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APPENDICES

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I. PROJECT INTRODUCTION | Warren County Special Exception Application

Jordan Creek Wind Farm LLC (Jordan Creek) is seeking a Special Exception from Warren County, Indiana, to build the Jordan Creek Wind Farm in northern Warren County, Indiana. The project site is located in Prairie, Jordan, Liberty and Steuben Townships and includes approximately 27,000 acres of privately owned land under agreement. Less than 1% of the total project acreage will be disturbed during the life of the project, and existing land uses can continue throughout the project area.

The project in Warren County will include up to 150 wind turbines, which could have a total rated nameplate capacity of up to approximately 300 megawatts (MW) and could generate enough electricity to supply approximately 80,000 Indiana homes with clean renewable electricity. In addition to wind turbines, the project in Warren County will consist of access roads, electrical collection and communications cables, one or two electric substations, an above-ground 345 kilovolt (kV) transmission line, meteorological towers, an operations and maintenance (O&M) building, and related equipment and facilities (the Project¹).

Temporary Project facilities would include one or more equipment laydown and storage areas, turn-out areas off of public roads if necessary, crane paths and temporary meteorological towers. A concrete batch plant may be located on the site during construction. The Project may be built in phases. Construction could begin as early as 2018. Temporary disturbance from Project construction will include the use of laydown areas. After the completion of construction all areas temporarily disturbed for construction, but not required for permanent operations will be restored. Disturbance after construction is expected to total up to approximately 150 acres.

Orion has been working with local landowners in Warren County since 2013 and has maintained a Project office in Williamsport since 2014. Jordan Creek has been monitoring the wind resource in the Project area since 2014 via two meteorological towers previously approved by the Warren County BZA. Over the last three years Orion has entered into private land easements in Warren County with more than 100 landowners.

As described in this application, the project will comply with the general and specific standards and requirements for a special exception as described in the Warren County Zoning Ordinance.

The Project will provide a new, stable, long-term source of revenue for Warren County. Property tax payments and economic development payments to Warren County and the various local taxing bodies are expected to be more than \$32 million over thirty years. Landowners participating in the Project will also receive a new, stable, and long-term source of revenue for the life of the project to add to the existing revenue sources currently on their land.

Project construction and operations will create new jobs. Two hundred to 250 construction workers will be on the site during the peak construction period, and a 300 MW wind farm will create approximately 10 to 15 full-time skilled local jobs during project operations.

The Project owner is Jordan Creek, which is owned by Orion Wind Resources LLC. Orion Wind Resources LLC is owned by affiliates of Orion Renewable Energy Group LLC (Orion) and MAP Royalty, Inc. (MAP). Jordan Creek was formed to develop, own and operate the Project. Orion and MAP have a wealth of

¹ It is anticipated that a portion of the Jordan Creek Wind Farm will be built in Benton County, Indiana. However, for purposes of this application, "Project" refers only to the portion of the wind farm installed in Warren County.

experience developing wind energy projects, and Orion’s owners were early pioneers in the renewable energy industry.

Project Developer Contact:

Michael Cressner
Jordan Creek Wind Farm LLC
c/o Orion Wind Resources LLC
155 Grand Avenue, Suite 706
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II. WIND ENERGY CONVERSION SYSTEM | Special Exception Requirements

Jordan Creek will adhere to the Special Exception requirements, as outlined in Section 1.0 “Wind Energy Conversion Systems (WECS) Siting Regulations” and Article X (Ten) “Special Exceptions” of the Warren County Zoning Ordinance.

1) APPLICANT IDENTIFICATION

Project Developer:

Jordan Creek Wind Farm LLC
c/o Orion Wind Resources LLC
155 Grand Avenue, Suite 706
Oakland, California 94612

Jordan Creek Wind Farm Location:

Warren County, Indiana
See Preliminary Site Plan 1 in **Appendix B**
and Parcel List in **Appendix A**

On behalf of the listed participating landowners, this application is submitted by Jordan Creek Wind Farm LLC, a limited liability company organized under the laws of Delaware, to own and operate the proposed wind farm. Jordan Creek is a wholly-owned subsidiary of Orion Wind Resources LLC.

Orion and its affiliates have been pioneers in expanding the use of renewable energy in the United States for nearly 20 years and in Indiana for over 12 years. Orion’s successful track record of completing projects stems from expertise in siting, development, power sales, finance, construction and operations. In the U.S., approximately 4,000 megawatts (MW) of wind energy projects in operation or under construction have been developed by Orion’s principals. In Indiana, Orion was the first wind energy developer in the State to construct a utility-scale wind energy project. That project, located in Benton County, has been operating since 2008. Ownership interests in 280 MW of operating projects located in Indiana and Illinois are held by Orion Energy Group LLC (OEG), an affiliated company that also serves as operator and asset manager for those projects. Orion and OEG are both independent, privately-held companies that are owned and managed by their principals.

2) PROJECT DESCRIPTION

Overall Project Description

Jordan Creek proposes to construct the Project in Prairie, Jordan, Liberty and Steuben Townships, Warren County, Indiana. The Project will include a total of up to 150 wind turbines, which could

have a total rated nameplate capacity of up to approximately 300 megawatts (MW). See Section III for a description of the proposed facilities that make up the Project. It is also expected that a portion of the facility will be located in Benton County, including wind turbines and related facilities.

Up to approximately 200 - 250 construction jobs will be created by the Project. Local businesses, including those that participate in providing construction materials, housing, food, recreation, and day to day necessities, will benefit from this construction activity. Additionally, up to approximately 10 to 15 permanent, full-time, skilled jobs will be created by Project operations.

Legal Description of Property

See Parcel List in **Appendix A** attached to this application.

Construction Schedule

Assuming all required government permits and approvals are issued, Project construction is expected to begin as early as 2018 and as late as 2021. Commercial operation could occur as early as 2018 or as late as 2023. The Project may be built in phases.

3) SITE PLAN

Two (2) preliminary site plans for the Project can be found in **Appendix B**.

Preliminary Site Plan 1 depicts the following:

- a) Property lines, including identification of adjoining properties
- b) Location of each individual wind turbine (with latitude and longitude supplied on a separate sheet)
- c) WECS access roads
- d) Substations
- e) Electrical cabling
- f) Ancillary equipment
- g) Location of all public roads which abut, or traverse the proposed site
- h) Wind turbine developable area, which takes into account all county setbacks
- i) Residential dwellings
- j) Location of all above-ground utility lines within a distance of two (2) times the height of any proposed WECS structure

Preliminary Site Plan 2 depicts the following:

- a) Agricultural structures within one quarter ($\frac{1}{4}$) mile of all proposed WECS
- b) Existing topography
- c) The location of any historic or heritage sites as recognized by the Division of Historic Preservation and Archeology of the Indiana Department of Natural Resources, within one (1) mile of a proposed WECS

- d) The location of any wetlands based upon a delineation plan prepared in accordance with the applicable U.S. Army Corps of Engineers requirements and guidelines, within one (1) mile of a proposed WECS

A revegetation plan for restoring areas temporarily disturbed during the construction phase has been submitted as part of **Appendix B**.

A rescue and fire protection plan for both the construction phase and the operation of the facility has been submitted as part of **Appendix B**.

4) ADDITIONAL REQUESTS

- The location of proposed improvements shown on the site plan is preliminary and may change based on a number of different factors and Project criteria. For example, there could be changes in the final locations of wind turbines, roads, or electrical lines based on the results of geotechnical studies of the site, or changes may be needed to accommodate requests of landowners or existing infrastructure owners. Jordan Creek requests, as an element of the Special Exception approval, the flexibility to relocate turbines and related facilities within required setbacks or utilize alternate locations upon completion of Project micro-siting, together with flexibility regarding locations for underground collection lines, site roads, substations, overhead transmission lines, meteorological towers, operations and maintenance buildings, and temporary construction facilities, all of which may occur more proximate in time to application for Improvement Location Permits. In no case will the Project setbacks be less than required by the Warren County Zoning Ordinance.
- **Appendix C** contains the Affidavit of Consent listing those property owners with whom the Project has entered into an easement agreement which allows use of that landowner's property. **Appendix C** also contains consents of individual property owners with whom the Project is currently conducting negotiations for an easement to include that owner's land within the Project. Jordan Creek requests, as an element of the special exception approval, that landowners who sign consents be considered to be Project participants.
- In accordance with the provisions of Section 1.5.1 of the Warren County Zoning Ordinance, Jordan Creek also requests, as an element of the special exception approval, approval of setback waivers from participating landowners (both present and future via signed agreements), if written confirmation of the setback waiver is provided to the Zoning Office prior to application for Improvement Location Permits (ILP).

5) CONSENT DOCUMENTS

- Copies of written setback waivers from neighboring property owners, if any – to be submitted prior to application for ILP.
- Affidavit of Consent and Landowner Consents are found in **Appendix C**.

6) COUNTY ROADS AND DRAINS

An Agreement Regarding County Roads and Drains (Road Use Agreement) will be approved by the Warren County Commissioners, County Surveyor and Highway Supervisor prior to the hearing. Under the Road Use Agreement, Jordan Creek will conduct a pre-construction survey of county roads and drains, upgrade county roads as necessary to accommodate construction vehicles and

transport equipment, post security, and repair and restore county roads and drains during and after construction where necessary.

A copy of the Agreement Regarding County Roads and Drains with Warren County will be found in **Appendix D** once finalized and approved by the County. This is anticipated to occur prior to the public hearing of the Warren County Board of Zoning Appeals (BZA).

7) COUNTY ECONOMIC DEVELOPMENT AGREEMENT

A copy of the County Economic Development Agreement with Warren County can be found in **Appendix E**.

8) WILDLIFE AGENCY CORRESPONDENCE

A copy of correspondence with the U.S. Fish and Wildlife Service and the Indiana Department of Natural Resources can be found in **Appendix F**.

9) DECOMMISSIONING AGREEMENT

A copy of the final Decommissioning Agreement with Warren County will be found in **Appendix G** once finalized and approved by the County. This is anticipated to occur prior to the hearing.

10) APPLICATION FEE

The application fee of \$20,000 is being submitted with this Special Exception application.

11) SAFETY

The Project will comply with all applicable federal, state, and local safety codes and requirements. Wind turbines will be equipped with access doors to prevent unauthorized access to internal electrical and mechanical components, and access doors will be kept securely locked at all times when service personnel are not present. All spent lubricants and cooling fluids will be properly and safely removed in a timely manner from the site of the wind energy system. Signs will be posted near the towers and Operations and Maintenance Office building that will contain emergency contact information. Signage placed near the entrance of turbine access roads will be used to warn visitors about the potential danger of falling ice. The minimum vertical blade tip clearance from grade will be 70 feet, which is far in excess of Zoning Ordinance requirements.

12) VISUAL IMPACT

Wind turbines are expected to be three bladed, upwind horizontal axis models on monopole steel tubular towers. The height of the wind turbines (to the tip of one blade pointing upwards) will not exceed approximately 500 ft. The towers and turbines will be painted with a non-reflective/off-white color designed to minimize visual impacts. No advertising or graphics will be placed on any part of the tower or blades, although the turbines will be clearly numbered above the access doors for identification and emergency response. The towers will not be illuminated except as required by the Federal Aviation Administration (FAA).

13) COMMUNICATIONS STUDY

A copy of the Communications Study can be found in **Appendix H**. Jordan Creek does not anticipate any interference to communications resulting from the wind farm. However, in the unlikely event that such interference occurs, Jordan Creek will comply with Section 1.8.3 of the Warren County Zoning Ordinance which addresses interference complaints and mitigation.

III. DESCRIPTION OF PROPOSED FACILITIES

Below is a list of all major proposed Project facilities.

- **Generation Equipment Description**

Jordan Creek proposes to use one or more wind turbine models, each with a rated nameplate capacity ranging from 2.0 MW to 2.5 MW per turbine. Jordan Creek will solicit turbine supply proposals from Vestas, General Electric, Siemens, and possibly others. See **Appendix I** for turbine specifications. Final selection will be made prior to application for Improvement Location Permits. All wind turbines are expected to be three bladed, upwind horizontal axis models with a rotor size between approximately 110m and 126m on monopole steel tubular towers with a hub height between approximately 80m and 96m. However, the height of the wind turbines (to the tip of one blade pointing upwards) will not exceed approximately 500 ft. These turbines employ active yaw control to steer the machine with respect to the wind, active blade pitch, and a generator/power electronic converter system to produce 60 Hz, 34.5 kilovolt (kV) electric power.

- **Power Collection System**

The power generated by the Project will be collected and conveyed to a Project substation by a 34.5 kV power collection system. The collection system cables will be underground unless impractical due to soil or other conditions or elected by the participating landowners to be above ground. The Project's power collection system will also include pad-mounted transformers and junction boxes.

- **Project Substation**

One or two Project substations will increase the voltage of power generated by the Project and delivered by the power collection system from 34.5 kV to the 345 kV required for interconnection to the electric grid. The Project substation(s) will contain one or more transformers, metering equipment, circuit breakers, poles and disconnects, and other devices to regulate the flow of electrical power.

- **Overhead Transmission Line Connection**

An overhead transmission line will be constructed to transfer electricity from the Project substation(s) to the point of interconnection with the electric grid, via a monopole 345 kV overhead line. See **Appendix I** for sample transmission pole specifications.

- **Laydown Yard**

A gravel base Laydown Yard will likely be off-site and could be upwards of 40 acres, with smaller laydown and staging areas onsite that could be 10 acres or less. The Laydown Yard

will be used to temporarily store turbine parts and equipment, and will include office trailers and parking.

- **Operations & Maintenance Facility**

The Project O&M building will likely be built near a Project substation, on up to approximately 6 acres of land. Inside the O&M building there will be space for offices, a control room, a workshop, a kitchen, bathrooms, storage and other uses typical for such a facility. There will be an aggregate-surfaced parking area and a maintenance yard outside of the building. The O&M building will likely be constructed of corrugated steel and will have approximately 5,000-7,500 square feet of usable space. Preliminary locations are shown on Preliminary Site Plan 1, with the final location to be chosen prior to application for an ILP.

- **Meteorological Towers**

Up to 3 permanent meteorological (met) towers to measure wind speed and direction will be installed and utilized during the life of the Project. These met towers will be approximately the height of the wind turbine hubs, currently expected to be between approximately 262 and 315 feet (80-96 meters). The met towers will be lighted if required by the FAA. Met towers will be mounted with data logging equipment used to monitor and transfer wind speed, wind direction, temperature, barometric pressure, and other data. Met towers do not generate electricity.

- **Turbine Access Roads**

The Project will construct aggregate-surfaced site roads that will connect with public roads and provide access to the wind turbines and associated facilities for construction as well as for operations and maintenance. The exact width of the roads will be location-specific and depend upon final engineering. Generally, however, access roads used for crane travel or heavy truck traffic during construction are wider and after construction, the width of these roads is reduced and the excess width will be reclaimed. Any drainage tiles damaged during construction will be repaired or replaced. Culverts may be installed if washes cannot be crossed at grade and as a preventive measure to avoid any damage to the existing or new access roads and the existing highway/county road system. Turbine access roads will be available for the use of the landowner and their tenants.

IV. CONCLUSION

This application and its attachments demonstrate Jordan Creek's intention to comply with the Warren County Zoning Ordinance and with the general and specific standards and requirements described in the Warren County Zoning Ordinance. In order for construction to commence, all applicable federal, state and local requirements shall be met.

Upon Special Exception approval, Jordan Creek looks forward to the opportunity to construct the Project. Construction of the total Project is expected to: support approximately 200 - 250 construction workers; supply clean renewable energy to approximately 80,000 homes; pay landowners more than \$35 million over 25 years; pay property tax and economic development payments to the County of more than \$11 million in the first ten years of operations and more than \$32 million over 30 years; and be carried out safely and in compliance with all applicable local, state, and federal regulations. Above and

beyond compliance with these regulations, Jordan Creek will make all reasonable efforts to address any issues that arise throughout construction and operation of the facility.