characteristics of the Control Area Sales.

CohnReznick Paired Sale Analysis Lee-DeKalb Wind Energy Center Group 2		
	Potentially Impacted by Wind Farm	**Adjusted Median Price Per SF**
Test Area Sale (1)	Adjoining wind farm	$97.62
Control Area Sales (5)	No: Not adjoining wind farm	$95.65
Difference between Unit Price of Test Area Sale and Adjusted Median Unit Price of Control Area Sales		**2.06%**

Lee-DeKalb Wind Energy Center - Group 2				
	Home Size (SF)	**Land Size (AC)**	**Year Built**	**Beds / Baths**
Test Area Sale	2,100	3.0	1907	5 / 1.5
Control Area Sales (Range)	1,900 - 2,214	3.0 - 5	1905 - 1920	3 / 2 - 6 / 2

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Lee-DeKalb Wind Energy Center Group 3										
Test Area Sale #	Address	Township	Sale Price	Beds	Baths	Year Built	Home Size (SF)	Site Size (AC)	Sale Price / SF	Sale Date
4	1117 McGirr Rd	Lee	$198,000	5	2.0	1935	2,688	3.12	$73.66	Nov-18

In Group 3, Test Area Sale 4, a single-family home, was considered for a paired sales analysis, and sold in 2018, after the completion of the wind farm. The home is approximately 2,425 feet from the nearest turbine, as shown below.

We analyzed six Control Area properties that sold within a reasonable time frame from the sale date of the Test Area Property 4 and that were similar in several key physical characteristics, but removed geographically from the wind turbines in DeKalb County. For all Control Area Sales, the median price per square foot of building area (above grade) was adjusted for market conditions using regression analysis to identify the appropriate monthly market conditions adjustment. Again, we utilized the FHFA HPI for our market conditions adjustment.

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The result of our analysis for Group 3 is presented below, including the physical characteristics of the Test Area Sale and range of characteristics of the Control Area Sales.

CohnReznick Paired Sale Analysis Lee-DeKalb Wind Energy Center Group 3		
	Potentially Impacted by Wind Farm	**Adjusted Median Price Per SF**
Test Area Sale (1)	Adjoining wind farm	$73.66
Control Area Sales (6)	No: Not adjoining wind farm	$72.32
Difference between Unit Price of Test Area Sale and Adjusted Median Unit Price of Control Area Sales		**1.85%**

Lee-DeKalb Wind Energy Center - Group 3				
	Home Size (SF)	**Land Size (AC)**	**Year Built**	**Beds / Baths**
Test Area Sale	2,688	3.1	1935	5 / 2
Control Area Sales (Range)	2,200 - 3,000	2.0 - 5	1880 - 1992	4-6 / 1.5-3

The days on market for the Test Area Sale was 61 days, while the median days on market for the Control Area sales was 177 days (ranging from 38 to 443 days), ***and we note no negative marketing time differential.***

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Lee-DeKalb Wind Energy Center Group 4										
Test Area Sale #	Address	Township	Sale Price	Beds	Baths	Year Built	Home Size (SF)	Site Size (AC)	Sale Price / SF	Sale Date
5	5830 Lee Rd	Shabbona	$212,000	3	2.0	N/A	1,700	2.00	$124.71	Oct-19

In Group 4, Test Area Sale 5, a single-family home, was considered a second time for a paired sales analysis since it sold again in 2019, after the completion of the wind farm. The home is approximately 2,250 feet from the nearest turbine, as shown below.

We analyzed six Control Area properties that sold within a reasonable time frame from the second sale date of the Test Area Property 2 and that were similar in several key physical characteristics, but removed geographically from the wind turbines in DeKalb and Lee Counties. For all Control Area Sales, the median price per square foot of building area (above grade) was adjusted for market conditions using regression analysis to identify the appropriate monthly market conditions adjustment. Again, we utilized the FHFA HPI for our market conditions adjustment.

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The result of our analysis for Group 4 is presented below, including the physical characteristics of the Test Area Sale and range of characteristics of the Control Area Sales.

CohnReznick Paired Sale Analysis Lee-DeKalb Wind Energy Center Group 4		
	Potentially Impacted by Wind Farm	**Adjusted Median Price Per SF**
Test Area Sale (1)	Adjoining wind farm	$124.71
Control Area Sales (6)	No: Not adjoining wind farm	$124.29
Difference between Unit Price of Test Area Sale and Adjusted Median Unit Price of Control Area Sales		**-0.34%**

Lee-DeKalb Wind Energy Center - Group 4				
	Home Size (SF)	**Land Size (AC)**	**Year Built**	**Beds/Baths**
Test Area Sale	1,700	2.0	Over 50 Years Old	3 / 2
Control Area Sales (Range)	1,433 - 2,050	2.0 - 5.74	1881 - 1996	3-5 / 1-2.5

The Group 4 re-sale of the home known as Test 2 in October 2019 was for $47,100 more than the sale in 2014 that we studied. The average annual appreciation in price over the 5 year period was 5.8 percent, which is in line with, or greater than, the surrounding appreciation rates for DeKalb County, per the FHFA HPI data.

Noting a relatively nominal price differential, with the Test Area Sales having a very slightly different unit sale price than the median adjusted unit sale price of the Control Area Sales, it does not appear that the proximity to a wind farm had any negative impact on proximate property values in the Lee-DeKalb Wind Energy Center.

The days on market for the Test Area Sale was 53 days, while the median days on market for the Control Area sales was 60 days (ranging from 36 to 130 days), ***and we note no negative marketing time differential.***

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WIND FARM 6: WHITE OAK WIND ENERGY CENTER, MCLEAN COUNTY, ILLINOIS

Coordinates: Latitude 41.7108°, Longitude -89.0414°

PINs: Multiple

Owner of Record: NextEra Energy Resources

Date Project Announced: 2010

Date Project Completed: June 2011

Project Area: Approximately 11,000 acres

Output: 150.0 MW AC

The wind farm known as the White Oak Wind Energy Center is a 100-turbine wind farm composed of 1.5 MW wind turbines (for a nameplate capacity of 150.0 megawatts), in McLean County, approximately 3 miles northwest of the city of Bloomington, Illinois. The nearest village is Carlock in McLean County directly to the west. The wind farm began operations in 2012 after commencing construction in late 2010.

Altogether we analyzed all sales data from properties that sold from January 2012 to March 2021, after completion of the wind farm, in both McLean County and Woodford County to the north. We analyzed single-family residential homes in these four counties in close proximity to a wind turbine. We identified twelve single-family residential homes in these counties that qualified for a paired sales analysis that were in close proximity to a wind turbine.

While there were additional homes near wind turbines that sold in both McLean and Woodford Counties (potential test area properties), we could not identify homes that sold that had similar ages, conditions and designs within the same or surrounding townships as the Test Area Sales, in order to complete additional paired sales analyses.

The aerial image on the following page displays the twelve Test Area properties in relation to the closest turbines.

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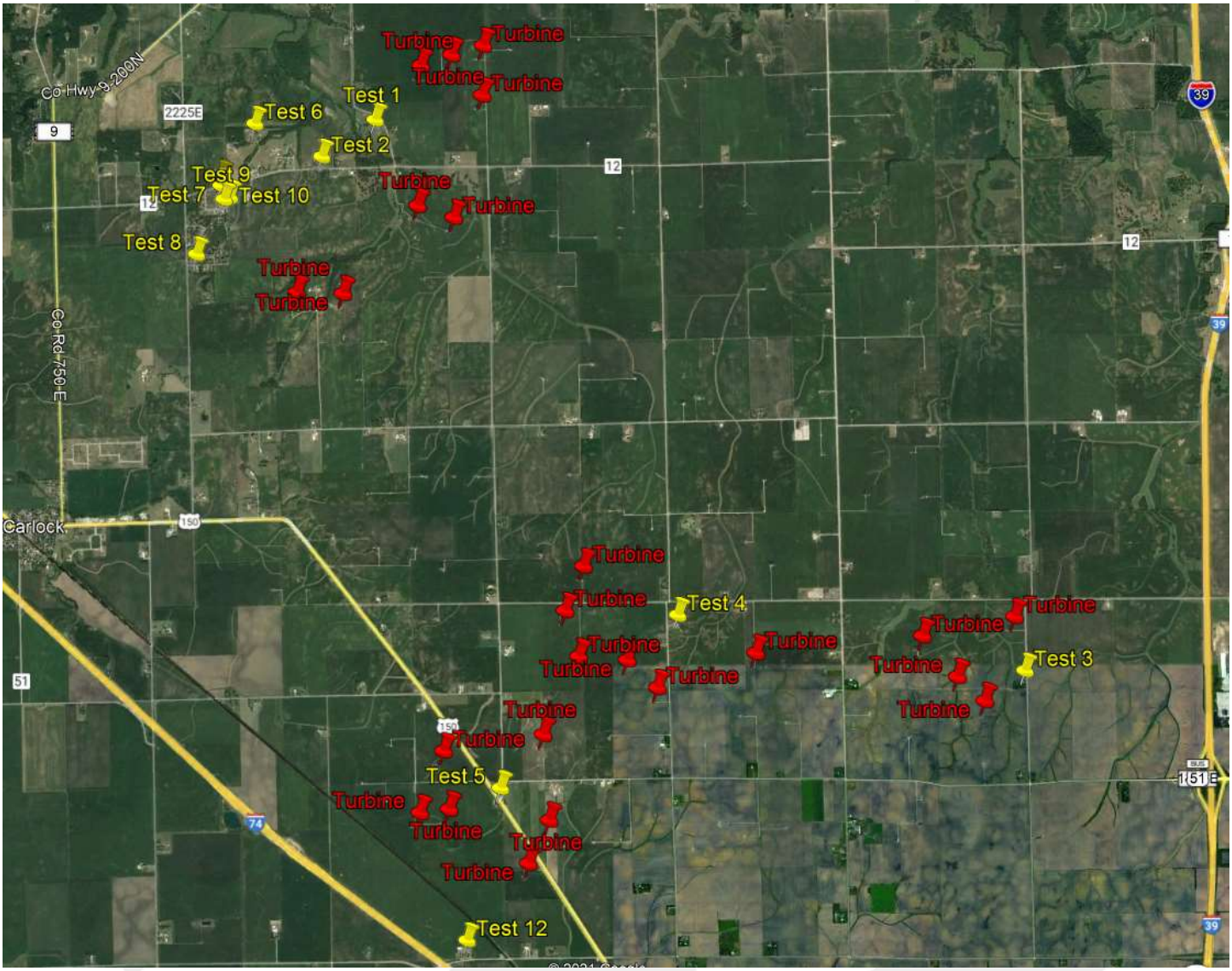

White Oak Wind Energy Center: Test Area Properties

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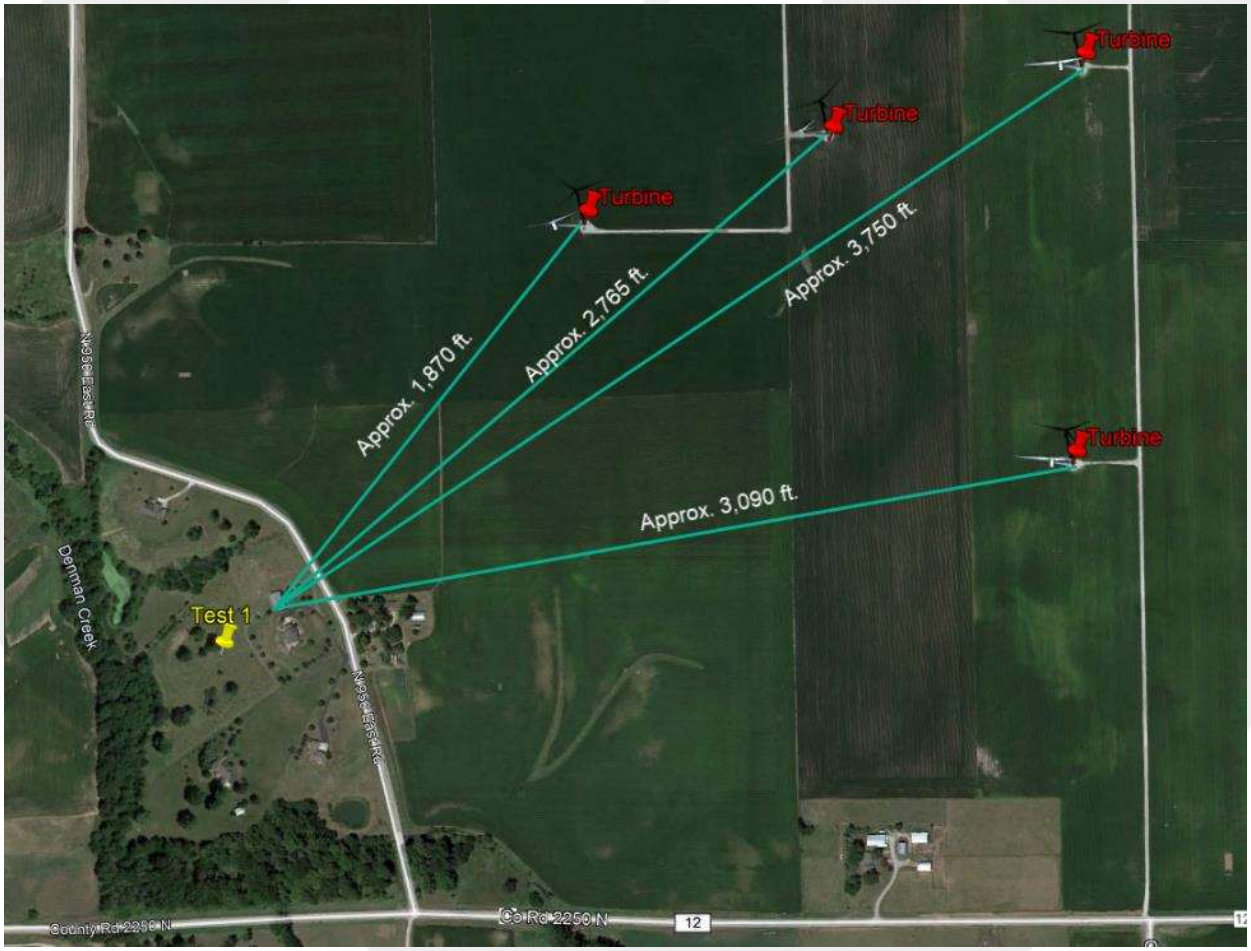
White Oak Wind Energy Center Group 1										
Test Area Sale #	Address	Sale Price	Beds	Baths	Year Built	Home Size (SF)	Improvements	Site Size (AC)	Sale Price/SF	Sale Date
1	22668 N 950 East Rd., Carlock	$425,000	5	3.0	2003	3,492	Single Family	11.46	$121.71	Jul-20

In Group 1, Test Area Sale 1, a single-family home was considered for a paired sales analysis, and sold in July 2020, after the completion of the wind farm. The home is adjacent to four wind turbines and is approximately 1,870 feet from the nearest turbine, as shown below.



We analyzed ten Control Area properties that sold within a reasonable time frame from the sale date of Test Area Sale 1 and that were similar in several key physical characteristics, but removed geographically from the wind turbines in McLean and Woodford Counties. For all Control Area Sales, the median price per square foot of building area (above grade) was adjusted for market conditions using regression analysis to identify the appropriate monthly market conditions adjustment. We utilized the Federal Housing Finance Agency House Price Index (FHFA HPI) for McLean County and surrounding areas in Illinois for the average monthly rate of

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appreciation in the market conditions adjustment. The FHFA HPI is a broad measure of the movement of single-family house prices. The FHFA HPI is a weighted, repeat-sales index, meaning that it measures average price changes in repeat sales or refinancings on the same properties. The FHFA HPI serves as a timely, accurate indicator of house price trends at various geographic levels.[21]

The result of our analysis for Group 1 is presented below, including the physical characteristics of the Test Area Sale and range of characteristics of the Control Area Sales.

CohnReznick Paired Sales Analysis White Oak - Group 1		
No. of Sales	**Potentially Impacted by Wind Farm**	**Adjusted Median Price Per SF**
Test Area Sale (1)	Yes: Adjoining wind farm	$121.71
Control Area Sales (10)	No: Not adjoining wind farm	$118.93
Difference between Unit Price of Test Area Sale and Adjusted Median Unit Price of Control Area Sales		**2.34%**

White Oak - Group 1				
	Gross Finished Living Area (SF)	**Land Size (AC)**	**Year Built**	**Beds / Baths**
Test Area Sale	3,492	11.46	2003	5 / 3
Control Area Sales (Range)	2,560 - 4,748	7.19 - 16	1991 - 2015	3 / 3 - 5 / 5

[21] https://www.fhfa.gov/DataTools/Downloads/Pages/House-Price-Index.aspx

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White Oak Wind Energy Center Group 2										
Test Area Sale #	Address	Sale Price	Beds	Baths	Year Built	Home Size (SF)	Improvements	Site Size (AC)	Sale Price/SF	Sale Date
2	9003 E 2250 North Rd., Carlock	$205,000	3	2.0	1970	2,200	Single Family	1.50	$93.18	Aug-19
3	19544 N 1300 East Rd., Hudson	$300,000	3	3.0	1972	3,455	Single Family	2.44	$86.83	May-20
4	19879 N 1100 East Rd., Carlock	$190,000	4	3.0	1879	1,936	Single Family	5.20	$98.14	Nov-19
5	9993 Us Highway 150, Bloomington	$272,000	4	2.0	1889	2,763	Single Family	1.60	$98.44	Jun-20
6	2268 E 2250 North Rd., Carlock	$425,000	4	4.0	2006	4,560	Single Family	4.65	$93.20	Sep-20

In Group 2, Test Area Sale 2, a single-family home was considered for a paired sales analysis, and sold in August 2019 after the completion of the wind farm. The home is adjacent to two wind turbines and is approximately 3,290 feet from the nearest turbine, as shown below.

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In Group 2, Test Area Sale 3, a single-family home was considered for a paired sales analysis, and sold in May 2020 after the completion of the wind farm. The home is adjacent to three wind turbines and is approximately 1,565 feet from the nearest turbine, as shown below.

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In Group 2, Test Area Sale 4, a single-family home was considered for a paired sales analysis, and sold in November 2019 after the completion of the wind farm. The home is adjacent to six wind turbines and is approximately 2,100 feet from the nearest turbine, as shown below.

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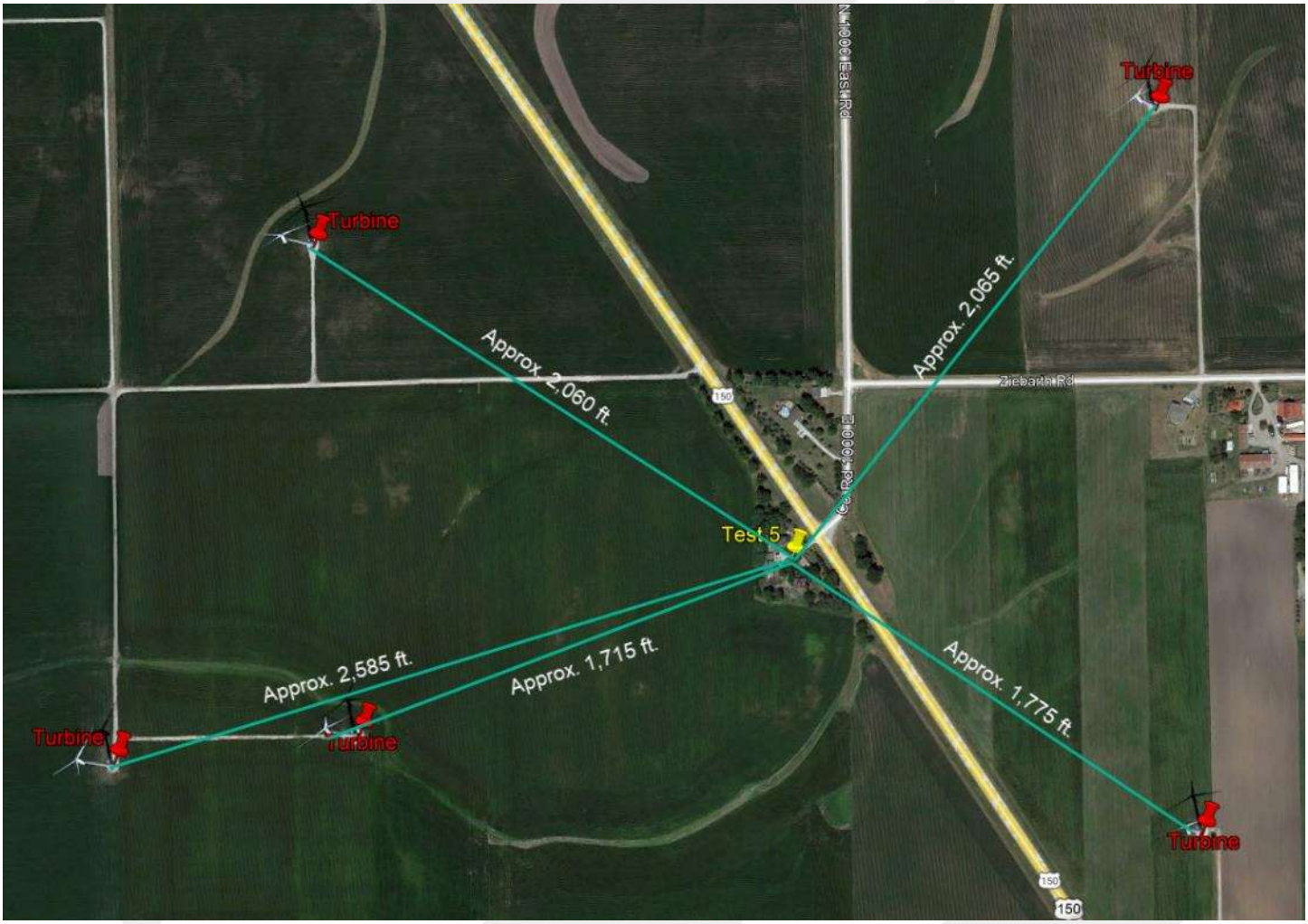
In Group 2, Test Area Sale 5, a single-family home was considered for a paired sales analysis, and sold in June 2020 after the completion of the wind farm. The home is adjacent to five wind turbines and is approximately 1,715 feet from the nearest turbine, as shown below.



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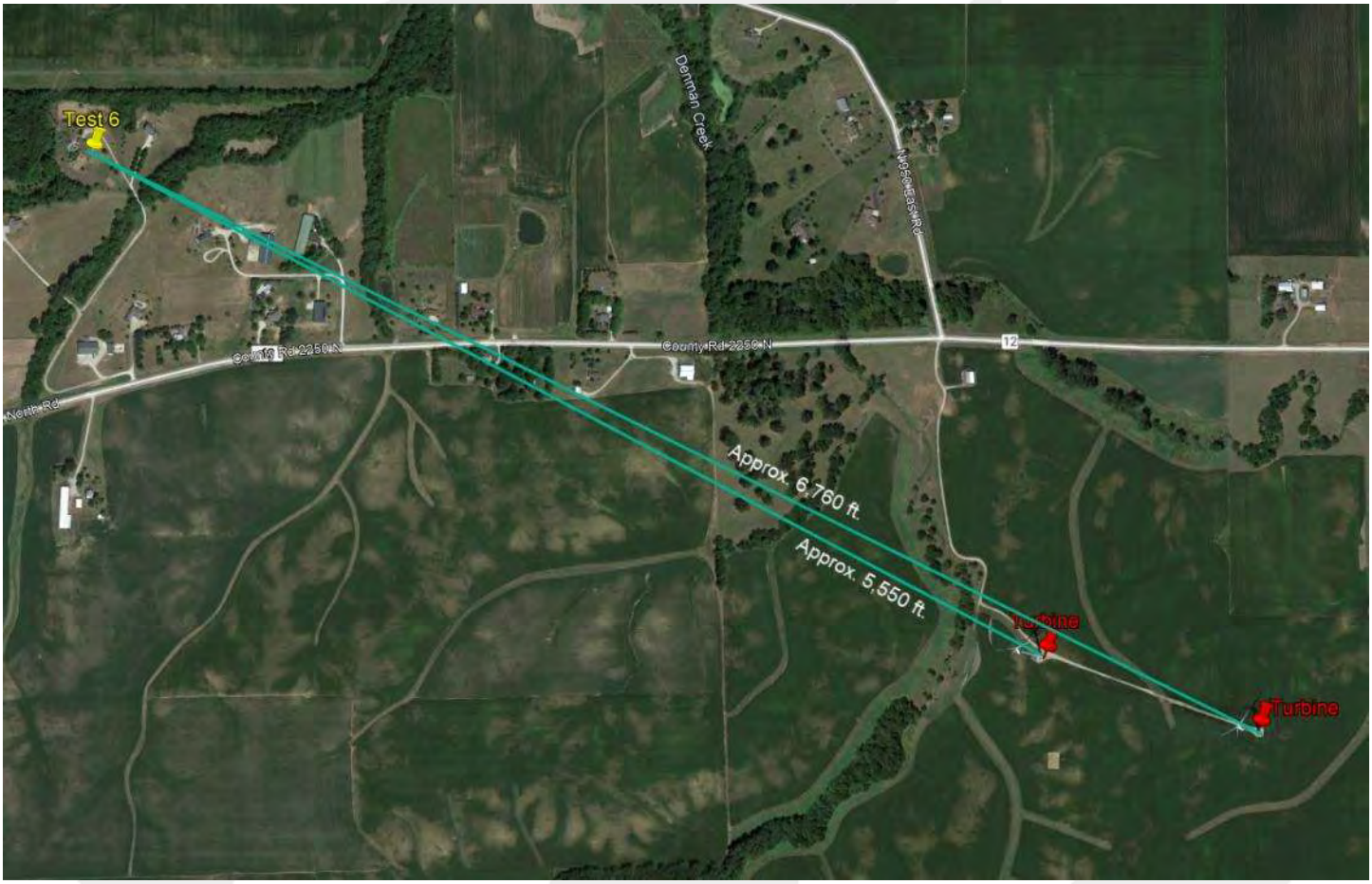
In Group 2, Test Area Sale 6, a single-family home was considered for a paired sales analysis, and sold in September 2020 after the completion of the wind farm. The home is adjacent to two wind turbines and is approximately 5,550 feet from the nearest turbine, as shown below.



We analyzed 49 Control Area properties that sold within a reasonable time frame from the median sale date of the five Test Area Sales in Group 2 that were similar in several key physical characteristics, but removed geographically from the wind turbines in McLean County and other surrounding areas of Illinois. For all Control Area Sales, the median price per square foot of building area (above grade) was adjusted for market conditions using regression analysis to identify the appropriate monthly market conditions adjustment. Again, we utilized the FHFA HPI for our market conditions adjustment.

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The result of our analysis for Group 2 is presented below, including the physical characteristics of the Test Area Sale and range of characteristics of the Control Area Sales.

CohnReznick Paired Sales Analysis White Oak - Group 2		
No. of Sales	**Potentially Impacted by Wind Farm**	**Adjusted Median Price Per SF**
Test Area Sales (5)	Yes: Adjoining wind farm	$93.20
Control Area Sales (49)	No: Not adjoining wind farm	$86.10
Difference between Unit Price of Test Area Sales and Adjusted Median Unit Price of Control Area Sales		**8.25%**

White Oak - Group 2				
	Gross Finished Living Area (SF)	**Land Size (AC)**	**Year Built**	**Beds / Baths**
Test Area Sales (Range)	1,936 - 4,560	1.5 - 5.2	1879 - 2006	3 / 2 - 4 / 4
Control Area Sales (Range)	1,216 - 4,000	1 - 7.05	1858 - 2009	2 / 1 - 6 / 4

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White Oak Wind Energy Center Group 3										
Test Area Sale #	Address	Sale Price	Beds	Baths	Year Built	Home Size (SF)	Improvements	Site Size (AC)	Sale Price/SF	Sale Date
7	22422 Sangamon Dr., Carlock	$215,000	4	4.0	1999	2,300	Single Family	0.73	$93.48	Aug-20
8	8275 Sunset Rd., Carlock	$240,000	4	4.0	1997	2,170	Single Family	0.76	$110.60	Aug-20
9	8293 Garden Rd., Carlock	$230,000	3	4.0	2006	2,164	Single Family	0.77	$106.28	Apr-19
10	22355 Sangamon Dr., Carlock	$289,900	4	3.0	2002	2,178	Single Family	0.97	$133.10	Dec-20
11	22464 Sangamon Dr., Carlock	$201,000	3	3.0	2005	2,160	Single Family	1.21	$93.06	Mar-19

In Group 3, there were five Test Area Sales of single family homes in the neighborhood around Sunset Lake that were considered for a paired sales analysis that sold after the completion of the wind farm, as shown below.

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There are two turbines located to the southeast of Sunset Lake, with their distances from the Test Area Sales shown on the following chart.

GROUP 3 - TEST SALES			
Test Sale #	Sale Date	Distance from Turbine 1 (feet)	Distance from Turbine 2 (feet)
7	8/6/2020	3,990	4,979
8	8/3/2020	3,270	4,585
9	4/16/2019	3,530	4,560
10	12/17/2020	3,625	4,650
11	3/14/2019	4,225	5,155

We analyzed 18 Control Area properties that sold within a reasonable time frame from the median sale date of the five Test Area Sales in Group 3 and that were similar in several key physical characteristics, but removed geographically from the wind turbines in McLean County. For all Control Area Sales, the median price per square foot of building area (above grade) was adjusted for market conditions using regression analysis to identify the appropriate monthly market conditions adjustment. Again, we utilized the FHFA HPI for our market conditions adjustment.

The result of our analysis for Group 3 is presented below, including the physical characteristics of the Test Area Sales and range of characteristics of the Control Area Sales.

CohnReznick Paired Sales Analysis White Oak - Group 3		
No. of Sales	Potentially Impacted by Wind Farm	Adjusted Median Price Per SF
Test Area Sales (5)	Yes: Adjoining wind farm	$106.28
Control Area Sales (18)	No: Not adjoining wind farm	$102.60
Difference between Unit Price of Test Area Sales and Adjusted Median Unit Price of Control Area Sales		3.59%

White Oak - Group 3				
	Gross Finished Living Area (SF)	Land Size (AC)	Year Built	Beds / Baths
Test Area Sales (Range)	2,160 - 2,300	0.73 - 1.21	1997 - 2006	3 / 3 - 4 / 4
Control Area Sales (Range)	1,733 - 2,775	0.4 - 1	1989 - 2006	3 / 3 - 6 / 5

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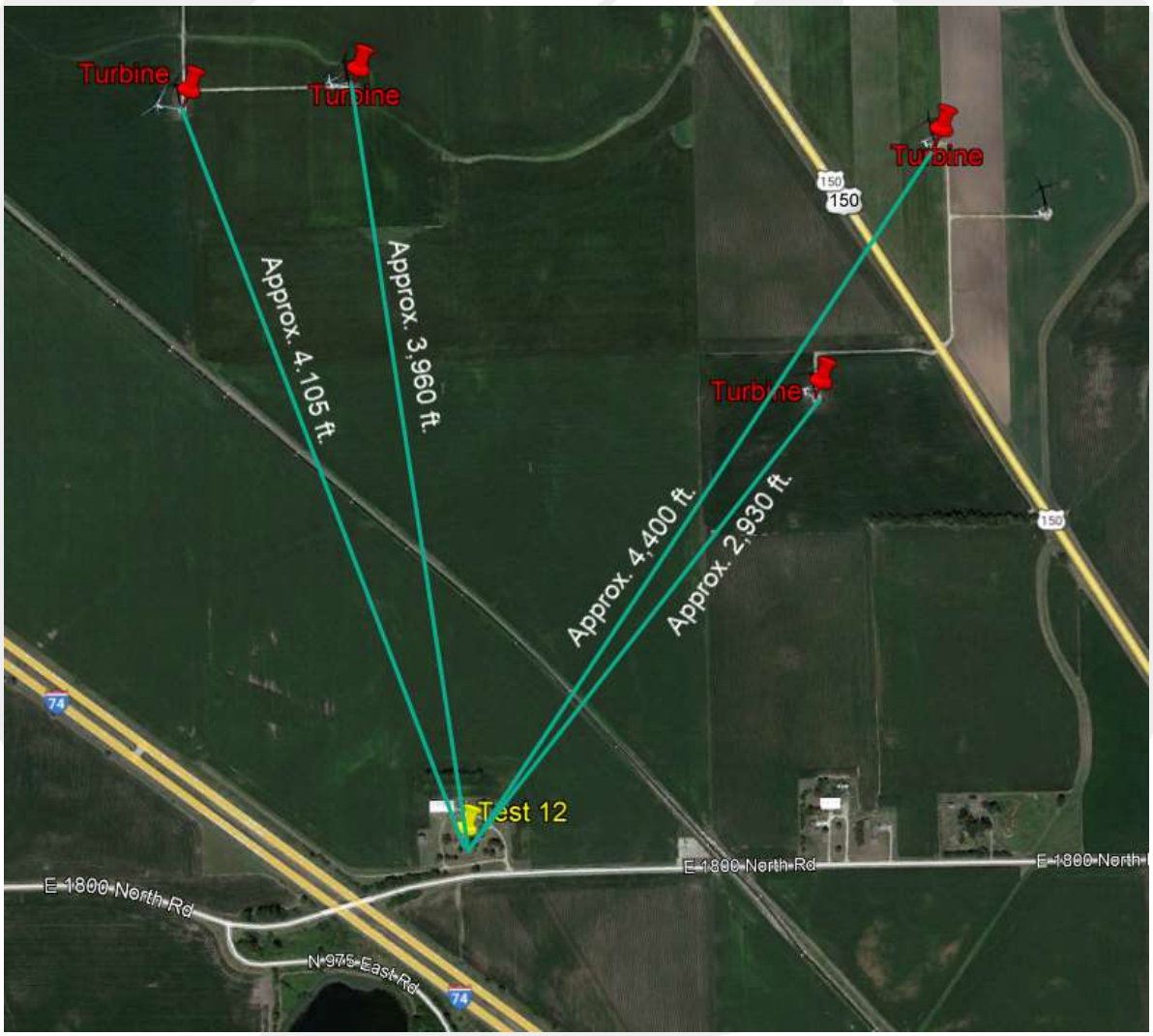
White Oak Wind Energy Center Group 4										
Test Area Sale #	Address	Sale Price	Beds	Baths	Year Built	Home Size (SF)	Improvements	Site Size (AC)	Sale Price/SF	Sale Date
12	9844 E 1800 North Rd., Bloomington	$240,000	4	2.0	1859	2,036	Farm	7.23	$117.88	Jul-20

In Group 4, Test Area Sale 12, a single-family home was considered for a paired sales analysis, and sold in July 2020 after the completion of the wind farm. The home is adjacent to four wind turbines and is approximately 2,930 feet from the nearest turbine, as shown below.



We analyzed nine Control Area properties that sold within a reasonable time frame from the sale date of the Test Area Property 12 and that were similar in several key physical characteristics, but removed geographically from the wind turbines in McLean and Woodford Counties. For all Control Area Sales, the median price per square foot of building area (above grade) was adjusted for market conditions using regression analysis to identify the

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appropriate monthly market conditions adjustment. Again, we utilized the FHFA HPI for our market conditions adjustment.

The result of our analysis for Group 4 is presented below, including the physical characteristics of the Test Area Sale and range of characteristics of the Control Area Sales.

CohnReznick Paired Sales Analysis White Oak - Group 4		
No. of Sales	**Potentially Impacted by Wind Farm**	**Adjusted Median Price Per SF**
Test Area Sale (1)	Yes: Adjoining wind farm	$117.88
Control Area Sales (9)	No: Not adjoining wind farm	$118.31
Difference between Unit Price of Test Area Sales and Adjusted Median Unit Price of Control Area Sales		**-0.37%**

White Oak - Group 4				
	Gross Finished Living Area (SF)	**Land Size (AC)**	**Year Built**	**Beds / Baths**
Test Area Sale	2,036	7.23	1859	4 / 2
Control Area Sales (Range)	1679 - 4008	3.55 - 10	1869 - 1970	4 / 2 - 6 / 5

The study indicates no significant price differential, with the Test Area Sales in Groups 1, 2, and 3 having a higher unit sale price than the median adjusted unit sale price of the Control Area Sales. Group 4 indicates a relatively nominal price differential, with the Control Area Sales. Ultimately, it does not appear that the proximity to a wind farm had any negative impact on proximate property values in the While Oak Wind Energy Center.

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WIND FARM 7: RAIL SPLITTER WIND FARM, TAZEWELL & LOGAN COUNTIES, IL

Coordinates: Latitude 40.369200, Longitude -89.402200

PINs: Multiple

Project Area: Approximately 11,000 acres

Date Project Announced: 2008

Date Project Completed: August 2009

Output: 100.5 MW AC

The Rail Splitter Wind Farm is a 67-turbine wind farm comprised of 1.5 MW wind turbines in portions of Tazewell County and Logan County, Illinois. The turbines are 328 feet tall from base to tip of the apex. The wind farm Is located approximately 20 miles southwest of the city of Bloomington and 40 miles northeast of the city of Springfield. The Project area is primarily rural, adjacent to the northwest of the town of Armington and to the south of the town of Hopedale.

The wind farm began operations in August 2009. The facility generates enough electricity to power the equivalent of 35,000 average Illinois homes, according to the US Energy Information Administration. In 2014, it was announced that the Rail Splitter Wind Project entered an agreement to sell 25 MW of energy to Hoosier Energy Rural Electric Cooperative for a period of 15 years.

We have analyzed all single-family residential sales data from properties that sold in the past five years, beginning in July 2017. We searched for homes in close proximity to a wind turbine, within one mile. We identified one single-family residential home that qualified for a paired sales analysis that was in close proximity to a wind turbine and was an open-market, arm's length transaction.

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Rail Splitter Wind Farm: Test Area Property

PAIRED SALES ANALYSIS

We have considered only one type of paired sales analysis, which was comparing sales of properties not proximate to the wind farm (Control Area Sales) to the sales of adjoining properties after the completion of the wind farm project (Test Area Sales). We identified two groups of Test Area Sales based primarily on location and home type. We have analyzed sales of homes that occurred in the previous five years, beginning in July 2017.

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Group 1 – Improved Single-Family Residential Properties

Rail Splitter Wind Farm - Group 1, Test Sale											
Test Area Sale No.	Address	Township	Sale Price	GLA SF	Type	Bedrooms	Bathrooms	Year Built	Lot Size (AC)	Sale Date	Sale Price/SF
1	25330 Boynton Road	Delavan	$162,375	1,488	Single-Family Home with finished basement and attached garage	3	2.0	1972	2.50	1/13/2021	$109.12

In Group 1, Test Area Sale 1, a single-family home was considered for a paired sales analysis, and sold in January 2021 after the completion of the wind farm. The home is adjacent to several wind turbines and is approximately 1,650 feet from the nearest turbine, as shown below.

We analyzed four Control Area Sales of single-family homes with similar construction and use that were not located in close proximity to a wind farm, more than 3 miles from the nearest turbine within Tazewell County, or Logan County, and that sold within a similar time frame from the sale date of the Test Area Sale. The Control Area Sales are single-family homes with three to four bedrooms and one and a half to two baths, consisting of between 1,200 square feet and 2,000 square feet of gross living area, built between 1960 and 1980, with lot

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sizes of between 1.0 and 6.0 acres. Additionally, the Control Area Sales are between one and two stories, have garage parking, and finished basements. All of the Control Sales are located in rural areas, similar to the Test Sale.

For all Control Area Sales, the median price per square foot of building area (above grade) was adjusted for marketing condition using the Federal Housing Finance Agency's House Price Index (HPI), a weighted, repeated-sales index measuring the average price changes in repeat sales or refinancing of the same properties. The FHFA HPI serves as a timely, accurate indicator of house price trends at various geographic levels. The result of our analysis for Group 1 is presented on the following page, including the physical characteristics of the Test Area Sale and range of characteristics of the Control Area Sales.

CohnReznick Paired Sale Analysis Rail Splitter Wind Farm - Group 1		
No. of Sales	**Potentially Impacted by Wind Farm**	**Adjusted Median Price Per SF**
Test Area Sale (1)	Adjoining wind farm	$109.12
Control Area Sales (4)	No: Not adjoining wind farm	$103.21
Difference between Unit Price of Test Area Sales and Adjusted Median Unit Price of Control Area Sales		**5.73%**

Rail Splitter Wind Farm - Group 1				
	Gross Finished Living Area	**Land Size (AC)**	**Year Built**	**Beds / Baths**
Test Area Sale	1,488	2.50	1972	3 / 2
Control Area Sales (Range)	1,384 - 1,985	1.50 - 5.96	1969 - 1977	3 - 4 / 1.5 - 2.0

The days on market for the Test Area Sale was 57 days, while the median days on market for the Control Area sales was 249 days (ranging from 48 to 414 days), ***and we note no negative marketing time differential.***

Noting no negative price differential, it does not appear that the proximity Rail Splitter Wind Farm use impacted the sale price of Test Area Sale 1, 25330 Boynton Road. The Control Area Sales indicate a lower unit sales price than the Test Area sale.

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WIND FARM 8: BRIGHT STALK WIND FARM, MCLEAN COUNTY, IL

Coordinates: Latitude 40.701241, Longitude -88.701050

PINs: Multiple

Total Land Size: Approximately 18,000 acres

Date Project Announced: March 2018

Date Project Completed: December 2019

Output: 205.20 MW AC

The Bright Stalk Wind Farm is a 57-turbine wind farm comprised of 3.6 MW wind turbines (for a nameplate capacity of 205.2 megawatts), in northeast McLean County, Illinois. The turbines are 488 feet tall from base to tip of the apex. The wind farm Is located approximately 27 miles northeast of the city of Bloomington and 110 miles southwest of the city of Chicago. The Project area is primarily rural, adjacent to the southeast of the town of Chenoa and to the southwest of the town of Weston.

The wind farm began operations in December 2019. The facility generates enough electricity to power the equivalent of 73,000 average Illinois homes, according to the US Energy Information Administration. In September 2018, it was announced that the Bright Stalk project entered a 15-year PPA (power purchase agreement) with Salesforce to purchase 80 MW of the 205 MW output from the wind farm. Additionally, in October 2018, a PPA between Walmart and the Bright Stalk project was announced in which Walmart will purchase 123 MW of output from the wind farm.

We have analyzed all single-family residential sales data from properties that sold from December 2019 to August 2022. We searched for homes in close proximity to a wind turbine, within one mile. We identified one single-family residential home that qualified for a paired sales analysis that was in close proximity to a wind turbine.

The aerial imagery on the following page displays the Test Area Property in relation to the closest turbines.

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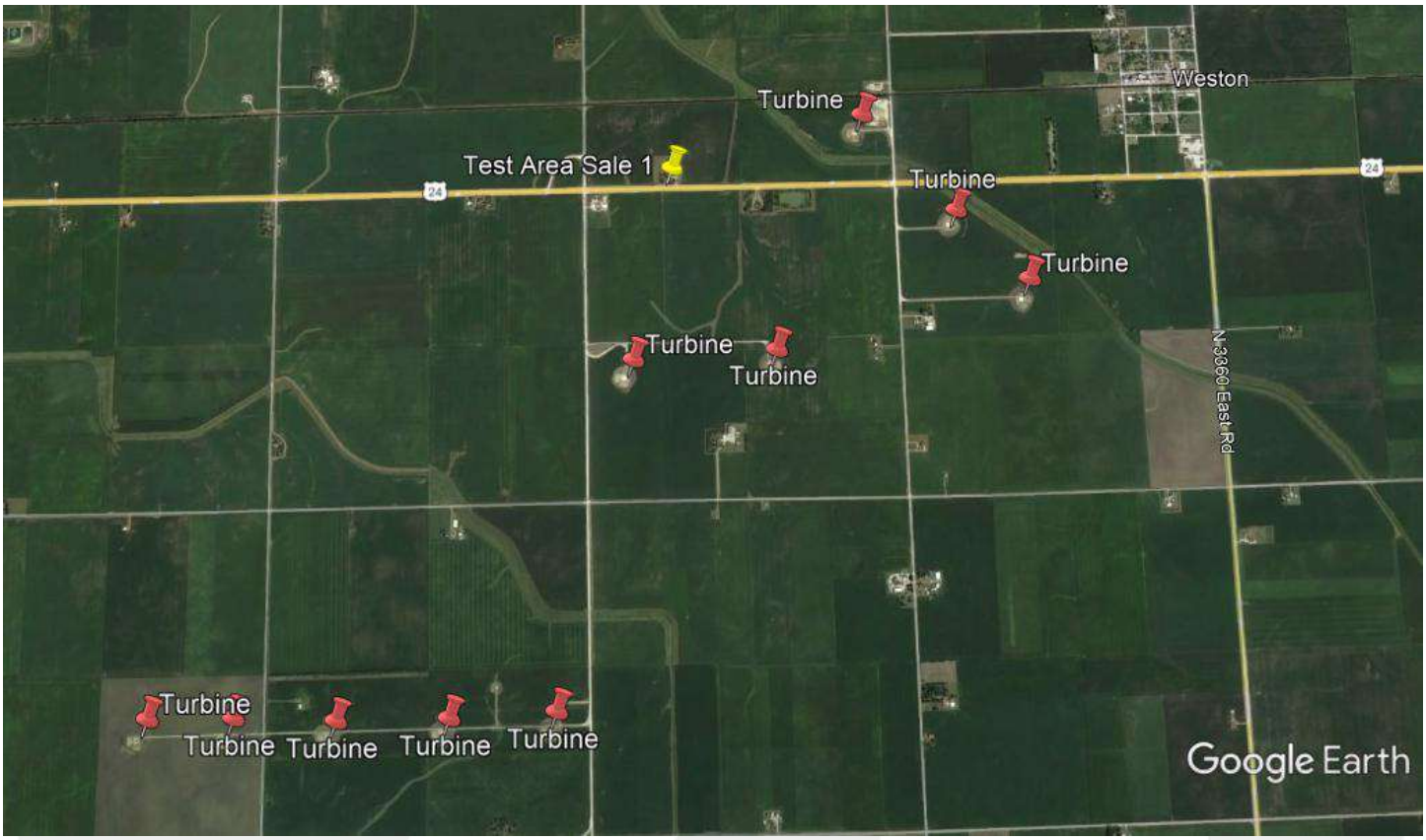

Bright Stalk Wind Farm: Test Area Property

PAIRED SALES ANALYSIS

We have considered only one type of paired sales analysis, which was comparing sales of properties not proximate to the wind farm (Control Area Sales) to the sales of adjoining properties after the completion of the wind farm project (Test Area Sales). We identified one group of Test Area Sales based primarily on location and home type. We have analyzed sales of homes that occurred after the completion of the wind farm, starting in December 2019. The first and only group comprises the sale at 31882 East 3100 North Road that occurred after the completion of the wind farm, in September 2020.

We have excluded seven home sales that were initially considered for Test Area Sales. Of the seven sales we have excluded, six of the sales have been exlcuded for being either non-arm's length transactions, special warranty deed sales, or not being open market transactions.

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Group 1 – Improved Single-Family Residential Properties

Bright Stalk Wind Farm - Test Sale											
Test Area Sale No.	Address	Township	Sale Price	GLA SF	Type	Bedrooms	Bathrooms	Year Built	Lot Size (AC)	Sale Date	Sale Price/SF
1	31882 East 3100 North Road	Chenoa	$225,000	2,256	1.5-story SFH with unfinished basement + accessory buildings (detached garage, and 5,400 sq ft shed)	4	2.0	1937	5.62	9/9/2020	$99.73

Test Area Sale 1, a single-family home was considered for a paired sales analysis, and sold in September 2020 after the completion of the wind farm. The home is adjacent to several wind turbines and is approximately 3,260 feet from the nearest turbine, as shown below.

We analyzed four Control Area Sales of single-family homes with similar construction and use that were not located in close proximity to a wind farm, more than 3 miles from the nearest turbine within McLean County or the adjacent Livingston County, and that sold within a similar time frame from the sale date of the Test Area Sale. The Control Area Sales are single-family homes with three to four bedrooms and two baths, consisting of between 1,750 square feet and 2,750 square feet of gross living area, built between 1920 and 1965, with lot sizes of between 2 and 10 acres, and have accessory buildings. Additionally, the Control Area Sales are between one and two stories, and do not have finished basements. All of the Control Sales are located in rural areas, similar to the Test Sale.

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For all Control Area Sales, the median price per square foot of building area (above grade) was adjusted for marketing condition using the Federal Housing Finance Agency's House Price Index (HPI), a weighted, repeated-sales index measuring the average price changes in repeat sales or refinancing of the same properties. The FHFA HPI serves as a timely, accurate indicator of house price trends at various geographic levels. The result of our analysis for Bright Stalk Wind Farm is presented in the following tables.

CohnReznick Paired Sale Analysis Bright Stalk Wind Farm		
No. of Sales	**Potentially Impacted by Wind Farm**	**Adjusted Median Price Per SF**
Test Area Sale (1)	Adjoining wind farm	$99.73
Control Area Sales (4)	No: Not adjoining wind farm	$100.36
Difference between Unit Price of Test Area Sales and Adjusted Median Unit Price of Control Area Sales		**-0.63%**

Bright Stalk Wind Farm				
	Gross Finished Living Area (SF)	**Land Size (AC)**	**Year Built**	**Beds / Baths**
Test Area Sale	2,256	5.62	1937	4 / 2
Control Area Sales (Range)	1,800 - 2,352	2.0 - 10.0	1933 - 1963	3 - 4 / 2

The days on market for the Test Area Sale was 35 days, while the median days on market for the Control Area sales was 111 days (ranging from 44 to 197 days), ***and we note no negative marketing time differential.***

Noting only a nominal price differential, it does not appear that the proximity to the Bright Stalk Wind Farm use impacted the sale price of the Test Area Sale, 31882 East 3100 North Road. The Control Area Sales indicate a slightly higher unit sales price than the Test Area sale, but the difference is relatively nominal.

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WIND FARM 9: HEADWATERS II WIND FARM RANDOLPH COUNTY, IN

Coordinates: Latitude 40.051694, Longitude -85.206690

PINs: Multiple

Project Area: Approximately 12,000 acres

Date Project Announced: August 2018

Date Project Completed: June 2021

Output: 200.0 MW AC

The Headwaters II Wind Farm ("Headwaters II" or "the Project") is a 49-turbine wind farm comprised of 13 Vestas V136-3.6 MW wind turbines and 36 V150-4.2 MW turbine in southwestern Randolph County, Indiana. The wind farm Is located approximately ten miles southwest of the city of Winchester and 12 miles southeast of the city of Muncie. The Project area is primarily rural, adjacent to the north of the town of Losantville and to the northwest of the town of Modoc. The Project is the second phase of the Headwaters Wind Farm in Randolph County, which completed Phase I in December 2014. The first phase of the Project is located immediately to the east with the Riverstart Solar Farm located in between.

The wind farm was announced in August 2018, completed in June 2021 and sits on approximately 12,000 acres. In 2021, it was announced that the Headwaters II Wind Project entered an agreement to sell a share of the annual output of energy to Facebook under a 15-year Power Purchase Agreement ("PPA"). Additionally in 2021 it was announced that Walmart entered a PPA with the Headwaters II Wind Project for the remaining share of the annual output under a 15-year agreement.

We have analyzed all single-family residential sales data from properties that sold since the wind farm became operational in June 2021. We identified homes in close proximity to a wind turbine, within 3,500 feet. We identified six single-family residential homes that qualified for a paired sales analysis that were in close proximity to a wind turbine and were open-market, arm's length transactions. Of the six arm's length transactions, we were able to perform a paired sales analysis on four homes.

The aerial imagery on the following page displays the Test Area Properties in relation to the closest turbines.

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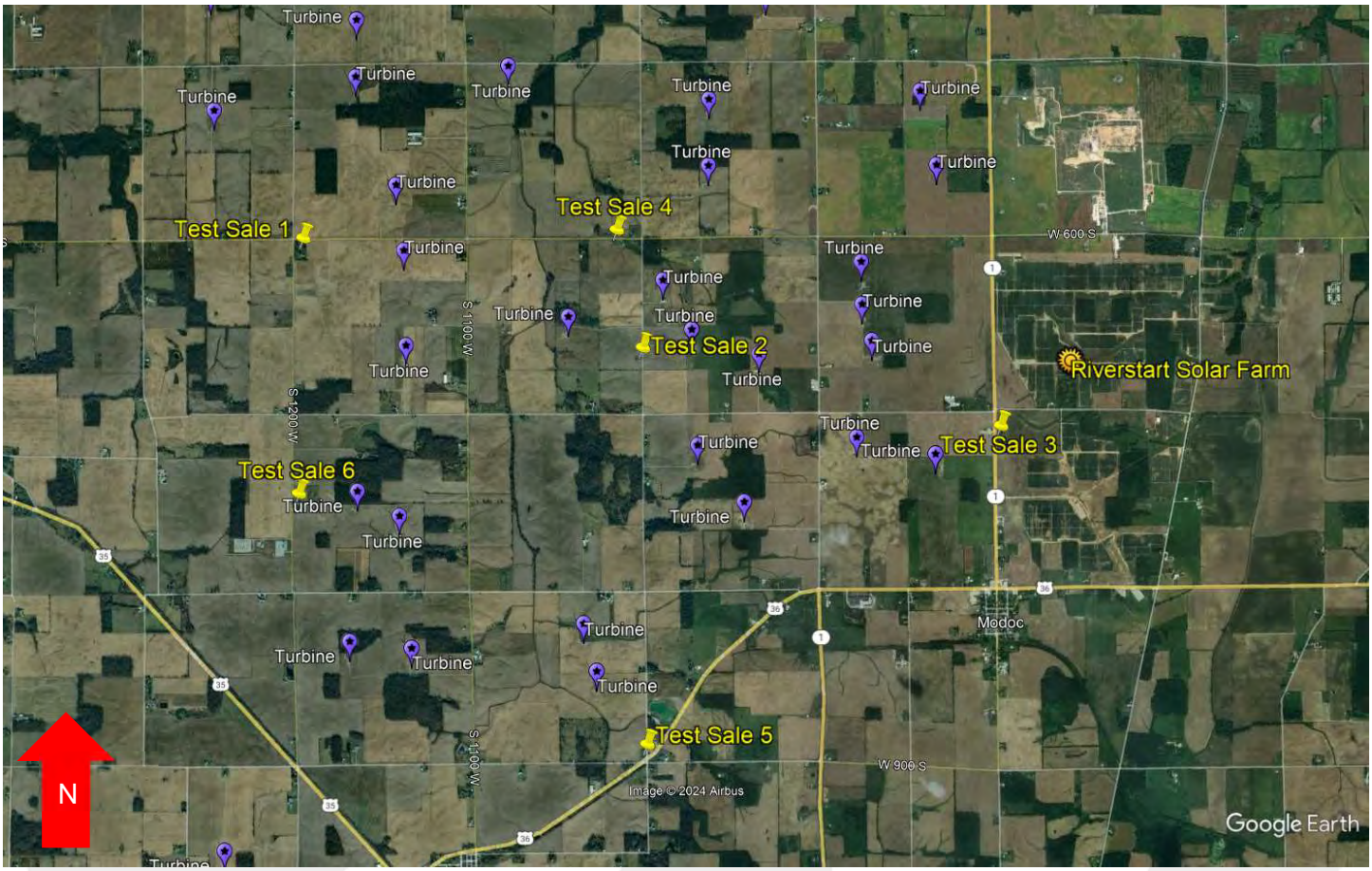

Headwaters II Wind Farm: Test Area Properties

PAIRED SALES ANALYSIS

We have considered only one type of paired sales analysis, which was comparing sales of properties not proximate to the wind farm (Control Area Sales) to the sales of adjoining properties after the completion of the wind farm project (Test Area Sales). We identified two groups of Test Area Sales which were categorized into two groups based primarily on year of construction. We have analyzed sales of homes that occurred since the wind farm began operations in June 2021.

We identified Control Area Sale data through the Indiana Regional MLS database. We have verified these sales through county records and conversations with brokers and sellers. We have excluded sales that were not arm's length, such as REO sales or bank-owned properties, or those between related properties. It is important to note that these Control Area Sales are not adjoining to any wind farm, nor do they have a view of one from the property. Therefore, the announcement nor the completion of the wind farm use could have impacted the sales prices of these properties. Additionally, these Control Area Sales are all located within a 15 mile radius of the Headwaters II Wind Farm.

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Properties Excluded from Paired Sales Analysis

A single-family residence built in 1910 located at 7493 S 1200 W in Losantville sold in July 2022 for $250,000 or $147.41 per square foot of finished living area. The property consists of a 1,696 square foot two-story home with a 2-car detached garage, pole barn and utility shed on a 18.41-acre lot. We conducted a search in the area for comparable single-family homes with agricultural improvements on large lots but did not find sufficient data to yield reliable conclusions in a paried sale analysis. Single-family homes in the surrounding area with similar lot size typically consist of over 2,500 square feet of finished living area. Due to limited sales in the area to categorize as Control Area Sales, 7493 S 1200 W was excluded from further analysis.

At 8962 S 1000 W in Losantville, a single-family residence built in 1935 sold in November 2022 for $92,000 or $52.60 per square foot of finished living area. The property is comprised of a two-story residence with a 2-car detached garage, pole barn and several sheds on a 1.66-acre lot. The property sold had deferred maintenance and sold in as-is condition in need of repairs to the interior of the residence and for this reason, was excluded from further analysis.

Additionally, a single-family residence located at 10076 W 800 S in Union sold two months prior to the completion of the Headwaters II Wind Farm in April 2021 for $145,000 or $85.90 per square foot of finished living area. We have excluded this sale from our analysis as it sold prior to the completion of the Project. However, we did speak with the listing agent, Andrew Wagner, who noted that the wind farm had not influenced the owner's decision to sell the property and that potential buyers did not disclose any concern about the nearby wind turbines being constructed. This property is located on a 2.38-acre lot and has an attached garage, detached garage and several outbuildings.

Group 1 – Improved Single-Family Residential Properties

Headwaters II Wind Farm, Group 1 - Test Sales											
Test Area Sale No.	Address	Township	Sale Price	GLA SF	Type	Bedrooms	Bathrooms	Year Built	Lot Size (AC)	Sale Date	Sale Price/SF
1	6091 S 1200 W	Union	$360,000	2,428	2-Story SFH with 2-Car Attached Garage, 2-Car Detached Garage and Pole Barn	3	2.5	1996	5.85	8/17/2022	$148.27

In Group 1, Test Area Sale 1, a single-family home, was considered for a paired sales analysis, and sold in August 2022 after the completion of the wind farm. The home is in proximity to two wind turbines and is approximately 3,050 feet from the nearest turbine, as shown below.

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Test Area Sale 1, 6091 S 1200 W

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We analyzed six Control Area Sales of single-family homes with similar construction and use that were not located in close proximity to a wind farm, more than three miles from the nearest turbine, within a 15-mile radius of the Headwaters II Wind Farm, and that sold within a similar time frame from the sale date of the Test Area Sales. The Control Area Sales are single-family homes with three to five bedrooms and two to three and a half baths, consisting of between 2,318 square feet and 2,912 square feet of gross living area, built between 1981 and 2005, with lot sizes of between 3.34 and 9.55 acres. Additionally, the Control Area Sales are between one and a half and two stories. All of the Control Area Sales are located in rural areas, similar to the Test Area Sale.

For all Control Area Sales, the median price per square foot of building area (above grade) was adjusted for marketing condition using the Federal Housing Finance Agency's House Price Index (HPI), a weighted, repeated-sales index measuring the average price changes in repeat sales or refinancing of the same properties. The FHFA HPI serves as a timely, accurate indicator of house price trends at various geographic levels. The result of our analysis for Group 1 is presented below, including the physical characteristics of the Test Area Sales and range of characteristics of the Control Area Sales.

CohnReznick Paired Sale Analysis Headwaters II Wind Farm - Group 1		
No. of Sales	**Potentially Impacted by Wind Farm**	**Adjusted Median Price Per SF**
Test Area Sales (1)	Adjoining wind farm	$148.27
Control Area Sales (6)	No: Not adjoining wind farm	$143.51
Difference between Unit Price of Test Area Sales and Adjusted Median Unit Price of Control Area Sales		**3.32%**

Headwaters II Wind Farm - Group 1				
	Gross Finished Living Area (SF)	**Land Size (AC)**	**Year Built**	**Beds / Baths**
Test Area Sale	2,428	5.85	1996	3 / 2.5
Control Area Sales (Range)	2,319 - 2,912	3.34 - 9.55	1981 - 2005	3 - 5 / 2.0 - 3.5

The day on market for the Test Area Sale was 72 days, while the median days on market for the Control Area sales was 46 days (ranging from 23 to 107 days), ***and we note no substantial marketing time differential.***

Noting no negative price differential, it does not appear that the proximity Headwaters II Wind Farm use impacted the sale price of the Test Area Sale in Group 1. The Control Area Sales indicate a slightly lower unit sales price than the Test Area Sale, but the difference is relatively nominal.

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Group 2 – Improved Single-Family Residential Properties

Headwaters II Wind Farm, Group 2 - Test Sales											
Test Area Sale No.	Address	Township	Sale Price	GLA SF	Type	Bedrooms	Bathrooms	Year Built	Lot Size (AC)	Sale Date	Sale Price/SF
2	6688 S 1000 W	Union	$158,000	1,600	1.5-Story SFH with 2-Car Detached Garage	3	1.5	1890	2.10	12/14/2021	$98.75
3	7141 S. State Road 1	Union	$165,000	2,040	2-Story SFH with 2-Car Attached Garage, Pole Barn, and 2 Sheds	4	2.0	1900	1.60	9/24/2021	$80.88
4	10167 W 600 S	Union	$135,000	1,737	2-Story SFH with 2-Car Detached Garage	4	1.0	1890	2.13	9/2/2022	$77.72

In Group 2, Test Area Sales 2, 3, and 4, are single-family homes, were considered for a paired sales analysis. Test Area Sale 2 sold in December 2021, Test Area Sale 3 sold in September 2021, and Test Area Sale 4 sold in September 2022, all after the completion of the wind farm. The homes are in proximity to multiple wind turbines each, ranging from approximately 1,500 feet from the nearest turbine to 2,400 feet to the nearest turbine, as shown in the images below. It is noted that Test Area Sale 3 is also approximately 1,030 feet from the Riverstart Solar Farm, which is indicated by the yellow star on the following page.

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Test Area Sale 1, 6688 S 1000 W

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We analyzed 11 Control Area Sales of single-family homes with similar construction and use that were not located in close proximity to a wind farm, more than three miles from the nearest turbine, within a 15-mile radius of the Headwaters II Wind Farm, and that sold within a similar time frame from the sale date of the Test Area Sales. The Control Area Sales are single-family homes with three to five bedrooms and one to two baths, consisting of between 1,352 square feet and 2,190 square feet of gross living area, built between 1882 and 1905, with lot sizes of between 1.00 and 3.75 acres. Additionally, the Control Area Sales are between one and a half and two stories. All of the Control Area Sales are located in rural areas, similar to the Test Area Sale.

For all Control Area Sales, the median price per square foot of building area (above grade) was adjusted for marketing condition using the Federal Housing Finance Agency's House Price Index (HPI), a weighted, repeated-sales index measuring the average price changes in repeat sales or refinancing of the same properties. The FHFA HPI serves as a timely, accurate indicator of house price trends at various geographic levels. The result of our analysis for Group 2 is presented below, including the physical characteristics of the Test Area Sales and range of characteristics of the Control Area Sales.

CohnReznick Paired Sale Analysis Headwaters II Wind Farm - Group 2		
No. of Sales	**Potentially Impacted by Wind Farm**	**Adjusted Median Price Per SF**
Test Area Sales (3)	Adjoining wind farm	$80.88
Control Area Sales (11)	No: Not adjoining wind farm	$82.62
Difference between Unit Price of Test Area Sales and Adjusted Median Unit Price of Control Area Sales		**-2.11%**

Headwaters II Wind Farm - Group 2				
	Gross Finished Living Area (SF)	**Land Size (AC)**	**Year Built**	**Beds / Baths**
Test Area Sales	1,600 - 2,040	1.60 - 2.13	1890 - 1900	3 - 4 / 1.0 - 2.0
Control Area Sales (Range)	1,352 - 2,190	1.00 - 3.75	1882 - 1905	3 - 5 / 1.0 - 2.0

The median days on market for the Test Area Sales was 51 days (ranging from 36 to 79 days), while the median days on market for the Control Area sales was 51 days (ranging from 34 to 269 days), ***and we note no substantial marketing time differential.***

We spoke with the listing agent involved in the sale of 10167 W 600 S, Mr. Brody Tarter, who noted that potential interested buyers were not deterred by the proximity to the Headwaters II Wind Farm and that ***the wind farm did not impact the sale price of the property.***

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Noting no negative price differential, it does not appear that the proximity Headwaters II Wind Farm use impacted the sale prices of the Test Area Sales in Group 2. The Control Area Sales indicate a slightly higher unit sales price than the Test Area Sales, but the difference is relatively nominal.

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Before & After Analysis – Headwaters II Wind Farm

We note that Test Area Sales 1, 2 and 3 of the Headwaters II Wind Farm as well as seven Control Area Sales have sold twice over the past 15 years. To determine if any of the rates of appreciation for the identified home sales were affected by the proximity to the Headwaters II Wind Farm, we prepared a Repeat-Sales Analysis on each identified property. First, we calculated the total appreciation between each sale of the same property, the number of months that elapsed between each sale, and determined the monthly appreciation rate. Then, we compared extracted appreciation rates reflected in the Federal Housing Finance Agency (FHFA) Home Price Index for Indiana's 473 Three-Digit Zip Code over the same period. The index for the Three-Digit Zip Code is measured on a quarterly basis and is presented below.

473 Three-Digit Zipe Code - Housing Price Index Change (Quarter over Quarter) Not Seasonally Adjusted				473 Three-Digit Zipe Code - Housing Price Index Change (Quarter over Quarter) Not Seasonally Adjusted			
Three-Digit Zip Code	Year	Quarter	HPI	Three-Digit Zip Code	Year	Quarter	HPI
473	2008	1	151.15	473	2015	4	143.74
473	2008	2	147.3	473	2016	1	144.42
473	2008	3	147.11	473	2016	2	149.24
473	2008	4	147.44	473	2016	3	150.57
473	2009	1	149.95	473	2016	4	150.36
473	2009	2	147.61	473	2017	1	151.92
473	2009	3	143.11	473	2017	2	150.68
473	2009	4	142.82	473	2017	3	155.9
473	2010	1	139.3	473	2017	4	155.17
473	2010	2	142.93	473	2018	1	157.33
473	2010	3	144.14	473	2018	2	157.95
473	2010	4	144.42	473	2018	3	160.43
473	2011	1	139.92	473	2018	4	162.18
473	2011	2	139.31	473	2019	1	164.75
473	2011	3	138.45	473	2019	2	166.85
473	2011	4	139.81	473	2019	3	168.18
473	2012	1	139.39	473	2019	4	173.30
473	2012	2	138.71	473	2020	1	173.25
473	2012	3	136.32	473	2020	2	175.00
473	2012	4	138.94	473	2020	3	178.17
473	2013	1	140.61	473	2020	4	183.52
473	2013	2	138.90	473	2021	1	188.21
473	2013	3	138.17	473	2021	2	198.00
473	2013	4	138.68	473	2021	3	205.21
473	2014	1	140.02	473	2021	4	214.96
473	2014	2	138.67	473	2022	1	218.51
473	2014	3	141.78	473	2022	2	229.64
473	2014	4	143.68	473	2022	3	236.51
473	2015	1	141.75	473	2022	4	243.59
473	2015	2	146.34	473	2023	1	235.77
473	2015	3	143.65	473	2023	2	250.65

We have presented the full repeat sales analysis on the following page.

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Repeat Sales Analysis											473 Three-Digit Zip Code - FHFA House Price Index Change			
Property ID	Address	Land Area (Acres)	Total Finished Living Area (SF)	Most Recent Sale Date	Most Recent Sale Price	Prior Sale Date	Prior Sale Price	Total Appreciation	Months Elapsed Between Sales	Monthly Appreciation Rate	Index Level During Quarter of Most Recent Sale	Prior Sale Quarter Index Level	Total Appreciation	Monthly Appreciation Rate
1	6091 S 1200 W, Union	5.85	2,428	8/17/2022	$360,000	9/28/2012	$185,000	94.59%	119	0.56%	236.51	136.32	73.50%	0.47%
2	6688 S 1000 W, Union	2.10	1,600	12/14/2021	$158,000	8/9/2017	$96,000	64.58%	52	0.96%	214.96	155.90	37.88%	0.62%
3	7141 S. State Road 1, Union	1.60	2,040	9/24/2021	$165,000	10/12/2012	$95,000	73.68%	107	0.52%	205.21	138.94	47.70%	0.36%
	Median - Test Area Sales	*2.10*	*2,040*							***0.56%***				***0.47%***

Repeat Sales Analysis											473 Three-Digit Zip Code - FHFA Housing Price Index Change			
Property ID	Address	Land Area (Acres)	Total Finished Living Area (SF)	Most Recent Sale Date	Most Recent Sale Price	Prior Sale Date	Prior Sale Price	Total Appreciation	Months Elapsed Between Sales	Monthly Appreciation Rate	Index Level During Quarter of Most Recent Sale	Prior Sale Quarter Index Level	Total Appreciation	Monthly Appreciation Rate
1-6	9101 S 200 E, Muncie	9.55	2,762	6/14/2023	$525,000	5/30/2019	$343,000	53.06%	48	0.88%	250.65	166.85	50.22%	0.84%
2-3	3697 US Highway 36 E, New Castle	2.88	1,352	6/17/2022	$127,000	9/24/2009	$94,870	33.87%	153	0.19%	229.64	143.11	60.46%	0.31%
2-5	8416 W 300 N, Farmland	3.69	2,112	7/10/2020	$131,000	3/19/2010	$87,000	50.57%	124	0.33%	178.17	139.30	27.90%	0.20%
2-8	6900 N 850 E, Parker City	1.00	2,056	11/20/2020	$165,000	9/14/2016	$108,900	51.52%	50	0.83%	178.17	150.57	18.33%	0.34%
2-11	7104 E 350 N, Muncie	3.54	2,014	7/14/2021	$210,000	11/16/2011	$145,000	44.83%	116	0.32%	205.21	139.81	46.78%	0.33%
	Median - Control Area Sales	*3.54*	*2,056*							***0.33%***				***0.33%***

Conclusion

In our analysis of the three resales of homes adjacent to the Headwaters II Wind Farm and the five resales on homes in the surrounding area, when compared to the FHFA home price index for the local zip code, the median monthly appreciation rate of the Test Area Sales group outperformed the average for the zip code, while the median appreciation rate of the Control Area Sales increased at the same monthly appreciation rate for the zip code, as depicted by the far-right column in the tables above. We have not included the sale of homes that sold after complete remodeling or in need of substantial repairs. As such, we have concluded that there does not appear to be a consistent detrimental on properties adjacent to the Headwaters II Wind Farm.

With regards to the Project, we interviewed George Caster, the County Assessor in Randolph County, and who reported that there have been no adjustments to assessments due to proximity to wind turbines and that the County has observed increasing sale prices of residential properties near existing wind farms. Additionally, Mr. Caster indicated that they have yet to receive a complaint about potential changes in home values due to the construction of wind farms.

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TECHNIQUE 3: MARKET COMMENTARY

We have additionally contacted county officials (Tax Assessors, Zoning Administrators) familiar with property values around wind farms in Illinois, Iowa, Missouri, and Colorado as well as local real estate brokers. Our conversations with these market experts are noted below.

We spoke with Billy Shelby with the ***Adair County, Iowa*** Assessor who remarked that the county has not noted any impact on sales due to proximity to wind turbines. The county has 533 wind turbines and Mr. Shelby mentioned that homes are selling above what they can assess properties at. Mr. Shelby remarked that no reductions have been given to residences adjacent to wind turbines for assessed property values. ***He further indicated that homes near wind turbines have since sold at or above assessed values.***

We spoke with Tanya Zimmerman with the ***DeKalb County, Missouri*** Assessor who indicated that re-assessments of a property are only based on condition of the home and land itself and that proximity to a wind turbine is not a consideration for reduction in assessment. According to Zimmerman, ***there is no measurable value difference based on proximity to a wind turbine.***

We spoke with Nikki Carrick with the ***Guthrie County, Iowa*** Assessor who indicated that no homeowners have asked for a reduction in assessments because there is no measurable difference between the values of homes close to and far from wind turbines. ***Properties are not assessed differently based on the proximity to wind turbines because there is no measurable difference in value.***

We spoke with Peggy Michaels, the ***Logan County, Colorado*** Tax Assessor, who remarked, ***"Using a market approach, we have not seen any documentation of detrimental values as a result of nearby wind turbines."***

Melissa Ihnen with Meyer and Gross Real Estate Company in ***Atlantic Iowa*** remarked that she has not noticed an impact in listing or sale prices for homes located next to wind turbines. Ms. Ihnen indicated that ***being next to a wind turbine did not have a negative effect*** on exposure time and that homes were selling quickly.

We spoke with the ***Stark County, Illinois Tax Assessor***, Renee Johnson, regarding the Camp Grove Wind Farm and she reported that she ***could not see a difference in the home prices between current values and before the wind farm was built in 2007.*** Johnson also remarked that they had not had any complaints from the public after the wind farm was completed. In fact, two new houses were built close to the turbines, after completion of the wind farm. Individual families built new homes, on land they already owned, but reportedly, these two families had multiple parcels in multiple townships, in those townships with wind turbines and those without, and ***chose to locate their new homes next to wind turbines.*** One home was built in approximately 2018, and the other between approximately 2012 and 2013. Karmella Reining, the Stark County Deputy Tax Assessor, added, "I wouldn't mind if there was a turbine sitting in my back yard, it's just not a big deal. It really doesn't block a view up there in the air like that."

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Bridget Nodurft, Chief Deputy of the Supervisor of Assessments Office in ***Dekalb County, Illinois***, reported that in the beginning of wind farm developments, they had some groups that talked publicly about the pros and cons of allowing wind farms to locate in the county. The FPL Energy Illinois Wind LLC (also known as the Lee-DeKalb Wind Energy Center, capacity 217.5 MW) began operations in December 2009 and there were some residents that did sell their homes near the wind farm because they didn't want to live near the turbines. "I can recall one of those property owners was very vocal before the wind farm was developed, they had moved to the county to be far away from everyone. After the development of the wind farm they sold their home and moved out of state, to be even further from any other people." Nodurft reported that those initial sales were right at market values, ***being near the turbines did not cause harm to values.*** "Now after 11 years, no one in the county complains about home values being impacted by the wind farm", said Nodurft.

Alan and Marcy Kinney, real estate brokers who work together in ***DeKalb County, Illinois***, reported that Test Area Sale 1 studied for the Lee-DeKalb Wind Energy Center (Wind Farm 2), was sold again as of March 31, 2020 and the seller accepted an offer close to the asking price. The selling price was $71,900 higher than the sale price of this home in 2013, a 43 percent increase over the seven-year hold period which calculates to an average annual rate of appreciation of 6.7 percent. ***The brokers reported that there was not even one comment or question about the proximity of the wind turbine to the home (approximately 2,315 feet).*** The proximity of this home to the wind turbine was not an issue for anyone in the market.

Lee County, Illinois was the home of the first wind farm developed in Illinois, the Mendota Hills wind farm (50.4 MW) in 2003. Originally the development had 63 turbines with a capacity of 0.85 MW per turbine. In 2018, ownership took down the old turbines and re-powered, or rebuilt, the project with 29 turbines in the same general area which produces the same gross capacity of megawatts of energy. The new wind farm is not exactly in the same footprint, it needed less land after re-development, and it came back online in late 2019. The Mendota Hills development was the first wind farm built in Illinois and the first to be re-powered, a fact that Lee County is proud of, according to the Chief County Assessment Officer, Wendy Ryerson. Ryerson has ***not noticed any difference in values of homes that are near wind turbines.*** "These wind turbines are put in rural areas, in the middle of farm country in our county. A lot of this surrounding land is vacant farmland, and it really sells on the ability of the land to produce a crop. Any single-family residences that are not part of a farm are few and far between, so home sales are scarce around wind farms."

When discussing recent wind farm development in the county, Shelly Renken, Supervisor of Assessments in ***Livingston County, Illinois*** reported that the potential impact on home values is always a concern of some people. "People ask the same questions, like when the Minonk Wind Farm was developed in 2012, they asked, 'Will this affect my house's value?'. But ***there's no documentation that shows that's happening, that values have gone down or up as a result of being near a wind farm.***"

Henry County, Illinois, is the home of the Bishop Hill wind farm development that was built in three phases (with 200 and 81 megawatts developed in 2012 and 119 MW developed in 2018). Tracey Vinavich, Chief County Assessor of Henry County, told us that ***there have been no changes in values because of the wind farms that have been developed.***

Christine Anderson, GIS Coordinator in the Tax Assessor's office in ***Bureau County, Illinois***, reported that they had ***never received any complaints about potential changes in home values, before or after any of the***

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wind farms were built. At the time of the interview, Bureau County has five wind farms in operation, including Big Sky Wind Farm with a nameplate capacity of 240 MW, and the Assessor's office keeps folders with surrounding home sale data for each of them.

Susan Fisher is a Broker with Coldwell Banker Realty and reported that she has over 30 years of experience as a real estate agent in the ***Ford County, Kankakee County, and Iroquois County, Illinois*** area. She also reported that she lives near a wind farm in Stelle, which is in Ford County. Ms. Fisher said, "***I haven't seen any negative impact on real estate values from the turbines*** even though it was predicted by many who were anxious about installing them. Of course, we've had significant increases in values as has most of the U.S. in recent years, but even before then I did not experience any negative feedback from buyers looking at homes in the area."

We spoke with Colleen Benson, Broker with Coldwell Banker Realty in the ***Ford County and Kankakee County, Illinois*** region has worked as a local real estate agent since 2003. Ms. Benson was the List Broker for the sale of a property in Ford County located within one mile of a turbine. She stated that the turbines did not impact the sale and the buyer was unconcerned about them. Ms. Benson stated that as a broker in the area, some buyers have mentioned concerns about the turbines but ***she has not seen any changes in property values or interest in regard to the turbines***.

Fred Majors, Assessor for Patton, Button, and Drummer Townships in ***Ford County, Illinois***, said that properties might not be selling for less, but they are not selling for more. He stated that assessments have never been lowered or changed regarding the wind turbines and that he cannot say the turbines have had any impact on property values.

When discussing recent wind farm development in the county, George Caster, County Assessor in ***Randolph County, Indiana*** reported that there have been no adjustments to assessments due to proximity to wind turbines and that the County has observed increasing sale prices of residential properties near existing wind farms and solar farms. Additionally, Mr. Caster indicated that they have yet to receive a complaint about potential changes in home values due to the construction of wind farms.

We spoke with the ***Jay County, Indiana*** Assessor, Robin Alberson, stated that wind farms in the County have not warranted a reduction to assessed values of the surrounding homes due to proximity to the wind turbines.

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SUMMARY AND FINAL CONCLUSIONS

The purpose of this property value impact consulting report is to determine whether the presence of a wind farm has caused a measurable and consistent impact on adjacent property values. Under the identified methodology and scope of work, CohnReznick reviewed published methodology for measuring impact on property values as well as published reports that analyzed the impact of wind farms on property values. These studies found little to no measurable and consistent difference between Test Area Sales and Control Area Sales attributed to the wind farms.

A summary of the chosen CohnReznick impact studies prepared is presented below.

CohnReznick Impact Study Analysis Conclusions							
Wind Farm #	Wind Farm	Adjoining Test Sale Properties	Adjoining Property Sale (Test Area) Median Price per SF	Control Area Sales Median Price per SF	% Difference	Avg Linear Feet from Turbine to House	Impact Found
1	Top Crop Wind Farm	Group 1 (2)	$92.47	$90.47	2.21%	1,830	No Impact
		Group 2 (1)	$132.78	$121.09	9.65%	4,475	No Impact
2	Pilot Hill Wind Farm	Group 1 (3)	$133.13	$132.76	0.28%	1,533	No Impact
		Group 2 (1)	$175.00	$173.98	0.59%	1,900	No Impact
		Group 3 (1)	$129.06	$120.73	6.90%	4,500	No Impact
3	Kelly Creek Wind Project	Group 1 (1)	$86.79	$86.99	-0.24%	1,400	No Impact
		Group 2 (1)	$123.29	$118.15	4.35%	2,200	No Impact
4	Camp Grove Wind Farm	Group 1 (1)	$49.67	$49.04	1.28%	2,105	No Impact
		Group 2 (1)	$83.43	$79.71	4.67%	2,650	No Impact
5	Lee-DeKalb Wind Energy Center	Group 1 (2)	$99.41	$97.68	1.77%	2,283	No Impact
		Group 2 (1)	$97.62	$95.65	2.06%	1,600	No Impact
		Group 3 (1)	$73.66	$72.32	1.85%	2,425	No Impact
		Group 4 (1)	$124.71	$124.29	-0.34%	2,225	No Impact
6	White Oak Wind Energy Center	Group 1 (1)	$121.71	$118.93	2.34%	1,870	No Impact
		Group 2 (5)	$93.20	$86.10	8.25%	3,080	No Impact
		Group 3 (5)	$106.28	$102.60	3.59%	3,730	No Impact
		Group 4 (1)	$117.88	$118.31	-0.36%	2,930	No Impact
7	Rail Splitter Wind Farm	Group 1 (1)	$109.12	$103.21	5.73%	1,650	No Impact
8	Bright Stalk Wind Farm	Group 1 (1)	$99.73	$100.36	-0.63%	3,260	No Impact
9	Headwaters II Wind Farm	Group 1 (1)	$148.27	$143.51	3.32%	3,050	No Impact
		Group 2 (3)	$80.88	$82.62	-2.11%	1,950	No Impact
Median Variance in Sales Prices for Test to Control Areas					**+2.06%**		
35 Adjoining Test Area Sales studied and compared to 193 Control Area Sales							

The wind farms analyzed reflected sales of property adjoining an existing wind farm (Test Area Sales) in which the unit sale prices were effectively the same or higher than the comparable Control Area Sales that were not near a wind farm. The conclusions support that there is no trend of negative impact on improved residential homes adjacent to wind farms. This was confirmed with market participant interviews, which provided additional insight as to how the market evaluates farmland and single-family homes with views of the wind farm.

It can be concluded that since the Adjoining Property Sales (Test Area Sales) were not adversely affected by their proximity to the wind farm, properties surrounding other proposed wind farms operating in compliance with all regulatory standards will similarly not be adversely affected, in either the short or long term periods.

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Based upon the examination, research, and analyses of the existing wind farm uses, the surrounding areas, and an extensive market database, we have concluded that ***no consistent negative impact has occurred to adjacent property values that could be attributed to proximity to the adjacent wind farm***, with regard to unit sale prices or other influential market indicators. This conclusion has been confirmed by numerous county assessors who have also investigated this use's potential impact on property values.

If you have any questions or comments, please contact the undersigned. Thank you for the opportunity to be of service.

Respectfully submitted,

CohnReznick LLP

Andrew R. Lines, MAI, CRE
Principal
Certified General Real Estate Appraiser
Illinois License No. 553.001841
Expires 9/30/2025

Erin C. Bowen, MAI
Director

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CERTIFICATION

We certify that, to the best of our knowledge and belief:

1. The statements of fact and data reported are true and correct.
2. The reported analyses, findings, and conclusions in this consulting report are limited only by the reported assumptions and limiting conditions, and are our personal, impartial, and unbiased professional analyses, findings, and conclusions.
3. We have no present or prospective interest in the property that is the subject of this report and no personal interest with respect to the parties involved.
4. We 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. We have no bias with respect to the property that is the subject of this report or the parties involved with this assignment.
6. Our engagement in this assignment was not contingent upon developing or reporting predetermined results.
7. Our compensation for completing this assignment is not contingent upon the development or reporting of a predetermined value or direction in value that favors the cause of the client, the amount of the value finding, the attainment of a stipulated result, or the occurrence of a subsequent event directly related to the intended use of this report.
8. Our analyses, findings, and conclusions were developed, and this report has been prepared, in conformity with the requirements of the Code of Professional Ethics and Standards of Professional Appraisal Practice of the Appraisal Institute, which includes the Uniform Standards of Professional Appraisal Practice (USPAP).
9. The use of this report is subject to the requirements of the Appraisal Institute relating to review by its duly authorized representatives.
10. Andrew R. Lines, MAI, CRE, and Erin C. Bowen, MAI have viewed the exterior of all comparable data referenced in this report in person, via public right-of-ways, photographs, or aerial imagery.
11. We have not relied on unsupported conclusions relating to characteristics such as race, color, religion, national origin, gender, marital status, familial status, age, and receipt of public assistance income, handicap, or an unsupported conclusion that homogeneity of such characteristics is necessary to maximize value.
12. Joe Ficenec provided significant appraisal consulting assistance to the persons signing this certification, including data verification, research, and administrative work all under the appropriate supervision.
13. We have experience in reviewing properties similar to the subject and are in compliance with the Competency Rule of USPAP.
14. As of the date of this report, Andrew R. Lines, MAI, CRE, and Erin Bowen, MAI have completed the continuing education program of the Appraisal Institute for designated members.

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ASSUMPTIONS AND LIMITING CONDITIONS

The fact witness services will be subject to the following assumptions and limiting conditions:

1. No responsibility is assumed for the legal description provided or for matter pertaining to legal or title considerations. Title to the property is assumed to be good and marketable unless otherwise stated. The legal description used in this report is assumed to be correct.
2. The property is evaluated free and clear of any or all liens or encumbrances unless otherwise stated.
3. Responsible ownership and competent management are assumed.
4. Information furnished by others is believed to be true, correct and reliable, but no warranty is given for its accuracy.
5. All engineering studies are assumed to be correct. The plot plans and illustrative material in this report are included only to help the reader visualize the property.
6. It is assumed that there are no hidden or unapparent conditions of the property, subsoil, or structures that render it more or less valuable. No responsibility is assumed for such conditions or for obtaining the engineering studies that may be required to discover them.
7. It is assumed that the property is in full compliance with all applicable federal, state, and local and environmental regulations and laws unless the lack of compliance is stated, described, and considered in the evaluation report.
8. It is assumed that the property conforms to all applicable zoning and use regulations and restrictions unless nonconformity has been identified, described and considered in the evaluation report.
9. It is assumed that all required licenses, certificates of occupancy, consents, and other legislative or administrative authority from any local, state, or national government or private entity or organization have been or can be obtained or renewed for any use on which the value estimate contained in this report is based.
10. It is assumed that the use of the land and improvements is confined within the boundaries or property lines of the property described and that there is no encroachment or trespass unless noted in this report.
11. The date of value to which the findings are expressed in this report apply is set forth in the letter of transmittal. The appraisers assume no responsibility for economic or physical factors occurring at some later date which may affect the opinions herein stated.
12. Unless otherwise stated in this report, the existence of hazardous materials, which may or may not be present on the property, was not observed by the appraisers. The appraisers have no knowledge of the existence of such substances on or in the property. The appraisers, however, are not qualified to detect such substances. The presence of substances such as asbestos, urea-formaldehyde foam insulation, radon gas, lead or lead-based products, toxic waste contaminants, and other potentially hazardous materials may affect the value of the property. The value estimate is predicated on the assumption that there is no such material on or in the property that would cause a loss in value. No

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responsibility is assumed for such conditions or for any expertise or engineering knowledge required to discover them. The client is urged to retain an expert in this field, if desired.

13. The forecasts, projections, or operating estimates included in this report were utilized to assist in the evaluation process and are based on reasonable estimates of market conditions, anticipated supply and demand, and the state of the economy. Therefore, the projections are subject to changes in future conditions that cannot be accurately predicated by the appraisers and which could affect the future income or value projections.

14. Fundamental to the appraisal analysis is the assumption that no change in zoning is either proposed or imminent, unless otherwise stipulated. Should a change in zoning status occur from the property's present classification, the appraisers reserve the right to alter or amend the value accordingly.

15. It is assumed that the property does not contain within its confined any unmarked burial grounds which would prevent or hamper the development process.

16. The Americans with Disabilities Act (ADA) became effective on January 26, 1992. We have not made a specific compliance survey and analysis of the property to determine if it is in conformance with the various detailed requirements of the ADA. It is possible that a compliance survey of the property, together with a detailed analysis of the requirements of the ADA, could reveal that the property is not in compliance with one or more of the requirements of the Act. If so, this fact could have a negative effect on the value of the property. Unless otherwise noted in this report, we have not been provided with a compliance survey of the property. Any information regarding compliance surveys or estimates of costs to conform to the requirements of the ADA are provided for information purposes. No responsibility is assumed for the accuracy or completeness of the compliance survey cited in this report, or for the eventual cost to comply with the requirements of the ADA.

17. Any value estimates provided in this report apply to the entire property, and any proration or division of the total into fractional interests will invalidate the value estimate, unless such proration or division of interests has been set forth in this report.

18. Any proposed improvements are assumed to have been completed unless otherwise stipulated; any construction is assumed to conform with the building plans referenced in this report.

19. Unless otherwise noted in the body of this report, this evaluation assumes that the subject does not fall within the areas where mandatory flood insurance is effective.

20. Unless otherwise noted in the body of this report, we have not completed nor are we contracted to have completed an investigation to identify and/or quantify the presence of non-tidal wetland conditions on the subject property.

21. This report should not be used as a basis to determine the structural adequacy/inadequacy of the property described herein, but for evaluation purposes only.

22. It is assumed that the subject structure meets the applicable building codes for its respective jurisdiction. We assume no responsibility/liability for the inclusion/exclusion of any structural component item which may have an impact on value. It is further assumed that the subject property will meet code requirements as they relate to proper soil compaction, grading, and drainage.

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23. The appraisers are not engineers, and any references to physical property characteristics in terms of quality, condition, cost, suitability, soil conditions, flood risk, obsolescence, etc., are strictly related to their economic impact on the property. No liability is assumed for any engineering-related issues.

The evaluation services will be subject to the following limiting conditions:

1. The findings reported herein are only applicable to the properties studied in conjunction with the Purpose of the Evaluation and the Function of the Evaluation as herein set forth; the evaluation is not to be used for any other purposes or functions.
2. Any allocation of the total value estimated in this report between the land and the improvements applies only to the stated program of utilization. The separate values allocated to the land and buildings must not be used in conjunction with any other appraisal and are not valid if so used.
3. No opinion is expressed as to the value of subsurface oil, gas or mineral rights, if any, and we have assumed that the property is not subject to surface entry for the exploration or removal of such materials, unless otherwise noted in the evaluation.
4. This report has been prepared by CohnReznick under the terms and conditions outlined by the enclosed engagement letter. Therefore, the contents of this report and the use of this report are governed by the client confidentiality rules of the Appraisal Institute. Specifically, this report is not for use by a third party and CohnReznick is not responsible or liable, legally or otherwise, to other parties using this report unless agreed to in writing, in advance, by both CohnReznick and/or the client or third party.
5. Disclosure of the contents of this evaluation report is governed by the by-laws and Regulations of the Appraisal Institute has been prepared to conform with the reporting standards of any concerned government agencies.
6. The forecasts, projections, and/or operating estimates contained herein are based on current market conditions, anticipated short-term supply and demand factors, and a continued stable economy. These forecasts are, therefore, subject to changes with future conditions. This evaluation is based on the condition of local and national economies, purchasing power of money, and financing rates prevailing at the effective date of value.
7. This evaluation shall be considered only in its entirety, and no part of this evaluation shall be utilized separately or out of context. Any separation of the signature pages from the balance of the evaluation report invalidates the conclusions established herein.
8. **Possession of this report, or a copy thereof, does not carry with it the right of publication, nor may it be used for any purposes by anyone other than the client without the prior written consent of the appraisers, and in any event, only with property qualification.**
9. The appraisers, by reason of this study, are not required to give further consultation or testimony or to be in attendance in court with reference to the property in question unless arrangements have been previously made.

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10. Neither all nor any part of the contents of this report shall be conveyed to any person or entity, other than the appraiser's client, through advertising, solicitation materials, public relations, news, sales or other media, without the written consent and approval of the authors, particularly as to evaluation conclusions, the identity of the appraisers or CohnReznick, LLC, or any reference to the Appraisal Institute, or the MAI designation. Further, the appraisers and CohnReznick, LLC assume no obligation, liability, or accountability to any third party. If this report is placed in the hands of anyone but the client, client shall make such party aware of all the assumptions and limiting conditions of the assignment.

11. This evaluation is not intended to be used, and may not be used, on behalf of or in connection with a real estate syndicate or syndicates. A real estate syndicate means a general or limited partnership, joint venture, unincorporated association or similar organization formed for the purpose of, and engaged in, an investment or gain from an interest in real property, including, but not limited to a sale or exchange, trade or development of such real property, on behalf of others, or which is required to be registered with the United States Securities and Exchange commissions or any state regulatory agency which regulates investments made as a public offering. It is agreed that any user of this evaluation who uses it contrary to the prohibitions in this section indemnifies the appraisers and the appraisers' firm and holds them harmless from all claims, including attorney fees, arising from said use.

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ADDENDUM A:
APPRAISER QUALIFICATIONS

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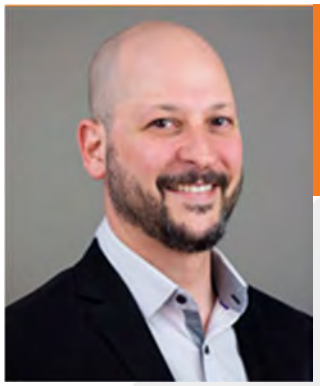

Andrew R. Lines, MAI, CRE

Principal – Real Estate Valuation

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Andrew R. Lines, MAI, CRE is a Principal for CohnReznick Advisory's Valuation Advisory Services practice who has been a CohnReznick employee for over twelve years. Andrew has been involved in the real estate business for more than 20 years and has performed valuations on all real estate classes (industrial, commercial, residential, development land). Special-use valuations include affordable housing (as well as market studies), student housing, senior housing, cannabis facilities (indoor/outdoor, processing and dispensaries), landfills, waste transfer stations, golf courses, marinas, hospitals, universities, telecommunications facilities, data centers, self- storage facilities, racetracks, and corridors. Impact Study Reports have also been generated for zoning hearings related to the development of solar facilities, wind powered facilities, landfills, big box retail, waste transfer stations, private mental health clinics, cannabis dispensaries, concert/stadium venues and day care centers. He is also experienced in the valuation of leasehold, leased fee, and partial interests, as well as purchase price allocations (GAAP, IFRS and IRC 1060) for financial reporting.

Valuations have been completed nationwide for a variety of assignments including mortgage financing, litigation, tax appeal, estate gifts, asset management, workouts, and restructuring, as well as valuation for financial reporting including purchase price allocations (ASC 805), impairment studies, and appraisals for investment company guidelines and REIS standards. Andrew has qualified as an expert witness, providing testimony for cases in the states of IL, DC, VA, NY and MD, and for zoning hearings in IL, IN, MI, NY, HI, OH, KY, CO, PA, WI and MO. Andrew has also performed appraisal review assignments for accounting purposes (audit support), asset management, litigation and as an evaluator for a large Midwest regional bank.

Andrew has earned the professional designation of Member of the Appraisal Institute (MAI). He has also qualified for certified general commercial real estate appraiser licenses in AZ, CA, IL, IN, WI, MD, OH, NY, NJ, FL,GA, KY and DC. Temporary licenses have been granted in CT, CO, PA, ID, MS, KS, MT and SC.

Education

- Syracuse University: Bachelor of Fine Arts

Professional Affiliations

- Counselors of Real Estate (CRE)
- MAI Designation (Member of the Appraisal Institute)
- International Real Estate Management (IREM)
- National Council of Housing and Market Analysts (NCHMA)

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Erin C. Bowen, MAI

Director, Valuation Advisory Services

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Erin Bowen, MAI is a Director with CohnReznick in Valuation Advisory Services, where she leads a team of appraisers across the country performing valuation and consulting services on a wide variety of real estate.

Ms. Bowen specializes in renewable energy, lodging, cannabis, seniors housing, large scale retail and multifamily conversion properties. Lodging work includes all hotel property types and brand segments including limited, full service and resort properties; additionally, Ms. Bowen has appraised numerous hotel to multifamily conversion properties including market rate and affordable housing. Cannabis work includes dispensaries, cultivation facilities including specialized indoor facilities and greenhouse properties, processing and manufacturing facilities. Senior's housing assignments include assisted living, skilled nursing facilities and rehabilitation centers. Retail work spans power centers, lifestyle centers, outlet centers and malls. She has appraised numerous additional properties including multifamily, office, medical office, industrial, churches, and vacant land.

Ms. Bowen has expertise in appraising properties at all stages of development, including existing as is, proposed, under construction, renovations and conversion to alternate use. Valuations have been completed nationwide for a variety of assignments including litigation, eminent domain, tax appeal, mortgage financing, estate gifts, asset management, as well as valuation for financial reporting including purchase price allocations (ASC 805). Ms. Bowen has worked on numerous appraisal assignments for eminent domain use for both condemner and land owner.

Additionally, Ms. Bowen has specialized in Property Value Impact Analysis, measuring the possible detrimental impact of economic and environmental influences on property values for a variety of property types, including cell towers, stadiums, behavioral health centers with an emphasis on renewable energy facilities including solar and wind. She has qualified as an expert witness and testified in front of power siting boards, zoning boards and planning commissions in New Mexico, Ohio, Michigan, Kentucky, Indiana and Illinois.

Education

- University of California, San Diego: Bachelor of Arts in Psychology and Theater; College Honors

Professional Affiliations

- Designated Member of the Appraisal Institute

Licenses

- Active licenses in AZ, CA, NV, NM and OR

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REAL ESTATE ADJACENT PROPERTY VALUE IMPACT REPORT:

Site Specific Analysis Addendum Report: For the Proposed up to 311.1 MW Coles Wind Project To Be Located in Coles County, Illinois

Prepared For:
Brie Anderson
Director of Project Permitting
Apex Clean Energy
120 Garrett Street, Suite 700
Charlottesville, VA 22902

Submitted By:

CohnReznick LLP
Valuation Advisory Services
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Andrew R. Lines, MAI, CRE
Erin C. Bowen, MAI

January 9, 2025

LETTER OF TRANSMITTAL

January 9, 2025

Brie Anderson
Director of Project Permitting
Apex Clean Energy
120 Garrett Street, Suite 700
Charlottesville, VA 22902

SUBJECT: Addendum - Property Value Impact Report
Proposed up to 311.1 MW Coles Wind Project
Coles County, Illinois

To Whom it May Concern:

This letter and associated report are considered an Addendum to the previously prepared property value impact report with an effective date of January 9, 2025 ("Primary Report"). All facts and circumstances surrounding the property value impact report that analyzes existing wind farm and any effect on adjacent property values are contained within the cited Primary Report. This Addendum cannot be properly understood without the cited Primary Report and should be reviewed in unison.

Per the client's request, we have researched the proposed wind farm on land located in Coles County, Illinois. The proposed wind use, called the Coles Wind Project, will have a capacity of up to 311.1 MW AC (megawatts alternating current).

The purpose of this consulting assignment is to determine whether the proximity of the proposed renewable energy use (wind farm) will result in impact on adjacent property values.

The intended use of our opinions and conclusions is to assist the client in addressing local concerns and to provide information that permitting bodies consider in their evaluation of wind project use applications. We have not been asked to value any specific property, and we have not done so.

The client and intended users for the assignment is Coles Wind, LLC. The report may be used only for the aforementioned purpose and may not be distributed without the written consent of CohnReznick LLP ("CohnReznick").

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The assignment is intended to conform to the Uniform Standards of Professional Appraisal Practice (USPAP), the Code of Professional Ethics and Standards of Professional Appraisal Practice of the Appraisal Institute, as well as applicable state appraisal regulations.

Based on the analysis in the accompanying report, and subject to the definitions, assumptions, and limiting conditions expressed in the report, our findings are as follows.

FINDINGS

I. Published Studies*:* CohnReznick reviewed and analyzed published academic studies that specifically analyzed the impact of wind facilities on nearby property values. These studies include multiple regression analyses of hundreds and thousands of sales transactions for residential homes. The vast majority of studies with large-scale data sets concluded existing wind facilities have had no negative impact on adjacent property values.

II. CohnReznick Studies: Further, CohnReznick has evaluated nine existing wind farms and sales of adjacent residential properties, in which we have determined that the existing wind facilities have not caused any consistent and measurable negative impact on property values. These existing wind farms studied are summarized as follows:

CohnReznick - Existing Wind Farms Studied

Wind Farm #	Wind Farm	Date Placed in Service	County, State	Approximate Project Area (Acres)	MW AC	Turbine Rated Capacity	Turbines
1	Top Crop Wind Farm	Aug-10	Livingston, Grundy & LaSalle Counties, IL	28,000	300.0	1.5 MW	200
2	Pilot Hill Wind Farm	Aug-15	Kankakee and Iroquois Counties, IL	15,000	175.0	1.7 MW	103
3	Kelly Creek Wind Project	Dec-16	Kankakee and Ford Counties, IL	20,000	184.0	2.0 MW	92
4	Camp Grove Wind Farm	Dec-07	Marshall and Stark Counties, IL	14,000	150.0	1.5 MW	100
5	Lee-DeKalb Wind Energy Center	Dec-09	DeKalb and Lee Counties, IL	22,000	217.5	1.5 MW	145
6	White Oak Wind Energy Center	Jun-11	McLean County, IL	11,000	150.0	1.5 MW	100
7	Rail Splitter Wind Farm	Aug-09	Tazewell & Logan Counties, IL	11,000	100.5	1.5 MW	67
8	Bright Stalk Wind Farm	Dec-19	McClean County, IL	18,000	205.2	3.6 MW	57
9	Headwaters II Wind Farm	Jun-21	Randolph County, IN	19,000	200.0	3.6 MW - 4.2 MW	49

III. Market Participant Interviews: Our conclusions also consider interviews with County and Township Assessors, who have at least one wind farm in their jurisdiction, and in which they have determined that wind farms have not negatively affected adjacent property values.

With regards to the Project, we specifically interviewed the following persons in Illinois:

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- When discussing recent wind farm development in the county, Shelly Renken, Supervisor of Assessments in ***Livingston County, Illinois*** reported that there is no documentation that shows an impact to property values and that values have not materially increased or decreased as a result of being near a wind farm.
- We spoke with the ***Stark County, Illinois*** Tax Assessor, Renee Johnson, regarding the Camp Grove Wind Farm and she reported that she could not see a difference in the home prices between current values and before the wind farm was built in 2007.
- Bridget Nodurft, Chief Deputy of the Supervisor of Assessments Office in ***Dekalb County, Illinois***, reported that being near the turbines did not cause harm to property values.
- ***Lee County, Illinois*** Chief County Assessment Officer, Wendy Ryerson has not noticed any difference in the values of homes that are near wind turbines.
- Tracey Vinavich, Chief County Assessor of ***Henry County, Illinois*** told us that there have been no changes in values because of the wind farms that have been developed.
- Christine Anderson, GIS Coordinator in the Tax Assessor's office in ***Bureau County, Illinois***, reported that they never received any complaints about potential changes in home values, before or after any of the wind farms were built.

To give us additional insight as to how the market evaluates farmland and single-family homes with views of wind farms, we interviewed numerous real estate brokers and other market participants who were party to actual sales of property adjacent to wind farms; these professionals also confirmed that wind farms did not diminish property values or marketability in the areas they conducted their business.

IV. Wind Farm Factors on Harmony of Use: In the course of our research and studies, we have recorded information regarding the compatibility of these existing wind facilities and their adjoining uses, including the continuing development of land adjoining these facilities.

CONCLUSION

Considering all of the preceding, the data indicates there is no trend of negative impacts on adjacent property values, based on their locations near wind energy facilities.

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If you have any questions or comments, please contact the undersigned. Thank you for the opportunity to be of service.

Very truly yours,

CohnReznick LLP

Andrew R. Lines, MAI, CRE
Principal
Certified General Real Estate Appraiser
Illinois License No. 553.001841
Expires 9/30/2025

Erin C. Bowen, MAI
Director
Certified General Real Estate Appraiser

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SCOPE OF WORK

CLIENT

The client for this assignment is Coles Wind, LLC.

INTENDED USERS

Coles Wind, LLC; other intended users may include the client's legal and site development professionals.

INTENDED USE

The intended use of our findings and conclusions is to address certain criteria related to impacts on adjacent property values, in an application for a Special Use permit for the proposed wind energy generation use, known as the Panther Grove 2 Wind Project to be located in Livingston County, Illinois. The report may be used only for the aforementioned purpose and may not be distributed without the written consent of CohnReznick LLP ("CohnReznick").

PURPOSE

The purpose of this consulting assignment is to determine whether proximity to the proposed wind facility will result in an impact on adjacent property values.

DEFINITION OF VALUE

This report utilizes Market Value as the appropriate premise of value. Market value is defined as:

"The most probable price which 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 are the consummation of a sale as of a specified date and the passing of title from seller to buyer under conditions whereby:

1. Buyer and seller are typically motivated;
2. Both parties are well informed or well advised, and acting in what they consider their own best interests;
3. A reasonable time is allowed for exposure in the open market.
4. Payment is made in terms of cash in U.S. dollars or in terms of financial arrangements comparable thereto; and
5. 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]

EFFECTIVE DATE & DATE OF REPORT

[1] Code of Federal Regulations, Title 12, Chapter I, Part 34.42[h]

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January 9, 2025 (Paired sale analyses contained within each study in the Primary Report are periodically updated.)

PRIOR SERVICES

USPAP requires appraisers to disclose to the client any services they have provided in connection with the subject property in the prior three years, including valuation, consulting, property management, brokerage, or any other services.

We have not previously evaluated the Project site.

INSPECTION

Andrew R. Lines, MAI, CRE, and Erin C. Bowen, MAI have viewed the exterior of all comparable data referenced in this report in person, via photographs, or aerial imagery.

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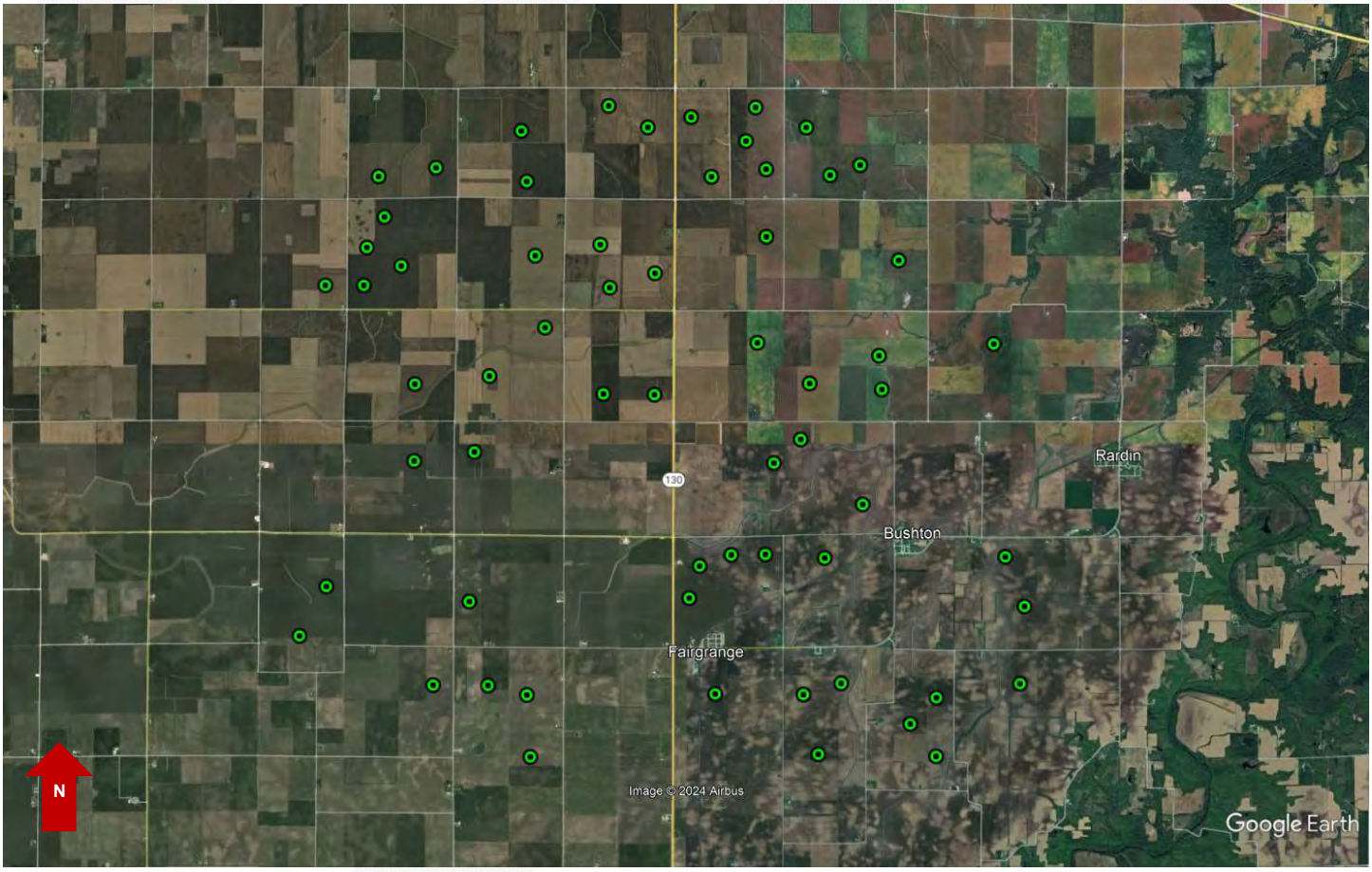
IDENTIFICATION AND DESCRIPTION OF THE PROPOSED PROJECT

The Coles Wind Project ("the Project") is to be located on land bounded by County Road 1900 North to the west and Interstate 55 to the east, in between County Road 1900 North to the north and East County Road 1200 North to the south, in northern Coles County, Illinois.

The project is anticipated to consist of a total of up to 62 turbines, including 51 primary turbines and 11 spare turbines, with a capacity of 6.0 MW or 6.1 MW, for a total of up to 311.1 MW. The turbines will either be Vestas V162 6.0 MW turbines with a 186 meter tip height (610 feet), or GE158 6.1 MW turbines with a 196 meter tip height (643 feet). The proposed area of interest for the Project encompasses approximately 20,500 acres or 32 square miles, in unincorporated Coles County. Setbacks for the Project will conform to Coles County standards as determined by the Coles County Wind Energy Conversion Systems Siting Ordinance. The Project's surrounding land use is primarily agricultural with some adjacent single-family homes and homesteads. The locations of the Project turbines are presented below (green pins).



Proposed Coles Wind Project proposed turbine locations, as provided by Coles Wind, LLC

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ZONING REGULATIONS

The Project Area parcel is located in unincorporated Coles County, Illinois and is not encumbered by a local zoning ordinance.

In Coles County, Commercial Wind Energy Facilities require a Special Use Permit and are subject to the Coles County Wind Energy Conversion Systems Siting Ordinance. The following devlopment standards for Commercial Wind Energy Facilities are outlined next:

A. Design Safety Certification

1. WECSs shall conform to applicable industry standards, including those of the American National Standards Institute ("ANSI"). Applicants shall submit certificates of design compliance that equipment manufacturers have obtained from Underwriters Laboratories ("UL"), Det Norske Veritas ("DNV"), Germanischer Lloyd Wind Energie ("CGL"), or an equivalent third party. All turbines shall be new equipment commercially available; no used or experimental equipment shall be used in the WECS Project without the approval of a variance by the County Board.
2. Following the granting of siting approval under this Ordinance, a structural engineer shall certify, as part of the WECS Building Permit application process, that the foundation and tower design of the WECS is within accepted professional standards, given local soil, subsurface and climate conditions.

B. Controls and Brakes

1. All WECSs shall be equipped with a redundant braking system. This includes both aerodynamic overspeed controls (including variable pitch, tip, tilt, and other similar systems) and mechanical brakes. Mechanical brakes shall be operated in a fail-safe mode. Stall regulation shall not be considered a sufficient braking system for overspeed protection.

C. Electrical Components

1. All electrical components of the WECS shall conform to applicable local, state, and national codes, and relevant national and international standards (e.g. ANSI and International Electrical Commission).

D. Aesthetics and Lighting

1. Coatings and Coloring: Towers and blades shall be painted white or gray or another non-reflective, unobtrusive color.
2. Turbine Consistency: To the extent feasible, the WECS Project shall consist of turbines of similar design and size, including tower height. Further, all turbines shall rotate in the same direction. Turbines shall also be consistent in color and direction with nearby facilities.
3. Lighting: WECS Projects shall utilize minimal lighting that is compliant with the applicable FAA regulations, as amended by the FAA. To the extent that such tower lighting is available, and is approved by the FAA for a WECS Project, the Applicant shall install Aircraft Detection Lighting Systems ("ADLS") or other similar technology to reduce light pollution and visual impacts caused by the WECS Towers.
4. Intra-project Power and Communication Lines: All power lines used to collect power from individual turbines and all communication lines shall be buried underground at a depth in

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accordance with the Agricultural Impact Mitigation Agreement until same reach the property line or a substation adjacent to the property line.

E. Warnings

1. A reasonably visible warning sign concerning voltage must be placed at the base of all pad-mounted transformers and Substations, and at all entrances to the Wind Towers.
2. Visible, reflective, colored objects, such as flags, plastic sleeves, reflectors, or tape shall be placed on the anchor points of guy wires and along the guy wires up to a height of fifteen (15) feet from the ground.

F. Climb Prevention

1. All WECS Towers must be unclimbable by design or protected by anti- climbing devices such as:
    a. Fences with locking portals at least six (6) feet high; or
    b. Anti-climbing devices twelve (12) feet vertically from the base of the WECS Tower.

G. Setback Requirements

1. WECS Towers shall be sited as follows, with setback distances measured from the center of the base of the WECS Tower;
    a. Occupied Community Buildings: 2.1 times the maximum blade tip height of the WECS Tower to the nearest point on the outside wall of the structure.
    b. Participating Residences: 1.1 times the maximum blade tip height of the WECS Tower to the nearest point on the outside wall of the structure;
    c. Nonparticipating Residences: 2.1 times the maximum blade tip height of the WECS Tower to the nearest point on the outside wall of the structure;
    d. Boundary Lines of Participating Property: None.
    e. Boundary Lines of Nonparticipating Property: 1.1 times the maximum blade tip height of the WECS Tower to the nearest point on the property line of the nonparticipating property.
    f. Public Road Rights-of-Way: 1.1 times the maximum blade tip height of the WECS Tower to the center point of the public road right-of-way.
    g. Overhead Communication and Electric Transmission and Distribution Facilities (Not Including Overhead Utility Service Lines to Individual Houses or Outbuildings): 1.1 times the maximum blade tip height of the WECS Tower to the nearest edge of the property line, easement, or right of way containing the overhead line.
    h. Overhead Utility Service Lines to Individual Houses or Outbuildings: None.
    i. Fish and Wildlife Areas and Illinois Nature Preserve Commission Protected Lands: 2.1 times the maximum blade tip height of the WECS Tower to the nearest point on the property line of the fish and wildlife area or protected land.
2. The setback requirements may be waived by the written consent of the owner(s) of each affected property. The Applicant does not need obtain a variance from the County upon waiver by the property owner of the setback requirement. Any waiver of any of the above setback requirements shall run with the land and be recorded with the Recorder of Deeds of the County.

H. Compliance with Additional Regulations

1. Nothing in this Ordinance is intended to preempt other applicable state and federal laws and regulations.

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I. Use of Public Roads

1. An Applicant proposing to use any County, municipality, township or village road(s), for the purpose of transporting WECS or Substation parts and/or equipment for construction, operation, or maintenance of the WECS(s) or Substation(s), shall:
    a. Identify all such public roads; and
    b. Obtain applicable weight and size permits from relevant government agencies prior to construction.
2. To the extent an Applicant must obtain a weight or size permit from the County, municipality, township or village, the Applicant shall:
    a. Conduct a pre-construction baseline survey to determine existing road conditions for assessing potential future damage; and
    b. Any proposed public roads that will be used for construction purposes shall be identified and approved in writing by the respective Road District Commissioner and the County Engineer prior to the granting of the Special Use Permit. Traffic for construction purposes shall be limited to these roads. All overweight and/or oversized loads to be transported on public roads may require a permit from the respective highway authority. Any road damage caused by the transport of the facility's equipment, the installation, maintenance, or removal, must be completely repaired to the reasonable satisfaction of the Road District Commissioner and the County Engineer. The Road District Commissioner and County Engineer may choose to require either remediation of road repair upon completion of the WECS Project or are authorized to collect fees for overweight and/or oversized load permits. Further, financial assurance in an amount to be fixed by the Road District Commissioner to ensure the Road District or the County that future repairs are completed to their reasonable satisfaction shall be provided. Applicant shall submit a draft form of said financial assurance with application for Special Use Permit.
    c. Enter into a road use agreement with the County and each affected Road District that includes the following provisions, at a minimum:
        i. Project layout map;
        ii. Transportation impact anaylsis;
        iii. Pre-construction plans;
        iv. Project traffic map;
        v. Project scope of repairs;
        vi. Post-construction repairs;
        vii. Insurance;
        viii. Financial Security in forms and amounts acceptable to the County; The road use agreement shall require Applicant to be responsible for the reasonable cost of improving roads used to construct WECS and the reasonable cost of repairing roads used by the facility owner during construction of the WECS so that those roads are in a condition that is safe for the driving public after the completion of the WECS construction. Roadways improved in preparation for and during the construction of the WECS shall be repaired and restored to the improved condition

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at the reasonable cost of the developer if the roadways have degraded or were damaged as a result of construction-related activities.

3. All repairs and improvements to County public roads and roadway appurtenances shall be subject to the prior approval of the County before being made and shall also be subject to inspection and acceptance by the County after such repairs and improvements are completed. The County's road use agreement, and any further agreements contemplated therein, regarding the maintenance and repair of County public roads and highways, must be approved by the County Board prior to the Board's approval of any WECS Building Permit applications related to the construction of the proposed WECS Project.

J. Site Assessment

1. To ensure that the subsurface conditions of the site will provide proper support for the WECS Towers and soil restoration, the Applicant, at its expense, shall provide soil and geotechnical boring reports to the County Engineer with respect to each WECS Tower location, as part of its WECS Building Permit. The Applicant shall follow the guidelines for Conservation Practices Impact Mitigation submitted by the County Soil and Water Conservation District (or equivalent regulatory agency). The Applicant shall submit grading plans for the proposed Substations for review and comment by the County Soil and Water Conservation District prior to the issuance of any WECS Building Permit for the construction of said substations.

K. Communciations Analysis; Interference

1. The Applicant, at its expense, shall have a third party, qualified professional (after submission of resume and relevant work experience) conduct an appropriate analysis of the television reception documenting the television stations that are received within one and one-half (1 ½) miles of the footprint of the WECS Project. The results of said study shall be public record and will serve as a baseline reading for television reception conditions prior to the construction of the WECS Project and shall be submitted as part of the Special Use Permit application.
2. The Applicant, at its expense, shall have a third party, qualified professional (after submission of resume and relevant work experience), conduct a communications analysis that indicates that the E9-1-1 communications, emergency communications or official County and local municipal communications reception shall not be negatively impacted or influenced by the proposed wind power facility. Said communication analysis shall be a public record and shall be submitted as part of the Special Use Permit application.
3. The Applicant and the Operator, at the Applicant's expense, shall take immediate actions to minimize or mitigate interference with electromagnetic communications, such as radio, telephone, microwaves or television signals and to eliminate any such interference that impacts local government public safety (police, fire, emergency medical services, emergency management services, 911 dispatch) communications, caused by the operation of the WECS. The Applicant shall provide the applicable microwave transmission providers and local emergency service provider(s) (911 operators) copies of the WECS Project Summary and Site Plan, as set forth in Section V(B)(1) and V(B)(3) of this Ordinance. To the extent that the above provider(s) demonstrate a likelihood of interference with its communications resulting from the WECS(s), the Applicant and the Operator, at Applicant's expense, shall takereasonable measures to minimize and mitigate such anticipated interference and with regard to interference with local, government

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public safety (police, fire, emergency medical services, emergency management services, 911 dispatch) communications, the Applicant and the Operator, at Applicant's expense, shall take all necessary and available commercial measures to eliminate any such interference. If, after construction of the WECS, the Applicant (WECS Permittee) or Operator receives a written complaint related to the above-mentioned interference, the Applicant (WECS Permittee) shall take commercially reasonable steps to respond to the complaint, except in the case of a complaint of interference with local, government public safety (police, fire, emergency medical services, emergency management services, 911 dispatch) communications. In the case of local, government public safety communications, the Applicant (WECS Permittee) and the Operator, at the Applicant's expense, shall immediately take all necessary and available commercial measures to eliminate any such interference.

4. If, after construction of the WECS, the Applicant (WECS Permittee) or Operator receives a written complaint related to interference with local broadcast residential television, the Applicant (WECS Permittee) shall take commercially reasonable steps to respond to the complaint. A summary of complaint and subsequent response from Applicant shall be forwarded to the Coles County Board for review. Once the construction is complete and a television reception complaint is received by the Coles County Board, who will have thirty (30) calendar days to verify the complaint, the Applicant (WECS Permittee) will be given fifteen (15) calendar days to respond, in writing (validation date). Said response shall be addressed and forwarded to both the Coles County Board and the complainant. Such response shall include but not be limited to the following: an acknowledgment that a complaint was made and evaluated by the Applicant (WECS Permittee). If considered valid by the Applicant (WECS Permittee): an explanation, including a timeline, as to what the Applicant (WECS Permittee) intends to do about the complaint. The Applicant (WECS Permittee) of the wind power facility will be given an additional fifteen (15) calendar days from the validation date to resolve said TV reception issue. If considered invalid by the Applicant (WECS Permittee), an explanation, including supporting documentation and expert opinions, as to why the Applicant (WECS Permittee) believes the complaint is not valid. Television reception complaints must be filed within six (6) months from the date each wind turbine generator goes online.

L. Noise Levels

1. Noise levels from each WECS or WECS Project shall be in compliance with applicable Illinois Pollution Control Board (IPCB) regulations. The Applicant shall submit manufacturer's wind turbine sound power level characteristics and other relevant data regarding wind turbine noise characteristics necessary for a competent noise analysis. The Applicant, through the use of a qualified professional, shall appropriately demonstrate compliance with the applicable noise requirements in its Special Use Permit application.

M. Agricultural Impact Mitigation

1. Pursuant to 505 ILCS 147/15(a), the Applicant, at its expense, shall enter into an Agricultural Impact Mitigation Agreement with the Illinois Department of Agriculture prior to any public hearing required before a siting decision on the WECS Project application. All impacted agricultural land, whether impacted during construction, operation, or decommissioning activities, must, at a minimum, be remediated by the Applicant pursuant to the terms of the Agricultural Impact

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Mitigation Agreement with the Illinois Department of Agriculture. The Applicant shall submit the executed Agricultural Impact Mitigation Agreement to the County as part of the Special Use Permit application.

N. Avian and Wildlife Impact Study

1. The Applicant, at its expense, shall have a third party, qualified professional (after submission of resume and relevant work experience) conduct an avian and wildlife impact study and submit said study to the County as part of the Special Use Permit application. Each WECS or WECS Project shall be located, designed, constructed, and operated so as to avoid and if necessary mitigate the impacts to wildlife.

O. As-Built Map and Plans

1. Within sixty (60) calendar days of completion of construction of the WECS Project, the Applicant or Operator shall deliver "as-built" maps, site plan and engineering plans for the WECS Project that have been signed and stamped by a Professional Engineer and a licensed surveyor.

P. Engineer's Certificate

1. The WECS Project engineer's certificate shall be completed by a structural engineer registered in the State of Illinois or by a Professional Engineer with a certification from a structural engineer registered in the State of Illinois and shall certify that the WECS tower and foundation design is compatible with and appropriate for each turbine design proposed to be installed and that the specific soils and subsurface conditions at the site can support the apparatus, given local soil, subsurface and climate conditions. All commercially installed wind turbines must utilize self-supporting, tubular towers. The WECS Project engineer's certificate shall be a public record and shall be submitted as part of the Special Use Permit application.

Q. Conformance with Approved Application and Plans

1. The Applicant shall construct and operate the WECS Project in substantial conformance with the construction plans contained in a Countyapproved submitted Special Use Permit application(s), conditions placed upon the operation of the Facility, this ordinance and all applicable state, federal and local laws and regulations.

R. Additional Terms and Conditions

1. All technical submissions as defined in the Professional Engineering Practice Act of 1989 (225 ILCS 325/4(w)) and contained in the Special Use Permit Application shall be prepared and signed by an Illinois Professional Engineer (or structural engineer) for the relevant discipline.
2. The County may retain a qualified, independent code inspector or professional engineer both to make appropriate inspections of the WECS Project during and after construction and to consult with the County to confirm that the construction, substantial repair, replacement, repowering and/or decommissioning of the WECS Project is performed in compliance with applicable electrical and building codes. The cost and fees so incurred by the County in retaining said inspector or engineer shall be promptly reimbursed by the Applicant of the WECS Project.
3. The Applicant shall provide locked metal gates or a locked chain are installed at the access road entrances of all the wind turbine generator locations. An exception may be made when the landowner has filed a written statement with the County which states that the owner does not want a locked metal gate installed and has provided a signed liability waiver to the County.

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4. The Special Use Permit granted to the Applicant shall bind and inure to the benefit of the Applicant, its successors-in-interest and assigns. If any provision in this Ordinance, or conditions placed upon the operation of the Commercial Wind Energy Facility is held invalid, such invalidity shall not affect any other provision of this Ordinance that can be given effect without the invalid provision and, to this end, the provisions in this Ordinance are severable.
5. The Applicant shall provide an executed road use agreement between the Applicant and , the appropriate governing road and highway jurisdictions or the Illinois Department of Transportation, to the County showing approved entrances prior to the issuance of any WECS Building Permit or prior to construction of the WECS Project.
6. No wind turbine generator shall be installed in any location where its proximity with existing fixed broadcast, retransmission, or reception antenna for radio, television, or wireless phone or other personal communication systems would produce electromagnetic interference with signal transmission or reception. The wind turbine generator shall not be installed in a location along the major axis of existing microwave communications link where its operation is likely to produce electromagnetic interference in the link's operation.
7. The Applicant of the WECS Project shall use two (2) methods to detect icing conditions on turbine blades: (1) sensors that detect when blades become imbalanced or create vibration due to ice accumulation; and (2) meteorological data from on-site meteorological towers, on-site anemometers, and other relevant weather sources that will be used to determine if ice accumulation is occurring. These control systems will either automatically shut down the turbines(s) in icing conditions or the Applicant will manually shut down the turbine(s) if icing conditions are identified.

Our review of the client's development plans and discussions with the client indicate that it generally conforms to the pre-existing Coles County wind ordinance.

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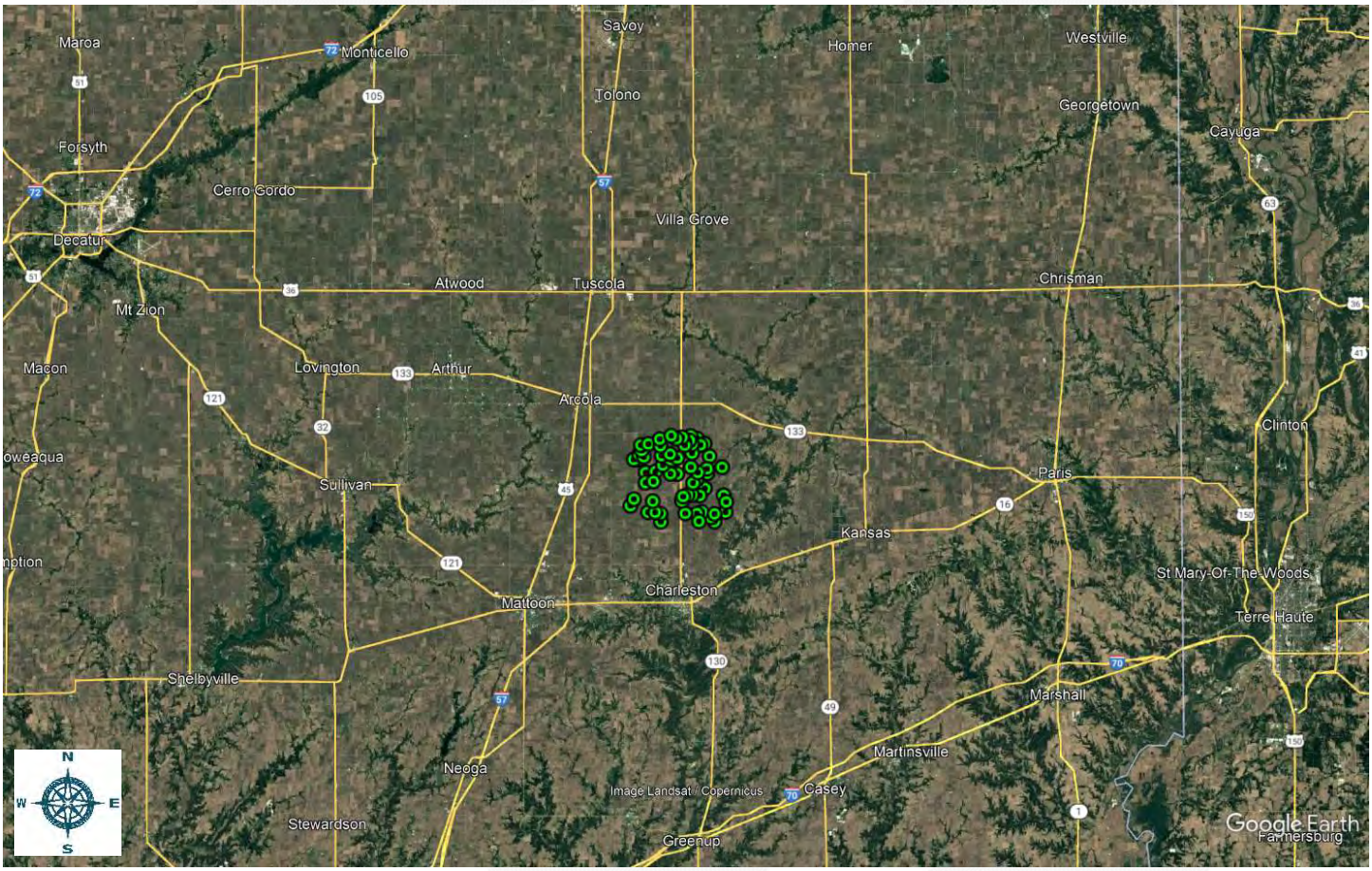
COLES COUNTY DEMOGRAPHIC AND LAND USE PROFILE

The Project consists of a utility-scale, wind energy use in southwestern Coles County, Illinois, known as the up to 311.1 MW Coles Wind Project. A surrounding area map indicating the location of the Project (green pins) is presented below.



Aerial imagery of project area provided by Google Earth, dated December 2020

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TRAFFIC PATTERNS AND CONNECTIVITY

The Coles Wind Project ("the Project") is to be located on land bounded by County Road 1900 North to the west and Interstate 55 to the east, in between County Road 1900 North to the north and East County Road 1200 North to the south, in northern Coles County, Illinois.

Interstate 57, is just west of the Project site and provides north-south access throughout the state, connecting the local area to Champaign to the north and Chicago further to the north of the Project site. Approximately ten miles north of the project boundary is U.S. Highway 36, which runs east-west across the state, running through Springfield and Decatur to the northwest of the Project site. State Route 130 runs north-south, bisecting the Project area and connecting the surrounding area to the City of Champaign to the north. The nearest major cities to the Project are Champaign, approximately 30 miles north of the Project; Decatur, approximately 40 miles northwest of the Project; and Springfield, approximately 75 miles northwest of the Project.

DEMOGRAPHIC FACTORS

Demographic data is presented below, as compiled by ESRI, which indicates a declining population in the area surrounding the Project and in the County, and a slightly declining population the State. The data also indicates that the area surrounding the Project is predominantly owner-occupied. Median household income is higher at the local area level to the County and State levels.

DEMOGRAPHIC PROFILE

	Project Area (5-Mile Radius)	Coles County	Illinois
Population			
2029 Projection	489	43,836	12,310,566
2024 Estimate	509	45,222	12,544,951
2010 Census	566	53,873	12,830,632
Growth 2024 - 2029	-3.93%	-3.06%	-1.87%
Growth 2010 - 2024	-10.07%	-16.06%	-2.23%
Total Land Area	79 sq. mi.	510 sq. mi.	57,915 sq. mi.
Population Density	6/sq. mi.	89/sq. mi.	217/sq. mi.
Households			
2029 Projection	202	19,536	5,052,851
2024 Estimate	204	19,629	5,007,335
2010 Census	212	21,463	4,836,972
Growth 2024 - 2029	-0.98%	-0.47%	0.91%
Growth 2010 - 20234	-3.77%	-8.54%	3.52%
2024 Owner Occupied (%)	76.07%	54.06%	60.35%
2024 Renter Occupied (%)	23.93%	45.94%	39.65%
2024 Med. Household Income	$96,624	$55,876	$81,015
2024 Avg. Household Income	$107,608	$75,963	$114,640

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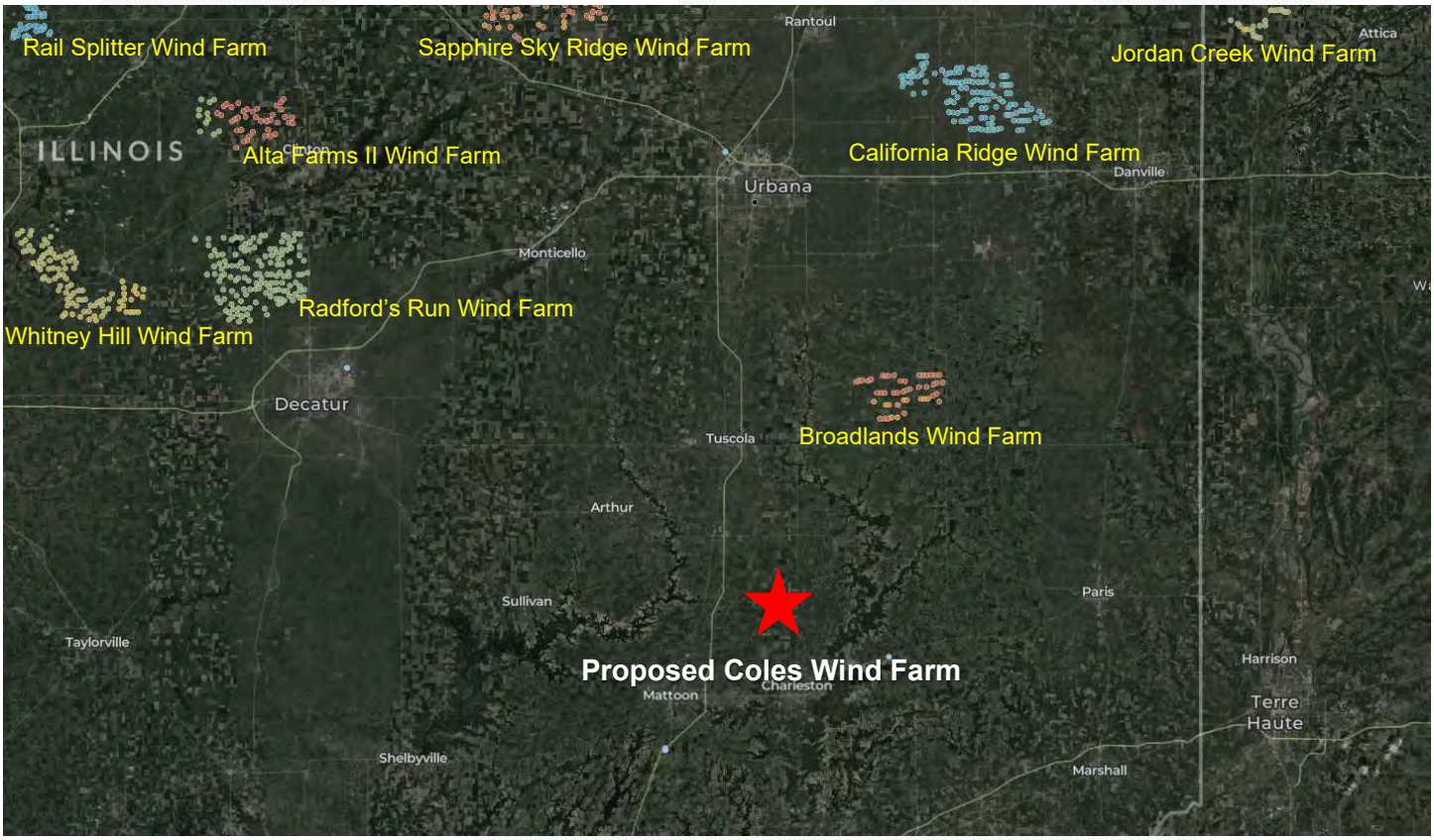
CONCLUSION

Land uses in the area surrounding the Project can be categorized as predominantly farmland and some residential homesteads. The factors presented previously indicate that the proposed Project would not be incompatible with surrounding uses and would not negatively impact surrounding properties.

A map of utility-scale wind farms in relatively close proximity to the proposed Coles Wind Farm site is presented in the following map.

One of the nearest existing wind facilities, the Rail Splitter Wind Farm, was studied by CohnReznick and found to have no impact on adjacent property values. The full analysis is included in the accompanying Property Value Impact Report.



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ILLINOIS SOIL PRODUCTIVITY AND VALUE TRENDS

NCCPI PRODUCTIVITY INDEX

Crop yields have been the basis for establishing a soil productivity index, and are used by county assessors, farmers, and market participants in assessing agricultural land. While crop yields are an integral part in assessing soil qualities, it is not an appropriate metric to rely on because "yields fluctuate from year to year, and absolute yields mean little when comparing different crops. Productivity indices provide a single scale on which soils may be rated according to their suitability for several major crops under specified levels of management, such as an optimum level."[2] The productivity index, therefore, not crop yields, is best suited for applications in land appraisal and land-use planning.

The United States Department of Agriculture's (USDA) National Resources Conservation Services (NRCS) developed and utilizes the National Commodity Crop Productivity Index (NCCPI) as a national soil interpreter and is used in the National Soil Information System (NASIS), but it is not intended to replace other crop production models developed by individual states.[3] The focus of the model is on identifying the best soils for the growth of commodity crops, as the best soils for the growth of these crops are generally the best soils for the growth of other crops.[4] The NCCPI model describes relative productivity ranking over a period of years and not for a single year where external influences such as extreme weather or change in management practices may have affected production. At the moment the index only describes non-irrigated crops, and will later be expanded to include irrigated crops, rangeland, and forestland productivity.[5]

Yields are influenced by a variety of different factors including environmental traits and management inputs. Tracked climate and soil qualities have been proven by researchers to directly explain fluctuations in crop yields, especially those qualities that relate to moisture-holding capacity. Except for these factors, "inherent soil quality or inherent soil productivity varies little over time or from place to place for a specific soil (map unit component) identified by the National Cooperative Soil Survey (NCSS)."[6] The NRCS Web Soil Survey website has additional information on how the ratings are determined.

The proposed wind farm will be located in Coles County, in the eastern portion of the state. An excerpt of a soil productivity map is presented below as retrieved from the USDA Web Soil Survey, which provides an illustration of the variation in soil productivity across the local area that is based on the NCCPI. The approximate site area for the Project is within boundary delineated below. Note, numerical labels correspond to soil type, not productivity index.

---

[2] Bulletin 811: Optimum Crop Productivity of Illinois Soils. University of Illinois, College of Agricultural, Consumer and Environmental Sciences, Office of Research. August 200.
[3] Agricultural land rental payments are typically tied to crop production of the leased agricultural land and is one of the primary reasons the NCCPI was developed, especially since the model needed to be consistent across political boundaries.
[4] Per the User Guide for the National Commodity Crop Productivity Index, the NCCPI uses natural relationships of soil, landscape and climate factors to model the response of commodity crops in soil map units. The present use of the land is not considered in the ratings.
[5] AgriData Inc. Docs: http://support.agridatainc.com/NationalCommodityCropProductivityIndex(NCCPI).ashx
[6] USDA NRCS's User Guide National Commodity Crop Productivity Index (NCCPI)

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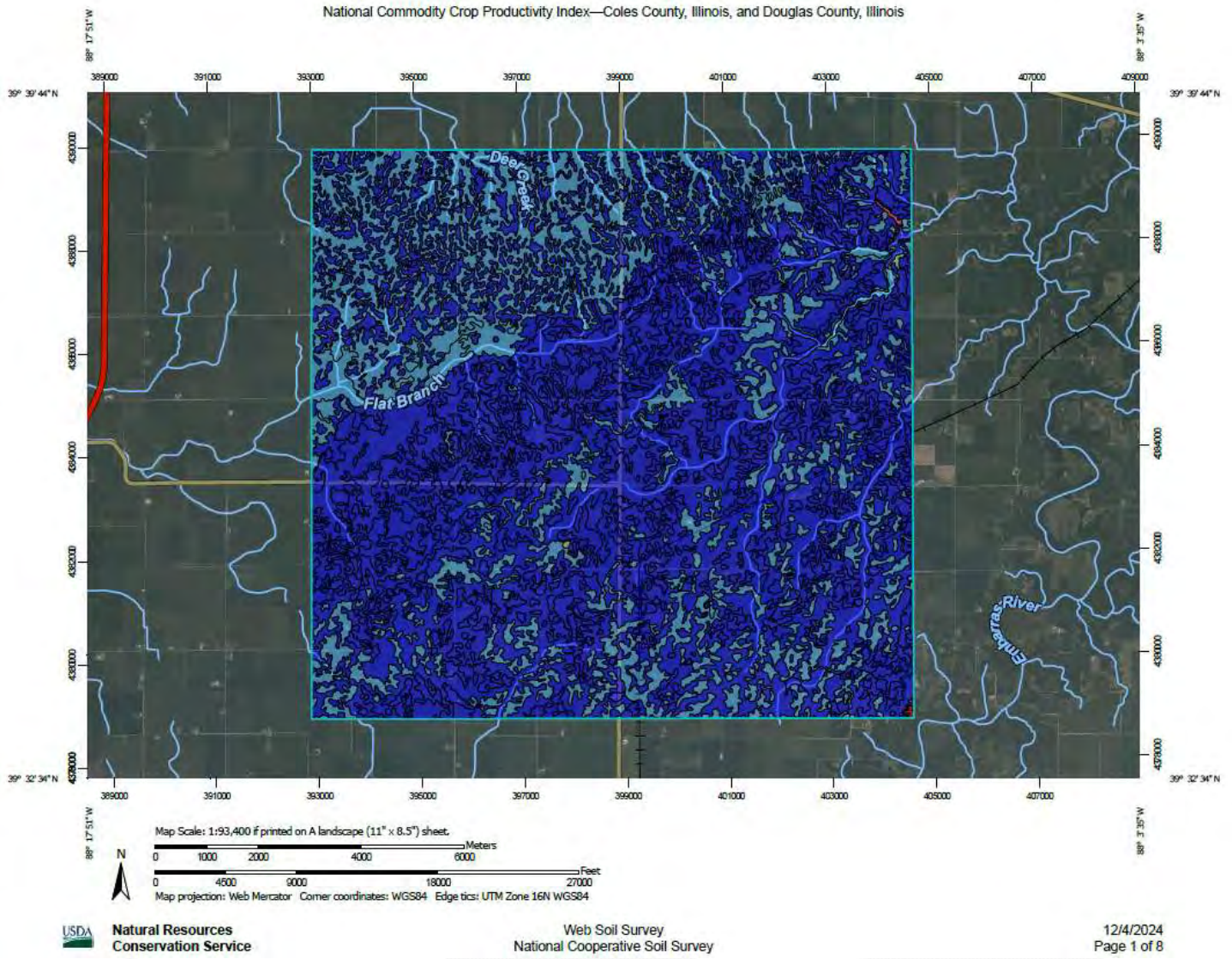

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MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils

Soil Rating Polygons
- Low inherent productivity
- Moderately low inherent productivity
- Moderate inherent productivity
- Moderately high inherent productivity
- High inherent productivity
- Not rated or not available

Soil Rating Lines
- Low inherent productivity
- Moderately low inherent productivity
- Moderate inherent productivity
- Moderately high inherent productivity
- High inherent productivity
- Not rated or not available

Soil Rating Points
- Low inherent productivity
- Moderately low inherent productivity
- Moderate inherent productivity
- Moderately high inherent productivity
- High inherent productivity
- Not rated or not available

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:12,000.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Coles County, Illinois
Survey Area Data: Version 24, Aug 21, 2024

Soil Survey Area: Douglas County, Illinois
Survey Area Data: Version 22, Aug 21, 2024

Your area of interest (AOI) includes more than one soil survey area. These survey areas may have been mapped at different scales, with a different land use in mind, at different times, or at different levels of detail. This may result in map unit symbols, soil properties, and interpretations that do not completely agree across soil survey area boundaries.

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jul 7, 2023—Aug 31, 2023

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

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Per the NCCPI, soil productivity is measured on both a numerical scale from 0 to 100, with 0 being the worst and 100 being the best,[7] and by qualitative ratings. The qualitative rating classifications below are determined by the USDA NRCS and provide general comments on the productivity of the soil.

> **High inherent productivity** indicates that the soil, site, and climate have features that are very favorable for crop production. High yields and low risk of crop failure can be expected if a high level of management is employed.
>
> **Moderately high inherent productivity** indicates that the soil has features that are generally quite favorable for crop production. Good yields and moderately low risk of crop failure can be expected.
>
> **Moderate inherent productivity** indicates that the soil has features that are generally favorable for crop production. Good yields and moderate risk of crop failure can be expected.
>
> **Moderately low inherent productivity** indicates that the soil has features that are generally not favorable for crop production. Low yields and moderately high risk of crop failure can be expected.
>
> **Low inherent productivity** indicates that the soil has one or more features that are unfavorable for crop production. Low yields and high risk of crop failure can be expected.

The weighted average soil productivity for the general area was determined to be approximately 82.47. A numerical scale that corresponds to the indicated qualitative ratings above was not available for the NCCPI; however, the soil productivity for this area is in the middle of the range, aligning with the "moderately high inherent productivity" category. According to the qualitative scale above, land with the moderately high inherent productivity classification is generally quite favorable for crop production.

[7] Quantitative ratings are also show in ranges of 0.00 to 1.00. AgriData Inc. presents the NCCPI index rating multiplied by 100 in a range of 0.00 to 100.00 to show up to four significant figures.

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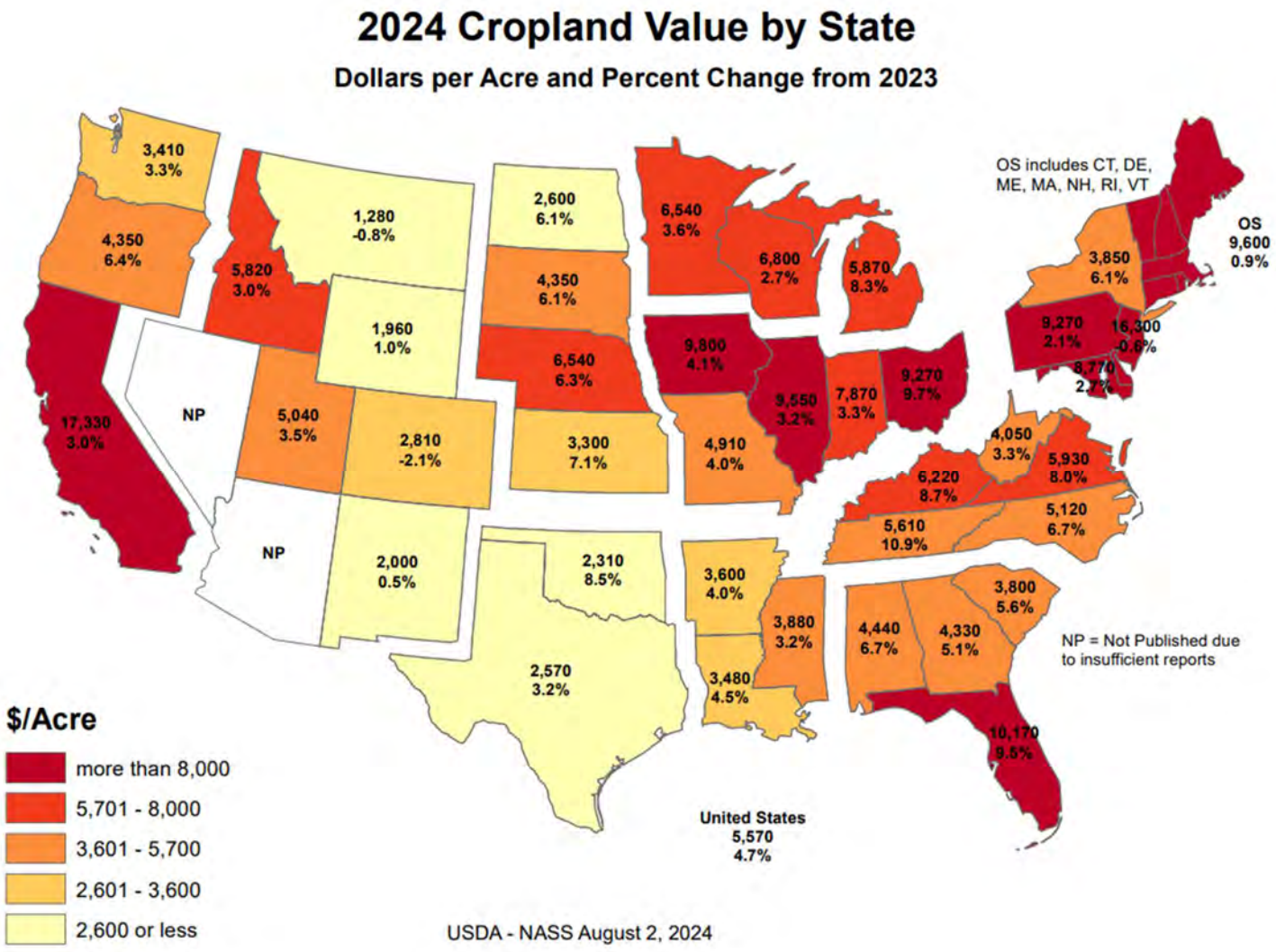
AREA VALUE TRENDS - CROPLAND

Agricultural land values are heavily influenced by relative crop production yields. The following exhibit compiled by the USDA National Agricultural Statistics Service (NASS) provides an illustration of how regional conditions such as weather conditions, geographies, and soil conditions can affect crop land real estate values.



Per the NASS report, the average value of cropland in Illinois for 2024 is $9,550 per acre, which is an increase of 3.2 percent from 2023. In addition, the report indicated that the average annual growth rate for farmland values in Illinois from 2020 to 2024 was 6.2 percent.[8]

[8] https://downloads.usda.library.cornell.edu/usda-esmis/files/pn89d6567/vh53zm770/sf269z18h/land0824.pdf

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AREA VALUE TRENDS – RESIDENTIAL HOMES

The proposed Project is to be located in northern Coles County, Illinois. There has been some home sale activity in the area surrounding the proposed Project in the past year.

We researched sales in the surrounding area, from December 2023 through November 2024, and identified 16 market transactions of single-family homes.

The sales are summarized in the table below.

Home Sales Surrounding Proposed Project Area (December 2023 through November 2024)

Single Family Homes	Average Lot Size (Acres)	Median Living Area (SF)	Min. Sale Price	Max. Sale Price	Median Sale Price	Median Sale Price PSF
Project Area	0.58	1,614	$37,000	$459,900	$105,500	$70.86

We surveyed the surrounding area of the proposed site to identify any transactions of homes adjacent to the site that occurred within the past year. We identified one sale of a single-family residence that sold near or adjacent to the project's proposed location, within a 1-mile radius of a proposed turbine location, with a sale price of $325,000 or $74.70 per square foot, above the median sale price per square foot of the area, and does not appear to be impacted by the proposed wind project. Please see the table below:

Home Sales Adjacent to Proposed Project Area (December 2023 through November 2024)

Address	Building Size (SF)	Sale Date	Sale Price	$ PSF	Lot Size (AC)	Days on Market	Year Built
13250 Decker Springs Road	4,351	6/14/2024	$325,000	$74.70	5.78	85	1994

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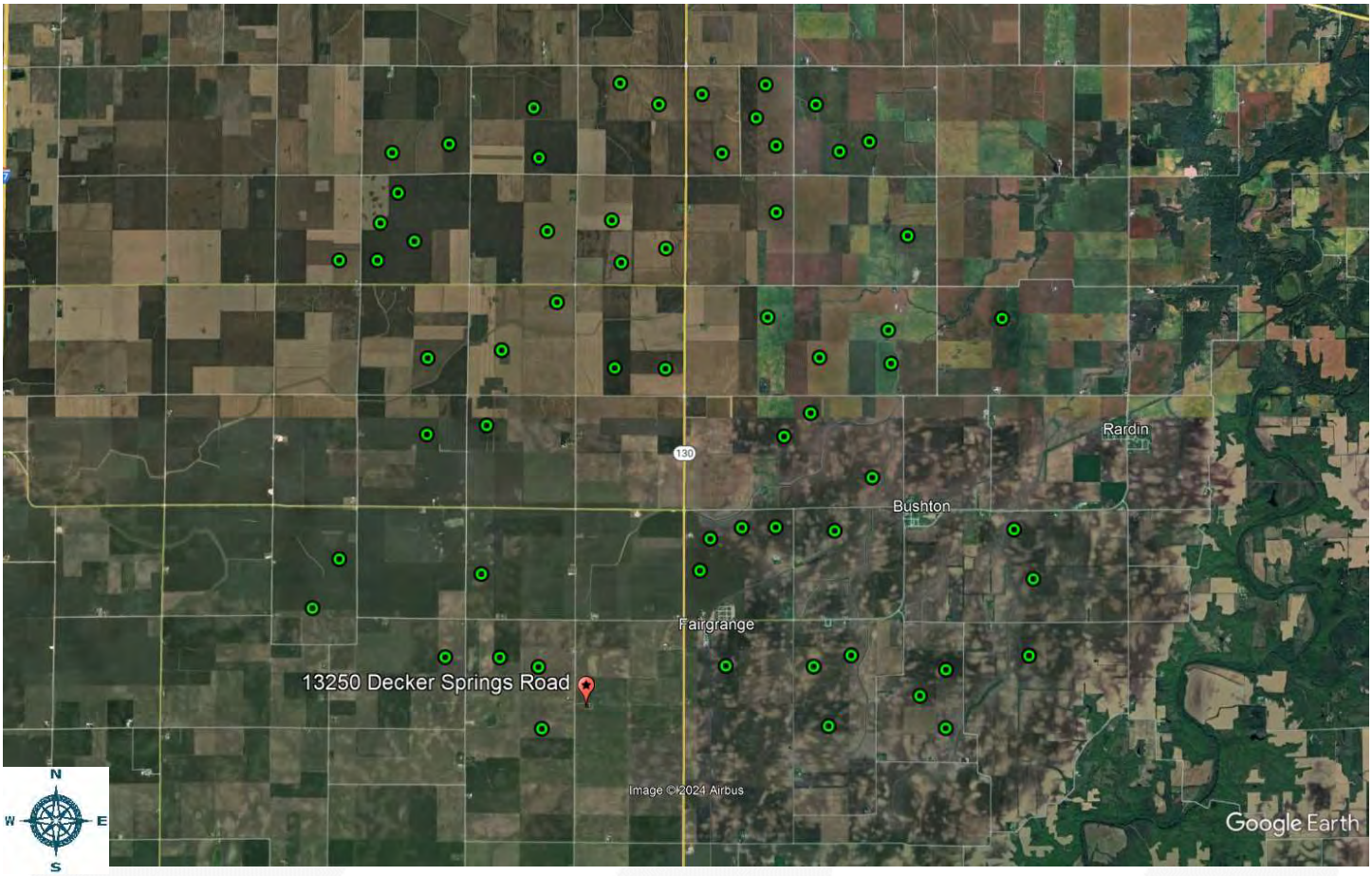

Aerial imagery of project area provided by Google Earth, dated November 2024. Proposed turbine locations are labeled with green pins and residential property within a one-mile radius of a proposed turbine that recently sold is labeled with a red pin.

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The table below illustrates residential home value trends for the proposed Project's Coles County location. The source is the Federal Housing Finance Agency's (FHFA) House Price Index (HPI), which is a weighted, repeat-sales index measuring changes in single-family house prices.

FHFA House Price Index Coles County, Illinois		
Year	**Annual Change (%)**	**HPI**
2003	-	185.43
2004	2.99	190.97
2005	2.70	196.12
2006	2.97	201.96
2007	2.38	206.77
2008	0.58	207.97
2009	0.58	209.17
2010	0.32	209.84
2011	-1.65	206.38
2012	1.35	209.16
2013	0.59	210.40
2014	0.76	212.00
2015	0.39	212.82
2016	0.69	214.29
2017	-0.65	212.88
2018	-0.11	212.64
2019	2.69	218.37
2020	1.31	221.23
2021	7.90	238.70
2022	13.20	270.20
2023	4.93	283.53
Annual Average Compounded % Change	**2.15%**	

Based on the data shown above, the trend in residential home values in Coles County have steadily increased at an average annual rate of 2.15 percent, over the past twenty years. The housing values in the counties have grown at a very strong rate over the past three years; recent macroeconomic conditions have changed and most economists believe some kind of market correction is expected to coincide with increases in federal lending rates and general inflation, although the degree of this correction is yet unknown.

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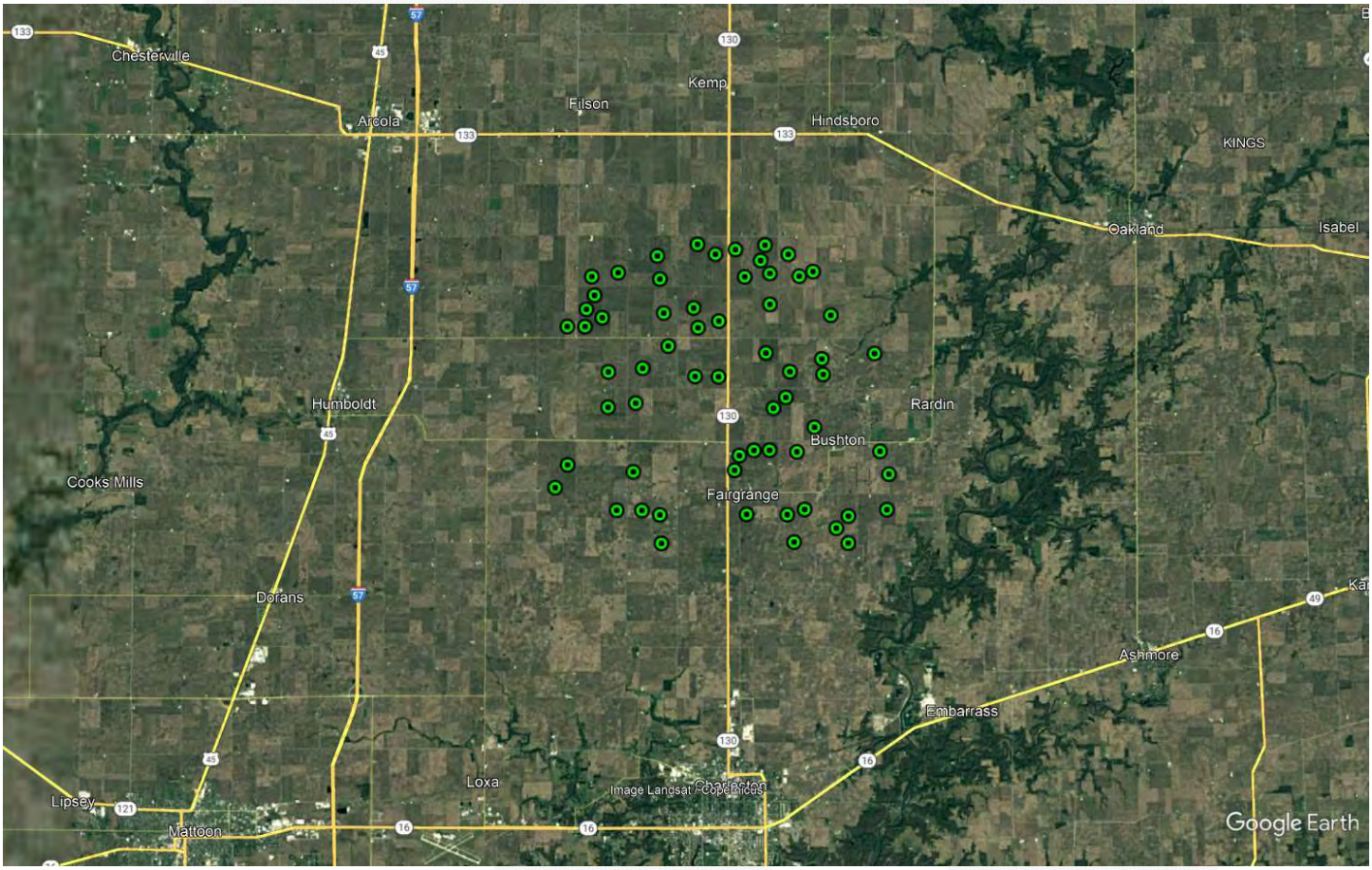
LOCAL LAND DEVELOPMENT TRENDS

Land values can be driven by a site's proximity to the path of development. The closer a property is to the path of development, and without natural barriers to development, the more value a property may have in the future. The path of development in the local area has been towards the City of Mattoon to the southwest of the subject and the City of Charleston to the south of the Project. The Project area has been agricultural land for over 15 years.



Aerial Imagery dated December 2000

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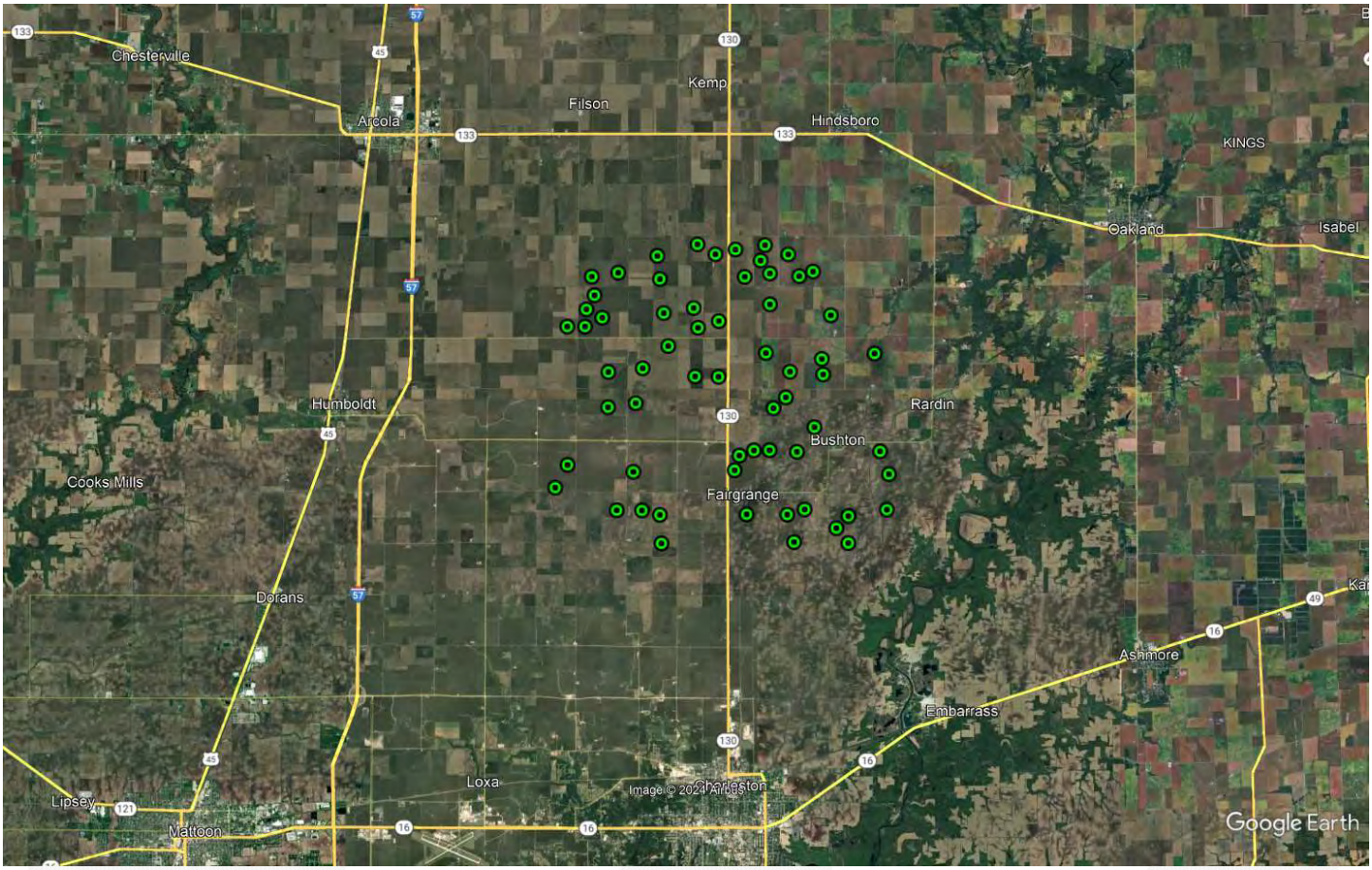

Aerial Imagery dated November 2024

According to the images above, there has been little new development in the local area over the past 15 years. Generally, any undeveloped agricultural land is considered to be an interim use as the intensity of uses grows in step with macroeconomic factors; however, the Project and the land surrounding are zoned primarily for agricultural and single-family residential uses.

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SUMMARY AND FINAL CONCLUSIONS

The Project is located in a stable area that is predominantly agricultural in nature with some residential homesteads. The population density for the local area is six persons per square mile which reflects a rural environment. Local development has not been robust over the past 20 years, and the immediate land parcels have a future land use designation of agricultural. Based on our analysis of real estate taxes in the Primary Report, wind farm uses incur anywhere from 131% to ±1,000% increase in real estate tax revenue for the local area, feeding back into essential services and schools. Local land and residential home prices have remained stable over the past five years and are anticipated to align in the future with macroeconomic changes. Overall, the proposed Project is considered a locally compatible use.

The purpose of the Primary Report and this addendum is to determine whether the presence of a wind farm has caused a measurable and consistent impact on adjacent property values. Under the identified methodology and scope of work, CohnReznick reviewed published methodology for measuring impact on property values as well as published reports that analyzed the impact of wind farms on property values. These studies found little to no measurable and consistent difference between Test Area Sales and Control Area Sales attributed to the wind farms.

The chosen existing wind farms analyzed in the Primary Report reflected sales of property adjoining an existing wind farm (Test Area Sales) in which the unit sale prices were effectively the same or higher than the comparable Control Area Sales that were not near a wind farm. The conclusions support that there is no negative impact for improved residential homes adjacent to wind farms, nor agricultural acreage. This was confirmed with market participants interviews, which provided additional insight as to how the market evaluates farmland and single-family homes with views of the wind farm.

It can be concluded that since the Adjoining Property Sales (Test Area Sales) were not adversely affected by their proximity to the wind farm, that properties surrounding other proposed wind farms operating in compliance with all regulatory standards will similarly not be adversely affected, in either the short or long term periods.

Based upon the examination, research, and analyses of the existing wind farm uses, the surrounding areas, and an extensive market database, we have concluded that ***no consistent negative impact has occurred to adjacent property values that could be attributed to proximity to the adjacent wind farm***, with regard to unit sale prices or other influential market indicators. Additionally, in our workfile we have retained analyses of additional existing wind farms, each with their own set of matched control sales, which had consistent results, indicating no consistent and measurable impact on adjacent property values. This conclusion has been confirmed by numerous county assessors who have also investigated this use's potential impact on property values.

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If you have any questions or comments, please contact the undersigned. Thank you for the opportunity to be of service.

Respectfully submitted,

CohnReznick LLP

Andrew R. Lines, MAI, CRE
Principal
Certified General Real Estate Appraiser
Illinois License No. 553.001841
Expires 9/30/2025

Erin C. Bowen, MAI
Director

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CERTIFICATION

We certify that, to the best of our knowledge and belief:

1. The statements of fact and data reported are true and correct.
2. The reported analyses, findings, and conclusions in this consulting report are limited only by the reported assumptions and limiting conditions, and are our personal, impartial, and unbiased professional analyses, findings, and conclusions.
3. We have no present or prospective interest in the property that is the subject of this report and no personal interest with respect to the parties involved.
4. We 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. We have no bias with respect to the property that is the subject of this report, or the parties involved with this assignment.
6. Our engagement in this assignment was not contingent upon developing or reporting predetermined results.
7. Our compensation for completing this assignment is not contingent upon the development or reporting of a predetermined value or direction in value that favors the cause of the client, the amount of the value finding, the attainment of a stipulated result, or the occurrence of a subsequent event directly related to the intended use of this report.
8. Our analyses, findings, and conclusions were developed, and this report has been prepared, in conformity with the requirements of the Code of Professional Ethics and Standards of Professional Appraisal Practice of the Appraisal Institute, which includes the Uniform Standards of Professional Appraisal Practice (USPAP).
9. The use of this report is subject to the requirements of the Appraisal Institute relating to review by its duly authorized representatives.
10. Andrew R. Lines, MAI, CRE, and Erin C. Bowen, MAI have viewed the exterior of the Project and of all comparable data referenced in this report in person, via photographs, or aerial imagery.
11. We have not relied on unsupported conclusions relating to characteristics such as race, color, religion, national origin, gender, marital status, familial status, age, and receipt of public assistance income, handicap, or an unsupported conclusion that homogeneity of such characteristics is necessary to maximize value.
12. Joe Ficenec provided consulting assistance to the persons signing this certification, including data verification, research, and administrative work all under the appropriate supervision.
13. We have experience in reviewing properties similar to the subject and are in compliance with the Competency Rule of USPAP.
14. As of the date of this report, Andrew R. Lines, MAI, CRE, and Erin Bowen, MAI have completed the continuing education program for Designated Members of the Appraisal Institute.

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ASSUMPTIONS AND LIMITING CONDITIONS

The fact witness services will be subject to the following assumptions and limiting conditions:

1. No responsibility is assumed for the legal description provided or for matter pertaining to legal or title considerations. Title to the property is assumed to be good and marketable unless otherwise stated. The legal description used in this report is assumed to be correct.
2. The property is evaluated free and clear of any or all liens or encumbrances unless otherwise stated.
3. Responsible ownership and competent management are assumed.
4. Information furnished by others is believed to be true, correct and reliable, but no warranty is given for its accuracy.
5. All engineering studies are assumed to be correct. The plot plans and illustrative material in this report are included only to help the reader visualize the property.
6. It is assumed that there are no hidden or unapparent conditions of the property, subsoil, or structures that render it more or less valuable. No responsibility is assumed for such conditions or for obtaining the engineering studies that may be required to discover them.
7. It is assumed that the property is in full compliance with all applicable federal, state, and local and environmental regulations and laws unless the lack of compliance is stated, described, and considered in the evaluation report.
8. It is assumed that the property conforms to all applicable zoning and use regulations and restrictions unless nonconformity has been identified, described and considered in the evaluation report.
9. It is assumed that all required licenses, certificates of occupancy, consents, and other legislative or administrative authority from any local, state, or national government or private entity or organization have been or can be obtained or renewed for any use on which the value estimate contained in this report is based.
10. It is assumed that the use of the land and improvements is confined within the boundaries or property lines of the property described and that there is no encroachment or trespass unless noted in this report.
11. The date of value to which the findings are expressed in this report apply is set forth in the letter of transmittal. The appraisers assume no responsibility for economic or physical factors occurring at some later date which may affect the opinions herein stated.
12. Unless otherwise stated in this report, the existence of hazardous materials, which may or may not be present on the property, was not observed by the appraisers. The appraisers have no knowledge of the existence of such substances on or in the property. The appraisers, however, are not qualified to detect such substances. The presence of substances such as asbestos, urea-formaldehyde foam insulation, radon gas, lead or lead-based products, toxic waste contaminants, and other potentially hazardous materials may affect the value of the property. The value estimate is predicated on the assumption that there is no such material on or in the property that would cause a loss in value. No

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responsibility is assumed for such conditions or for any expertise or engineering knowledge required to discover them. The client is urged to retain an expert in this field, if desired.

13. The forecasts, projections, or operating estimates included in this report were utilized to assist in the evaluation process and are based on reasonable estimates of market conditions, anticipated supply and demand, and the state of the economy. Therefore, the projections are subject to changes in future conditions that cannot be accurately predicted by the appraisers, and which could affect the future income or value projections.

14. Fundamental to the appraisal analysis is the assumption that no change in zoning is either proposed or imminent, unless otherwise stipulated. Should a change in zoning status occur from the property's present classification, the appraisers reserve the right to alter or amend the value accordingly.

15. It is assumed that the property does not contain within its confined any unmarked burial grounds which would prevent or hamper the development process.

16. The Americans with Disabilities Act (ADA) became effective on January 26, 1992. We have not made a specific compliance survey and analysis of the property to determine if it is in conformance with the various detailed requirements of the ADA. It is possible that a compliance survey of the property, together with a detailed analysis of the requirements of the ADA, could reveal that the property is not in compliance with one or more of the requirements of the Act. If so, this fact could have a negative effect on the value of the property. Unless otherwise noted in this report, we have not been provided with a compliance survey of the property. Any information regarding compliance surveys or estimates of costs to conform to the requirements of the ADA are provided for information purposes. No responsibility is assumed for the accuracy or completeness of the compliance survey cited in this report, or for the eventual cost to comply with the requirements of the ADA.

17. Any value estimates provided in this report apply to the entire property, and any proration or division of the total into fractional interests will invalidate the value estimate, unless such proration or division of interests has been set forth in this report.

18. Any proposed improvements are assumed to have been completed unless otherwise stipulated; any construction is assumed to conform with the building plans referenced in this report.

19. Unless otherwise noted in the body of this report, this evaluation assumes that the subject does not fall within the areas where mandatory flood insurance is effective.

20. Unless otherwise noted in the body of this report, we have not completed nor are we contracted to have completed an investigation to identify and/or quantify the presence of non-tidal wetland conditions on the subject property.

21. This report should not be used as a basis to determine the structural adequacy/inadequacy of the property described herein, but for evaluation purposes only.

22. It is assumed that the subject structure meets the applicable building codes for its respective jurisdiction. We assume no responsibility/liability for the inclusion/exclusion of any structural component item which may have an impact on value. It is further assumed that the subject property will meet code requirements as they relate to proper soil compaction, grading, and drainage.

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23. The appraisers are not engineers, and any references to physical property characteristics in terms of quality, condition, cost, suitability, soil conditions, flood risk, obsolescence, etc., are strictly related to their economic impact on the property. No liability is assumed for any engineering-related issues.

The evaluation services will be subject to the following limiting conditions:

1. The findings reported herein are only applicable to the properties studied in conjunction with the Purpose of the Evaluation and the Function of the Evaluation as herein set forth; the evaluation is not to be used for any other purposes or functions.
2. Any allocation of the total value estimated in this report between the land and the improvements applies only to the stated program of utilization. The separate values allocated to the land and buildings must not be used in conjunction with any other appraisal and are not valid if so used.
3. No opinion is expressed as to the value of subsurface oil, gas or mineral rights, if any, and we have assumed that the property is not subject to surface entry for the exploration or removal of such materials, unless otherwise noted in the evaluation.
4. This report has been prepared by CohnReznick under the terms and conditions outlined by the enclosed engagement letter. Therefore, the contents of this report and the use of this report are governed by the client confidentiality rules of the Appraisal Institute. Specifically, this report is not for use by a third party and CohnReznick is not responsible or liable, legally or otherwise, to other parties using this report unless agreed to in writing, in advance, by both CohnReznick and/or the client or third party.
5. Disclosure of the contents of this evaluation report is governed by the by-laws and Regulations of the Appraisal Institute has been prepared to conform with the reporting standards of any concerned government agencies.
6. The forecasts, projections, and/or operating estimates contained herein are based on current market conditions, anticipated short-term supply and demand factors, and a continued stable economy. These forecasts are, therefore, subject to changes with future conditions. This evaluation is based on the condition of local and national economies, purchasing power of money, and financing rates prevailing at the effective date of value.
7. This evaluation shall be considered only in its entirety, and no part of this evaluation shall be utilized separately or out of context. Any separation of the signature pages from the balance of the evaluation report invalidates the conclusions established herein.
8. **Possession of this report, or a copy thereof, does not carry with it the right of publication, nor may it be used for any purposes by anyone other than the client without the prior written consent of the appraisers, and in any event, only with property qualification.**
9. The appraisers, by reason of this study, are not required to give further consultation or testimony or to be in attendance in court with reference to the property in question unless arrangements have been previously made.

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10. Neither all nor any part of the contents of this report shall be conveyed to any person or entity, other than the appraiser's client, through advertising, solicitation materials, public relations, news, sales or other media, without the written consent and approval of the authors, particularly as to evaluation conclusions, the identity of the appraisers or CohnReznick, LLC, or any reference to the Appraisal Institute, or the MAI designation. Further, the appraisers and CohnReznick, LLC assume no obligation, liability, or accountability to any third party. If this report is placed in the hands of anyone but the client, client shall make such party aware of all the assumptions and limiting conditions of the assignment.

11. This evaluation is not intended to be used, and may not be used, on behalf of or in connection with a real estate syndicate or syndicates. A real estate syndicate means a general or limited partnership, joint venture, unincorporated association or similar organization formed for the purpose of, and engaged in, an investment or gain from an interest in real property, including, but not limited to a sale or exchange, trade or development of such real property, on behalf of others, or which is required to be registered with the United States Securities and Exchange commissions or any state regulatory agency which regulates investments made as a public offering. It is agreed that any user of this evaluation who uses it contrary to the prohibitions in this section indemnifies the appraisers and the appraisers' firm and holds them harmless from all claims, including attorney fees, arising from said use.

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ADDENDUM A:
APPRAISER QUALIFICATIONS

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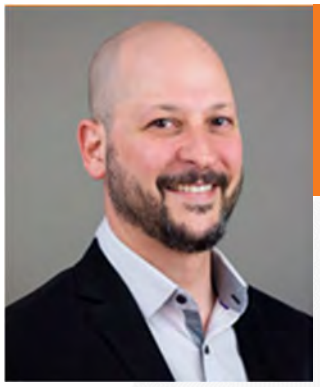

Andrew R. Lines, MAI, CRE

Principal – Real Estate Valuation
Valuation Advisory Services

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Chicago, IL 60606
312-508-5892 (w)
917-696-9636 (m)
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www.cohnreznick.com

Andrew R. Lines, MAI, CRE is a Principal for CohnReznick Advisory's Valuation Advisory Services practice who has been a CohnReznick employee for over twelve years. Andrew has been involved in the real estate business for more than 20 years and has performed valuations on all real estate classes (industrial, commercial, residential, development land). Special-use valuations include affordable housing (as well as market studies), student housing, senior housing, cannabis facilities (indoor/outdoor, processing and dispensaries), landfills, waste transfer stations, golf courses, marinas, hospitals, universities, telecommunications facilities, data centers, self- storage facilities, racetracks, and corridors. Impact Study Reports have also been generated for zoning hearings related to the development of solar facilities, wind powered facilities, landfills, big box retail, waste transfer stations, private mental health clinics, cannabis dispensaries, concert/stadium venues and day care centers. He is also experienced in the valuation of leasehold, leased fee, and partial interests, as well as purchase price allocations (GAAP, IFRS and IRC 1060) for financial reporting.

Valuations have been completed nationwide for a variety of assignments including mortgage financing, litigation, tax appeal, estate gifts, asset management, workouts, and restructuring, as well as valuation for financial reporting including purchase price allocations (ASC 805), impairment studies, and appraisals for investment company guidelines and REIS standards. Andrew has qualified as an expert witness, providing testimony for cases in the states of IL, DC, VA, NY and MD, and for zoning hearings in IL, IN, MI, NY, HI, OH, KY, CO, PA, WI and MO. Andrew has also performed appraisal review assignments for accounting purposes (audit support), asset management, litigation and as an evaluator for a large Midwest regional bank.

Andrew has earned the professional designation of Member of the Appraisal Institute (MAI). He has also qualified for certified general commercial real estate appraiser licenses in AZ, CA, IL, IN, WI, MD, OH, NY, NJ, FL,GA, KY and DC. Temporary licenses have been granted in CT, CO, PA, ID, MS, KS, MT and SC.

Education

- Syracuse University: Bachelor of Fine Arts
- MAI Designation (Member of the Appraisal Institute)

Professional Affiliations

- Counselors of Real Estate (CRE)
- Chicago Chapter of the Appraisal Institute
- International Real Estate Management (IREM)
- National Council of Housing and Market Analysts (NCHMA)

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Erin C. Bowen, MAI

Director, Valuation Advisory Services

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erin.bowen@cohnreznick.com
www.cohnreznick.com

Erin Bowen, MAI is a Director with CohnReznick in Valuation Advisory Services, where she leads a team of appraisers across the country performing valuation and consulting services on a wide variety of real estate.

Ms. Bowen specializes in renewable energy, lodging, cannabis, seniors housing, large scale retail and multifamily conversion properties. Lodging work includes all hotel property types and brand segments including limited, full service and resort properties; additionally, Ms. Bowen has appraised numerous hotel to multifamily conversion properties including market rate and affordable housing. Cannabis work includes dispensaries, cultivation facilities including specialized indoor facilities and greenhouse properties, processing and manufacturing facilities. Senior's housing assignments include assisted living, skilled nursing facilities and rehabilitation centers. Retail work spans power centers, lifestyle centers, outlet centers and malls. She has appraised numerous additional properties including multifamily, office, medical office, industrial, churches, and vacant land.

Ms. Bowen has expertise in appraising properties at all stages of development, including existing as is, proposed, under construction, renovations and conversion to alternate use. Valuations have been completed nationwide for a variety of assignments including litigation, eminent domain, tax appeal, mortgage financing, estate gifts, asset management, as well as valuation for financial reporting including purchase price allocations (ASC 805). Ms. Bowen has worked on numerous appraisal assignments for eminent domain use for both condemner and land owner.

Additionally, Ms. Bowen has specialized in Property Value Impact Analysis, measuring the possible detrimental impact of economic and environmental influences on property values for a variety of property types, including cell towers, stadiums, behavioral health centers with an emphasis on renewable energy facilities including solar and wind. She has qualified as an expert witness and testified in front of power siting boards, zoning boards and planning commissions in New Mexico, Ohio, Michigan, Kentucky, Indiana and Illinois.

Education

- University of California, San Diego: Bachelor of Arts in Psychology and Theater; College Honors

Professional Affiliations

- Designated Member of the Appraisal Institute

Licenses

- Active licenses in AZ, CA, NV, NM and OR

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Appendix F

Project Agreements

1. Agricultural Impact Mitigation Agreement (*SUP Application, §B.7, Design and Installation, §M*)
2. Coles County – List of Public Roads Identified and Approved by Road Authorities (*Design and Installation, §I*)
3. Morgan Township – List of Public Roads Identified and Approved by Road Authorities (*Design and Installation, §I*)
4. Seven Hickory Township – List of Public Roads Identified and Approved by Road Authorities (*Design and Installation, §I*)
5. Draft Financial Assurance Form – Road Use

Appendix F.1

Agricultural Impact Mitigation Agreement

(*SUP Application, §B.7, Design and Installation, §M*)

AGRICULTURAL IMPACT MITIGATION AGREEMENT
between
Coles Wind, LLC
and the
ILLINOIS DEPARTMENT OF AGRICULTURE
Pertaining to the Construction of a Commercial Wind Energy Facility
in
Coles **County, Illinois**

The following standards and policies are required by the Illinois Department of Agriculture (IDOA) to help preserve the integrity of any agricultural land that is impacted by the Construction and Deconstruction of a wind energy facility in accordance with the Renewable Energy Facilities Agricultural Impact Mitigation Act (Act), Public Act 100-0598. They were developed with the cooperation of agricultural agencies, organizations, Landowners, Tenants, drainage contractors, and wind energy companies to comprise this Agricultural Impact Mitigation Agreement (AIMA). This AIMA is made and entered into between the Commercial Wind Energy Facility Owner and the IDOA.

Coles Wind, LLC, an Delaware-based limited liability company authorized to transact business in Illinois, hereafter referred to as "Commercial Wind Energy Facility Owner or Facility Owner", plans to develop an approximately 300 MW Commercial Wind Energy Facility or "Facility" in Coles County, which will consist of approximately 53 turbines, access roads, an underground collection line, a switchyard, a substation, and an operation and maintenance building site.

If construction does not commence within four years after this AIMA has been fully executed, this AIMA will be revised, with the Facility Owner's input, to reflect the IDOA's most current Wind Farm Construction and Deconstruction Standards and Policies. This AIMA, and any updated AIMA, will be filed with the Coles County Board by the Facility Owner.

This AIMA is applicable to Construction and Deconstruction activities occurring partially or wholly on privately owned agricultural land.

Conditions of the AIMA

The actions set forth in this AIMA shall be implemented in accordance with the conditions listed below:

A. All Construction or Deconstruction activities may be subject to County or other local requirements. However, the specifications outlined in this AIMA shall be the minimum standards applied to all Construction or Deconstruction activities.

B. Except for Section 21(B-F), all actions set forth in this AIMA are subject to modification through negotiation by Landowners and a representative of the Facility Owner, provided such changes are negotiated in advance of any respective Construction or Deconstruction activities.

C. The Facility Owner may negotiate with Landowners to carry out the mitigative actions that Landowners wish to perform themselves. In such instances, the Facility Owner will offer Landowners the area commercial rate for their machinery and labor costs.

D. All mitigative actions will extend to associated future Construction, maintenance, repairs, and Deconstruction of the Commercial Wind Energy Facility.

E. The Facility Owner will exercise Best Efforts to determine all Landowners and Tenants affected by the Construction and Deconstruction of a Facility. The Facility Owner shall keep the Landowners and Tenants informed of the project's status, meetings, and other factors that may have an impact upon their farming operations.

F. The Facility Owner agrees to include a statement of its adherence to this AIMA in any environmental assessment and/or environmental impact statement that may be prepared in connection with the Project.

G. Execution of this AIMA shall be made a condition of any Conditional/Special Use Permit. A copy of this AIMA shall be mailed to each Landowner. Within 30 days of execution of this AIMA, the Facility Owner shall provide postage and mailing labels to the IDOA for mailing to all Landowners. If the Facility Owner becomes aware that a Landowner was not included on the list of Landowners to which a copy of this AIMA was mailed, the Facility Owner shall notify the Department and provide postage and a mailing label as soon as possible.

In the case of a new Underlying Agreement with a Landowner, the Facility Owner shall incorporate this AIMA into such Underlying Agreement.

H. The Facility Owner will implement all mitigative actions to the extent that they do not conflict with the requirements of any applicable federal, state and local rules and regulations and other permits and approvals that are obtained by the Facility Owner for the Project.

I. If any mitigative action(s) is held to be unenforceable, no other provision shall be affected by that holding, and the remainder of the mitigative actions shall be interpreted as if they did not contain the unenforceable provision.

J. No later than 45 days prior to the Construction and/or Deconstruction of a Commercial Wind Energy Facility, the Facility Owner will provide the Landowner(s) with a toll-free number the Landowner can call to alert the Facility Owner should the Landowner(s) have questions or concerns with the work which is being done or has been carried out on his/her property.

K. If the Facility is sold or transferred, the Facility Owner assuming ownership of the facility shall provide notice of such sale or transfer within ninety (90) days to the County and to Landowners, and the existing Financial Assurance requirements, plus the other terms of this AIMA, shall apply to the new Facility Owner.

L. After construction, the Facility Owner will provide the IDOA with "as built" drawings (strip maps) showing the location of all tiles lines damaged in the construction of the Wind Farm. The drawings and GPS tile lines repair coordinates will be provided on a county-by-county basis for distribution by the IDOA to the respective local Soil and Water Conservation District (SWCD) for the purpose of assisting Landowners with future drainage needs.

M. In addition, after all construction is complete, all affected Landowners will receive a copy of the tile repairs location map with GPS coordinates identified as the electric cable crosses their property.

N. The Facility Owner shall comply with all local, state and federal laws and regulations, specifically including the worker protection standards to protect workers from pesticide exposure.

Definitions

Abandonment -	Occurs when Deconstruction has not been completed within 18 months after the wind energy facility reaches the end of its Useful Life.
Aboveground Cable -	Electrical power lines installed above grade to be utilized for conveyance of power from the Wind Turbine(s) to the Wind Facility substation.
Agricultural Impact Mitigation Agreement (AIMA) -	The Agreement between the Commercial Wind Energy Facility Owner and the Illinois Department of Agriculture described herein.
Agricultural Land -	Land used for Cropland, hayland, pasture land, managed woodlands, truck gardens, farmsteads, commercial ag-related facilities, feedlots, livestock confinement systems, land on which farm buildings are located, and land in government set-aside programs used for purposes as set forth above.
Best Efforts -	Diligent, good faith, and commercially reasonable efforts to achieve a given objective or obligation.
Commercial Operation Date -	The calendar date on which the Commercial Wind Energy Facility produces power for commercial sale, not including test power. Within ten (10) calendar days of the Commercial Operation Date, the Commercial Wind Energy Facility Owner shall notify the County and the Department of the Commercial Operation Date in writing.
Commercial Wind Energy Facility (Facility) -	A wind energy conversion facility of equal or greater than 500 kilowatts in total nameplate generating capacity. "Commercial Wind Energy Facility" includes a wind energy conversion facility seeking an extension of a permit to construct granted by a county or municipality before the effective date of this Act. "Commercial Wind Energy Facility" does not include a wind energy conversion facility: (1) that has submitted a complete permit application to a county or municipality and for which the hearing on the completed application has commenced on the date provided in the public hearing notice, which must be before the effective date of this Act; (2) for which a permit to construct has been issued before the effective date of this Act; or (3) that was constructed before the effective date of this Act.
Commercial Wind Energy Facility Owner (Facility Owner) -	A commercial enterprise that owns or operates a Wind Energy Facility of equal to or greater than 500 kilowatts in total nameplate capacity.
County -	The County where the Commercial Wind Energy Facility is located.

Construction - The installation, preparation for installation and/or repair of a Commercial Wind Energy Facility.

Cropland - Land used for growing row crops, small grains, or hay; includes land which was formerly used as cropland, but is currently in a government set-aside program and pastureland comprised of Prime Farmland.

Deconstruction - The removal of a Commercial Wind Energy Facility from the property of a Landowner and the restoration of that property as provided in the Agricultural Impact Mitigation Agreement. The terms "Deconstruction" and "Decommissioning" have the same meaning and, therefore, may be interchanged with each other.

Deconstruction Plan - A plan prepared by a Professional Engineer, at the Commercial Wind Energy Facility Owner expense, that includes:

(1) the estimated Deconstruction cost per turbine, in current dollars at the time of filing, for the Commercial Wind Energy Facility, taking into account, among other things:

- i the number of Wind Turbines and related Commercial Wind Energy Facilities involved,
- ii the original Construction costs of the Commercial Wind Energy Facilities,
- iii the size and capacity of the Wind Turbines,
- iv the salvage value of the Commercial Wind Energy Facilities,
- v the Construction method and techniques for the Wind Turbines and other Commercial Wind Energy Facilities, and

(2) a comprehensive detailed description of how the Commercial Wind Energy Facility Owner plans to pay for the Deconstruction of the Commercial Wind Energy Facility.

Department - The Illinois Department of Agriculture (IDOA).

Financial Assurance - A reclamation bond or other commercially available financial assurance that is acceptable to the County, with the County as primary beneficiary and the Landowners as secondary beneficiaries.

Landowner - Any person with an ownership interest in property that is used for agricultural purposes and that is party to an Underlying Agreement.

Prime Farmland - Agricultural Land comprised of soils that are defined by the USDA Natural Resources Conservation Service (NRCS) as being "prime" soils (generally considered the most productive soils with the least input of nutrients and management).

Professional Engineer -	An engineer licensed to practice engineering in the State of Illinois, and who is determined to be qualified to perform the work described herein by mutual agreement of the County and the Commercial Wind Energy Facility Owner.
Soil and Water Conservation District - (SWCD)	A local unit of government that provides technical and financial assistance to eligible landowners for the conservation of soil and water resources.
Tenant -	Any person lawfully residing or leasing/renting land that is subject to an Underlying Agreement.
Topsoil -	The uppermost layer of the soil that has the darkest color or the highest content of organic matter; more specifically, it is defined as the "A" horizon.
Underlying Agreement -	The written agreement with a Landowner(s) including, but not limited to, an easement, option, lease, or license under the terms of which another person has constructed, constructs, or intends to construct a Commercial Wind Energy Facility on the property of the Landowner.
Underground Cable -	Electrical power lines installed below grade to be utilized for conveyance of power from the Wind Turbine(s) to the Wind Facility substation.
USDA Natural Resources Conservation Service (NRCS) -	NRCS provides America's farmers with financial and technical assistance to voluntarily put conservation on the ground, not only helping the environment but agricultural operations too.
Useful Life -	A Commercial Wind Energy Facility will be presumed to have no remaining Useful Life if: (1) no electricity is generated for a continuous period of twelve (12) months and (2) the Commercial Wind Energy Facility Owner fails, for a period of 6 consecutive months, to pay the Landowner amounts owed in accordance with the Underlying Agreement.
Wind Turbine -	A wind energy conversion unit equal to or greater than 500 kilowatts in total nameplate generating capacity.

Construction and Deconstruction Requirements

1. Support Structures

A. On Agricultural Land, only single pole support structures will be used for overland transmission not located adjacent to the Commercial Wind Energy Facility substation.

B. Where the electric line is adjacent and parallel to highway and/or railroad right-of-way, but on privately owned property, the support structures will be placed as close as reasonably practicable and allowable by the applicable County Engineer or other applicable authorities to the highway or railroad right-of-way. The only exceptions may be at jogs or weaves on the highway alignment or along highways or railroads where transmission and distribution lines are already present.

C. The highest priority will be given to locating the electric line parallel and adjacent to highway and/or railroad right-of-way. When this is not possible, Best Efforts will be expended to place all support poles in such a manner so as to minimize their placement on Cropland (i.e., longer than normal spans will be utilized when traversing Cropland).

2. Aboveground Facilities

Locations for Facilities shall be selected in a manner so as to be as unobtrusive as reasonably possible to ongoing agricultural activities occurring on the land that contains the facilities. The Facility Owner's compliance with applicable local, county, state, and federal statutes, rules, regulations, and ordinances, and its securing any variations or waivers to such statutes, rules, regulations, and ordinances in accordance with applicable law, in selecting such locations shall constitute compliance with this provision.

3. Guy Wires and Anchors

A. Best Efforts will be made to place guy wires and their anchors out of cropland, pastureland and hayland, placing them instead along existing utilization lines and on land not used for row crops, pasture or hay. Where this is not feasible, Best Efforts will be made to minimize guy wire impact on Cropland.

B. All guy wires will be shielded with highly visible guards.

4. Underground Cabling Depth

A. Underground electrical cables will be buried with:

1. a minimum of 5 feet of top cover where it crosses Cropland.
2. a minimum of 5 feet of top cover where it crosses pasture land or other Agricultural Land comprised of soils that are classified by the USDA as being prime soils.
3. a minimum of 3 feet of top cover where it crosses pasture land and other Agricultural Land not comprised of prime soils.
4. a minimum of 3 feet of top cover where it crosses wooded/brushy land.

B. Notwithstanding the foregoing, in those areas where (i) rock in its natural formation and/or (ii) a continuous strata of gravel exceeding 200 feet in length are encountered, the minimum top cover will be 30 inches.

5. Topsoil Removal and Replacement

A. Any excavation shall be performed in a manner to preserve topsoil. Best Efforts will be made to store the topsoil near the excavation site in such a manner that it will not become intermixed with subsoil materials.

B. Best Efforts will be made to store all disturbed subsoil material near the excavation site and separate from the topsoil.

C. When backfilling an excavation site, the stockpiled subsoil material will be placed back into the excavation site before replacing the topsoil.

D. Refer to Item No. 7.A. through 7.D for procedures pertaining to rock removal from the subsoil and topsoil.

E. Refer to Items No. 8.A. through 8.D. for procedures pertaining to the alleviation of compaction of the topsoil.

F. Best Efforts will be performed to place the topsoil in a manner so that after settling occurs, the topsoil's original depth and contour (with an allowance for settling) will be restored as close as reasonably practicable. The same shall apply where excavations are made for road, stream, drainage ditch, or other crossings. In no instance will the topsoil materials be used for any other purpose unless agreed to otherwise by the Landowner.

G. Excess subsoil material resulting from wind turbine foundation excavation shall be removed from Landowner's property, unless otherwise agreed to by Landowner.

H. Topsoil stripping or separation is not required for the excavation of narrow trenches, those 24 inches wide or less.

6. Repair of Damaged Tile Lines

If underground drainage tile is damaged by Construction or Deconstruction, it will be repaired in a manner that assures the tile line's proper operation at the point of repair. The following shall apply to the tile line repair:

A. The Facility Owner will work with the Landowner to identify the tile lines traversing the property included within the Underlying Agreement which will be crossed or disturbed by the construction of the Facility. All tile lines identified in this manner will be shown on the Construction and Deconstruction Plans and staked or flagged in the locations where expected crossing or disturbance is anticipated prior to Construction or Deconstruction to alert Construction and Deconstruction crews to the possible need for tile line repairs.

B. Tile lines that are damaged, cut, or removed shall be staked or flagged with stakes or flags placed in such a manner they will remain visible until the permanent repairs are completed. In addition, the location of damaged drain tile lines will be recorded using Global Positioning Systems (GPS) technology.

C. If water is flowing through any damaged tile line, the Facility Owner shall utilize Best Efforts to immediately and temporarily repair the tile line until such time that the Facility Owner can make permanent repairs. If the tile lines are dry and water is not flowing, temporary repairs are not required if the permanent repairs can be made by the Facility Owner within 14 days (weather and soil conditions permitting) of the time damage occurred; however, the exposed tile lines will be screened or otherwise protected to prevent the entry of foreign materials or animals into the tile lines.

D. Where tile lines are severed by an excavation trench, repairs shall be made using the IDOA Drain Tile Repairs, Figures 1 and 2.

If there is any dispute between the Landowner and the Facility Owner on the method of permanent tile line repair, the appropriate Soil and Water Conservation District's opinion shall be considered by the Facility Owner and the Landowner.

E. To the extent practicable, there will be a minimum of one foot of separation between the tile line and the Underground Cable whether the Underground Cable passes over or under the tile line. If the tile line was damaged as part of the excavation for installation of the Underground Cable, the Underground Cable will be installed with a minimum one foot clearance below or over the tile line to be repaired or otherwise to the extent practicable.

F. The original tile line alignment and gradient shall be maintained. A laser transit shall be used to ensure the proper gradient is maintained. A laser operated tiling machine shall be used to install or replace tiling segments of 100 linear feet or more.

G. During Construction stage, all permanent tile line repairs must be made within fourteen (14) days of identification or notification of the damage, weather and soil conditions permitting. At other times, such repairs must be made at a time mutually agreed upon by the Facility Owner and the Landowner.

H. Following Construction and/or Deconstruction activities, the Facility Owner will utilize best practices to restore the drainage in the area to the condition it was before the commencement of the Construction/Deconstruction activities. If the Facility Owner cannot agree upon a reasonable method to complete this restoration, the Facility Owner may – but is not required to – implement the recommendations of the appropriate County SWCD and such implementation would resolve the dispute.

I. Following completion of the work, the Facility Owner will be responsible for correcting or paying for the correction of all tile line repairs that fail due to Construction and/or Deconstruction, provided any such failure was identified by Landowner within twenty-four (24) months after Construction or Deconstruction. The Facility Owner will not be responsible for tile line repairs that the Facility Owner pays the Landowner to perform. Facility Owner shall use Best Efforts to utilize a local drain tile repair company.

7. Rock Removal

The following rock removal procedures only pertain to rocks found in the uppermost 42 inches of soil, the common freeze zone in Illinois, which emerged on Landowner property as a result of Construction and/or Deconstruction.

A. Before replacing any Topsoil, Best Efforts will be taken to remove all rocks greater than 3 inches in any dimension from the surface of exposed subsoil which were brought to the site as a result of Construction and/or Deconstruction.

B. As topsoil is replaced, all rocks greater than 3 inches in any dimension will be removed from the topsoil which emerged at the site as a result of Construction and/or Deconstruction activities.

C. If trenching, blasting, or boring operations are required through rocky terrain, precautions will be taken to minimize the potential for oversized rocks to become interspersed with adjacent soil material.

D. Rocks and soil containing rocks removed from the subsoil areas, topsoil, or from any excavations, will be hauled off the Landowner's premises or disposed of on the Landowner's premises at a location that is mutually acceptable to the Landowner and the Facility Owner.

8. Compaction and Rutting

A. Unless the Landowner opts to do the restoration work, after the topsoil has been replaced, all areas that were traversed by vehicles and Construction and/or Deconstruction equipment will be ripped at least 18 inches deep, and all pasture and woodland will be ripped at least 12 inches deep to the extent practicable. The existence of tile lines or underground utilities may necessitate less depth. The disturbed area will then be disked. Decompaction shall be conducted according to the guidelines provided in Appendices A and B.

B. To the extent practicable, all ripping and disking will be done at a time when the soil is dry enough for normal tillage operations to occur on land adjacent to the right-of-way.

C. The Facility Owner will restore all rutted land to a condition as close as possible to its original condition.

D. If there is any dispute between the Landowner and the Facility Owner as to what areas need to be ripped/disked or the depth at which compacted areas should be ripped/disked, the appropriate County SWCD's opinion shall be considered by the Facility Owner and the Landowner.

9. Construction During Wet Weather

Except as provided below, construction activities are not allowed on farmland where normal farming operations, such as plowing, disking, planting or harvesting, cannot take place due to excessively wet soils. Wet weather conditions are to be determined on a field by field basis and not for the project as a whole.

A. Construction activities on prepared surfaces, surfaces where topsoil and subsoil have been removed, heavily compacted in preparation, or otherwise stabilized (e.g. through cement mixing) may occur at the discretion of the Facility Owner in wet weather conditions.

B. Construction activities on unprepared surfaces will be done only when work will not result in rutting which results in a mixing of subsoil and topsoil. Determination as to the potential of subsoil and topsoil mixing will be in consultation with the underlying Landowner, or, if approved by the Landowner, his/her designated Tenant.

10. Land Leveling

A. Following the completion of Construction and/or Deconstruction of a Commercial Wind Energy Facility, the Facility Owner will utilize Best Efforts to restore the disturbed area to its original pre-construction elevation and contour should uneven settling occur or surface drainage problems develop as a result of said activity.

B. If, within twenty-four (24) months after Construction or Deconstruction, uneven settling occurs or surface drainage problems develop as a result of the Construction or Deconstruction of a Facility, the Facility Owner will provide such land leveling services within 45 days of a Landowner's written notice, weather and soil conditions permitting.

C. If there is any dispute between the Landowner and the Facility Owner as to what areas need additional land leveling beyond that which is done at the time of Construction, the Facility Owner may – but is not required to – implement the recommendations of the appropriate SWCD and such implementation will resolve the dispute.

11. Prevention of Soil Erosion

A. The Facility Owner will work with Landowners to prevent excessive erosion on land that has been disturbed by Construction or Deconstruction of a Commercial Wind Energy Facility. Consultation with the local SWCD by the Facility Owner will take place to determine the appropriate methods to be implemented to control erosion. This is not a requirement, however, if the land is bare Cropland that the Landowner intends to leave bare until the next crop is planted.

B. If the Landowner and Facility Owner cannot agree upon a reasonable method to control erosion on the Landowner's right-of-way, the Facility Owner may – but is not required to – implement the recommendations of the appropriate SWCD and such implementation will resolve the dispute.

12. Repair of Damaged Soil Conservation Practices

Consultation with the local SWCD by the Facility Owner will be carried out to determine if there are soil conservation practices (such as terraces, grassed waterways, etc.) that will be damaged by the Construction and/or Deconstruction of a Commercial Wind Energy Facility. Those conservation practices will be restored to their preconstruction condition as close as reasonably practicable in accordance with USDA Natural Resources Conservation Service technical standards. All repair costs shall be borne by the Facility Owner.

13. Damages to Private Property

The Facility Owner will reasonably compensate Landowners for damages caused by the Facility Owner. Damage to Cropland will be reimbursed to the Landowner as prescribed in the applicable Underlying Agreement.

14. Clearing of Trees and Brush

A. If trees are to be removed for the Construction or Deconstruction of a Commercial Wind Energy Facility, the Facility Owner will consult with the Landowner to determine if there are trees of commercial or other value to the Landowner.

B. If there are trees of commercial or other value to the Landowner, the Facility Owner will allow the Landowner the right to retain ownership of the trees to be removed with the disposition of the removed trees to be negotiated prior to the commencement of land clearing.

C. Unless otherwise restricted by federal, state or local regulations, the Facility Owner will follow the Landowner's desires regarding the removal and disposal of trees, brush, and stumps of no value to the Landowner by burning, burial, etc., or complete removal from any affected property.

15. Interference with Irrigation Systems

A. If the Construction or Deconstruction of a Commercial Wind Energy Facility interrupts an operational (or soon to be operational) spray irrigation system, the Facility Owner will establish with the Landowner an acceptable amount of time the irrigation system may be out of service.

B. If, as a result of Construction or Deconstruction of a Facility, an irrigation system interruption results in crop damages, the Landowner will be compensated for all such crop damages per the applicable Underlying Agreement.

C. If it is feasible and mutually acceptable to the Facility Owner and the Landowner, temporary measures will be implemented to allow an irrigation system to continue to operate across land on which a Facility is also being Constructed or Deconstructed.

16. Access Roads

A. To the extent practicable, access roads will be designed to not impede surface drainage and will be built to minimize soil erosion on or near the access roads.

B. Access roads may be left intact through mutual agreement of the Landowner and the Facility Owner unless otherwise restricted by federal, state, or local regulations after the Useful Life.

C. If the access roads are removed, Best Efforts will be expended to assure that the land shall be restored to equivalent condition(s) as existed prior to their construction, or as otherwise agreed to by the Facility Owner and the Landowner. All access roads that are removed shall be ripped to a depth of 18 inches. All ripping will be done consistent with Items 8.A. through 8.D.

17. Weed Control

A. The Facility Owner will provide for weed control in a manner that prevents the spread of weeds onto agricultural land affected by Construction or Deconstruction. Spraying will be done by a pesticide applicator that is appropriately licensed for doing such work in the State of Illinois.

B. The Facility Owner will be responsible for reimbursing all reasonable costs incurred by owners of agricultural land affected by Construction or Deconstruction where it has been determined that weeds have spread from land impacted by the Facility. Reimbursement is contingent upon written notice to the Facility Owner and failure to respond within forty-five (45) days after notice is received.

18. Pumping of Water from Open Excavations

A. In the event it becomes necessary to pump water from open excavations, the Facility Owner will pump the water in a manner that will avoid damaging agricultural land affected by Construction or Deconstruction. Such damages include, but are not limited to: inundation of crops for more than 24 hours, deposition of sediment in ditches and other water courses, and the deposition of subsoil sediment and gravel in fields and pastures.

B. If it is impossible to avoid water-related damages as described in Item 18.A. above, the Facility Owner will compensate the Landowner for damages to crops as prescribed in the applicable Underlying Agreement.

C. All pumping of water shall comply with existing drainage laws, local ordinances relating to such activities and any other applicable laws, specifically including the Clean Water Act.

19. Advance Notice of Access to Private Property

A. The Facility Owner will provide the Landowner or Tenant with a minimum of 48 hours prior notice before accessing his/her property for the purpose of Construction or Deconstruction of a Commercial Wind Energy Facility.

B. Prior notice shall consist of either: (i) a personal contact, telephone contact or email contact, whereby the Landowner or tenant is informed of the Facility Owner's intent to access the land; or (ii) the Facility Owner mails or hand delivers to the Landowner or tenant's home a dated, written notice of the Facility Owner's intent. Such written or hand delivered notice shall include a toll-free number at which agents of the Facility Owner can be reached. The Landowner or tenant need not acknowledge receipt of the written notice before the Facility Owner can enter the Landowner's property.

20. Indemnification

The Commercial Wind Energy Facility Owner will indemnify all Landowners, their heirs, successors, legal representatives, and assigns from and against all claims, injuries, suits, damages, costs, losses, and reasonable expenses resulting from or arising out of Construction and/or Deconstruction, including damage to such Commercial Wind Energy Facility or any of its appurtenances, except where claims, injuries, suits, damages, costs, losses, and expenses are caused by the negligence or intentional acts, or willful omissions of such Landowners, and/or the Landowners heirs, successors, legal representatives, and assigns. In such circumstances, the Landowners, and the Landowners' heirs, successors, legal representatives, and assigns will indemnify the Facility Owner, its heirs, successors, legal representatives, and assigns from and against said claims, injuries, suits, damages, costs, losses, and reasonable expenses including but not limited to attorneys' fees and costs.

21. Deconstruction of Commercial Wind Energy Facilities and Financial Assurance

A. Deconstruction of a Facility shall include the removal/disposition of the following equipment/facilities utilized for operation of the Facility and located on Landowner property:

1. Wind Turbine towers and blades;

2. Wind Turbine generators;
3. Wind Turbine foundations (to depth of 5 feet);
4. Transformers;
5. Collection/interconnection substation (components, cable, and steel foundations), provided, however, that electrical collection cables at a depth of 5 feet or greater may be left in place;
6. Overhead collection system;
7. Operations/maintenance buildings, spare parts buildings and substation/ switching gear buildings unless otherwise agreed to by the Landowner;
8. Access Road(s) (unless Landowner requests in writing that the access road is to remain);
9. Operation/maintenance yard/staging area unless otherwise agreed to by the Landowner; and
10. Debris and litter generated by Deconstruction and Deconstruction crews.

B. The Facility Owner shall, at its expense, complete Deconstruction of a Commercial Wind Energy Facility within eighteen (18) months after the end of the Useful Life of the Facility.

C. During the County permit process, the Facility Owner shall file with the County, a Deconstruction Plan. A second Deconstruction Plan shall be filed with the County on or before the end of the tenth year of the Commercial Operation Date.

D. The Facility Owner shall provide the County with Financial Assurance to cover the estimated costs of Deconstruction of the Commercial Wind Energy Facility. Provision of this Financial Assurance shall be phased in over the first 11 years of the Project's operation as follows:

1. On or before the first anniversary of the Commercial Operation Date, the Facility Owner shall provide the County with Financial Assurance to cover ten (10) percent of the estimated costs of Deconstruction of the Facility as determined in the Deconstruction Plan provided during the county permit process.

2. On or before the sixth anniversary of the Commercial Operation Date, the Facility Owner shall provide the County with Financial Assurance to cover fifty (50) percent of the estimated costs of Deconstruction of the Facility as determined in the Deconstruction Plan provided during the county permit process.

3. On or before the eleventh anniversary of the Commercial Operation Date, the Facility Owner shall provide the County with Financial Assurance to cover one hundred (100) percent of the estimated costs of Deconstruction of the Facility as determined in the Deconstruction Plan provided during the tenth year of the Commercial Operation Date.

The Financial Assurance shall not release the surety from liability until the Financial Assurance is replaced. The salvage value of the Facility may only be used to reduce the estimated costs of Deconstruction in the Deconstruction Plan if the County agrees that all interests in the salvage value are subordinate or have been subordinated to that of the County if Abandonment occurs.

E. The County may – but is not required to – reevaluate the estimated costs of Deconstruction of any Commercial Wind Energy Facility after the tenth anniversary, and every five years thereafter, of the Commercial Operation Date which reevaluation must be performed by an independent third party Professional Engineer licensed in the State of Illinois. The County shall provide the Facility Owner with a copy of any reevaluation report. Based on any reevaluation, the County may require changes in the level of Financial Assurance used to calculate the phased coverages described in Section 21 D. required from the Facility Owner. The Facility Owner shall be responsible for the cost of any reevaluation by a third party Professional Engineer.

F. Upon Abandonment, the County may take all appropriate actions for Deconstruction, including drawing upon the Financial Assurance. In the event the County declines to take any action for Deconstruction, the Landowners may draw upon the Financial Assurance.

Concurrence of the Parties to this AIMA

The Illinois Department of Agriculture and Coles Wind, LLC concur that this AIMA is the complete AIMA governing the mitigation of agricultural impacts that may result from the construction of the wind farm project in Coles County within the State of Illinois.

The effective date of this AIMA commences on the date of execution.

STATE OF ILLINOIS
DEPARTMENT OF AGRICULTURE

Jerry Costello II

By Jerry Costello II, Director

Clay Nordsiek

By Clay Nordsiek, Deputy General Counsel

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10/31, 2024

Coles Wind, **LLC**
a Delaware **limited liability company**

Scott Koziar

By Scott Koziar, Executive Vice Preseident of Development of the Manager of the Sole Member of the Sole Member of Coles Wind, LLC

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October 24, 2024

Wind Farm AIMA template 61818

Appendix A.

Guidelines for Conducting Proper and Successful Decompaction

1. Decompaction is required when all three conditions apply.
   A. the area has been trafficked or traversed by vehicles or construction equipment, and
   B. the soil penetrometer readings are 300 psi or greater, and
   C. The soil strength (psi) in the right-of-way area is greater than that of the non-trafficked area.

2. An Environmental and/or Agricultural Inspector (AI), with experience and training in the proper identification of compacted soil and operation methods of deep decompaction tools is required to observe the daily operation of the ripper/subsoiler to ensure the conditions are appropriate for decompaction efforts and that the proper equipment is utilized and that equipment is set-up and operated correctly.

3. To achieve the most effective shatter of the compacted soil the following guidelines have been established:
   A. Conduct ripping when the soil is dry. Follow the "Soil Plasticity Test Procedures" detailed in Appendix B to determine if soil conditions are adequately dry to conduct decompaction efforts.
   B. Deep ripping shall be conducted using a ripper or subsoiling tool with a shank length of no less than 18 inches and a shank spacing of approximately the same measurement as the shank length.
   C. Use a ripper with a knife length of no less than 2 inches more than the desired depth of decompaction.
   D. To best promote revegetation and restore crop production, a total depth of 30 or more inches of soil (topsoil plus subsoil) is required.
   E. The minimum depths of decompaction stated above in 3.D. are required where possible. A safe distance from sub-surface structures (tile drains, pipelines, buried utilities, bedrock, etc.) must be maintained at all times. Where such structures exist, a lesser depth of decompaction will be required to prevent damage to equipment and the structures as well as to maintain a safe work environment. The allowable decompaction depth in these instances will be determined on a site by site basis.
   F. When the knives are in the soil to the desired depth, the tongue of the ripper should be parallel to the surface of the ground.
   G. Select a tractor that has enough horsepower to pull the ripper at a speed of 1.5 to 2 mph and whose footprint is of equal or lesser width than the ripper. Tracked equipment is preferred and typically required to achieve this criteria.
   H. The ripper shanks should not create ruts, channels, or mixing of the sub-soil with topsoil. A speed of 1.5 to 2 mph is recommended to minimize the risk of rutting and soil mixing. The ideal operating speed can vary with soil characteristics, tractor and ripping tool used. An excessive travel speed will often increase mixing of soil horizons.
   I. When the equipment is set up and operated correctly, the ripper should create a wave across the surface of the ground as it lifts and drops the soil.

J. Make one ripping pass through the compacted area. Using a penetrometer, the AI will measure the PSI between the ripped knife tracks to determine if the single ripping pass was successful. Additional passes should only be used where needed as they may reduce the effectiveness of the ripping by recompacting the soil shattered in the previous pass.

K. If the first pass does not successfully decompact the soil, additional passes will be needed. Should multiple passes of the ripper be needed to achieve decompaction between the knives tracks of the ripping tool, the subsequent passes should be positioned so the knife tracks from the previous pass are split by the second pass. If three or more passes have been made and sufficient decompaction has not yet been achieved the AI may choose to halt further decompaction efforts in that area until conditions improve or better methods are determined.

L. Following ripping, all stone and rock three or more inches in size which has been lifted to the surface shall be collected and removed from agricultural areas.

M. After ripping has been conducted, do not allow unnecessary traffic on the ripped area.

N. In agricultural lands and croplands that will not be replanted to vegetation by the Company, recommend to landowners to plant a cover crop (cereal rye, clover, alfalfa, tillage radish, turnips, etc.) following decompaction. Reduced compaction created by the ripper pass will not remain over time without subsequent root penetration. Root penetration into the shattered soil is necessary to establish permanent stabilized channels to conduct air and water into the soil profile. Two good sources for landowner cover crop education are http://www.mccc.msu.edu/CCinfo/cropbycrop.html and http://mcccdev.anr.msu.edu/. For local expertise, consult with your county's Soil and Water Conservation District /USDA Natural Resource Conservation Service (NRCS) office for cover crop selection and compliance with NRCS planting deadlines.

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Appendix B.

Soil Plasticity Test Procedures

The Agricultural Inspector will test the consistency of the surface soil to a depth of approximately 4 to 8 inches using the Field Plasticity Test procedure developed from the *Annual Book of ASTM Standards, Plastic Limit of Soils* (ASTM D-4318).

1. Pull a soil plug from the area to be tilled, moved, or trafficked to a depth of 4-8 inches.

2. Roll a portion of the sample between the palms of the hands to form a wire with a diameter of one-eighth inch.

3. The soil consistency is:

   A. Tillable (able to be worked) if the soil wire breaks into segments not exceeding 3/8 of an inch in length.

   B. Plastic (not tillable) if the segments are longer than 3/8 of an inch before breaking.

4. This Procedure is to be used to aid in determining when soil conditions are dry enough for construction activities to proceed.

5. Once the soil consistency has been determined to be of adequate dryness, the plasticity test is not required again until the next precipitation event.

Appendix F.2

Coles County – List of Public Roads Identified and Approved by Road Authorities

(*Design and Installation, §I*)

From: Rick Johnson - Coles Co Highway Dept
To: Alan Moore
Subject: RE: Coles Wind - Coles County Roads
Date: Thursday, December 26, 2024 12:31:53 PM
Attachments: image001.png

Alan,

Coles County Highway is acceptable to the listed county highways being a part of the study process for the proposed wind project.

- County Road 16
- County Road 18
- County Road 2
- County Road 8

Thank you,

Rick

Richard Johnson, P.E.
Coles County Highway
825 18th Street
Charleston, IL 61920
217-348-0527

From: Alan Moore <alan.moore@apexcleanenergy.com>
Sent: Tuesday, December 10, 2024 9:08 AM
To: Rick Johnson - Coles Co Highway Dept <RJohnson@co.coles.il.us>
Subject: Coles Wind - Coles County Roads

Hi Rick,

I hope this finds you well.

As discussed, over the last couple of weeks, the Coles County Wind ordinance requires any proposed public roads that will be used for the delivery of turbines or turbine components be identified and approved in writing by the respective Road District Commissioner or County Engineer prior to the granting of the Special Use Permit.

Specific to Coles County roads, Apex plans to include the below roads in its study process.

- County Road 16
- County Road 18
- County Road 2
- County Road 8

Attached, find a map of the proposed Coles County and Township roads to be used for turbine and other equipment delivery for more detail.

Please let me know if you have any questions or concerns about our inclusion of these roads in our Special Use Permit application as the county roads we intend to use. Once we have your approval on the list of roads, we will begin detailed road studies of each road and will share the results of those studies as soon as they are available (likely in the spring). From there, we will sit down with you to negotiate a road use agreement that governs our use of the roads. All of that will happen next year. For now, we are asking for your permission to include these roads as our intended county roads within our Special Use Permit application.

If you have any questions, please don't hesitate to reach out via phone or email.

Regards,

Alan

ALAN MOORE
Director of Development

Apex Clean Energy
120 Garrett Street, Suite 700, Charlottesville, VA 22902
office: 434-328-2303 | cell: 434-249-8831 | fax: 434-220-3712
alan.moore@apexcleanenergy.com | www.apexcleanenergy.com

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Appendix F.3

Morgan Township – List of Public Roads Identified and Approved by Road Authorities

(*Design and Installation, §I*)

From: flyem1@consolidated.net
To: Alan Moore
Subject: Re: Coles Wind - Apex Civil Lead Introduction
Date: Friday, December 20, 2024 10:02:35 AM
Attachments: image001.png

Rick and I reviewed your routes and from what we saw you're good to go.

Ron Hungler.

Morgan township

On Thu, 19 Dec 2024 20:33:51 +0000, Alan Moore
<alan.moore@apexcleanenergy.com> wrote:

Afternoon, gentlemen.

I hope you are all looking forward to a Merry Christmas. I wanted to introduce you to two of my colleagues, Hunter and Case, who will oversee much of the design of our project in Coles County. In addition to the design of the project, they will also work closely with the contractors that we will be employing to undertake the diligence work that will inform the RUAs that will be negotiated over the next 3 – 6 months.

As I mentioned in my last email, we are working now to identify the roads that will be included in our Special Use Permit as the roads that we intend to study and ultimately fold into the Road Use Agreements with your respective road districts. Once we have your approval on the list of roads, we will begin detailed road studies of each road and will share the results of those studies as soon as they are available (likely in the spring). From there, we will sit down with you to negotiate a road use agreement that governs our use of the roads. All of that will happen next year.

Currently, we are hoping to start some of these studies in early January. To do that, we need to ensure that you approve the inclusion of these roads in this process. From there, we will share with you the studies we would like to start, the firm we have identified to do the work (and a POC), and when and where we plan to deploy. Hunter will work with you all to make sure that you have all of the information you need.

Please feel free to let Hunter or myself know if you have any questions or concerns. When you are able, please shoot me an email to confirm you are OK with the inclusion of the roads we have discussed in the RUA negotiation process.

Hope you all have a happy holiday season.

Best,

Alan

ALAN MOORE

Director of Development

Apex Clean Energy

120 Garrett Street, Suite 700, Charlottesville, VA 22902

office: 434-328-2303 | cell: 434-249-8831 | fax: 434-220-3712

alan.moore@apexcleanenergy.com | www.apexcleanenergy.com

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Appendix F.4

Seven Hickory Township – List of Public Roads Identified and Approved by Road Authorities\

(*Design and Installation, §I*)

From: rlmadlem@ecicwireless.com
To: Alan Moore
Subject: RE: Coles Wind - Seven Hickory Township Roads
Date: Monday, December 23, 2024 12:43:12 PM
Attachments: image001.png

Good afternoon Alan,

I believe the list of roads that you are wanting to use for the wind farm study is acceptable. I am looking forward to working with the company to make this process a success for the township and Apex.

Best wishes for the Holidays and the coming year.

Rick Madlem
Highway Commissioner Seven Hickory Township

From: Alan Moore <alan.moore@apexcleanenergy.com>
Sent: Tuesday, December 10, 2024 9:11 AM
To: Rlmadlem@ECICwireless.com
Subject: Coles Wind - Seven Hickory Township Roads

Hi Mr. Madlem,

I hope this finds you well.

As discussed, the Coles County Wind ordinance requires any proposed public roads that will be used for the delivery of turbines or turbine components be identified and approved in writing by the respective Road District Commissioner or County Engineer prior to the granting of the Special Use Permit.

Specific to Seven Hickory Township roads, Apex plans to include the below roads in its study process.

- 1000 N
- 1300 E
- 1400 E
- 1400 N
- 1500 E
- 1500 N
- 1600 N
- 1700 E
- 1700 N
- 1800 E
- 1800 N

- 1900 N
- REASOR AVE

Attached, find a map of the proposed Coles County and Township roads to be used for turbine and other equipment delivery for more detail.

Please let me know if you have any questions or concerns about our inclusion of these roads in our Special Use Permit application as the county roads we intend to use. Once we have your approval on the list of roads, we will begin detailed road studies of each road and will share the results of those studies as soon as they are available (likely in the spring). From there, we will sit down with you to negotiate a road use agreement that governs our use of the roads. All of that will happen next year. For now, we are asking for your permission to include these roads as our intended township roads within our Special Use Permit application.

If you have any questions, please don't hesitate to reach out via phone or email.

Regards,

Alan

ALAN MOORE
Director of Development

Apex Clean Energy
120 Garrett Street, Suite 700, Charlottesville, VA 22902
office: 434-328-2303 | cell: 434-249-8831 | fax: 434-220-3712
alan.moore@apexcleanenergy.com | www.apexcleanenergy.com

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Appendix F.5
Draft Financial Assurance Form – Road Use

ROAD BOND

KNOW ALL MEN BY THESE PRESENTS, that we, Coles Wind, LLC (hereinafter called the Principal), and _____ (hereinafter called the Surety), are held and firmly bound unto Coles County, Illinois (hereinafter called the Obligee), in the full and just sum of _____ ($) Dollars, lawful money of the United States, for the payment of which, well and truly to be made, we bind ourselves, our heirs, administrators, executors, successors and assigns, jointly and severally, firm by these presents.

WHEREAS, the above named Principal has made application and may make further applications to the Obligee for permission to move or cause to me moved vehicles and/or equipment of various types over certain of the Obligee's roads as described in the application or applications, and as a condition precedent to granting such permission, the Obligee has required the furnishing of a bond.

NOW, THEREFORE, the condition of the above obligation is such that if the above named Principal shall move the vehicles and/or equipment described in any and/or all of the applications filed by the above named Principal on and after the date of the execution of this obligation over the Obligee's roads, bridges, and culverts in the manner designated by and with the permission of said Obligee, and shall well and truly pay for all damages to said roads, bridges, and culverts, which are and/or may be caused by the movement of such vehicles and/or equipment by the named Principal or his authorized agent, over or upon the roads, bridges, and culverts of the Obligee and all other claims for damages lawfully accruing to or in favor of the Obligee resulting there from, and any fines or penalties to which the said Principal or his authorized agent become liable to pay, and shall save the Obligee harmless in and/or from any and all suits, claims for damages and/or proceedings arising out of the movement of any of said vehicles and/or equipment over said roads, bridges, and culverts, and shall observe all terms and conditions of the permission granted to said Principal on and after this date of this obligation, then this obligation to be void; otherwise to remain in full force and effect in law.

PROVIDED HOWEVER, that the said Surety may cancel this bond at any time by giving NINETY (90) days notice in writing, by Registered United States Mail, addressed to the Obligee, and that NINETY DAYS AFTER the actual receipt by the Obligee of such written notice, the Surety's further liability shall be terminated, provided, however, that the service of such written notice shall not be construed to waive, release or forego any obligations which may have arisen prior to the effective date of such written notice.

LET IT FURTHER be understood that in no event shall the aggregate liability of the Surety exceed the penal amount herein states.

IN WITNESS WHEREOF, we have hereunto set our hands and seals this _____ day of _____, 20 _____.

Witness as to Principal:

_____
Principal

_____

_____
Surety

EFFECTIVE DATE: _____

By: _____
Attorney-in-Fact

EXPIRES: _____