

# Special Use Permit Application Narrative

**Illinois Generation LLC**

**Heritage Prairie Wind Project**

**2/23/2024**

# **Special Use Permit Application**

## **Narrative**

**prepared for**

**Illinois Generation LLC**  
**Heritage Prairie Wind Project**  
**Livingston County, Illinois**

**2/23/2024**

**prepared by**

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**LIST OF ABBREVIATIONS**

<b><u>Abbreviation</u></b>	<b><u>Term/Phrase/Name</u></b>
AC	Advisory Circular
AG	Agricultural District
AIMA	Agriculture Impact Mitigation Agreement
ADLS	Aircraft Detection Lighting System
ANSI	American National Standards Institute
Applicant	Illinois Generation LLC
Application	SUP Application and variance request
Burns & McDonnell	Burns & McDonnell Engineering Company, Inc.
CCT	Correlated Color Temperature
Code	Code of Ordinances for Livingston County
ConnectGen	ConnectGen LLC
DNH	Determination of No Hazard
DOD	Department of Defense
EcoCAT	Ecological Compliance Assessment Tool
EMI	Electromagnetic interference
ESA	Endangered Species Act
ESB	Eryngium Stem Borer moth
FAA	Federal Aviation Administration
I	Industrial
I2	Light Industrial
ILCS	Illinois Compiled Statutes

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<b><u>Abbreviation</u></b>	<b><u>Term/Phrase/Name</u></b>
IDNR	Illinois Department of Natural Resources
IDOA	Illinois Department of Agriculture
IHPD	Illinois Historic Preservation Division
INBA	Indiana bat
IPaC	Interagency Planning and Consultation Tool
IPCB	Illinois Pollution Control Board
K	Kelvin
LBBA	Little brown bat
LED	Light Emitting Diode
Memo	Memorandum
MW	Megawatt
NERC	North American Electric Reliability Corporation
NESC	National Electric Safety Code
NLEB	Northern long-eared bat
NPDES	National Pollutant Discharge Elimination System
NRHP	National Register of Historic Places
NRI	National Resource Inventory
NTIA	National Telecommunications and Information Administration
O&M	Operations & Maintenance
Pattern	Pattern Energy Group LP
Project	Heritage Prairie Wind Project
Project Area	Approximately 12,350 acres of private land (Participating Parcels)



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<b><u>Abbreviation</u></b>	<b><u>Term/Phrase/Name</u></b>
RF	Radio frequency
Receptor	Residence(s) or Community Building(s) in shadow flicker analysis
ROW	Rights-of-way
SCADA	Supervisory control and data acquisition
SHPO	Illinois State Historic Preservation Office
SUP	Special Use Permit
SWPPP	Stormwater Pollution Prevention Plan
TRBA	Tricolored bat
U.S.	United States
USC	United States Code
USFWS	U.S. Fish and Wildlife Service
WEG	Wind Energy Guidelines
WEST	Western EcoSystems Technology, Inc.
Wind Ordinance	Livingston County Article VIII of Chapter 56 governing Commercial Wind Energy Facilities

## 1.0 INTRODUCTION

The Heritage Prairie Wind Project (“Project”) is an approximately 600-megawatt (“MW”) utility-scale wind facility proposed by Illinois Generation LLC (“Applicant”) in Livingston and Kankakee Counties, Illinois. Illinois Generation LLC is a Delaware limited liability company, registered to do business in Illinois. The Project is a joint venture between affiliates of Pattern Energy Group LP (“Pattern”) and ConnectGen LLC (“ConnectGen”). The Applicant is applying for approval of a Special Use Permit (“SUP”) for a Commercial Wind Energy Facility in accordance with the provisions of the Code of Ordinances for Livingston County (the “Code”) and, in particular, Article VIII of Chapter 56 governing Commercial Wind Energy Facilities (the “Wind Ordinance”). The Applicant is also seeking a single variance to the operation requirements specified in Section 56-619 of the Wind Ordinance; however, the variance will not exceed industry standards set forth in 55 ILCS 5/5-12020 that was passed by the Illinois General Assembly in January 2023 (Illinois General Assembly 2023). This SUP Application and variance request, collectively the “Application”, sets forth information related to the wind energy facility proposed in Livingston County and provides all required information to support a SUP authorization. Portions of the Project outside of Livingston County are not discussed hereinafter as those areas are outside Livingston County jurisdiction.

This Application is structured consistent with application requirements detailed in the Wind Ordinance Requirements Checklist with numerous tabs setting apart various categories of information and documents for ease of reference. This Application includes the Applicant’s application for special use on the Livingston County zoning office form (Appendix A), Zoning Variance Application (Appendix B), and various documents, studies, or other technical information developed to support design and compliance with the Wind Ordinance. Collectively, all materials and information referenced herein or included as an Appendix are provided as a complete and formal Application for a SUP for a Commercial Wind Energy Facility. The Applicant appreciates the County's review of this Application for a SUP to site the proposed Commercial Wind Energy Facility.

Table 1-1 includes a list of all applicable Wind Ordinance requirements and a cross-reference to the location of the material supporting compliance with each requirement in this Application. This Application provides a demonstration of compliance with the most recent Wind Ordinance, dated May 11, 2023, assuming approval of one requested variance. Section 1.1 provides a detailed description of the Project, while the Project’s compliance with the Code and the Wind Ordinance is provided in Section 2. Section 3 efficiently summarizes the various documents, maps, plans, and studies to support the County's review of the Project. The submission of this Application and the subsequent review and approval by the County are important

steps in working together to bring the economic and environmental benefits of a renewable energy project to the Livingston County community.

**Table 1-1: Article VIII Section 56 Ordinance Requirements Checklist**

Reference	SUP Application Item	Location
<b>Sec. 56-616. – Siting Approval Application</b>		
(b)(1) a.	A general description of the project, including its approximate name plate generating capacity; the potential equipment manufacturers, types of wind tower, number of wind towers, and name plate generating capacity of each wind tower; the maximum height of the wind towers and maximum diameter of the wind tower rotor.	Section 1.0 of SUP Application Narrative
(b)(1) b.	The location of the project	Section 1.1 of SUP Application Narrative
(b)(1) c.	A description of the applicant, facility owner and, including their respective business structures	Section 1.2 of SUP Application Narrative
(b)(2)	The names, addresses, and phone numbers of the applicants, facility owner, and all property owners; and as to whether the petitioner or applicant is acting for himself or herself or as an agent, alter ego, or representative of a principal and the name and address of the principal; whether the petitioner or applicant is a corporation and of all stockholders or shareholders owning any interest in excess of 20 percent of all of the outstanding stock or shares of the corporation; whether the petitioner or applicant, or his or her principal, is a business or entity doing business under an assumed name, and if so, the name and residence of all actual owners of the business or entity; whether petitioner or applicant, or his or her principal, is a partnership, joint venture, syndicate, or an unincorporated voluntary association, and if so, the names and addresses of all partners or members of the partnership, joint venture, syndicate, or unincorporated voluntary association.	Section 1.3 of SUP Application Narrative
(b)(3)	A site plan for the installation of wind energy facility showing the planned location of each wind tower, guy lines and anchor bases, primary structures, property lines (including identification of adjoining properties), setback lines, public and private access roads and turnout locations, substations, electrical cabling from the wind tower(s) to the substations, ancillary equipment, any above or below ground transmission lines related to the project, operations and maintenance building(s), layout of all structures within the geographical boundaries of any applicable setback, and the location of any construction staging areas including concrete batch plants.	Appendix C of SUP Application Narrative
(b)(4)	All required studies, reports, certification, and approvals demonstrating compliance with the provisions of this article	Section 2
(b)(5)	Any other information normally required by the county as part of this chapter	
(b)(6)	Sufficient documentation as determined by the ZBA that the applicant, owner, company and parent company/ companies, have the capability to complete the commercial wind energy facility project as proposed.	Section 1.2 of SUP Application Narrative

Reference	SUP Application Item	Location
(b)(7)	If the applicant intends to offer a "good neighbor plan", a "property value guarantee plan" or any other financial incentive plan in connection with a proposed project, a copy of such plan shall be included with the siting approval application at the time the application is submitted.	Section 4.6 of SUP Application Narrative for reference of Good Neighbor Agreement.
(c)	If the application is determined by county staff, or the zoning board of appeals, or the county board not to be complete to in all pertinent aspects of this section 56-616 of the Livingston County Code, the application shall be rejected, and a new application will need to be filed.	The Applicant acknowledges and understands this requirement.
(d)	The applicant shall promptly notify the county of any changes to the information provided in subsection (b) of this section 56-616 of the Livingston County Code that occur while the siting approval application is pending. The applicant shall not be allowed to materially change the siting approval application after the hearing process has started. Whether a change is a material change or not shall be determined by the zoning board of appeals.	The Applicant acknowledges and understands this requirement.
<b>Sec. 56-618. - Design and installation.</b>		
(a)(1)	Commercial wind energy facilities 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 Energic (GL), or an equivalent third party.	Section 3.0 of SUP Application Narrative
(a)(2)	Following the granting of siting approval under this chapter, a professional engineer shall certify, as part of the building permit application, that the foundation and tower design of the commercial wind energy facility and each individual wind tower is within accepted professional standards, given local soil and climate conditions.	Section 3.0 of SUP Application Narrative
(b)	Controls and brakes. All wind towers shall be equipped with a redundant braking system. This includes both aerodynamic overspeed controls (including variable pitch, tip, 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.	Section 3.1 of SUP Application Narrative
(c)	Electrical components. All electrical components of the commercial wind energy facility shall conform to applicable local, state, and national codes, and relevant national and international standards (e.g., ANSI and international electrical commission). Utility lines connecting the towers, substations, etc., shall be placed underground where practical.	Section 3.2 of SUP Application Narrative
(d)	Color. Towers and blades shall be painted a nonreflective, unobtrusive color that mitigates the visual impact of the structure. No advertisement shall be visible on the blades or tower.	Section 3.3 of SUP Application Narrative
(e)	Compliance with the Federal Aviation Administration. The Applicant for the commercial wind energy facility shall comply with all applicable Federal Aviation Administration (FAA) requirements.	Section 3.4 and Appendix H of SUP Application Narrative
(f)(1)	A reasonable visible warning sign concerning voltage must be placed at the base of all pad-mounted transformers and substations.	Section 3.5 of SUP Application Narrative

Reference	SUP Application Item	Location
(f)(2)	Visible, reflective, colored objects, such as flags, reflectors, or tape shall be placed on the anchor points of guy wires and along the guy wires up to a height of 15 feet from the ground.	Section 3.5 of SUP Application Narrative
(f)(3)	Upon completion of the construction of an approved commercial wind energy facility project, a reasonable visible sign, to warn people to not approach a turbine while operating must be placed at the entrance of each access road.	Section 3.5 of SUP Application Narrative
(f)(4)	Upon completion of the construction of an approved commercial wind energy facility project, a sign that provides emergency contact information shall be posted on or near the operations and maintenance building.	Section 3.5 of SUP Application Narrative
(f)(5)	The signs in subparagraphs (f)(3) and (4) above shall be made with letters and numbers at least three inches in height and shall include the 911 address and an emergency phone number of the facility owner which shall be answered 24 hours a day by a live operator. A nonemergency phone number for the facility owner shall also be displayed. These phone numbers shall remain active with all calls being voice recorded for verification purposes and with comments and complaints logged and reported to the Livingston County zoning administrator on a monthly basis. The recorded calls shall be maintained for at least 12 months.	Section 3.5 of SUP Application Narrative
(g)	Climb prevention. All wind towers and towers utilized for the facility must be externally unclimbable by design or protected by anti-climbing devices such as: (1) Fences with locking portals at least six feet high; or (2) Anti-climbing devices 12 feet vertically from the base of any tower.	Section 3.6 of SUP Application Narrative
(h)(1)	Commercial wind energy facility towers shall be set back at least 2.1 times the maximum blade tip height of the wind tower to the nearest point on the outside wall of the structure from any occupied community buildings.	Section 3.7 and Appendix C of SUP Application Narrative
(h)(2)	Commercial wind energy facility towers shall be set back 1.1 times the maximum blade tip height of the wind tower to the nearest point on the outside wall of the structure from participating residences.	Section 3.7 and Appendix C of SUP Application Narrative
(h)(3)	Commercial wind energy facility towers shall be set back 2.1 times the maximum blade tip height of the wind tower to the nearest point on the outside wall of the structure from nonparticipating residences.	Section 3.7 and Appendix C of SUP Application Narrative
(h)(4)	There are no commercial wind energy facility tower setback requirements regarding the boundary lines of participating property.	Section 3.7 and Appendix C of SUP Application Narrative
(h)(5)	Commercial wind energy facility towers shall be set back 1.1 times the maximum blade tip height of the wind tower to the nearest point on the property line of the nonparticipating property.	Section 3.7 and Appendix C of SUP Application Narrative
(h)(6)	Commercial wind energy facility towers shall be set back 1.1 times the maximum blade tip height of the wind tower to the center point of a public road right-of-way.	Section 3.7 and Appendix C of SUP Application Narrative
(h)(7)	Commercial wind energy facility towers shall be set back 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 an overhead communication line.	Section 3.7 and Appendix C of SUP Application Narrative

Reference	SUP Application Item	Location
(h)(8)	There are no commercial wind energy facility tower setback requirements regarding overhead utility service lines to individual houses or outbuildings.	Section 3.7 and Appendix C of SUP Application Narrative
(h)(9)	Commercial wind energy facility towers shall be set back 2.1 times the maximum blade tip height of the wind tower to the nearest point on the property line of a fish and wildlife area or protected land.	Section 3.7 and Appendix C of SUP Application Narrative
(i)	Compliance with additional regulations and severability clause. Nothing in this article is intended to preempt other applicable state and federal laws and regulations, including, but not limited to, the National Electrical Safety Code, Illinois Commerce Commission, and the Federal Energy Regulatory Commission. Whenever possible, each provision of this Article shall be interpreted so that it is valid under applicable law. If any provision of this article is determined to be illegal or unenforceable, that provision will be reformed only to the extent necessary to make the provision legal and enforceable with all remaining provisions continuing in full force and effect.	Section 3.8 of SUP Application Narrative
(j)(1)	An applicant or facility owner proposing to use any county, township or village road, for the purpose of transporting and installation of a commercial wind energy facility, or substation parts and/or equipment for construction, operation, or maintenance of the commercial wind energy facility or substations, shall: a. Identify all such public roads; and b. Obtain applicable weight and size permits from relevant government agencies prior to construction.	Section 3.9 and Appendix J of SUP Application Narrative
(j)(2)	To the extent an applicant or facility owner must obtain a weight or size permit from the county, or village, township, state, the applicant or facility owner shall: a. Conduct a preconstruction baseline survey to determine existing road conditions for assessing potential future damage; b. Provide financial assurance, in a reasonable amount agreed to by the relevant parties, for the purpose of repairing any damage to public roads caused by constructing, operating or maintaining the commercial wind energy facility prior to the issuance of building permits. The terms of the financial assurance shall contain a provision that the Financial Assurance may not be canceled or allowed to expire until at least 60 days written notice has been given to the applicable party(ies), i.e., county, or a village, or a township or the state. If replacement financial assurance is not provided within seven days thereof, then the county, village, township or state have the absolute right to draw upon the financial assurance until such financial assurance is replaced. c. Provide the county zoning administrator with signed copy of any agreements pertaining to the use of public roads prior to the issuance of building permits.	The Applicant acknowledges and understands this standard.
(k)	Height. The permitted maximum height of a commercial wind energy facility wind tower shall be 500 feet, unless a determination of the No Hazard to Air Navigation has been received by the applicant for the specific wind turbine location proposed by applicant, in which case the height allowed by the Determination of No Hazard to Air Navigation shall control. (1) A commercial wind energy facility and transmissions poles shall be constructed with a tubular tower or monopole structure, not a lattice tower.	Section 3.10 and Appendix H of SUP Application Narrative

Reference	SUP Application Item	Location
(l)	Lighting. A lighting plan for each commercial wind energy facility and substation shall be approved by the zoning board of appeals. All substation lighting shall be downcast and compliant with the International Dark-Skies Association standards. Such plan must describe all lighting that will be used, including any lighting that may be required by the FAA. Such a plan shall include but is not limited to the planned number and location of lights, light color and where any lights will be flashing. Strobe lights are discouraged and if they are required by the FAA they must be shielded from the ground. The lighting should be planned and developed in such a way to minimize the visual impact of the structures. A consideration of synchronized lighting shall also be part of any lighting plan. This commercial wind energy facility substation lighting plan shall include plans as to how glare for these lights are being controlled. The Applicant/ Facility Owner must apply to the FAA for an Aircraft Detection Lighting System and, if approved, must install said system as approved.	Section 3.11 and Appendix H of SUP Application Narrative
(m)	Compliance. All wind farm developments are to be in compliance with an Agriculture Impact Mitigation Agreement (AIMA), as approved by the State of Illinois.	Section 3.12 of SUP Application Narrative
(n)	Project changes. If the applicant facility owner proposes to make a change in the project after the county’s approval of the special use permit, including moving a turbine siting more than 100 feet, then the company, through the use of a qualified professional, shall appropriately demonstrate compliance with the noise requirements at a hearing to amend the special use.	The Applicant acknowledges and understands this standard.
(o)	Inspections. Each commercial wind energy facility shall be required to have the facility inspected by an independent certified inspector approved by the Livingston County Zoning Administrator at the completion of the construction of the Project. This inspection is to verify compliance with the zoning regulations including all applicable codes and requirements for commercial wind energy facilities. Thereafter, the facility shall be inspected annually for three years following construction to verify continued compliance with the zoning regulations. Thereafter, inspections shall be performed at least every three years (triennially). Additional inspections necessitated by complaints or otherwise shall not replace annual or triennial inspection requirements. All inspections shall be at the cost of the owner of the commercial wind energy facility. Upon completion of the inspections a report of the inspections shall be provided to the County without charge to the County.	The Applicant acknowledges and understands this standard.
<b>Sec. 56-619. - Operation.</b>		
(a)(1)	The facility owner of the commercial wind energy facility must submit, on an annual basis, a summary of the operation and maintenance reports to the county. In addition to the annual summary mentioned in this subsection, the facility owner must furnish such operation and maintenance reports as the county reasonably requests.	Section 4.0 and Appendix L of SUP Application Narrative



Reference	SUP Application Item	Location
(a)(2)	Any physical modification to the commercial wind energy facility that alters the mechanical load, mechanical load path, or major electrical components shall require recertification under section 56-618(a)(1) of the Livingston County Code. Like-kind replacements of individual commercial wind energy facility towers shall not require recertification but shall require the written approval of the county zoning administrator. Prior to making any physical modification (other than a like-kind replacement), the facility owner shall confer with a relevant third-party certifying entity identified in section 56-618(a)(1) of the Livingston County Code, to determine whether the physical modification requires re-certification, and by a professional engineer as determined by the county zoning administrator. The cost of the third-party certifying entity and professional engineer shall be paid by the facility owner.	The Applicant acknowledges and understands this standard.
(a)(3)	Any replacement of equipment that is not a like-kind replacement shall require an amendment to the special use.	The Applicant acknowledges and understands this standard.
(b)(1)	The applicant shall provide the applicable microwave transmission providers, providers of weather radar utilized for the safety of the general public, the National Weather Service, and local emergency service providers (911 operators) copies of the project summary and site plan, as set forth in section 56-616(b)(1) and (3) of the Livingston County Code. This project summary shall include a study pertaining to the relationship of the proposed project and microwave transmission providers and local emergency service providers.	Section 4.2 and Appendix M of SUP Application Narrative
(b)(2)	To the extent that the providers in subsection (b)(1) of this section demonstrate a likelihood of interference with its communications resulting from the commercial wind energy facility, the Applicant shall take measures to mitigate such anticipated interference, if possible. If, after construction of the commercial wind energy facility, the facility owner receives a written complaint related to the above-mentioned interference, the facility owner shall take steps to respond to and to rectify the complaint.	The Applicant acknowledges and understands this standard.
(b)(3)	Prior to construction of the commercial wind energy facility, the facility owner shall conduct a study related to interference with local broadcast residential television and wireless internet services, if it is demonstrated a likelihood of interference may result for the commercial wind energy facility, the applicant shall take measures to mitigate such anticipated interference. If, after construction of the commercial wind energy facility, the facility owner receives a reasonable written complaint related to interference with local broadcast residential television and wireless internet services the facility owner shall take steps to rectify the complaint, such as providing alternate service to each individual resident or property owner affected.	Section 4.2 and Appendix M of SUP Application Narrative
(b)(4)	If a commercial wind energy facility causes microwave, television, radio, satellite, internet, radar system or navigation interference (including but not limited to the doppler radar system) it shall be considered a default under Sec. 56-625.	The Applicant acknowledges and understands this standard.

Reference	SUP Application Item	Location
(c)(1)	The applicant or facility owner shall submit to the local fire department a copy of the site plan. In addition to the site plan, a plan pertaining to the planning, response, recovery and mitigation of any natural or manmade hazard that may affect the commercial wind energy facility development.	Section 4.3 and Appendix N of SUP Application Narrative
(c)(2)	Upon request by the local fire department, the facility owner shall cooperate with the local fire department to develop the fire department's emergency response plan.	The Applicant acknowledges and understands this standard.
(c)(3)	Nothing in this section shall alleviate the need to comply with all other applicable fire laws and regulations.	The Applicant acknowledges and understands this standard.
(d)(1)	All solid wastes related to the construction, operation and maintenance of the commercial wind energy facility shall be removed from the site promptly and disposed of in accordance with all federal, state and local laws.	Section 4.4 of SUP Application Narrative
(d)(2)	A list of hazardous fluids that may be used on site shall be provided. All hazardous materials related to the construction, operation and maintenance of the commercial wind energy facility shall be handled, stored, transported and disposed of in accordance with all applicable local, state and federal laws.	Section 4.5 of SUP Application Narrative and Appendix O
(e)(1)	The applicant shall conduct an analysis on the potential shadow flicker onto adjacent properties as part of the siting application approval process. The analysis shall identify the locations of the shadow flicker and the expected durations of the flicker over the course of a year.	Section 4.6 and Appendix P of SUP Application Narrative
(e)(2)	Shadow flicker shall not affect an occupied community building or non-participating residence in excess of 30 hours per year under planned operating conditions. Planned operating conditions is defined as those conditions that would exist if the sun were to shine every day of the year with no cloud cover.	Section 4.6 and Appendix P of SUP Application Narrative
(e)(3)	Measures to alleviate the effects of shadow flicker shall be outlined by the applicant. These measures shall at a minimum include window treatments, but otherwise the remedies provision shall control.	Section 4.6 and Appendix P of SUP Application Narrative

<b>Sec. 56-620. - Noise levels.</b>		
	<p>Noise levels from each commercial wind energy facility shall comply at all times with applicable Illinois Pollution Control Board (IPCB) regulations and requirements of this section. The applicant, through the use of a qualified professional, as part of the siting approval application process, shall appropriately demonstrate compliance with the noise requirements of this siting section and provide contour maps and at intervals of not greater than five feet. Sound pressure levels shall be measured using the measurement procedures set forth in the IPCB regulations, except that sound pressure levels for purposes of establishing a violation of this section may be measured at any point on the property not more than 150 feet from any portion of the edge of the residences or community buildings. No portion of the property shall exceed the noise levels set by the IPCB. To the extent any property has multiple uses or classifications, all the land utilized for a particular use must not exceed the IPCB noise regulations for the classification of use. The owner of the receiving land may waive compliance with local measuring points requirements pertaining to the IPCB regulations for the owner's property.</p> <p>The commercial wind energy facility project will maintain compliance with the applicable IPCB regulations throughout the entire operational period of the commercial wind energy facility project. Upon complaint, the County shall hire a noise acoustician to conduct testing for four ten-day periods at the ten most at risk residential property lines and the ten most at risk primary structures as modeled in the application to ensure ongoing compliance with the IPCB noise regulations. The four tests shall be done in each of the four seasons of the year. The cost to conduct such testing shall be borne by the Facility Owner. If the Facility Owner does not pay within thirty days of being provided an invoice for these costs, then the issue shall be resolved pursuant to the remedies section. If at any time throughout the life of the commercial wind energy facility project, the noise levels are found to not be in compliance with this section, the applicant or facility owner will immediately shut off all violating turbines to ensure that the noise levels are within acceptable levels until a solution to the noise level violations is found and approved by the county after a hearing at the ZBA.</p> <p>Noise levels at non-participating properties shall be tested upon request of the Zoning Administrator. The tested results shall be provided to the Zoning Administrator.</p>	<p>Section 4.7 and Appendix Q of SUP Application Narrative</p>

<b>Sec. 56-621. – Natural Resources</b>		
	<p>The commercial wind energy facility owner shall provide at the public hearing on the special use permit application:</p> <p>(1) The results and recommendations from consultation with the Illinois Department of Natural Resources that are obtained through the Ecological Compliance Assessment Tool (EcoCAT) or a comparable successor tool; and</p> <p>(2) The results of the United States Fish and Wildlife Service’s Information for Planning and Consulting environmental review or a comparable successor tool that is consistent with (i) the “U.S. Fish and Wildlife Service’s Land-Based Wind Energy Guidelines.”</p> <p>The commercial wind energy facility shall adhere to the recommendations provided by the Illinois Department of Natural Resources in an EcoCAT natural resource review report under 17 Ill. Admin. Code Part 1075.</p> <p>(1) A commercial wind energy facility owner must: Demonstrate avoidance of protected lands as identified by the Illinois Department of Natural Resources and the Illinois Natural Preserve Commission; or</p> <p>(2) Consider the recommendations of the Illinois Department of Natural Resources for setbacks from protected lands, including areas identified by the Illinois Nature Preserve Commission.</p> <p>The facility owner shall provide evidence of consultation with the Illinois State Historic Preservation Office to assess potential impacts on State-registered historic sites under the Illinois State Agency Historic Resources Preservation Act. The facility owner must obtain updated reviews required in this Section upon request of the Zoning Administrator or upon complaint.</p>	<p>Section 5.1 of the SUP Application Narrative and Appendices K, R, and T</p>

<b>Sec. 56-623. – Liability Insurance.</b>		
	<p>The facility owner of the commercial wind energy facility shall maintain a current general liability policy covering bodily injury and property damage with limits of at least \$10,000,000.00 per occurrence and \$40,000,000.00 in the aggregate, with an annual certificate of insurance being provided to the county regional planning commission office, with the county being added as an additional insured, with the designation of primary and noncontributory.</p> <p>The applicant or facility owner shall promptly increase such liability insurance if such amount is increased in this Ordinance and the applicant or facility owner is notified in writing of same by the county. The applicant shall provide evidence of such increased insurance to the zoning administrator. Insurance coverage shall be maintained without interruption from the date of permitting through the decommissioning of all wind turbines. Certificates of insurance acceptable to the county and in compliance with this section shall be filed with the county prior to the commencement of any work on the commercial wind energy facility and thereafter upon renewal or replacement of each required policy of insurance. These certificates and the insurance policies required under this section shall contain a provision that coverages afforded under the policies shall not be cancelled or allowed to expire until at least 60 days written notice has been given to the county.</p> <p>Applicant and Facility Owner shall also, to the fullest extent permitted by law, indemnify, and hold the county, its employees, board members and agents harmless for any action due to or arising out of the construction, maintenance, decommissioning, deconstruction and/or operation of the commercial wind energy facility, including the payment of any attorney's fees and costs arising out of any action due to or arising out of the construction, maintenance and/or operation of the commercial wind energy facility.</p> <p>(Res. of 1-12-2006, § XI; Ord. No. 2017-04-14, § 1(exh. A), 4-13-2017; Ord. No. 2018-02-10, 2-5-2018)</p>	<p>Section 6.1 of SUP Application Narrative</p>

<b>Sec. 56-624. – Decommissioning Plan/Deconstruction Plan.</b>		
	<p>Prior to receiving siting approval under this article, the applicant or facility owner must formulate a decommissioning plan to ensure that the commercial wind energy facility project is properly decommissioned. This plan must be compliant with the Department of Agriculture’s standard wind farm Agricultural Impact Mitigation Agreement, template 81818. If siting approval is obtained, the applicant or owner must enter into a Decommissioning Agreement and provide financial assurances to the county prior to receiving any building permits.</p> <p>The County will reevaluate the estimated costs of Deconstruction after the tenth anniversary and every ten years thereafter, which evaluation shall be done by and independent third-party Professional Engineer chosen by the County and paid for the by the Facility Owner. These reevaluations shall be utilized to determine the updated level of Financial Assurance required from the Facility Owner. If the Facility Owner does not update the Financial Assurance within thirty days of notification from the County, the remedies section shall be utilized to resolve the issue.</p>	<p>Section 7.1 and Appendix U of SUP Application Narrative</p>
<b>Sec. 56-624.1 – Drain Tiles</b>		
(a)	Whether occurring during or post-construction, any permanent drain tiles damaged by the commercial wind energy facility must be made within fourteen days of identification or notification of the damage, weather and soil conditions permitting.	The Applicant acknowledges and understands this standard.
(b)	Prior to the issuance of building permits, the commercial wind energy facility must make all reasonable efforts to locate the existing drain tiles in the area of construction.	Section 7.2 of SUP Application Narrative
(c)	After construction, the commercial wind energy facility shall provide a GIS program to the County showing the location of all above and underground improvements.	The Applicant acknowledges and understands this standard.

Source: Livingston County, IL Code of Ordinances

## 1.1 Project Description

The Project proposed is an approximately 600-MW utility-scale wind energy facility, a portion of which will be located in Livingston County. The Project will primarily be located east of Dwight, and within Dwight, Broughton, and Round Grove townships. The Project Area includes approximately 12,350 acres of private land (“Project Area”), for which the Applicant has secured site control to host the facilities. This Project Area includes a total of 135 individual participating parcels. The Project will consist primarily of the following facilities and the infrastructure and equipment that support them: wind turbines, the electrical system including underground collection wires and an overhead transmission line, meteorological towers, access roads, a Project substation and an operations and maintenance (“O&M”) building. Planned locations of these facilities are shown on the Site Plans in Appendix C. The Project will consist of a maximum of 71 wind turbines within Livingston County. The aggregate net generating capacity will be up to 320 MW of electricity, based on the generating capacity of the individual wind turbines selected for the Project. Currently, the Applicant is considering multiple wind turbine options, each with a rated generation capacity of approximately 3.8 MW or 4.5 MW. All equipment will conform to applicable industry standards, including those of the American National Standards Institute (“ANSI”). The maximum height of the wind turbines (from the wind turbine foundation to the tip of the blade at its highest point) would be approximately 640 feet. Each blade would be a maximum of 270 feet long. It is noted that the proposed maximum turbine height is compliant with the current Wind Ordinance, dated May 11, 2023, as the Project has received Determinations of No Hazard (“DNH”) from the Federal Aviation Administration (“FAA”) for turbines up to 698 feet.

## 1.2 Applicant Information

This application is made by Illinois Generation LLC, a Delaware limited liability company, registered to do business in the state of Illinois. The name of the Project, Heritage Prairie Wind, pays homage to the area’s agricultural roots “Heritage” and “Prairie” references Illinois, the Prairie State. The Project is a joint venture between affiliates of Pattern Energy and ConnectGen. Both Pattern Energy and ConnectGen are committed to the success of this Project and have the financial resources to successfully construct and operate it.

### **Pattern:**

Pattern is one of the world’s largest privately-owned developers and operators of wind, solar, transmission, and energy storage projects. Its operational portfolio includes 30 renewable energy facilities that use proven, best-in-class technology with an operating capacity of nearly 6,000 MW across North

America. Headquartered in the United States, Pattern is guided by a long-term commitment to serve customers, protect the environment, and strengthen communities.

Pattern considers their company to be a part of the local communities where they have a presence. Pattern believes acting as a good neighbor benefits both the areas where they operate and the company's long-term success. Pattern is committed to listening to and respecting the communities that host their projects and being involved in engagement and giving activities for the long-term.

### **ConnectGen:**

Founded in 2018, ConnectGen is an independent renewable energy company focused on greenfield development of high-quality wind, solar, and energy storage projects across North America. Based in Houston, Texas, ConnectGen is comprised of team members that have collectively developed, financed, constructed, and operated more than 10,000 MW of utility-scale renewable energy projects in the United States ("U.S.") and bring decades of experience from industry-leading companies. As of the date of this filing, ConnectGen is a subsidiary of 547 Energy and is backed by Quantum Energy Partners, a leading provider of private equity capital to the global energy industry. On September 7, 2023, an affiliate of Repsol, S.A. entered into a purchase agreement to acquire 100% of the equity interests in ConnectGen. The transaction is anticipated to close in early 2024, subject to customary regulatory approvals.

### **1.3 Project Contacts**

Pattern and ConnectGen's points of contact for information related to this Application are listed below:

#### **Pattern:**

Allen Wynn  
Senior Director, Environmental & Permitting  
888 Westheimer Road, Suite 350  
Houston, TX 77006  
Direct: 832.341.2592  
Email: [Allen.Wynn@patternenergy.com](mailto:Allen.Wynn@patternenergy.com)

#### **ConnectGen:**

John Kuba  
Senior Director, Environmental Affairs



1001 McKinney, Suite 700  
Houston, TX 77002  
Direct: 346.998.2030  
Email: [jkuba@connectgenllc.com](mailto:jkuba@connectgenllc.com)

Appendix D provides a list of the names, addresses, and phone numbers for all participating Project property owners (sec. 56-616 (b)(2)).

#### **1.4 Project Purpose**

The purpose of the Project is to promote an increased supply of wind energy in support of Illinois' statutory goal of increasing energy production from renewable energy sources under the Climate and Equitable Jobs Act (SB2408). SB2408 requires Illinois to achieve a 100% zero-emissions power sector by 2050 and generate 40% of Illinois' energy from wind and solar by 2030 and 50% by 2040. According to the Wind Exchange Technologies Office<sup>1</sup>, about 12.27% of the electric grid in Illinois is comprised of wind energy with a wind energy generation capacity of 7,192 MW in 2022. This Project aligns with the Illinois climate resiliency goals and will provide additional wind generation to the state to help support achieving these targets. This Project will also contribute to affordable energy bills for local residents, create good paying jobs, provide a substantial and diversified revenue stream to local landowners, and provide a reliable source of tax revenue for local taxing districts. The Applicant will invest over \$620 million in the development of the Project in Livingston County. Below are projected economic benefits of the Project, which are based on the production estimates analyzed in the Economic Impact Analysis Report completed by David Loomis (Strategic Economic Research), from Illinois State University (Appendix E):

- Approximately 168 new direct construction jobs contributing to the 1,353 total new direct, indirect, and induced jobs during construction for the State of Illinois
- Up to 9 new direct long-term, full-time jobs supporting O&M of the wind Project during the Project's operations in Livingston County contributing to the 41.3 total new direct, indirect, and induced jobs during operations for the State of Illinois
- Over \$98.8M in property tax revenue over the life of the Project

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<sup>1</sup> Wind Exchange Technologies Office. Wind Energy in Illinois Report. [WINDEXchange: Wind Energy in Illinois](#). Office of Energy Efficiency & Renewable Energy. Accessed January 31, 2024.

- Over \$66.6M in school district revenue from property taxes over the life of the Project
- Over \$4.4M in community college revenue from property taxes over the life of the Project.
- Over \$13.4M in county revenue from property taxes over the life of the Project
- Over \$3.3M in township revenue from property taxes over the life of the Project
- Over \$6.2M in fire district revenue from property taxes over the life of the Project
- Over \$3.3M in road district revenue from property taxes over the life of the Project
- Over \$136.8M in new earnings during construction for the State of Illinois
- Over \$5.5M in new long-term earnings annually during operations for the State of Illinois
- Long-term payments to participating property owners

It is noted that these positive economic benefits are consistent with other economic impacts of similar projects.

Note: The results of the Property Value Impact Report (Appendix V) and the accompanying Site Specific Analysis Addendum (Appendix V) focused specifically on the Project location in Livingston County came to the conclusion that “...the data indicates that wind energy facilities do not have a negative impact on adjacent property values.” The Recent EDF Renewable studies, submitted to Livingston County in the fall of 2022, also reached the same conclusion.

In addition to the local economic benefits, the Project will generate enough electricity for more than 115,500 homes and will not require a significant water budget or carbon footprint for operation. The proposed location of the Project in Livingston County is within an area devoted almost entirely to agricultural uses. Wind farms are consistent with and promote the continuance of agriculture as farmers may safely grow crops and graze livestock within 50 feet of the tower base. The annual income provided from the land use agreement also provides enhanced economic stability of farming operations. These agreements provide a stable and reliable funding source for farmers. While the size of all the participating parcels combined is approximately 12,350 acres, the actual permanent footprint of the Project infrastructure (including turbines, access roads, substations, transmission lines, and other facilities) will only occupy approximately 238 acres of agricultural lands or a fraction of the overall leased Project Area.

Wind generation and agricultural cultivation are compatible land uses, and with the limited footprint, the Project will have limited effects to the existing agriculture industry in the area.

The proposed Project promotes public health and welfare by providing significant electric power without polluting the air or water. It satisfies all County and State requirements to ensure health and safety, including setbacks (see Section 2), noise requirements (see Section 4.7), shadow flicker (see Section 4.6), and more. Additionally, the Project will not interfere with microwave transmission providers or local emergency service providers, as described in Section 4.2. This Project carefully chose the locations of wind turbines and related facilities to be compatible with the environment and existing land uses in the area. As part of this determination, coordinated outreach with landowners and engagement with a range of engineering and environmental experts was essential. This outreach and engagement helped ensure that the Project will provide benefits to the community and the environment.

This Project has been designed to demonstrate compliance with all applicable federal, state, and local laws, including local land use and zoning regulations. The Project is sited in a portion of Livingston County where wind projects have been supported by the community. Community members living in the townships where this Project will be located— Broughton, Dwight, and Round Grove— previously engaged in the democratic process by approving advisory referenda in 2016 that authorized lesser setbacks for wind towers than the rest of the County. The County Board amended the previous Wind Energy Conversion System Article to adopt the lesser setbacks for those townships in 2018. On January 27, 2023, revisions to 55 Illinois Compiled Statutes (“ILCS”) 5/5-12020 of the Counties Code were signed into law, which established maximum setback requirements that counties must comply with when establishing local standards for wind energy projects. The Wind Ordinance was amended on May 11, 2023, to align with the changes to 55 ILCS 5/5-12020.

In summary, benefits of wind energy include additional income for farmers; a significant new source of revenue to taxing bodies; new jobs in rural areas; and a source of renewable electric generation that is not subject to the environmental consequences of fossil fuels. Cultivating electricity from the wind produces no carbon, sulfur, nitrogen, or mercury emissions and generates no radioactive waste. In addition, no water resources are required for wind-generated electricity outside the de minimis water use to support the operation and maintenance facility. As demonstrated in this Application, the Project has been extensively studied and is designed to comply with all applicable federal, state, and local laws.

## 2.0 PROJECT COMPLIANCE WITH THE WIND ORDINANCE

The following sections of this Application have been organized to demonstrate the Project's compliance with the regulations and design standards for wind farm developments, as outlined in the Wind Ordinance, which is to be considered by the Zoning Board of Appeals in making their recommendation to the County Board regarding the approval of an SUP Application. Wind facilities are permitted on parcels zoned Agricultural District ("AG") or Industrial ("I"), upon Livingston County Board approval as a special use.

The zoning designations of all Participating Properties are shown on the Site Plan Map in Appendix C. All parcels within the Project Area subject to the Wind Ordinance are zoned AG, with the exception of one parcel that is zoned Light Industrial ("I2"). Pursuant to state law, wind towers can be sited in Industrial zoned areas as long as all other requirements are met. The recorded agreements with all participating property owners are provided in Appendix F.

The Applicant will comply with the regulations and standards of the Wind Ordinance as detailed in this Application. This Application and its appendices contain all studies, reports, certifications, and approvals required to demonstrate compliance of the Project with the applicable provisions of the Wind Ordinance. See Sections 3, 4, 5, 6, and 7 and the Appendices for detailed information on how the Project meets the County Design Standards (Sec. 121-99 (34) a.) and Application Requirements (Sec. 121-99 (34) b.).

The Project is seeking a variance to the Wind Ordinance requirements from Sec. 56.619(e)(2) applicable to facility operations:

*Shadow flicker shall not affect an occupied community building or non-participating residence in excess of 30 hours per year under planned operating conditions. Planned operating conditions is defined as those conditions that would exist if the sun were to shine every day of the year with no cloud cover.*

Typical industry standard is to model shadow flicker based on actual local climate conditions and not a scenario of 100% sunshine. The Project is therefore seeking a variance to amend the definition of planned operating conditions from "[...] those conditions that would exist if the sun were to shine every day of the year with no cloud cover" to instead define model inputs based on a local meteorological data reference point. More specifically, the Project utilized meteorological data from City-Data.Com at the Herscher weather station. City-Data.Com compiles weather and sunshine data from over 4,000 weather stations across the U.S. WindPro software, the standard software utilized in the wind industry, was used to prepare

the Shadow Flicker Study (Appendix P) and statistically adjusts the hours of sunshine in each month based on the average monthly sunshine probability chart pulled from City-Data.Com. For example, if a surrounding resident or community building (“receptor”) received 100 hours of flicker in January under the 100% sunshine assumption, WindPro will apply a 45% adjustment to reflect the estimated sunshine probability for January. In doing so, the adjusted estimated shadow flicker duration for that receptor would be 45 hours.

### **3.0 PROJECT DESIGN**

The following sections describe all design and installation standards, or certifications as required pursuant to Section 56-618 of the Wind Ordinance.

#### **3.1 Controls and Breaks**

All turbines proposed for the Project are equipped with control systems and brakes, including a redundant braking system. All turbines are controlled by the supervisory control and data acquisition (“SCADA”) system that detects and responds to over-speed situations. The SCADA system commands aerodynamic over-speed controls, including variable pitch rotor blades, which feather or rotate the blades to a no lift condition, thereby halting rotor movement. In addition, mechanical disc brakes acting on the main rotor shaft are operated in a fail-safe mode to provide a redundant means of halting the rotor movement.

#### **3.2 Electrical Components**

All electrical components of the Project shall conform to applicable local, state, and national codes, and relevant national and international standards (e.g., ANSI and international electrical commission). All low-voltage electric collection lines connecting wind turbine generators to the Project substation are proposed to be buried underground, except for one small segment of overhead collection on one property, per property owner request. The Project will involve an overhead 345 kV generation tie line connecting the substation to the proposed interconnection location in Kankakee County. This generation tie line will enable efficient power export, grid connectivity, stability, and sharing of renewable energy.

#### **3.3 Color**

The wind turbine towers and blades will be uniformly painted a non-reflective, unobtrusive neutral gray or white color in compliance with all applicable FAA requirements for daylight marking. No advertisement will be visible on the blades or towers. All surfaces are blasted and multi-layer coated for protection against corrosion.

#### **3.4 Federal Aviation Administration**

As the Project moves closer to construction, the Applicant will consult with the FAA to review and approve a lighting plan, as described in Section 3.11. A copy of the approved lighting plan will be provided to the County Zoning Enforcement Officer. The Applicant will also apply to the FAA for the installation of an Aircraft Detection Lighting System (“ADLS”) for the Project, as required by the Wind Ordinance. If the ADLS is approved by the FAA, the Applicant will include it in the final design and construction of the Project.

The FAA reviewed turbine locations associated with the Project Area and issued Determinations of No Hazard to Air Navigation on March 16, 2023. A Mitigation Agreement was also executed with the Department of Defense (“DOD”), to provide software updates to area DOD radars. No structure would have a substantial effect on the safe and efficient utilization of the navigable airspace by aircraft or on the operation of air navigation facilities. As the project continues to be finalized, minor micro-siting moves will require the Project to resubmit notices to the FAA, for some turbine locations, prior to construction. The FAA will issue new DNHs’ for those particular turbines. See Appendix H for the DNHs.

### **3.5 Warnings**

The Applicant and its contractors will use temporary and permanent warning signs during construction and operation of the Project to prevent unauthorized access to equipment and spaces.

Signage will be consistent with Section 56-618(f) and will include the following:

1. A reasonably visible warning sign concerning voltage will be placed at the base of all pad-mounted transformers and substations.
2. Visible, reflective, colored objects, such as flags, reflectors, or tape will be placed on the anchor points of guy wires and along the guy wires up to a height of 15 feet from the ground.
3. Upon completion of the Project, a reasonable visible sign to warn people not to approach a turbine while operating will be placed at the entrance of each access road.
4. Upon completion of the Project, a sign that provides emergency contact information will be posted on or near the O&M building.

The signs in items (3) and (4) above will be made with letters and numbers at least 3 inches in height and will include the 911 address and an emergency phone number of the Operator which will be answered 24 hours a day by a live operator. A non-emergency phone number for the Operator will also be displayed. These phone numbers will remain active with all calls being voice recorded for verification purposes and with comments and complaints logged and reported to the Livingston County zoning administrator on a monthly basis. The recorded calls will be maintained for at least 12 months. Temporary signage used during construction of the Project will be removed from the Project area upon commercial operation.

### **3.6 Climb Prevention**

The Wind Ordinance requires wind towers and towers utilized for the facility be externally unclimbable by design or protected by anti-climbing devices such as fences with locking portals at least six feet high

or anti-climbing devices 12 feet vertically from the base of the wind tower. The substations will also be fenced with fencing at least 6 feet high to prevent unauthorized access in accordance with North American Electric Reliability Corporation (“NERC”) and National Electric Safety Code (“NESC”) standards.

### **3.7 Setbacks**

The Project will comply with all applicable Section 56-618(6)(h) setback requirements as described below. Setbacks are required from primary structures, public roads, third party transmission lines, communication towers, adjacent property lines, property lines of properties containing primary structures, and community buildings. Appendix C provides maps illustrating setbacks from these features. The distance for the setback shall be measured from the center of the base of the wind tower. It is noted that setback requirements may be waived subject to written consent of the owner of each affected nonparticipating property. All property owners within the setback area received a 90-day notice of this proposed Project and were invited to attend public information sessions conducted in June of 2023 (Appendix I).

#### **3.7.1 Occupied Community Building Setbacks**

The Wind Ordinance requires all wind towers be set back at least 2.1 times the maximum blade tip height of the wind tower to the nearest point of the outside wall of the occupied community building. This Project complies with this setback requirement.

#### **3.7.2 Primary Structures Setbacks from Participating Residences**

The Wind Ordinance requires wind towers be set back at least 1.1 times the maximum blade tip height of the wind tower to the nearest point on the outside wall of the structure from participating residences. This Project complies with this setback requirement.

#### **3.7.3 Primary Structures Setbacks from Nonparticipating Residences**

The Wind Ordinance requires wind towers be set back at least 2.1 times the maximum blade tip height of the wind tower to the nearest point on the outside wall of the structure from nonparticipating residences. This Project complies with this setback requirement.

#### **3.7.4 Property Line Setbacks of Participating Property**

There are no Wind Ordinance facility tower setback requirements regarding the boundary lines of participating property.



### **3.7.5 Property Line Setbacks of Nonparticipating Property**

The Wind Ordinance requires wind towers be set back at least 1.1 times the maximum blade tip height of the wind tower to the nearest point on the property line of the nonparticipating property. This Project complies with this setback requirement.

### **3.7.6 Public Roads**

The Wind Ordinance requires wind towers be set back a distance of at least 1.1 times the maximum blade tip height of the wind tower to the center point of a public road right-of-way. This Project complies with this setback requirement.

### **3.7.7 Overhead Communication Lines**

The Wind Energy Facilities Article requires commercial wind energy facility towers be set back 1.1 times from the maximum blade tip height of the wind tower to the nearest edge of the property line, easement, or right of way containing an overhead communication line. This Project complies with this setback requirement.

### **3.7.8 Overhead Utility Service Lines**

There are no commercial wind energy facility tower setback requirements regarding overhead utility service lines to individual houses or outbuildings.

### **3.7.9 Protected Lands and Fish and Wildlife Areas**

The Wind Ordinance requires facility towers be set back 2.1 times the maximum blade tip height of the wind tower to the nearest point on the property line of a fish and wildlife area or protected land such as municipal parks. This Project complies with this setback requirement.

## **3.8 Compliance with Additional Regulations and Severability Clause**

The Wind Ordinance does not preempt other applicable state and federal laws and regulations, including, but not limited to, the NESC, Illinois Commerce Commission, and the Federal Energy Regulatory Commission (“FERC”). This Project complies with all other applicable state and federal laws and regulations.

## **3.9 Use of Public Roads**

All applicable weight and size permits will be received from local, county, and state authorities prior to construction. Appendix J provides a preliminary map of the public roads that will likely be used to construct this Project. The final decision on which roads will ultimately be used will be determined through consultations with Livingston County, the applicable Townships, and the State of Illinois. Road

Use Agreements will be attained, as necessary, prior to utilizing public roads including Livingston County roads and local township roads for construction traffic.

### **3.10 Height**

The Wind Ordinance requires all wind towers have a maximum height of 500 feet unless a DNH to Air Navigation has been received, in which case the height allowed by the DNH shall control the wind tower height. The wind towers must be constructed with a tubular tower or monopole structure, not a lattice tower. This Project complies with Livingston County's height and design requirement.

The Project has proposed turbines with a maximum tip height of 640 feet. The FAA performed an aeronautical study and issued DNHs' to Air Navigation up to a height of 698 feet. The Applicant has also executed a Mitigation Agreement with the DOD for the Project, as described in Section 3.4. Appendix H contains the DNHs' issued by the FAA.

### **3.11 Lighting**

The Wind Ordinance requires the Project meet all applicable FAA standards. FAA has established lighting standards for wind turbines to help ensure their safe operation in airspace and are outlined in FAA Advisory Circular ("AC") 70/7460. Specifically, these standards require dual lighting which consists of synchronized red lights and white flashing lights from Project turbines that are visible from all directions. These lights are anticipated to be flashing red strobes (L-864) that operate only at night.

The FAA has a specific evaluation process for each wind farm and turbine location. This evaluation will result in a customized lighting plan for the Project in accordance with FAA AC 70/7460-1K. The plan will create a distinct pattern that is easily recognized and avoided by passing aircraft while minimizing the overall number of lights. All FAA-required lights will be placed on the top of the turbine nacelles for maximum aerial visibility and will be red, synchronized flashing lights unless otherwise stipulated and approved by the FAA. The Applicant will consult with the FAA to secure a lighting plan, as the Project moves closer to construction, and a copy of the final site-specific plan will be provided to the County Zoning Enforcement Officer. The Applicant will also apply to the FAA for the installation of an ADLS. If approved by the FAA, the ADLS will be included in the final design and construction of the Project.

The Wind Ordinance also requires all substation lighting be downcast and compliant with the International Dark-Skies Association standards. This lighting will be "warm-white" or filtered Light Emitting Diodes ("LEDs") (Color Temperature ("CCT") < 3,000 Kelvin (K); scotopic/photopic (S/P) ratio < 1.2) to minimize blue emissions. Substation lighting will be limited to the amount needed to meet facility safety requirements.

### **3.12 Agricultural Impact Mitigation Agreement**

Section 56-618(m) requires all wind farm developments be in compliance with an Agriculture Impact Mitigation Agreement (“AIMA”), as approved by the State of Illinois. The Applicant is currently in the process of executing an AIMA with the Illinois Department of Agriculture (“IDOA”) (Appendix W). The AIMA includes methods to avoid, minimize, and mitigate construction and operational impacts to cultivated lands. Specific provisions focus on drain tile repair, decompaction, and monitoring. This Project will be in compliance with the AIMA except where modified by private landowner agreements, as permitted in the AIMA.

### **3.13 Environmental Setbacks**

The Project will adhere to the environmental setbacks suggested by the Illinois Department of Natural Resources (“IDNR”) through the Ecological Compliance Assessment Tool (“EcoCAT”) consultation process as described in Section 5.1. The EcoCAT and IDNR consultations are provided in Appendix K. Setbacks are demonstrated in the setback figures provided in Appendix C.

### **3.14 Municipality Agreements**

In Illinois, State law provides that incorporated municipalities may establish additional zoning criteria for land use development projects, including wind farms, within 1.5 miles of the municipality boundaries. On March 27, 2023, and March 8, 2023, the Applicant entered into agreements with the Village of Dwight and Village of Campus, which respectively offer support for the development of the Project and confirm the municipalities do not object to siting turbines within 1.5 miles of the municipalities’ boundaries. See Appendix G for agreements between the Village of Dwight and the Village of Campus, allowing for the siting of those turbines located within 1.5 miles of their corporate boundaries.

## **4.0 OPERATION AND MAINTENANCE**

The Project will meet operations and maintenance requirements described in Section 56-619 of the Wind Ordinance. An O&M report will be provided annually to the County upon commencement of operations.

### **4.1 Operation and Maintenance Building Layout**

See the Project site plans located in Appendix C for the proposed location of the O&M building. A representative O&M building layout is provided in Appendix L.

### **4.2 Interference**

Project turbines were sited and designed to avoid interference with microwave and other communication facilities. The Project Site Plan was provided to the United States Department of Commerce National Telecommunications and Information Administration (“NTIA”) for review by multiple federal communications agencies to determine whether the Project could result in interference with communications facilities. The NTIA review did not identify any concerns regarding radio frequency (“RF”) blockage or impacts to NEXRAD radar (see Appendix M). The Applicant coordinated with ComSearch, to perform multiple communications interference related studies for the Project, including a Microwave Study, Land Mobile and Emergency Response Services Report, TV Report, and Mobile Phone Report, and an AM and FM Radio Report, collectively referenced herein as the Communication Studies. The ComSearch Communication Studies were completed to determine the locations of federally-licensed (FCC) microwave and fixed station RF facilities that may be adversely impacted as a result of the construction of this Project. The purpose of this study was to assess and mitigate potential electromagnetic interference (“EMI”) issues that could arise between wind turbines and nearby communication systems. The ComSearch Communication Studies found that there would be no interrupted operation of critical communication systems utilized by the general public, the National Weather Service, and local emergency service providers (911 operators). The ComSearch Communication Studies also found there would not be a significant interference with local broadcast residential television and wireless internet services. The results of the ComSearch Communication Studies are located in Appendix M. Prior to operations, the final Project site plan will be provided to applicable entities as required by Section 56-619(b) of the Wind Ordinance.

### **4.3 Emergency Preparedness and Response**

A copy of the final Emergency Preparedness and Response Plan will be provided to the local fire departments prior to construction. Upfront coordination with local fire departments is currently underway and ongoing. The Emergency Preparedness and Response Plan will also include a Site Plan. The plan will

pertain to the planning, response, recovery, and mitigation of any natural or manmade hazard that may affect the Project and is provided in Appendix N. This plan includes a risk assessment and hazard identification such as severe weather events, fires, chemical releases, equipment failures, and natural disasters. It also includes the emergency response team, roles of the emergency response team, contact information, and communication protocols for emergency situations. This includes communication and coordination with local authorities. The Project will also invite local fire departments and other emergency response units to participate in yearly Emergency Response Trainings at the facility.

#### **4.4 Solid Waste**

The Wind Ordinance requires all solid waste related to the construction, operation, and maintenance of the commercial wind energy facility shall be removed from the site promptly and disposed of in accordance with all federal, state, and local laws. This Project complies with this requirement. All solid waste will be properly disposed of at a licensed facility or beneficially reused in accordance with all applicable local, state, and federal laws.

#### **4.5 Hazardous Materials**

The Wind Ordinance requires all hazardous materials related to the construction, operation, and maintenance of the commercial wind energy facility be handled, stored, transported, and disposed of in accordance with all applicable local, state, and federal laws. This Project complies with this requirement. A list of hazardous fluids that may be used on site is provided Appendix O. The Project will comply with all applicable requirements regarding the handling of hazardous fluids and other materials.

#### **4.6 Shadow Flicker Analysis**

Section 56-619(e) requires shadow flicker shall not affect an occupied community building or non-participating residence in excess of 30 hours per year under planned operating conditions. Planned operating conditions is defined as those conditions that would exist if the sun were to shine every day of the year with no cloud cover. As outlined in Section 2.0, the Applicant has requested a variance from the planned operational condition requirement, to be based upon industry standard computer modeling, which uses local meteorological data rather than 100 percent sunshine.

Burns and McDonnell completed a shadow flicker study to determine the impact of shadow flicker from Project turbines on receptors. Modeling and topographic reviews were completed to determine potential cumulative results at receptor locations in and around the Project (Appendix P). Assuming approval of the requested variance, 24 of the 287 known receptors in Livingston County and one of the 31 known receptors in Grundy County exceeds 30 hours per year of shadow flicker. There are no Livingston County

receptors modeled to have more than 30 hours per year of shadow flicker that are impacted by a turbine located in Kankakee County.

Specific mitigation strategies will be utilized to alleviate the effects of shadow flicker on non-participating residences and comply with Section 56-619(e). Good Neighbor Agreements will be offered to those non-participating receptors with more than 30 hours of shadow flicker per year. Additionally, for the non-participating receptors that do not execute a Good Neighbor Agreement, operational curtailment will be employed to reduce shadow flicker below 30 hours per year, for those non-participating receptors. Operational curtailment involves the scheduled feathering of wind turbine blades during predicted daytime periods that may result in shadow flicker at a non-participating receptor. See Appendix B for Zoning Variance Request relating to sunshine conditions.

The Shadow Flicker study is provided in Appendix P.

#### **4.7 Sound**

Burns and McDonnell analyzed the Project to determine impact of noise (sound) on surrounding residences and occupied community buildings. The objective of the Sound Study was to estimate the expected sound impacts generated by Project wind turbines on neighboring landowner properties and residences. The Project sound levels were modeled and compared to the Illinois Pollution Control Board (“IPCB”) sound level limits as specified in Illinois Administrative Code Title 35, Subtitle H, Chapter I, Part 901.

Sound pressure levels were predicted for the Project wind turbines using manufacturer-specified sound power levels for the proposed Project. The substation transformers were also modeled and sound levels were estimated at the nearest noise-sensitive receivers. For those residential landowners that are not participating in the Project, the IPCB noise limits are predicted to be in compliance for all octave bands during both daytime and nighttime hours for the layout and turbines detailed in this report.

The Sound Study is provided in Appendix Q.

## 5.0 NATURAL RESOURCE REVIEW

### 5.1 EcoCAT

The Wind Ordinance requires the Facility to adhere to the recommendations provided by the IDNR in an EcoCAT natural resource review report under 17 Ill. Admin. Code Part 1075. This report found one state listed species with potential to occur within the Project Area. This report also specified setback requirements applicable to streams, forests, and forest riparian habitats, as well as curtailment recommendations to protect bat populations. These requirements and recommendations are summarized below. The EcoCAT report is available in Appendix K.

#### **Eryngium Stem Borer (*Papaipema eryngii*)**

Eryngium Stem Borer (“ESB”) moth is a stem-boring insect that feeds on stems of eryngo plants (*Eryngium* spp.), also known as rattlesnake master. ESB is typically associated with remnant prairies in highway and railroad rights-of-ways (“ROW”) where the rattlesnake master plant is present. ESB has a wingspan of about 3-4 cm and is typically a brownish-gray color. The larvae of this species bore into the stems of eryngo plants, causing damage and weakening the plant. The adult moths emerge in late summer and early fall<sup>2</sup>. This Project, as designed, avoids impacts to remnant prairie habitats, which is habitat for the ESB.

#### **Perennial Stream Setback**

There are two perennial streams in the Project Area: Broughton Creek and the East Fork Mazon River. The Department recommends a minimum 300-foot setback from these resources. The Project design complies with this setback recommendation.

#### **Forested Areas and Forested Riparian Zones**

The Department recommends a minimum 1,000-foot setback from any forested area five acres or larger or forested riparian zones. The East Fork Mazon River (NE1/4 Section 3 Range 8E Township 30N of Livingston County, E1/2 Section 10 Range 8E Township 30N of Livingston County) is considered a forested riparian zone. The Project design complies with this setback recommendation.

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<sup>2</sup> The Population and Community Ecology (PACE) Lab. Eryngium Stem Borer (ESB) moth. [Eryngium Stem Borer – Population and Community Ecology \(PACE\) Lab \(illinois.edu\)](#). Accessed May 20, 2023.

### **Recommended Curtailment**

IDNR recommends the following curtailment and monitoring procedures to protect listed and non-listed bats and birds that may be present during fall migration:

- IDNR recommends the applicant to curtail wind turbine operations below wind speeds of 5.0 meters per second, from sunset to sunrise, between July 15 and October 15, to minimize the risk of “take” of listed bats and to minimize mortality of all bat species in general. Wind turbines should also be feathered (minimal rotations) during these curtailment events.
- Five years of mortality monitoring is recommended to statistically quantify bird and bat mortality, by species, due to turbine operations.
  - A proposal on bird and bat mortality monitoring should be sent to IDNR for review and concurrence on methods and a report on results annually.
  - Necessary research permits should be received from the Department’s Office of Resource Conservation to handle birds and bats. If state-listed species are found during this monitoring, Incidental Take Authorization may be recommended.
  - If significant bird or bat mortality is observed, or listed species are discovered, IDNR recommends further engagement and careful consideration be given to implementing the best available technologies to avoid and minimize these impacts.
- The Department recommends that the applicant conduct surveys to determine when birds and bats are migrating through the area to better define when curtailment of operations should go into effect.

The applicant acknowledges these curtailment and monitoring recommendations and will comply.

Additional Avian and Bat Habitat information is available in Section 5.2.1.

### **5.2 IPaC**

The results of the U.S. Fish and Wildlife Service’s (“USFWS”) Information for Planning and Consulting (“IPaC”) environmental review are available in Appendix K. This report found three federally listed species with potential to occur within the Project Area (Table 5-1).



**Table 5-1: Federally Protected Species Known or Likely to Occur in the Heritage Prairie Project site.**

Common Name	Scientific Name	Federal Status <sup>(1)</sup>
<b>Mammals</b>		
Indiana bat	<i>Myotis sodalis</i>	FE
Northern long-eared bat	<i>Myotis septentrionalis</i>	FE
Little brown bat	<i>Myotis lucifugus</i>	FPE*
Tricolored bat	<i>Perimyotis subflavus</i>	FPE*
<b>Bird</b>		
Bald eagle	<i>Haliaeetus leucocephalus</i>	BGEPA, MBTA
Golden eagle	<i>Aquila chrysaetos</i>	BGEPA, MBTA
Short-eared owl	<i>Asio flammeus</i>	MBTA
Northern harrier	<i>Circus hudsonius</i>	MBTA
<b>Flowering Plants</b>		
Eastern prairie fringed orchid	<i>Platanthera leucophaea</i>	FT

Source: USFWS IPaC; <http://ecos.fws.gov/ipac>, accessed 2/3/2023

- (1) FC: Federal Candidate Species for Listing; FE: Federally Endangered; FPE: Federally Proposed Endangered; FT: Federally Threatened; MBTA: Migratory Bird Treaty Act.
- \* Candidate and proposed species are not afforded protections under the Endangered Species Act. Should these species be listed prior to construction, consultation with the USFWS will be conducted.

Habitat assessments and biological studies consistent with USFWS 2012 *Land-Based Wind Energy Guidelines*<sup>3</sup> (“WEG”) were completed for this Project. These are described in more detail in Section 5.2.1 and 5.2.2.

### 5.2.1 Avian and Bat Habitat

A two-year avian study was completed for this Project. The Applicant contracted Western EcoSystems Technology, Inc. (“WEST”) consultants to perform the avian study in compliance with methods specified in the USFWS WEGs, Appendix C(1)(a) of the 2013 USFWS *Eagle Conservation Plan Guidelines*<sup>4</sup>, and

<sup>3</sup> US Fish and Wildlife Service (USFWS). 2012. Land-Based Wind Energy Guidelines. March 23, 2012. 82 pp. Available online: [http://www.fws.gov/cno/pdf/Energy/2012\\_Wind\\_Energy\\_Guidelines\\_final.pdf](http://www.fws.gov/cno/pdf/Energy/2012_Wind_Energy_Guidelines_final.pdf)

<sup>4</sup> US Fish and Wildlife Service (USFWS). 2013. Eagle Conservation Plan Guidance: Module 1 - Land-Based Wind Energy, Version 2. US Department of the Interior, Fish and Wildlife Service, Division of Migratory Bird Management. April 2013. 103 pp. + frontmatter. Available online: <https://www.fws.gov/migratorybirds/pdf/management/eagleconservationplanguidance.pdf>

the 2016 USFWS *Revisions to Regulations for Eagle Incidental Take and Take of Eagle Nests*<sup>5</sup>. This study was completed from November 14, 2019, to August 31, 2023. Overall, the species composition, seasonal abundance, and spatial use patterns documented during this study are typical for birds in this region and the majority of species observed are generally prevalent and abundant within the region.

WEST also conducted summer presence/probable absence surveys for the federally endangered Indiana bat (“INBA”; *Myotis sodalis*) and the federally endangered northern long-eared bat (“NLEB”; *M. septentrionalis*) in accordance with methods described in the USFWS *Range-Wide Indiana Bat Survey Guidelines (2022)*<sup>6</sup>. The methods outlined in the Guidelines are applicable to both INBA and NLEB. Livingston County, including the Project Area, is within the known ranges for these two species. This study also sought to provide information about the little brown bat (LBBA; *M. lucifugus*) and tricolored bat (“TRBA”; *Perimyotis subflavus*). The TRBA was proposed to be listed as endangered under the Endangered Species Act (“ESA”; 1973; 16 U.S. Code (“USC”) 1531-1544) on September 14, 2022 (87 Federal Register 56381-56393 [2022]) and the USFWS is currently reviewing the little brown bat (“LBBA”) for federal listing under the ESA. WEST submitted a proposed presence/absence study plan for the Project to USFWS for review on May 29, 2022, and a site-specific authorization letter was provided by the USFWS on June 9, 2022, approving the study plan (Appendix R). The complete bird and bat habitat study is also provided in Appendix R and a summary of key results is provided below.

## Eagles

There were a relatively small number of eagles observed during the avian study: eight bald eagle (*Haliaeetus leucocephalus*) observations recorded in year 1, and three in year 2. Bald eagles are afforded federal protections under the Bald and Golden Eagle Protection Act (1940; 16 U.S. Code [USC] 668-668d) and the Migratory Bird Treaty Act (1918; 16 USC 703-712). There are relatively few publicly available records of bald eagles colliding with wind turbines over the species’ entire range and only one fatality and one injury to a bald eagle have been reported in Illinois<sup>7</sup>. The low number of eagle risk minutes resulting from the survey efforts indicates the development poses low risk to bald eagles in the Project Area. No golden eagles (*Aquila chrysaetos*) were observed during the avian study and they are generally considered

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<sup>5</sup> US Fish and Wildlife Service (USFWS). 2016. Eagle Permits; Revisions to Regulations for Eagle Incidental Take and Take of Eagle Nests; Final Rule. 50 CFR 13 and 22. Department of the Interior Fish and Wildlife Service. 81 Federal Register (FR) 242: 91494-91554. December 16, 2016.

<sup>6</sup> US Fish and Wildlife Service (USFWS). 2022a. Range-Wide Indiana Bat & Northern Long-Eared Bat Survey Guidelines. USFWS, Department of the Interior. March 2022. 67 pp. Available online: <https://www.fws.gov/media/range-wide-indiana-bat-and-northern-long-eared-bat-survey-guidelines>

<sup>7</sup> US Fish and Wildlife Service (USFWS). 2018. Bald Eagle Mortalities and Injuries at Wind Energy Facilities in the United States. Poster. The Wildlife Society (TWS) 25th Annual Conference, Cleveland, Ohio. October 7 - 11, 2018.

to be a rare migrant and winter resident within Illinois<sup>8</sup>. Additionally, WEST surveyed the Project Area and a 10-mile buffer for eagle nests in 2020. No bald or golden eagle nests were located within or adjacent to the Project Area in Livingston County.

### **Sensitive Species**

No federally listed species were observed during the avian survey. Two state-listed endangered species were observed in the Project Area: northern harrier (*Circus cyaneus*) and short-eared owl (*Asio flammeus*). Neither of these species is anticipated to be significantly impacted by the Project given the lack of adequate grassland and wetland habitat to support breeding of these species within the Project Area.

### **Large Birds**

Large bird species most often observed during the large bird surveys included Canada goose (*Branta canadensis*), rock pigeon (*Columba livia*), killdeer (*Charadrius vociferus*), and American crow (*Corvus brachyrhynchos*) the majority of which were observed during fall migration and winter. Seasonal influxes of waterfowl are typical as they migrate through, and overwinter in, north-central Illinois<sup>9,10</sup>. Many of the remaining large bird observations are species typical of Illinois agricultural fields<sup>11</sup>.

### **Diurnal Raptors**

The annual mean diurnal raptor use at the Project was relatively low in both years when compared with other large bird groups such as waterfowl, likely due to the Project having little suitable habitat and being almost exclusively cropland. Diurnal raptor fatalities are typically low in the Midwest and comprise less than 5% of total avian fatalities across Midwest wind energy facilities<sup>12</sup>. Overall, risk to diurnal raptors at the Project is expected to be similar to other Midwest projects.

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<sup>8</sup> <https://dnr.illinois.gov/content/dam/soi/en/web/dnr/education/cdindex/goldeneagle.pdf>

<sup>9</sup> Ely, C. R., A. X. Dzubin, C. Carboneras, G. M. Kirwan, and E. F. J. Garcia. 2020. Greater White-Fronted Goose (*Anser albifrons*), Version 1.0. S. M. Billerman, ed. In: Birds of the World. Cornell Lab of Ornithology, Ithaca, New York. Information online: <http://birdsoftheworld.org/bow/species/gwfgoo/1.0/>

<sup>10</sup> Mowbray, T. B., F. Cooke, and B. Ganter. 2020. Snow Goose (*Anser caerulescens*), Version 1.0. P. G. Rodewald, ed. In: Birds of the World. Cornell Lab of Ornithology, Ithaca, New York. Available online: <http://birdsoftheworld.org/bow/species/snogoo/cur/>

<sup>11</sup> National Audubon Society (Audubon). 2020. Christmas Bird Count Historical Results. Accessed January 2022. Available online: <https://netapp.audubon.org/CBCObservation/>

<sup>12</sup> Western EcoSystems Technology, Inc. (WEST). 2021. Regional Summaries of Wildlife Fatalities at Wind Facilities in the United States and Canada. 2020 Report from the Renew Database. WEST, Cheyenne, Wyoming. June 30, 2021.

## **Bats**

No federally listed endangered or threatened bat species were identified as likely present within the Project area during the summer maternity season. It is noted that the TRBA and LBBA are not listed at this time but are currently proposed to be listed. TRBA and LBBA may potentially occur with the Project during the summer maternity season; however, very few calls were positively identified during qualitative review of acoustic data. While the WEST studies suggest a relatively low risk to listed bat species, the Project has adopted IDNR's recommendation for operational curtailment during the fall migration season.

### **5.2.2 Natural Resource Inventory Report**

A Natural Resource Inventory Report ("NRI Report") was prepared by the Livingston County Soil and Water Conservation District and is provided in Appendix S. The NRI Report identified the potential for erosion, sedimentation, and rutting, which are commonly associated with construction activities in agricultural lands. The Project will avoid and minimize these potential issues through the implementation of the Project's AIMA. The Project will not result in a significant increase in impervious surface as the area surrounding the turbine and access roads will be maintained with vegetation. During construction, the Project will adhere to a Stormwater Pollution Prevention Plan ("SWPPP") that is in alignment with Illinois requirements.

## **5.3 Cultural Report**

Section 56-621 requires the facility owner to provide evidence of consultation with the Illinois State Historic Preservation Office ("SHPO") to assess potential impacts on State-registered historic sites under the Illinois State Agency Historic Resources Preservation Act of 1990 (20 ILCS 3420). The Illinois State Agency Historic Resources Preservation Act outlines procedures for the identification and protection of cultural resources which may be impacted by projects that are funded by, licensed by, or permitted by state agencies. It was amended in 1991 to limit archaeological surveys for state agency permit and license reviews to projects in high probability zones for prehistoric archaeological sites and to locations of previously recorded sites. Documentation of historic-age non-archaeological resources forty years of age or older (pre-1982) was prescribed as part of Project compliance with the Illinois State Agency Historic Resources Preservation Act, and the historic survey was conducted in accordance with Federal "Section 106" and State "Section 707" standards.

Phase I archaeological surveys were conducted in December 2022, March/April 2023, and May/June 2023 in accordance with Section 106 and Section 707 standards. The results of the survey were submitted to SHPO on November 8, 2023. SHPO responded on February 6, 2024, via email concurring with all the determinations and recommendations in the submitted report (Appendix T). The Project has been designed

to avoid all identified significant archeological sites; therefore, the Project will have no effect on National Register of Historic Places (“NRHP”) eligible archeological sites.

Due to the scope and size of the proposed Project, Burns & McDonnell Engineering Company, Inc. (“Burns & McDonnell”) coordinated with the Illinois SHPO to develop a methodology for assessment of historic-age resources. In lieu of preparation of a single largescale historic resources survey report, the results of the field survey are being submitted in installments of approximately 100 resources via eight summary memorandums (“memos”) with accompanying figures, resource inventory tables, and photographs. There are a total of two submittals associated with the Project in Livingston County (Sections 6 and 7 memos). The Section 6 memo documenting 116 properties containing 341 individual historic-age resources in Livingston County was submitted to the Illinois Historic Preservation Division (“IHPD”) in October 2023. Three individual properties were recommended eligible for NRHP inclusion, and a portion of the rural community of Campus was recommended NRHP eligible as a historic district. The IHPD concurred with the eligibility recommendations on November 9, 2023 (Appendix T). The Section 7 memo was submitted to IHPD on February 5, 2024, documenting 106 properties containing 279 individual historic-age resources. Review is still pending. Burns & McDonnell’s historians recommend the Project will have no adverse effect on the potentially eligible resources. Once the entire Project has been reviewed by IHPD, SHPO will review their recommendations and make their final effects determination for the Project.

Consultation will be completed prior to submitting for the General National Pollutant Discharge Elimination System (“NPDES”) Permit No. ILR10. Evidence of ongoing coordination with the SHPO, regarding archaeological and historic surveys is available in Appendix T.

## **6.0 PROJECT LIABILITY**

### **6.1 Liability Insurance**

Sec. 56-623 requires insurance coverage to be maintained without interruption from the date of construction permitting through the decommissioning of all wind turbines. The Applicant will maintain a current general liability policy covering bodily injury and property damage with limits of at least \$10,000,000.00 per occurrence and \$40,000,000.00 in the aggregate, with the county being added as an additional insured, with the designation of primary and noncontributory. An annual certificate of insurance will be provided to the county regional planning commission office. Liability insurance will be in place prior to the commencement of construction and will be provided to the Zoning Administrator.

## 7.0 PROJECT DECOMMISSIONING

### 7.1 Decommissioning

The Project is anticipated to have an operational life of 30 years. At the end of the Project's operational life, and assuming the facility is not repowered, the Project would be decommissioned by removing Project structures and equipment following specific stipulations outlined in the AIMA and individual landowner agreements. The land use of the Project Area is primarily cultivated agricultural land; therefore, future decommissioning efforts are intended to return the land to condition suitable for continued cultivation and crop production. Key components of the decommissioning effort include:

- Decommissioning Preparation. This stage will include reviewing and updating decommissioning plans, as necessary, stakeholder engagement, and review of regulatory requirements.
- Finalizing Engineering and Decommissioning Plan. This stage includes confirming waste management needs; finalizing a detailed Project schedule, sequencing, procedures, and timeline; and surveying work.
- Permitting. This stage ensures all local, state, and federal permits are received.
- Implementation. This stage will include turbine disassembly, component recycling, hazardous material management, and solid waste management. Deconstruction of the facility will include wind turbine towers and blades, wind turbine generators, wind turbine foundations (to depth of 5 feet), transformers, collection/interconnection substations, overhead collection system, O&M building, meteorological towers, and access roads (unless landowner requests to keep them).
- Final Stabilization. This stage involved decommissioning of the O&M yard/staging area, debris and litter removal, and site revegetating.

More details about the Project decommissioning plan are available in Appendix U. This plan outlines the process and techniques to bring the site back to predevelopment condition in compliance with the IDOA standard wind farm AIMA, template 81818. Financial assurances will be provided to the county prior to receiving County building permits in accordance with Sec. 56-624. Total Estimated net costs for decommissioning are estimated at \$4,304,750. This value is the difference of the Gross Cost of \$16,918,750 minus the Salvage Value, the value of reselling decommissioned material for scrap, of \$12,614,000.

## 7.2 Drain Tile

Prior to the issuance of building permits, the Project will make all reasonable efforts to locate the existing drain tiles in the area of construction. This includes locating through direct coordination with landowners and onsite field surveys. During construction, ground excavations will be monitored for the presence of previously unidentified tiles. The AIMA governs the identification and treatment of drain tiles to avoid, minimize, or mitigate impacts to drainage. As described in Section 6 of the AIMA, underground drainage tile damaged by construction or deconstruction will be repaired in a manner that assures the tile line's proper operation at the point of repair (Appendix W). In accordance with Sec. 56-624.1, any permanent drain tiles damaged during operation or decommissioning will be repaired within fourteen days of identification or notification of the damage, weather and soil conditions permitting. The Project is currently working with vendors to begin detailed drain tile investigations and mapping. The Project will have a dedicated drainage tile contractor on call during construction to promptly repair drain tiles that may be damaged during construction. The AIMA is available in Appendix W.



## **8.0 PROJECT APPLICATION**

### **8.1 Special Use Permit – Standards for Special Use**

The sections below list and answers the questions directly from the SUP Application – Standards for Special Use (Appendix A).

#### **8.1.1 Is consistent in all respects with the Livingston County Comprehensive Plan and the Livingston County Zoning Ordinance;**

The Project will conform to the applicable requirements of the Livingston County Comprehensive Plan<sup>13</sup> and the requirements of the Code and, in particular, the Wind Ordinance, which is to be considered by the Zoning Board of Appeals in making their recommendation to the County Board regarding the approval or denial of SUP Applications. In line with the County's Comprehensive Plan, the Project recognizes the importance of the County's agricultural economy and has implemented an AIMA that includes methods to avoid, minimize and mitigate construction and operational impacts to cultivated lands. Specific provisions focus on drain tile repair, decompaction, and monitoring. This Project will follow the AIMA except where modified by private landowner agreements as permitted in the AIMA. Additionally, as detailed in the Application Narrative, the Project has been developed to be consistent with all aspects of the Livingston County Code, as applicable. Refer to Section 2 as well as Table 1-1 which includes a list of all applicable Wind Ordinance requirements and a cross-reference to the location of the material supporting compliance with each requirement in this Application.

#### **8.1.2 Will not be detrimental to or endanger the public health, safety, morals, comfort, or general welfare:**

Construction, operation, and maintenance of the Project will not be detrimental to or endanger the public health, safety, morals, comfort, or general welfare of the County. The Project has been sited in areas zoned AG and I2 which is compatible with siting, construction, and operation of wind generating facilities. The Applicant selected this location based on the proximity to existing electric infrastructure, compatible land use, landowner interest, and minimal environmental sensitivities. Extensive coordination with community officials and landowners interested in hosting the Facility confirmed that the agricultural areas selected for the Project were compatible with development of the Project.

The Project has been designed to meet the standards for wind facilities identified in the Code and, in particular, the Wind Ordinance. These design standards require safe construction and operation practices,

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<sup>13</sup> Livingston County. 2020. Livingston County Comprehensive Plan, Year 2020 Update. Revised November 11, 2004.

and that a wind energy generating plant will follow all applicable county ordinances and will be designed with safety in mind so as not to endanger public health. Wind facilities have a track record for safe operations while also providing a clean source of electric power. Low-voltage electric collection lines connecting wind turbine generators to the Project substation are proposed to be buried underground, with the exception of one small section of above ground collection line on one property. The Project will comply with all setback requirements of the Wind Ordinance as outlined in Section 3.7.

Detailed studies of the Facility design have further confirmed that the Project will not adversely affect the human environment. Specifically, the results of the shadow flicker study (Appendix P) indicate that any shadow flicker on non-participating residences and community buildings that exceed 30 hours per year will be mitigated by the Project with the implementation of operational curtailment, or through further mitigation with landowners. Similarly, the completed Sound Study for the Project (Appendix Q) illustrates compliance with all applicable IPCB and Livingston County sound level limits. The sound modeling results show that the Project, as designed, would not exceed the respective noise limits, and no additional noise mitigation is required.

The Project will provide reliable power to the community and the State. This renewable source of energy is emissions free, thereby promoting clean air for better living. Additional benefits of renewable energy are reducing the community's dependence on fossil fuels and other non-renewable energy sources. The Project will help contribute to Illinois' goal of a 100% zero-emissions power sector by 2045 under the Climate and Equitable Jobs Act (SB2408). Furthermore, the production of clean, renewable energy helps confront factors causing climate change and inherently reduces climate change caused public health and safety issues.

### **8.1.3 Is located in a zoning district where such use is permitted;**

The Project has been sited in an areas zoned as AG and I2, which is compatible with siting, construction, and operation of wind generating facilities under 55 ILCS 5/5-12020. The Wind Ordinance requires that all wind farm developments are in compliance with an AIMA, as approved by the State of Illinois.

### **8.1.4 Complies with the requirements set forth in the zoning district where it is to be located and all requirements specified in Section 24.0, SPECIAL USES, REQUIREMENTS AND PROCEDURES, of the Livingston County Zoning Ordinance, except in each instance as such regulations may be modified by the Board of Appeals;**

The Applicant is filing for a SUP for a commercial wind energy facility located in AG and I2 districts. Refer to Section 2 as well as Table 1-1 which includes a list of all applicable Wind Ordinance requirements

and a cross-reference to the location of the material supporting compliance with each requirement in this Application.

**8.1.5 Will not be injurious to the use and enjoyment of other property in the immediate vicinity for the uses already permitted, or substantially reduce the value of neighboring property;**

The Project will have no direct impacts on property values of properties adjacent to or in the immediate vicinity of the Project and will not substantially diminish or impair property values in the vicinity (see Appendix V for the Property Value Impact Report and the Site Specific Analysis Addendum). Like any new infrastructure development, the Project will be visible from neighboring parcels and public roads and will result in a change to the existing land use. However, the Project facilities have been designed to meet all applicable Livingston County design standards such as setback requirements from roads and adjoining parcels. The maximum height of the wind turbines (from the wind turbine foundation to the tip of the rotor blade at its highest point) will be approximately 640 feet, as permitted by the FAA. It is noted that the proposed maximum turbine height is compliant with the current Wind Ordinance, dated May 11, 2023.

Other benefits are that wind farms are consistent with and promote the continuance of agriculture as farmers may safely grow crops and graze livestock within 50 feet of the tower base. The annual income provided from the land use agreements also provides enhanced economic stability of farming operations. These agreements provide a stable, reliable, and long-term funding source for farmers. In addition, sound levels generated by turbines are not audible above ambient sound levels at the fence line of most facilities and the Project-specific noise modeling results show that the Project, as designed, would not exceed the respective noise limits ([Appendix Q](#)). Also, since wind farms require minimal operations support by staff, there will not be a noticeable increase in traffic during operations.

According to a peer review study completed in 2022, wind energy projects lead to economically meaningful increases in county-level gross domestic product per-capita starting in construction through operation<sup>14</sup>.

**8.1.6 Will not impede orderly growth, development, and improvement of surrounding properties for those uses permitting in the zoning district;**

The Project will not substantially impede the normal and orderly development and improvement of the surrounding property for uses permitted in the district. The majority of properties surrounding the Project are also zoned AG or I2. Any future development of these properties would be subject to the use restrictions

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<sup>14</sup> American Clean Power Association. 2022. Property Values and Land-Based Utility Scale Wind Turbines. Published August 30, 2022.

identified in the Wind Ordinance; however, the operation of the Project does not restrict the development activities on these lands. Also, the Project complies with the 2020 Comprehensive Plan for Livingston County with respect to “Agricultural Land Use” per “AG zoned areas”. The 2020 Comprehensive Plan discusses the protection of agricultural areas due to the strain that residential development places on a community, such as fire, police, road maintenance, etc. As such, the Project facilities are consistent with the 2020 Comprehensive Plan and will maintain the land in an open space type of environment. The Project will not include any large permanent structures, and following decommissioning, the land will return to its former agricultural use. Wind farms are consistent with and promote the continuance of agriculture as farmers may safely grow crops and graze livestock within 50 feet of the tower base. Additionally, the Project will not have an impact on traffic and utility services in the area as it will require limited maintenance during operation. Therefore, the Project is expected to meet the long-term goals of the 2020 Comprehensive Plan and would not restrict continued development of surrounding parcels. Lastly, the Project has been approved by the Villages of Dwight and Campus, demonstrating they do not believe it will impede the orderly growth or development of their communities.

#### **8.1.7 Is provided or will be provided with adequate utilities, access roads, drainages and necessary facilities;**

Adequate measures will be provided for utilities, access roads, and drainage. Low-voltage electric collection lines connecting wind turbine generators to the Project substation are proposed to be buried underground, with the exception of one small section of overhead collection line on one property. The Project site entrances and O&M building will be designed to County standards. The Project is currently negotiating and will execute a Road Use Agreement, between Livingston County and the applicable Townships, that will capture the standards use of design for public access roads. A preliminary road use map is provided in Appendix J.

The AIMA governs the identification and treatment of drain tiles to avoid, minimize, or mitigate impacts to drainage. In accordance with Section 56-624.1, any permanent drain tiles damaged during operation or decommissioning will be repaired within fourteen days of identification or notification of the damage, weather and soil conditions permitting. The Project will have a local drainage tile contractor on-call to initiate repairs upon identification. The drainage system will be designed to have adequate on-site storm water management systems. These systems will incorporate applicable County and NPDES requirements to ensure that ingress and egress of water is managed per regulations.

The Project will not result in a significant increase in impervious surface as the area surrounding the turbine and access roads will be maintained with vegetation. During construction, the Project will adhere to a

SWPPP that is in alignment with Illinois requirements. For more details, see Project Design and Site Plan Maps in the following Sections and Appendices, including Appendix C.

**8.1.8 Is provided with ingress and egress so designed as to minimize traffic congestion in the public streets.**

The Project will implement best management practices to avoid and minimize significant impact to traffic patterns during the construction period. No significant impacts to traffic patterns or increases in congestion are expected during the operations phase. All applicable entrance road permits, weight and size permits will be received from local, county and state authorities prior to construction. Appendix J provides a preliminary map of the public roads that will likely be used during construction of this Project. The final decision on which roads will ultimately be used will be determined through consultations with Livingston County, the applicable Townships and the State of Illinois. Road Use Agreements will be attained, as necessary, prior to utilizing public roads including Livingston County roads and local township roads.

**APPENDIX A - SPECIAL USE PERMIT APPLICATION**

**APPENDIX B – ZONING VARIANCE APPLICATION**

**APPENDIX C – SITE PLAN MAPS**



**APPENDIX D – PROJECT PROPERTY OWNERS**

**APPENDIX E — ECONOMIC IMPACT REPORT**

**APPENDIX F — LEASE AGREEMENTS**

**APPENDIX G — MUNICIPALITY AGREEMENTS**

**APPENDIX H – FAA COMPLIANCE**

**APPENDIX I — PREAPPLICATION PUBLIC MEETING**

**APPENDIX J – PRELIMINARY PUBLIC ROAD USE MAP**

**APPENDIX K – ECOCAT AND IPAC CONSULTATION LETTERS**



**APPENDIX L – OPERATION AND MAINTENANCE BUILDING LAYOUT**

**APPENDIX M – INTERFERENCE STUDY**

**APPENDIX N – EMERGENCY PREPAREDNESS AND RESPONSE PLAN**

**APPENDIX O – HAZARDOUS FLUIDS**

**APPENDIX P – SHADOW FLICKER ANALYSIS**

**APPENDIX Q – SOUND STUDY**

**APPENDIX R – BIRD AND BAT HABITAT STUDY**

**APPENDIX S – NATURAL RESOURCE INVENTORY REPORT**



**APPENDIX T – CULTURAL RESOURCES**

**APPENDIX U – DECOMMISSIONING PLAN**

**APPENDIX V – PROPERTY VALUE IMPACT REPORT AND SITE SPECIFIC  
ANALYSIS ADDENDUM**

**APPENDIX W - AIMA**



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