

**Attachment A: Recommended Draft Site Certificate Conditions  
(to be replaced in final order with Site Certificate)**

## **Attachment A: List of Draft Site Certificate Conditions**

## List of Draft Site Certificate Conditions by Standard

As recited in the context of the applicable Council Standard to which they refer, the Department recommends that the Site Certificate be subject to the following conditions.

### General Standard of Review (OAR 345-022-0000)

**Recommended General Standard Condition 1 (CON):** The certificate holder shall begin and complete construction of the facility by the dates specified in the site certificate.

- a. Construction of the facility shall commence within three years after the date of Council action [DATE TO BE SPECIFIED]. Within 7 days of construction commencement, the certificate holder shall provide the Department written verification of the construction commencement date and that it has met the construction commencement deadline.
- b. Construction of all facility components shall be completed within three years after construction commencement identified in (a) of this condition. Within 7 days of construction completion, the certificate holder shall provide the Department written verification that it has met the construction completion deadline.

[GEN-GS-01; Mandatory Condition OAR 345-025-0006(4)]

**General Standard Condition 2 (OPR):** The certificate holder shall submit a legal description of the site to the Oregon Department of Energy within 90 days after beginning operation of the facility. The legal description required by this rule means a description of metes and bounds or a description of the site by reference to a map and geographic data that clearly and specifically identify the outer boundaries that contain all parts of the facility.

[OPR-GS-01; Mandatory Condition OAR 345-025-0006(2)]

**General Standard Condition 3 (GEN):** The certificate holder shall design, construct, operate, and retire the facility:

- a. Substantially as described in the site certificate;
- b. In compliance with the requirements of ORS Chapter 469, applicable Council rules, and applicable state and local laws, rules and ordinances in effect at the time the site certificate is issued; and
- c. In compliance with all applicable permit requirements of other state agencies.

[GEN-GS-02; Mandatory Condition OAR 345-025-0006(3)]

**General Standard Condition 4 (CON):** Except as necessary for the initial survey or as otherwise allowed for wind energy facilities, transmission lines or pipelines under this section, the certificate holder shall not begin construction, as defined in OAR 345-001-0010, or create a clearing on any part of the site until the certificate holder has construction rights on all parts of the site. For the purpose of this rule, "construction rights" means the legal right to engage in construction activities. For the transmission line associated with the energy facility, if the certificate holder does not have construction rights on all parts of the site, the certificate holder may nevertheless begin construction, as defined in OAR 345-001-0010, or create a clearing on a part of the site if the certificate holder has construction rights on that part of the site and the

certificate holder would construct and operate part of the facility on that part of the site even if a change in the planned route of a transmission line occurs during the certificate holder's negotiations to acquire construction rights on another part of the site.

[PRE-GS-01; Mandatory Condition OAR 345-025-0006(5)]

**General Standard Condition 5 (GEN):** If the certificate holder becomes aware of a significant environmental change or impact attributable to the facility, the certificate holder shall, as soon as possible, submit a written report to the Department describing the impact on the facility and any affected site certificate conditions.

[GEN-GS-03; Mandatory Condition OAR 345-025-0006(6)]

**General Standard Condition 6 (OPR):** Upon completion of construction, the certificate holder shall restore vegetation to the extent practicable and shall landscape all areas disturbed by construction in a manner compatible with the surroundings and proposed use. Upon completion of construction, the certificate holder shall remove all temporary structures not required for facility operation and dispose of all timber, brush, refuse and flammable or combustible material resulting from clearing of land and construction of the facility.

[OPR-GS-01; Mandatory Condition OAR 345-025-0006(11)]

**General Standard Condition 7 (GEN):** Before any transfer of ownership of the facility or ownership of the site certificate holder, the certificate holder shall inform the Department of the proposed new owners. The requirements of OAR 345-027-0100 apply to any transfer of ownership that requires a transfer of the site certificate.

[GEN-GS-04; Mandatory Condition OAR 345-025-0006(15)]

**Recommended General Standard Condition 8 (CON):** The certificate holder is authorized to construct 230-kV transmission lines anywhere within the approved 200-foot wide corridors, subject to the conditions of the site certificate. The 200-foot wide corridors include:

- a. Substation Connector Line: Approximately 6.8 mile, single circuit 230-kV transmission line extending between the two facility substations. As further described in ASC Exhibits B and C and as presented in Figure 1 of the site certificate.
- b. UEC Cottonwood Route: Approximately 25.3 mile transmission line extending from the northern substation to the existing UEC Cottonwood Substation. Approximately 8.4 miles would be a new single-circuit 230-kV transmission line, approximately 9.6 miles would replace an existing 12.47-kV distribution line with a 230-kV transmission line and distribution underbuild, and approximately 7.3 miles would upgrade an existing 115-kV UEC transmission line to a double-circuit 230/115-kV line with 12.47-kV underbuilt distribution. As further described in ASC Exhibits B and C and as presented in Figure 1 of the site certificate.
- c. BPA Stanfield Route: Approximately 5-mile 230 kV transmission line extending from the northern facility substation to the BPA Stanfield Substation, of which approximately 3 miles would parallel an existing BPA 500-kV transmission line, outside of the existing transmission



line's right-of-way. As further described in ASC Exhibits B and C and as presented in Figure 1 of the site certificate.

[GEN-GS-06; Site Specific Condition OAR 345-025-0010(5)]

**Recommended General Standard Condition 9 (PRE):** At least 90 days prior to beginning construction of the facility (unless otherwise agreed to by the Department), the certificate holder shall submit to the Department a compliance plan documenting and demonstrating actions completed or to be completed to satisfy the requirements of all site certificate terms and conditions and applicable statutes and rules. The plan shall be provided to the Department for review and compliance determination for each requirement. The Department may request additional information or evaluation deemed necessary to demonstrate compliance.

[PRE-GS-02; OAR 345-026-0048]

**Recommended General Standard Condition 10 (GEN):** Any matter of non-compliance under the site certificate is the responsibility of the certificate holder. Any notice of violation issued under the site certificate will be issued to the certificate holder. Any civil penalties under the site certificate will be levied on the certificate holder.

**Recommended General Standard Condition 11 (GEN):** In addition to the requirements of OAR 345-026-0170, within 72 hours after discovery of incidents or circumstances that violate the terms or conditions of the site certificate, the certificate holder must report the conditions or circumstances to the Department.

*Organizational Expertise (OAR 345-022-0010)*

**Recommended Organizational Expertise Condition 1 (PRE):** Prior to construction of the facility, facility component or phase, as applicable, the certificate holder shall notify the Department of the identity, telephone number, email address and qualifications of the full-time, on-site construction manager. Qualifications shall demonstrate that the construction manager has experience in managing permit and regulatory compliance requirements and is qualified to manage a utility-scale energy facility construction project. The notification shall include the construction manager's onsite schedule and shall demonstrate presence onsite during primary (major ground disturbance or activities) construction phases.

**Recommended Organizational Expertise Condition 2 (PRE):** Prior to construction of the facility, facility component or phase, as applicable, the certificate holder shall provide to the Department the identity and qualifications of the major design, engineering and construction contractor(s). The certificate holder shall select contractors that have substantial experience in the design, engineering and construction of similar facilities and a demonstrated low rate of job incidence and injury rates. The certificate holder shall report to the Department any changes of major contractors.

**Recommended Organizational Expertise Condition 3 (CON):** During construction, the on-site construction manager must be onsite or have identified an equivalent representative to be

onsite during primary (major ground disturbance or activities) construction phases. The certificate holder shall notify the Department within 72-hours upon any change in personnel or contact information for onsite managers.

**Recommended Organizational Expertise Condition 4 (PRO):** Before operation, the certificate holder shall notify the Department of the identity, telephone number, e-mail address and qualifications of the facility manager(s). Qualifications shall demonstrate that the operations manager has experience in managing permit and regulatory compliance requirements and is qualified to manage operation of a utility-scale energy facility.

**Recommended Organizational Expertise Condition 5 (OPR):** During operation, the facility manager(s) must be onsite or have identified an equivalent representative to be onsite, as is necessary to safely operate the facility.

**Recommended Organizational Expertise Condition 6 (PRE):** Prior to construction of the facility, facility component or phase as applicable, the certificate holder shall:

- a. Obtain and provide copies of all third-party permits needed.
- b. Provide proof of agreements between the certificate holder and the third-party regarding access to the resources or services secured by the permits or approvals identified per sub(a) above.

**Recommended Organizational Expertise Condition 7 (PRE):** Before beginning construction of the 230 kV UEC Cottonwood Transmission Line, if selected at final design, the certificate holder must provide evidence to the Department that an executed contract with UEC has been obtained, which binds the certificate holder and UEC to the terms and conditions of the site certificate, as applicable to the transmission line, for the life of the transmission line.

*Structural Standard (OAR 345-022-0020)*

**Recommended Structural Standard Condition 1 (PRE):** Prior to construction of the facility, facility component or phase, as applicable, the certificate holder shall:

- a. Submit a protocol for the site-specific geotechnical investigation of the analysis area to the Department, for review in consultation with a third-party consultant or DOGAMI. The protocol shall, at a minimum, be consistent with Attachment E of the Final Order on the ASC.
- b. Employ a certified Professional Engineer or Geologist to conduct a site-specific geotechnical investigation and prepare a report consistent with the Oregon State Board of Geologist Examiners Guideline for Preparing Engineering Geologic Reports, or newer guidelines if available to be submitted to the Department, for review in consultation with a third-party consultant or DOGAMI.
- c. Submit a copy of a final site-specific Geotechnical Investigation Report addressing (a)-(c) to the Department, for review and approval, consultation with a third-party consultant or DOGAMI.

**Structural Standard Condition 2 (GEN):** The certificate holder shall design, engineer and construct the facility to avoid dangers to human safety and the environment presented by seismic hazards affecting the site that are expected to result from all maximum probable seismic events. As used in this rule “seismic hazard” includes ground shaking, ground failure, landslide, liquefaction triggering and consequences (including flow failure, settlement buoyancy, and lateral spreading), cyclic softening of clays and silts, fault rupture, directivity effects and soil-structure interaction.

[Mandatory Condition OAR 345-025-0006(12)]

**Structural Standard Condition 3 (GEN):** The certificate holder shall notify the Department, the State Building Codes Division and the Department of Geology and Mineral Industries promptly if site investigations or trenching reveal that conditions in the foundation rocks differ significantly from those described in the application for a site certificate. After the Department receives the notice, the Council may require the certificate holder to consult with the Department of Geology and Mineral Industries and the Building Codes Division to propose and implement corrective or mitigation actions.

[Mandatory Condition OAR 345-025-0006(13)]

**Structural Standard Condition 4 (GEN):** The certificate holder shall notify the Department, the State Building Codes Division and the Department of Geology and Mineral Industries promptly if shear zones, artesian aquifers, deformations or clastic dikes are found at or in the vicinity of the site. After the Department receives notice, the Council may require the certificate holder to consult with the Department of Geology and Mineral Industries and the Building Codes Division to propose and implement corrective or mitigation actions.

[Mandatory Condition OAR 345-025-0006(14)]

*Soil Protection (OAR 345-022-0022)*

**Recommended Soil Protection Condition 1 (PRE):** The certificate holder shall:

- a. Prior to construction of roads within the wind facility micrositing area, consult with the Umatilla County Soil and Water Conservation District, Umatilla County Planning Department and Department on layout and design methods that would minimize impacts to agricultural lands.
- b. Prior to construction, consult with the Department and Oregon Department of Environmental Quality on the Erosion and Sediment Control Plans (ESCP) to be included in the application for the National Pollutant Discharge Elimination System Construction Stormwater Discharge (NPDES) General Permit 1200-C. Consultation shall address erosion control measures and identify Best Management Practices (BMPs) such as mulch, soil tackier, erosion control blankets, gravel, and swales and check dam installation based on site-specific information obtained during the preconstruction, geotechnical investigation,

final facility design limits of disturbance, grading plan (see requirements in the Revegetation Plan) and seasonal conditions at the time of disturbance.

**Recommended Soil Protection Condition 2 (CON):** The certificate holder shall:

- a. During construction, conduct all work in compliance with the NPDES General Permit 1200-C, including the monitoring and maintenance of all BMPs.
- b. Following completion of construction, provide evidence to the Department that the NPDES General Permit 1200-C permit was terminated by DEQ.

**Recommended Soil Protection Condition 3 (PRO):** Prior to operation, the certificate holder shall develop a Soil Monitoring Plan to evaluate impacts of topsoil loss and erosion during construction activities. The Soil Monitoring Plan shall identify the testing method, evaluative criteria and best management practices/corrective actions to be implemented if the results identify a significant impact to soil productivity.

**Recommended Soil Protection Condition 4 (PRE):** Prior to construction, the certificate holder shall submit to the Department a final copy of a Construction Spill Prevention Control and Countermeasures Plan (SPCC Plan), based on the draft SPCC Plan included in Attachment G-1 of the Final Order on the ASC.

**Recommended Soil Protection Condition 5 (CON):** During construction, the certificate holder shall conduct all work in compliance with the final SPCC Plan.

**Recommended Soil Protection Condition 6 (OPR):** During operational activities that include ground disturbance, the certificate holder shall ensure that the activities are planned with BMPs and erosion control materials in place, as necessary, and inspected and mitigated until site stabilization is achieved.

**Recommended Soil Protection Condition 7 (PRO):** Prior to operation, the certificate holder shall submit to the Department a final copy of an Operational Spill Prevention Control and Countermeasures Plan (SPCC Plan).

**Recommended Soil Protection Condition 8 (OPR):** During operations, the certificate holder shall conduct all work in compliance with the final SPCC Plan.

*Land Use (OAR 345-022-0030)*

**Recommended Land Use Condition 1 (PRE):** Subject to the Council's jurisdiction and authority pursuant to ORS 469.504(1), prior to construction of facility structures, as applicable, the certificate holder shall obtain zoning permits issued by the Planning Director, per affected tax lot, from Umatilla County Planning Department; copies of permits shall be provided to the Department.

**Recommended Land Use Condition 2 (PRE):** Prior to construction, the certificate holder shall finalize the Agricultural Mitigation Plan, based upon the preconstruction landowner consultation requirements provided in Attachment K-1 of the Final Order on the ASC. A copy of the final Agricultural Mitigation Plan shall be provided to the Department.

**Recommended Land Use Condition 3 (CON):** During construction, the certificate holder shall implement the design and construction methods, as established in the Agricultural Mitigation Plan, as finalized in Land Use Condition 2.

**Recommended Land Use Condition 4 (PRE):** Prior to construction of the UEC Cottonwood Transmission Line, if selected as the transmission line route during final facility design, the certificate holder shall demonstrate to the Department that steel structures would be used within the portions of the route with the RTC, AB, and LI zones.

**Recommended Land Use Condition 5 (PRE):** Prior to construction of wind facility components, the certificate holder shall provide final site maps with turbine locations and boundary right-of-way of County roads, state and interstate highways. The maps shall be accompanied by a table with distance (in feet) from turbines to road boundary rights-of-way and shall demonstrate that turbines have been sited based on a minimum setback of 110% of the overall tower-to-blade tip height.

**Recommended Land Use Condition 6 (PRE):** Prior to construction of wind facility components, the certificate holder shall:

- a. Identify all electrical transmission lines to be included in the final design.
- b. Demonstrate via maps presenting wind facility components and dwelling locations, obtained from Umatilla County, that all electrical transmission lines meet a minimum 500-foot setback from dwellings, unless located within a public right-of-way or landowner approval and deed recordation has been obtained and completed.

**Recommended Land Use Condition 7 (PRE):** Prior to construction of wind facility components, certificate holder shall demonstrate to the Department that its contractor(s) have developed a grading and cut-and-fill plan that utilizes existing site contours and demonstrates engineering measures to minimize grading and cut-and-fill to the maximum extent feasible.

**Recommended Land Use Condition 8 (PRE):** Prior to construction of wind facility components, the certificate holder shall provide to the Department final facility design maps, presenting all existing, new or substantially modified private roads for which it will have control during construction and operation. The maps shall identify the location of gates and facility signage that both prohibits illegal access and allows for emergency access.

**Recommended Land Use Condition 9 (CON):** During construction and operation, the certificate holder shall ensure gates and no trespassing signs are in place and maintained to prohibit illegal access and allow for emergency response.

**Recommended Land Use Condition 10 (PRE):** Prior to construction of underground collection lines associated with wind facility components, the certificate holder shall provide to the Department evidence that underground trenches for the underground electric collection system have been designed to extend a minimum depth of 3-feet below ground surface, unless technological or engineering feasibility are clearly identified.

**Recommended Land Use Condition 11 (PRE):** Prior to construction of the O&M building, the certificate holder shall provide to the Department evidence that the O&M design and construction materials are consistent with the characters of similar agricultural buildings used by commercial farmers or ranchers in Umatilla County.

**Recommended Land Use Condition 12 (PRE):** Prior to construction of wind facility components, the certificate holder, and underlying landowners on whose property the wind facility components are located, shall record in the real property records of Umatilla County a Covenant Not to Sue with regard to generally accepted farming practices on adjacent farmland.

**Recommended Land Use Condition 13 (PRO):** Prior to operation of wind facility components, the certificate holder shall provide the final location of each wind turbine, electrical collection system, O&M building, substation, access roads and transmission lines, as applicable to final design, to the Umatilla County Planning Department and Department in a format suitable for GPS mapping.

**Recommended Land Use Condition 14 (OPR):** Within each 3-year annual report to the Department, the certificate holder shall revise the decommissioning estimate for wind facility components based on evaluation of the assumptions of the costs of tasks and actions. Certificate holder shall confirm whether the bond or letter of credit maintained with the Department under Retirement and Financial Assurance Condition 4 needs to be updated to reflect revisions; or shall confirm that there are no revisions necessary.

**Recommended Land Use Condition (PRE) 15:** Prior to construction of the solar facility, the certificate holder shall provide evidence to the Department that it has executed a Strategic Investment Program (SIP) agreement with Umatilla County. In the SIP agreement or other documentation, the certificate holder shall demonstrate that negotiations with the county evaluated an investment fee amount and program, if available, that would benefit or preserve agriculture. If a SIP agreement is not executed with the county, certificate holder shall provide evidence to the Department of the alternative property tax payment option selected and shall identify any programs implemented by the county that would receive tax revenue with an agricultural benefit.

**Recommended Land Use Condition 16 (PRE):** Prior to construction of solar facility components, the certificate holder shall submit to the Department final solar facility component layout maps. The layout shall demonstrate that the perimeter fenceline is placed at the edge of existing agricultural fields or along property lines and is designed to minimize impacts, based on

landowner consultation, to any remaining agricultural activities adjacent to the perimeter fenceline. The layout maps shall also demonstrate that any other solar facility components outside of the perimeter fenceline have been designed in a manner that minimize unnecessary agricultural impacts (e.g. isolation of property or access impacts).

**Recommended Land Use Condition 17 (PRE):** Prior to construction of solar facility components, the certificate holder, and underlying landowners on whose property the solar facility components are located, shall record in the real property records of Umatilla County a Covenant Not to Sue with regard to generally accepted farming practices on adjacent farmland.

*Protected Areas (OAR 345-022-0040)*

**Recommended Protected Areas Condition 1 (PRE):** Prior to construction of the 230 kV UEC Cottonwood transmission line, if selected as the final design transmission line option, the certificate holder shall provide notice to the Department and BLM land manager for the Echo Meadows site of the 230 kV UEC Cottonwood transmission line construction schedule, potential construction-related noise impacts, and contact information to report noise complaints.

**Recommended Protected Areas Condition 2 (CON):** During construction of the 230 kV UEC Cottonwood transmission line, if selected as the final design transmission line option, the certificate holder shall, require contractors to have noise complaint and response signage on or near their equipment in a manner accessible to users of the Echo Meadows site. If noise complaints are received, contractors must attempt to reduce equipment-related noise levels, to the extent practicable.

*Retirement and Financial Assurance (OAR 345-022-0050)*

**Retirement and Financial Assurance Condition 1 (GEN):** The certificate holder shall prevent the development of any conditions on the site that would preclude restoration of the site to a useful, non-hazardous condition to the extent that prevention of such site conditions is within the control of the certificate holder.

[Mandatory Condition OAR 345-025-0006(7)]

**Retirement and Financial Assurance Condition 2 (RET):** The certificate holder shall retire the facility if the certificate holder permanently ceases construction or operation of the facility. The certificate holder shall retire the facility according to a final retirement plan approved by the Council, as described in OAR 345-027-0110. The certificate holder shall pay the actual cost to restore the site to a useful, nonhazardous condition at the time of retirement, notwithstanding the Council's approval in the site certificate of an estimated amount required to restore the site.

[Mandatory Condition OAR 345-025-0006(9)]

**Retirement and Financial Assurance Condition 3 (RET):** If the Council finds that the certificate holder has permanently ceased construction or operation of the facility without retiring the

facility according to a final retirement plan approved by the Council, as described in OAR 345-027-0110, the Council shall notify the certificate holder and request that the certificate holder submit a proposed final retirement plan to the Department within a reasonable time not to exceed 90 days. If the certificate holder does not submit a proposed final retirement plan by the specified date, the Council may direct the Department to prepare a proposed final retirement plan for the Council's approval.

Upon the Council's approval of the final retirement plan, the Council may draw on the bond or letter of credit described in OAR 345-025-0006(8) to restore the site to a useful, nonhazardous condition according to the final retirement plan, in addition to any penalties the Council may impose under OAR Chapter 345, Division 29. If the amount of the bond or letter of credit is insufficient to pay the actual cost of retirement, the certificate holder shall pay any additional cost necessary to restore the site to a useful, nonhazardous condition. After completion of site restoration, the Council shall issue an order to terminate the site certificate if the Council finds that the facility has been retired according to the approved final retirement plan.

[Mandatory Condition OAR 345-025-0006(16)]

**Recommended Retirement and Financial Assurance Condition 4 (PRE):** Before beginning construction of the facility or a facility component, the certificate holder shall submit to the State of Oregon, through the Council, a bond or letter of credit naming the State of Oregon, acting by and through the Council, as beneficiary or payee. The total bond or letter of credit amount for the facility is \$39.643 million dollars (Q1 2022 dollars), to be adjusted to the effective date, and adjusted on an annual basis thereafter, as described in sub-paragraph (b) of this condition:

- a. The certificate holder may adjust the amount of the bond or letter of credit based on the design configuration of the facility, or any phase of the facility, by applying the unit costs presented in Table X of the Final Order on the ASC, and the contingencies illustrated in Table X of the Final Order on the ASC and may further make adjustments based on unit costs for task and actions presented in ASC Exhibit W Attachment W-1 and W-2. Any revision to the restoration costs should be adjusted to the effective date as described in (b). Any modification to the unit costs presented in Table X of the Final Order on the ASC are subject to review and approval by the Council.
- b. The certificate holder shall adjust the amount of the bond or letter of credit using the following calculation:
  - i. Adjust the amount of the bond or letter of credit (expressed in Q1 2022 dollars) to present value, using the U.S. Gross Domestic Product Implicit Price Deflator, Chain Weight, as published in the Oregon Department of Administrative Services' "Oregon Economic and Revenue Forecast" or by any successor agency and using the first quarter 2022 index value and the quarterly index value for the date of issuance of the new bond



or letter of credit. If at any time the index is no longer published, the Council shall select a comparable calculation to adjust first quarter 2022 dollars to present value.

- ii. Round the result total to the nearest \$1,000 to determine the financial assurance amount.
- c. The certificate holder shall use an issuer of the bond or letter of credit and a bond or letter of credit form approved by the Council, based on the Council's pre-approved financial institution list and form.

[Mandatory Condition OAR 345-025-0006(8)]

*Fish and Wildlife Habitat (OAR 345-022-0060)*

**Recommended Fish and Wildlife Condition 1 (PRE):** Prior to construction, the certificate holder shall finalize and submit to the Department, for review and approval, the Revegetation and Noxious Weed Plan, as provided in Attachment P-2 of the Final Order on the ASC.

**Recommended Fish and Wildlife Condition 2 (CON):** During construction, the certificate holder shall implement and adhere to the requirements of the final Revegetation and Noxious Weed Plan.

**Recommended Fish and Wildlife Condition 3 (OPR):** During operation, the certificate holder shall implement and adhere to the applicable requirements of the final Revegetation and Noxious Weed Plan.

**Recommended Fish and Wildlife Condition 4 (PRE):** Prior to construction, the certificate holder shall:

- a. Calculate the size of the habitat mitigation area (HMA) for permanent and temporal habitat impacts, based on final facility design. The calculation must be based on the ratios and methods presented in the Final Order on the ASC and provided to the Department for review and approval.
- b. Provide evidence to the Department demonstrating that an agreement of outright purchase, conservation easement or similar conveyance has been executed for the enhancement and protection of the HMA under the requirements of the Habitat Mitigation Plan, to extend for the life of the facility.
- c. Submit a final Habitat Mitigation Plan to the Department for review and approval, substantially similar to the draft plan provided in Attachment P-1 of the Final Order on the ASC.

**Recommended Fish and Wildlife Condition 5 (OPR):** During operation, the certificate holder shall implement and adhere to the requirements of the Habitat Mitigation Plan, as approved per Fish and Wildlife Condition 4.

**Recommended Fish and Wildlife Condition 6 (PRE):** Prior to construction, the certificate holder shall provide evidence to the Department that the design measures included in the Wildlife

Monitoring and Adaptive Management Plan have been included in the final facility design and construction contractor contracts, as applicable.

**Recommended Fish and Wildlife Condition 7 (CON):** During construction, the certificate holder shall adhere to the requirements of the Wildlife Monitoring and Adaptive Management Plan. Monitoring records shall be maintained throughout construction and included in the semi-annual report submitted to the Department pursuant to OAR 345-026-0080.

**Recommended Fish and Wildlife Condition 8 (OPR):** During operation, the certificate holder shall implement and adhere to the Wildlife Monitoring Plan, as provided in Attachment P-3 of this order.

*Threatened and Endangered Species (OAR 345-022-0070)*

**Recommended Threatened and Endangered Species Condition 1 (PRE):** Prior to construction of facility components, the certificate holder shall:

- a. Submit a protocol-level survey plan for surveys to be conducted within suitable habitat for Washington ground squirrel (WGS), for review and approval by the Department in consultation with ODFW. At a minimum, the survey plan shall specify the survey area (all areas of suitable habitat within 1,000 feet of ground disturbing activities except where there is a habitat barrier (e.g., a paved road)); survey timing (February 15 to May 31, unless otherwise approved by ODFW); and, land access restrictions and any justification for modified survey methods.
- b. Complete protocol-level WGS surveys based on the protocol approved per (a).
- c. Submit survey reports to the Department and ODFW. The certificate holder shall not begin construction within 1,000 feet of Category 1 or Category 2 WGS habitat until the identified boundaries of Category 1 WGS habitat have been approved by the Department, in consultation with ODFW. Category 1 habitat includes a 785-foot buffer from an identified active burrow, and also the area within the perimeter of multiple active burrows. Category 2 WGS habitat consists of a 4,136 foot buffer from the exterior boundary of all Category 1 WGS habitat. The survey results are valid for 3-years.
- d. Develop maps and worker training materials to inform of sensitive Category 1 and Category 2 habitat. Submit to the Department final facility design maps demonstrating that Category 1 habitat, including 785-buffer from any colonies identified per (b), is avoided.
- e. Install flagging or other demarcation, as appropriate, to inform workers of sensitive WGS habitat and of avoidance requirement.

**Recommended Threatened and Endangered Species Condition 2 (CON):** In years 1, 2 or 3 following the preconstruction protocol-level WGS surveys, in areas of ground disturbance within 1,000-feet of previously identified WGS colonies, the certificate holder shall:

- a. Install and monitor flagging/temporary fencing to ensure avoidance of sensitive WGS habitat.

- b. Perform WGS surveys (non-protocol, spot check) and update maps and flagging. Provide updated maps to the Department and ODFW and identify any significant change in previously identified WGS habitat.

**Recommended Threatened and Endangered Species Condition 3 (OPR):** During operation and maintenance, results of the most recent survey year of the long-term WGS monitoring conducted under the Wildlife Monitoring Plan (Attachment P-3 of the this order), must be used to inform work area restrictions (785-foot avoidance buffer) within 1,000-feet of suitable WGS habitat.

**Recommended Threatened or Endangered Species Condition 4 (PRE):** Prior to construction of the facility, the certificate holder shall:

- a. Submit a botanical survey protocol to the Department for review in consultation with the Oregon Department of Agriculture. The protocol shall apply to areas of suitable habitat for Laurence's milkvetch using current habitat classification data and areas of ground disturbance. Previous survey results may be relied upon if determined appropriate during review and approval of the protocol.
- b. Conduct botanical surveys to confirm the presence or absence of Laurence's milkvetch, within suitable habitat in areas of permanent or temporary disturbance.
- c. Survey results must be submitted to the Department and Oregon Department of Agriculture's Native Plant Conservation Division. If the pre-construction surveys identify these or any other state threatened or endangered plant species, the certificate holder shall complete an impact assessment to determine whether temporary or permanent impacts would significantly reduce the likelihood of survivability or recovery of the impacted species, and shall propose mitigation, as determined appropriate by the Department, in consultation with the Oregon Department of Agriculture or its third-party consultant, as necessary. These measures may include avoidance, or if avoidance is not possible, other measures such as seed collection may be considered. If rare plants are identified within a public right-of-way and cannot be avoided by construction, then in accordance with ORS 564, written permission from the landowner or lease holder must be obtained. If seed collection is determined to be feasible and warranted, a permit from the Oregon Department of Agriculture must be obtained in accordance with OAR 603-073-0100 (3).

**Recommended Threatened or Endangered Species Condition 5 (GEN):** Certificate holder shall maintain a map of previously identified Laurence's milkvetch populations within the micrositing area. The map shall be used to inform flagging or other avoidance mechanism to ensure avoidance of ground disturbance within 20-feet of the populations. The avoidance flagging areas may be updated at any time based on more current survey results, if completed.

Scenic Resources (OAR 345-022-0080)

[No Recommended Conditions]

Historic, Cultural and Archeological Resources (OAR 345-022-0090)

**Recommended Historic, Cultural and Archeological Resources Condition 1 (PRE):** Prior to construction, the certificate holder shall:

- a. Submit to the Department and SHPO a research design consistent with SHPO's archeological guidelines and recommendations for unsurveyed areas, and the Subsurface Probing Plan included as Attachment S-3 of the Final Order on the ASC,
- b. Complete archeological field investigations and subsurface probing in accordance with the research design and Subsurface Probing Plan under (a). Submit survey reports to the Department and SHPO. Any new resources and management recommendations identified must be evaluated under OAR 345-027-0357 to determine whether a site certificate amendment is required. Resources and management recommendations, shall be reviewed by the Department in consultation with SHPO or a third-party consultant within 60-days. Once approved, the management recommendations shall be incorporated into the Monitoring and Inadvertent Discovery Plan, per Historic, Cultural and Archeological Resources Condition 2.

**Recommended Historic, Cultural, and Archeological Resources Condition 2 (PRE):** Prior to construction, the certificate holder shall finalize the Draft Monitoring and Inadvertent Discovery Plan (MIDP), based on Attachment S-1 of the Final Order on the ASC, based on review and approval by the Department. The final plan shall include:

- a. Tables 12, 13 and 14 of the Final Order on the ASC and maps of the final facility layout, resource location and established 50-meter avoidance buffer. Any additional resources identified in the preconstruction surveys per Historic, Cultural and Archeological Resources Condition 1 must also be included.
- b. Avoidance method (e.g. worker training, flagging) and monitoring protocol for ground-disturbing activities within 50-meters of previously identified precontact sites.
- c. Flagging and monitoring protocol for any ground-disturbing activities within 200-feet of NH-BB-03, 35UM 00536, 35UM 00543 35UM 00550, 35UM 00560 and 35UM 00571.

**Recommended Historic, Cultural, and Archeological Resources Condition 3 (GEN):** During any ground-disturbing activities, the certificate holder shall adhere to the requirements of the MIDP. Any failures to adhere to the MIDP must be reported to the Department and SHPO; impacts must be addressed and mitigation measures must be proposed and implemented for any listed or likely-NRHP eligible resources; worker training may be used to address impacts to resources identified as not-likely NRHP eligible.

**Recommended Historic, Cultural, and Archeological Resources Condition 4 (GEN):** Results of monitoring and any efforts conducted as a result of the inadvertent discovery protocols under the MIDP shall be documented in a Monitoring Report submitted to the Department in the semi-annual or annual report, or as soon as practical in circumstances of a discovery or monitoring issue.

**Recommended Historic, Cultural and Archeological Condition 5 (PRE):** Prior to construction of wind turbine components, the certificate holder shall:

- a. Evaluate whether if, based on final facility design, the setting of any of the 3 likely NRHP eligible aboveground, historic properties referenced in Table 15 of the Final Order on the ASC would no longer be impacted by wind turbine visibility. If any of these property settings would not be impacted, the mitigation requirements for un impacted resources would not apply.
- b. Based on (a), submit a protocol or design of the Intensive Level Survey, consistent with SHPO's 2011 Guidelines for Historic Resources Surveys in Oregon, for review and approval by the Department, in consultation with SHPO;
- c. Complete photo documentation of the setting of the properties at T2N/R30E and T2N/R29E; and the Pendleton Ranches Sheep Camp/Bunk House, unless any of these property settings would not be impacted per (a);
- d. Initiate work detailed in the Historic Resources Mitigation Plan (HRMP), provided in Attachment S-6 of the Final Order on the ASC, included as Attachment S-2 of this order.

**Recommended Historic, Cultural and Archeological Condition 6 (CON):** Within three years of construction of wind turbine components, the certificate holder shall submit draft reports documenting the results of the Intensive Level Surveys, of the HRMP under Historic, Cultural and Archeological Condition 5, concurrently to the Department and SHPO. Report cover pages to SHPO shall include a Department contact name and specify that the report is submitted as mitigation for an EFSC facility. Any comments received from the Department and SHPO within 30-days of the draft reports must be addressed within final reports.

*Recreation (OAR 345-022-0010)*

**Recommended Recreation Condition 1 (PRE):** Prior to construction of the 230 kV BPA Stanfield transmission line, if selected as the final design transmission line option, the certificate holder shall provide notice to the Department and landowner for the Corral Springs ONHT site of the 230 kV BPA Stanfield transmission line construction schedule, potential construction-related noise impacts, and contact information to report noise complaints.

**Recommended Recreation Condition 2 (CON):** During construction of the 230 kV BPA Stanfield transmission line, if selected as the final design transmission line option, the certificate holder shall, require contractors to have noise complaint and response signage on or near their equipment in a manner accessible to users of the Corral Springs ONHT site. If noise complaints are received, contractors must attempt to reduce equipment-related noise levels, to the extent practicable.

*Public Services (OAR 345-022-0100)*

**Recommended Public Services Condition 1 (PRE):** Prior to construction of the facility, or facility component, the certificate holder shall:

- a. Based on final design, finalize, identify, and provide maps of all public roads used for construction, road names, locations, segments used, and road conditions and include in Final Traffic Management Plan identified in (b) and (c).

- b. Submit executed road use agreements between Umatilla County and the certificate holder or its contractor. Any Final Traffic Management Plan that is part of the road use agreements shall include, at a minimum, the provisions designated in Section II of Attachment U-1 of the Final Order on ASC.
  - a. If final transportation/haul routes selected are within the City of Echo or the unincorporated community of Nolin and are not managed by the County, the certificate holder shall contact and coordinate with the local governments, execute a similar road use agreement that includes, at a minimum, the provisions designated in Section II of Attachment U-1 of the Final Order on ASC, and submit any final agreements to the Department.
- c. If a Final Traffic Management Plan designated in sub (a) is not included in road use agreements executed with Umatilla County, then submit a Final Traffic Management Plan. A copy of the Final Traffic Management Plan shall be provided to the Department and Umatilla County Public Works Department. The Construction Traffic Management Plan shall, at a minimum, include the provisions in Section II of Attachment U-1 of the Final Order on ASC.
- d. Submit to the Department, any ODOT permits obtained by the certificate holder, its third-party contractors or subcontractors including but not limited to Oversize Load Movement Permit/Load Registration, Permit to Occupy or Perform Operations Upon a State Highway, and/or an Access Management Permit.

**Recommended Public Services Condition 2 (CON):** During construction of the facility, or facility component, the certificate holder shall ensure that construction contractors adhere to the requirements of the Final Traffic Management Plan.

**Recommended Public Services Condition 3 (PRE):** Prior to construction of the facility, facility component or phase, as applicable, the certificate holder shall submit 7460-1 Notice of Proposed Construction or Alteration Forms for all new or replaced supporting facilities or structures that meet the height and imaginary surface criteria for notice to FAA and ODA. Provide copies of FAA determinations and ODA comments to the Department.

**Recommended Public Services Condition 4 (CON):** Within five-days after construction of facility components evaluated in the FAA Form 7460-1 reach their greatest height as specified in the FAA determinations listed in Public Services Condition 3(b), the certificate holder shall submit 7460-2 forms to FAA and Aviation and shall report both timing of submission and any results to the Department.

**Recommended Public Services Condition 5 (OPR):** During facility operation, the certificate holder shall operate the facility in compliance with FAA required lighting for facility wind turbines, met towers, and transmission line(s).

**Recommended Public Services Condition 6 (PRO):** Prior to operation the certificate holder shall contact the Echo Rural Fire Protection District (Echo RFPD) and Umatilla County Fire

District #1 (UDFD #1) to schedule an on-site orientation to review facility layout and safety procedures.

**Recommended Public Services Condition 7 (PRE):** Prior to construction of the facility, or facility component the certificate holder shall:

- a. Finalize and submit to the Department a Fire Prevention, Suppression and Emergency Management Plan which shall include at a minimum the provisions included in Attachment U-2 of the Final Order on ASC.
- b. Submit copies of the Final Fire Prevention, Suppression and Emergency Management Plan to the Echo Rural Fire Protection District (Echo RFPD) and Umatilla County Fire District #1 (UDFD #1).

**Recommended Public Services Condition 8 (OPR):** During operation the certificate holder shall operate the facility consistent with the provisions in the Final Fire Prevention, Suppression and Emergency Management Plan, as approved in Public Services Condition 7. If substantive updates or changes are made to the Plan, submit copies of the updated Plan to the Department and to the Echo Rural Fire Protection District (Echo RFPD) and Umatilla County Fire District #1 (UDFD #1).

*Waste Minimization (OAR 345-022-0120)*

**Recommended Waste Minimization Condition 1 (PRE):** Prior to construction of the facility, facility component or phase, as applicable, the certificate holder shall require contractors to develop and submit to the Department for review and approval, Construction Waste Management Plan(s) that, at a minimum, include the following:

- a. All sources and quantities of construction waste and wastewater, including damaged or dysfunctional energy facility components, and where feasible, estimated quantities that can be recycled.
- b. Process for disposal and recycling, including use of licensed haulers and disposal/recycling facilities; names and locations of licensed recycling and disposal facilities; collection, hauling and tracking requirements.
- c. Requirements for securing landowner disposal agreement and evidence of evaluation and avoidance of sensitive resources if offsite spoil disposal is necessary.
- d. Process for requesting a permit exemption from DEQ pursuant to OAR 340-093-0080 to ensure that concrete washout materials reused in foundation backfill are substantially the same as clean fill.
- e. Process for training workers and tracking compliance with the requirements of the plan.

**Recommended Waste Minimization Condition 2 (CON):** During construction of the facility, facility component or phase, as applicable, the certificate holder shall require that contractors adhere to the requirements of the Construction Waste Management Plan(s) and maintain records of employee training and tracking compliance onsite and available upon Department request.

**Recommended Waste Minimization Condition 3 (CON):** During construction, on-site concrete washwater disposal is prohibited unless DEQ approval of a permit exemption for materials substantially similar to clean fill is obtained. If DEQ approval of a permit exemption is obtained, concrete washwater must be disposed of onsite via infiltration and evaporation in accordance with a DEQ-issued NPDES 1200-C permit.

**Recommended Waste Minimization Condition 4 (PRO):** Prior to operation of solar facility components, the certificate holder shall develop a Solar Panel Recycling Plan or protocol requiring that damaged or nonfunctional panels be recycled through the Solar Energy Industries Association National PV Recycling Program (or similar program), to the extent practicable. The certificate holder shall report in its annual report to the Department the quantities of panels recycled, reused or disposed of in a landfill.

**Recommended Waste Minimization Condition 5 (OPR):** During operation of solar facility components, the certificate holder shall adhere to the requirements of the Solar Panel Recycling Plan or protocol developed under Waste Minimization Condition 4.

**Recommended Waste Minimization Condition 6 (OPR):** During operation of wind facility components, the certificate holder shall ensure its third-party contractors reuse or recycle wind turbine blades, hubs and other removed wind turbine components, to the extent practicable. The certificate holder shall demonstrate that the recycling or disposal facility selected to receive turbine parts is licensed. The certificate holder shall report in its annual report to the Department the quantities of removed wind turbine components recycled, reused, sold for scrap, or disposed of in a landfill.

**Recommended Waste Minimization Condition 7 (OPR):** During operation of the solar facility components, the certificate holder shall:

- a. Prohibit use of chemicals, soaps, detergents and heated water unless Chemical Safety Data Sheets for low volatile organic compound/biodegradable cleaning chemicals and solvents are submitted to the Department for review and approval prior to use;
- b. Ensure that pressure washing is conducted in a manner that does not remove paint or other finishes.
- c. Discharge wash water through evaporation and infiltration only.

**Public Health and Safety Standards for Wind Facilities (OAR 345-024-0010)**

**Recommended Public Health and Safety Standards for Wind Facilities Condition 1 (OPS):**

During operation, the certificate holder shall develop and implement an operational safety-monitoring program that includes regular inspections, maintenance, and reporting program to prevent structural or electrical failure of wind turbine foundations, towers, blades, or electrical equipment. Required elements of the operational safety-monitoring program include:

- a. Identify and conduct inspections and testing of wind facility components, including but not limited to foundations, towers, blades, nacelle, pad-mounted transformers, and SCADA



system, consistent with manufacturers' recommendations and recognized and generally accepted good engineering practices (RAGAGEP) for frequency and process.

- b. Maintain records of each inspection and test performed. Records shall:
  - i. Identify the date of the inspection or test, the name of the person who performed the inspection or test, the serial number or other identifier of the equipment on which the inspection or test was performed, a description of the inspection or test performed, and the results of the inspection or test.
  - ii. Identify testing or inspection results that show deficiencies in equipment or operation issues that are outside acceptable limits or recommendations identified by the manufacturer. These issues must be corrected before further use, or in a safe and timely manner if precautions are taken to assure safe operation.
  - iii. Be made available for inspection by the Department's Compliance Officer during site visits, or upon request from the Department. A summary report of the annual inspections, testing and maintenance activities performed shall be submitted to the Department pursuant to OAR 345-026-0080 in the facility's annual compliance report. The summary report shall include the details of the replacement of any system components which could impact the structural integrity of foundations, towers and blades.
- c. In the event of blade or tower failure, a structural or electrical issue that causes a fire or other safety hazard the certificate holder shall report the incident to the Department within 72 hours, in accordance with OAR 345-026-0170(1), and shall, within 30 days of the event, submit a report which contains:
  - i. A discussion of the cause of the reported incident including results of on-site or remote inspections or investigations;
  - ii. A description of immediate actions taken to correct the reported conditions or circumstances; and
  - iii. A description of actions taken or planned to minimize the possibility of recurrence and a description of manufacturers' recommendations and recognized and generally accepted good engineering practices to avoid instances in the future.

**Recommended Public Health and Safety Standards for Wind Facilities Condition 2 (PRE):** Prior to operation, the certificate holder shall submit to the Department the operational safety-monitoring program elements described in Public Health and Safety Standards for Wind Facilities Condition 1(a).

*Cumulative Effects Standard for Wind Energy Facilities (OAR 345-024-0015)*

**Recommended Cumulative Effects Standard for Wind Energy Facilities Condition 1 (GEN):** The certificate holder shall design, construct, and operate the facility to reduce cumulative adverse environmental effects in the vicinity by using existing roads to provide access to the facility. And new roads must minimize the amount of land used and be located to reduce adverse environmental impacts.

**Recommended Cumulative Effects Standard for Wind Energy Facilities Condition 2 (PRE):**

Prior to construction, the certificate holder shall:

- a. Evaluate existing roads on private property and use existing roads to the maximum extent practicable for construction and operation; and
- b. Provide to the Department a map set illustrating the location of new roads used for construction and operation of the facility. Maps shall illustrate the locations of:
  - i. New roads
  - ii. Wetlands or waters of the state;
  - iii. Category 1 through Category 5 habitats;
  - iv. Active agricultural lands and property boundaries.

*Siting Standards for Transmission Lines (OAR 345-024-0090)*

**Recommended Siting Standards for Transmission Lines Condition 1 (GEN):**

- a. The certificate holder must design, construct and operate the transmission lines in accordance with the requirements of the National Electrical Safety Code as approved by the American National Standards Institute; and
- b. The certificate holder must develop and implement a program that provides reasonable assurance that all fences, gates, cattle guards, trailers, or other objects or structures of a permanent nature that could become inadvertently charged with electricity are grounded or bonded throughout the life of the line.

[Site Specific Condition OAR 345-025-0010(4)]

*Noise Control Regulations (OAR 340-035-0035)*

**Recommended Noise Control Condition 1:** Prior to construction, the certificate holder shall provide to the Department:

- a. Information that identifies the final design locations of all facility components to be built at the facility;
- b. The maximum sound power level for all noise generating facility components based on manufacturers' warranties or confirmed by other means acceptable to the Department;
- c. The results of the noise analysis of the final facility design performed in a manner consistent with the requirements of OAR 340-035-0035(1)(b)(B)(iii)(IV) and (VI). The analysis must demonstrate to the satisfaction of the Department that the total noise generated by the facility would meet the ambient noise degradation test and maximum allowable test at the appropriate measurement point for all potentially-affected noise sensitive properties within 1-mile of the site boundary, unless otherwise agreed upon by the Department based on the acoustic noise environment, or that the certificate holder has obtained the legally effective easement or real covenant for expected exceedances of the ambient noise degradation test described (d) below; and,
- d. For each noise-sensitive property where the certificate holder relies on a noise waiver to demonstrate compliance in accordance with OAR 340-035-0035(1)(b)(B)(iii)(III), a copy of the legally effective easement or real covenant pursuant to which the owner of the property authorizes the certificate holder's operation of the facility to increase ambient

statistical noise levels  $L_{10}$  and  $L_{50}$  by more than 10 dBA at the appropriate measurement point. The legally effective easement or real covenant must: include a legal description of the burdened property (the noise sensitive property); be recorded in the real property records of the county; expressly benefit the property on which the wind energy facility is located; expressly run with the land and bind all future owners, lessees or holders of any interest in the burdened property; and not be subject to revocation without the certificate holder's written approval.

**Recommended Noise Control Condition 2:** During operation, the certificate holder shall maintain a complaint response system to address noise complaints. The certificate holder shall notify the Department within two working days of receiving a noise complaint related to the facility. The notification should include, but is not limited to, the date the certificate holder received the complaint, the nature of the complaint, the complainant's contact information, the location of the affected property, and any actions taken, or planned to be taken, by the certificate holder to address the complaint.

*Removal Fill (ORS 196.795 through 196.990)*

**Recommended Removal Fill Condition 1 (PRE):** Prior to construction of the 230 kV transmission line, the certificate holder shall:

- a. Conduct field delineation surveys within unsurveyed transmission line corridor areas to identify any potentially jurisdictional wetlands or waters of the state.
- b. If, based on the field delineation surveys conducted per (a), construction activities would result in 50 cy or more of removal-fill, submit the field delineation report to DSL and the Department, requesting DSL concurrence and confirmation of removal-fill permit applicability. If DSL concurrence is received on the identified wetlands/waters of the state, seek approval from EFSC to include removal fill permit requirements in a request for site certificate amendment; or
- c. If a removal-fill permit is not required for disturbance impacts within the transmission line corridors, comply with Removal-Fill Condition 2(a) and (b).

**Recommended Removal Fill Condition 2 (PRE):** Prior to construction of facility components within the wind micrositing area, the certificate holder shall:

- a. Provide the Department maps and GIS data showing the final design/layout and location of jurisdictional wetlands and waters of the state (WOS) as presented in Table X of the Final Order on the ASC and as a result of Removal-Fill Condition 1, if applicable; and, in tabular format, the distance from each facility component to the nearest jurisdictional wetland or WOS, demonstrating that facility components are at least 50 feet or more from any of the jurisdictional wetlands and waters of the state referred to in (a).
- b. If final design of facility components cannot adhere to the 50-foot buffer under (a)(i), provide evidence to the Department that a removal-fill permit has been obtained by a third-party or through a site certificate amendment; or that a removal fill permit is not required.
- c. Provide the Department a copy of the Worker Environmental Awareness Training, developed for construction workers, to inform and educate on the location of jurisdictional

wetlands and WOS and of the purpose and specific location of exclusion flagging and signage.

**Recommended Removal Fill Condition 3 (CON):** During construction of facility components within the wind micrositing area the certificate holder shall:

- a. Require contractors to complete the Worker Environmental Awareness training described in (a)(i). Maintain training records onsite for Department review upon request.
- b. Maintain maps onsite and ensure contractors have awareness of the location of jurisdictional wetlands and WOS during construction activities.
- c. Install flagging or signage around jurisdictional wetlands and WOS around the delineated boundary including a 50-foot buffer, when any construction activities are planned to occur within 150 feet.
- d. Monitor flagging and signage and repair or replace flagging and signage, as needed, following weather events or construction impacts.
- e. If construction impacts encroach upon the 50-foot buffer under (b)(iii), provide evidence to the Department that a removal-fill permit has been obtained by a third-party or through a site certificate amendment; or that a removal fill permit is not required.

**Recommended Removal Fill Condition 4 (OPR):** During operation and maintenance (O&M) of facility components within the wind micrositing area the certificate holder shall:

- a. Require employees and contractors to complete the Worker Environmental Awareness training described in (a)(i). Maintain training records onsite for Department review upon request.
- b. Maintain maps onsite and ensure employees and contractors have awareness of the location of jurisdictional wetlands and WOS during construction activities.
- c. Install flagging or signage around jurisdictional wetlands and WOS around the delineated boundary including a 50-foot buffer, when any O&M activities are planned to occur within 150 feet.
- d. Monitor flagging and signage and repair or replace flagging and signage, as needed, following weather events or O&M impacts.
- e. If O&M impacts encroach upon the 50-foot buffer under (c)(iii), provide evidence to the Department that a removal-fill permit has been obtained by a third-party or through a site certificate amendment; or that a removal fill permit is not required.

**Recommended Removal Fill Condition 5 (PRE):** Prior to construction of the 230 kV BPA Stanfield transmission line, if selected, the certificate holder shall identify the construction method to be used to cross the Umatilla River.

**Recommended Removal Fill Condition 6 (CON):** During construction of the 230 kV BPA Stanfield transmission line, if selected, the certificate holder shall verify that removal-fill impacts do not occur below the OHWL unless a removal-fill permit is obtained from DSL through a third-party or a site certificate amendment.

Water Rights (ORS 537, 540 and 690)

**Recommended Water Rights Condition 1 (PRE):** Prior to construction of the facility, facility component or phase, as applicable, the certificate holder shall identify all water-related needs and estimate daily and annual water demand for each construction phase. Provide excerpts of agreements or other similar conveyance to the Department demonstrating that construction activities will be adequately and legally served by service providers or third-party permits.

**Recommended Water Rights Condition 2 (CON):** During construction of the facility, facility component or phase, as applicable, if a water right, limited water use license or water rights transfer is needed and would not be obtained by a third-party, submit and obtain approval of the applicable water permit through the site certificate amendment process.

**Recommended Water Rights Condition 3 (PRO):** Prior to operation, the certificate holder shall:

- a. Identify all water-related needs and estimate daily and annual water demand. If a water right, limited water use license or water rights transfer is needed and would not be obtained by a third-party, submit and obtain approval of the applicable water permit through the site certificate amendment process.
- b. Install the groundwater well in accordance with the recording requirements under OAR 690-190-0100. If the certificate holder is not the landowner, the certificate holder shall facilitate the landowner submission of required materials to Oregon Water Resources Department. The certificate holder shall submit to the Department a copy of the file submitted to Oregon Water Resources Department. This could also occur within 30 days after exempt well completion under ORS 537.545, whichever occurs first.

**Recommended Water Rights Condition 4 (OPR):** During operation, the onsite well must not exceed 5,000 gallons of water use per day for the facility unless a water right or limited water use license is obtained via third-party or site certificate amendment.

**Attachment B: Reviewing Agency Comments on preliminary/complete ASC**

### Index of Reviewing Agency Comments on preliminary/Complete ASC

Commenter Name	Reviewing Agency	Date Received	DPO Section	DocID
John Shafer	Umatilla County Planning Department	April 15, 2020	IV.E.1 <i>Applicable Substantive Criteria</i>	NHWAPDoc3-9 pASC Umatilla County comment 2020-04-15.
George Murdock	Umatilla County Board of County Commissioners	January 20, 2021		NHWAPDoc3-9 pASC Umatilla County comment 2021-01-20.
Sean Tarter	City of Pendleton	February 2, 2022	IV.F.3. <i>Potential Water Use Impacts at Protected Areas</i>	NHWAPDoc5 ASC Reviewing Agency Comment_City of Pendleton_Water_Tarter 2022-02-02
Greg Rimbach	Oregon Department of Fish and Wildlife	February 18, 2022	IV.I.2. <i>Impacts and Mitigation to State-listed T&amp;E Species</i>	NHWAPDoc5-2 ASC Reviewing Agency Comment ODFW_Rimbach_2022-02-18
Jordan Brown	Oregon Department of Agriculture	April 2, 2022		NHWAPDoc5-7 ASC ODOE and Dept of Agriculture Consultation 2022-04-02
Brian Woolf	Bureau of Land Management	April 30, 2021	IV.J. <i>Scenic Resources</i>	NHWAPDoc3-12 pASC BLM comment Protected Areas impacts Echo Meadows Woolf 2021-04-30
Jason Allen, M.A.	State Historic Preservation Office	December 22, 2020	IV.K.2. <i>Evaluation, Avoidance, and Mitigation for Impacts to Historic, Cultural, and Archeological Resources</i>	NHWAPDoc3-6 pASC SHPO comment_Allen 2020-12-22
B. Lee Black	Oregon-California Trails Association	November 4, 2020		NHWAPDoc3-13 pASC OCTA Oregon Trails comment 2020-11-04.
John Pouley, M.A., RPA	State Historic Preservation Office	April 14, 2022		NHWAPDoc5-5 Reviewing Agency Comment_SHPO_2022-04-14
Teara Farrow Ferman	Confederated Tribes of the Umatilla Indian Reservation	November 10, 2020		NHWAPDoc3-4 pASC CTUIR comment received 2020-11-10
Brian Woolf	Bureau of Land Management	April 30, 2021	IV.L.2. <i>Impact Assessment</i>	NHWAPDoc3-12 pASC BLM comment Protected Areas impacts Echo Meadows Woolf 2021-04-30
David Slaght	City of Echo	March 21, 2022	IV.M.2. <i>Water Services</i>	NHWAPDoc5-3 ASC Reviewing Agency Comment_City of Echo_Water_Slaght 2022-03-21
Sean Tarter	City of Pendleton	February 2, 2022		NHWAPDoc5 ASC Reviewing Agency Comment_City of Pendleton_Water_Tarter 2022-02-02
Matt Lawyer		March 12, 2020	IV.M.6. <i>Air Traffic</i>	NHWAPDoc3-7 NHWAPDoc3-7 pASC Aviation comment 2020-03-12

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Greg Rimbach	Oregon Department of Fish and Wildlife	February 18, 2022	IV.I.2. <i>Impacts and Mitigation to State-listed T&amp;E Species</i>	NHWAPDoc5-2 ASC Reviewing Agency Comment ODFW_Rimbach_2022-02-18
Jordan Brown	Oregon Department of Agriculture	April 2, 2022		NHWAPDoc5-7 ASC ODOE and Dept of Agriculture Consultation 2022-04-02
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		January 18, 2022		NHWAPDoc3-6 pASC SHPO Comment_Allen2022-01-18
B. Lee Black	Oregon-California Trails Association	November 4, 2020		NHWAPDoc3-13 pASC OCTA Oregon Trails comment 2020-11-04.
John Pouley, M.A., RPA	State Historic Preservation Office	April 14, 2022		NHWAPDoc5-5 Reviewing Agency Comment_SHPO_2022-04-14
Teara Farrow Ferman	Confederated Tribes of the Umatilla Indian Reservation	November 10, 2020		NHWAPDoc3-4 pASC CTUIR comment received 2020-11-10
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Sean Tarter	City of Pendleton	February 2, 2022		NHWAPDoc5 ASC Reviewing Agency Comment_City of Pendleton_Water_Tarter 2022-02-02
Matt Lawyer		March 12, 2020	IV.M.6. <i>Air Traffic</i>	NHWAPDoc3-7 NHWAPDoc3-7 pASC Aviation comment 2020-03-12



Commenter Name	Reviewing Agency	Date Received	DPO Section	DocID
Seth Thompson	Oregon Department of Aviation	February 17, 2022		NHWAPPD5-1 ASC Reviewing Agency Comment_ODA_Aviation_Thompson 2022-02-17
		August 3, 2021		NHWAPPD3-7 pASC Aviation comment 2021-08-03
David Slaght	City of Echo	March 21, 2022	IV.Q.3. <i>Water Rights</i>	NHWAPPD5-3 ASC Reviewing Agency Comment_City of Echo_Water_Slaght 2022-03-21
Sean Tarter	City of Pendleton	February 2, 2022		NHWAPPD5 ASC Reviewing Agency Comment_City of Pendleton_Water_Tarter 2022-02-02

# Umatilla County

## Board of County Commissioners



**George L. Murdock**  
541-278-6202

**William J. Elfering**  
541-278-6201

**John M. Shafer**  
541-278-6203

April 15, 2020

Katie Clifford  
Oregon Department of Energy  
550 Capitol Street NE, 1st Floor  
Salem, OR 97301

RE: Umatilla County Comments on the Preliminary Application  
for Site Certificate for the Nolin Hills Wind Power Project

Dear Ms. Clifford,

Umatilla County has completed a review of the preliminary Application for Site Certificate (pASC) and compared it against the "applicable substantive criteria" of the acknowledged Umatilla County Comprehensive Plan and Umatilla County Development Code (UCDC). The county's "applicable substantive criteria" for wind generation facilities are primarily located in UCDC Section 152.616 (HHH). Based on the review conducted by the Umatilla County Planning Department, the pASC does not appear to comply with all of the county's "applicable substantive criteria." Specific comments related to the county's review are enclosed.

Thank you for the opportunity to provide comments on the pASC for this project. Any additional questions may be directed to Robert Waldher, Planning Director, Umatilla County Planning Department, 216 SE 4th Street, Pendleton, OR 97801; phone (541) 278-6251 or email at [robert.waldher@umatillacounty.net](mailto:robert.waldher@umatillacounty.net).

Sincerely,

A handwritten signature in blue ink, appearing to read "J. M. Shafer", written over a horizontal line.

John M. Shafer  
Chair, Board of Commissioners

JMS:bt  
Enc.



<b>Nolin Hills Wind Power Project</b> <b>Comments on the preliminary Application for Site Certificate (pASC)</b> <b>From Umatilla County Planning Department</b>			
<b>Exhibit</b>	<b>Rule/ Ordinance/Law Reference</b>	<b>Pg. / Para. / Sentence Reference (as needed)</b>	<b>Comment or Information Request</b>
E	OAR 345-021-0010(1)(e)(E)	Page 10	Please identify source(s) for aggregate associated with construction of the project and coordinate with Umatilla County Planning to determine if the aggregate site is on the county's inventory of Goal 5 protected sites.
K	UCDC 152.616 (HHH)(6)(a)(3)	Page 12	The project does not comply with Umatilla County's standard for two-mile setback from rural residences outside the project area. Umatilla County requests that the applicant adjust the location of the turbines in order to meet the required standard.
K	UCDC 152.616 (HHH)(6)(a)(3)	Page 12	The application notes that the second closest rural residence has executed a "Good Neighbor Agreement Waiver" with the applicant. Umatilla County does not recognize this type of waiver as a substitute to meeting the required standard. If this was a locally permitted project, the applicant would be required to meet ALL standards of approval. Umatilla County requests that the applicant adjust the location of the turbines in order to meet the required standard.
K	UCDC 152.616 (HHH)(6)(a)(3)	Page 14	The applicant requests that the 2-mile rural residence setback from a turbine tower be replaced with at 0.5-mile setback for turbines from rural residences outside the site boundary. Umatilla County does not recognize a decrease in the setback requirements as a substitute to meeting the required standard. If this was a locally permitted project, the applicant would be required to meet ALL standards of approval. Umatilla County requests that the applicant adjust the location of the turbines in order to meet the required standard.
K	UCDC 152.616 (HHH)(6)(a)(3)	Page 15 / 4 <sup>th</sup> Paragraph	The applicant states that the project complies with all "applicable substantive criteria." Please clarify how this project complies with ALL "applicable

<b>Nolin Hills Wind Power Project</b> <b>Comments on the preliminary Application for Site Certificate (pASC)</b> <b>From Umatilla County Planning Department</b>			
<b>Exhibit</b>	<b>Rule/ Ordinance/Law Reference</b>	<b>Pg. / Para. / Sentence Reference (as needed)</b>	<b>Comment or Information Request</b>
			substantive criteria” when the standards found in UCDC 152.616 (HHH)(6)(a)(3) are not met.
K	UCDC 152.616 (HHH)(7)	Page 28	The applicant proposes to submit a final decommissioning plan to Umatilla County prior to beginning decommissioning activities. This does not meet the standard which requires a plan for dismantling and/or decommissioning. A decommissioning plan should be included as a condition of approval of the site certificate.
K	Comprehensive Plan Chapter 6	Page 42	Per the Comprehensive Plan “The county shall require appropriate procedures/standards/policies be met in the Comprehensive Plan and Development Ordinance when reviewing non-farm uses for compatibility with agriculture. The project does not comply with the applicable substantive criteria found in UCDC Section 152.616(HHH). Therefore, the project is not in compliance with Chapter 6 of the acknowledged Umatilla County Comprehensive Plan.
O	OAR 345-021-0010(1)(o)(B), (C)	Page 2	The applicant notes that the City of Hermiston has indicated a willingness and ability to supply 68 million gallons of water for the project. However, the applicant also notes that if another source of water can be located, such as a purchase/transfer of an existing Umatilla River surface water right...another path may be chosen. Umatilla County requests that the applicant work with a municipality for the project, rather than utilizing other water sources that could otherwise be dedicated to agriculture or natural resources.

Nolin Hills Wind Power Project Comments on the preliminary Application for Site Certificate (pASC) From Umatilla County Planning Department			
Exhibit	Rule/ Ordinance/Law Reference	Pg. / Para. / Sentence Reference (as needed)	Comment or Information Request

# Umatilla County

## Board of County Commissioners

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### Commissioners

**George L. Murdock**  
541-278-6202

**John M. Shafer**  
541-278-6203

**Daniel N. Dorran**  
541-278-6201

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January 20, 2021

Katie Clifford, Senior Siting Analyst  
Oregon Department of Energy  
550 Capitol St N.E., 1st Floor  
Salem, OR 97301

### **RE: Umatilla County Comments on revised Preliminary Application for Site Certificate for the Nolin Hills Project**

Executive Secretary  
Melinda Slatt  
541-278-6204

Umatilla County has reviewed the revised preliminary Application for Site Certificate (pASC) for the proposed Nolin Hills project. Please include the following comments in the project record for consideration by the Energy Facilities Siting Council (EFSC).

County Counsel  
Douglas Olsen  
541-278-6208

**Exhibit K, Page 3** – The applicant appears to have provided a comprehensive list of the county's applicable substantive criteria.

Chief Financial  
Officer  
Robert Pahl  
541-278-6209

**Exhibit K, Page 14** – The project does not comply with Umatilla County's standard for two-mile setback from rural residences outside the project area. The county's two-mile setback for rural residences was adopted by Umatilla County through Ordinance 2012-13. The original intent of the standard was to mitigate noise and visual impacts to rural residences caused by wind towers. Umatilla County requests that the applicant adjust the location of the turbines in order to meet the required standard.

**Exhibit K, Page 20** – Umatilla County encourages continued consultation with Confederated Tribes of the Umatilla Indian Reservation and Oregon-California Trails Association for cultural resource locations that do not appear to meet the county setback requirements.

**Exhibit K, Page 31** – The applicant proposes to submit a decommissioning plan when the project is to be decommissioned. Umatilla County Development Code Section 152.616 (HHH)(7) requires the decommissioning plan to be submitted at the time of application. This criterion is not met.

Thank you for the opportunity to comment on the DPO. Please direct any follow-up questions or comments to Robert Waldher, County Planning Director. He can be reached by phone at 541-278-6251 or by email at [robert.waldher@umatillacounty.net](mailto:robert.waldher@umatillacounty.net).

Respectfully,

  
George Murdock  
Board Chairman

## TARDAEWETHER Kellen \* ODOE

---

**From:** Sean Tarter <Sean.Tarter@ci.pendleton.or.us>  
**Sent:** Wednesday, February 2, 2022 1:30 PM  
**To:** TARDAEWETHER Kellen \* ODOE  
**Cc:** Bob Patterson; Tim Smith  
**Subject:** RE: Water Supply Questions from ODOE\_Nolin Hills Power Project  
**Attachments:** WATERRIGHTS.xls

Kellen,

Please see the attachment regarding our water rights.

To answer your questions-

Yes, the City of Pendleton can provide this this water. Please contact myself (541-969-3161) to make the necessary arrangements.

A summary of our water rights is attached. We have more than enough water rights.

Restrictions are to transport water from existing fill stations (we have one on Rieth Rd) and have an account with our Finance Dept. for billing and tracking purposes. Current water rates can be found on our City website. With a search for "utility rates". We bill by the unit, which breaks down to 1 cubic foot, or 748 gallons.

I hope this answers your questions.

Thanks,



*Sean Tarter*

Water Superintendent

City of Pendleton | Public Works

1501 Byers Avenue Pendleton, OR 97801

Shop: 541-276-3078 Cell: 541-969-3161

[www.pendleton.or.us](http://www.pendleton.or.us)

*"Working every day to be the premier city in Eastern Oregon"*

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**From:** TARDAEWETHER Kellen \* ODOE <Kellen.TARDAEWETHER@energy.oregon.gov>  
**Sent:** Monday, January 31, 2022 10:58 AM  
**To:** Sean Tarter <Sean.Tarter@ci.pendleton.or.us>; Tim Smith <Tim.Smith@ci.pendleton.or.us>  
**Subject:** Water Supply Questions from ODOE\_Nolin Hills Power Project

**STOP and VERIFY - This message came from outside of the City of Pendleton.**

Hi Sean and Tim,

I work at the Oregon Department of Energy (Department) in the Siting Division, we are staff to the Energy Facility Siting Council (EFSC) and assist with technical review of large energy facilities. I'm helping on the Nolin Hills Wind Power Project and had a couple of questions for you guys. The City of Pendleton is a reviewing agency for the project that help us understand any concerns about potential impacts to public and private service providers. The applicant, Capital Power, provided the attached letter in Exhibit O of the application for site certificate. Also in Exhibit O, the applicant explains that it's overall water use for construction, under average conditions, would be 71 million gallons of water (Mgal) and under worst case/very dry conditions could be up to 100 Mgal of water. Could you indicate:

- Would the City be able to provide water for construction of this project under worst case conditions without impacting its ability to continue providing water service for its other customers?
  - If the City could only provide a portion of the water, please indicate what amount?
- Under what existing water right permit would the City be able to provide water for the project?
  - Permit number(s), flows, other permit details
- Are there any other seasonal or other water restrictions that the EFSC should take into consideration of the City providing water for the project?

I appreciate you taking the time to get back to me. Also let me know if you have other questions and I can help answer them. Thanks!

Kellen



**Kellen Tardaewether**  
Senior Siting Analyst  
550 Capitol St. NE Salem, OR 97301  
C: 503-586-6551  
P (In Oregon): 800-221-8035



Stay connected!



# CITY OF PENDLETON

## Water Right Permits not currently certificated

Source	Cert. No.	Permit No.	Rate (cfs)	Priority Date	Description/ Source
<b>SURFACE WATER</b>	S 1069	458	7.2	1910	N. Fork Umatilla R.
<b>G R O U N D W A T E R</b>	G 2463	G 2410	6.7 6.7 6.7 6.7 (Total not to exceed 20 cfs)	1962	Well # 6 Well # 9 Well # 10 Well # 12
	40893	G 3044*	1.7	1965	Well # 14
	28602	G 465*	total	1957	
	G 3443	G 3225	6.7	1966	Well # 7
			6.7	1966	Well # 11
	T-5605	G6773	1.52	1976	Well # 8
	G 11326	G 10508	5.18	1984	

## N WATER RIGHTS

Location	Comments	Max. Annual Quantity	Max. Pump Rate to Dist. System
Uma. R. Intake	change of POD granted; T 8704	1699 MG	NA
Sherwood Well South Hill Well Crispin Well McCormack Well	undeveloped undeveloped undeveloped undeveloped	4719 MG	undeveloped undeveloped undeveloped undeveloped
5400 Rieth Rd.	# G 3044 & G 465 have been transferred; T 8434; COBU pending	401 MG	540 gpm (1.20 cfs)
Mission Well @ 73740 Reservoir Ln	60 hp	1581 MG	345 gpm (0.77 cfs)
McKay Creek Well at 4255 SW 28th Dr	Currently domestic use only	1581 MG	33 gpm (0.07 cfs)
Prison Well @ 2580 NW Westgate Dr	200 hp 3.01 cfs of G 11326 has been perfected	1581 MG	1000 gpm (2.23 cfs)

# CITY OF PENDLETON WATER

## Certificated Water Rights

Source	Cert. No.	Permit No.	Rate (cfs)	Priority Date	Description/ Source
S U R F A C E  W A T E R	85849	D 2604 by decree	2.0	1885	Uma. R.
	85846	D 2582 by decree	0.5	1890	Uma. R.
	86028	458	7.2	1910	N. Fork Umatilla R.
	85850	S 472	3.8  total	April 22, 1929	Wenix Sp; trib. of Uma. R.
	85851	S 1197			Shaplish Sp; trib. of Uma. R.
	85853	S 9007			Simon Sp; trib. of Uma. R.
	85852	S 9006			Longhair Sp; trib. of Uma. R.
		ORS 538.450	All Waters	1941	N. Fork Uma. R.
	<b>MAXIMUM</b>	<b>SURFACE</b>	<b>23.3 cfs</b>		
G R O U N D W A T E R	20838	U 152	3.1	1944	Well # 1
	46096	G 2204	0.9	1962	
	20840	U 579	2.51	1953	Well # 2
	46094	G 2203	3.1	1962	
	20839	U 418	1.11	1951	Well # 3
	46095	G 2202	0.2	1962	
	86482	U 670	1.47	1954	Well # 4
	29147	G 1160	5.3	1958	Well # 5
	82840	G-10508	3.01	1984	Well # 8
	86483	G 6773	1.52	1976	
	85847	G-465	1.7 cfs	1957	Well # 14
	85848	G-3044	total	1965	

## R RIGHTS

Location	Comments	Max. Pump Rate to System	Max. Annual Quantity Allowed
Uma. R. Intake	change of POD granted; formerly T 8640	898 gpm (1.29 MGD)	472 MG
Uma. R. Intake	change of POD granted; formerly T 8721	224.4 gpm (0.32 MGD)	118 MG
Uma. R. Intake	change of POD granted; formerly T 8704	3231 gpm (4.65 MGD)	1699 MG
Umatilla River Intake	change of POD granted; formerly T 8761	1805 cfs (2.46 MGD)	897 MG
Uma. R. Intake	POD will be allowed at surface water intake site as per SB 869	NA	Max. TBD by OWRD & MOA w/ CTUIR
Byers Well @ 112 SE 18th	250 hp	1250 gpm (2.78 cfs; 1.80 MGD)	944 MG
Round-Up Well @ 1105 SW Court Ave.	450 hp	2225 gpm (4.96 cfs; 3.21 MGD)	1324 MG
SW 21st St. Well @ 708 SW 21st St.	100 hp	475 gpm (1.06 cfs; 0.69 MGD)	309 MG
Hospital Well @ 2420 Westgate	125 hp	660 gpm (1.47 cfs; 0.95 MGD)	472 MG
Stillman Well @ 27 SE 5th	400 hp	1965 gpm (4.38 cfs; 2.83 MGD)	1250 MG
Prison Well @ 2580 NW Westgate Dr.	200 hp	1000 gpm (2.23 cfs; 1.49 MGD)	710 MG 358 MG
5400 Rieth Rd	125 hp formerly T 8434	550 gpm (1.22 cfs; 0.79 MGD)	401 MG

## MEMORANDUM

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**TO:** Kathleen Sloan  
Oregon Department of Energy  
550 Capitol St N.E., 1st Floor  
Salem, OR 97301

**FROM:** Greg Rimbach, Umatilla Dist. Wildlife Biologist  
Oregon Department of Fish & Wildlife  
73471 Mytinger Lane  
Pendleton, Oregon 97801  
541-276-2344  
Gregory.p.rimbach@odfw.oregon.gov

**DATE:** February 18, 2022

**RE:** Oregon Department of Fish & Wildlife's Report on the Application for Site Certificate for the Nolin Hills Wind Energy Facility

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**General Comments:** The Oregon Department of Energy (ODOE) has requested comments from the Oregon Department of Fish & Wildlife (ODFW) on Nolin Hills Wind Power Project, specifically regarding Exhibits P and Q. There are several items in these exhibits that ODFW would like to address and provide comments and recommendations, which are provided in the Specific Comments section below. In addition to the specific comments, it is notable to mention that ODFW appreciates the Applicant implementing several ODFW recommendations and voluntary measures to avoid and reduce impacts to habitat and wildlife, which includes but is not limited to, a 200-meter turbine setback from the rim of Alkali Canyon, minimizing impacts to Category 3 Shrub-steppe where feasible by reducing the transmission line temporary impact corridor from 200 feet to 50 feet where it crossed this type of habitat, avoided siting turbine strings within 0.25 miles of active ferruginous and Swainson's hawk nests, siting turbines away from areas of relatively high raptor use with a 459-foot setback from contour lines containing topographical high points and distinct canyon edges associated with higher raptor use, and minimizing impacts to Category 3, 4, and 5 habitats by placing ground disturbing activities in Category 6 habitat.

**Specific Comments:** Please see the table below.

<b>Nolin Hills Wind Power Project  Comments on the Application for Site Certificate (ASC)  From Oregon Department of Fish &amp; Wildlife</b>			
<b>Exhibit</b>	<b>Rule/ Ordinance/Law Reference</b>	<b>Pg. / Para. / Sentence Reference (as needed)</b>	<b>Compliance Comment or Condition Language</b>
P	ORS 496.171-192; OAR 635-100-0136; OAR 635-415-0025	Pg. 44-52 / Sect 6.1.1	<p>The Applicant objects to ODFW’s continued recommendation and policy guidance that the State of Oregon’s endangered species Washington Ground Squirrel (WGS) Habitat Category 1 and 2 buffers should apply and extend into Conservation Reserve Program (CRP) fields. ODFW has consistently recommended two buffers on the exterior boundary of all WGS colonies: an exterior 785-foot Category 1 buffer with an additional 4,136-foot Category 2 buffer (1500-meter buffer from the exterior boundary of all WGS colonies). ODFW stated on several occasions to the Applicant, as well as to all previous energy applicants and developers in the Columbia Basin Ecoregion, that the only situation that exists in which these buffers are reduced in size would be due to a “habitat break”. Typical habitat breaks include, but are not limited to, agricultural operations, linear rock rims or outcrops, and two lane paved roads.</p> <p>Habitat quality should not be a determining factor for reducing WGS Category 1 and 2 buffers because even less than ideal vegetation characteristics play an irreplaceable and essential role for WGS life history requirements. CRP fields provide essential fat, protein, water and nesting materials (Delavan, 2008) and, by inference, habitat connectivity for dispersing WGS. While CRP fields across the Columbia Plateau are not necessarily irreplaceable (i.e. they can be created elsewhere), when they are in close proximity to a known and occupied WGS colony, their importance is greatly elevated.</p>

<b>Nolin Hills Wind Power Project</b> <b>Comments on the Application for Site Certificate (ASC)</b> <b>From Oregon Department of Fish &amp; Wildlife</b>			
<b>Exhibit</b>	<b>Rule/ Ordinance/Law Reference</b>	<b>Pg. / Para. / Sentence Reference (as needed)</b>	<b>Compliance Comment or Condition Language</b>
			<p>Due to the current reality that available habitat for the Washington ground squirrel has declined by an estimated 69% since historic times (Wisdom et al. 2000), most remaining colonies are isolated to patches of shrub-steppe habitat (Betts, 1999). Since the WGS metapopulation are a state-listed endangered species in Oregon that has a limited geographic range and small population numbers (Oregon Department of Fish and Wildlife, 1999), all usable habitat within the Category 1 and 2 WGS buffers should be considered irreplaceable, essential and limited.</p> <p>These CRP fields in question were initially identified by the applicant in a desk top analysis as fallow fields likely under biennial agricultural rotation. It was later identified by ODFW on March 14, 2019 that in fact these fallow agricultural fields within both Category 1 and 2 WGS buffers were CRP fields producing annual grasses, bunch grasses and legumes/forbs capable of providing a diverse diet for protein essential for reproduction and fat storage for survival during WGS dormancy, all of which have been shown to support WGS colonies (Tarifa and Yensen 2004; Sherman and Shellman Sherman, 2005), and nutrients to gain necessary pre-hibematory body mass (Rickart, 1982). In addition, ODFW identified fossorial mammal burrowing activity of an unknown species within one of the CRP fields in question. Even though WGS were not detected in this CRP field by the Applicant, previous researchers have found that the lack of detection in a protocol level WGS survey is not a guarantee that WGS are not present (Morgan and Nugent, 1999). It was documented during this research project near Boardman, Oregon (Morgan and Nugent, 1999), that</p>

<b>Nolin Hills Wind Power Project</b> <b>Comments on the Application for Site Certificate (ASC)</b> <b>From Oregon Department of Fish &amp; Wildlife</b>			
<b>Exhibit</b>	<b>Rule/ Ordinance/Law Reference</b>	<b>Pg. / Para. / Sentence Reference (as needed)</b>	<b>Compliance Comment or Condition Language</b>
			<p>a suspected site with convincing WGS holes was revisited three times before WGS were heard and their scat were found. In addition, WGS have been observed in CRP fields, even though the observer did not know if the WGS in the CRP fields were dispersers, individuals from established colonies, or individuals with home ranges that overlapped both CRP lands and non-agricultural lands (Delavan, 2008). Although no WGS were observed in the CRP fields in question during the surveys, these fields would provide irreplaceable, essential, and limited habitat for foraging and potential burrowing for WGS's. An argument has been made by the Applicant that these CRP fields are anticipated to be returned to agricultural production by the landowner in 2023, therefore these CRP fields should not be considered irreplaceable, essential and limited as Category 1 habitat for WGS's. The Fish and Wildlife Habitat Mitigation Policy does not include any exemptions for anticipated habitat change and only implies that current habitat conditions are considered in categorizing habitats.</p> <p>These CRP fields are providing irreplaceable, essential, and limited habitat for WGS in the form of foraging, dispersal habitat, and potential burrowing due to their site-specific proximity to occupied and active WGS colonies. These CRP fields within the 785-foot Category 1 buffer of known and occupied WGS colonies, serves an important function as foraging and dispersal habitat, and is therefore deserving of the same level of protection as the native shrub-steppe and grassland habitats also found within the Category 1 buffer around other active colonies.</p>



<b>Nolin Hills Wind Power Project</b> <b>Comments on the Application for Site Certificate (ASC)</b> <b>From Oregon Department of Fish &amp; Wildlife</b>			
<b>Exhibit</b>	<b>Rule/ Ordinance/Law Reference</b>	<b>Pg. / Para. / Sentence Reference (as needed)</b>	<b>Compliance Comment or Condition Language</b>
			<p>ODFW has previously determined, and the Energy Facility Siting Council has previously concurred, that a decline or change in habitat quality does not constitute a habitat break for the purposes of delineating the Category 1 and 2 habitat buffers surrounding WGS colonies. It is ODFW's determination that the CRP lands within the Nolin Hills Wind Project site boundary can function as habitat for WGS, and as such, are subject to the ODFW Fish and Wildlife Habitat Mitigation Policy regarding Category 1 and 2 habitats based on the buffer distances identified above. For these reasons, and to remain consistent with ODFW recommendations on other energy development projects in the Columbia Basin Ecoregion, ODFW recommends CRP fields be included in the 785-foot Category 1 buffer and the additional 4,136-foot Category 2 buffer surrounding active WGS colonies where there exists no habitat break.</p> <p style="text-align: center;"><b>Literature Cited</b></p> <p>Betts, B. J. 1999. Current status of Washington ground squirrels in Oregon and Washington. <i>Northwestern Naturalist</i> 20:24-29.</p> <p>Delavan, J. L. 2008. The Washington Ground Squirrel (<i>Spermophilus washingtoni</i>): Home Range and Movement by Habitat Type and Population Size in Morrow County, Oregon. M.S. Thesis, Portland State University.</p> <p>Morgan, R.L. and M. Nugent. 1999. Status and habitat use of the Washington ground squirrel (<i>Spermophilus washingtoni</i>) on State of Oregon lands, South Boeing, Oregon in 1999. Oregon Department of Fish and Wildlife, Portland, OR. 27 pp.</p>

<b>Nolin Hills Wind Power Project</b> <b>Comments on the Application for Site Certificate (ASC)</b> <b>From Oregon Department of Fish &amp; Wildlife</b>			
<b>Exhibit</b>	<b>Rule/ Ordinance/Law Reference</b>	<b>Pg. / Para. / Sentence Reference (as needed)</b>	<b>Compliance Comment or Condition Language</b>
			<p>Oregon Department of Fish and Wildlife. 1999. Washington ground squirrel biological status assessment. Oregon Department of Fish and Wildlife, Portland, Oregon, USA.</p> <p>Rickart, E. 1982. Annual cycles of activity and body composition in <i>Spermophilus townsendii mollis</i>. Canadian Journal of Zoology 60:3298-3306.</p> <p>Sherman, P.W and Shellman Sherman, J. 2005. Distribution, demography, and behavioral ecology of Washington ground squirrels (<i>Spermophilus washingtoni</i>) in central Washington. Unpublished report, Cornell University, Ithaca, NY. September. 26pp.</p> <p>Tarifa, T. and E. Yensen. 2004. Washington ground squirrel diets in relation to habitat condition and population status: Annual Report 2003. Unpublished report, Albertson College, Caldwell, ID. October. 68 pp.</p> <p>Wisdom, M. J., R. S. Holthausen, B. C. Wales, C. D. Hargis, V. A. Saab, D. C. Lee, W. J. Hann, T. D. Rich, M. M. Rowland, W. J. Murphy, and M. R. Eames. 2000. Source habitats for terrestrial vertebrates of focus in the interior Columbia Basin: broad-scale trends and management implications. General Technical Report PNW-GTR-485 Volume 3. U.S. Forest Service. U. S. Forest Service, Pacific Northwest Research Station, Portland, Oregon, USA.</p>
P	OAR 345-021-0010 (1)(p)(G)	Pg 77 (Sect.7.1.1) / 4 <sup>th</sup> bullet	Applicant states that they have avoided and minimized impacts to bird and bat collision with Project infrastructure by implementing downshield lighting (e.g.,

<b>Nolin Hills Wind Power Project</b> <b>Comments on the Application for Site Certificate (ASC)</b> <b>From Oregon Department of Fish &amp; Wildlife</b>			
<b>Exhibit</b>	<b>Rule/ Ordinance/Law Reference</b>	<b>Pg. / Para. / Sentence Reference (as needed)</b>	<b>Compliance Comment or Condition Language</b>
			for permanent lighting at the substation and O&M Building) that will be sited, limited in intensity, and hooded in a manner that prevents the lighting from projecting onto any adjacent properties, roadways, and waterways; lighting will be motion activated where practical (i.e., excluding security lighting). It is unclear if this strategy is for use solely at substations (s) and the O&M Building. ODFW recommends this appropriate strategy, as well as motion activated lighting, be employed at any PV solar energy site, if in fact lighting is to be used, to reduce its potential attraction to foraging bats and avian species and the potential for subsequent collision to solar components and/or arrays.
P/AttP-3/ Draft HMP	OAR 635-415- 0025	Pg 6 / Sect 3.0 / Table 2	For Category 3 and 4 habitat impacts, the applicant proposes a mitigation ratio that will be 1:1. While technically a mitigation ratio as low as 1:1 could theoretically achieve the Category 3 and 4 mitigation goal of “no net loss in habitat quantity and quality”, ODFW cautions that this ratio of 1:1 does not leave any margin to accommodate for the risk of mitigation failure. Depending on the habitat type and mitigation area chosen, success rates for habitat improvement efforts rarely, if ever, achieve complete success. That is, the performance of habitat improvements on the mitigation project area will have to be 100% to avoid dipping below any net-loss or net benefit ratios. To be able to detect mitigation failure on a 1:1 ratio mitigation project, ODFW would then recommend a large number of monitoring plots. ODFW recommends that having a higher ratio (for example, 1.3:1) for Category 3 and 4 mitigation affords the mitigation project manager more room for mixed performance in habitat improvements and less of a monitoring cost and burden.

<b>Nolin Hills Wind Power Project</b> <b>Comments on the Application for Site Certificate (ASC)</b> <b>From Oregon Department of Fish &amp; Wildlife</b>			
<b>Exhibit</b>	<b>Rule/ Ordinance/Law Reference</b>	<b>Pg. / Para. / Sentence Reference (as needed)</b>	<b>Compliance Comment or Condition Language</b>
P/AttP-3/ Draft HMP	OAR 635-415-0005(30); OAR 635-415-0025; OAR 345-021-0010(1)(p)(G)	Pg 12 / Sect 4.2.1 / 1. Shrub Planting and pg 16, first bullet	The Applicant currently states that shrub plantings will generally be considered successful if a 30 percent survival rate is achieved after 4 years. It is ODFW's recommendation that a 20 percent benchmark should be used here due to the unpredictability of rain events and soil moisture in promoting late winter and early spring growth in an area that receives only about 8-9" of annual rainfall. This recommended 20 percent benchmark could change if a different Habitat Mitigation Areas are chosen.
C, P & Q	OAR 345-021-0010 (1)(p)(F); OAR 345-021-0010 (1)(p)(G)	Multiple Sections	Due to the solar array and BESS being added to the Project after the comment period for the pASC in April 2020, ODFW was not able to make comments at that time. However, ODFW is encouraged to see that a majority of the solar array is currently proposed to be installed in Category 6 habitat and it is understood that the Applicant will manage for low-height native vegetation inside the fenced area containing the solar array, BESS, and associated infrastructure, as described in Exhibit B and C. It is also understood that weed control measures will follow the Applicant's Noxious Weed Control Plan (Attachment P-4). ODFW recommends several additional items to be incorporated in regards to the solar array footprint within the Project area: 1) Cap or otherwise modify vertical pipes and piles to prevent cavity dwelling and nesting birds from entering these structures. This will also prevent any perching bird, especially recently fledged young, from inadvertently falling into pipes. 2) Since no fenced area is fool proof in preventing deer, elk, and antelope from entering, gates at strategic locations in each of the 4 enclosures would be recommended, preferably at or near fence corners. These gates would be in addition to the main access gates for maintenance activities. 3) ODFW recommends that all wildlife mortalities found during routine maintenance

<b>Nolin Hills Wind Power Project</b> <b>Comments on the Application for Site Certificate (ASC)</b> <b>From Oregon Department of Fish &amp; Wildlife</b>			
<b>Exhibit</b>	<b>Rule/ Ordinance/Law Reference</b>	<b>Pg. / Para. / Sentence Reference (as needed)</b>	<b>Compliance Comment or Condition Language</b>
			activities within and near the fenced solar array enclosure be documented and included in mortality reports. 4) ODFW recommends the Applicant clear vegetation, if this activity is required, prior to the critical period for ground-nesting birds (April 15 – September 1) to avoid disturbing active nests. If vegetation removal is necessary between April 15 and September 1, a biologist should conduct a clearance survey for nesting birds prior to vegetation removal. Active nests should be flagged for avoidance.
P	OAR 345-021-0010(1)(p)(H)	Attachment P-5 / Sec 3.0 / Draft Wildlife Monitoring Plan	<p>The Applicant proposes to conduct post-construction short-term and long-term raptor nest surveys with the objective to count raptor nests (i.e., gathering data on active nests, on nests with young, and on young fledged) in the vicinity of the Project and to determine whether there are noticeable changes in nesting activity or nesting success in the local populations of the following raptor species: Swainson’s hawk, golden eagle, and ferruginous hawks.</p> <p>The Applicant also proposes the short-term survey area shall include a 2-mile buffer around the final Project impact area within the portion of the Site Boundary associated with wind turbines. The survey area along the transmission corridor shall include the final Project impact area along this corridor, and a 0.5-mile buffer around this area. In conducting long-term surveys, the investigators will follow the same survey protocols as the short term-term surveys but plans to exclude surveys associated with the transmission lines.</p> <p>ODFW is concerned that it will be difficult to evaluate long-term trends from surveys prior to construction when compared to surveys conducted after</p>

<b>Nolin Hills Wind Power Project</b> <b>Comments on the Application for Site Certificate (ASC)</b> <b>From Oregon Department of Fish &amp; Wildlife</b>			
<b>Exhibit</b>	<b>Rule/ Ordinance/Law Reference</b>	<b>Pg. / Para. / Sentence Reference (as needed)</b>	<b>Compliance Comment or Condition Language</b>
			construction if the survey areas are not the same geographical area (except for the long-term monitoring of the transmission line corridor). Therefore, ODFW recommends that these post construction short-term and long-term raptor nest surveys be conducted within a 2-mile buffer around the Site Boundary, the same area surveyed during the raptor nest surveys conducted in 2011, 2017, and 2018 prior to construction (pre-construction) as identified in Table P-1 (section 2.2, page 5).



## Consultation with Oregon Department of Agriculture (ODA)

The Department engaged in consultation with Oregon Department of Agriculture's (ODA) Native Plant Conservation Lead Biologist Jordan Brown throughout review of the Application for Site Certificate (ASC) for the Nolin Hills Wind Power Project: on April 14, 2020, March 30, 2022 and April 1, 2022 to discuss and review the evaluation and potential impacts to state listed threatened and endangered plant species. OAR 345-022-0070.<sup>1</sup>

ODA email correspondence with ODOE: 4/14/2020

**Laurent's milkvetch plants are perennial and often live several to many years; however, the establishment of new plants in populations is generally thought to be sporadic and limited. Pre-construction survey needs to be conducted to determine the final count of plants within the proposed impact areas, and would be needed for any plant flagging efforts.**

**Noxious weed control and monitoring in and around the areas of disturbance may establish a native plant community following construction that will help prevent weeds from getting a foothold and will establish a resilient native plant community that can compete with weed introductions in the future.**

**ODA indicates that the goal is to not lose the redundancy on the landscape and describes the best practice for mitigation, if there are direct impact, is to replace the plants that will be lost, especially if they're the sole representatives in a given area, or make up the majority of a small population segment.**

**ODA reiterates that it's still best practice to leave things better than we found it, so replacing the plants (if needed) in a safe location would be ideal.**

- **If impacts are unavoidable, seed collection from the plants (during the year before they're destroyed) and soil salvaging that can be used to re-establish new plants in adjacent suitable habitat. The soil seed salvaging from around the plants, and possibly the surrounding are in general, might allow new seedling to establish from dormant seeds in the soil.**
- **Relocation of the identified plants into nearby suitable habitat may work also, however, there isn't information on this approach's effectiveness**

ODA email correspondence with ODOE: 4/1/2022

**Despite the facility being sited on private land, ODA suggests that the protection of state listed plants during ODOE permitting and authorization (ensuring that the actions authorized do not impact listed plants) is actionable per OAR 603-073-0090(5)(d).**

**ODA suggested edits to the Departments Threatened and Endangered Species Condition 1, that included;**

- 1) establishing a 20-foot buffer around areas where state listed threatened plant species are confirmed to be present,**

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<sup>1</sup> OAR 345-022-0070 requires a demonstration of consultation with appropriate state agencies as part of Council's findings of compliance.



- 2) additional mitigation measures to be implemented (population augmentation and written permission from the landowner or lease holder) during the pre-construction impact assessment.

Additional suggestions made on March 30, 2022 regarding pre-construction survey protocol included the instruction for the applicant/certificate holder to focus on areas where previously documented occurrences are in close proximity to the impact areas.

ODA indicates that if listed plants are found on a public right-of-way with a recorded easement then they would need more than just permission from the land owner. They would need to consult with us.

ODA clarified that regardless of whether or not listed plant populations in question are on public land, protected by state law, or on private land, they would provide ODOE with conservation-based recommendations.

ODA clarified the requirements of OAR 603-073-0009(5)(d).

ODA email correspondence with ODOE: 3/30/2022

[As of March 30, 2022] ODA does not expect the distribution of the identified T&E plant species to have changed much since the surveys were conducted (in 2017).

Without additional consultation, ODA recommends that listed T&E plant species should be 100% avoided when/if found in areas where they were not previously identified.

ODA did not support the applicant's proposal to use mats to protect the plants that couldn't be avoided, citing that driving over the root crown (with or without mats) would likely cause them to die.

Where portions of the project area intersect the plant populations and/or their habitat, ODA recommended that weed minimization efforts would be employed.

Additionally, ODA suggests that dust minimization should be considered when milkvetch plants are actively growing (~April-July) within 20 to 50 feet of impacted areas.



Oregon  
Kate Brown, Governor

Parks and Recreation Department  
State Historic Preservation Office  
725 Summer St NE Ste C  
Salem, OR 97301-1266  
Phone (503) 986-0690  
Fax (503) 986-0793  
[www.oregonheritage.org](http://www.oregonheritage.org)



December 22, 2020

Ms. Katie Clifford  
Oregon Dept of Energy  
550 Capitol St NE  
Salem, OR 97301

RE: SHPO Case No. 20-0402  
ODOE Project 194-6029, Nolin Hills Wind Project  
Wind farm and two transmission line alternatives on private land  
None provided on Submittal Form, Umatilla County

Dear Ms. Clifford:

We have completed our review of the submitted materials related to Exhibit S for the historic, built environment, and offer the following comments and requests for additional information:

Regarding the Pendleton Ranches Sheep Camp, comprising an abandoned house and cistern, we are concerned that the construction date may be misattributed. While we do not dispute that the building may appear in this location on USGS maps beginning in the 1960s, the building form, materials, and design elements strongly suggest an earlier construction date, likely the 1910s-20s, illustrated by the overall form, use of kneebraces under wide-overhanging eaves with exposed rafter tails, wood slider windows (instead of aluminum), and diagonally-laid subsiding. Our suspicion is that the building may have been built elsewhere and subsequently moved to its current location in the late 1950s or early 1960s. Buildings used for the shelter of those tending to sheep in remote sheep-grazing are known to have sometimes been moved as the preferred grazing locations changed over time. This building may be one of those, a possibility supported by the lack of a complete stem-wall foundation beneath it. Such cases rarely involve the movement of larger buildings such as this, however. Most known examples tend to be smaller, suitable to be moved under horse-power alone. However, if the move were done in the late 1950s or early 1960s, such a move would not be out the reach of heavy equipment and sizeable trucks. We request that this possibility be explored, and the true date of the building investigated. If the building does in fact prove to date to the early 20th century, and is a moved building associated with sheep herding, it may be eligible under Criterion A, placing it within one or more of "the relevant themes or patterns of early history of sheep ranching or family owned sheep ranches in the late nineteenth and early twentieth centuries." Also noteworthy, if the house was in fact moved, and was done so in keeping with a historical context in which such movement was typical, Criterion Consideration B (Moved Properties) may not need to be met for the property to be eligible. By contrast, the cistern may or may not predate the house at this location, or could have been built in the 1950s when the house was either built or moved to its present location. It is noteworthy that the roof of the cistern features eaves tight to the rake, which is a typical post-World War 2 architectural feature on more typical building types. This should be explored as well.

We have the following concerns related to the identification of other historic buildings within the Site Boundary that do not appear to have been documented:

1. Based on the site boundary illustrated in Attachments S-4.1 and S-4.1c, the site boundary appears to include most, if not all of the Cunningham Sheep Ranch headquarters and the unincorporated community of Nolin, including a large number of buildings and structures. None of these buildings and structures appear have been identified as potentially historic, documented, or evaluated. We request that these buildings and structures be documented and evaluated for eligibility for listing in the National Register, followed by an evaluation of the



effect on the property.

2. Review of aerial imagery of the Site Boundary indicates an unidentified structure approximately 100 feet long in Township 2N, Range 30E, within a draw in the northwest quarter of the southwest quarter of Section 35. This structure does not appear to have been documented or evaluated. We request that this is done, to be accompanied by an evaluation of effect.

3. Based again on aerial imagery, we note the presence of what appears to be the remains of a late 19th or early 20th century ranch house and associated outbuildings in unknown condition, located in Township 2N, Range 29E, in the northeast quarter of the northeast quarter of Section 26. Although this resource appears to be outside of the site boundary (again, refer to the inconsistently reported site boundary), it is within 1000 feet of it, and the visual effect of the proposed wind facility could reasonably be understood to extend to this location. We request that this property be documented and evaluated for both eligibility and effect, with care to distinguish between condition (which is likely diminished at least to some degree) and integrity (which may or may not be present).

We look forward to receiving more information about the house and cistern, as well as about the integrity and significance of the as-yet undocumented buildings noted above. If you have any questions, please feel free to contact me directly.

Sincerely,

A handwritten signature in blue ink, appearing to read 'Jua', is positioned above the typed name.

Jason Allen, M.A.

Historic Preservation Specialist

(503) 986-0579

jason.allen@oregon.gov

cc: Erin King, Tetra Tech Inc



Oregon  
Kate Brown, Governor

Parks and Recreation Department  
State Historic Preservation Office  
725 Summer St NE Ste C  
Salem, OR 97301-1266  
Phone (503) 986-0690  
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[www.oregonheritage.org](http://www.oregonheritage.org)



January 18, 2022

Ms. Kathleen Sloan  
Oregon Department of Energy  
550 Capitol St. NE  
Salem, OR 97391

RE: SHPO Case No. 20-0402  
ODOE Project 194-6029, Nolin Hills Wind Project  
Wind farm and two transmission line alternatives on private land  
None provided on Submittal Form, Umatilla County

Dear Ms. Sloan:

We have completed our review of the Historic Properties Management Plan (Plan) developed for this project as a means of addressing potential adverse effects likely to arise from the above project, per EFSC guidance and rules. We agree that the language and content are appropriate and properly scaled, and reflect the agreement reached among our office, the Department of Energy, and the applicant, through consultation. With the inclusion of the implementation of the Plan as a condition of the issuance of the approval of the project by EFSC, we agree that our concerns are being addressed regarding effects of the project on the historic, built environment. We look forward to reviewing the draft materials identified in the Plan.

If you have any questions, please feel free to contact our office.

Sincerely,

Jason Allen, M.A.  
Historic Preservation Specialist  
(503) 986-0579  
[jason.allen@oregon.gov](mailto:jason.allen@oregon.gov)

cc:



# OREGON-CALIFORNIA TRAILS ASSOCIATION

524 South Osage St. • P.O. Box 1019 • Independence, MO 64051-0519  
Phone: (816) 252-2276 • Fax: (816) 836-0989  
E-Mail: octa@indepmo.org • www.octa-trails.org

November 4, 2020

Oregon-California Trails Association  
P.O. Box 1019  
Independence, MO 64051

Oregon Department of Energy  
Energy Facilities Siting Council  
550 Capitol Street NE, 1<sup>st</sup> Floor  
Salem, OR 97301

Attention: Todd Cornett, Assistant Director, Siting Division

The Oregon-California Trails Association (OCTA) is pleased to work cooperative with Capital Power on the Nolin Hills Energy Project.

OCTA has entered into an agreement with Capital Power for mitigation as well as construction procedures that will protect the Oregon Trail. In response, OCTA confirms the terms comprise the full extent of our requests for mitigation of Project-related impacts.

OCTA agrees we have been suitably consulted and our concerns satisfied by Capital Power and as such will not participate in the EFSC process regarding the Project.

Sincerely,

B. Lee Black, President

Cc: Gail Carbiener  
Sallie Riehl





Oregon  
Kate Brown, Governor

Parks and Recreation Department  
State Historic Preservation Office  
725 Summer St NE Ste C  
Salem, OR 97301-1266  
Phone (503) 986-0690  
Fax (503) 986-0793  
[www.oregonheritage.org](http://www.oregonheritage.org)



April 14, 2022

Ms. Kathleen Sloan  
Oregon Department of Energy  
550 Capitol St. NE  
Salem, OR 97391

RE: SHPO Case No. 20-0402  
ODOE Project 194-6029, Nolin Hills Wind Project  
Wind farm and two transmission line alternatives on private land  
None provided on Submittal Form, Umatilla County

Dear Ms. Sloan:

Thank you for the opportunity to comment on the Nolin Hills Wind Project. Our comments below include recommendations for conditions to ensure that the EFSC standard that the construction and operation of the Project, taking into account mitigation, are unlikely to result in significant adverse impacts to properties listed or eligible for listing on the National Register of Historic Places (NRHP).

After review, it is clear that not all areas of the proposed project have been surveyed for a number of reasons (e.g., lack of access or unknown facility designs). Some of these areas still need subsurface exploratory excavations to address the potential for buried archaeological sites. In addition, monitoring during construction is proposed for areas that have not been surveyed, or have yet to have exploratory excavations conducted to identify buried archaeological objects or sites. For the EFSC standard to be met, efforts to identify National Register eligible or listed properties, and assessment of project effects needs to address the following proposed conditions to proceed.

- Prior to construction, complete the inventory of the project area (surface and subsurface), adhering to SHPO Guidelines and permitting requirements.
- Develop an Inadvertent Discovery Plan (IDP) for any encountered archaeological objects or sites resulting from any post-inventory phase of the project.
- Any proposed monitoring during construction must occur in areas that have already been surface and subsurface inventoried. Monitoring during construction is not an effective way to identify buried archaeological objects or sites, unless a good faith effort has occurred prior to construction. Identification of archaeological objects and sites during construction will result in delays until the archaeological work is finished, and may include time to secure an excavation or recovery permit. A good faith effort ahead of time can avoid such delays, by providing some level of data on probability.
- For evaluating archaeological properties, all four criteria should be addressed, including individual eligibility, or as a district. The cultural landscape suggests archaeological sites may be eligible by relating to such a place, or places, which will inform potential effects from the project. Archaeological sites alone may not meet any of the NRHP criteria at times, but

collectively, if they (e.g.,) represent patterns of events, they could include a district. Cultural landscapes themselves are districts, and can include associated archaeological objects and sites.

- Please review, at a minimum, National Register Bulletins 15, 16A, and 38 for examples of National Register eligible archaeological sites and districts to assist with applying the EFSC standard.

For the conditions above, please compile a report of the additional investigations and include a research design specific to each condition. Be sure to explain and support in the report how the National Register criteria were applied to individual sites or isolates, or as districts. Send copies of reports to SHPO, including any newly recorded or updated archaeological site or isolate forms. Any post inventory monitoring should also involve submission of a report to SHPO, whether the results are positive or negative.

Sincerely,

A handwritten signature in cursive script, reading "John D. Pouley".

John Pouley, M.A., RPA  
State Archaeologist  
(503) 480-9164  
john.pouley@oregon.gov

cc:

**From:** [Teara Farrow Ferman](#)  
**Sent:** Tuesday, November 10, 2020 3:16 PM  
**To:** [CLIFFORD Katie \\* ODOE](#)  
**Cc:** [POULEY John \\* OPRD](#); [Jay Shukin](#); [Shawn Steinmetz](#)  
**Subject:** CTUIR letter to ODOE regarding Nolin Hills Project  
**Attachments:** 2020 10 29 CTUIR letter to ODOE regarding Nolin Hills Project.pdf

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**Follow Up Flag:** Follow up  
**Flag Status:** Completed

Good afternoon Katie,  
The Confederated Tribes of the Umatilla Indian Reservation's Chair Brigham signed the attached letter on October 29, 2020 however it got buried in my inbox. My apologies. If you have any questions, please contact me.

Respectfully,

**TEARA FARROW FERMAN**

Manager | Cultural Resources Protection Program  
Confederated Tribes of the Umatilla Indian Reservation  
46411 Timine Way | Pendleton | Oregon 97801  
541.276.3447 Office | 541.429.7230 Fax  
[TearaFarrowFerman@ctuir.org](mailto:TearaFarrowFerman@ctuir.org)

Assistant General Manager | Átaw Consulting, LLC  
A Small Business Enterprise of the CTUIR  
46411 Timine Way | Pendleton | Oregon 97801  
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The information in this e-mail may be confidential and intended only for the use and protection of the Confederated Tribes of the Umatilla Indian Reservation. If you have received this email in error, please immediately notify me by return e-mail and delete this from your system. If you are not an authorized recipient for this information, then you are prohibited from any review, dissemination, forwarding or copying of this e-mail and its attachments. Thank you.



**Confederated Tribes *of the*  
Umatilla Indian Reservation**

Board of Trustees & General Council



46411 Timine Way • Pendleton, OR 97801  
(541) 429-7030 • fax (541) 276-3095  
info@ctuir.org • www.umatilla.nsn.us

October 28, 2020

Katie Clifford  
Senior Siting Analyst  
Energy Facility Siting Division  
Oregon Department of Energy  
550 Capitol Street NE  
Salem, Oregon 97301

Submitted electronically to: [Katie.Clifford@oregon.gov](mailto:Katie.Clifford@oregon.gov)

Dear Ms. Clifford,

The Confederated Tribes of the Umatilla Indian Reservation (CTUIR) thanks the Oregon Department of Energy (ODOE) for notifying us regarding the proposed Nolin Hills Wind Power Project. Capital Power Corporation, doing business as Nolin Hills Wind, LLC, began consulting with the CTUIR in 2017 and have contracted with the CTUIR to assist their contractor in conducting cultural resources inventory surveys of the proposed project areas including their newly proposed solar component, and also contracted with us to conduct a traditional use study and an ethnobotanical survey to identify First Foods resources and culturally significant plant resources important to the CTUIR.

Nolin Hills Wind, LLC began consulting with the CTUIR early in their project planning and they understand the CTUIR's strong cultural ties to the area and are committed to protecting the cultural resources identified in the proposed project area. Additionally, Nolin Hills Wind, LLC has committed to coordinating on the development of an Inadvertent Discovery Plan and has successfully negotiated an Access Agreement with the private landowners for CTUIR tribal members to harvest First Foods plant resources.

The CTUIR and Nolin Hills Wind, LLC have come to a mutual agreement on the effects the Nolin Hill Wind Power Project may have on historic, cultural, and archaeological resources, NHPA listed, eligible, or likely to be listed historic properties, and historic properties of religious and cultural significance to the CTUIR. The CTUIR is pleased to inform the ODOE, the Oregon State Historic Preservation Office and other agencies that the CTUIR's concerns have been addressed and will be mitigated by Nolin Hills Wind, LLC pursuant to a confidential mitigation agreement between the CTUIR and Nolin Hills Wind, LLC. Therefore, the construction and operation of the proposed Nolin Hills Wind Power Project, taking into account mitigation, are not likely to result in significant adverse impacts to eligible or likely eligible historic properties of religious and cultural significance or resources identified by the CTUIR.

The CTUIR has no further concerns with the proposed Nolin Hills Wind, LLC unless the route of the Project changes, in which case consultation with the CTUIR will be required. Should you have questions or concerns, please contact Mrs. Teara Farrow Ferman, Manager, Cultural Resources Protection Program, at (541) 276-3447 or [tearafarrowferman@ctuir.org](mailto:tearafarrowferman@ctuir.org).

Respectfully,



N. Kathryn Brigham, Chair  
Board of Trustees

Cc: John Pouley, Assistant State Historic Preservation Officer, OR SHPO  
Jay Shukin, Manager, Indigenous and Stakeholder Engagement, Capital Power

## **TARDAEWETHER Kellen \* ODOE**

---

**From:** Dave Slaght <dave@echo-oregon.com>  
**Sent:** Monday, March 21, 2022 3:21 PM  
**To:** TARDAEWETHER Kellen \* ODOE  
**Cc:** smorris@cityofstanfield.com  
**Subject:** City of Echo - Nolin Solar/Wind Energy Project  
**Attachments:** City of Echo - Nolin Hills Use Request 03-21-2022 (1).pdf

Good Afternoon Kellen – I apologize for taking so long to get back to you with the final review of our engineers. In short, we can supply the water for the project. Please also note that Justin Northern is no longer working for the city of Echo and your new point of contact will be myself and Scott Morris who is now our Public Works Director for Echo and Stanfield.

Thank you,  
Dave

David Slaght  
Echo City Administrator  
541-376-6038

# MEMO

**To:** Dave Slaght, City Administrator, City of Echo  
**From:** Brad D. Baird, P.E., President *Brad*  
**Subject:** Nolin Hills Wind Power Project Water Use Request  
**Date:** March 21, 2022  
**Job/File No.** 1391-31-02

The purpose of this memo is to provide a response to the Nolin Hills Wind Power Project water use request to the City of Echo. Specifically, questions raised by the Oregon Department of Energy concerning the use request are answered herein.

## Background Information

The Nolin Hills Wind Power Project has requested the following total water use volume to support anticipated project construction:

- 71 million gallons (MG), average conditions
- 100 MG, worst-case conditions
- 134,000 gallons per day (gpd), worst-case conditions

## Assumed Project Schedule

The project schedule was not provided. We researched the project information available on the Oregon Department of Energy website and have surmised project construction would occur over a two-year period. We have assumed the water use request would be spread out uniformly over a two-year period. As a result, the water use per year would be half of the total request, meaning the following annual use would occur for a two-year period:

- 35.5 MG per year, average conditions
- 50 MG per year, worst-case conditions

## Current Annual Water Use by the City of Echo

The City of Echo currently uses a total of approximately 70 to 80 MG each year. The largest use is the golf course, with City residents, businesses, and the school using the balance of the annual use. The request by Nolin Hills represents a range of 35.5 to 50 MG per year. A comparison of this use to the total annual use is as follows:

- 35.5 MG of average annual use - approximately 44 percent of current annual use of 80 MG
- 50 MG of worst-case annual demand - approximately 63 percent of current annual use of 80 MG

The average and worst-case water use requests would represent a significant increase in the annual water output of Echo's municipal water supply system.

### **Maximum Month Use by the City of Echo**

It is critical to review the highest use month for the City to see what impact the water use request would have during this highest use month. The peak monthly water use in Echo, and the use request from Nolin Hills for comparison, is as follows:

- The highest use month for the City results in approximately 15 MG of water demands.
- The Nolan Hills request, assuming a peak use of 134,000 gpd, would result in a peak monthly use of 4,020,000 gallons.
- 4 MG represents an increase in demands placed on the City's municipal water supply system of approximately 27 percent during the peak month.

### **Ability of the City of Echo to Meet Requested Use**

The City has two active municipal water supply sources. Since there is one chlorination system, each of these wells operates at the same time, meaning when the system calls for water, both wells operate simultaneously. These sources and their capacity are as follows:

- Well No. 4, 175 to 275 gallons per minute (gpm) capacity, depending on time of year (assume 175 gpm in the summer)
  - Well No. 4 meets approximately 35 percent of the City's annual water demands.
  - During peak months, Well No. 4 meets approximately 19 percent of the water demands.
  - A peak month of 15 MG represents approximately 500,000 gpd.
  - The Nolin Hills requested maximum is approximately 134,000 gpd.
  - The total of both of these demands is 634,000 gpd.
  - Well No. 4 currently operates approximately 9 hours per day during a peak summer day.
  - Well No. 4 would operate a maximum of approximately 11.5 hours per day to meet its portion (19 percent) of the current peak demand (500,000 gallons) plus the Nolin Hills worst-case daily demand (134,000 gallons), for a total of 634,000 gpd.
- Well No. 5, 750 gpm capacity year-round
  - Well No. 5 meets approximately 65 percent of the City's annual water demands.
  - During peak months, Well No. 5 meets approximately 81 percent of the water demands.
  - A peak month of 15 MG represents approximately 500,000 gpd.
  - The Nolin Hills requested maximum is approximately 134,000 gpd.
  - The total of both of these demands is 634,000 gpd.
  - Well No. 5 currently operates approximately 9 hours per day during a peak summer day.
  - Well No. 5 would operate a maximum of approximately 11.4 hours per day to meet its portion (81 percent) of the current peak demand (500,000 gallons) plus the Nolin Hills worst-case daily demand (134,000 gallons), for a total of 634,000 gallons.

If Well No. 5 had to meet all demands alone, it would have to operate approximately 14 hours per day to meet the peak demand of 634,000 gpd. There are likely higher daily peak demands that could occur during a peak month period.

It appears that Echo's current water supply wells could meet the average and worst-case water use scenarios proposed by the Nolin Hills project during a typical peak summer month period.

### **Wear and Tear on Equipment and No Backup Supply Available**

It should be noted that the City of Echo must operate both Wells No. 4 and 5 to meet current peak summer demands. The City has no backup water supply source available at this time. While serving the Nolin Hills project appears feasible, and the well pumps would not be overtaxed beyond approximately 11.4 hours of use per day, additional stress and strain would be placed on the water system. The City is in the process of developing an additional supply source from Stanfield, but this project will not be available until late summer 2023 at the earliest.

### **Available Water Right (Permit) Capacity**

Each of the City's two municipal water supply wells is permitted to operate at its current water pumping rate. It is assumed this will not change. Thus, each of the wells is permitted to handle current and anticipated annual demands.

### **Well No. 3 as a Possible Supply Source**

Well No. 3 is currently not in use by the City. This well has taste and odor issues, specifically hydrogen sulfide present in the supply water, rendering the water undesirable for municipal consumption. However, this water would work very well for construction uses for the Nolin Hills project. Well No. 3 has not been used since 2001 but did have a capacity of approximately 250 gpm when in operation. It may be possible to reactivate Well No. 3 and use it to directly pump into water trucks for the Nolin Hills project. This option will require installation of new pumping equipment in the well and a reconfiguration of piping to allow for discharge to an overhead fill station or a direct connection fill station. The static and pumping water levels in the well should be checked as well prior to any intended use of Well No. 3 to ensure the well still has the reported capacity. Well No. 3 has shared water rights with other municipal wells, so a careful evaluation of the available water rights would also need to be completed.

### **No Other Water Use Restrictions**

The City of Echo is within the Stage Gulch Critical Groundwater Area. This designation means there are no additional water use permits available to the City. However, the City does have its current well permit use rates available that are not fully utilized over a 24-hour period. No other water use restrictions have been placed on the municipal water system at this time.

### **Conclusions**

The analysis herein has shown that the City's municipal water system can handle the proposed water use demands from the Nolin Hills project. It is important to note that the City's well pumps will need to operate for a longer period each day than they do now, and no backup supply sources are available. In addition, peak daily demands could occur on any given summer day that would put higher daily demands on the wells than outlined herein. If the City proceeds with supplying water to the Nolin Hills project, the hourly use per day of each well should be carefully monitored to ensure the wells are not used beyond 18 hours per day.

The City is currently in the design phase of a water system improvements project that will result in additional water supply being available, as well as updated equipment for Wells No. 4 and 5, but the additional supply source will not be online until the summer of 2023, at the soonest.

BDB/cd

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## CLIFFORD Katie \* ODOE

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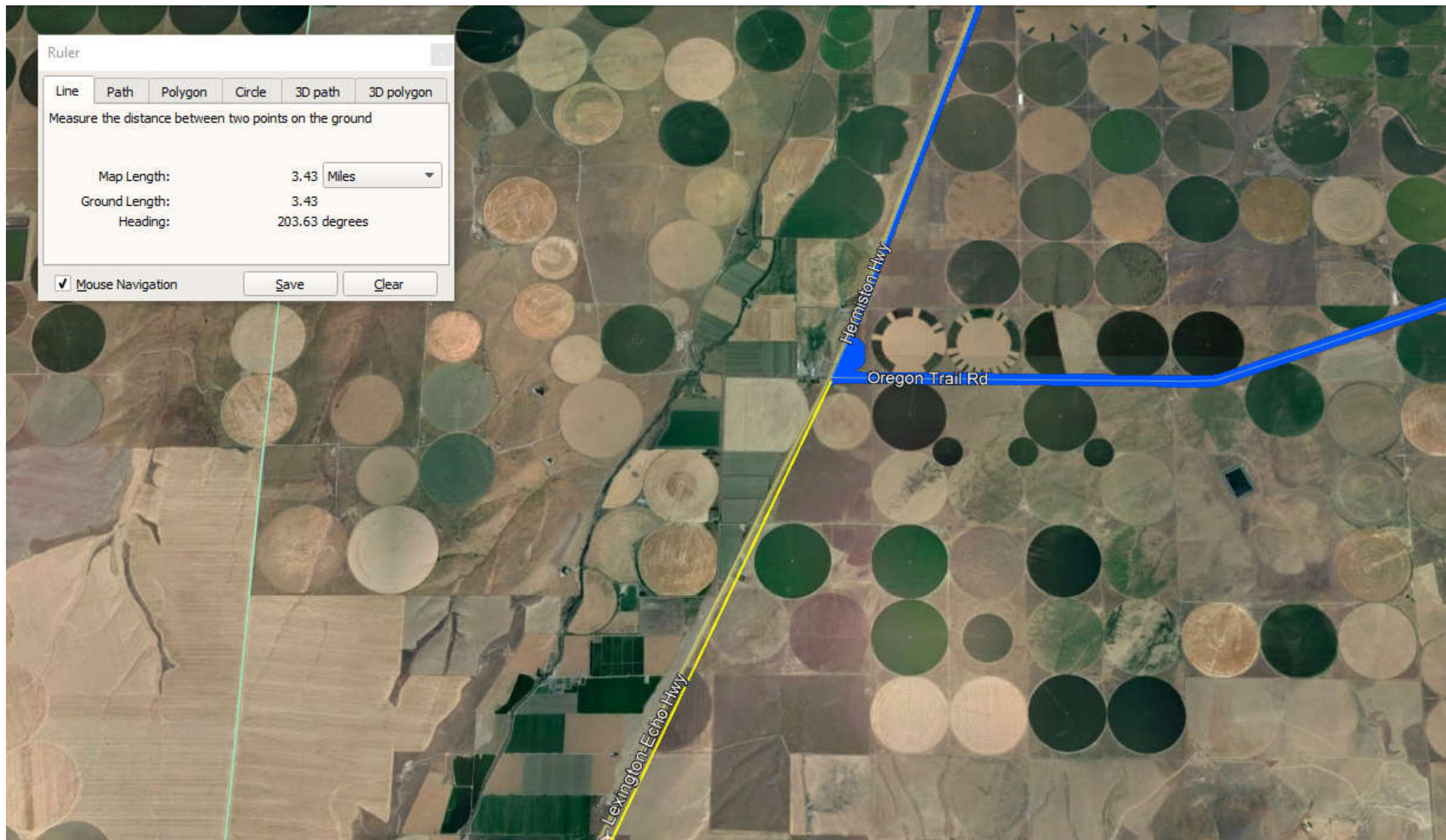
**From:** LAWYER Matthew A <Matthew.A.LAWYER@aviation.state.or.us>  
**Sent:** Thursday, March 12, 2020 1:37 PM  
**To:** CLIFFORD Katie \* ODOE; THOMPSON Seth  
**Subject:** RE: Nolin Hills Wind Power Project - preliminary application review

Thank you for allowing us to clarify. When I ran the analysis based off of a location in what appeared to be the middle of the project boundary, the airports identified in the report were the ones you describe below. Impacted may have been the wrong term to use, I should have said airports with the regional area.

Now that we have the shape file, I want to add an additional airport to the regional area, it is a private airport on HW 207 called West Buttercreek. It is approximately 3.4 miles SW of the elbow on the proposed transmission line.

We may want to consider airspace analysis through the 7460-1 on this section of the transmission line.





**Matt Lawyer**  
OREGON DEPARTMENT OF AVIATION  
PROGRAM COORDINATOR



**OFFICE** 503-378-4888 **CELL** 503-983-0275

**EMAIL** [matthew.a.lawyer@aviation.state.or.us](mailto:matthew.a.lawyer@aviation.state.or.us)

**3040 25<sup>TH</sup> STREET SE, SALEM, OR 97302**

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\*\*\*\*\*CONFIDENTIALITY NOTICE\*\*\*\*\*

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**From:** CLIFFORD Katie \* ODOE <[Katie.Clifford@oregon.gov](mailto:Katie.Clifford@oregon.gov)>  
**Sent:** Thursday, March 12, 2020 10:28 AM  
**To:** THOMPSON Seth <[Seth.THOMPSON@aviation.state.or.us](mailto:Seth.THOMPSON@aviation.state.or.us)>; LAWYER Matthew A <[Matthew.A.LAWYER@aviation.state.or.us](mailto:Matthew.A.LAWYER@aviation.state.or.us)>  
**Subject:** RE: Nolin Hills Wind Power Project - preliminary application review

Thank you very much. Your comment is helpful and I can see how the spreadsheet is important. In the letter you state that “ODA can confirm that the following airports are impacted by the proposed project, based on a location dropped generally in the middle of the proposed project boundary: Eastern Oregon Regional, Pendleton; Hermiston Municipal; Lexington; and Boardman.” Would you provide a layman’s explanation of what this means, so that we can describe in the draft proposed order \*how\* those airports are impacted by the proposed facility?

**Katie Clifford**  
Senior Siting Analyst  
Desk: 503-373-0076  
Mobile: 503-302-0267

---

**From:** THOMPSON Seth <[Seth.THOMPSON@aviation.state.or.us](mailto:Seth.THOMPSON@aviation.state.or.us)>  
**Sent:** Wednesday, March 11, 2020 3:43 PM  
**To:** CLIFFORD Katie \* ODOE <[Katie.Clifford@oregon.gov](mailto:Katie.Clifford@oregon.gov)>; LAWYER Matthew A <[Matthew.A.LAWYER@aviation.state.or.us](mailto:Matthew.A.LAWYER@aviation.state.or.us)>  
**Subject:** RE: Nolin Hills Wind Power Project - preliminary application review

Hi Katie,

Please see the attached document, FAA and ODA Review Process.

This document provides a detailed description of the information needed for the ODA to make a determination, specifically for the Nolan Hills Wind Power Project.

I have also included an excel sheet titled, 7460 Data Template.

I included this template for you to record coordinate and height information for all structures that need a determination.

Please let me know if you need assistance or have any questions.

Thank you,

**Seth Thompson**  
OREGON DEPARTMENT OF AVIATION  
AVIATION PLANNER



OFFICE 503-378-2529 CELL 503-507-6965  
EMAIL [seth.thompson@aviation.state.or.us](mailto:seth.thompson@aviation.state.or.us)  
3040 25<sup>TH</sup> STREET SE, SALEM, OR 97302  
[WWW.OREGON.GOV/AVIATION](http://WWW.OREGON.GOV/AVIATION)

**From:** CLIFFORD Katie \* ODOE <[Katie.Clifford@oregon.gov](mailto:Katie.Clifford@oregon.gov)>  
**Sent:** Monday, March 9, 2020 5:15 PM  
**To:** THOMPSON Seth <[Seth.THOMPSON@aviation.state.or.us](mailto:Seth.THOMPSON@aviation.state.or.us)>; LAWYER Matthew A <[Matthew.A.LAWYER@aviation.state.or.us](mailto:Matthew.A.LAWYER@aviation.state.or.us)>  
**Subject:** RE: Nolin Hills Wind Power Project - preliminary application review

Hi Seth and Matt,

Great meeting with you earlier. It was a good conversation and I look forward to coordinating with you on this and other projects.

We have the shapefiles for the site boundary and the micrositing corridor. Would you know if your email server accepts .zip files? Ours blocks them, so we often need to find another way to receive the files, and I’m wondering if this is also the case for you.

For ease of reference, here is some basic information about some of the proposed facility components from preliminary Exhibit B:

- *A single circuit 230-kV transmission line supported by H-frame or monopole structures (or other form as needed for specialized locations) will run approximately 6.8 miles between the two Project substations (Figures C-4 and C-5)...In addition to the Project substation connector, the Project will require construction of a transmission line that ties into the regional electric grid and follows one of the two routes described in Section 1.3 (see Figures C-4 and C-5 in Exhibit C)... The Project 230-kV overhead transmission lines will be supported by wooden H-frame or steel monopole structures approximately 100 to 140 feet tall and spaced approximately 600 feet apart on average, depending on the terrain.*
- *It is possible that some of the [34.5 kV] collector lines will need to be installed on above-ground overhead structures in situations where a buried cable would be infeasible, such as for long “home run” stretches, and at stream or canyon crossings. In such instances, overhead collector lines will be supported by a wooden structure. Each support pole will be buried up to approximately 12 feet in the ground and will extend to a height of up to approximately 100 feet above ground, depending on the terrain. The structures will be spaced approximately 150 to 300 feet apart, depending on specific site conditions.*
- *The Project includes up to three permanent met towers spaced throughout the Project. The met towers [will have] a maximum height of up to approximately 541 feet to match the hub height of the selected turbine...FAA lighting may be installed on the met towers, depending on the overall lighting scheme for the Project, to be determined prior to operation and in consultation with FAA.*

By the way, I’ve asked our fiscal analyst to see if we have a current intergovernmental agreement in place with ODA for cost reimbursement, so that we can set one up if we don’t already.

Katie

**Katie Clifford**  
Senior Siting Analyst  
Desk: 503-373-0076  
Mobile: 503-302-0267

---

**From:** THOMPSON Seth <[Seth.THOMPSON@aviation.state.or.us](mailto:Seth.THOMPSON@aviation.state.or.us)>  
**Sent:** Wednesday, March 4, 2020 2:32 PM  
**To:** CLIFFORD Katie \* ODOE <[Katie.Clifford@oregon.gov](mailto:Katie.Clifford@oregon.gov)>  
**Cc:** LAWYER Matthew A <[Matthew.A.LAWYER@aviation.state.or.us](mailto:Matthew.A.LAWYER@aviation.state.or.us)>; PECK Heather <[heather.peck@aviation.state.or.us](mailto:heather.peck@aviation.state.or.us)>  
**Subject:** RE: Nolin Hills Wind Power Project - preliminary application review

Hi Katie,

Thank you for reaching out.

Matt Lawyer and I would appreciate the opportunity to meet with you and discuss this project when convenient.

In particular, we would like to discuss how to effectively comment on this project.

Please let me know when you are available and I will send you a meeting invite.

We are available to meet in your downtown office if that is best.

Thanks again,

**Seth Thompson**  
OREGON DEPARTMENT OF AVIATION  
AVIATION PLANNER



**OFFICE** 503-378-2529 **CELL** 503-507-6965  
**EMAIL** [seth.thompson@aviation.state.or.us](mailto:seth.thompson@aviation.state.or.us)  
**3040 25<sup>TH</sup> STREET SE, SALEM, OR 97302**  
**[WWW.OREGON.GOV/AVIATION](http://WWW.OREGON.GOV/AVIATION)**

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**From:** CLIFFORD Katie \* ODOE <[Katie.Clifford@oregon.gov](mailto:Katie.Clifford@oregon.gov)>  
**Sent:** Wednesday, March 4, 2020 1:07 PM  
**To:** THOMPSON Seth <[Seth.THOMPSON@aviation.state.or.us](mailto:Seth.THOMPSON@aviation.state.or.us)>  
**Cc:** PECK Heather <[heather.peck@aviation.state.or.us](mailto:heather.peck@aviation.state.or.us)>  
**Subject:** FW: Nolin Hills Wind Power Project - preliminary application review



Hi Seth,

Todd Cornett recommended that I forward the Nolin Hills Wind Power Project notice we sent to Heather Peck to you so that you both are in the loop. I look forward to coordinating with ODA on review of this facility.

Katie

**Katie Clifford**

Senior Siting Analyst

Desk: 503-373-0076

Mobile: 503-302-0267

---

**From:** CLIFFORD Katie \* ODOE

**Sent:** Monday, March 2, 2020 5:18 PM

**To:** 'scase@co.morrow.or.us' <[scase@co.morrow.or.us](mailto:scase@co.morrow.or.us)>; 'swrecsics@co.morrow.or.us' <[swrecsics@co.morrow.or.us](mailto:swrecsics@co.morrow.or.us)>; 'ecpl@centurytel.net' <[ecpl@centurytel.net](mailto:ecpl@centurytel.net)>; 'jturner@ci.pendleton.or.us' <[jturner@ci.pendleton.or.us](mailto:jturner@ci.pendleton.or.us)>; 'vcarnes@centurytel.net' <[vcarnes@centurytel.net](mailto:vcarnes@centurytel.net)>; 'citymanager@cityofstanfield.com' <[citymanager@cityofstanfield.com](mailto:citymanager@cityofstanfield.com)>; BLEAKNEY Leann <[bleakney@nwcouncil.org](mailto:bleakney@nwcouncil.org)>; CANE Jason <[jason.cane@state.or.us](mailto:jason.cane@state.or.us)>; MILLS David <[david.mills@state.or.us](mailto:david.mills@state.or.us)>; JOHNSON Jim \* ODA <[jjohnson@oda.state.or.us](mailto:jjohnson@oda.state.or.us)>; 'Brownj@science.oregonstate.edu' <[Brownj@science.oregonstate.edu](mailto:Brownj@science.oregonstate.edu)>; 'heather.peck@aviation.state.or.us' <[heather.peck@aviation.state.or.us](mailto:heather.peck@aviation.state.or.us)>; TOKARCZYK John A \* ODF <[John.A.TOKARCZYK@oregon.gov](mailto:John.A.TOKARCZYK@oregon.gov)>; 'hrudolf@odf.state.or.us' <[hrudolf@odf.state.or.us](mailto:hrudolf@odf.state.or.us)>; WANG Yumei \* DGMI <[Yumei.WANG@oregon.gov](mailto:Yumei.WANG@oregon.gov)>; 'Thomas.Lapp@odot.state.or.us' <[Thomas.Lapp@odot.state.or.us](mailto:Thomas.Lapp@odot.state.or.us)>; 'alice.beals@oregon.gov' <[alice.beals@oregon.gov](mailto:alice.beals@oregon.gov)>; MULDOON Matt <[matt.muldoon@state.or.us](mailto:matt.muldoon@state.or.us)>; 'LGKOH@puc.state.or.us' <[LGKOH@puc.state.or.us](mailto:LGKOH@puc.state.or.us)>; BJORK Mary F \* WRD <[Mary.F.Bjork@oregon.gov](mailto:Mary.F.Bjork@oregon.gov)>

**Subject:** Nolin Hills Wind Power Project - preliminary application review

Good afternoon,

On Friday (February 28<sup>th</sup>) we received the preliminary application for site certificate (pASC) for the Nolin Hills Wind Power Project. The proposed wind energy generation facility would have a nominal generating capacity of approximately 350 megawatts and would be located in Umatilla County, south of I-84, and approximately 4 miles south of Echo and 10 miles west of Pendleton. As a reviewing agency, ODOE will be relying upon you and your agency's/jurisdiction's expertise in reviewing the application against the statutes, administrative rules, or ordinances administered by your agency/jurisdiction. The attached memo describes the roles and responsibilities of reviewing agencies during review of an ODOE-Energy Facility Siting Council application for site certificate. This document contains information about the pASC, the review process, deadline for comments, and other information.

*Please note: If you represent a city or county and the proposed facility is not located within your jurisdiction, you are a reviewing agency because your jurisdiction is within 10 miles of the facility and construction or operation of the facility may impact your jurisdiction.*

The pASC is available on our website [here](#). Receipt of the pASC kicks off a comment period for certain local jurisdictions, state agencies, and tribes. Please find attached a memo requesting your review and comment on the pASC by **April 1<sup>st</sup>**.

Please let me know if you need more time or have any questions.

Katie



**Katie Clifford**

Senior Siting Analyst

550 Capitol St. NE | Salem, OR 97301

Desk: 503-373-0076

Mobile: 503-302-0267



Stay connected!

## TARDAEWETHER Kellen \* ODOE

---

**From:** THOMPSON Seth <Seth.THOMPSON@odav.oregon.gov>  
**Sent:** Thursday, February 17, 2022 1:11 PM  
**To:** SLOAN Kathleen \* ODOE  
**Cc:** PECK Heather  
**Subject:** RE: Request for Comments (State and Local Reviewing Agencies) - Complete Application for Site Certificate for the Nolin Hills Wind Energy Facility  
**Attachments:** NHWAPP - ODA Reviewing Agency Response.pdf

Good afternoon, Kathleen.

Please see the attached Oregon Department of Aviation (ODA) Agency Report on Compliance and Recommended Site Certificate Conditions on the Complete Application for Site Certificate for the Proposed Nolin Hills Wind Power Project.

Thank you and please let me know if you have any questions.

Best regards,

**Seth Thompson**  
OREGON DEPARTMENT OF AVIATION  
AVIATION PLANNER



**OFFICE** 503-378-2529 **CELL** 503-507-6965  
**EMAIL** [seth.thompson@odav.oregon.gov](mailto:seth.thompson@odav.oregon.gov)  
**3040 25TH STREET SE, SALEM, OR 97302**  
**[WWW.OREGON.GOV/AVIATION](http://WWW.OREGON.GOV/AVIATION)**

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**From:** SLOAN Kathleen \* ODOE <Kathleen.SLOAN@energy.oregon.gov>  
**Sent:** Friday, February 4, 2022 1:05 PM  
**To:** BLEAKNEY Leann <lbleakney@nwcouncil.org>; jason.cane@state.or.us; Andresen, Craig <Craig.Andresen@osp.oregon.gov>; JOHNSON James \* ODA <James.JOHNSON@oda.oregon.gov>; Brownj@science.oregonstate.edu; PECK Heather <heather.peck@odav.oregon.gov>; THOMPSON Seth <Seth.THOMPSON@odav.oregon.gov>; RIMBACH Gregory P \* ODFW <Gregory.P.RIMBACH@odfw.oregon.gov>; ROSENBERG Andrew J \* ODFW <Andrew.J.ROSENBERG@odfw.oregon.gov>; TOKARCZYK John A \* ODF <John.A.TOKARCZYK@odf.oregon.gov>; MCCLAUGHRY Jason \* DGMI <Jason.MCCLAUGHRY@dogami.oregon.gov>; JININGS Jon \* DLCD <Jon.JININGS@dlcd.oregon.gov>; HARTMAN Heidi M \* DSL <Heidi.M.HARTMAN@dsl.oregon.gov>; matthew.unitis@state.or.us; MULDOON Matt \* PUC <Matt.MULDOON@puc.oregon.gov>; RASHID Yassir \* PUC <Yassir.RASHID@puc.oregon.gov>; SVELUND Greg \* DEQ <Greg.SVELUND@deq.oregon.gov>; CLEARANCE ORSHPO \* OPRD <ORSHPO.Clearance@opr.oregon.gov>; BJORK Mary F \* WRD <Mary.F.BJORK@water.oregon.gov>; Tamra Mabbott <tmabbott@co.morrow.or.us>; jnorthern@centurytel.net; david@umatilla-city.org; planning@hermiston.or.us; bob.patterson@ci.pendleton.or.us; citymanager@cityofstanfield.com  
**Subject:** Request for Comments (State and Local Reviewing Agencies) - Complete Application for Site Certificate for the Nolin Hills Wind Energy Facility

Please use this attached agency comment template

Good afternoon,

On January 28, 2022, the Oregon Department of Energy (ODOE), as staff to the Energy Facility Siting Council (EFSC), determined that Nolin Hills Wind LLC (applicant) preliminary application for a site certificate for the Nolin Hills Wind Energy Facility is complete. The applicant submitted a complete ASC on January 31, 2022. The application for site

certificate (ASC) is available for viewing and downloading on the ODOE project webpage for the [State of Oregon: Facilities - Nolin Hills Wind Power Project](#)

Here is the full link to the project webpage that has the ASC and additional info:

<https://www.oregon.gov/energy/facilities-safety/facilities/Pages/NHW.aspx>

Attached is a memo notifying reviewing agencies for the Nolin Hills Wind Energy Facility that the application is complete and provides a detailed request for comments in an agency report. I've also attached word templates for comments if that helps you to provide feedback. The request for an agency report on the ASC is associated with compliance with applicable rules, ordinances, and statutes, and recommended site certificate conditions for the proposed facility.

The deadline for comments on the ASC associated with compliance is **Friday, February 18, 2022**. Please see the [Public Notice](#) for details about the upcoming public informational meeting. The summary details for the WebEx meeting are below:

**WebEx/Teleconference Information Meeting**

**Date and time:** Wednesday, Feb 16, 2022 5:30 pm Pacific Time

**Location:** WebEx or Teleconference

**WebEx link:** <https://odoe.webex.com/odoe/j.php?MTID=m7e042182d38613b9be51b61d5d4bee6b>

**WebEx Event Number:** 2335 284 5937

**WebEx Event Password:**

Logging in from Computer: EFSC

Logging in from Phone: 3372

**Teleconference:** +1-408-418-9388 United States Toll

**Teleconference Access code:** 233 528 45937

You are encouraged to attend if you would like to learn more about the project, but it is not required.

If you have questions, I am more than happy to have a call to go over the process, review request or the application. Thank you!



[State of Oregon: Facilities - Energy Facility Siting](#)





# Oregon

Kate Brown, Governor

Oregon Department of Aviation

3040 25<sup>th</sup> Street SE

Salem, OR 97302-1125

Office: 503-378-4880

Fax: 503-373-1688



**TO:** Kathleen Sloan, Senior Siting Analyst, ODOE

**CC:** Heather Peck, Planning & Projects Manager, ODA

**FROM:** Seth Thompson, Aviation Planner, ODA

**DATE:** February 17, 2022

**SUBJECT:** Oregon Department of Aviation (ODA) Agency Report on Compliance and Recommended Site Certificate Conditions on the Complete Application for Site Certificate for the Proposed Nolin Hills Wind Power Project

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The Nolin Hills Wind Power Project is a proposed wind and solar energy generation facility with a nominal generating capacity of approximately 600 megawatts, located within a site boundary of approximately 48,196 acres of private land primarily zoned exclusive farm use.

The applicant proposes to construct and operate a wind and solar energy project with a nominal generating capacity of approximately 600 MW (preliminarily 340 MW of wind generation and 260 MW of solar generation) located in Umatilla County, Oregon. The Project comprises up to 112 wind turbine generators, depending on the final layout determined during the micro-siting process. The solar array will include up to approximately 816,812 solar modules, depending on the final technology and layout selected. The Project will interconnect to the regional grid via either a transmission line leading from the northern Project substation northwest to the Umatilla Electric Cooperative Cottonwood Substation in Hermiston, or a new 230-kilovolt transmission line to the proposed Bonneville Power Administration Stanfield Substation, north of the town of Nolin. Other Project components include electrical collection lines, substations, a battery energy storage system (BESS), site access roads, one operations and maintenance building, meteorological data collection towers, and temporary construction yards. The Project is located southwest of the Eastern Oregon Regional Airport and southeast of the Hermiston Municipal Airport.

For these reasons, the proposal may require airspace review by the FAA and ODA subject to the standards in Code of Federal Regulations: Title 14. Aeronautics and Space: PART 77—Safe, Efficient Use, and Preservation of the Navigable Space.

All project elements are subject to compliance with FAA Part 77.9 Construction or alteration requiring notice (a-d), FAA Part 77.17 Obstruction standards (a-b) and Obstruction Standards of OAR 738-70-0100 if they exceed 200 feet in height or are:

- within 20,000 ft of a public use or military airport and exceed a 100:1 surface from any point on the runway of each airport with at least one runway more than 3,200 ft.
- within 10,000 ft of a public use or military airport and exceed a 50:1 surface from any point on the runway of each airport with its longest runway no more than 3,200 ft.
- within 5,000 ft of a public use heliport which exceeds a 25:1 surface

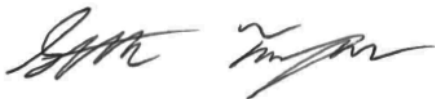
To make this determination, any new or replaced supporting facilities or structures more than 200 feet in height or within the distances provided above must undergo airspace review by the FAA and ODA through submittal of a completed FAA Form 7460-1, attached for reference.

The ODA provides the following recommendations for this proposal:

1. If applicable, the applicant must file and receive a determination from the Oregon Department of Aviation as required by OAR 738-070-0060 on FAA Form 7460-1 Notice of Proposed Construction or Alteration to determine if any new or replaced supporting facilities or structures will pose an obstruction to aviation navigation. The actions below shall be completed in the following order:
  - i. First, submit to and receive responses from the Oregon Department of Aviation (Aviation) of 7460-1 Notice of Proposed Construction or Alteration Forms for all new or replaced supporting facilities or structures that meet the above criteria. The applicant shall provide copies of Aviation responses to the Oregon Department of Energy (ODOE) and shall respond to Aviation marking and lighting recommendations, if applicable.
  - ii. Second, once Aviation responses are received, submit to and receive determinations from the FAA for all new or replaced supporting facilities or structures that meet the above criteria. The applicant shall also provide copies of FAA determinations to ODOE.
2. The height of any new or replaced supporting facilities or structures should not penetrate FAA Part 77 Imaginary Surfaces, as determined by the FAA and ODA.

Thank you for allowing the ODA to comment on this development proposal. Please feel free to contact me if you have any questions or need information.

Sincerely,

A handwritten signature in black ink, appearing to read 'Seth Thompson', written in a cursive style.

Seth Thompson, Aviation Planner  
503-507-6965 | [seth.thompson@odav.oregon.gov](mailto:seth.thompson@odav.oregon.gov)

## ESTERSON Sarah \* ODOE

---

**Subject:** Aviation Comments on Nolin Hills pASC

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**From:** THOMPSON Seth <[Seth.THOMPSON@aviation.state.or.us](mailto:Seth.THOMPSON@aviation.state.or.us)>

**Sent:** Tuesday, August 3, 2021 1:52 PM

**To:** CLIFFORD Katie \* ODOE <[Katie.CLIFFORD@energy.oregon.gov](mailto:Katie.CLIFFORD@energy.oregon.gov)>

**Cc:** ESTERSON Sarah \* ODOE <[Sarah.ESTERSON@energy.oregon.gov](mailto:Sarah.ESTERSON@energy.oregon.gov)>; CLARK Christopher \* ODOE <[Christopher.CLARK@energy.oregon.gov](mailto:Christopher.CLARK@energy.oregon.gov)>; PECK Heather <[heather.peck@aviation.state.or.us](mailto:heather.peck@aviation.state.or.us)>

**Subject:** RE: Nolin Hills GIS Data

Hi Katie,

Thank you for your patience. Please see my response below:

### ODA Preliminary Assessment:

Based on my review of the materials you provided, I do not believe the proposed structures within the proposed micrositing corridor will result in any hazards to navigable airspace. I want to thank you and your team for providing such detailed preliminary documentation and data.

At 496', the turbines will be just below the 499' threshold per Part 77 standards, which is less cause for concern as well. In addition, the "worst case" turbines appear to also be well outside the 3-nautical mile perimeter of nearby airports.

As the distribution line appears to be following an existing route, the higher support poles are also unlikely to cause concern.

### Expected ODA Recommendations:

Though all proposed structures appear to be outside of Part 77 thresholds, existing Victor airways do appear to possibly transect the micrositing corridor. Victor airways are low altitude flight paths. Please see below for reference.

Though this is not necessary cause for concern, the ODA will be recommending marking and lighting for the turbines and possibly some of the transmission line support structures to increase visibility.

### ODA Requests:

Thank you as well for providing me with coordinate data for the structures. Unfortunately, the FAA and ODA only accept coordinate data provided in Degrees, Minutes and Seconds (DMS). The coordinates in the excel you provided appear to be Decimal Degrees (DD).

Though I can convert DD to DMS, I ask that all future submittals please be provided in DMS. The FAA does not accept DD coordinates for notifications.

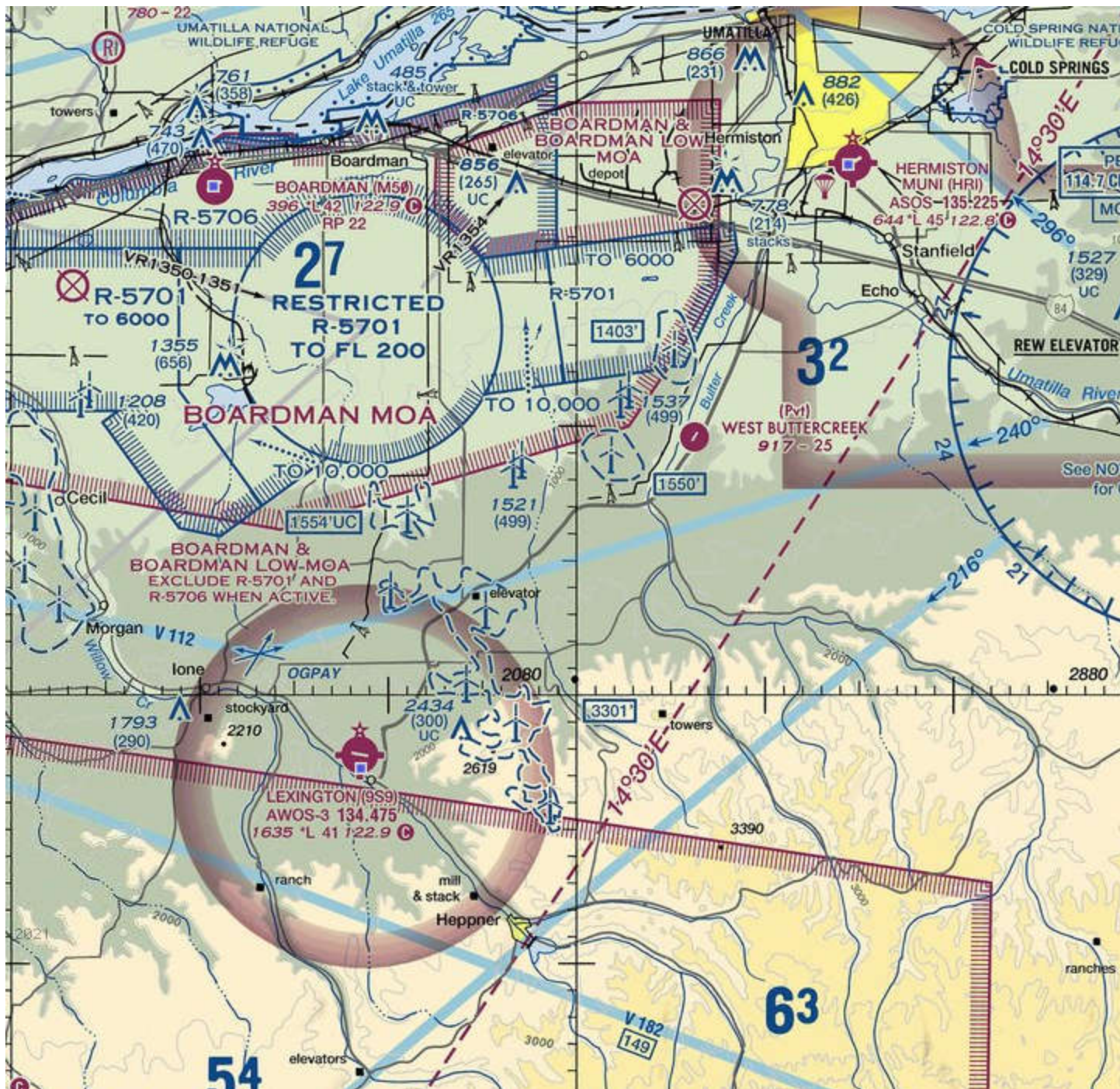
\*Please note that the final proposed placement of turbines and transmission line support structures must still undergo final airspace analysis by the FAA and ODA prior to construction.

Thank you again for reaching out and I again appreciate your hard work to provide ODA with this preliminary data!

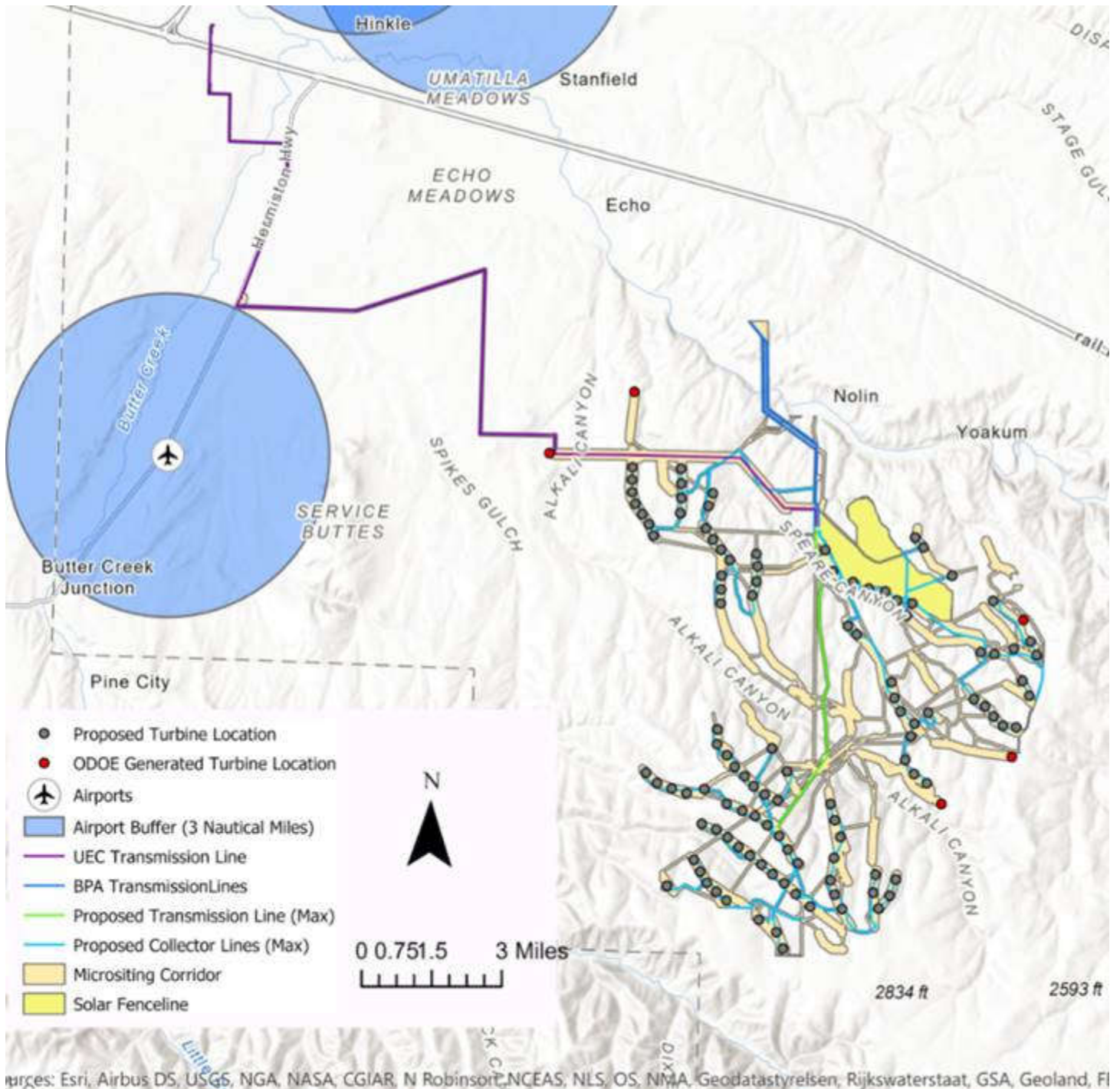
Please feel free to reach out with any further questions.











**Seth Thompson**  
 OREGON DEPARTMENT OF AVIATION  
 AVIATION PLANNER



OFFICE 503-378-2529 CELL 503-507-6965

EMAIL [seth.thompson@aviation.state.or.us](mailto:seth.thompson@aviation.state.or.us)

3040 25<sup>TH</sup> STREET SE, SALEM, OR 97302

[WWW.OREGON.GOV/AVIATION](http://WWW.OREGON.GOV/AVIATION)

**From:** CLIFFORD Katie \* ODOE <[Katie.CLIFFORD@energy.oregon.gov](mailto:Katie.CLIFFORD@energy.oregon.gov)>

**Sent:** Tuesday, July 6, 2021 3:15 PM

**To:** THOMPSON Seth <[Seth.THOMPSON@aviation.state.or.us](mailto:Seth.THOMPSON@aviation.state.or.us)>

**Cc:** LAWYER Matthew A <[Matthew.A.LAWYER@aviation.state.or.us](mailto:Matthew.A.LAWYER@aviation.state.or.us)>; ESTERSON Sarah \* ODOE <[Sarah.ESTERSON@energy.oregon.gov](mailto:Sarah.ESTERSON@energy.oregon.gov)>; CLARK Christopher \* ODOE <[Christopher.CLARK@energy.oregon.gov](mailto:Christopher.CLARK@energy.oregon.gov)>

**Subject:** FW: Nolin Hills GIS Data

Hi Seth,

You and Matt previously provided comments on the proposed Nolin Hills Wind Power Project. The project has since added solar and battery storage. We also now have the lat/long data you requested. Here are some updates we think you may be interested in:

#### Transmission line

The closest part of the proposed facility to an airport appears to be the UEC Cottonwood transmission line route that is close to the three nautical mile buffer from the West Buttercreek Airport. The nearest transmission structures would be approximately 3.4 miles northeast of the airport. Please see the attached figure that Chris prepared. Where the UEC Cottonwood transmission line heads towards the Butter Creek Substation from the east, it would replace an existing 12.47-kV distribution line with the proposed 230-kV transmission line with 12.47-kV underbuilt distribution. After connecting with Butter Creek Substation, the route will follow an existing 115-kV UEC transmission line, to be upgraded to incorporate a 230-kV line and carry power generated by the facility approximately another 7.3 miles north to the UEC Cottonwood Substation. The line replacement will consist of replacing the existing support poles with new structures that can support restrung the existing 115-kV transmission line and adding a 230-kV transmission line (double-circuit), with 12.47-kV underbuilt distribution.

In other words, the portion of the facility closest to the West Buttercreek Airport is the UEC Cottonwood transmission line that would replace existing transmission line infrastructure that presumably pilots already need to account for. There would be a height difference, though, between existing and proposed transmission. The new transmission line structures would have a pole height typically between 100 and 140 feet, and structures would be spaced approximately 600 feet apart. In comparison, the existing 115 kV structures running north from the Butter Creek Substation are 55 to 85 feet tall. I don't believe we have the exact height of the existing 12.47-kV distribution line, but it's likely no more than 70 feet tall.

#### Wind turbines

Since the last time we met the developer revised downward the maximum height of the proposed turbines, so that the maximum blade tip height (total height, from ground to the tip of the blade) is 496 feet. They provided the lat/long data ODA requested. These data are preliminary because they are requesting approval of a micrositing corridor where at final design they might adjust the final turbine locations. Because of this, Chris created five points (shown as red dots in the figure and as the last 5 lat/long shown in the Excel sheet) to demonstrate the "worst case" placement of turbines in the micrositing corridor relative to the airports. While the developer is unlikely to actually place turbines at these worst case locations due to other siting factors, hopefully looking at these 5 lat/long points will allow ODA to determine if there are any concerns placing turbines anywhere within the micrositing corridor.

#### Solar

The developer performed the attached glare analysis using the Sandia Laboratories Solar Glare Hazard Analysis Tool. They report that no glare impacts are predicted from the Nolin Hills solar arrays at nearby airports, including the West Buttercreek Airport and Eastern Oregon Regional Airport at Pendleton.

Based upon this information, we would like to know if ODA has any concerns about air navigation hazards. Any chance we can get in your queue to get your thoughts sometime this month? Hope your summer is going well!

Katie

**Katie Clifford**

Senior Siting Analyst

Oregon Department of Energy

Phone: 503-302-0267

---

**From:** CLARK Christopher \* ODOE <[Christopher.CLARK@energy.oregon.gov](mailto:Christopher.CLARK@energy.oregon.gov)>

**Sent:** Friday, July 2, 2021 12:53 PM

**To:** CLIFFORD Katie \* ODOE <[Katie.CLIFFORD@energy.oregon.gov](mailto:Katie.CLIFFORD@energy.oregon.gov)>

**Cc:** ESTERSON Sarah \* ODOE <[Sarah.ESTERSON@energy.oregon.gov](mailto:Sarah.ESTERSON@energy.oregon.gov)>

**Subject:** Nolin Hills GIS Data

Hi Katie,

Here is a draft layout and spreadsheet showing the proposed turbine locations for Nolin Hills as well as the 5 hypothetical "high impact" turbine locations I generated based on the proximity of the proposed micrositing corridor to the airports identified in the FAA data layer/input from ODA. I tried to make sure everything was labeled clearly, but let me know if you think there are any changes or refinement needed.

The original shapefile didn't include elevation data, so I didn't take the time to pull that in but I think that is possible if you think we need it. I also cleaned up the shapefile the applicant provided so that the new hypothetical turbines won't show up there anymore but you can load them into ArcGIS using the spreadsheet if needed.

Thanks,



**Christopher M. Clark**

Siting Policy Analyst & Rules Coordinator

550 Capitol St. NE | Salem, OR 97301

P: 503-373-1033

P (In Oregon): 800-221-8035



Stay connected!



**From:** [Woolf, Brian T](#)  
**Sent:** Friday, April 30, 2021 1:38 PM  
**To:** [CLIFFORD Katie \\* ODOE](#)  
**Cc:** [Coddington, Katherine E](#)  
**Subject:** [Fortimail Spam Detected] Re: [EXTERNAL] Energy project near Echo Meadows

---

**Follow Up Flag:** Follow up  
**Flag Status:** Flagged

Hi Katie,

I looked at the potential impacts and, in my analysis, I found the impacts to be minimum regarding visitors experience to Echo Meadows.

I further looked for any additional visual resources that may be impacted by the proposal for the larger transmission line and found it in conformance with the BLM's visual resource zoning for that viewshed.

I have no comments for the Nolan Hills Wind Project as proposed.

Stay Healthy,

Brian

Brian T Woolf  
Outdoor Recreation Planner

BLM - Baker Field Office  
Dept. of Interior Region 9 Project  
**To:** Woolf, Brian T <[bwoolf@blm.gov](mailto:bwoolf@blm.gov)>  
**Subject:** RE: [EXTERNAL] Energy project near Echo Meadows

Hi Brian,

Happy Spring! Since we last communicated a couple of months ago I wanted to touch base and see if BLM has had the opportunity to determine if the agency has any comments on the Nolan Hills project, specifically with regards to the Echo Meadows site.

Katie

**Katie Clifford**  
Senior Siting Analyst  
Oregon Department of Energy  
Phone: 503-302-0267

---

**From:** CLIFFORD Katie \* ODOE  
**Sent:** Wednesday, February 10, 2021 12:40 PM

**To:** Woolf, Brian T <[bwoolf@blm.gov](mailto:bwoolf@blm.gov)>  
**Subject:** RE: [EXTERNAL] Energy project near Echo Meadows

Thank you so much, Brian – appreciate it! I’m available to answer any questions in the meantime.

**Katie Clifford**  
Senior Siting Analyst  
Phone: 503-302-0267

---

**From:** Woolf, Brian T <[bwoolf@blm.gov](mailto:bwoolf@blm.gov)>  
**Sent:** Wednesday, February 10, 2021 10:22 AM  
**To:** CLIFFORD Katie \* ODOE <[Katie.Clifford@oregon.gov](mailto:Katie.Clifford@oregon.gov)>  
**Subject:** Re: [EXTERNAL] Energy project near Echo Meadows

Hi Katie,

Yes. I am the appropriate person to review these types of projects. I have sent an invitation to my team to gather our thoughts and possibly provide a comment.

Thanks for reaching out and providing the documents. I will do a final review and provide a comment once our team members and managers have a chance to weigh in.

Stay Safe,

Brian

Brian T Woolf  
Outdoor Recreation Planner

BLM - Baker Field Office  
Dept. of Interior Region 9  
541-523-1495

---

**From:** CLIFFORD Katie \* ODOE <[Katie.Clifford@oregon.gov](mailto:Katie.Clifford@oregon.gov)>  
**Sent:** Monday, February 8, 2021 3:55 PM  
**To:** Woolf, Brian T <[bwoolf@blm.gov](mailto:bwoolf@blm.gov)>  
**Subject:** [EXTERNAL] Energy project near Echo Meadows

<p><b>This email has been received from outside of DOI - Use caution before clicking on links, opening attachments, or responding.</b></p>
--

Hi Brian,

Oregon Department of Energy is reviewing an application for a proposed energy facility with potential impacts on the Echo Meadows site of the Oregon Trail ACEC. Capital Power’s application referenced communication with you about the site so I thought you might be the right person at BLM to contact to see if BLM has any concerns.

Their proposed Nolin Hills Wind Power Project consists of wind turbines, transmission lines, solar panels, and battery storage, along with other components such as an operations and maintenance building and construction laydown areas. The components that appear to have the most potential to impact Echo Meadows are one of their proposed transmission line options and the wind turbines. One of their proposed 230-kilovolt transmission line options (which they call the UEC Cottonwood Route) would be located along Oregon Trail Road just south of Echo Meadows and would replace an existing, smaller distribution line that runs parallel to Oregon Trail Road. The wind turbines would be at least 6.4 miles away (potential visual impacts).

Exhibits L and R of their application (accessible [here](#)) describe the potential for noise, traffic, and visual impacts to Echo Meadows. The applicant (Capital Power) discussed potential impacts to Oregon Trail resources, including Echo Meadows, with the Oregon-California Trails Association (OCTA). OCTA sent us the attached letter indicating that they have reached an agreement with Capital Power for mitigation and construction procedures that will protect the Oregon Trail, and that therefore their concerns have been satisfied.

I wanted to make sure BLM is aware of the project, particularly the potential for short-term impacts to access to Echo Meadows during construction of the UEC Cottonwood Route transmission line:

*From Exhibit L: "South of I-84, the Echo Meadows ACEC site is accessed via a gravel road extending north from Oregon Trail Road (OR-320) that connects the town of Echo and OR-207. If the UEC Cottonwood route alternative is chosen, it is not expected that the gravel road going north from OR-320 to Echo Meadows would be closed by construction; however, if the need arises, the temporary closure would be less than 15 minutes. The transmission line would be located on the northern or southern side of OR-320 and closure of OR-320 is unlikely. However, for the purposes of analysis, it is possible portions of OR-320 would be closed for one or two days. As visitors can approach the turnoff to Echo Meadows from either east- or west-bound OR-320, and therefore could drive around via OR-207, I-84, and Thielsen Road, access would not be blocked. There is a residence adjacent to OR-320 whose access also depends on the gravel road going north toward Echo Meadows, so local and visitor access would be maintained at the intersection. Given the short-term, temporary nature of potential traffic disruption described above, the Project will not have a significant impact on access to Echo Meadows. Furthermore, as noted earlier, use of the Echo Meadows site is relatively low and few users are likely to be affected by potential construction delays."*

Would you know if there's a time of year when most people visit the site? Would you let me know if BLM has any questions, concerns, or recommends any mitigation measures?

Katie



**Katie Clifford**

Senior Siting Analyst

550 Capitol St. NE |

Salem, OR 97301

Phone: 503-302-0267



Stay connected!

**Attachment C: [Reserved for Draft Proposed Order Comments/Index]**

**Attachment D: References Cited in Draft Proposed Order**

## **Attachment D: References Cited in DPO**

Carlson, L. and Geupel, G., Kjelson, J., MacIvor, J., Morton, M. and Shishido, N.  
1980 Geographic Range, Habitat Requirements and a Preliminary Population Study of *Spermophilus washingtoni*. Final Technical Report. Prepared under a grant from the National Science Foundation, Grant No. SMI 5350.

City of Pendleton

2020 Unified Development Code. Ordinance No. 3845, as amended.

City of Pendleton River Quarter Committee.

2010 City of Pendleton River Quarter Enhancement Plan.

Electric Power Research Institute.

2005 Transmission Line Reference Book. Third Edition.

Institute of Electrical and Electronics Engineers, Inc.

2017 National Electric Safety Code.

Occupational Safety and Health Administration.

2016 Memorandum on RAGAGEP in Process Safety Management Enforcement. May 11, 2016.

Oregon Department of Agriculture.

2020 Noxious Weed Policy and Classification System.

Oregon Department of Environmental Quality.

2021 Construction Stormwater Best Management Practices Manual. 1200-C NPDES General Permit. Water Quality Permitting Department. 2021-02-01.

Oregon Health Authority, Public Health Division.

2020 Climate and Health in Oregon.

Oregon Land Use Board of Appeals.

1996 Middleton v. Josephine County, 31 Or LUBA 423

2002 Oregon Natural Desert Association v. Grant County, 42 Or LUBA 9.

2002 Morgan v. Douglas County, 42 Or LUBA 46

2007 VinCEP v. Yamhill County, 55 Or LUBA 433

2021 Oregon Shores Conservation Coalition v. Coos County WL 2336704

Oregon State Historic Preservation Office.

2011 Guidelines for Historic Resources Surveys in Oregon.

2016 Guidelines for Conducting Field Archeology in Oregon.

Oregon Tourism Division.

2022 Travel Oregon Statewide Lodging Statistics for February 2022. Volume 2.

The Solar Foundation.

2018 National Solar Jobs Census 2018.

Umatilla County department of Land Use Planning.  
2018 Umatilla County Comprehensive Plan, as Amended and revised.

U.S. Department of the Interior, Bureau of Land Management, Vale District Office  
1989 Baker Resources Management Plan Record of Decision, Rangeland Program Summary.

**Electronic Sources Cited in DPO:**

Alberta Utilities Commission. Available: <https://www.auc.ab.ca/environment-wildlife-and-noise/>  
Accessed by the Department on March 17, 2022.

Bonneville Power Administration. Klondike III/Biglow Canyon Wind Integration Project, Appendix C: Electrical Effects, Page 1. 2006. Available:  
<https://legacy.bpa.gov/efw/Analysis/NEPADocuments/nepa/Klondike/AppendixC-EMF.pdf>  
Accessed by the Department on March 9, 2022.

City of Echo. City of Echo's Attractions. Available: <https://echo-oregon.com/attractions/>  
Accessed by the Department on February 11, 2022.

City of Echo. City of Echo Attractions – Description of Corral Springs ONHT Site. Available: <https://echo-oregon.com/attractions/>  
Accessed by the Department on March 27, 2022.

National Institute of Environmental Health Sciences. Electric and Magnetic Fields. Available:  
<https://www.niehs.nih.gov/health/topics/agents/emf/index.cfm>  
Accessed by the Department on March 29, 2022.

Oregon Department of Agriculture.  
2021. Oregon Agricultural Statistics and Directory. Available:  
<https://www.oregon.gov/oda/shared/Documents/Publications/Administration/AgStatsDirectory.pdf>  
Accessed by the Department on April 15, 2022.

Oregon Department of Environmental Quality. Climate Protection.  
Available: <https://www.oregon.gov/deq/ghgp/Pages/Climate-Protection.aspx>  
Accessed by the Department on April 12, 2022.

Oregon Energy Facility Siting Council. Final Order on ASC for Madras Solar Energy Facility, June 2021.  
Available: <https://www.oregon.gov/energy/facilities-safety/facilities/Pages/MSE.aspx>.

Oregon Energy Facility Siting Council. Final Order on ASC for Bakeoven Solar Project, April 2020.  
Available: <https://www.oregon.gov/energy/facilities-safety/facilities/Pages/BSP.aspx>

Oregon State Historic Preservation Office. Guidelines for Conducting Field Archaeology in Oregon. 2016.  
Available: [https://www.oregon.gov/oprd/OH/Documents/FieldGuidelines\\_January2016.pdf](https://www.oregon.gov/oprd/OH/Documents/FieldGuidelines_January2016.pdf)  
Accessed by the Department on March 31, 2022.

Oregon Tourism Commission. Statewide-Lodging-Performance-Statistics-for-February-2022-v2. Available: <https://industry.traveloregon.com/wp-content/uploads/2022/03/Statewide-Lodging-Performance-Statistics-for-February-2022-v2.pdf>

Accessed by the Department on March 3, 2022.

Swinerton Renewable Energy. National Solar Jobs Census 2018. Available: <https://irecusa.org/wp-content/uploads/2021/07/Solar-Jobs-Census-2018-1-1.pdf>

Accessed by the Department on March 29, 2022.

Umatilla County 2002 Transportation System Plan, Table 4-1: Important County Roads. Available: [https://www.co.umatilla.or.us/fileadmin/user\\_upload/Planning/Umatilla\\_County\\_TSP\\_June\\_02.pdf](https://www.co.umatilla.or.us/fileadmin/user_upload/Planning/Umatilla_County_TSP_June_02.pdf)

Accessed by the Department on March 1, 2022.

U.S. Census Data. Quick Facts, Morrow County, Oregon Housing Data. 2019. Available: <https://www.census.gov/quickfacts/fact/table/umatillacountyoregon/RHI825219>

Accessed by the Department on February 22, 2022.

U.S. Code of Federal Regulations. CFR. Title 14 Chapter I Subchapter E Part 77. PART 77 - Safe, Efficient Use, and Preservation of the Navigable Airspace. Available: <https://www.ecfr.gov/current/title-14/chapter-I/subchapter-E/part-77>

Accessed by the Department on March 8, 2022.

US Department of Agriculture, Natural Resources Conservation Service, Web Soil Survey. Accessed: <https://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx> .

Accessed by the Department on April 14, 2022.

U.S. EPA. Climate Change Impacts in the Northwest. Accessed: [https://19january2017snapshot.epa.gov/climate-impacts/climate-impacts-northwest\\_.html](https://19january2017snapshot.epa.gov/climate-impacts/climate-impacts-northwest_.html)

Accessed by the Department. April 12, 2022.

U.S. Environmental Protection Agency. EMF and Powerlines. Available: <https://www.epa.gov/radtown/electric-and-magnetic-fields-power-lines>

Accessed by the Department: March 30, 2022.

U.S. Geological Survey. National Wetlands Inventory. Available: <https://fwsprimary.wim.usgs.gov/wetlands/apps/wetlands-mapper/>

Accessed by the Department on March 10, 2022.

Waste Management Solutions. Columbia Ridge Landfill. Available: <https://www.wmsolutions.com/locations/details/id/248>

Accessed by the Department on March 15, 2022.

Waste Connections Company, Finley Buttes Landfill. Available: <https://www.finleybutteslandfill.com/services/>

Accessed by the Department on March 15, 2022.



**Attachment E: Draft Geotechnical Investigation Protocol (framework)**

Attachment E:

Draft Geotechnical Investigation Protocol (framework)

Prepared by the Oregon Department of Energy –  
Based on recommendations presented in the Draft Proposed Order

The preconstruction, site-specific geotechnical investigation shall, at a minimum, include and/or address the following:

- Identify the current code and design standards at the time of construction
- Consider Quaternary faults as active
- Identify suitable subsurface information for determining Site Class in structure locations
- Characterize site-specific groundwater and soil conditions that may indicate a liquefaction hazard
- Identify any liquefaction hazards and how these hazards would be minimized a
- Identify methods to evaluate faults and landslides including high-resolution imagery, LiDAR or best available data, consistent with DOGAMI special papers #42, #45 and #48.
- Identify methods for evaluating flood risk to inform civil design (e.g., grading plans).
- Identify laboratory testing and analysis to be used to address shrink-swell potential of soils.

**Attachment G-1: Draft Spill Prevention, Control, and Countermeasures Plan**

## **Attachment G-1: Draft Spill Prevention, Control, and Countermeasures Plan**

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# **Nolin Hills Wind Power Project**

## **Draft Spill Prevention, Control, and Countermeasures Plan**



**d/b/a Nolin Hills Wind, LLC**

**Prepared by**



**Tetra Tech, Inc.**

**January 2022**

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Appendix C. Contractor’s Emergency Response Plan Form

Appendix D. Spill Report Form

Appendix E. Project Description and Site Maps [Site maps provided prior to construction]

## Acronyms and Abbreviations

Applicant	Nolin Hills Wind, LLC
CI	Chief Inspector
DOT	U.S. Department of Transportation
EI	Environmental Inspector
EPA	Environmental Protection Agency
ER Plan	Emergency Response Plan
MSDS	Material Safety Data Sheet
MW	megawatt
OAR	Oregon Administrative Rules
Project	Nolin Hills Wind Power Project
SPCC Plan	Spill Prevention, Control, and Countermeasures Plan

## 1.0 Introduction

Nolin Hills Wind, LLC (the Applicant) proposes to construct the Nolin Hills Wind Power Project (Project), a wind and solar energy project with a nominal generating capacity of approximately 600 megawatts (MW) (preliminarily 340 MW from wind and 260 MW from solar), in Umatilla County, Oregon. The Project's wind energy component comprises up to 112 wind turbine generators, depending on the turbine model selected and the final layout determined during the micrositing process. The solar array will include up to approximately 816,812 solar modules, depending on the final technology and layout selected. The Project will interconnect to the regional grid via either publicly owned and operated transmission lines to be constructed locally by the Umatilla Electric Cooperative, or a new 230-kilovolt transmission line anticipated to be constructed, owned, and operated by the Applicant to the proposed Bonneville Power Administration Stanfield Substation. Other Project components include an up to 120-MW battery energy storage system, electrical collection lines, substations, site access roads, one operations and maintenance building, meteorological data collection towers, and temporary construction yards.

Nolin Hills Wind, LLC prepared this Spill Prevention, Control, and Countermeasures Plan (SPCC Plan) to be implemented during construction of the Project. This SPCC Plan is required by the Environmental Protection Agency (EPA) regulations contained in Title 40 of the Code of Federal Regulations, Part 112 (SPCC Rule). This Plan meets the requirements of the updated rule promulgated by the EPA on November 5, 2009. The State of Oregon does not have specific additional oil handling, operation, or design requirements. Hazardous waste management is regulated under Division 100 of the Oregon Administrative Rules (OAR); oil spill contingency planning under Division 141; and oil and hazardous materials emergency response requirements under Division 142.

This SPCC Plan outlines preventive measures and practices to reduce the likelihood of an accidental release of a hazardous or regulated liquid and, in the event such a release occurs, to expedite the response to and remediation of the release. This SPCC Plan restricts the location of fuel storage, fueling activities, and construction equipment maintenance along the construction right-of-way and provides procedures for these activities. Training and lines of communication to facilitate the prevention, response, containment, and cleanup of spills during construction activities are also described. Additionally, this plan identifies the roles and responsibilities of key Nolin Hills Wind, LLC personnel and contractors (i.e., primary and subcontractors) who will be involved in construction of the Project. This SPCC Plan will be included in construction bid and contract documents as contractual requirements to the contractor.

All contractor and subcontractor personnel working on the right-of-way are responsible for implementation of the measures and procedures defined in this SPCC Plan.

## 1.1 Nolin Hills Wind, LLC

The Chief Inspector (CI) will evaluate and approve each construction contractor's (Contractor) submittal under this SPCC Plan. The project Environmental Inspector(s) (EI) will oversee implementation of the SPCC Plan and of the Contractor's plans and submittals incorporated by reference. The EI will conduct regular inspections of Contractor activities and identify any issues that may require correction. The EI has the authority to stop construction to correct issues, if necessary. The CI, Contractor, Subcontractor, and EI will be required to maintain a copy of this SPCC Plan on-site available to all personnel. Contact information for Nolin Hills Wind, LLC and subcontractor representatives is provided in Table 1 and Table 2, respectively.

**Table 1. Nolin Hills Wind, LLC Representatives**

Function	Name	Location	Contact Info (phone and email)
Nolin Hills Wind, LLC Project Manager			
Chief Inspector			
Environmental Inspector			
Emergency Response Coordinator: Primary			
Emergency Response Coordinator: Secondary			
Emergency Response Contractors (Company/Responsibility)			
Spill Response			
Transportation Services			
Site Remediation			
Note: This table will be completed prior to construction.			

## 1.2 Contractor Responsibilities

The Contractor will prepare plans and submittals under this SPCC Plan that will include activities of the Contractor and its Subcontractors (individuals are noted in Table 2). The Contractor will ensure that such documents are maintained current and complete, and that this SPCC Plan is fully implemented. Responsibilities identified as "Contractor" in subsequent sections of this SPCC Plan apply to each Contractor and Subcontractor.

**Table 2. Nolin Hills Project Contractor Representatives**

<b>Function</b>	<b>Name</b>	<b>Location</b>	<b>Contact Info (phone and email)</b>
<b>Primary Contractor</b>			
Contractor			
On-Site Foreman			
Emergency Response Coordinator: Primary			
Emergency Response Coordinator: Secondary			
Environmental Contact			
Safety Representative			
<b>Subcontractors</b>			
Contractor			
On-Site Foreman			
Emergency Response Coordinator: Primary			
Emergency Response Coordinator: Secondary			
Environmental Contact			
Safety Representative			
<b>Note: This table will be completed prior to construction.</b>			

## 2.0 Spill Prevention Practices

### 2.1 Site Selection

Site selection for Project staging areas where hazardous materials and hazardous wastes may be present has considered and avoided environmentally sensitive areas. These sites are located at least 100 feet from streams (including intermittent and perennial), wetlands (including dry or seasonal wetlands), and other waterbodies (e.g., lakes, ponds, and reservoirs); 200 feet from any private water well; and 400 feet from any municipal or community water supply well. Hazardous materials and wastes may not be sorted, handled, or used in an area that has not been approved for that purpose by the CI.

### 2.2 Hazardous Materials and Waste Management

Each Contractor is required to develop a detailed, site-specific Hazardous Materials Management Plan prior to construction. The Plan will identify the legal requirements that apply and Contractor requirements, and the best management practices for Project-specific spill prevention procedures,

and other stipulations and methods to address spill prevention, response and cleanup procedures for the Project. A Hazardous Materials Management Plan Framework is included in Appendix A. Each Contractor is required to identify the hazardous materials that the Contractor will use and the wastes that the Contractor may generate during Project activities. This information includes Material Safety Data Sheets (MSDS) or waste designation information, quantities, locations of storage and use, the container or tank used secondary containment, and inspection procedures. The Contractor must keep a copy of this plan on-site for the duration of all construction-related activities.

### ***2.2.1 Hazardous Materials***

No new hazardous material may enter the job site without an amendment to the Contractor's Hazardous Materials Management Plan and without the express approval of the EI.

Usable hazardous materials will be removed by the Contractor for future use upon completion of work on-site.

### ***2.2.2 Waste***

Each waste generated will be evaluated by the EI for appropriate waste designation and appropriate disposal. In no case will any waste material be disposed of at the job site, right-of-way location, or adjacent property.

#### ***2.2.2.1 Rights-of-Way and Sites Owned or Leased by the Project***

Wastes generated on the right-of-way and at sites owned or leased by Nolin Hills Wind, LLC that have the potential of being hazardous waste will be returned to the approved staging point, whereupon the EI will be notified. As necessary, the Contractor will sample wastes and request assistance of the EI in waste management.

The Project EI is responsible for designation of hazardous waste, universal waste, special waste, or recyclable hazardous materials in accordance with applicable state and federal regulations, including OAR, Division 100.

Regulated wastes will be placed in approved containers, maintained in good condition, and appropriately labeled. Containers will be in an approved area and the EI will be notified of the waste activity. Nolin Hills Wind, LLC representatives will arrange for appropriate disposal of regulated wastes.

#### ***2.2.2.2 Domestic Sewage***

Domestic sewage will be handled during construction by means of portable self-contained toilets, which will be stationed at central locations and reasonable distances throughout the work area.

## **2.3 Spill Prevention**

The Contractor will handle and transfer fluids used during construction so as to prevent the release or spill of oil or other hazardous materials. Materials that are likely to be used in construction equipment include gasoline, diesel fuel, hydraulic oil, and lubricating oils.

### ***2.3.1 Tank and Container Specifications***

Specifications for tanks and containers must meet generally approved standards, including but not limited to supplier's recommendations and specifications of the U.S. Department of Transportation (DOT). In meeting these standards, tanks and containers must continuously be of integrity and condition to be acceptable for storage and transportation.

### ***2.3.2 Dispensing and Transfer***

Dispensing and transfer of hazardous materials and wastes must occur in accordance with nationally recognized standards. This includes bonding or grounding during transfer of flammable liquids. The Contractor will inspect transfers of hazardous materials and waste.

Transfer of liquids and refueling will occur only at approved locations that are at least 100 feet away from any wetlands or surface waters, 200 feet from any private water well, and 400 feet from any municipal or community water well, with certain exceptions noted below (see Section 2.3.4).

Crews must have adequate spill response equipment available at the dispensing or transfer location.

Repair/overhaul of equipment will not occur on the right-of-way or temporary work space except for emergency-type repair of short duration. Any liquids will be collected in suitable containers and appropriately disposed of.

When materials are transferred from a storage tank or container to a vehicle, the Contractor will:

- Operate during daylight hours or where lighting is adequate to illuminate the area;
- Monitor the transfer operations at all times;
- Refuel at least 100 feet from wetlands or surface waters and at least 200 feet from potable water supplies, with certain exceptions noted below;
- Keep sufficient spill control materials on-site; and
- In the event of a spill, implement the spill response procedures.

### ***2.3.3 Materials Storage***

No hazardous materials will be stored at the site during construction or operations.

### ***2.3.4 Setback Exceptions***

The dispensing and transfer (e.g., refueling) setbacks identified above may not be practical for certain construction activities in certain locations. Exceptions may only be allowed for:

- Areas such as rugged terrain or steep slopes where movement of equipment to refueling stations would cause excessive disturbances to the surface of the right-of-way;
- Construction sites where moving equipment to refueling stations is impractical or where there is a natural barrier from the waterbody or wetland (e.g., road or railroad);
- Locations where the waterbody or wetland is located adjacent to a road crossing from which the equipment can be serviced; and
- Refueling and fuel storage for immobile equipment.

All exceptions to the required setbacks must be approved by the EI.

In these situations, the Contractor shall exercise extreme caution during fueling and lubrication of equipment and all other oil and hazardous materials transfers. Only a fuel truck with a maximum of 300 gallons of fuel may enter restricted areas to refuel construction equipment. Two trained personnel will be present during refueling to reduce the potential for spill or accidents. Adequate spill containment equipment suitable to the refueling activities as described in Section 2.3.2 will be maintained at designated setback locations during refueling.

### ***2.3.5 Other Material-Specific Measures***

Paint containers will be tightly sealed; excess paint will be properly disposed of according to manufacturer's instructions and federal, state, and local regulations. All paint tools will be cleaned in a designated area located at least 100 feet from all wetlands and surface waters. No paint would be stored on site.

Concrete trucks will be allowed to wash out or discharge surplus concrete or drum wash water on the site in designated concrete washout containers. The designated area will include sediment controls installed around the perimeter and will be located 100 feet away from wetlands or surface waters. After construction, the concrete washout area will be restored to pre-construction conditions.

### ***2.3.6 Equipment for Safe Tank Operation***

Tanks will be equipped with all standard safety equipment required for the specification packaging and its use.

### ***2.3.7 Separation of Incompatible Materials***

If any incompatible materials are used, they will be stored in areas separated in accordance with nationally recognized standards. Incompatible materials will not be consecutively placed into a



container or tank. In addition, sources of ignition will be prohibited in hazardous materials areas and waste areas.

### ***2.3.8 Labeling, Marking and Placarding***

Each container will be appropriately identified with contents as per Occupational Safety and Health Administration requirements (see samples in Appendix B). Containers and tanks used for transport of hazardous materials and wastes will be marked and labeled in accordance with DOT requirements (e.g., Proper Shipping Name, UN/NA Number, Hazard Class labels or placards). In addition, tanks will be labeled in accordance with National Fire Protection Association guidelines, where required by the local jurisdiction.

Approved areas for hazardous materials and waste will be secured against unauthorized entry and vandalism.

## **2.4 Secondary Containment**

Approved secondary containment will be provided for each container with a capacity of 5 gallons or more.

### ***2.4.1 Minimum Standards for Secondary Containment***

Secondary containment for containers with 5 or more gallons of capacity may include a temporary containment area with temporary earthen berms and contiguous 10 mil polyethylene containment; or it may consist of a portable containment system constructed of polyvinyl chloride (PVC) or other suitable material.

Secondary containment volume will be at least 110 percent of the volume of the larger tank of hazardous materials and wastes stored. If earthen berms are utilized, they will be constructed with slopes no steeper than 3:1 (horizontal to vertical) to limit erosion and provide structural stability.

#### ***2.4.1.1 Tanks***

No tanks will be located within the site boundary during construction or operations.

#### ***2.4.1.2 Contractor's Secondary Containment***

Secondary containment provided by the Contractor must meet these minimum standards and must be implemented as proposed in the Contractor's Hazardous Materials Management Plan.

### ***2.4.2 Regular Inspections***

The Contractor will conduct daily inspections at locations where hazardous materials and wastes are handled and dispensed. Inspections will follow site-specific procedures in the approved Contractor's Hazardous Materials Management Plan. The source of any container leak will be

stopped immediately and residual wastes will be aggregated, designated, and properly disposed of. Any leaking container will be immediately overpacked.

All vehicles (e.g., trucks, side-booms, dozers, etc.) shall be:

- Inspected daily for leaks or signs of deterioration that could result in a leak;
- Repaired when defective tanks, hoses, fittings, etc. are found; and
- Parked at least 100 feet from wetlands or surface waters, with certain exceptions noted above (see Section 2.3.4).

The EI will provide oversight to the Contractor's activities on hazardous materials and waste management.

### **3.0 Emergency Preparedness**

Each Contractor is required to develop a Contractor's Emergency Response Plan (ER Plan) (see Appendix C) for environmental emergency preparedness and response. The ER Plan is appropriate for the hazardous materials and wastes used and generated. The initial ER Plan will be approved by the CI. This ER Plan will be maintained current; subsequent revisions may be approved by the EI.

The Contractor will maintain adequate resources, including:

- Emergency response coordinators;
- Fire-fighting equipment (such as portable fire extinguishers);
- Spill control and cleanup equipment (absorbent materials such as pads, pillows, booms and socks, non-sparking shovels, etc.);
- Appropriate personal protective equipment; and
- The Contractor's ER Plan.

#### **3.1 Emergency Responders**

The Contractor will designate personnel responsible for incident or emergency response, in the event of a release to the environment. The Contractor will ensure that emergency responders identified will have appropriate training in environmental emergency or incident preparedness, prevention, and response. The Contractor's emergency contact information will be maintained current.

In addition, Nolin Hills Wind, LLC will designate primary and secondary Emergency Response Coordinators. Emergency Response Coordinators will have the authority to commit necessary resources to respond to environmental releases and to conduct cleanup.

## 3.2 Emergency Response Equipment

### 3.2.1 Contractor's Spill Containment and Cleanup Resources

#### 3.2.1.1 On-site Equipment

The Contractor will have available, adequate spill containment and cleanup resources that are appropriate to their activities and to the hazardous materials and wastes handled. Minimum standards are identified on Appendix C. The following additional materials will be available at a central location on each staging area:

- Boom(s);
- Cleanup rags;
- 55-gallon DOT-approved containers;
- Replacement parts and equipment for repair of tanks, hoses, nozzles, etc.;
- Fire extinguisher, type B, C;
- Two bags of chemical sorbent material (e.g., kitty litter);
- Three 17-inch x 17-inch chemical pillows;
- Four 48-inch x 3-inch chemical socks;
- Twenty 18-inch x 18-inch x 3/8-inch sorbent pads;
- Twenty 30-gallon 6-mil polyethylene bags;
- Two 30-gallon polyethylene open-head drums;
- 10 pairs of polypropylene gloves;
- Two, each type, waste labels;
- Two 8-foot x 10-foot polyethylene tarps;
- One cooler;
- One quart jar;
- One trowel; and
- 20 hay bales.

The Contractor will be prepared to clean up, characterize, and dispose of spill debris. Nolin Hills Wind, LLC will have additional contractors available for associated emergency spill response, transportation, remediation, and disposal activities.

#### 3.2.1.2 Vehicle Response Equipment

The Contractor will maintain a supply of spill materials as described below.

Any vehicle used to transport lubricants and fuel will be equipped with:

- One 20-pound fire extinguisher (Type: B, C);
- 50 pounds of oil absorbent (e.g., Speedy Dry or equivalent);
- Ten 48-inch x 3-inch oil socks;
- Five 17-inch x 17-inch oil pillows;
- Two 10-foot x 4-inch oil booms;
- Twenty 24-inch x 24-inch x 3/8-inch oil absorbent pads;
- Twenty 30-gallon 6-mil polyethylene bags;
- One roll of 10-mil plastic sheeting;
- Two shovels;
- 10 pairs of polypropylene gloves;
- One 55-gallon (or equivalent capacity) DOT-approved container; and
- Two, each type, waste label.

All foremen's vehicles and heavy equipment will be equipped with:

- Absorbent pads;
- Heavy duty plastic bags; and
- One shovel.

### **3.3 Maintaining Emergency Response Equipment**

The Contractor will inspect emergency response equipment weekly to ensure that all equipment identified in the Contractor's ER Plan is available in quantities and locations identified. After response to an incident or emergency release, any equipment used will be replaced or decontaminated and returned to inventory.

## **4.0 Incident or Emergency Response**

### **4.1 Environmental Release Notification**

The Contractor will notify the Emergency Response Coordinator on call in the event that a spill occurs during Project activities. There will be immediate notification in the event of a release of 1 pound or more of any hazardous material or any amount of hazardous waste. The Contractor is required to complete the Spill Report Form (Appendix D) and submit the form to the Project Manager and EI. The Contractor will be considered the Waste Generator for all spills caused by construction.

If agency notification is required, Nolin Hills Wind, LLC representatives will notify the Project Manager and appropriate agencies in accordance with Nolin Hills Wind, LLC policies. Nolin Hills Wind, LLC will provide 48-hour advance notification to surface water intake operators of public drinking water source areas regarding construction through the waterbodies where their intakes are located. Appendix E will contain a description of the Project, including maps, flow diagrams, and topographical maps as necessary, which will be updated prior to construction.

## **4.2 Incident Response**

If an environmental release occurs and is an incident that can be handled with available resources, the Contractor may be requested to perform the following, under direction of the Nolin Hills Wind, LLC Emergency Response Coordinator.

- Stop the source of release. This may mean plugging a container or tank, turning off a valve, etc.
- Remove all sources of ignition from the area.
- Contain the spill. Use an approved container, or create a lined, covered containment area.
- Collect spilled materials. Block off drains. Create/expand containment areas using available means. Use appropriate neutralizers, sorbents, pigs, and pads. Create barriers to protect sensitive areas. Personal protective equipment will be worn as recommended on the MSDS of the specific product.
- Remove all contaminated soil or other material and cover with a plastic sheet.
- Contain contaminated material and temporarily store in a secured area 100 feet away from any wetland or surface water.
- Perform any necessary sampling of waste material.
- Conduct preliminary cleanup of the site.

### **4.2.1 Wetland or Waterbody Response**

Regardless of size, the following conditions apply if a spill occurs near or in a stream, wetland, or other waterbody.

- For spills in standing water, floating booms, skimmer pumps, and holding tanks shall be used as appropriate by the Contractor to recover and contain released materials in the surface of the water.
- For a spill threatening a waterbody, berms and/or trenches will be constructed to contain the spill before it reaches the waterbody. Deployment of booms, sorbent materials, and skimmers may be necessary if the spill reaches the water. The spilled product will be collected and the affected area cleaned up in accordance with appropriate state or federal regulations.

- Contaminated soils in wetlands must be excavated, and placed on and covered by plastic sheeting in approved containment areas a minimum of 100 feet away from the wetland or surface water. Contaminated soil will be disposed of as soon as possible in accordance with appropriate state or federal regulations.

#### **4.2.2 Emergency Response**

The Emergency Response Coordinator will act as Incident Commander, overseeing emergency release response actions taken.

If additional resources are needed, the Emergency Response Coordinator will retain emergency response contractors and/or request assistance of local emergency responders (including fire, police, hazardous materials teams, ambulance or hospitals, and highway patrol) and will coordinate all emergency response activities. As necessary, the Emergency Response Coordinator will signal evacuation of site personnel.

Where site cleanup is necessary, the Emergency Response Coordinator will coordinate cleanup actions with appropriate agency representatives who will provide guidance on appropriate waste management and disposal.

The Oregon Office of Emergency Management (1-800-452-0311) serves as the coordinator of spill response in the State of Oregon. The Office of Emergency Management determines the severity of spills and contacts the appropriate agency.

## **5.0 Training**

Nolin Hills Wind, LLC will require that all Contractor employees involved with transporting or handling fueling equipment or maintaining construction equipment be required to complete spill training before they commence work on the Project. Nolin Hills Wind, LLC will audit Contractor compliance with this requirement. Spill training will also be required for Contractor supervisory personnel prior to commencement of work. These training sessions will provide information concerning pollution control laws; inform personnel concerning the proper operation and maintenance of fueling equipment; and inform personnel of spill prevention and response requirements. Measures, responsibilities, and provisions of this SPCC Plan, and identification of response team individuals, will be incorporated into the training.

Training of other workers will be provided through ongoing weekly safety meetings. Topics will include spill handling and personal responsibility for initiating and adhering to appropriate procedures, and the required spill containment supplies to be maintained with each construction crew. These weekly sessions will be held by the Contractor as crew “tailgate” meetings. Nolin Hills Wind, LLC will audit the Contractor compliance with this requirement to ensure the meetings are conducted.

## **Appendix A. Contractor's Hazardous Waste Management Forms**

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## Nolin Hills Wind Power Project

## **Appendix B. Labels for Waste Containers**

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**“MATERIALS IDENTIFICATION LABEL” (all containers)**

<b>Sams Valley Reinforcement Projects</b>		
<b>MATERIALS IDENTIFICATION LABEL</b>		
Sams Valley Reinforcement Projects:	Description:	
	Facility/Location:	
	Chief Inspector:	
	Environmental Inspector:	
	PacifiCorp Project Number/Account:	
Contractor:	Contractor Name:	
	Environmental Contact Name:	
	Telephone No.:	
Process:		
Materials Description:	Quantity:	___pounds
		___gallons
Container Type (drum, tank, etc.):	Container Location:	
Container Number:	Date of Accumulation:	
Status of Material: (if sampling and analysis are required)	Sample Number:	
	Sample Date:	
	Analytical Laboratory:	
	Analysis Date:	
	Report Date:	
	Analytical Results:	

## “RECYCLABLE MATERIAL/WASTE” CONTAINER LABEL

### Sams Valley Reinforcement Projects

#### **RECYCLABLE MATERIAL/WASTE LABEL**

Facility Name: \_\_\_\_\_  
Address: \_\_\_\_\_  
State/Zip: \_\_\_\_\_  
Contact: \_\_\_\_\_

Type: ☐ **USED OIL**

**UNIVERSAL WASTE:**

- ☐ Universal Waste – Batteries  
☐ Universal Waste – Lamps  
☐ Universal Waste – Mercury Thermostats

☐ **SPECIAL WASTE**

☐ **RECYCLABLE MATERIAL**

Description: \_\_\_\_\_

Accumulation Date: \_\_\_\_\_

DOT Proper Shipping \_\_\_\_\_

Name: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

UN/NA Number: \_\_\_\_\_

## HAZARDOUS WASTE “WORKPLACE ACCUMULATION CONTAINER” LABEL

### WORKPLACE ACCUMULATION CONTAINER

Proper D.O.T Shipping Name:

UN/NA#

Generator:

Facility:

Address:

Phone:

City:

State:

Zip:

EPA ID No:

Workplace Accumulation

Start Date:

## HAZARDOUS WASTE

STATE AND FEDERAL LAW

PROHIBITS IMPROPER DISPOSAL.

IF FOUND, CONTACT THE NEAREST

POLICE OR PUBLIC SAFETY

AUTHORITY, THE

U.S. ENVIRONMENTAL PROTECTION

AGENCY, OR THE OREGON

DEPARTMENT OF

ENVIRONMENTAL QUALITY

**HANDLE WITH CARE!**

Composition:

Physical State of Waste:

Solid

Liquid

Hazardous Properties:

☐ Toxic

☐ Flammable

☐ Corrosive

☐ Reactivity

☐ Other

EPA Waste No.

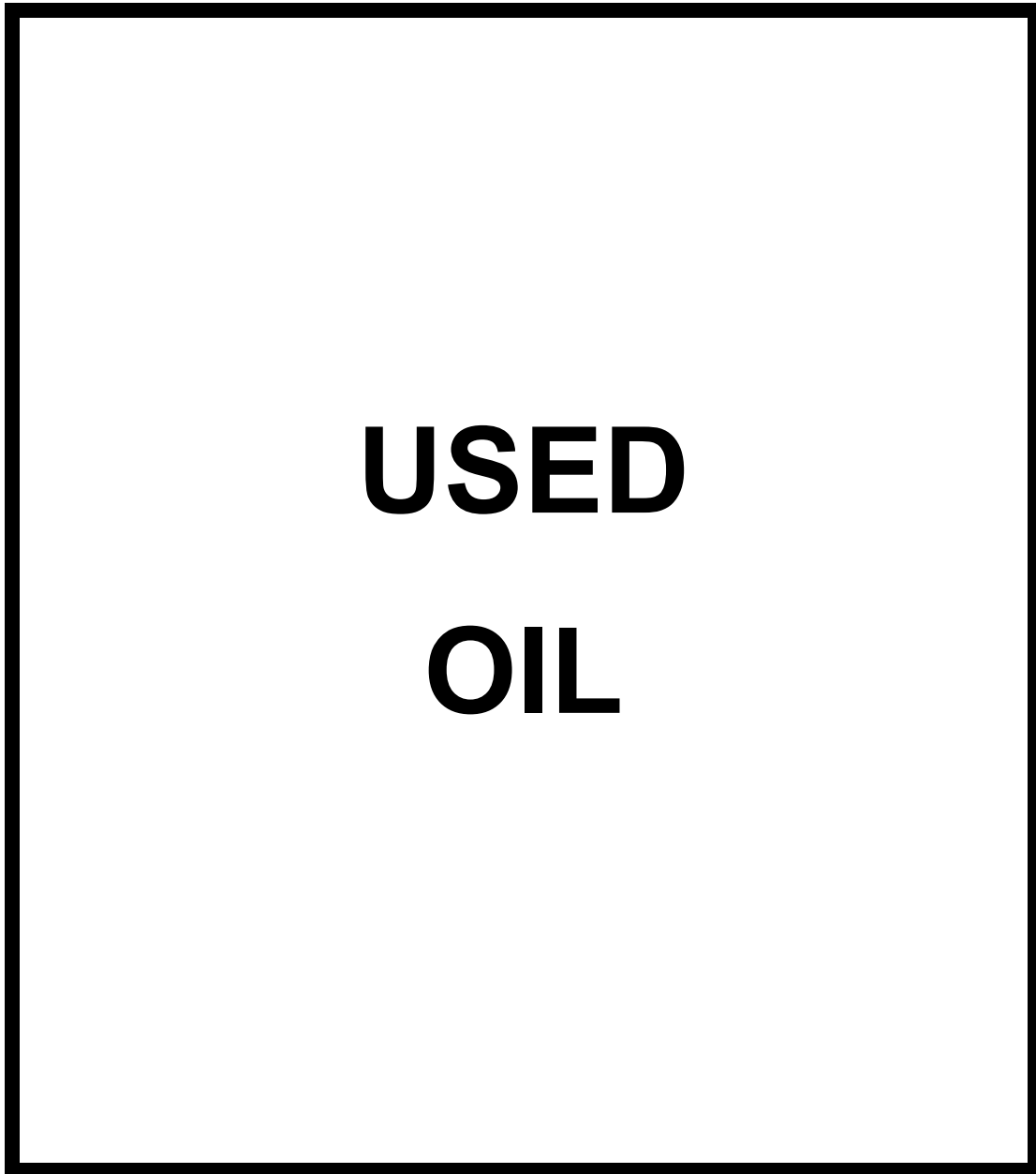
CA Waste No.

Date Placed in Hazardous

Waste Storage Area:

Manifest Document Number:

**“USED OIL” CONTAINER LABEL**





## **Appendix C. Contractor's Emergency Response Plan Form**

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**CONTRACTOR'S EMERGENCY RESPONSE PLAN**

Capital Power SPCC/Emergency Response Plan Reviewed: (Y/N)				
<b>Emergency Response Coordinator</b>				
<b>Name</b>	<b>Title</b>	<b>Telephone</b> (Office/Job Site)	<b>Address</b>	
Primary				
Secondary				
<b>Incident/Emergency Response Equipment</b>				
<b>Emergency Response Equipment</b>	<b>Type</b>	<b>Capability</b>	<b>Quantity</b>	<b>Location</b>
Fire Fighting	Fire Extinguishers	Type: B, C?		Jobsite Crew Staging Area
Incident Response Kit	Chemical sorbent material (e.g., kitty litter)	Chemical Spill Response	2 bags	Project Staging Area
	17" x 17" chemical pillows	"	3	"
	48" x 3" chemical socks	"	4	"
	Sorbent pads 18" x 18" x 3/8"	"	20	"
	6 mil polyethylene bags	"	20, 30-gal.	"
	Polyethylene open-head drum	"	2, 30-gal.	"
	Polypropylene gloves	"	10 pair	"
	Waste Labels	"	2 Each	"
	8' x 10' Polyethylene Tarp	"	2	"
Release Response Kit	48"x3" oil socks	Fuel/Oil Spill Response	10	Each Fuel/Oil Truck
	17" x 17" oil pillows	"	5	"
	10' x 4" oil boom	"	2	"
	24" x 24" x 3/8" oil mats	"	20	"
	6 mil polyethylene bags	"	20, 30-gal.	"
	Polypropylene Gloves	"	10 pair	"
	Propylene open-head drum	"	1, 55-gallon	"
	Waste Labels	"	2 Each	"
Sample Kit	Cooler, Quart Jars, Trowel	Sampling of solids	1	Project Staging Area
Spill Containment	8' x 10' Polyethylene Tarp	Contain Spill Debris	2	Project Staging Area
	Hay Bales	"	20	"

**Evacuation Procedures**

Distribution:	Original:	Informational Copies:		Revision Date (by Contractor):
	Chief Inspector/Capital Power File	Capital Power Environmental Inspector: _____		
		Safety-Training: _____		
		Others: _____		

## **Appendix D. Spill Report Form**

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**Nolin Hills Wind Power Project  
Spill Report Form**

**General Information**

Date/time of spill: \_\_\_\_\_

Date/time of spill discovery: \_\_\_\_\_

Name and title of discoverer: \_\_\_\_\_

Milepost/Legal Description: \_\_\_\_\_

**Spill Source and Site Conditions**

Material spilled/Estimated volume: \_\_\_\_\_

Unique qualifier, if relevant, such as manufacturer: \_\_\_\_\_

Media in which the release exists: (circle: sand, silt, clay, upland, wetland, surface water, other): \_\_\_\_\_  
\_\_\_\_\_

Topography and surface conditions of spill site: \_\_\_\_\_  
\_\_\_\_\_

Proximity to wetlands and surface waters (including ditches): \_\_\_\_\_  
\_\_\_\_\_

Proximity to private or public water supply wells: \_\_\_\_\_  
\_\_\_\_\_

Directions from nearest community: \_\_\_\_\_  
\_\_\_\_\_

Weather conditions at the time of release: \_\_\_\_\_

Describe the causes and circumstances resulting in the spill: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Describe the extent of observed contamination, both horizontal and vertical (i.e., spill-stained soil in a 5-foot radius to a depth of 1 inch): \_\_\_\_\_  
\_\_\_\_\_

**Nolin Hills Wind Power Project  
Spill Report Form**

**Spill Control and Clean-up**

Describe immediate spill control and/or cleanup methods used and implementation schedule:

---

---

---

Location of any excavated/stockpiled contaminated soil:

---

Describe the extent of spill-related injuries and remaining risk to human health and environment:

---

---

---

Name, company, and telephone number of party causing spill (e.g., contractor):

---

---

---

Current status of cleanup actions:

---

---

---

**Contact Information**

Name and company for the following:

Construction Superintendent (Contractor):

---

---

Spill Coordinator:

---

---

Environmental Inspector:

---

Chief Inspector (Capital Power)

---

Landowner notified (if appropriate):

---

Form completed by:

---

Date: \_\_\_\_\_

Date: \_\_\_\_\_

Government agency notified **(to be completed by Capital Power or Capital Power's Representative)**: \_\_\_\_\_

---

Date: \_\_\_\_\_

**Spill Coordinator must complete this form for any spill, regardless of size, and submit the form to the Capital Power Representative and Environmental Inspector within 24 hours of the occurrence.**



## **Appendix E. Project Description and Site Maps**

**[SITE MAPS WILL BE PROVIDED PRIOR TO CONSTRUCTION]**

**Attachment K-1: Draft Agricultural Mitigation Plan**

## **Attachment K-1: Draft Agricultural Mitigation Plan**

April 2022

The following requirements include applicant representations from ASC Exhibit K and Department recommendations to ensure that the proposed wind, solar and transmission lines would be designed, constructed and operated in a manner that would minimize impacts to accepted farm practices on surrounding agricultural lands. The plan shall be finalized, prior to construction, to represent the design and construction methods selected based on landowner consultation.

### **Design and Landowner Consultation Requirements**

- Demonstrate to the Department via records of landowner consultation and final layout maps that temporary construction laydown and staging areas have been sited to minimize disturbance for farming operations and would not unnecessarily divide a field.
- Demonstrate to the Department via records of landowner consultation that facility design/layout and construction methods would minimize potential impacts to the pattern and timing of cultivation, seeding, fertilizing and harvesting
- Demonstrate to the Department via records of landowner consultation that new roads associated with the UEC Cottonwood transmission line located in RTC, AB and LI zoned lands would be designed to minimize vegetation removal.
- For 230 kV transmission lines located on high-value farmland pursuant to ORS 195.300(10), adhere to the following requirements:

Prior to construction, the applicant shall provide notification to the record owner of any agricultural lands containing high-value farmland, as defined in ORS 195.300(10), of the opportunity to consult with IPC for the purpose of locating and constructing the transmission line in a manner that minimizes impacts to high-value farmland farming operations. The initial notification to the record owner shall allow two weeks to respond to the opportunity to consult with applicant. If the record owner does not respond to applicant within two weeks of the initial notification, applicant shall provide a second notification of the opportunity to consult with applicant via certified mail. If the record owner does not respond within two weeks of the second notification, applicant will have satisfied its obligation to consult pursuant to ORS 215.276(2).

- Provide confirmation to the Department that affected landowners have been properly compensated for any loss of agricultural lands from the final 230 kV transmission lines sited on high-value farmland soils.

### **Plan Amendments**

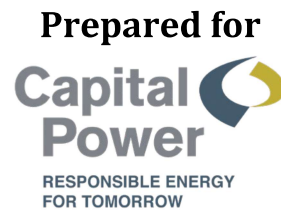
This Plan may be amended without an amendment of the Site Certificate. The Council authorizes ODOE to agree to amendments to this plan if additional or more appropriate measures are identified by the applicant, based on final design and site specific conditions. ODOE shall notify EFSC of all amendments and mitigation actions, and the Council retains the authority to approve,

reject or modify any amendment of this plan or mitigation action agreed to by ODOE.

**Attachment P-1: Draft Habitat Mitigation Plan**

# **Nolin Hills Wind Power Project**

## **Draft Habitat Mitigation Plan**



**Nolin Hills Wind, LLC**

**Prepared by:**



**Tetra Tech, Inc.**

**May 2021**

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## 1.0 Introduction

Nolin Hills Wind, LLC (the Applicant) proposes to construct the Nolin Hills Wind Power Project (Project), a wind and solar energy project with a nominal generating capacity of approximately 600 megawatts (MW) (preliminarily 340 MW from wind and 260 MW from solar), in Umatilla County, Oregon (see Figure C-1 in Exhibit C). The Project's wind energy component comprises up to 112 wind turbine generators, depending on the turbine model selected and the final layout determined during the micrositing process. The solar array will include up to approximately 1,117,591 solar modules, depending on the final technology and layout selected. This Draft Habitat Mitigation Plan (HMP)<sup>1</sup> will be updated as needed to reflect the final layout once the turbine model(s) and solar modules have been selected. The Project will interconnect to the regional grid via either publicly owned and operated transmission lines to be constructed locally by the Umatilla Electric Cooperative, or a new 230-kilovolt (kV) transmission line anticipated to be constructed, owned, and operated by the Applicant to the proposed Bonneville Power Administration (BPA) Stanfield Substation. These facilities are all described in greater detail in Exhibit B.

This Draft HMP describes how the Applicant will mitigate for the unavoidable wildlife habitat impacts of the Project. Specifically, this HMP outlines how the Applicant will construct and operate the Project consistent with the Oregon Department of Fish and Wildlife (ODFW) Habitat Mitigation Policy. This HMP addresses mitigation for both the permanent impacts of Project components (permanent impacts) and the temporal impacts associated with Project construction (temporary impacts with a longer [5+ years] restoration timeframe). The Applicant proposes two mitigation options including 1) a payment-to-provide option with ODFW, and 2) acquisition of a conservation easement to protect and enhance a compensatory habitat mitigation area (HMA). In addition, the Applicant reserves the right to pursue alternative mitigation pathways if available in the future by pursuing an amendment to this HMP, as provided under Section 7.0 below. As presented in this Draft HMP, Mitigation Option 1 is included to preserve a potential future mitigation option, but the Applicant acknowledges that the appropriate procedures necessary to support a mitigation banking program have not been adopted by ODFW. Mitigation Option 2 is an Applicant-developed mitigation site; this HMP specifies habitat enhancement actions and monitoring procedures to evaluate the success of those actions, as applicable.

## 2.0 Description of the Impacts Addressed by the HMP

Within the Site Boundary, the Applicant established a 15,726-acre micrositing corridor within which Project facilities will be constructed. This approach allows some flexibility with specific component locations and design in response to site-specific conditions and engineering requirements that will be determined prior to construction. Construction of the Project will result

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<sup>1</sup> This HMP will be incorporated by reference in the site certificate for the Nolin Hills Wind Power Project and must be understood in that context. It is not a "stand-alone" document.

in approximately 2,035 acres of permanent impacts (Table 1), although actual impacts may change depending on the final layout, solar technology, and turbine model(s).

**Table 1. Maximum Acres of Impact to Habitat Categories and Types**

Final Habitat Category <sup>1</sup>	Preliminary Habitat Category	Habitat Type <sup>2</sup>	Habitat Subtype <sup>2</sup>	Impacts (Acres) <sup>3</sup>	
				Temporary Impact <sup>4</sup>	Permanent Impact
2	2	Open Water – Lakes, Rivers, Streams	Intermittent or Ephemeral Streams	<1 <sup>5</sup>	-
			Perennial Streams	1 <sup>5</sup>	<1 <sup>5</sup>
		Riparian Forest and Natural Shrubland Complexes	Eastside Riparian	1 <sup>6</sup>	-
	3	Agriculture, Pasture, and Mixed Environs	Planted Grasslands	21	2
		Upland Grassland, Shrub-steppe and Shrubland	Eastside Grasslands	172	7
			Shrub-steppe	2 <sup>7</sup>	<1
	4	Agriculture, Pasture, and Mixed Environs	Planted Grasslands	<1	-
			Eastside Grasslands	78	5
		Shrub-steppe	<1	-	
	5	Agriculture, Pasture, and Mixed Environs	Irrigated Pastures and Hay Meadows	<1	-
		Upland Grassland, Shrub-steppe and Shrubland	Eastside Grasslands	1	-
Category 2 Total				277	14
3	3	Agriculture, Pasture, and Mixed Environs	Planted Grasslands	88	8
		Cliffs, Caves, and Talus	Cliffs, Caves, and Talus	1	-
		Open Water – Lakes, Rivers, Streams	Intermittent or Ephemeral Streams	<1 <sup>5</sup>	<1 <sup>5</sup>
			Perennial Streams	<1 <sup>5</sup>	-
		Upland Grassland, Shrub-steppe and Shrubland	Eastside Grasslands	144	31
			Shrub-steppe	2 <sup>7</sup>	<1
		Wetlands	Emergent Wetlands	<1 <sup>5</sup>	-
Category 3 Total				236	39

Final Habitat Category <sup>1</sup>	Preliminary Habitat Category	Habitat Type <sup>2</sup>	Habitat Subtype <sup>2</sup>	Impacts (Acres) <sup>3</sup>	
				Temporary Impact <sup>4</sup>	Permanent Impact
4	4	Agriculture, Pasture, and Mixed Environs	Planted Grasslands	44	4
		Open Water – Lakes, Rivers, Streams	Intermittent or Ephemeral Streams	2 <sup>5</sup>	<1 <sup>5</sup>
		Riparian Forest and Natural Shrubland Complexes	Eastside Riparian	<1	-
		Upland Grassland, Shrub-steppe and Shrubland	Eastside Grasslands	148	41
			Shrub-steppe	<1	-
Category 4 Total				196	46
5	5	Agriculture, Pasture, and Mixed Environs	Irrigated Pastures and Hay Meadows	1	<1
			Planted Grasslands	215	63
		Open Water – Lakes, Rivers, Streams	Intermittent or Ephemeral Streams	1 <sup>5</sup>	-
		Upland Grassland, Shrub-steppe and Shrubland	Eastside Grasslands	247	14
			Shrub-steppe	17	<1
Category 5 Total				482	77
6	6	Agriculture, Pasture, and Mixed Environs	Orchards, Vineyards, Wheat Fields, Other Row Crops	805	1,852
		Urban and Mixed Environs	Urban and Mixed Environs	78	7
Category 6 Total				883	1,859
GRAND TOTAL				2,073	2,035
Note: Totals in this table may not appear to sum correctly due to rounding. “-” means no impact while <1 means greater than zero but less than 0.5 acre impact.					
1. Final Category following application of Washington ground squirrel Category 2 overlay.					
2. Only impacted Habitat Types and subtypes present within the impact areas are represented.					
3. The acres of impact shown here include only the western route for the BPA Stanfield 230-kilovolt (kV) transmission line where it parallels the existing 500-kV transmission line rather than both routes because only one route would be developed, should this transmission line option be selected, and the western route includes the worst-case scenario with respect to habitat impacts that require mitigation. This approach is in contrast to Exhibit P (which conservatively includes both routes in order to capture potential impacts to all habitat types and categories) and Exhibit C (where only the eastern route is included in the impact calculation because it has the larger overall disturbance).					
4. All temporary impacts are listed here but only those that will take greater than 5 years to recover (i.e., Category 3 Shrub-steppe and Category 2 Eastside Riparian habitat) are discussed further in this HMP (e.g., see Table 2) because only those temporal impacts require mitigation; all other temporary impacts will be mitigated through successfully revegetation.					

Final Habitat Category <sup>1</sup>	Preliminary Habitat Category	Habitat Type <sup>2</sup>	Habitat Subtype <sup>2</sup>	Impacts (Acres) <sup>3</sup>	
				Temporary Impact <sup>4</sup>	Permanent Impact
5. Impacts to wetlands and Waters of the State will be avoided during final design.					
6. Tall vegetation will be maintained for the life of the Project to allow underwire clearance and thus this Category 2 Eastside Riparian habitat is conservatively considered permanently impacted for the purposes of mitigation.					
7. Temporally impacted Shrub-steppe habitat.					

The areas proposed to be impacted are primarily composed of cultivated cropland (i.e., Orchards, Vineyards, Wheat Fields, Other Row Crops), followed by Eastside Grasslands and Planted Grasslands (Table 1; Exhibit P). Notwithstanding the overarching Washington ground squirrel (*Urocitellus washingtoni*) Category 2 habitat overlay, Eastside Grasslands and Planted Grasslands proposed to be impacted ranged from Categories 3 to 5. Less than one percent of impacts are proposed to Shrub-steppe habitat, including Category 3, 4, and 5 habitats. As described in Exhibit P, the Applicant minimized impacts to preliminary Category 3 Shrub-steppe where feasible by reducing the transmission line corridor from 200 feet to 50 feet wide where it crosses this habitat. No areas of Eastside Grassland or Shrub-steppe habitat were field characterized as Category 2 habitat.

Temporary impacts will be mitigated through successful implementation of the Draft Revegetation Plan (Attachment P-4 to Exhibit P). However, some areas of Shrub-steppe that will be temporarily impacted include sagebrush stands that could take longer than 5 years to be restored. Even where restoration of this habitat subtype is successful, there is a loss of habitat function during the restoration period. Therefore, this HMP includes mitigation for both permanently impacted habitat and select areas of temporarily impacted Shrub-steppe habitat that results in a temporal loss of habitat quality (Table 1). The determination of temporal impacts to Shrub-steppe habitat was based on the vegetative characteristics of the habitat; therefore, temporally impacted Category 3 Shrub-steppe includes both Preliminary Category 3 Shrub-steppe habitat (i.e., before application of the Washington ground squirrel Category 2 overlay) as well as Shrub-steppe habitat with both a Preliminary and Final Category 3 designation (see Table 1).

The Category 2 Eastside Riparian habitat shown as temporarily impacted in Table 1 is associated with the potential transmission line crossing of the Umatilla River. Although poles will be placed outside of riparian vegetation (as well as wetlands and Waters of the State; see Exhibit J of the Application for Site Certificate), should that transmission option be selected, riparian vegetation will likely need to be cleared or trimmed for underwire clearance and maintained for the life of the Project. Therefore, this Draft HMP conservatively considers this Category 2 Eastside Riparian habitat as permanently impacted for the purposes of mitigation, as described below in Section 3.0. Table 1 shows the acres of impact including only the western route for the BPA Stanfield 230-kV transmission line where it parallels the existing 500-kV transmission line rather than both routes because only one route would be developed, should this transmission line option be selected, and the western route includes the worst-case scenario with respect to habitat impacts that require mitigation (i.e., Category 2 Eastside Riparian habitat impacts). This approach is in contrast to

Exhibit P (which conservatively includes both routes in order to capture potential impacts to all habitat types and categories) and Exhibit C (where only the eastern route is included in the impact calculation because it has the larger overall disturbance).

The other permanently impacted areas at the Project are primarily wheat fields (1,852 acres; habitat type Agriculture, Pasture, and Mixed Environs; subtype Orchards, Vineyards, Wheat Fields, Other Row Crops), Eastside Grassland (98 acres; habitat types Upland Grassland, Shrub-steppe and Shrubland; subtype Eastside Grassland), Planted Grasslands (78 acres; habitat type Agriculture, Pasture, and Mixed Environs; subtype Planted Grasslands), and Urban and Mixed Environs (7 acres; habitat type Urban and Mixed Environs; subtype Urban and Mixed Environs) and may be used by various species (Exhibit P, Tables P-4 and P-5). All other habitat subtypes contain less than 1 acre of permanent impact area. The Project will not have any impacts on Category 1 habitat. No mitigation is required for impacts to Category 6 areas.

### **3.0 Methods for Calculating the Size of the Mitigation Area**

The mitigation area for the Project will be determined based on the final design and actual habitat impacts. Before beginning construction, the Applicant will provide the Oregon Department of Energy (ODOE) with a map showing the final design configuration of the Project, and a table showing the estimated acres of permanent and temporary impacts by habitat category (Table 1). Mitigation calculations will be based on current habitat conditions that will be mapped and field verified by the Applicant during the spring prior to construction.

A mitigation ratio of 2 acres for every 1 acre of Category 2 habitat permanently impacted will be used to ensure that the mitigation area is large enough to achieve “no net loss” and “net benefit” of habitat quantity. A “no net loss” and “net benefit” in habitat quality for permanent and temporal impacts to habitat in Category 2 will be achieved through habitat enhancement actions. A mitigation ratio of 1 acre for every 1 acre of Category 3 and 4 habitat permanently impacted will be used to ensure that the mitigation area is large enough to achieve “no net loss” of habitat quantity; site specific enhancement actions will be identified to achieve a “no net loss” of habitat quality. A mitigation ratio of between 0.1 and 0.5 acres for every acre of Category 5 habitat impacted will be used to ensure a “net benefit” in habitat quantity; site specific enhancement actions will be identified to achieve a “net benefit” of habitat quality. No mitigation will be implemented for impacts on Category 6 habitat.

For temporary impacts that require mitigation (i.e., temporal impacts), the mitigation area will include up to 1 acre for every 1 acre of vegetative Category 3 Shrub-steppe habitat subtype that is temporarily affected by construction activities (but outside the permanent impact area). The size of this portion of the mitigation area assumes that restoration of other disturbed habitat subtypes (e.g., Eastside Grassland habitat subtype) is successful, as determined under the Draft Revegetation Plan (Attachment P-4 to Exhibit P). Additional mitigation may be needed if restoration efforts of other habitat types are unsuccessful. As described above, temporary impacts to Category 2 Eastside Riparian habitat associated with the transmission line crossing of the Umatilla River are considered permanent here for the purposes of mitigation because any tall vegetation will be maintained for

the life of the Project to ensure underwire clearance. Table 2 identifies the minimum and maximum mitigation requirement based on the maximum habitat permanently and temporarily impacted and the minimum and maximum habitat mitigation ratios presented in this section.

**Table 2. Mitigation Calculation**

Impact Type and Habitat Category	Habitat Subtype	Estimated Maximum Impact (Acres) <sup>1</sup>	Minimum Mitigation Acres per Acre disturbed <sup>2</sup>	Maximum Mitigation Acres per Acre disturbed <sup>2</sup>	Minimum Estimated Mitigation (Acres)	Maximum Estimated Mitigation (Acres)
<b>Permanent Impacts Requiring Mitigation<sup>3</sup></b>						
2	All	13.7	2	2	27.4	27.4
3	All	39.1	1	1	39.1	39.1
4	All	46.1	1	1	46.1	46.1
5	All	77.1	0.1	0.5	7.7	38.5
<b>Temporary Impacts Requiring Mitigation (i.e., Temporal Impacts)<sup>4</sup></b>						
2	Eastside Riparian	0.9	2 <sup>5</sup>	2 <sup>5</sup>	1.9	1.9
2	Shrub-steppe	1.8	2	2	3.7	3.7
3	Shrub-steppe	2.2	1	1	2.2	2.2
<b>Total</b>					<b>128.0</b>	<b>158.8</b>
<p>Note: Totals in this table may not appear to sum correctly due to rounding.</p> <p>1. The acres of impact shown here include only the western route for the BPA Stanfield 230-kV transmission line where it parallels the existing 500-kV transmission line rather than both routes because only one route would be developed, should this transmission line option be selected, and the western route includes the worst-case scenario with respect to habitat impacts that require mitigation. This approach is in contrast to Exhibit P (which conservatively includes both routes in order to capture potential impacts to all habitat types and categories) and Exhibit C (where only the eastern route is included in the impact calculation because it has the larger overall disturbance).</p> <p>2. A mitigation ratio between &gt;0:1 and &lt;1:1 for permanent impacts to Category 5 habitat would achieve a “net benefit” in habitat quantity or quality.</p> <p>3. No mitigation required for Category 6 habitat.</p> <p>4. Temporary impact areas require mitigation where vegetation will take longer than 5 years to recover (i.e., in preliminary Category 3 Shrub-steppe habitat) or will be maintained for the life of the Project to ensure underwire clearance (i.e., in Category 2 Eastside Riparian habitat associated with the crossing of the Umatilla River). Other habitat types will be restored within 5 years following the methods described in the Draft Revegetation Plan and therefore do not require mitigation. Temporary impacts requiring mitigation are considered temporal impacts.</p> <p>5. Areas with the temporary impact layer that will be maintained for the life of the Project are considered permanently impacted for the purposes of the mitigation and thus are assigned the applicable permanent impact mitigation ratio.</p>						

## 4.0 Mitigation Options

As described above, the Applicant has identified two options for addressing the mitigation obligation where habitat protection and enhancement and/or commensurate funding are feasible and consistent with this HMP. Mitigation Option 1 is not an available mitigation option at the time

of Application for Site Certificate review, but the Applicant reserves the right to use Mitigation Option 1 should it be available in the future. Additionally, if other mitigation options become available or are identified, the Applicant reserves the right to pursue alternative mitigation pathways by pursuing an amendment to this HMP, as provided under Section 7.0 below.

The final mitigation approach will offer enough suitable habitat to achieve the ODFW habitat mitigation goals of no net loss of habitat quantity or quality, and provide a net benefit in habitat quantity for impacts to Category 2 habitat, no net loss of habitat quantity or quality for impacts to Category 3 and 4 habitat, and a net benefit in habitat quality or quantity for impacts to Category 5 habitat. Prior to operation, the Applicant will acquire the legal right to create, maintain, and protect the HMA(s) for the life of the Project by means of an outright purchase, conservation easement, or similar conveyance, and will provide a copy of the documentation to ODOE. The duration of Mitigation Option 1 would be in perpetuity (i.e., permanent conservation of habitat) whereas the duration of Mitigation Option 2 would be limited to the life of the Project (i.e., a limited term).

#### **4.1 Mitigation Option 1: ODFW Payment-to-Provide**

The Applicant understands that ODFW is considering a payment-to-provide program that could be used to mitigate habitat impacts related to energy facilities. However, currently, this program is not yet available. Should such a program become available in the future, the Applicant could use a payment-to-provide mitigation option with the approval of ODOE and ODFW.

#### **4.2 Mitigation Option 2: Habitat Mitigation Area**

Under this option, the Applicant will establish a conservation easement(s) in the Columbia Plateau ecoregion. The Applicant has preliminarily identified two areas that could be used for mitigation sites, where habitat enhancements could benefit Washington ground squirrels, raptors, and grassland birds (Figure 1). These two potential HMAs together demonstrate that sufficient habitat of the appropriate type and quality is available for protection and enhancement to meet the ODFW Habitat Mitigation Policy goals and habitat mitigation requirements for the Project (Table 3). The available mitigation acreages described here would only be used as needed based on the final impact acreage. The Applicant has not eliminated the possibility for alternative mitigation options (i.e., using another potential HMA) should additional suitable sites be identified. The Applicant will conduct a pre-construction habitat assessment of the selected HMA(s), using methods similar to those used for the Project, to inform the selection of habitat enhancement actions (see Section 4.2.1) and develop appropriate monitoring procedures (see Section 4.2.2) and quantitative success criteria (see Section 5.0) in consultation with ODFW and ODOE.



**Table 3. Nolin Hills Wind Project Maximum Habitat Mitigation Need and Available Habitat Mitigation**

Habitat Type	Habitat Subtype <sup>1</sup>	Total Maximum Mitigation Need (acres) <sup>2</sup>	Olex COA Mitigation Available (acres)	Ione COA Mitigation Available (acres)
Agriculture, Pasture, and Mixed Environs	Planted Grasslands	48	95	0
Upland Grassland, Shrub-steppe and Shrubland	Eastside Grasslands	103	45	105
	Shrub-steppe	6		
Riparian Forest and Natural Shrubland Complexes	Eastside Riparian	2 <sup>3</sup>	0 <sup>4</sup>	0
<b>Total</b>		<b>159</b>	<b>139</b>	<b>105</b>
<p>Note: Totals in this table may not appear to sum correctly due to rounding. Available mitigation acreages would only be used as needed based on the final layout.</p> <p>COA = Conservation Opportunity Area</p> <p>1. Only potentially impacted Habitat Subtypes and Categories that result in mitigation per the ODFW Habitat Mitigation Policy are represented.</p> <p>2. The impacted habitat subtypes listed here range from Category 2 through 5, of which only Category 2 and 3 habitat must be mitigated for "in-kind."</p> <p>3. Mitigation for riparian habitat impacts is anticipated to be needed only if the Bonneville Power Administration transmission line option is selected.</p> <p>4. Riparian habitat is available for mitigation along approximately 1.25 miles of Rock Creek should this be needed based on final Project impacts.</p>				

The Olex Conservation Opportunity Area (COA) includes approximately 1,500 acres available for conservation easement (Figure 2) and the Ione COA includes approximately 105 acres available for conservation easement (Figure 3). Both areas are within the range of the Washington ground squirrel and have enhancement opportunities beneficial to Washington ground squirrels, raptors, and grassland birds. Both sites also contain areas currently under conservation easement as mitigation for other Energy Facility Siting Council (Council)-permitted as well as County-permitted facilities and thus provide an opportunity for integrated enhancement over a larger area. The documented successes of habitat enhancements at the existing conservation easement areas also demonstrate that the potential enhancement actions proposed for the potential Project HMA(s) are feasible and have a high likelihood of success. The Olex COA and Ione COA have the same private landowners.

The Olex COA is located in Gilliam County and the Columbia Plateau, adjacent to Rock Creek. Based on the anticipated mitigation need for the Project as shown in Table 2, the Applicant conducted a review of a potential approximately 139-acre HMA within the Olex COA (Figure 2; Table 3). Based on desktop review and previous surveys conducted by the landowners, habitat within the potential Olex HMA includes planted grassland, native grassland and shrub-steppe mosaic, as well as small areas of cliffs, talus slopes, seeps, and springs. Additionally, approximately 1.25 miles of riparian habitat is available for protection and enhancement along Rock Creek. The quality of the habitat at

the potential Olex HMA ranges from Category 2 to 5 based primarily on its vegetative characteristics, as described further below. However, a Washington ground squirrel colony has been documented immediately adjacent to the potential Olex HMA based on surveys conducted by the landowners annually since 2006 and thus the site is considered Category 1 and 2 habitat. The potential Olex HMA includes both deep soils suitable to ground squirrel burrowing (i.e., Ritzville Silt Loam) as well as more shallow soils (i.e., Lickskillet Very Stony Loam and Bakeoven-Condon Complex; NRCS 2020). The landowners report that these deeper soils generally coincide with the 95 acres of Planted Grassland habitat, which elsewhere in the Olex Conservation Opportunity Area have been treated successfully with shrub plantings and overseeding (Kronner and Gritski 2021). The site is also located entirely within ODFW-designated mule deer winter range (ODFW 2013), which is considered Category 2 habitat.

In addition to Washington ground squirrels, grassland birds and raptors have been documented using the area and thus protection and enhancement of the potential Olex HMA would benefit these species. Several raptor species have been documented nesting or wintering at or nearby the Olex COA, including red-tailed hawks (*Buteo jamaicensis*), golden eagles (*Aquila chrysaetos*), bald eagles (*Haliaeetus leucocephalus*), Swainson's hawks (*Buteo swainsoni*), and ferruginous hawks (*Buteo regalis*). These five species were similarly observed nesting and/or wintering during surveys at the Project. Additionally, fish are present in Rock Creek (e.g., steelhead [*Oncorhynchus mykiss*]), and grassland bird species (e.g., grasshopper sparrow [*Ammodramus savannarum*]) have been documented nesting at the Olex COA. A conservation easement on the potential Olex HMA is available for the life of the Project. The potential Olex HMA is located adjacent to an existing 341-acre conservation easement area (Figure 2), and other portions of the Olex COA are currently under consideration as mitigation for other facilities under Council review (IPC 2018; ODOE 2020). ODFW and ODOE have previously toured the Olex COA, and ODFW has recommended to other developers the Olex COA as potential Washington ground squirrel mitigation (IPC 2018). The potential Olex HMA can be accessed by driving through adjacent land under the same ownership.

Vegetation within the potential Olex HMA includes rabbitbrush (e.g., *Ericameria nauseosum*), buckwheat species (i.e., *Eriogonum* sp.), and sagebrush (*Artemisia tridentata*) shrubs, as well as areas with diverse native forbs (e.g., lupines [*Lupinus* sp.] and yarrow [*Achillea millefolium*]) and non-native grasses (e.g., cheatgrass [*Bromus tectorum*]). In the absence of the Category 2 designation due to the HMA's overlap with ODFW-designated mule deer winter range and Category 1 and 2 designated due to the HMA's proximity to Washington ground squirrels, the Eastside Grassland, Shrub-steppe, and Planted Grassland habitats would range from Category 2 to Category 5, based on the level of disturbance, seral stage, and presence of non-native species. For example, vegetative Category 3 habitat at the Olex HMA includes areas dominated by mature, late seral stage perennial grassland, shrubs, and forbs, and vegetative Category 4 and 5 habitat includes areas previously burned or otherwise disturbed, with residual native perennial grasses and shrubs, but dominated by exotic annual grasses. The landowners report that noxious weeds are currently absent from the potential Olex HMA, and that the area has not been grazed for the past 30 years (Kronner and Gritski 2021). The Applicant has discussed grazing with the landowners and a no-grazing agreement could be agreed-to if it is determined that a longer rest period is needed for

vegetation enhancement (i.e., to limit trampling of forbs, sagebrush seedlings, and other plants) (Kronner and Gritski 2021). The property is perimeter fenced, which the landowners report helps for managing the land and reducing potential for trespass livestock (Kronner and Gritski 2021).

The Ione COA is located in Morrow County in the Columbia Plateau, adjacent to Eightmile Canyon. Based on the anticipated mitigation need for the Project as shown in Table 2, the Applicant conducted a review of a potential approximately 105-acre HMA within the Ione COA (Figure 3; Table 3). Based on desktop review and previous surveys conducted by the landowners, habitat within the potential Ione HMA includes native grassland and shrub-steppe mosaic, as well as small areas of cliffs, talus slopes, seeps, and springs. The quality of the habitat at the potential Ione HMA ranges from Category 2 to 5 based primarily on vegetative characteristics, further described below, with the majority of the habitat ranging from Category 2 to Category 3. Although no Washington ground squirrel colonies are known to occur within the potential Ione HMA, the landowners report personal observations of Washington ground squirrels approximately 0.75 mile south of the Ione COA in 2010 indicating that the habitat within the potential Ione HMA may be considered Category 2 habitat. The landowners also indicated that shapefiles with more recent (i.e., 2013) confidential survey results were provided to ODFW but are not available to the Applicant. The potential Ione HMA includes both deep soils suitable to ground squirrel burrowing (i.e., Ritzville Silt Loam, Mikkalow Silt Loam, and Endersby Fine Sandy Loam) as well as more shallow soils (i.e., Licksillet Very Stony Loam and Licksillet -Rock outcrop complex; NRCS 2020). The landowners report that approximately two-thirds of the 105-acre potential Ione HMA consists of deeper soils, which generally provide a higher success rate for shrub planting and overseeding, while approximately one-third of the HMA consists of lithosols, which generally are less suitable for shrub planting and overseeding (Kronner and Gritski 2021). The landowners also report that successful restoration has been achieved on adjacent, similar habitat by excluding grazing and thus protecting naturally recruited shrubs, rather than planting of nursery-stock shrubs (Kronner and Gritski 2021; MB&G 2018). Similar to the Project, the Ione COA is not located within ODFW-designated mule deer winter range (ODFW 2013) Category 2 habitat.

The potential Ione HMA is primarily dominated by a well-developed sparse to locally dense canopy of big sagebrush (*Artemisia tridentata* ssp. *tridentata*) with subordinate snakeweed (*Gutierrezia sarothrae*) and gray rabbitbrush interspersed with a well-developed graminoid layer dominated by bluebunch wheatgrass (*Pseudoroegneria spicata*) with subordinate Sandberg's bluegrass (*Poa secunda*) and cheatgrass. Forb diversity is most strongly represented by members of the genera *Lomatium*, and *Lupinus*, and members of the lily (*Lilaceae*) and borage (*Boraginaceae*) families. In some areas, the perennial forb layer is most strongly characterized by members of the genera *Eriogonum* (i.e., buckwheats) and *Lomatium*. The potential Ione HMA also includes areas dominated by Idaho fescue (*Festuca idahoensis*) and needle-and-thread grass (*Hesperostipa comata*). Vegetative characteristics that determined the range of habitat categories at the potential Ione HMA included level of disturbance, seral stage, and presence of non-native species, which is consistent with the factors used to determine habitat category based on vegetative conditions at the Project. The ecological condition at the potential Ione HMA varies from a largely undisturbed late seral state with a well-represented big sagebrush component and a well-developed cryptogamic layer of soil

mosses and lichens (including prominent late seral lichens in the genus *Trapeliopsis*) (i.e., Category 2 habitat) to a locally/patchy weedy condition with sparse native perennial bunchgrasses (i.e., Category 5 habitat). In some locations, cheatgrass is locally a dominant element of the vegetation where erosion-related disturbance appears to be chronic from mammal activity (e.g., badgers [*Meles meles*], pocket gophers [*Thomomys* sp.], and coyotes [*Canis latrans*]) in the deeper soil deposits; other areas dominated by non-native species may display an early to mid-seral successional status due to previous fire history and/or livestock congregations. The landowners regularly (i.e., at least once a year) traverse the property and report that, as of spring 2021, County-designated noxious weeds have not been documented (Kronner and Gritski 2021). Although grazing is permitted by the property zoning and the area was historically grazed, the landowners have rested the property from grazing and have not permitted grazing in recent years. The Applicant has discussed grazing with the landowners and a no-grazing agreement could be agreed-to if it is determined that a longer rest period is needed for vegetation enhancement (i.e., to limit trampling of forbs, sagebrush seedlings and other plants; Kronner and Gritski 2021). The property is perimeter fenced, which the landowners report helps for managing the land and reducing potential for trespass livestock (Kronner and Gritski 2021).

In addition to Washington ground squirrels, grassland birds and raptors have been documented using the area and thus protection and enhancement of the potential Ione HMA would benefit these species. A conservation easement on the potential Ione HMA is available for the life of the Project. The potential Ione HMA is located adjacent to approximately 328 acres of existing conservation easement areas, including an easement for a Council-permitted facility that in its eighth year of monitoring continues to report successful habitat improvement including ongoing natural sagebrush recruitment and increased cover and diversity of native bunchgrasses (MB&G 2018). ODFW has recommended to other developers the Ione COA as potential Washington ground squirrel mitigation (IPC 2018). The potential Ione HMA is accessible via an approximately 1.5-mile legal easement through agricultural fields that can be driven or hiked, depending on the presence of mud and crops, from the nearest public road.

#### **4.2.1 Habitat Enhancement Actions**

If Mitigation Option 2 is selected, as described in Section 6.1 of this HMP, prior to construction, the Applicant will develop a Management Plan for the selected mitigation site(s) that details the habitat enhancement actions (i.e., implementation schedule, protection measures, etc.) to improve the habitat conditions of the mitigation site(s). The objectives of habitat enhancement are to protect habitat within the mitigation area(s) from degradation and to improve the habitat quality of the mitigation area(s). By achieving these objectives, the Applicant can address the permanent and temporal habitat impacts of the Project and meet the ODFW habitat mitigation goals. Based on consultation with ODOE and ODFW, the Applicant shall choose one or more of the following enhancement actions to be included in the conservation easement, based on the needs of the selected habitat mitigation area(s) to improve habitat conditions and demonstrate a “no net loss” and “net benefit” in habitat quality, as applicable:

1. **Shrub Planting.** The Applicant will plant sagebrush or other native shrubs in locations within the habitat mitigation area(s) where existing native shrubs are in poor condition. The Applicant will determine the size of the shrub-planting areas and the shrub species based on the professional judgment of a qualified biologist after a ground survey of actual conditions. However, based on landowner interviews, the Applicant has preliminarily identified approximately 95 acres within the potential Olex HMA and approximately 70 acres within the potential Ione HMA that could benefit from shrub planting; these acreages consider the current habitat mapping and understanding of the soils. Considering the relatively minimal Shrub-steppe mitigation need for the Project (see Table 3) based on the Applicant's avoidance of Shrub-steppe to the extent feasible (see Section 2), this available acreage suitable for shrub planting is greater than the area needed to meet the ODFW Habitat Mitigation Policy goals for "in-kind" mitigation of Shrub-steppe. The final area of shrub planting will be determined prior to construction, taking into consideration the acres of shrub-steppe anticipated to be impacted and the condition of the HMA at the time of construction. The shrub survival rate at 4 years after planting is an indicator of successful enhancement of habitat. The Applicant will complete the initial shrub planting within 1-2 years after the beginning of construction of the Project. Supplementing existing, but disturbed, sagebrush areas with sagebrush seedlings or transplanted mature plants will assist the restoration of this valuable shrub-steppe component. The Applicant will obtain shrubs from a qualified nursery, located in the same ecoregion as the mitigation area if possible, and plant sagebrush of the same species that currently occurs on the HMA if available. The Applicant will identify the optimal time of year to plant (e.g., late winter-early spring) and area to be planted with sagebrush or other native shrubs after consultation with ODFW, subject to final approval by ODOE. If shrubs are planted in the same areas as seeding occurs (see enhancement action #3 below), shrub planting will occur following seeding. As requested by ODFW, cages will be placed around individual plants or plant clusters to reduce herbivory by ungulates (primarily mule deer) as appropriate, and livestock would be excluded from area(s) with shrub plantings. The Applicant will instruct planting crews to use accepted planting techniques, such as proper planting depth, no "J" rooting, the need for soil to root contact, and to avoid planting in dry soil conditions (as described above). The Applicant will mark the planted shrub clusters at the time of planting for later monitoring purposes, and will keep a record of the number of shrubs planted. Plantings will generally be considered successful if a 30 percent survival rate is achieved after 4 years.
2. **Weed Control.** The Applicant will implement a weed control program within the habitat mitigation area(s). Under the weed control program, the Applicant will conduct a pre-management weed assessment to identify the type and percentage of non-native species within the habitat mitigation area(s). The Applicant will then monitor the mitigation area(s) to locate weed infestations. The Applicant will continue weed control monitoring, as needed, for the life of the Project. As needed, the Applicant will use appropriate methods to control weeds. Appropriate weed control methods shall include identification of noxious weeds within the mitigation area(s), timing, herbicides, and application mechanism and be

based on consultation with the applicable County Weed Department. Weed control on the mitigation site(s) will reduce the spread of noxious weeds within the habitat mitigation area(s) and on any nearby Eastside Grassland, Planted Grassland, or cultivated agricultural land. Weed control will promote the growth of desirable native vegetation and planted sagebrush. The Applicant may consider weeds to be successfully controlled when weed clusters have been eradicated or reduced to a non-competing level. Weeds may be controlled with herbicides or hand-pulling. The Applicant will notify the landowners of the specific chemicals to be used on the site and when spraying will occur. To protect locations where young desirable forbs may be growing, spot-spraying may be used instead of total area spraying. The landowners report that both potential HMAs are currently free of noxious weeds; implementation of a weed control program would ensure the quality of the habitat is maintained into the future despite the ongoing threat of noxious weed invasion and spread.

3. **Seeding.** The Applicant will plant an ODFW-approved seed mix within the habitat mitigation area(s) in areas that have been recently disturbed, if applicable (e.g., after weed treatments), or other areas that would benefit from increased forb and grass diversity. The method for seed application will be determined primarily based on the size of the area to be seeded. Based on landowner interviews, the Applicant has identified approximately 95 acres within the potential Olex HMA and approximately 70 acres within the potential Ione HMA that could benefit from overseeding; these acreages consider the current habitat mapping and understanding of the soils. The final size of the seeded area will depend on the amount of recently disturbed area and area that would benefit from seeding within the mitigation area. The Applicant will complete the initial seeding within 1-2 years after the beginning of construction of the Project. The Applicant will record and mark the seeded areas at the time of seeding for later monitoring purposes. The Applicant will develop success criteria for seeding, including the use of paired monitoring and reference sites.
4. **Fire Control.** The Applicant will implement a fire control plan for wildfire minimization when Project staff are working within the mitigation area(s). The Applicant will provide a copy of the fire control plan to ODOE before starting habitat enhancement actions. The Applicant will include in the plan appropriate fire prevention measures, methods to detect fires that may occur and a protocol for fire response if a fire were to occur when Project staff were present. If any part of the mitigation area(s) is damaged by future wildfire, the Applicant will assess the extent of the damage and implement appropriate actions to restore habitat quality in the damaged area.
5. **Restricted Grazing.** The Applicant will restrict and/or eliminate grazing within the habitat mitigation area(s), as appropriate for improvement of vegetation communities and maintaining high-quality habitat for wildlife species. A grazing management plan will be developed that considers the timing, duration, and intensity of grazing and how these factors impact desirable plant development and vegetation structure. Eliminating livestock grazing within the mitigation area(s) during most of the year will enable recovery of native vegetation where past grazing has occurred. If necessary, fences will be installed within or

around the mitigation area(s) to exclude livestock. The increase in native vegetation and habitat complexity that will result from a reduction and/or elimination of livestock will benefit a variety of wildlife and plant species. Reduced livestock grazing in the early spring may be used as a vegetation management tool. If grazing is eliminated, success criteria would include confirmation that livestock have been successfully excluded from the mitigation area(s). If grazing is restricted but not eliminated, success criteria would be developed to ensure grazing is not limiting shrub recruitment and recruitment of other desirable shrub-steppe species. Any grazing performed as a vegetation management tool will be approved by ODFW prior to implementation. At both HMAs, the landowners have rested the property from grazing and have not permitted grazing in recent years. As described above, the Applicant has discussed grazing with the landowners and a no-grazing agreement could be agreed-to if it is determined that a longer rest period is needed for vegetation enhancement (i.e., to limit trampling of forbs, sagebrush seedlings, and other plants).

6. **Habitat Protection.** The Applicant will restrict uses through its legal instrument (i.e., conservation easement or other) of the mitigation area(s) that are inconsistent with the ODFW habitat mitigation goals.

Based on desktop review and coordination with the landowners, all six of the habitat enhancement actions described here may be suitable for the potential Olex HMA (i.e., shrub planting, weed control, seeding, fire control, restricted grazing, and habitat protection). The shrub planting and seeding would likely be performed within the planted grassland habitat to increase cover for wildlife and increase grass and forb diversity. Four of the eight habitat enhancement actions may be suitable for the potential Ione HMA (i.e., weed control, fire control, restricted grazing, and habitat protection). As this potential HMA is dominated by native grassland and shrub-steppe mosaic (i.e., it contains no planted grasslands), passive habitat enhancement actions such as restricted grazing combined with weed control may be more effective at increasing cover and diversity to benefit wildlife than direct planting or seeding. However, if seeding and planting within the potential Ione HMA are determined to be appropriate and preferred by ODFW and ODOE to passive enhancement actions that have been successful on other portions of the Ione Conservation Opportunity Area, seeding and planting may be implemented on the Ione HMAs. The final enhancements must be approved by ODOE in consultation with ODFW prior to construction and based on the site-specific conditions of the selected HMA(s).

#### **4.2.2 Monitoring**

For Mitigation Option 2, the Applicant will hire a qualified investigator (botanist, wildlife biologist, or revegetation specialist) to conduct a monitoring program, based on a monitoring plan, for the mitigation area(s). The monitoring plan shall, at a minimum, include sampling design (i.e., paired monitoring and reference sites, with the number of sites based on diversity of habitat subtypes and enhancement action locations) and vegetation maps with monitoring locations identified; description of data collection methods and monitoring procedures; monitoring schedule; agency consultation schedule and methods for data analysis. The purpose of the monitoring program is to

evaluate on an ongoing basis the protection of the habitat quality and the results of enhancement actions, especially during the wildlife breeding seasons.

The investigator will monitor the HMA(s) for the life of the Project beginning in the year following the initial treatment. Monitoring will occur annually during the first 5 years following initial treatment, then will occur every 3 years thereafter, unless increased frequency is recommended by ODOE, in consultation with ODFW. As part of finalizing the HMP, the Applicant will submit a draft monitoring plan for review and comment by ODOE, in consultation with ODFW. ODOE, in consultation with ODFW, may recommend or require one or more of those actions and/or additional monitoring actions for the habitat mitigation area(s) and the habitat enhancement actions. Based upon specific enhancement actions completed, the monitoring plan will include procedures or description of data collection methods for the following monitoring actions:

1. Assess vegetation cover (species, structural stage, etc.) and progress toward meeting the success criteria;
2. Record environmental factors (such as precipitation at the time of surveys and precipitation levels for the year);
3. Record any wildfire that occurs within the mitigation area(s) and any remedial actions taken to restore habitat quality in the damaged area;
4. Assess the success of the weed control program and recommend remedial action, if needed; and
5. Assess the survival rate and growth of planted species.

### **4.2.3 Reporting**

Prior to construction of the Project, the Applicant shall provide a draft report template (e.g., table of contents) for review and comment by ODOE, in consultation with ODFW. Based on the agency-reviewed report template, Applicant will provide ODOE and ODFW a report following each monitoring period (within 60 days) detailing the observations and results, including the details of implemented enhancement actions.

The monitoring reports will document enhancement actions implemented to date and additional remedial actions planned for areas that are not apparently trending toward success, and the anticipated dates of completion of each of these actions. The investigator will report on the timing and extent of any livestock grazing that has occurred within the mitigation area since the previous monitoring visit.

## **5.0 Success Criteria**

For Mitigation Option 1, mitigation shall be considered successful in meeting the Applicant's obligations at the time of payment to ODFW. For Mitigation Option 2, the success will be based on improvement of habitat quality based on evidence of indicators such as survival of planted shrubs, natural recruitment of sagebrush, and/or successful weed control.



Enhancement actions and habitat quality at the habitat mitigation area(s) will be compared against the following success criteria to evaluate compliance with the Council's Fish and Wildlife Habitat standard (i.e., consistency with the habitat mitigation goals for Category 2-Category 5 habitat impacts):

- Shrub plantings will generally be considered successful if a 30 percent survival rate is achieved after 4 years.
- Vegetation density is equal to or greater than that of reference sites.
- Species diversity of desirable vegetation is equal to or greater than that of reference sites.
- Successful weed control (weed monitoring and treatment) within the HMA for the life of the facility. Percentage of noxious weed cover reduced to at or below level found in baseline assessment. Prevention of noxious weed species not present in HMA as of baseline assessment.

In addition to these direct measurements, photo points may be helpful for documenting success.

The Applicant is obligated to demonstrate that the habitat mitigation area(s) meets or that it is demonstrating a trend towards meeting the success criteria for the life of the Project. If the Applicant cannot demonstrate that the habitat mitigation area(s) is trending toward the habitat quality goals described above within 5 years after the initial enhancement actions, the Applicant will propose remedial action. ODOE may require supplemental planting or other corrective measures such as additional acreage or new habitat mitigation area throughout the life of the Project depending on ongoing reported trends.

## **6.0 Agency Consultation**

### **6.1 Pre-construction Requirements**

Prior to construction of the Project, Applicant shall complete the following steps as part of finalizing the draft HMP:

1. **HMA Habitat Assessment and Agency Site Visit:** Applicant shall conduct a desktop or field survey, as determined appropriate by ODOE, in consultation with ODFW, of the HMA. Applicant shall submit a report or memo, including maps and tables, identifying the habitat subtype/vegetation characteristics of all acreage within the HMA. Applicant shall coordinate with ODOE and ODFW to determine whether a site visit is necessary to further evaluate site specific conditions and inform the Management Plan.
2. **Grazing Assessment:** Applicant shall submit a report or memo to ODOE and ODFW describing the current grazing management practices within the HMA, including information such as Animal Unit Months (AUMs) and pasture rotation schedule; and shall describe measures Applicant intends to employ to track and monitor changes in grazing practices within the HMA for the life of the Project.

3. **Management Plan:** Following review of the HMA Habitat Assessment, Applicant shall seek input from ODOE and ODFW on enhancement action opportunities at the HMA. Enhancement actions shall, at a minimum, include those listed in Section 4.2.1 and further defined based on review of the HMA Habitat Assessment or HMA site visit conducted by Applicant and ODOE and/or ODFW (as determined by ODOE in consultation with ODFW). The final Plan shall include a detailed description of final enhancement actions to be implemented and monitored at the HMA.
4. **Success Criteria:** Following identification of final list of enhancement actions, Applicant shall finalize, for ODOE and ODFW review and approval, success criteria appropriate for tracking the success of enhancement actions to be implemented and monitored at the HMA. The success criteria shall be substantially similar as those identified in Section 5 of this HMP, unless other enhancement actions are selected or Applicant seeks approval of an amendment to the HMP.
5. **Monitoring Plan:** Applicant shall identify paired monitoring and reference sites within the HMA(s). Reference sites shall be identified, in consultation with ODFW, near the enhancement areas to represent pre-enhancement conditions. One or more reference sites shall be identified that closely resembles the pre-enhancement characteristics of the identified enhancement areas. The Applicant shall consider land use patterns, soil type, local terrain, and noxious weed densities in selecting reference sites. Once reference sites are selected by the Applicant and approved by ODOE in consultation with ODFW, the reference site shall remain in the same location unless approval for use of a differing reference site is obtained by ODOE in consultation with ODFW. Prior to construction of the Project or any phase of the Project, the Applicant shall provide to ODOE and ODFW a map and table presenting pre-enhancement habitat category/vegetation characteristics and latitude and longitude of the reference sites; enhancement areas; and designated monitoring sites within enhancement areas in proximity to the reference sites.
6. **Legal Instrument:** Prior to construction of the Project, the Applicant shall acquire the legal right to create, maintain, and protect the HMA for the life of the Project by means of an outright purchase, conservation easement, or similar conveyance and will provide a copy of the documentation to ODFW and ODOE. The legal instrument shall, at a minimum, adhere to the requirements outlined in Section 7 of the HMP.

## **6.2 Operational Requirements**

During HMP implementation, the Applicant shall establish a consultation schedule based on enhancements, monitoring, and reporting schedule. At a minimum, the Applicant must consult with the Department and ODFW 30 days prior to the initial enhancements and monitoring; and within 30 days of monitoring report submission, to discuss details of report observations and recommendations.

The consultation frequency may be amended, based upon agreement between the Applicant, Department, and ODFW, but is intended to provide agencies the opportunity and ability to

efficiently assess information; maintain current understanding of the mitigation implementation, effectiveness and issues; and provide relevant recommendations based on timing of any issues identified during HMP implementation.

During HMP implementation, the Applicant shall coordinate with the Department and ODFW to offer an annual site visit to the HMA(s) each of the first 5 years following initial treatment and then every 3 years thereafter, unless increased frequency is recommended by ODOE, in consultation with ODFW. The timing of the site visit shall be based on optimal seasonal conditions for observation of seeding and shrub planting success and/or weed infestations, and is intended to provide agencies an opportunity to review compliance with the terms of the legal instrument and HMP requirements and to provide any onsite recommendations based on site review.

## **7.0 Legal Instrument**

Under Mitigation Option 2, Applicant will enter into an enforceable and recordable legal instrument, such as a conservation easement or other similar conveyance, that demonstrates reliability and durability of the habitat mitigation and Plan for the life of the Project.

Prior to construction, the Applicant shall provide a draft of the legal instrument to ODOE for review and approval, in consultation with ODFW. ODOE and ODFW review will ensure, at a minimum, that the legal instrument demonstrates or includes the following:

- References and is consistent with the HMP;
- A map and description of all existing structures, impervious surfaces, and access road networks within the HMA;
- Identification of and restrictions on conflicting uses within the HMA, including, but not limited to new roads and associated infrastructure, transmission lines and energy development, land division, and establishment of a feedlot;
- Identification of allowable uses that demonstrate consistency with the HMP wildlife habitat goals; and
- Specifies that ODOE has authority to conduct inspections pursuant to OAR 345-026-0050 to ensure that habitat mitigation area(s) are being managed consistent with the HMP, with reasonable written notice to the property owner and Applicant.

## **8.0 Amendment of the HMP**

This HMP may be amended from time to time by agreement of the Applicant and the Council. Such amendments may be made without amendment of the site certificate. The Council authorizes ODOE to agree to amendments to this HMP. ODOE shall notify the Council of all amendments, and the Council retains the authority to approve, reject, or modify any amendment of this HMP agreed to by ODOE.

## 9.0 References

- IPC (Idaho Power Company). 2018. Fish and Wildlife Habitat Mitigation Plan, Boardman to Hemingway Transmission Line Project. September 2018. Available online at: <https://www.oregon.gov/energy/facilities-safety/facilities/Facilities%20library/2018-09-28-B2H-ASC-Exhibit-P1-Part-1-Main-to-Attach-P1-6.pdf>
- Kronner, K., and B. Gritski. 2021. Landowners of the Olex and Ione Conservation Opportunity Areas personal communication (phone call) with Amy Bensted of Tetra Tech. May 12, 2021.
- MB&G (Mason, Bruce & Girard, Inc.). 2018. Leaning Juniper IIa and IIb: 2018 (Year-8) Habitat Mitigation Area (HMA) Photo-Monitoring and Reporting. Memo to Matthew Hutchinson (Avangrid Renewables) from Daniel Covington and McKay Larrabee. June 28, 2018
- NRCS (Natural Resources Conservation Service, United States Department of Agriculture). 2020. Web Soil Survey. Available online at: <http://websoilsurvey.sc.egov.usda.gov/>. Accessed 7/13/2020.
- ODFW (Oregon Department of Fish and Wildlife). 2013. ODFW Winter Range for Eastern Oregon. GIS dataset available online at: <https://nrimp.dfw.state.or.us/DataClearinghouse/default.aspx?p=202&XMLname=885.xml>
- ODOE (Oregon Department of Energy). 2020. Final Order on Request for Amendment 5 to the Wheatridge Wind Energy Site Certificate. May 22, 2020. Available online at: <https://www.oregon.gov/energy/facilities-safety/facilities/Facilities%20library/2020-05-22-WRW-RFA5-FO.pdf>

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# FIGURES







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# Nolin Hills Wind Power Project

Figure 1  
Olex and Lone Conservation  
Opportunity Areas Overview

UMATILLA COUNTY, OREGON

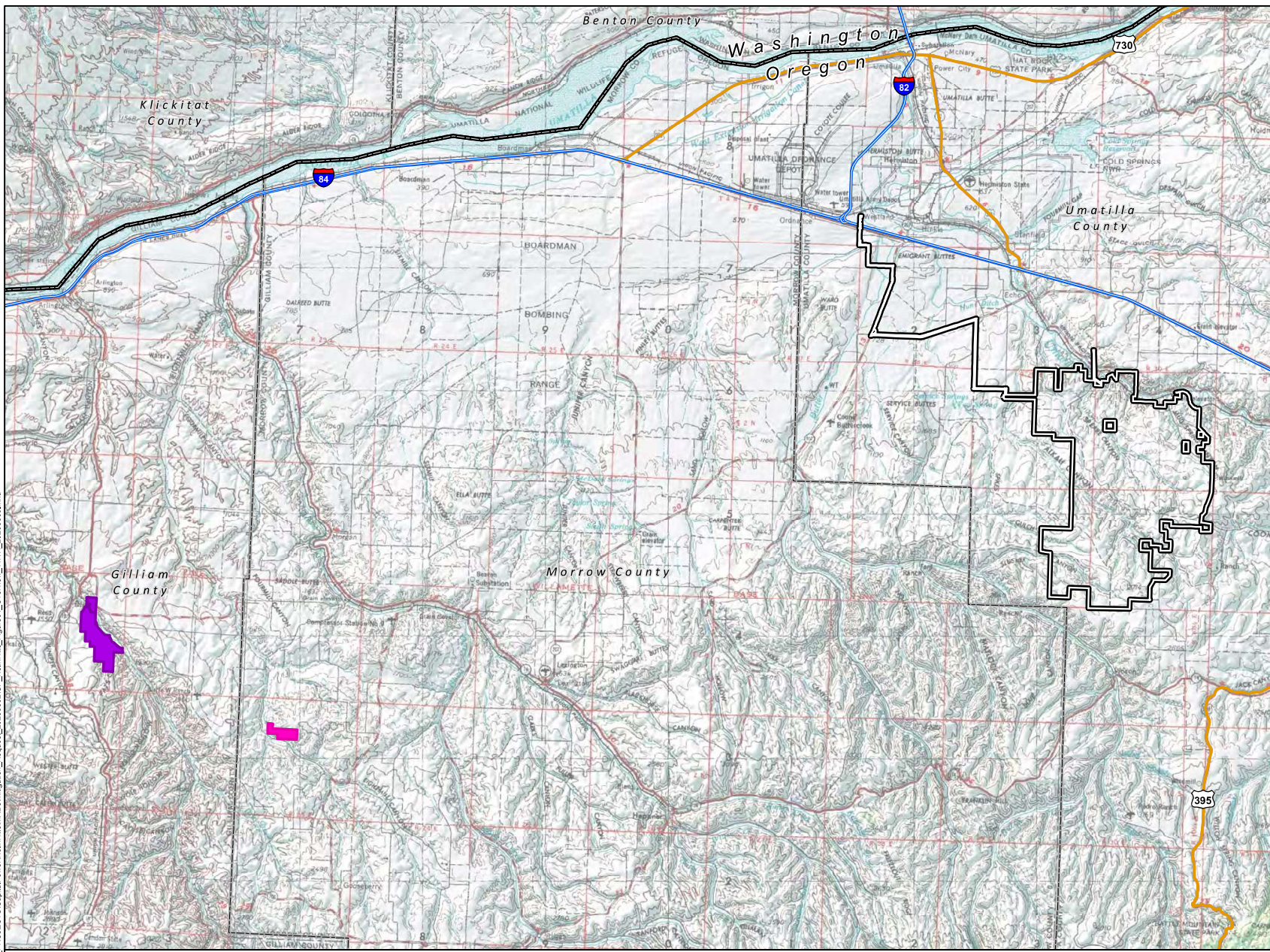
-  Site Boundary
-  Olex Conservation Opportunity Area
-  Lone Conservation Opportunity Area
-  Interstate Highway
-  Secondary Highway
-  State Boundary
-  County Boundary



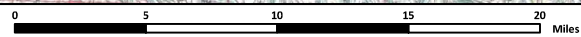
Data Sources

Reference Map

Capital Power-Project Infrastructure;  
USDA-Aerial Imagery; ESRI-Roads



1:300,000 WGS 1984 UTM Zone 11N



NOT FOR CONSTRUCTION

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# Nolin Hills Wind Power Project

**Figure 2**  
**Olex Conservation Opportunity**  
**Area Habitat**

GILLIAM COUNTY, OREGON

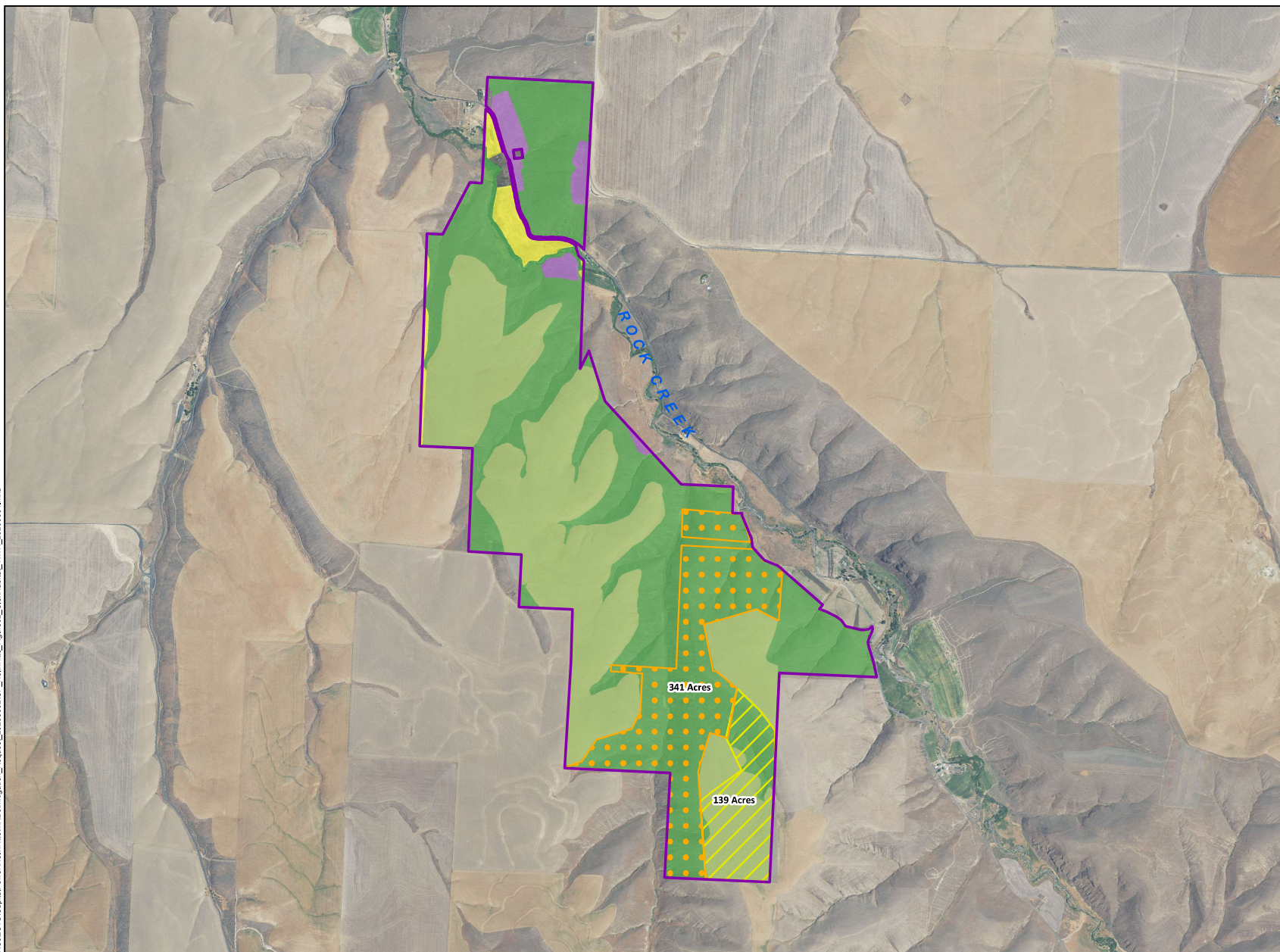
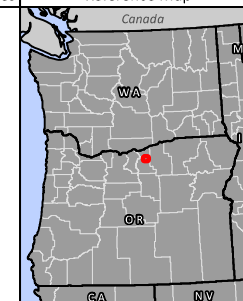
-  Olex Conservation Opportunity Area
-  Existing Conservation Easement
-  Potential Nolin Hills Habitat Mitigation Area
- Habitat Type**
-  Agriculture
-  Developed
-  Native Grassland and Shrub-steppe Mosaic
-  Old Field
-  Planted Grassland



Data Sources

Reference Map

Capital Power-Project Infrastructure;  
USDA-Aerial Imagery; ESRI-Roads



341 Acres

139 Acres



1:28,000 WGS 1984 UTM Zone 11N

0 0.5 1 1.5 2 Miles

NOT FOR CONSTRUCTION

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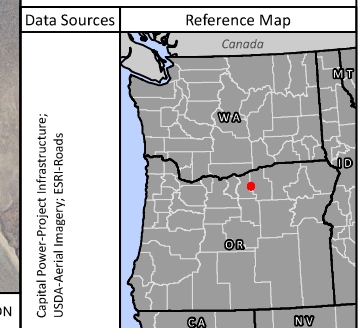


# Nolin Hills Wind Power Project

Figure 3  
lone Conservation Opportunity  
Area Habitat

MORROW COUNTY, OREGON

- lone Conservation Opportunity Area
  - Existing Conservation Easement
  - Potential Nolin Hills Habitat Mitigation Area
- Habitat Type**
- Native Grassland and Shrub-steppe Mosaic



**Attachment P-2: Draft Revegetation and Noxious Weed Plan**

# Nolin Hills Wind Power Project

## Draft Revegetation Plan



Nolin Hills Wind, LLC

Prepared by:



Tetra Tech, Inc.

May 2021

Revisions, in track-changes, are proposed by the Department based on recommendations in the Draft Proposed Order

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## Appendices

- Appendix A. Oregon Department of Agriculture Noxious Weed Policy and Classification System
- Appendix B. Umatilla County Noxious Weed List

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## 1.0 Introduction

Nolin Hills Wind, LLC (the Applicant) proposes to construct the Nolin Hills Wind Power Project (Project), a wind and solar energy project with a nominal generating capacity of approximately 600 megawatts (MW) (preliminarily 340 MW from wind and 260 MW from solar), in Umatilla County, Oregon (see Figure C-1 in Exhibit C). The Project's wind energy component comprises up to 112 wind turbine generators, depending on the turbine model selected and the final layout determined during the micrositing process. The solar array will include up to approximately ~~1,117,591~~16,812 solar modules, depending on the final technology and layout selected. This Revegetation Plan (Plan) will be ~~updated-finalized, prior to construction, as needed to reflect~~based on the final layout once the turbine model(s) and solar modules have been selected. The Project will interconnect to the regional grid via either publicly owned and operated transmission lines to be constructed locally by the Umatilla Electric Cooperative, or a new 230-kilovolt (kV) transmission line anticipated to be constructed, owned, and operated by the Applicant to the proposed Bonneville Power Administration (BPA) Stanfield Substation. Other Project components include an up to 120-MW battery energy storage system, site access roads, one operations and maintenance (O&M) building, meteorological data collection towers, and temporary construction yards. These facilities are all described in greater detail in Exhibit B.

This Plan describes methods, success criteria, and monitoring and reporting requirements for the restoration and revegetation of areas temporarily disturbed during the construction; and provides for noxious weed control to support and maintain revegetation success, and minimize noxious weed impacts for the life of the Project. The objective of revegetation efforts is to restore temporarily disturbed areas to pre-disturbance conditions. The evaluation of pre-disturbance wildlife habitat condition is based upon evaluation of the revegetated area conditions compared to conditions of approved, fixed-point reference sites, which serve as a proxy for pre-disturbance conditions.

Habitat mapping and categorization of the Site Boundary were conducted for the Project between 2017 and 2020. Details on habitat types, subtypes, and categories can be found in Exhibit P of the Project's Application for Site Certificate (ASC), especially Attachment P-2. Details on potential impacts to habitat from construction and operation of the Project, as well as avoidance and minimization measures, can be found in the ASC Exhibits P and Q.

The Project includes a 48,196-acre Site Boundary and 15,726-acre micrositing corridor within which all Project facilities will be located. The Project lies within the Columbia Plateau Ecoregion at elevations from approximately 560 to 2,740 feet. The Project is sited entirely on private land primarily within active agriculture, followed by eastside grassland and planted grassland. Native vegetation within the Site Boundary has been modified not only through agricultural conversion, but also through historical and current livestock grazing, changes in fire regimes, and the introduction of exotic grasses and other non-native vegetation.

## 2.0 Description of Temporary Impacts



Within the Site Boundary, the Applicant established a 15,726-acre micro-siting corridor within which Project facilities will be constructed. This approach allows some flexibility with specific component locations and design in response to site-specific conditions and engineering requirements that will be determined prior to construction. Construction of the Project will result in approximately 2,143 acres of temporary impacts. Although actual impacts may change depending on the final layout, solar modules, and turbine model(s), this value represents the estimated maximum acreage of impact.

Temporary impacts will occur in areas that will be disturbed during construction and operations and maintenance activities, but which will not be occupied by permanent facilities. Temporary disturbance will occur in association with the improvement of existing roads and the construction of aboveground and underground collector and transmission lines, new roads, substations, meteorological data collection towers, crane paths, an O&M building, and staging areas. The intensity of the construction and operational impacts will vary across the Project. In some areas, the impact will be relatively light, but in other areas, heavy construction activity will remove all vegetation, remove topsoil, and compact the remaining subsoil. Some areas of temporary disturbance, such as staging areas, will be graveled during construction, and will be reclaimed by removing the gravel surface, regrading to match adjacent contours, and reseeding.

Table 1 presents the anticipated temporary impacts associated with the Project to the habitat subtypes recorded during 2017-2020 field surveys and desktop analysis for areas with no access. This represents the estimated maximum acreage of impact and conservatively includes both corridors for the BPA Stanfield 230-kV transmission line route where it parallels the existing 500-kV transmission line; however, only one of these two corridors would be developed, should this transmission line option be selected. Table 1 will be updated prior to construction to reflect the final impact acreage by habitat subtype and facility components (wind, solar and transmission lines) for the final layout, once the transmission line option, turbine model(s) and solar modules have been selected. Additional details regarding habitat subtypes that will be temporarily and permanently disturbed during construction and operation are provided in Exhibit P of the ASC.

Table 1. Maximum Temporary Impacts by Habitat Subtype

Habitat Subtype	Temporary Disturbance (Acres) <sup>1</sup>
Eastside Grasslands	837
Orchards, Vineyards, Wheat Fields, Other Row Crops	820
Planted Grasslands	373
Urban and Mixed Environs	82
Shrub-steppe	22
Intermittent or Ephemeral Streams	4*
Perennial Streams	2*
Eastside Riparian	2
Irrigated Pastures and Hay Meadows	1
Cliffs, Caves, and Talus	1
Permanent Ponds/Lakes	<1*
Emergent Wetland	<1*
Total	2,143

1. Total may not sum exactly due to rounding. The acres of impact shown here conservatively include both corridors for the BPA Stanfield 230-kV transmission line route where it parallels the existing 500-kV transmission line; however, only one of these two corridors would be developed, should this transmission line option be selected. This approach is in contrast to Exhibit C (where only the maximum disturbance from selecting a single corridor is included in the impact calculation) in order to capture potential impacts to all habitat types and categories.

\* Impacts to wetlands and Waters of the State will be avoided during final design (see Exhibit J of the ASC).

### 3.0 Agency Consultation

#### 3.1 Pre-construction

The draft Revegetation and Noxious Weed Plan, prepared for the ASC, is substantially complete for purposes of Council review. The components of the plan to be finalized, prior to construction, are intended to be a validation of details based on preconstruction conditions and final facility design without substantive change, as follows:

- Obtain Department/ODFW approval of a protocol for the preconstruction habitat and/or botanical surveys. The protocol must include identification of noxious weeds based on current state and county-listed noxious weeds (update Attachments A and B, if applicable)
- Update Table 1 based on the results of the preconstruction habitat and botanical surveys, presenting temporary impacts based on habitat category, subtype and facility component (wind, solar, transmission line)
- Update Table 2 based on ODFW-approved seed mix
- Describe topsoil management to be implemented and provide evidence that contractor has mulch or plastic sheeting sufficient to protect topsoil based on the level of disturbance (acres) per phase.
- Establish a protocol for evaluating pre-disturbance conditions of agriculturally productive soils to support restoration to pre-disturbance condition
- Obtain Department/ODFW approval of number and location of paired monitoring and reference sites sufficient to evaluate revegetation success per habitat category/subtype
- Obtain Department/ODFW approval of a revegetation monitoring procedure
- Evaluate whether, based on any significant changes or information obtained during preconstruction surveys, any changes to success criteria are necessary to more appropriately evaluate revegetation success
- Propose a reporting format that clearly presents vegetation characteristics of the paired monitoring and reference sites, based on the established success criteria (Section 7.3) for Department/ODFW review

The Applicant will consult, concurrently, with the Oregon Department of Fish and Wildlife (ODFW), the Oregon Department of Energy (ODOE), and the Umatilla County Weed Department prior to construction to discuss preconstruction habitat and botanical surveys, areas to be revegetated, reference site location and conditions, topsoil restoration and revegetation methods, erosion and sediment control measures, and implementation schedule.

The Applicant will consult, concurrently, with ODOE and its third-party consultant, and if responsive, Oregon Department of Agriculture and Umatilla County Soil and Water Conservation District on site-specific conditions within agriculturally productive soil areas of potential impact. The Applicant shall develop a protocol to evaluate pre- and post-disturbance conditions (see Soil Protection Condition 2). Applicant shall ensure its contractors are aware of site-specific conditions, including areas of limited top-soil, areas of highly erodible soils, and land contouring relied upon for water control, and implement construction design and methods that minimize impacts to agriculturally productive soils.

#### 3.2 Construction

Prior to any year of construction, the Applicant shall evaluate state and county-listed noxious weed lists and update the plan (Attachments A and B), if necessary, to ensure worker awareness of changes in noxious weeds within potential ground-disturbance areas.

Six months prior to commercial operation of each Project phase<sup>1</sup>, if applicable, the Applicant will meet with ODFW, ODOE, and the Umatilla County Weed Department to review the actual extent and conditions of temporarily impacted areas, to confirm the revegetation methods agreed to during pre-construction review are still appropriate, ~~and to identify reference sites.~~

### 3.3 Operations

On an annual basis, concurrent with the timing of revegetation/noxious weed monitoring, the Applicant shall evaluate state and county-listed noxious weed lists and update the plan (Attachments A and B), if necessary, to ensure worker awareness of changes in noxious weeds within potential ground-disturbance and revegetation areas.

## 4.0 Revegetation Methods

This Plan addresses revegetation methods for temporary impacts to non-agriculture and non-developed habitat subtypes. Agriculture and developed habitat types will be restored with the landowner's direction and as discussed in Section 4.3. Revegetation will begin as soon as feasible following completion of construction. Seeding and planting will be done in a timely manner and within the appropriate season to facilitate germination. The Applicant will restore temporarily disturbed areas by re-establishing slope, surface stability, and drainage features, as needed, followed by soil preparation and seeding. Soil preparation and seeding techniques are described below.

### 4.1 Soil Preparation

Prior to seeding and/or planting of revegetation areas, soils will be prepared to facilitate revegetation success. Soil preparation will include standard, commonly used methods and will consider relevant site-specific factors, including slope, size of area, and erosion potential. In areas where soil is removed during construction, the topsoil will be stockpiled separately from subsurface soils, where possible. The stockpiled topsoil will be put back in place prior to revegetation activities. Additional site-specific soil preparation may be determined during the agency consultation period. The Applicant will use mulching, installation of geotextile products, and other appropriate practices to control erosion and sediment during construction to support post-construction revegetation efforts.

### 4.2 Seeding

Following preparation of the soil, an agency-approved seed mix will be applied. The seed mix will be selected based on the pre-construction conditions and land use and approved by the ODFW, ODOE, Umatilla County, and private landowners, as appropriate. Seeds will be obtained from a

<sup>1</sup> The Applicant proposes to begin construction as soon as spring 2021, with a commercial operation target date of the end of 2022. However, given that construction could conceivably be delayed by weather or other unforeseen circumstances such as market changes, the Applicant has requested flexibility to build the Project in one or more phases, with a deadline for construction completion of 6 years from issuance of the site certificate.

reputable supplier in compliance with the Oregon Department of Agriculture (ODA) Oregon Seed Laws. Table 3 shows an example seed mix for revegetation.

Table 2. Example Seed Mix

Common Name	Scientific Name	Percent of Mix
Bluebunch wheatgrass	<i>Pseudoroegneria spicata</i>	45
Bottlebrush squirreltail	<i>Elymus elymoides</i>	15
Sandberg's bluegrass	<i>Poa secunda</i>	15
Thickspike wheatgrass	<i>Elymus lanceolatus</i>	15
Western yarrow	<i>Achillea millefolium</i> var. <i>occidentalis</i>	2
Shaggy fleabane	<i>Erigeron pumilis</i>	2
Desert parsley	<i>Lomatium dissectum</i>	2
Silky lupine	<i>Lupinus sericeus</i>	2
Lewis flax	<i>Linum lewisii</i>	2

The Applicant will choose seeding methods based on site-specific factors such as slope, erosion potential, and the size of the area in need of revegetation. Two common seed application methods that may be used are broadcast and drill seeding.

#### 4.2.1 Broadcast Seeding

Broadcast seeding is the application of seed directly to the ground surface. This method may be chosen for areas with shallow and rocky soils, and the type of broadcast spreader would depend on the size of the area to be seeded and the terrain.

The agency-approved seed mix would be applied at the specified application rates. Where feasible, half of the total mix would be applied in one direction and the second half of the mix would be applied in the perpendicular direction. A tracking dye may be added to facilitate uniform seed application. Immediately following seed application, certified weed-free straw would be applied at a rate of 2 tons per acre. Straw would be crimped into the ground to a depth of 2 inches using a crimping disc or similar device. As an alternative to crimping, a tackifier (a chemical compound to increase the adhesiveness) may be applied using hydroseed equipment. Prior to mixing the tackifier, the tank would be visually inspected for cleanliness and, if remnants from previous applications exist, the tank would be washed.

#### 4.2.2 Drill Seeding

Drill seeding can be used for larger areas with deeper soils and moderate to gentle terrain to accommodate mechanical equipment. This method provides the advantage of planting the seed at a uniform depth and may provide better soil to seed contact.

Using an agricultural or range seed drill, the agency-approved seed mix would be planted according to the application rates recommended by the seed supplier. Where feasible, half of the total mix

would be applied in one direction and the second half of mix in the perpendicular direction. If mulch has been previously applied in heavy construction areas, it is possible for the seed to be drilled through the mulch, resulting in seed-to-soil contact conducive for seed germination.

### 4.3 Restoration of Cropland

Prior to construction, the Applicant shall consult land owners of croplands on land contours/terraces, topsoil conditions and other site specific conditions necessary for informing construction methods, materials and schedule in order to minimize temporary impacts to soil, soil productivity and harvest. Evidence of consultation and measures to be taken based on consultation shall be provided to the Department, for review in consultation with the Oregon Department of Agriculture or its third-party consultant.

During construction, the Applicant will use mulching, installation of geotextile products, and other appropriate practices to control erosion and sediment during construction to support post-construction cropland restoration. Applicant shall monitor, evaluate and modify, as necessary, erosion materials and topsoil management to ensure that erosion impacts and topsoil loss are minimized during construction. The Applicant shall have a sufficient number of onsite monitors given the extent of disturbance onsite. If, at any time, results of the monitoring indicate that erosion materials and topsoil management are not effective, the Applicant shall notify the Department and identify its corrective actions to be implemented and the implementation schedule. The Applicant will be subject to violation of OAR 660-033-0130(37)(b)(B) in the event construction activities continue within appropriate minimization measures in place.

Croplands will be reseeded with the appropriate crop or maintained as fallow in consultation with the landowner or farm operator. The Applicant will also consult with the landowner or farm operator to determine seed mix and application methods and rates for seed and fertilizer.

Soil compaction is a concern for restoring agricultural soils to their pre-construction productivity. During construction of temporary facilities, the Applicant will excavate, ~~and~~ store ~~and protect~~ soils by soil horizon, to minimize topsoil loss and so that soils could be replaced and restored appropriately, including replacing topsoil, ~~where possible~~. During post-construction restoration of temporary impacts to agricultural areas, the Applicant will loosen agricultural soil to an appropriate depth (minimum of 12-18 inches, based on landowner input) to reduce the potential effects of compaction.

## 5.0 Noxious Weed Prevention and Control

~~Throughout construction and revegetation activities, the Applicant will take appropriate actions to prevent the spread of noxious weeds prior to and during construction and throughout the life of facility operations. Where appropriate, and pursuant to consultation with the Umatilla County Weed Department, Mm~~ monitoring of noxious weeds and the effectiveness of weed control/eradication efforts will be performed concurrently with the revegetation monitoring described in this document.

### 5.1 Regulatory Framework

#### 5.1.1 State of Oregon

In Oregon, noxious weeds are defined under Oregon Revised Statutes (ORS) 569.175 as “terrestrial, aquatic, or marine plants designated by the State Weed Board (OSWB) under ORS 569.615 as among those representing the greatest public menace and as a top priority for action by weed control programs.” Noxious weeds have been declared by ORS 569.350 as a menace to public welfare, and control of these plants is the responsibility of private landowners and operators, as well as county, state, and federal governments.

The OSWB was established under ORS 561.650. It provides direction to control noxious weeds at the state level and develops and maintains the State Noxious Weed List. OSWB and the ODA classify noxious weeds in Oregon in accordance with the ODA Noxious Weed Classification System (ODA 2019a). Currently, there are 138 noxious weeds listed in Oregon (ODA 2019a; Appendix A). There are three designations for noxious weeds under the State’s system:

- Class A State Listed Noxious Weed: A weed of known economic importance which occurs in the state in small enough infestations to make eradication or /containment possible; or is not known to occur in Oregon, but its presence in neighboring states makes future occurrence seem imminent.
  - Recommended Action: Infestations are subject to eradication or intensive control when and where found.
- Class B State Listed Noxious Weed: A weed of economic importance that is regionally abundant but may have limited distribution in some counties.
  - Recommended Action: Limited to intensive control at the state, county, or regional level as determined on a site-specific, case-by-case basis. Where implementation of a fully integrated statewide management plan is not feasible, biological control (when available) shall be the primary control method.
- Class T Designated State Noxious Weeds: Priority noxious weed species selected and designated by the OSWB as the focus of prevention and control actions by the Noxious Weed Control Program. T-designated noxious weeds are selected annually from either the A or B list and the ODA is directed to develop and implement a statewide management plan for these species.

### 5.1.2 Umatilla County

Section 97 of the Umatilla County Code establishes Umatilla County as a weed control district, defines what is considered a noxious weed, identifies the responsibility of private land owners to control weeds, and outlines the authority of the weed control district and Umatilla County Board of Commissioners to enforce the ordinance. Per ORS 569.350 through 569.520, Umatilla County maintains a Umatilla County Noxious Weed Control List. This list, most recently updated in 2017, includes 39 noxious weed species that have been found currently or previously growing in the county (Umatilla County 2019; Appendix B). These 39 species are classified as either “A” or “B” designated weeds according to control requirement categories as follows:

- “A” Designated Weed: A weed of known economic importance which occurs in the state/county in small enough infestations to make eradication/containment possible; or is not known to occur, but its presence in neighboring states/counties makes future

occurrence seem imminent.

- “B” Designated Weed: A weed of known economic importance which is regionally abundant, but which may have limited distribution in some counties. Where implementation of a fully integrated statewide management plan is feasible, biological control shall be the main control approach for species for which biological agents are available.

## 5.2 Noxious Weeds Identified in the Site Boundary

Fifteen noxious weed species were recorded within the Site Boundary during surveys conducted in 2017-2020 (Tetra Tech 2019, 2020; see Appendix P-2 to Exhibit P of the ASC). These species and their state and county weed status are presented in Table 3 below.

Table 3. Noxious Weeds Located within Site Boundary

Common Name	Scientific Name	State Status/ County Status <sup>1</sup>	Frequency
jointed goatgrass	<i>Aegilops cylindrica</i>	B/B	Several small to large patches
kochia	<i>Bassia (Kochia) scoparia</i>	B/B	Abundant
diffuse knapweed	<i>Centaurea diffusa</i>	B*/B	Occasional large patches
yellow star-thistle	<i>Centaurea solstitialis</i>	B*/B	Abundant
spikeweed	<i>Centromadia (Hemizonia) pungens</i>	B/A	Few small patches
rush skeletonweed	<i>Chondrilla juncea</i>	B*, T/A	Several small to medium-sized patches
Canada thistle	<i>Cirsium arvense</i>	B*/B	Few small patches
bull thistle	<i>Cirsium vulgare</i>	B*/not listed	Few small patches
poison hemlock	<i>Conium maculatum</i>	B*/B	Several medium to large-sized patches along drainages
field bindweed	<i>Convolvulus arvensis</i>	B*/not listed	Abundant
hound's tongue	<i>Cynoglossum officinale</i>	B/not listed	Few small to medium-sized patches along drainages
common St. John's wort	<i>Hypericum perforatum</i>	B*/B	Occasional small patches
Scotch thistle	<i>Onopordum acanthium</i>	B/B	Many small to medium-sized patches
cereal rye	<i>Secale cereale</i>	Not listed/B	Abundant
medusahead	<i>Taeniatherum caput-medusae</i>	B/not listed	Scattered medium-sized patches
puncture vine	<i>Tribulus terrestris</i>	B*/B	Few small to large-sized patches
ventenata grass	<i>Ventenata dubia</i>	B/not listed	Occasional small to large patches
1. Species marked with a (*) are targeted for biocontrol.			

As presented in Section 3.0, Table 3 will be updated prior to and during construction, and annually for the life of the facility, based on current state and county noxious weed lists and results of annual monitoring.

## 5.3 Noxious Weed Management

Preconstruction habitat and botanical survey results will be used to identify preexisting noxious weed infestations within, or in proximity to, areas of potential ground disturbance. These areas



will be mapped and either flagged for avoidance or treated to minimize and control the spread of noxious weeds from facility related vehicle and equipment use and disturbance.

### 5.3.1 Prevention

Implementation of the following best management practices is intended to prevent the spread of noxious weeds during construction, revegetation efforts, and O&M activities.

- Educating workers of the importance of noxious weed prevention and treatment measures;
- Providing information regarding target noxious weed species at the O&M Building;
- Flagging areas of noxious weed infestations, where practical, prior to construction to alert construction personnel to their presence and limit or prevent access to those areas;
- Limiting vehicle access to designated routes, whether existing roads or newly constructed roads, and the outer limits of constructed-related disturbances;
- Limiting vehicle traffic in noxious weed-infested areas;
- Cleaning construction vehicles prior to entering the Project for the first time and upon completion of work at the Project;
- Cleaning vehicles after performing work in noxious weed-infested areas;
- Identifying topsoil and other soils that came from noxious weed-infested areas and placing next to the infested area so they are returned to their previous location during reclamation activities;
- Treating soils from infested areas with a pre-emergent herbicide prior to initiation of revegetation efforts, depending on site-specific conditions;
- Limiting movement of topsoil and other soils from non-infested areas to eliminate the transport of weed seeds, roots, or rhizomes;
- Implementing noxious weed treatments via mechanical or chemical control;
- Preventing conditions favorable for noxious weed germination and spread by revegetating temporarily disturbed areas as soon as possible;
- Monitoring areas of disturbance for noxious weeds after construction, during the normal course of revegetation maintenance of temporary work spaces, and implementing control measures as appropriate;
- Revegetating the site with appropriate, local native seed or native plants; when these are not available, non-invasive and non-persistent non-native species may be used; and
- Purchasing seed and straw mulch (used for site rehabilitation and revegetation) that is certified free of noxious weed seed and propagules, if possible.

### 5.3.2 Treatment

Noxious weed treatment will focus on pre-existing infestations within areas of potential ground-

disturbance and control of existing populations of noxious weeds within areas disturbed by construction. Additionally, if it is determined that noxious weeds have invaded areas adjacent to disturbance areas as a result of construction, the Applicant will contact the landowner and seek approval to treat those noxious weed populations. New noxious weeds detected during post-construction restoration will also be considered a result of construction activities and shall be controlled and treated accordingly.

Control of noxious weeds will be implemented through manual, mechanical, or chemical control measures. Manual control methods include hand-pulling and using hand tools to remove noxious weeds. Mechanical control includes mowing or disking with machinery. Chemical application is accomplished through use of herbicides targeted to the individual weed species. The Applicant will be responsible for hiring a qualified contractor to implement the treatment of noxious weeds.

The most appropriate control method depends on the noxious weed species being treated, the size of infestation, and the terrain and habitat needing treated. Standard treatment methods for noxious weeds can be found in the Pacific Northwest Weed Management Handbook (Peachey 2019), ODA's Oregon Noxious Weed Profiles (ODA 2019b), and Weed Control in Natural Areas in the Western United States (UC Davis 2013).

## 6.0 Revegetation Documentation

Records will be kept of revegetation efforts, both for croplands and other habitats; records will include:

- Date construction was completed in the area to be revegetated;
- Description of the affected area;
- Date revegetation work was initiated;
- Description of the revegetation work implemented; and
- Supporting figures representing the location, acres affected, and pre-disturbance condition of the revegetation area.

The Applicant will update these records periodically as revegetation work occurs and will provide ODOE with copies of these records with submission of the monitoring report required by the Site Certificate.

## 7.0 Monitoring

### 7.1 Monitoring and Reference Sites

During preconstruction habitat and/or botanical surveys, n Nearby reference sites, approximating pre-construction conditions of the revegetation areas, will be selected as targets toward which revegetation will aim. Reference sites will be chosen to represent each of the habitat types to be revegetated, ~~as feasible~~. Land use patterns, soil types, terrain, and presence of noxious weeds will also be considered in selection of reference sites. Once reference sites are selected by the Applicant and approved by the ODOE and ODFW, the reference sites shall remain in the same location unless

approval for use of a different reference site is obtained by the ODOE and ODFW.

Once the reference sites are approved by the ODOE and ODFW, the Applicant will employ a qualified investigator (botanist or revegetation specialist) to monitor those sites to establish baseline conditions as they relate to the success criteria for revegetation efforts. Documentation of baseline conditions at reference sites shall occur prior to commencement of revegetation efforts.

The Applicant's qualified investigator shall compare designated monitoring sites within revegetation areas to the selected reference sites.

If land use changes, wildfires, or other disturbances occur between the time of selection and monitoring of baseline conditions such that a chosen reference site is no longer representative of target conditions, new reference sites may be chosen. Following the selection of a new reference site, an updated table and latitude/longitudinal data will be provided to ODOE within a 6-month revegetation record report or the annual compliance report, whichever report is submitted first.

## 7.2 Monitoring Procedures

Following implementation of revegetation efforts, the Applicant will monitor the revegetation areas as described in this section, unless the landowner has converted the area to a use inconsistent with the success criteria. The Applicant will submit its revegetation monitoring methodology to ODFW and ODOE for approval prior to assessing baseline conditions within reference sites and prior to the first annual monitoring of revegetation areas.

Monitoring of the revegetation areas will be conducted by a qualified investigator annually for 5 years, with the first monitoring period to occur the first growing season following initial seeding. Revegetation areas will be inspected to determine if the area is meeting and/or on track to meeting the success criteria as described in Section 7.3. The investigator will evaluate the following site conditions during annual monitoring:

- Extent of bare soil;
- Degree of erosion;
- Presence and abundance of noxious weeds;
- Vegetation density;
- Relative proportion of desirable vegetation (desirable vegetation includes those species included in the seed mix or native or native-like species, excluding noxious weeds); and
- Species diversity and structural stage of desirable vegetation.

Following annual monitoring, a monitoring report will be prepared and will include:

- The investigator's assessment of whether the revegetated areas are trending toward meeting the success criteria;
- Assessments of factors impacting the ability of the revegetated area to trend towards meeting the success criteria;
- Descriptions of appropriate weed control measures as recommended by ODOE, ODFW and the Umatilla County Weed Department; and

- 
- Recommendations of remedial actions, if any.

The Applicant will report the investigator's findings and recommendations regarding wildlife habitat recovery and revegetation success within 60 days of the inspection to ODOE and ODFW.

### 7.3 Success Criteria

In each monitoring report, the Applicant will include an assessment of whether the revegetated areas are meeting or trending toward meeting the success criteria. An area will be deemed successfully revegetated when the habitat quality at a monitoring site is equal to or surpasses the habitat quality at the associated reference site, as follows:

- Vegetation density is equal to or greater than that of the reference site;
- Relative proportion of desirable vegetation is equal to or greater than that of the reference site;
- Species diversity of desirable vegetation is equal to or greater than that of the reference site; and
- The presence and density of noxious weeds is equal to or less than that of the reference site.

When ODOE and ODFW find that the condition of a revegetation area satisfies the criteria for revegetation success, ODOE and ODFW will conclude that the Applicant has met its restoration obligations for that area. If ODOE or ODFW finds that the landowner has converted a habitat area to a use that is inconsistent with these success criteria, ODOE and ODFW will conclude that the Applicant has no further obligation to restore the area.

In addition, success of cropland revegetation will have been achieved when production of the revegetated area is comparable to that of adjacent, non-disturbed croplands. Success determination will involve consultation with the landowner or farm operator, and the Applicant will report to ODOE on the success of cropland restoration efforts after the first growing season.

### 7.4 Remedial Action

After each monitoring visit, the Applicant's qualified investigator will report to the Applicant regarding the revegetation progress of each revegetation area. The investigator, in consultation with ODOE, ODFW, the Umatilla County Weed Department, and the revegetation contractor, will make recommendations to the Applicant for reseeding, weed control, or other remedial measures for areas that are not showing progress toward achieving revegetation success, if applicable. The investigator will provide a description of factors that may be contributing to the lack of revegetation success. ODOE may require reseeding, weed control, or other remedial measures and additional monitoring in those areas that are not trending towards meeting the success criteria by Year 5. If after Year 5, revegetation has not been achieved or is not trending towards success at a reasonable rate, Applicant shall propose compensatory mitigation to address the temporal, and potentially permanent habitat loss for approval by ODOE, in consultation with ODFW, and shall consult with ODOE on additional revegetation actions to ensure site stabilization and minimization of noxious weed infestation.

If a revegetation area is damaged by wildfire during the first 5 years following initial seeding, the

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Applicant will work to restore the damaged area. The Applicant will continue to report on revegetation progress during the remainder of the 5-year period. The Applicant will report to ODOE and ODFW the area impacted by the fire (with a map or figure).

## 8.0 Plan Amendment

This Plan may be amended from time to time by agreement of the Applicant and Energy Facility Siting Council (Council). Such amendments may be made without an amendment of the Site Certificate. The Council authorizes ODOE to agree to amendments to this plan. ODOE shall notify the Council of all amendments, and the Council retains the authority to approve, reject, or modify any amendments of this plan agreed to by ODOE.

## 9.0 References

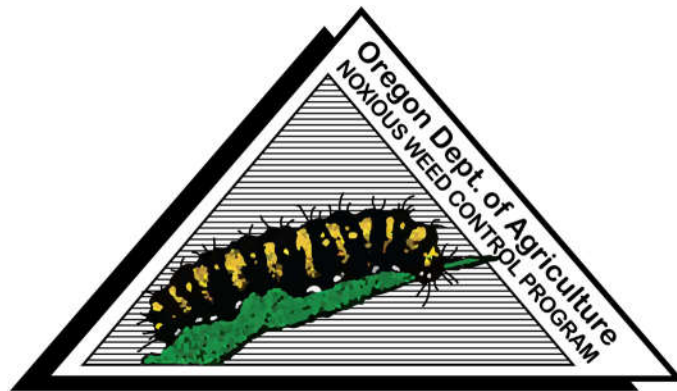
- ODA (Oregon Department of Agriculture). 2019a. Noxious Weed Policy and Classification System. Noxious Weed Control Program. Salem, OR. Available online at: <http://www.oregon.gov/ODA/shared/Documents/Publications/Weeds/NoxiousWeedPolicyClassification.pdf>. Accessed July 2019.
- ODA. 2019b. Oregon Noxious Weed Profiles. Available online at: <https://www.oregon.gov/ODA/programs/Weeds/OregonNoxiousWeeds/Pages/AboutOregonWeeds.aspx>
- Peachey, E., editor. 2019. Pacific Northwest Weed Management Handbook [online]. Corvallis, OR: Oregon State University. Available online at: <http://pnwhandbooks.org/weed>
- Tetra Tech. 2019. 2017-2019 Botanical Survey Report. Nolin Hills Wind Power Project. November.
- Tetra Tech. 2020. 2020 Botanical Survey Report. Nolin Hills Wind Power Project. September.
- UC Davis (University of California at Davis Weed Research and Information Center). 2013. Weed Control in Natural Areas in the Western United States. Weed Research and Information Center, University of California. 544 pages.
- Umatilla County. 2019. Weed Control Board. Noxious Weed List. Available online at: <http://www.co.umatilla.or.us/road/weedlist.html>

Appendix A:  
Oregon Department of Agriculture  
Noxious Weed Policy and Classification  
System

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# Oregon Department of Agriculture

## Noxious Weed Policy and Classification System 2019



### Noxious Weed Control Program

Address: 635 Capitol Street NE, Salem, Oregon 97301

Phone: (503) 986-4621 Fax: (503) 986-4786

[www.oregon.gov/ODA/programs/Weeds/Pages/AboutWeeds.aspx](http://www.oregon.gov/ODA/programs/Weeds/Pages/AboutWeeds.aspx)



## **Mission Statement**

To protect Oregon's natural resources and agricultural economy from the invasion and proliferation of invasive noxious weeds.

## **Program Overview**

The Oregon Department of Agriculture (ODA) Noxious Weed Control Program provides statewide leadership for coordination and management of state listed noxious weeds. The state program focuses on noxious weed control efforts by implementing early detection and rapid response projects for new invasive noxious weeds, implementing biological control, implementing statewide inventory and survey, assisting the public and cooperators through technology transfer and noxious weed education, maintaining noxious weed data and maps for priority listed noxious weeds, and assisting land managers and cooperators with integrated weed management projects. The Noxious Weed Control Program also supports the Oregon State Weed Board (OSWB) with administration of the OSWB Grant Program, developing statewide management objectives, developing weed risk assessments, and maintaining the state noxious weed list.

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# Noxious Weed Control Policy and Classification System

## Definition

“Noxious weed” means a terrestrial, aquatic or marine plant designated by the Oregon State Weed Board under ORS 569.615 as among those representing the greatest public menace and as a top priority for action by weed control programs.

Noxious weeds have become so thoroughly established and are spreading so rapidly on private, state, county, and federally owned lands, that they have been declared by ORS 569.350 to be a menace to public welfare. Steps leading to eradication, where possible, and intensive control are necessary. It is further recognized that the responsibility for eradication and intensive control rests not only on the private landowner and operator, but also on the county, state, and federal governments.

## Weed Control Policy

Therefore, it shall be the policy of ODA to:

1. Assess non-native plants through risk assessment processes and make recommendations to the Oregon State Weed Board for potential listing.
2. Rate and classify weeds at the state level.
3. Prevent the establishment and spread of listed noxious weeds.
4. Encourage and implement the control or containment of infestations of listed noxious weed species and, if possible, eradicate them.
5. Develop and manage a biological weed control program.
6. Increase awareness of potential economic losses and other undesirable effects of existing and newly invading noxious weeds, and to act as a resource center for the dissemination of information.
7. Encourage and assist in the organization and operation of noxious weed control programs with government agencies and other weed management entities.
8. Develop partnerships with county weed control districts, universities, and other cooperators in the development of control methods.
9. Conduct statewide noxious weed surveys and weed control efficacy studies.

## Weed Classification System

The purpose of this Classification System is to:

1. Act as the ODA's official guideline for prioritizing and implementing noxious weed control projects.
2. Assist the ODA in the distribution of available funds through the Oregon State Weed Board to assist county weed programs, cooperative weed management groups, private landowners, and other weed management entities.
3. Serve as a model for private and public sectors in developing noxious weed classification systems that aid in setting effective noxious weed control strategies.

## Criteria for Determining Economic and Environmental Significance

### Detrimental Effects

1. A plant species that causes or has the potential to cause severe negative impacts to Oregon's agricultural economy and natural resources.
2. A plant species that has the potential to or does endanger native flora and fauna by its encroachment into forest, range, aquatic and conservation areas.
3. A plant species that has the potential or does hamper the full utilization and enjoyment of recreational areas.
4. A plant species that is poisonous, injurious, or otherwise harmful to humans and/or animals.

### Plant Reproduction

1. A plant that reproduces by seed capable of being dispersed over wide areas or that is long-lived, or produced in large numbers.
2. A plant species that reproduces and spreads by tubers, creeping roots, stolons, rhizomes, or other natural vegetative means.

### Distribution

1. A weed of known economic importance which occurs in Oregon in small enough infestations to make eradication/containment possible; or not known to occur, but its presence in neighboring states makes future occurrence seem imminent.
2. A weed of economic or ecological importance and of limited distribution in Oregon.
3. A weed that has not infested the full extent of its potential habitat in Oregon.

### Difficulty of Control

A plant species that is not easily controlled with current management practices such as chemical, cultural, biological, and physical methods.

## Noxious Weed Control Classification Definitions

Noxious weeds, for the purpose of this system, shall be listed as either A or B, and may also be designated as T, which are priority targets for control, as directed by the Oregon State Weed Board.

- **A Listed Weed:**

A weed of known economic importance which occurs in the state in small enough infestations to make eradication or containment possible; or is not known to occur, but its presence in neighboring states make future occurrence in Oregon seem imminent (Table I).

Recommended action: Infestations are subject to eradication or intensive control when and where found.

- **B Listed Weed:**

A weed of economic importance which is regionally abundant, but which may have limited distribution in some counties (Table II).

Recommended action: Limited to intensive control at the state, county or regional level as determined on a site specific, case-by-case basis. Where implementation of a fully integrated statewide management plan is not feasible, biological control (when available) shall be the primary control method.

- **T-Designated Weed (T):**

A designated group of weed species that are selected and will be the focus for prevention and control by the Noxious Weed Control Program.

Action against these weeds will receive priority. T-designated noxious weeds are determined by the Oregon State Weed Board and directs ODA to develop and implement a statewide management plan. T-designated noxious weeds are species selected from either the A or B list.

## Weed Biological Control

Oregon implements biological control, or “biocontrol” as part of its integrated pest management approach to managing noxious weeds. This is the practice of using host-specific natural enemies such as insects or pathogens to control noxious weeds. The Oregon Department of Agriculture Noxious Weed Program has adopted the International Code of Best Practices for biological control of weeds. Only safe, effective, and federally- approved natural enemies will be used for biocontrol.

Table I: A Listed Weeds

Common Name	Scientific Name
African rue (T)	<i>Peganum harmala</i>
Camelthorn	<i>Alhagi pseudalhagi</i>
Cape-ivy (T)	<i>Delairea odorata</i>
Coltsfoot	<i>Tussilago farfara</i>
Common frogbit	<i>Hydrocharis morsus-ranae</i>
Cordgrass	
Common	<i>Spartina anglica</i>
Dense-flowered (T)	<i>Spartina densiflora</i>
Saltmeadow (T)	<i>Spartina patens</i>
Smooth (T)	<i>Spartina alterniflora</i>
Delta arrowhead (T)	<i>Sagittaria platyphyla</i>
European water chestnut	<i>Trapa natans</i>
Flowering rush (T)	<i>Butomus umbellatus</i>
Garden yellow loosestrife (T)	<i>Lysimachia vulgaris</i>
Giant hogweed (T)	<i>Heracleum mantegazzianum</i>
Goatgrass	
Barbed (T)	<i>Aegilops triuncialis</i>
Ovate	<i>Aegilops ovata</i>
Goatsrue (T)	<i>Galega officinalis</i>
Hawkweed	
King-devil	<i>Hieracium piloselloides</i>
Mouse-ear (T)	<i>Hieracium pilosella</i>
Orange (T)	<i>Hieracium aurantiacum</i>
Yellow (T)	<i>Hieracium floribundum</i>
Hoary alyssum (T)	<i>Berteroa incana</i>
Hydrilla	<i>Hydrilla verticillata</i>
Japanese dodder	<i>Cuscuta japonica</i>
Kudzu (T)	<i>Pueraria lobata</i>
Matgrass (T)	<i>Nardus stricta</i>
Oblong spurge (T)	<i>Euphorbia oblongata</i>
Paterson's curse (T)	<i>Echium plantagineum</i>
Purple nutsedge	<i>Cyperus rotundus</i>
Ravennagrass (T)	<i>Saccharum ravennae</i>
Silverleaf nightshade	<i>Solanum elaeagnifolium</i>
Squarrose knapweed (T)	<i>Centaurea virgata</i>

(T) T-Designated Weed (See page 4)



(Continued)

Table I: A Listed Weeds

Common Name	Scientific Name
Starthistle	
Iberian (T)	<i>Centaurea iberica</i>
Purple (T)	<i>Centaurea calcitrapa</i>
Syrian bean-caper	<i>Zygophyllum fabago</i>
Thistle	
Plumeless (T)	<i>Carduus acanthoides</i>
Smooth distaff	<i>Carthamus baeticus</i>
Taurian (T)	<i>Onopordum tauricum</i>
Wetted (curly plumeless) (T)	<i>Carduus crispus</i>
Woolly distaff (T)	<i>Carthamus lanatus</i>
Water soldiers	<i>Stratiotes aloides</i>
West Indian spongeplant	<i>Limnobium laevigatum</i>
White bryonia	<i>Bryonia alba</i>
Yellow floating heart (T)	<i>Nymphoides peltata</i>
Yellowtuft (T)	<i>Alyssum murale</i> , <i>A. corsicum</i>

(T) T-Designated Weed (See page 4)

Table II: B Listed Weeds

Common Name	Scientific Name
Armenian (Himalayan) blackberry	<i>Rubus armeniacus</i> ( <i>R. procerus</i> , <i>R. discolor</i> )
Biddy-biddy	<i>Acaena novae-zelandiae</i>
Broom French* Portuguese (T) Scotch* Spanish	<i>Genista monspessulana</i> <i>Cytisus striatus</i> <i>Cytisus scoparius</i> <i>Spartium junceum</i>
Buffalobur	<i>Solanum rostratum</i>
Butterfly bush	<i>Buddleja davidii</i> ( <i>B. variabilis</i> )
Common bugloss (T)	<i>Anchusa officinalis</i>
Common crupina	<i>Crupina vulgaris</i>
Common reed	<i>Phragmites australis</i> ssp. <i>australis</i>
Creeping yellow cress	<i>Rorippa sylvestris</i>
Cutleaf teasel	<i>Dipsacus laciniatus</i>
Dodder Smoothseed alfalfa Five-angled Bigseed	<i>Cuscuta approximata</i> <i>Cuscuta pentagona</i> <i>Cuscuta indecora</i>
Dyer's woad	<i>Isatis tinctoria</i>
Eurasian watermilfoil	<i>Myriophyllum spicatum</i>
False brome	<i>Brachypodium sylvaticum</i>
Field bindweed*	<i>Convolvulus arvensis</i>
Garlic mustard (T)	<i>Alliaria petiolata</i>
Geranium Herb Robert Shiny leaf	<i>Geranium robertianum</i> <i>Geranium lucidum</i>
Gorse* (T)	<i>Ulex europaeus</i>
Halogeton	<i>Halogeton glomeratus</i>
Houndstongue	<i>Cynoglossum officinale</i>
Indigo bush	<i>Amorpha fruticosa</i>
Ivy Atlantic English	<i>Hedera hibernica</i> <i>Hedera helix</i>
Johnsongrass	<i>Sorghum halepense</i>

\*Biocontrol (See page 4)

(T) T-Designated Weed (See page 4)

(Continued)

Table II: B Listed Weeds

Common Name	Scientific Name
Jointed goatgrass	<i>Aegilops cylindrica</i>
Jubata grass	<i>Cortaderia jubata</i>
Knapweed	
Diffuse*	<i>Centaurea diffusa</i>
Meadow*	<i>Centaurea pratensis</i>
Russian*	<i>Acroptilon repens</i>
Spotted * (T)	<i>Centaurea stoebe</i> ( <i>C. maculosa</i> )
Knotweed	
Bohemian	<i>Fallopia x bohemica</i>
Giant	<i>Fallopia sachalinensis</i> ( <i>Polygonum</i> )
Himalayan	<i>Polygonum polystachyum</i>
Japanese	<i>Fallopia japonica</i> ( <i>Polygonum</i> )
Kochia	<i>Kochia scoparia</i>
Lesser celandine	<i>Ranunculus ficaria</i>
Meadow hawkweed (T)	<i>Pilosella caespitosum</i> ( <i>Hieracium</i> )
Mediterranean sage*	<i>Salvia aethiopis</i>
Medusahead rye	<i>Taeniatherum caput-medusae</i>
Old man's beard	<i>Clematis vitalba</i>
Parrot feather	<i>Myriophyllum aquaticum</i>
Perennial peavine	<i>Lathyrus latifolius</i>
Perennial pepperweed (T)	<i>Lepidium latifolium</i>
Pheasant's eye	<i>Adonis aestivalis</i>
Poison hemlock*	<i>Conium maculatum</i>
Policeman's helmet	<i>Impatiens glandulifera</i>
Puncturevine*	<i>Tribulus terrestris</i>
Purple loosestrife*	<i>Lythrum salicaria</i>
Ragweed	<i>Ambrosia artemisiifolia</i>
Ribbongrass (T)	<i>Phalaris arundinacea</i> var. <i>Picta</i>
Rush skeletonweed* (T)	<i>Chondrilla juncea</i>
Saltcedar* (T)	<i>Tamarix ramosissima</i>
Small broomrape	<i>Orbanche minor</i>
South American waterweed	<i>Egeria densa</i> ( <i>Elodea</i> )
Spanish heath	<i>Erica lusitanica</i>
Spikeweed	<i>Hemizonia pungens</i>

\*Biocontrol (See page 4)

(T) T-Designated Weed (See page 4)

(Continued)

Table II: B Listed Weeds

Common Name	Scientific Name
Spiny cocklebur	<i>Xanthium spinosum</i>
Spurge laurel	<i>Daphne laureola</i>
Spurge Leafy*(T) Myrtle	<i>Euphorbia esula</i> <i>Euphorbia myrsinites</i>
St. Johnswort*	<i>Hypericum perforatum</i>
Sulfur cinquefoil	<i>Potentilla recta</i>
Swainsonpea	<i>Sphaerophysa salsula</i>
Tansy ragwort* (T)	<i>Senecio jacobaea (Jacobaea vulgaris)</i>
Thistle Bull* Canada* Italian Milk* Musk* Scotch Slender-flowered *	<i>Cirsium vulgare</i> <i>Cirsium arvense</i> <i>Carduus pycnocephalus</i> <i>Silybum marianum</i> <i>Carduus nutans</i> <i>Onopordum acanthium</i> <i>Carduus tenuiflorus</i>
Toadflax Dalmatian *(T) Yellow *	<i>Linaria dalmatica</i> <i>Linaria vulgaris</i>
Tree of heaven	<i>Ailanthus altissima</i>
Velvetleaf	<i>Abutilon theophrasti</i>
Ventenata grass	<i>Ventenata dubia</i>
Primrose Willow Large-flower (T) Water primrose (T) Floating (T)	<i>Ludwigia grandiflora</i> <i>Ludwigia hexapetala</i> <i>Ludwigia peploides</i>
Whitetop	
Hairy	<i>Lepidium pubescens</i>
Lens-podded	<i>Lepidium chalepensis</i>
Whitetop (hoary cress)	<i>Lepidium draba</i>
Yellow archangel	<i>Lamiastrum galeobdolon</i>
Yellow flag iris	<i>Iris pseudacorus</i>
Yellow nutsedge	<i>Cyperus esculentus</i>
Yellow starthistle*	<i>Centaurea solstitialis</i>

\*Biocontrol (See page 4)

(T) T-Designated Weed (See page 4)



# **Oregon**

Department  
of Agriculture

2/2019

## Appendix B:

# Umatilla County Noxious Weed List

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## "A" Designated Weed List

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These Class "A" weeds have been found as single plants or in very limited populations in the county. Prevention, early detection, and eradication is high priority. Cost share may be available at the Weed Board discretion.

Camelthorn (*Alhagi pseudalhagi*)  
Common Bugloss (*Anchusa officinalis*)  
Common Crupina (*Crupina vulgaris*)  
Creeping Yellow Cress (*Rorippa sylvestris*)  
Flowering Rush (*Butomus umbellatus*)  
Garlic Mustard (*Alliaria petiolata*)  
Japanese Knotweeds [fleece flower] (*Polygonum cuspidatum* [*Fallopia japonica*])  
Leafy Spurge (*Euphorbia esula*)  
Marijuana (*Cannabis sativa*)  
Meadow Knapweed (*Centaurea jacea* X *C. nigra*)  
Myrtle Spurge (*Euphorbia myrsinites*)  
Purple Loosestrife (*Lythrum salicaria*)  
Purple Starthistle (*Centaurea calcitrapa*)  
Rush Skeletonweed (*Chondrilla juncea*)  
Spike Weed (*Centromadia* [*Hemizonia*] *pungens*)  
Spotted Knapweed (*Centaurea maculosa*)  
Tansy ragwort (*Senecio jacobaea*)  
Viper's bugloss (*Echium vulgare*)  
Yellow flag iris (*Iris pseudacorus*)

RECOMMENDED ACTION: Infestations are subject to intensive control when and where found.

## "B" Designated Weed List

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Austrian Peaweed (*Sphaerophysa salsula*)  
Canada Thistle (*Cirsium arvense*)  
Cereal Rye (*Secale cereale*)  
Dalmation Toadflax (*Linaria dalmatica*)  
Dodder (*Cuscuta pentagona*)  
Diffuse Knapweed (*Centaurea diffusa*)  
Hoary Cress (*Cardaria draba*)  
Johnsongrass (*Sorghum halepense*)  
Jointed Goatgrass (*Aegilops cylindrica*)  
Kochia (*Kochia* [*Bassia*] *scoparia*)  
Mediterranean Sage (*Salvia aethiopis*)  
Musk Thistle (*Carduus nutans*)  
Puncturevine (*Tribulus terrestris*)  
Poison hemlock (*Conium maculatum*)  
Quackgrass (*Elymus* [*Agropyron*] *repens*)  
Ragweed (*Ambrosia artemisiifolia*)  
Russian Knapweed (*Acroptilon repens*)  
Scotch Thistle (*Onopordum acanthium*)  
St. Johnswort (*Hypericum perforatum*)  
Yellow Starthistle (*Centaurea solstitialis*)



RECOMMENDED ACTION: Limited to intensive control at state or county level as determined on a case-by case basis.

Enforcement emphasis groups; these groups of invasive plants have been targeted for additional enforcement throughout the County according to the land types and corresponding agricultural uses associated. Three land uses types have been identified and weed lists developed for each they are:

- 1) Dry Land Annual Cropping Areas: Emphasis weeds include Canada Thistle, Scotch Thistle, Yellow Starthistle, Goatgrass, and Kochia.
- 2) Irrigated Crops and Pastures: Emphasis weeds include Canada Thistle, Scotch Thistle, Bull Thistle, Musk Thistle, Yellow Starthistle, Diffuse Knapweed.
- 3) Dryland Range/Pasture/Timber: Emphasis weeds include Scotch Thistle, Bull Thistle, Canada Thistle, Spotted Knapweed, Diffuse Knapweed, Russian Knapweed.

**Attachment P-3: Draft Wildlife Monitoring Plan**

# **Nolin Hills Wind Power Project**

## **Draft**

## **Wildlife Monitoring Plan**

**Prepared for**



**Nolin Hills Wind, LLC**

**Prepared by:**



**Tetra Tech, Inc.**

**July 2021**

Revisions, in track changes, are proposed by the Department based on recommendations in the Draft Proposed Order

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**Acronyms and Abbreviations**

Applicant	Nolin Hills Wind, LLC
AWWIC	American Wind Wildlife Information Center
COD	Commercial Operation Date
DWP	density weighted proportion
EFSC	Energy Facility Siting Council
GPS	global positioning system
MW	megawatt
OAR	Oregon Administrative Rule
ODFW	Oregon Department of Fish and Wildlife
ODOE	Oregon Department of Energy
Plan	Wildlife Monitoring Plan
Project	Nolin Hills Wind Power Project
WAGS	Washington ground squirrel
WRHS	Wildlife Reporting and Handling System

## 1.0 Introduction

Nolin Hills Wind, LLC (the Applicant) proposes to construct the Nolin Hills Wind Power Project (Project), a wind and solar energy project with a nominal generating capacity of approximately 600 megawatts (MW) (preliminarily 340 MW from wind and 260 MW from solar), in Umatilla County, Oregon (see Figure C-1 in Exhibit C). The Project's wind energy component comprises up to 112 wind turbine generators. The solar array will include up to approximately ~~1,117,591~~816,812 solar modules, depending on the final technology and layout selected. The Project will interconnect to the regional grid via either publicly owned and operated transmission lines to be constructed locally by the Umatilla Electric Cooperative, or a new 230-kilovolt transmission line anticipated to be constructed, owned, and operated by the Applicant to the proposed Bonneville Power Administration Stanfield Substation. Other Project components include an up to 120-MW battery energy storage system, site access roads, one operations and maintenance building, meteorological data collection towers, and temporary construction yards. These facilities are all described in greater detail in Exhibit B.

This Wildlife Monitoring Plan (Plan) describes wildlife monitoring the Applicant shall conduct during operation of the Project. The Applicant shall use experienced and properly trained personnel to conduct the monitoring required under this Plan. For all components of this Plan except the Wildlife Reporting and Handling System (WRHS), the Applicant shall employ qualified and properly trained personnel to perform monitoring tasks.

This Plan has the following components:<sup>1</sup>

1. Fatality monitoring program including:
  - a. Standardized carcass searches
  - b. Carcass persistence trials
  - c. Searcher efficiency trials
  - d. Data analysis and fatality estimation
2. Raptor nesting surveys
3. WRHS
4. Washington ground squirrel (WAGS; *Urocitellus washingtoni*) monitoring
5. Data reporting

Based on the results of the monitoring program, mitigation of significant impacts may be required. The selection of the mitigation actions should allow for flexibility in creating appropriate responses to monitoring results that cannot be known in advance. If the Oregon Department of Energy (ODOE) determines that mitigation is needed, the Applicant shall propose appropriate mitigation actions to ODOE and shall carry out mitigation actions approved by ODOE, subject to review by the Energy Facility Siting Council (EFSC).

<sup>1</sup> Components 1 through 5 of this plan are applicable to the Wind facility components, whereas only components 3 and 5 apply to the Solar array components.

## 2.0 Fatality Monitoring Program

The objective of fatality monitoring is to estimate the number of bird and bat fatalities that are attributable to Project operation. The Applicant shall employ qualified and properly trained personnel (“investigators”) to perform fatality monitoring.

The science of fatality monitoring, particularly study design and fatality estimation, is an evolving one; therefore, the following methods may be modified prior to implementation of the program to reflect updated industry standards. Any updates to the study design or data analysis methodology will be detailed in the amended Plan approved by ODOE prior to implementation.

The program shall include: standardized carcass searches to detect fatalities, methods to adjust for sources of bias inherent in fatality detection, and the estimation of annual fatality rates attributable to Project operation based on these data. Sources of bias will be measured through (1) carcass persistence trials to estimate the mean length of time that a carcass persists and is therefore available for detection; (2) searcher efficiency trials to estimate the proportion of carcasses detected by investigators; and (3) estimation of the portion of the carcass fall distribution searched. Methods and results of all components of the fatality monitoring program will be reported to ODOE on an annual basis (Section 6.0).

If an investigator determines that a carcass found at the Project (during searches or incidentally) is a state or federally threatened or endangered species, reporting timelines specified in Section 6.0 shall be followed.

### 2.1 Standardized Carcass Searches

The objective of standardized carcass searches is to systematically search Project turbines for bird and bat fatalities that occur in proximity to Project infrastructure.

#### 2.1.1 Search Plot Dimensions and Sample Size

Investigators shall conduct fatality monitoring within defined search plots, with each search plot containing one turbine. Search plot dimensions may be squares centered on the turbine (“full-plot”), or search areas may be limited to the turbine pad and a portion of the access road buffered to a specific distance (“road-and-pad”). Search plot dimensions, whether full-plot squares, road-and-pad areas or some other configuration, will be determined with regard to turbine maximum blade tip height, habitat, search method, and species of concern. The Applicant shall provide spatial data of the search plots to ODOE before beginning fatality monitoring at the Project.

The sample size for standardized carcass searches is the number of plots searched per monitoring year. The Applicant shall select search plots based on a statistically robust sampling design that ensures that the selected search plots are representative of the various habitat conditions within the Project. Additionally, if more than one turbine type is selected, search plots will be selected such that they provide a representative sample of each turbine type. The total number of search plots needed to provide a robust sample size will be determined after taking into account the searched



area included within the plot (e.g., full-plot squares have a larger searched area than road-and-pad plots).

Prior to operation, the Applicant shall update the Plan to include the type, dimensions, distribution, and specific locations of search plots at the Project, as determined in consultation with the Oregon Department of Fish and Wildlife (ODFW).

### 2.1.2 Scheduling

Fatality monitoring will begin just prior to the start of the first season (Table 1) following the Project's Commercial Operation Date (COD). Fatality monitoring will commence with a "clearance search." The clearance search serves to identify fatalities that occurred prior to the initiation of the fatality monitoring program and for which the time period of occurrence cannot be assigned (see Section 2.5). After the initial clearance search, standardized carcass searches will begin the first week of the first full season following COD.<sup>1,2</sup> Subsequent monitoring years will follow the same schedule (beginning in the same season in the subsequent monitoring year).

Over the course of one monitoring year, the investigators will conduct no fewer than 16 searches. The frequency of searches by season is shown in Table 1.

**Table 1. Frequency of Fatality Monitoring Searches by Season**

Season	Dates <sup>1</sup>	Frequency
Spring Migration	March 16 to May 15	2 searches per month (4 searches)
Summer/Breeding	May 16 to August 15	1 search per month (3 searches)
Fall Migration	August 16 to October 31	2 searches per month (5 searches)
Winter	November 1 to March 15	1 search per month (4 searches)
1. Seasonal demarcation dates may be shifted slightly to accommodate a full search interval in any given season.		

The Applicant, in consultation with ODFW and ODOE, may adjust the frequency of these searches to reflect considerations for specific species of concern and conditions at the Project (e.g., probability of a carcass persisting from one search to the next).

### 2.1.3 Duration

The investigators shall perform 2 full years of fatality monitoring during the first and second years of Project operation (Year 1 and Year 2) consecutively.

<sup>1,2</sup>To produce the most comparable fatality estimates, continuous seasons within the study year should be used; therefore, data collection in each season should occur in the same continuous season within the monitoring year to the extent possible. To allow for data collection within a continuous season, the study may be initiated in the second full season following COD as monitoring program establishment logistics may require.

When Year 1 of monitoring at the Project has been completed, the raw data will be compiled by the investigator and Applicant in a memo-style report, which will include fatality estimates as specified in Section 2.6. The memo shall be provided to ODOE and ODFW following the completion of the Year 1 study period. When Year 2 of monitoring is complete, the data and analyses for Years 1 and 2 (individually and combined) will be compared with other wind energy facilities in the region within a comprehensive report.

If fatality rates for either Year 1 or Year 2 of monitoring at the Project exceed any of the thresholds of concern or the range of fatality rates found at other wind power facilities in the region (as available), the Applicant shall consult with ODOE and ODFW regarding potential mitigation. If mitigation is deemed appropriate, the Applicant shall propose appropriate mitigation for ODOE and ODFW review within 6 months after reporting the fatality rates to ODOE. Furthermore, if the fatality rates from both Year 1 and Year 2 exceed the range of fatality rates found at other wind energy facilities in the region, the Applicant shall perform an additional year of fatality monitoring in Year 5 of operation.

## **2.2 Carcass Persistence Trials**

Carcass persistence is defined as the probability that a carcass will persist in the study area for a given amount of time (e.g., until the next survey), and accounts for carcass removal bias. Carcasses may be removed from the survey plot due to scavenging or other means (e.g., decomposition, farming practices). Carcass persistence is measured by the number of days a carcass remains within the search plot before it is no longer detectable by an investigator within a given search interval. It is assumed that carcass removal occurs at a constant rate and does not depend on the time since death of the organism. The objective of carcass persistence trials is to estimate the length of time bird and bat carcasses remain within the search area and available to be detected by investigators. Estimates of carcass persistence will be used to adjust raw carcass counts for removal bias.

The investigators shall conduct a carcass persistence trial within each season defined in Table 1 during a fatality monitoring year. A minimum of 10 each of large bird, small bird, and bat surrogate trial carcasses shall be placed each season. The investigators will select species with the same coloration and size attributes as species expected to occur at or near the Project, if possible. Trial carcass species may include legally obtained domestic species (e.g., ring-necked pheasants, juvenile Japanese quail), unprotected species (e.g., European starling, house sparrows) and dark mice as a surrogate for bats.

After Year 1 of fatality monitoring, the investigators may adjust the number of persistence trials up or down, during any subsequent year of fatality monitoring, subject to the approval of ODOE. If a reduction in trials is made, the investigators must show that the reduction is justified based on a comparison of the Year 1 removal data with published removal data from nearby wind energy facilities, or the availability of other valid carcass removal data.

Trial carcasses will be marked discreetly for recognition by investigators and other personnel. Carcasses will be placed at randomly generated locations within the search plots. Trial carcasses will be left in place until the end of the carcass persistence trial.

An approximate schedule for assessing removal status is once daily for the first 4 days, and on days 7, 10, 14, 21, 28, and 35. This check schedule may be extended to include the possibility of longer persistence times after initial placement (e.g., 60 or 90 days) to capture potentially longer large bird persistence times. This check schedule may also be adjusted depending on actual carcass persistence rates, weather conditions, and coordination with the other survey work. The condition of scavenged carcasses will be documented during each assessment, and at the end of the trial all traces of the carcasses will be removed from the site. Scavenger or other activity could result in complete removal of all traces of a carcass in a location or distribution of feathers and carcass parts to several locations. This feather distribution will not constitute complete carcass removal if evidence of the carcass remains within an area similar in size to a search plot and if the evidence would be detectable to an investigator during a normal survey.

### **2.3 Searcher Efficiency Trials**

Searcher efficiency is defined as the probability that investigators will find a carcass that is available to be found within the search plot. Several factors influence searcher efficiency, including investigator experience, vegetation conditions within a search plot, and characteristics of individual carcasses (e.g., size, color). The objective of searcher efficiency trials is to estimate the percentage of bird and bat fatalities that investigators are able to find.

A trained Searcher Efficiency Proctor shall conduct searcher efficiency trials within each of the seasons defined in Table 1 during Year 1 of fatality monitoring. Each trial will involve a minimum of 12 carcasses. Investigators will not be notified of carcass placement or test dates. The Searcher Efficiency Proctor shall vary the number of trials per season to capture seasonal variation in site conditions that may affect the ability to detect fatalities, and the number carcasses per trial so that the investigators will not know the total number of trial carcasses being used in any season or trial period. The number of searcher efficiency trials for any subsequent year of fatality monitoring may be adjusted up or down, subject to the approval of ODOE.

Similar to carcass persistence trials, searcher efficiency trial carcass species may include legally obtained domestic species (e.g., ring-necked pheasants, juvenile Japanese quail), unprotected species (e.g., European starling, house sparrows), and dark mice as a surrogate for bats. The Searcher Efficiency Proctor will mark the trial carcasses to differentiate them from other carcasses that might be found within the search plot and in a manner that does not increase carcass visibility.

On the day of a standardized carcass search but before the beginning of the search, the Searcher Efficiency Proctor will place trial carcasses at randomly generated locations within search plots (one to three trial carcasses per search plot).

The number and location of trial carcasses found during the standardized carcass search will be recorded. The number of efficiency trial carcasses available for detection during each trial will be determined immediately after the trial by the Searcher Efficiency Proctor. Following the standardized carcass search, all traces of searcher efficiency trial carcasses will be removed from the site. If new investigators are brought into the search team, additional searcher efficiency trials will be conducted to ensure that detection rates incorporate investigator differences. The Applicant

shall include a discussion of any changes in investigators and any additional detection trials in the reporting required under Section 6.0 of this Plan.

## **2.4 Fatality Monitoring Search Protocol**

The investigators shall perform fatality monitoring using standardized carcass searches according to the schedule described above (Section 2.1.2). The selected search methods will be consistent with ODOE and ODFW recommendations and current industry standards at the time of the monitoring. Possible search methods include: systematic searches of all or a subset of turbines by human investigators with or without the assistance of trained dogs, and/or searches of all or a subset of turbines using drones. Depending on the search method, investigators may conduct the carcass searches by walking or flying drones within concentric or parallel transects (with transect width determined by the species of concern and search method) within search plots. Search area and speed may be adjusted for habitat types and search methods after evaluation of the first searcher efficiency trial. Investigators shall flag all bird and bat carcasses discovered. Carcasses are defined as a complete carcass or body part, three or more primary flight feathers, five or more tail feathers, or 10 or more feathers of any type concentrated together in an area 3 meters square or smaller. When parts of carcasses and feathers from the same species are found within a search plot, investigators shall make note of the relative positions and assess whether these are from the same fatality.

All carcasses (bird and bat) found during the standardized carcass searches will be photographed, recorded, and labeled with a unique number. Investigators will record the location of the carcass using a global positioning system (GPS)-enabled device. Data collected per carcass found shall include the date, the turbine number, the distance from and bearing from the nearest turbine, the species, age and sex of the carcass when possible, the extent to which the carcass is intact, the estimated time since death, the habitat in which the carcass was found, whether the carcass was collected or left in place, and whether the carcass was found during a standardized carcass search or incidentally. Additional measurements may be required to identify the species of bat carcasses. Investigators shall describe all evidence that might assist in determination of cause of death, such as evidence of electrocution, vehicular strike, wire strike, predation, or disease.

If the necessary collection permits are not acquired, all carcasses will be discreetly marked so as to avoid double counting and will be left in place.

The investigators shall calculate fatality rates using an appropriate statistical method as described in Section 2.6.

## **2.5 Incidental Finds and Injured Birds**

Incidental finds are carcasses that are detected outside the parameters of standardized carcass searches. Investigators may discover carcasses in areas outside of search plots, while completing carcass persistence checks, or while moving through the Project. Additionally, carcasses detected during clearance surveys do not have an associated timeframe for fatality occurrence and therefore are considered incidental finds. For each incidental find, the investigator shall identify, photograph, record data, and collect the carcass (if a permit has been obtained) as would be done for carcasses

detected during standardized carcass searches. If the incidental find is located in a search plot within a reasonable timeframe from when that plot was to be searched (e.g., while placing searcher efficiency carcasses on the same day as the search), the fatality data will be included in the calculation of fatality rates. If the incidental find is found outside a search plot or search time, the data will be reported separately and excluded from statistical analysis.

## 2.6 Fatality Estimation

Estimated annual fatality rates for the Project will be calculated at the end of each monitoring year. Annual fatality rates will be estimated by adjusting raw fatality counts for sources of bias including carcass persistence, searcher efficiency, and the proportion of the fall distribution that was searched for each size class (Huso and Dalthorp 2014).

A correction factor (density weighted proportion; DWP) will be used to adjust for the proportion of the fall distribution that was searched for each size class within each search plot type. Therefore, the DWP will be calculated as the product of the percentage of a 10-meter annulus that is covered by the searched area within the plot and the proportion of the fall distribution of a given size class that overlaps that 10-meter annulus. The product of these values for each 10-meter annulus that overlaps the search plot will be summed to calculate the overall proportion of the fall distribution searched for each size class within the respective search plot type. Calculations will utilize ballistic modeling results presented in Hull and Muir (2010) for small birds and bats, and Hallingstad et al. (2018) for large birds. Other peer-reviewed models that update the state of the science may be utilized if they become available within the duration of the monitoring period.

Annual fatality rates will be estimated for nine categories, provided a sufficient sample size has been reached to allow estimation. The nine categories are:

1. All birds;
2. Small birds;
3. Large birds;
4. All bats;
5. Migratory tree-dwelling bats;
6. Raptors;
7. Raptor species of special concern;
8. Grassland species; and
9. State and federally listed threatened and endangered species and State Sensitive Species listed under Oregon Administrative Rule (OAR) 635-100-0040.

In 2018, the U.S. Geological Survey released a fatality estimator program, GenEst (Dalthorp et al. 2018). GenEst provides the most current state-of-the-science software for fatality estimation by minimizing biases associated with fatality estimation and allowing users to select the most appropriate methods and assumptions for project-specific circumstances. Rigorous testing of the

performance of GenEst compared to other estimators using simulated data has shown GenEst to be the least biased, enabling more precise fatality estimation and reliable comparison of fatality estimates among projects (Simonis et al. 2018). Additionally, GenEst allows for fatality estimates to be split into subcategories, which allows for estimates to be parsed by parameters such as season, year, or turbine type.

The estimation of annual fatality rates will account for:

1. The search interval;
2. The number of carcasses detected during standardized carcass searches within the monitoring period where the cause of death is assumed to be the operation of the Project;
3. Carcass persistence expressed as the probability that a carcass remains in the study area (persists) and is available for detection by the investigators during persistence trials;
4. Searcher efficiency expressed as the probability that a trial carcass is found by investigators during searcher efficiency trials; and
5. The proportion of the fall distribution that was searched at the Project (DWP) for the given size class and search plot type.

## 2.7 Mitigation

The Applicant shall use best available science to resolve uncertainty in the fatality monitoring results, and to determine whether the results indicate that additional mitigation should be considered. ODOE may require additional, targeted monitoring if the data indicate the potential for significant impacts that cannot be addressed by analysis and appropriate mitigation.

Mitigation may be appropriate if fatality rates exceed a “threshold of concern” (Table 2). For the purpose of determining whether a threshold has been exceeded, the Applicant shall determine the mean estimated annual fatality rate for species groups after each year of monitoring, provided three or more detections within any of the species groups listed in Table 2 are available to accurately determine estimates for these groups. Based on current knowledge of the species that are likely to use the habitat in the area of the Project, the thresholds of concern shown in Table 2 will be used in conjunction with the most current regional fatality rates published by the American Wind and Wildlife Institute to evaluate the fatality rates associated with the Project and guide discussions on appropriate mitigation.

**Table 2. Fatality Thresholds of Concern by Species Group**

<b>Species Group</b>	<b>Threshold of Concern<sup>1</sup> (Fatalities per MW)</b>
Raptors <sup>2</sup> (All eagles, hawks, falcons, and owls, including burrowing owls)	0.12
Raptor species of special concern (Swainson’s hawk, ferruginous hawk, golden eagle, bald eagle, burrowing owl)	0.06
Grassland species	0.59

Species Group	Threshold of Concern <sup>1</sup> (Fatalities per MW)
(All native bird species that rely on grassland habitat and are either resident species occurring year-round or species that nest in the area, excluding horned lark, burrowing owl, and northern harrier)	
State sensitive avian species listed under OAR 635-100-0040 (Excluding raptors listed above)	0.20
Bats <sup>3</sup>	2.50
<p>1. EFSC adopted the concept of “thresholds of concern” for raptors, grassland species, and state sensitive avian species in the Final Order on the Application for the Klondike III Wind Project (June 30, 2006) and for bats in the Final Order on the Application for the Biglow Canyon Wind Farm (June 30, 2006). The exceeding of a threshold, by itself, would not be a scientific indicator that operation of the Project would result in range-wide population-level declines of any of the species affected.</p> <p>2. Regionally, the median fatality rate for all raptors in the Northern Rockies avifaunal biome (includes eastern Oregon; 22 studies) was 0.10 birds/MW/year (AWWI 2019). 75 percent of studies in the Northern Rockies reporting raptor estimates reported approximately 0.12 birds/MW/year. EFSC’s typical “threshold of concern” for raptors is 0.09 birds/MW/year.</p> <p>3. Regionally, the U.S. Fish and Wildlife Service Pacific Region (includes Oregon; 35 studies) had a range of 0.0 to 4.2 bat/MW/year, with a median of 0.7 bats/MW/year (AWWI 2018).</p>	

If the data from a given year of monitoring show that a threshold of concern for a species group or for individual state sensitive bird species has been exceeded, the Applicant shall consult with ODOE and ODFW to determine if mitigation is appropriate based on analysis of the data and consideration of any other significant information available at the time. If mitigation is determined to be necessary, the Applicant shall propose mitigation measures designed to benefit the affected species or species group. ODOE may recommend additional, targeted data collection if the need for mitigation is unclear based on the information available at the time. If, following consultation and any such additional data collection, ODOE determines that mitigation is required, the Applicant shall propose mitigation measures designed to benefit the affected species or species group, commensurate with the level of impact.

Acceptable mitigation may include, but is not limited to, contributions to wildlife rehabilitators, conducting or making a contribution to research that will aid in understanding more about the affected species or species group and its conservation needs in the region, improving wildfire response, constructing and maintaining artificial nest structures for raptors, or habitat mitigation. Habitat mitigation may include, but is not limited to, protection of nesting, foraging, or roosting habitat for the affected species or group of native species through a conservation easement or similar agreement. Tracts of land that are intact and functional for wildlife are preferable to degraded habitat areas. Preference should be given to protection of land that would otherwise be subject to development or use that would diminish the wildlife value of the land. In addition, habitat mitigation measures might include enhancement of the protected tract by weed removal and control; increasing the diversity of native grasses and forbs; and planting sagebrush or other shrubs. This may take into consideration whether the mitigation required or provided in other Project plans (e.g., the Habitat Mitigation Plan, Attachment P-3 of Exhibit P) would also benefit the affected species.

Regardless of the results of the fatality monitoring study, the Applicant will consider voluntarily contributing both years of bird and bat fatality monitoring data to the American Wind Wildlife Information Center (AWWIC). AWWIC is the most complete source of data on wildlife mortality at wind energy facilities in the United States. AWWIC is designed to capture key datasets in a format that can be analyzed and compared to improve and refine the collective knowledge regarding the risks for wildlife involved with wind energy development and operation, and how to reduce those risks, and can help guide decisions regarding the design, development, and operation of wind farms. The Applicant's contribution of fatality monitoring data from the Columbia Plateau Ecoregion to this critical dataset would be a valuable contribution to ongoing regional and national analyses of bird and bat fatalities at wind energy facilities.

### 3.0 Raptor Nesting Surveys

The objectives of raptor nest surveys are: (1) to count raptor nests on the ground or aboveground in the vicinity of the Project (as defined below); and (2) to determine whether there are noticeable changes in nesting activity or nesting success in the local populations of the following raptor species: Swainson's hawk (*Buteo swainsoni*), golden eagle (*Aquila chrysaetos*), and ferruginous hawk (*Buteo regalis*).

The Applicant shall conduct short-term and long-term monitoring. The investigators will use aerial and ground surveys to evaluate nest success by gathering data on active nests, on nests with young, and on young fledged. The Applicant shall employ qualified personnel to perform raptor nest surveys.

#### 3.1 Short-Term Monitoring

Short-term monitoring will be done in two monitoring seasons. The first monitoring season will be in the first full raptor nesting season after COD. The second monitoring season will be in the third full year after COD. The Applicant shall provide a summary of the first-year results in the monitoring report described in Section 6.0. After the second monitoring season, the investigators will analyze 2 years of data compared to the baseline data.

During each monitoring season, the investigators will conduct one aerial and one ground survey for raptor nests in late May or early June and additional surveys as described in this section. The initial aerial survey area shall include a 2-mile buffer around the final Project impact area within the portion of the Site Boundary associated with wind turbines. The survey area along the transmission corridor shall include the final Project impact area along this corridor, and a 0.5-mile buffer around this area. The ground surveys will be conducted within up to a maximum of 0.5 miles of final Project impact areas to determine nesting success; nests outside the leased Site Boundary will be checked from an appropriate distance where feasible, depending on permission from the landowner for access.

All nests discovered during pre-construction surveys and any nests discovered during post-construction surveys, whether active or inactive, will be given identification numbers. GPS



coordinates will be recorded for each nest. Locations of inactive nests will be recorded because they could become occupied during future years.

Determining nest occupancy may require one or two visits to each nest. For occupied nests, the Applicant shall determine nesting success by a minimum of one ground visit to determine species, number of young and young fledged. “Nesting success” means that the young have successfully fledged (reach advanced stage of development, the young are capable of independent movements). Nests that cannot be monitored due to the landowner denying aerial or ground access will be checked from a distance where feasible.

### 3.2 Long-Term Monitoring

In addition to the 2 years of post-construction short-term raptor nest surveys described in Section 3.1, the investigators shall conduct long-term raptor nest surveys at 5-year intervals for the life of the Project.<sup>2-3</sup> Investigators will conduct a long-term raptor nest survey in the raptor nesting season every 5 years after the second short-term monitoring season in years divisible by 5. This may result in a greater than 5-year period between the second short-term monitoring season and the first long-term monitoring season (e.g., if the second short-term monitoring season is 2027, the first long-term monitoring season would be 2035 rather than 2032). In conducting long-term surveys, the investigators will follow the same survey protocols as described in Section 3.1, excluding surveys associated with the transmission lines, and limiting surveys to a ground-based effort (i.e., no aerial survey), unless the investigators propose alternative protocols that are approved by ODOE. In developing an alternative protocol, the investigators will consult with ODFW and will take into consideration other raptor nest monitoring conducted in adjacent or overlapping areas. The investigators will analyze the data—as a way of determining trends in the number of raptor breeding attempts the Project supports and the success of those attempts—and will submit a report after each year of long-term raptor nest surveys.

## 4.0 Wildlife Reporting and Handling System

The WRHS is a program for maintenance personnel to report wildlife (including bird and bat) casualties found during operation of the Project. Maintenance personnel will be trained in the methods needed to carry out this program. This monitoring program includes the initial response, handling, and reporting of bird and bat carcasses discovered incidental to maintenance operations (“incidental finds”).

All carcasses discovered by maintenance personnel will be photographed and recorded. If maintenance personnel find a carcass at the Project, they will notify qualified personnel who will identify the carcass. If state and or federal collection permits are acquired, the qualified personnel will adhere to the terms of these permits and either leave the carcass in place after documentation is complete or collect the carcass according to the terms of the appropriate permit. If the qualified

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<sup>2-3</sup>As used in this plan, “life of the Project” means continuously until the Project is restored and the site certificate is terminated in accordance with OAR 345-027-0110.

personnel determines that a carcass is a state or federally threatened or endangered or otherwise protected species, agency reporting procedures and timelines specified in Section 6.0 shall be followed.

Prior to construction, the Applicant shall develop and implement a protocol for handling injured birds. Any injured native birds found at the Project may be carefully captured by trained qualified personnel and transported to a qualified rehabilitation specialist ~~approved by ODOE~~.

Alternatively, the Applicant may contact a qualified rehabilitation specialist ~~approved by ODOE~~ to respond to injured wildlife. The Applicant shall pay costs, if any, charged for time and expenses related to care and rehabilitation of injured native birds found on the site, unless the cause of injury is clearly demonstrated to be unrelated to Project operations.

## 5.0 Washington Ground Squirrel Monitoring

The Applicant shall conduct long-term post-construction surveys to collect data on WAGS activity documented during pre-construction surveys in the WAGS Monitoring Area, defined as suitable habitat within 1,000 feet of final Project permanent impact areas. Qualified personnel will monitor the locations within the WAGS Monitoring Area where WAGS colonies were delineated in pre-construction surveys. The survey area will include the colonies (i.e., groups of active burrows) and a buffer of 785 feet in suitable habitat. The surveyors will walk linear transects spaced 165 to 230 feet (50 to 70 meters) apart two times between February 15 and May 31. Surveys of each location will be spaced at least 2 weeks apart. Surveyors will record locations of activity centers and colony boundaries using a sub-meter accuracy GPS unit; approximate number of burrows, time, and weather conditions under which the colony was discovered; and representative photographs of burrows and scat. Surveyors will describe habitat characteristics at each location and note any noticeable land use or habitat changes that may have occurred since pre-construction surveys. The investigators shall report any new WAGS detections but the boundaries of Category 1 habitat will not be revised from pre-construction boundaries.

The Applicant shall conduct surveys during the year following COD and every 5 years thereafter for the life of the Project. After each survey, the Applicant shall report the results to ODFW and to ODOE and shall include maps of the areas surveyed and detection locations. WAGS surveys will not be conducted if there are barriers to WAGS dispersal (i.e., active agriculture fields, highways, perennial waterbodies).

Any new colonies that are located during other monitoring activities within 1,000 feet of the final Project impact areas, such as raptor nest monitoring surveys, shall be documented and the extent of those colonies shall be delineated as well. These newly discovered colonies shall also be included in any future WAGS monitoring and reporting activities.

## 6.0 Data Reporting

The Applicant will report wildlife monitoring data and analysis to ODOE for each calendar year in which wildlife monitoring occurs. Monitoring data include fatality monitoring program data and analyses, raptor nest survey data, WAGS monitoring data, WAGS incidental observations, and WRHS data, including information on qualified facility selected for rehabilitation. The Applicant may include the reporting of wildlife monitoring data and analysis in the annual report required under OAR 345-026-0080 or submit this information as a separate document at the same time the annual report is submitted.

In addition, the Applicant shall provide to ODOE data or records generated in carrying out this Plan upon request by ODOE.

The Applicant shall notify the U.S. Fish and Wildlife Service and ODFW if any federal or state endangered or threatened species are killed or injured at the Project within 24 hours of species identification.

## 7.0 Amendment of the Plan

This Plan may be amended from time to time by agreement of the Applicant and EFSC. Such amendments may be made without an amendment of the Site Certificate. The Council authorizes ODOE to agree to amendments to this plan and to mitigation actions that may be required under this plan. ODOE shall notify EFSC of all amendments and mitigation actions, and the Council retains the authority to approve, reject or modify any amendment of this plan or mitigation action agreed to by ODOE.

## 8.0 Literature Cited

- AWWI (American Wind Wildlife Institute). 2019. A Summary of Bird Fatality Data in a Nationwide Database. February 25, 2019. Available online at: [https://awwi.org/wp-content/uploads/2019/02/AWWI-Bird-Technical-Report-02\\_25\\_19.pdf](https://awwi.org/wp-content/uploads/2019/02/AWWI-Bird-Technical-Report-02_25_19.pdf)
- AWWI. 2018. A Summary of Bat Fatality Data in a Nationwide Database. July 25, 2018. Available online at: [https://awwi.org/wp-content/uploads/2019/02/AWWI-Bat-Technical-Report\\_07\\_25\\_18\\_FINAL.pdf](https://awwi.org/wp-content/uploads/2019/02/AWWI-Bat-Technical-Report_07_25_18_FINAL.pdf)
- Dalthorp, D.H., J. Simonis, L. Madsen, M.M. Huso, P. Rabie, J.M. Mintz, R. Wolpert, J. Studyvin, and F. Korner-Nievergelt. 2018. Generalized Mortality Estimator (GenEst) - R code & GUI: U.S. Geological Survey Software Release. Available online at: <https://doi.org/10.5066/P909BATL>
- Hallingstad, E. C., P. Rabie, A. Telander, J. Roppe, and L. Nagy. 2018. Developing an efficient protocol for monitoring eagle fatalities at wind energy facilities. *PLoS ONE* 13(12); e0208700. <http://doi.org/10.1371/journal.pone.0208700>
- Hull, C. L., and S. Muir. 2010. Search areas for monitoring bird and bat carcasses at wind farms using
- Nolin Hills Wind Power Project

a Monte-Carlo model. *Australian Journal of Environmental Management* 17(2):77-87.  
<https://doi.org/10.1080/14486563.2010.9725253>

- Huso, M., and D. Dalthorp. 2014. Accounting for Unsearched Areas in Estimating Wind Turbine-Caused Fatalities. *The Journal of Wildlife Management* 78(2):374–358. DOI: 10.1002/jwmg.663
- Jain, A., P. Kerlinger, R. Curry, and L. Slobodnik. 2007. Annual Report for the Maple Ridge Wind Power Project Postconstruction Bird and Bat Fatality Study – 2006. Prepared for PPM Energy and Horizon Energy and Technical Advisory Committee (TAC) for the Maple Ridge Project Study.
- Simonis, J., D. Dalthorp, M. Huso, J. Mintz, L. Madsen, P. Rabie, and J. Studyvin. 2018. GenEst user guide—Software for a generalized estimator of mortality: U.S. Geological Survey Techniques and Methods, book 7, chap. C19, 72 p., <https://doi.org/10.3133/tm7C19>

**Attachment P-4: Wildlife Monitoring and Adaptive Management Plan (Construction)**

The following design and construction measures were provided by the applicant in ASC Exhibit P. These measures are intended to minimize impacts to wildlife species from facility construction and operation. This plan is intended to be **adaptive** during all phases of design, construction and operation and shall allow for consideration of reasonable alternatives, based on seasonal conditions, project timing and review and consultation with the Department and ODFW.

### **1.0 Final Facility Design Requirements**

The certificate holder will avoid and minimized impacts to wildlife, in general, and state sensitive species including raptors and other birds through the following measures:

- Minimization of bird powerline collision and electrocution through implementation of APLIC recommendations for construction of overhead collector lines and transmission intraconnection lines, including installation of flight diverters on the BPA transmission line across the Umatilla River as feasible (APLIC 2006, 2012);
- Minimization of bird and bat collision with facility infrastructure by implementing down-shield lighting (e.g., for permanent lighting at the substation and O&M Building) that will be sited, limited in intensity, and hooded in a manner that prevents the lighting from projecting onto any adjacent properties, roadways, and waterways; lighting will be motion activated where practical (i.e., excluding security lighting);
- Minimization of nesting disturbance and collision risk to state sensitive raptors through implementation of a voluntary 0.25-mile setback of turbines from active ferruginous hawk and Swainson's hawk nests;
- Minimization of collision risk and nesting disturbance to state sensitive raptors through implementation of the ODFW-requested 656-foot (200-meter) turbine setback along Alkali Canyon as a voluntary, conservative measure (Exhibit P, Wildlife Management Plan, Section 4.2); this will also minimize impacts to foraging habitat in Alkali Canyon;
- Minimization of collision risk to raptors by siting turbines away from areas of relatively higher raptor use as identified during avian and eagle use surveys at the facility a 459 -foot(140-meter) turbine setback was applied to contour lines containing topographical high points and distinct canyon edges associated with observed higher raptor use based on Murphy et al. (2018) who found significantly higher juvenile golden eagles use within 328 feet (100 meters) of a mesa's rim edge at a wind project in Texas, scaled to account for the larger turbines proposed at the Project; this exercise resulted in the voluntary, conservative elimination or movement of 12 turbines to avoid these potential areas of higher turbine collision risk to raptors;
- Minimization of raptor nesting disturbance through elimination of a transportation route on Mud Springs Road located close to active raptor nests;
- Minimization of raptor nesting disturbance through avoidance of trees with active state sensitive raptor species nests; and
- Minimization of wildlife collision with guy wires by installing unguyed permanent met tower

Additionally, pre-construction surveys will be performed to identify changes to habitat categorization and locations of state sensitive species to most effectively implement avoidance, minimization, and mitigation measures. Pre-construction surveys will address survey needs based on the final facility Draft Proposed Order on ASC for the Nolin Hills Power Project  
Attachment P-4

layout, time elapsed since prior survey, and habitat conditions at that time. In the event that WAGS or rare plants are encountered, the applicant will make any final adjustments necessary to continue to avoid Category 1 habitat during final design. Therefore, development within the micro-siting corridor would meet the Fish and Wildlife Habitat standard and the Threatened and Endangered Species standard.

To ensure the above are followed, the certificate holder shall provide the following to the Department:

1. Documentation to demonstrate how final facility design will comply with APLIC recommendations, including the installation of flight diverters.
2. Documentation demonstrating the implementation of the minimization steps described above intended to minimize and prevent collision risk to raptors by components of the facility. Documentation shall confirm the installation of down-shield lighting (e.g., for permanent lighting at the substation and O&M Building) to be sited, limited in intensity, and hooded in a manner that prevents the lighting from projecting onto any adjacent properties, roadways, and waterways; lighting will be motion activated where practical (i.e., excluding security lighting); and the installation of un-guyed wires on the permanent met towers.
3. Detailed maps, based on final facility layout and final preconstruction survey results, that show the locations of all identified raptor nests, required avoidance buffers or setbacks, and location of trees with active nesting sites for state sensitive species.
4. Identification of local roads and haul routes to be used by workers, delivery trucks and contractors. If, during preconstruction surveys, active raptor nests are identified along Mud Springs Road, certificate holder shall restrict use of Mud Springs Road during the sensitive nesting seasons via contract or other binding agreement.

## 2.0 Construction Requirements

Measures for avoiding and minimizing impacts to fish and wildlife habitat and to state sensitive and other wildlife species will be implemented during construction as follows:

- Employ a construction monitor(s) familiar with sensitive biological resources (e.g., active raptor nests, WAGS colonies, rare plants, and wetlands) to ensure appropriate measures are implemented to avoid disturbance to these resources. The construction monitors will be responsible for placing flagging/temporary fencing around areas where no construction activities should occur (e.g., Category 1 habitat).
- Limit ground-disturbing activities within the buffer distances of active raptor nests as identified in the spring prior to construction, as feasible and as recommended by ODFW in their comments on the Nolin Hills Wind Project Notice of Intent (included in Exhibit P, Attachment P-1) and shown in Table 1.

**Table 1. Raptor Nest Disturbance Buffers**

Species	Spatial Buffer	Seasonal Restriction
ferruginous hawk	0.25 mile	March 15 – August 15
golden eagle	0.5 mile	February 1 – August 15
red-tailed hawk	300-500 feet	March 1 – August 15
prairie falcon	0.25 mile	March 15 – July 1



**Table 1. Raptor Nest Disturbance Buffers**

<b>Species</b>	<b>Spatial Buffer</b>	<b>Seasonal Restriction</b>
Swainson's hawk	0.25 mile	April 1 – August 15
burrowing owl	0.25 mile	April 1 – August 15

- The certificate holder will develop and implement a facility-specific worker environmental training program throughout the construction of the facility. All employees and contractors working in the field will be required to attend the environmental training session prior to working on-site. This training will include information regarding the sensitive biological resources including raptor nests and WAGS colonies, restrictions, protection measures, individual responsibilities associated with the facility, and the consequences of non-compliance. Written material will be provided to employees at orientation and participants will sign an attendance sheet documenting their participation.
- The certificate holder will establish driving speed limits on facility access roads during construction to minimize the potential for vehicle collisions with wildlife or livestock, which could attract foraging eagles and other wildlife, and to reduce the potential for wildlife- vehicle collisions.
- The certificate holder will minimize impacts to habitat and wildlife by initiating revegetation efforts in areas of temporary ground disturbance as soon as practicable and within the appropriate season to facilitate germination, as described in the Draft Revegetation Plan (Exhibit P, Attachment P- 4). The Draft Revegetation Plan promotes native plant establishment, or non-invasive and non-persistent non-native species when native plants are not available, and contains measures to avoid and minimize the spread of noxious weeds due to facility disturbance. The Draft Revegetation Plan will be implemented during and following construction and will continue through operation as well.

To ensure the above are followed, the certificate holder shall provide the following to the Department:

- A final work schedule with accompanying maps to demonstrate how work will be performed in a manner consistent with raptor nest avoidance buffers and allowed work-windows.
- Copies of the training materials for the Worker Environmental Awareness Training that includes information regarding the sensitive biological resources including raptor nests and WAGS colonies, restrictions, protection measures, individual responsibilities associated with the facility, and the consequences of non-compliance. Documentation submitted to the Department will include an attendance sheet documenting worker participation in the training.
- Maps showing final layout detailing access roads and speed limits, along with photographic evidence that speed limits are posted along these routes. Speed limit signs to be posted prior to construction activities.

**Attachment S-1: Draft Cultural Resources Monitoring and Inadvertent Discovery Plan**

# Construction Monitoring and Inadvertent Discovery Plan - **DRAFT**

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*Draft for Consultation Purposes Only*

**Nolin Hills Wind Power Project  
Umatilla County, Oregon  
SHPO Case No. 17-1679**

**Prepared for  
Nolin Hills Wind, LLC**

**Prepared by**



**Tetra Tech, Inc.  
Portland, Oregon**

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**April 2022**

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Appendix B. Cultural Resources Monitoring Forms

Appendix C. Archaeological Resource Field Form Templates

Appendix D. Project Design and Construction Plans (To be developed based on final design)

## **1.0 Introduction**

Nolin Hills Wind, LLC (Nolin Hills) has proposed construction of the Nolin Hills Wind Power Project (Project), which is located entirely on private lands near the town of Echo, in Umatilla County, Oregon (Figure 1). The Project is a 350-megawatt wind energy facility comprised of up to 116 wind turbine generators, depending on the turbine model selected and the final layout selected during the micrositing process (Figure 2). If larger turbines are selected, it is likely that fewer turbines will be installed. Power generated by the Project will be transmitted by 34.5-kilovolt underground and overhead electrical collector lines. Up to two on-site collector substations are planned to increase the voltage from the 34.5-kilovolt collection system to 230 kilovolts for transmission through the proposed overhead transmission line that will connect the Project either to Umatilla Electric Cooperative's Cottonwood substation in Hermiston, or to Bonneville Power Administration's planned Stanfield substation north of the town of Nolin. Other Project components include site access roads, an operations and maintenance building, meteorological data collection towers, and temporary construction yards.

This document provides a Construction Monitoring and Inadvertent Discovery Plan (Plan) for the Project. The Plan provides protocols for archaeological monitoring during construction and protocols that should be followed in the event of an inadvertent discovery of archaeological resources or human remains and associated artifacts. The Plan is based on background research and cultural resources surveys completed through April 2022 for the Project.

Exact dimensions of disturbance are as yet undetermined. However, the cultural resource surveys conducted for the Project were designed to incorporate corridors larger than necessary for Project construction to allow for avoidance of identified resources by the Project.

### **1.1 Regulatory Context**

There is currently no federal regulatory nexus for the Project. As such, the Project's regulatory compliance is limited to Oregon Department of Energy (ODOE) and Oregon Energy Facility Siting Council (EFSC) oversight. Since the Project is located on private land, Oregon State Historic Preservation Office (SHPO) guidelines for recording archaeological resources apply. While federal regulations dictate that archaeological resources must be 50 years or older, under the SHPO guidelines resources must be at least 75 years old to be considered a cultural resource.

#### **1.1.1 General Standards for Siting Facilities**

Subsection (1) of the Historic, Cultural, and Archaeological Resources Standard in Oregon Administrative Rules (OAR) 345-022-0090(1) provides that applicants for site certificates must demonstrate that the construction and operation of an energy facility, taking into account mitigation, are not likely to result in significant adverse impacts to:

- 1) Historic, cultural or archaeological resources that have been listed on, or would likely be listed on the National Register of Historic Places (NRHP);
- 2) For a facility on private land, archaeological objects, as defined in Oregon Revised Statutes (ORS) 358.905(1)(a), or archaeological sites, as defined in ORS 358.905(1)(c); and
- 3) For a facility on public land, archaeological sites, as defined in ORS 358.905(1)(c).<sup>1</sup>

### **1.1.2      *Applicable Oregon Revised Statutes***

#### **1.1.2.1      *ORS 97.745 Indian Graves and Protected Objects***

ORS 97.745 provides protection for Indian graves and protected objects. It describes acts prohibited in relation to the above resources, the applicability of the statute, and the notification procedures for when suspected Indian human remains are discovered. In summary, the statute states:

- 1) No person shall willfully remove, mutilate, deface, injure or destroy any cairn, burial, human remains, funerary object, sacred object or object of cultural patrimony of any native Indian. Persons disturbing native Indian cairns or burials through inadvertence, including by construction, mining, logging or agricultural activity, shall at their own expense reinter the human remains or funerary object under the supervision of the appropriate Indian tribe.
- 2) Except as authorized by the appropriate Indian tribe, no person shall: Possess any native Indian artifacts, human remains or funerary object having been taken from a native Indian cairn or burial; Publicly display or exhibit any native Indian human remains, funerary object, sacred object or object of cultural patrimony; or Sell any native Indian artifacts, human remains or funerary object having been taken from a native Indian cairn or burial or sell any sacred object or object of cultural patrimony.
- 3) Any discovered human remains suspected to be native Indian shall be reported to the state police, the SHPO, the appropriate Indian tribe, and the Oregon Commission on Indian Services.

#### **1.1.2.2      *ORS 358.920: Archaeological Objects and Sites***

ORS 358.920 identifies prohibited acts on public and private lands in Oregon, relative to archaeological resources. It states that disturbances to archaeological sites or objects on public or private lands must be completed under a permit issued under ORS 390.235, and provides direction for disposition of those archaeological materials and any human remains and associated funerary objects. The section is not applicable to the disturbance of Native American cairns, which is covered by the provisions of ORS 97.740 to 97.760 (see ORS 97.745 above). In summary, the statute states:

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<sup>1</sup> Note, the Project does not involve public lands.



- 1) A person may not excavate, injure, destroy or alter an archaeological site or object or remove an archaeological object located on public or private lands in Oregon unless that activity is authorized by a permit issued under ORS 390.235.
- 2) A person may not excavate an archaeological site on privately owned property unless that person has the property owner's written permission.
- 3) If human remains are encountered during excavations of an archaeological site on privately owned property, the person shall stop all excavations and report the find to the landowner, the state police, the SHPO and the Oregon Commission on Indian Services. All funerary objects relating to the burial shall be delivered as required by ORS 358.940.
- 4) Violation of the provisions of this section is a Class B misdemeanor.

## **2.0 Results of Pre-Construction Literature Review and Cultural Resources Surveys for the Project**

Nolin Hills commissioned a desktop literature review of the entire Project Site Boundary, including a 1-mile buffer on two transmission line corridors, as well as a Traditional Use Study (TUS; Engum 2018) and pedestrian surveys of the microsite corridors (King et al. 2020; King and Berger 2019 and 2020). Pedestrian surveys to date have covered microsite corridors for the Project components and most of the transmission line alternatives (Figure 3). The surveyed areas included a 500-foot buffer on the centerline of turbine strings (1,000-foot-wide corridor) and a 150-foot buffer on all other linear components (300-foot-wide corridor) within the main area of the wind facility. Widths of the survey corridors along the transmission line alternatives varied. No buffer was placed on the substations. Except for portions where access was not yet available at the time of survey or where health and safety concerns were present, all portions of the microsite corridors have been subjected to pedestrian survey. Shovel probing has not occurred in areas of poor ground surface visibility or in areas with high probability for buried archaeological resources; nor has resource boundary probing occurred. If areas of poor ground surface visibility or areas with high probability for buried archaeological resources, as identified in King, et al. (2020), fall within temporary or permanent impact areas for the final design of the Project, they will be shovel probed prior to construction. Resources within 50 meters of the disturbance footprint of final design will also be shovel probed, consistent with the Subsurface Probing Plan for the Project (King 2021). The Plan will be updated to reflect the results of additional transmission line surveys and any necessary shovel probing.

A total of 43 sites (42 archaeological sites, 1 historic built environment/aboveground site) and 20 isolated finds (IFs) have been identified in the microsite corridors (see Appendix A). Of the archaeological sites, 16 are pre-contact, 13 are historic-era, and 13 are undetermined. The 18 IFs include nine pre-contact IFs and 11 historic-era IFs. Cairns and various types of stacked rock features (pre-contact and undetermined) dominate the inventory. While some of the cairns have been attributed to Native Americans, it is thought that the undetermined cairns may be related to

historic Basque sheep herders. The Confederated Tribes of the Umatilla Indian Reservation (CTUIR) has noted that Basque cairns were commonly elaborations of existing Native American cairns. The pre-contact era resources reflect the Native American use of the Project Area, which appears primarily related to hunting and possibly sacred uses. This is supported by the findings of the TUS (Engum 2018). The historic-era resources reflect the agricultural and ranching history of the area, as well early transportation networks.

Several significant sites were identified during the TUS, some of which were also identified by the pedestrian survey (Engum 2018, King et al. 2020). Resources of concern, as identified by the TUS, include rock cairns, the Mud Springs locale, a network of trails and travel corridors, and First Foods procurement areas. Informants also described the Project Area as possibly containing unmarked burials. Additionally, the Project is in close proximity to several place names, including Pišxuwiyípa (the native name for Nolin), the Umatilla River, Butter Creek, and the Sand Hollow Battlefield. The battlefield is identified as a Historic Property of Religious and/or Cultural Significance to Indian Tribes. As such, the Project and surrounding area are considered by CTUIR to be a significant cultural landscape. The Project Area is described as “a location where people traveled to for part of their subsistence, cultural endurance, and spiritual renewal” (Engum 2018).

With three exceptions (the route of the Oregon National Historic Trail, 35UM 00560, and 35UM 00571). The Project has been designed to avoid direct impacts on the archaeological resources identified within the micro-siting corridors by the Project-specific cultural resource surveys. Avoidance has been achieved either through spanning overhead lines over the resource or through moving Project components. Avoidance of these resources will be ensured through construction monitoring.

### **3.0 Cultural Resources Monitoring Team**

This is a brief description of cultural resource monitoring personnel and their responsibilities. See Section 4.4 for contact information for key Project personnel.

#### **3.1 Project Archaeologist**

**Qualifications:** The Project Archaeologist must meet, at a minimum, the Secretary of the Interior’s Professional Qualifications Standards for archaeology, history, or architectural history, as published in Title 36 Code of Federal Regulations part 61, and in addition must have:

1. At least 4 years of archaeological resource mitigation and field experience in the Columbia Plateau; and
2. At least 3 years of experience in a decision-making capacity regarding cultural resources on construction projects, and the appropriate training and experience to knowledgeably make recommendations regarding the significance of cultural resources.

**Responsibilities:** The qualified Project Archaeologist, or as necessary, an alternate Project Archaeologist is the primary point of contact for the Construction Staff regarding cultural resources in the Project Area. The Project Archaeologist will be responsible for cultural resource-related notifications and coordinate directly with the Cultural Resource Monitors (CRMs), Umatilla County, CTUIR Tribal Historic Preservation Officer (THPO), and Nolin Hills' Project Manager and on-site Engineer. The Project Archaeologist is responsible for obtaining a Project excavation permit from SHPO prior to construction, and in compliance with ORS 390.235, for avoiding unnecessary construction delays and also for facilitating efficient testing, probing, or data recovery of inadvertent discoveries, if necessary (see Section 4.3). The Project Archaeologist provides direct supervision of the CRM(s) and is responsible for the planning, execution, completion, and quality of the cultural resources monitoring tasks and reporting undertaken during Project construction. In addition, the Project Archaeologist is responsible for completing testing or data recovery efforts (as necessary), preparing artifacts for curation (as necessary), transferring curated cultural materials to the approved curation facility or appropriate land owner (if requested), and preparing final reports. The Project Archaeologist will also prepare and finalize the final monitoring report at the completion of Project construction, including transferring data from field resource forms to SHPO's online archaeological resource database. All reports will be submitted to Nolin Hills, CTUIR THPO, SHPO, and ODOE. If the Project Archaeologist, in consultation with Nolin Hills and CTUIR THPO, determines that full-time monitoring is not necessary in certain construction locations, and that monitoring will be conducted on an "as needed" intermittent schedule, a detailed letter will be provided to ODOE, SHPO, and CTUIR THPO explaining the decision to reduce the monitoring.

### **3.2 Cultural Resource Monitor**

The number of CRMs necessary will be dependent upon the number of earth-moving machinery active each day in areas where monitoring is required (see Section 4).

**Qualifications:** A CRM must have a Bachelor's degree in anthropology, archaeology, historic archaeology, or a related field, and at least 1 year of archaeological construction monitoring experience in the Columbia Plateau. Preference will be given to qualified archaeological monitors that are familiar with the types of historic and prehistoric resources in the area.

**Responsibilities:** The CRM will 1) conduct on-site daily archaeological monitoring of construction ground disturbance, as specified in this plan; 2) provide daily documentation of construction activity and any findings to the Project Archaeologist; 3) prepare a monitoring log (Appendix B) and submit it daily to the Project Archaeologist via email; and 4) be responsible for implementing the requirements outlined in the Project's construction environmental training program (see Section 4.2). If a CRM, or other construction personnel, discover archaeological resources during construction, the CRM will have authority to halt construction in the vicinity of the find and will notify the Project Archaeologist. The CRM is also responsible for preparing the appropriate archaeological resource field forms (see Appendix C) for any identified IFs or sites found during construction.

### 3.3 Tribal Monitor

The number of Tribal Monitors necessary will be dependent upon the number of earth-moving machinery active each day in areas where monitoring is required (see Section 4).

**Qualifications:** A Tribal Monitor will have traditional Native American cultural and environmental experience within the Project region. The monitor will also have training, knowledge, and understanding of archaeological practices, including the phases of archaeological investigation. Based on the Project's history and the tribal interest shown in the Project, the Tribal Monitor is anticipated to be affiliated with CTUIR.

**Responsibilities:** A qualified Tribal Monitor will be on-site to conduct monitoring of construction ground disturbing activities, as specified in this plan, or to assist with any data recovery or mitigation, as applicable. The Tribal Monitor will work alongside and coordinate with the CRM and/or Project Archaeologist regarding an inadvertent discovery. Daily responsibilities and authorities of the Tribal Monitor are the same as the CRM (see Section 3.2). Additional responsibilities and duties of the Tribal Monitor may be dictated by CTUIR THPO, if desired.

## 4.0 Cultural Resource Monitoring Plan

Cultural resource monitoring for the Project will be conducted within 200 feet (61 meters) of known NRHP-eligible, listed, and unevaluated resources, wherein ODOE has determined that direct impacts would be considered significant impacts under the EFSC siting standards. In addition, monitoring will occur within areas of high probability for buried archaeological sites and areas where poor ground surface visibility was experienced, as identified in the cultural resource reports for the Project (King et al. 2020; King and Berger 2019 and 2020). See Appendix A for resource locations and areas of high probability or poor ground surface visibility. See Appendix D for Project design and construction plans. To comply with Umatilla County setback requirements, no ground disturbance will be allowed within 164 feet (50 meters) of archaeological sites that are associated with tribes. Monitoring will occur only while soils above the C horizon are being disturbed. (The C horizon is defined as the stratigraphic layer immediately above the bedrock, consisting chiefly of weathered, partially decomposed rock. Archaeological resources are not considered likely to occur within or below this depth.) Monitors will not be required to be present once excavation activities extend into the C horizon or in areas where exposed bedrock is at the ground surface. As of the date of this publication, resources that will be monitored are listed in Table 1 below. This requirement may be altered based on the results of the additional pre-construction surveys and any future shovel probing of areas of high probability and poor ground surface visibility. For the purposes of the Plan, archaeological construction monitoring is defined as on-the-ground, close-up observation by a CRM or Tribal Monitor at a safe distance from construction equipment.

**Table 1. Known Resources Requiring Construction Buffer and Monitoring**

NH-BB-01	35UM 00550 (NH-DM-21)
NH-BB-03	35UM 00560 (NH-MC-12)
35UM 00536 (NH-DM-01)	35UM 00571 (NH2-MC-01)
35UM 00543 (NH-DM-14)	

Prior to construction, the Project Archaeologist or a designated representative will place fencing with flagging around a 200-foot (61-meter) buffer around all NRHP-eligible, listed, and unevaluated cultural resources within the siting corridor of the final design, subject to EFSC's siting standards (see Section 1.1.1) and Umatilla County setback restrictions for tribal resources. Such avoidance measures will also be placed around resources subject to the EFSC siting standards that are within 200 feet (61 meters) of the final design siting corridor (i.e. outside the corridor) and NRHP-eligible, listed, or unevaluated. Monitoring of ground disturbance above the C horizon will be required within these areas. No ground disturbance will be allowed to occur within 164 feet (50 meters) of the resource boundary within the flagged area. The areas will be inspected and closely monitored by the CRM or Tribal Monitor on a daily basis when construction activities are occurring in the vicinity of the resource. Exceptions include NH-MC-12 where an existing road is already within 164 feet (50 meters) and any road modifications will be conducted on the opposite side of the road.

The CRM or Tribal Monitor will be present during mechanical scraping, grading, excavating, and other ground disturbing activities within soils above the C horizon in the above-referenced areas. This statement notwithstanding, Nolin Hills, the Project Archaeologist, and the CTUIR THPO may agree in writing that any given area can be deemed exempt from otherwise established monitoring requirements, if appropriate. Such agreements will be provided to ODOE. Cultural resource monitoring will not be required once all surface and subsurface ground disturbance in a construction area is completed, when disturbance extends beneath the C horizon, or in areas where bedrock is present at the ground surface. Monitoring is not required for routine travel on existing roads or for blasting; however, additional blading or excavating at a depth beyond the previously disturbed area and above the C horizon will be monitored for cultural resources, even within previously-graded or bladed areas. The CRM and Tribal Monitor will maintain daily logs of Project-related construction monitoring activities. Blank monitoring log templates are in Appendix B.

The daily monitoring log will reflect the monitoring activities observed by each monitor and will include:

- Date, time of work, and amount of time spent at a construction monitoring location;
- Area of work (defined by Project features; e.g., turbine string) and soils description for that area;
- Type of work, on-site equipment, and name(s) of leader(s) of construction crew being monitored;

- Construction activities being performed (e.g., grading, excavation, trenching, etc.) and activities where cultural resource problems, noncompliance activities, or other concerns occur;
- Identification of an inadvertent discovery (if any), steps taken to protect the discovery, and documentation of necessary notifications (name, agency, time, and notes; see Section 5 for inadvertent discovery procedures); and
- Color digital photographs to document construction and monitoring activities, as well as soil profiles, to be submitted with a photo log as attachments to the daily log.

The CRM and Tribal Monitor will prepare and provide their monitoring logs daily to the Project Archaeologist. The Project Archaeologist will prepare and provide monthly summary reports on the progress or status of cultural resource-related activities during active construction. This monthly reporting is separate from the immediate notifications of inadvertent discoveries (see Section 4.3). The monthly reports will summarize construction progress, monitoring (monitor names, dates worked, finds, issues, etc.), and status of cultural resource-related issues. These reports will also include the appropriate archaeological isolate or site forms for finds identified under the monitoring program. The Project Archaeologist will submit the monthly summary reports to Nolin Hills, and if desired, SHPO, CTUIR THPO, and ODOE. (Resource forms require submittal to SHPO.)

If excavation (e.g., testing, probing, or data recovery) of an inadvertent discovery is necessary, an archaeological excavation permit will be obtained from SHPO. By suggestion of SHPO, and to avoid unnecessary construction delays, the Project Archaeologist shall obtain a Project permit for such activities *prior to construction*.

The Project Archaeologist will direct the preparation and distribution of the final Cultural Resource Monitoring Report or any other outstanding report actions (such as testing and/or data recovery conducted during the construction phase of the Project). The report will be completed no later than 60 days after the completion of Project construction. All reports will be submitted to Nolin Hills, and if desired, SHPO, CTUIR THPO, and ODOE. All geographic information system files and resource forms will also be submitted to SHPO for incorporation into the agency's cultural resources database.

#### **4.1 Native American Participation**

CTUIR has been involved with the Project since the planning phase. As noted above, the tribe has completed a TUS for the Project (Engum 2018), and Tribal Monitors participated in the pedestrian surveys. CTUIR will continue to be involved, if they desire, during the construction phase through archaeological monitoring and the notification process for Native American-related inadvertent discoveries. Tribal Monitors will coordinate and work closely with the CRMs regarding the monitoring of ground disturbance and any inadvertent discoveries (see Section 3). In the event of any Native American-related discoveries or discoveries of undetermined affiliation, the Project Archaeologist will notify CTUIR THPO with information regarding the type of the discoveries, as well as any recommendations, via text message, phone call, or email within 24 hours of the find (see Section 4.4 for key contacts).



## 4.2 Worker Environmental Awareness Program

Prior to construction, all construction personnel will be given Worker Environmental and Awareness Program (WEAP) training. The cultural resources component of the WEAP will be designed by the Project Archaeologist, and may be delivered by either the Construction Manager, Project Archaeologist, or qualified designate. The WEAP is a guide that summarizes the general environmental and archaeological procedures everyone must follow during Project construction and operations. The cultural resources component will inform all construction staff on the importance of protecting cultural resources, the types of cultural resources that might be inadvertently discovered during Project construction activities, and the protocol in the event of a possible inadvertent discovery. The WEAP training will be presented as part of the pre-construction meeting with informational slides, which will address the following:

1. What a cultural resource is, why they are important, and the types of pre-contact and/or historic cultural materials, objects, and deposits that could be found in the area and that could be exposed as a result of construction activities;
2. The significance of the Project Area to Native Americans, including its historical use (this portion of the training may be presented by a CTUIR representative, if desired);
3. All applicable laws regarding cultural resources, and penalties under those laws pertaining to unlawful excavation, removal, destruction, injury, or defacement of archaeological resources, human remains, and Native American cultural resources;
4. The type of permit that the Project is operating under, and what that permit stipulates about cultural resource protection; and
5. Protocols for the inadvertent discovery of archaeological resources or human remains (as detailed in Section 4.3).

The WEAP will be implemented before construction begins so that all foremen and construction crew members are aware of the possibility that inadvertent discoveries of archaeological resources or human remains could occur, as well as their responsibilities to understand and comply with procedures upon discovery of such resources. A copy of the WEAP and the Plan will be kept in the Construction Manager's office, as well as with each individual CRM or Tribal Monitor in the field. **(Confidential Appendix A, with known resource locations, will NOT be distributed beyond these staff members.)**

## 4.3 Inadvertent Discovery Procedures

This section outlines the procedures to follow in the event of an inadvertent discovery of archaeological resources or human remains, burials, and associated artifacts. An inadvertent discovery is the observation of an undocumented archaeological pre-contact or historic cultural object, feature, or site during Project construction activities. Although cultural resources identified in the Project Area have been directly avoided by the Project, there is still the potential that subsurface undocumented cultural resources may be uncovered during Project construction

activities (e.g., ground disturbing excavation, trenching, grading, etc.), or decommissioning after the Project's lifetime. In the event of an inadvertent discovery of cultural resources, all work within the immediate vicinity of the find shall cease and the area shall be protected and secured. Examples of when work should be stopped are described in Section 4.3.1. If the find cannot be avoided by the Project, appropriate mitigation, if any, will be determined by the Project Archaeologist in consultation with SHPO, and as appropriate, CTUIR THPO. Work may not proceed until approval has been received from SHPO, the Project Archaeologist, and as appropriate, CTUIR THPO. Procedures specific to inadvertent finds of archaeological resources and human remains are outlined below in Sections 4.3.2 and 4.3.3, respectively. Key contacts for notifications are listed in Section 4.4.

#### **4.3.1 When to Stop Work**

Construction work may uncover previously unidentified Native American or Euro-American artifacts. This may occur for a variety of reasons and may be associated with deeply buried cultural material, access restrictions during Project development, or if the area contains impervious surfaces that would have prevented standard archaeological site discovery methods.

Work must stop when the following types of artifacts or features are encountered:

***Native American artifacts may include (but are not limited to):***

- Flaked stone tools (projectile points, knives scrapers, etc.);
- Waste flakes that resulted from the construction of flaked stone tools;
- Ground stone tools like mortars and pestles;
- Layers (strata) of discolored earth resulting from fire hearths. May be black, red, or mottled brown, and often contain discolored cracked rocks or dark soil with broken shells;
- Human remains; and
- Structural remains such as wooden beams and post holes.

***Euro-American artifacts may include (but are not limited to):***

- Glass (from bottles, vessels, windows, etc.);
- Ceramic (from dinnerware, vessels, etc.);
- Metal (nails, drink/food cans, tobacco tins, industrial parts, etc.);
- Building materials (bricks, shingles, etc.);
- Building remains (foundations, architectural components, etc.);
- Old wooden posts, pilings, or planks (these may be encountered above or below water);
- Old farm equipment that may indicate historic resources in the area; and
- Old garbage (which could very well be an important archaeological resource).



### ***4.3.2 Discoveries of Archaeological Resources***

In the event that archaeological resources (sites and isolated artifacts) are inadvertently discovered, all work within the immediate vicinity will cease and the following procedures will be implemented:

1. Place a minimum of a 200-foot (61-meter) buffer around the discovery. The size of the buffer may be increased at the CRM, Tribal Monitor, or Project Archaeologist's discretion based on the character of the find. Construction activities can proceed outside of this buffered area unless additional archaeological sites or objects are discovered.
2. The area within the buffer shall be secured and protected from additional disturbance with flagging or fencing, or by posting a worker to ensure avoidance. Project personnel shall ensure the discovery is not disturbed and remains confidential, on a need to know basis. Project personnel will not speak with the media or discuss the find on social media (e.g., Facebook, Twitter, Instagram, etc.), or take photographs of the find. The location should be secured, and work will not resume in the area of discovery until all parties involved agree upon a course of action.
3. Project personnel (e.g., CRM, Tribal Monitor, construction personnel, individual who identified the remains) must immediately notify the Construction Manager and Project Archaeologist. The Construction Manager and Project Archaeologist will coordinate subsequent procedures. The Project Archaeologist will notify Nolin Hills, SHPO, and CTUIR THPO of the find. If the find consists of human remains, the special procedures listed in Section 4.3.3 for inadvertent discoveries of human remains will be followed.
4. No work may resume until consultation with SHPO has occurred and the Project Archaeologist is able to assess the discovery. The Project Archaeologist, in consultation with SHPO and CTUIR THPO, as appropriate, will determine whether or not the discovery is subject to any of the EFSC siting standards (see Section 1.1.1) and determine an appropriate course of action. Archaeological probing, testing, or other excavation may be required. This will be handled on a case-by-case basis by the Project Archaeologist and Nolin Hills, in consultation with SHPO and CTUIR THPO, as appropriate. All treatment efforts will adhere to the guidelines outlined by the permit for archaeological excavation issued by SHPO to the Project Archaeologist prior to construction (see Sections 3.1 and 4).
5. No construction work is permitted within the buffered area until all appropriate approvals are obtained and the area is released. Construction may proceed only after the proper archaeological inspections have occurred and environmental clearances are obtained from the Project Archaeologist, SHPO, ODOE, and CTUIR THPO, as appropriate.
6. After an inadvertent discovery, some areas may be specified for close monitoring or "no work zones." Any such areas will be identified by the Project Archaeologist to Nolin Hills, CTUIR THPO, and the Construction Manager. In coordination with SHPO, Nolin Hills will

verify these identified areas and be sure that the areas are clearly demarcated in the field, as needed.

### ***4.3.3 Discoveries of Human Remains***

In the event of an inadvertent discovery of human skeletal remains or burial sites, procedures similar to those described above in Section 4.3.2 for inadvertent discoveries of archaeological resources will be followed. The following alterations to the procedures above will apply for inadvertent discoveries of human remains:

- As part of the initial notifications described in Step 3 for discoveries of archaeological resources, if possible human remains are encountered, the Oregon State Police and Commission on Indian Services will also be notified.
- If human remains are encountered, do not disturb them in any way. Do not call 911. Secure the location. Project personnel shall ensure the human remains and any associated artifacts and features are not disturbed, are treated with respect and dignity, and ensure confidentiality of the find on a need to know basis. Project personnel will not speak with the media or discuss the find on social media (e.g., Facebook, Twitter, Instagram, etc.), or take photographs of the remains, burials, or associated artifacts. The location should be secured, and work will not resume in the area of discovery until all parties involved agree upon a course of action.

If it is determined that the human remains cannot be avoided by the Project and will be impacted, Nolin Hills, CTUIR THPO (or other representative of a tribe determined to be affiliated with the remains), SHPO, the Commission on Indian Services, and the landowner will enter into a Memorandum of Agreement to address treatment of the human remains.

#### 4.4 Key Contacts In Case of an Inadvertent Discovery

Contact information for key contacts in the event of an inadvertent discovery are provided in Table 2.

**Table 2. Key Project Contacts**

Organization	Name	Position	Contact Information
TBD	TBD	Project Archaeologist	TBD
TBD	TBD	Construction Manager	TBD
Nolin Hills, LLC	TBD	Construction Manager	TBD
Nolin Hills, LLC	TBD	Construction Engineer	TBD
Nolin Hills, LLC	Jay Shukin	Tribal Liaison	Phone: (250) 882-5188 Email: jshukin@capitalpower.com
CTUIR	Carey Miller	THPO	Phone: (541) 429-7234 Email: careymiller@ctuir.org
SHPO	John Pouley	State Archaeologist	Phone: (503) 480-9164 Email: John.Pouley@state.or.us
Oregon State Police	Chris Allori	Police Sergeant	Phone: (503) 731-4717 Cell: (503) 708-6461 Dispatch: (503) 731-3030
Oregon Legislative Commission on Indian Services	Patrick Flanagan	Executive Director	Phone: (503) 986-1067 Email: LCIS@oregonlegislature.gov
Cunningham Sheep Company	Steve Corey	Landowner	Phone: 541-276-3331 Cell: 503-703-2101 Email: corey@corey-byler.com

#### 5.0 References

Engum, Jennifer Karson

2018 *Traditional Use Study for the Proposed Nolin Hills Wind Project, Umatilla County, Oregon.* Confederated Tribes of the Umatilla Indian Reservation, Department of Natural Resources, Cultural Resources Protection Program, Pendleton, Oregon. Submitted to Tetra Tech, Inc., Portland, Oregon. Contract No. 1140031.

King, Erin

2021 Memo: Draft Subsurface Probing Plan for the Nolin Hills Wind Power Project, Umatilla County, Washington. Friday, July 30, 2021. Tetra Tech, Inc. Submitted to Katie Clifford, ODOE.

King, Erin, Douglas Mitchell, Tia Cody, and Julia Mates

2020 *Cultural Resources Pedestrian Survey Report, Nolin Hills Wind Power Project, Umatilla County, Oregon.* Tetra Tech, Inc., Portland, Oregon. Submitted to Nolin Hills Wind, LLC. SHPO Case No. 17-1679. Tetra Tech Project #194-6029.

King, Erin, and Brady Berger

2019 *Cultural Resources Pedestrian Survey Report Addendum 1, Nolin Hills Wind Power Project, Umatilla County, Oregon.* (Draft) Tetra Tech, Inc., Portland, Oregon. Submitted to Nolin Hills Wind, LLC. SHPO Case No. 17-1679. Tetra Tech Project #194-6029.

2020 *Cultural Resources Pedestrian Survey Report, Addendum 2, Nolin Hills Wind Power Project, Umatilla County, Oregon.* (Draft.) Tetra Tech, Inc., Portland, Oregon. Submitted to Nolin Hills Wind, LLC. SHPO Case No. 17-1679. Tetra Tech Project #194-6029. September.

## **Figures**

(To be developed based on final design.)

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**Appendix A. Known Cultural Resources  
and Areas of High Probability or Poor  
Ground Surface Visibility within the  
Micrositing Corridors  
(CONFIDENTIAL)**

(To be developed after completion of all surveys)

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## **Appendix B. Cultural Resources Monitoring Forms**

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## **Appendix C. Archaeological Resource Field Form Templates**

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## **Appendix D. Project Design and Construction Plans**

(To be developed based on final design)

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**Attachment S-2: Historical Resource Management Plan**

# **Nolin Hills Wind Power Project Historical Resource Mitigation Plan**



**d/b/a Nolin Hills Wind, LLC**

**Prepared by:**



**Tetra Tech, Inc.**

**Jan 2022**



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## 1.0 Introduction

This draft Historical Resource Mitigation Plan describes approaches to mitigating the presumed significant adverse impact to three properties (Figure 1): 1) Pendleton Ranches Sheep Camp/Bunk House in the vicinity of County Road 1363, at latitude 45.527364 and longitude -119.099135; 2) buildings and structures at Township (T) 2N/ Range (R) 29E, NE 1/4 NE 1/4 Section 26; and 3) buildings and structures (including the stone foundation) at T2N/R30E, NW 1/4 SW 1/4 Section 35, resulting from construction and operation of the Nolin Hills Wind Power Project (Project). A full analysis of eligibility of these sites for eligibility for inclusion on the National Register of Historic Places (NRHP) has not been completed but the available information suggests they are likely to be determined eligible and that construction of the Project will have an adverse impact on them.

## 2.0 Regulatory Context for Mitigation

Pursuant to Oregon Administrative Rule (OAR) 345-022-0090 and State Historic Preservation Office (SHPO) guidance, Nolin Hills Wind, LLC (the Applicant) conducted a historic and cultural resources inventory within the Project's micrositings corridor and at specific locations as directed by SHPO. The Pendleton Ranches Sheep Camp and abandoned barn are located within this analysis area and research determined they are likely to be eligible for listing on the NRHP. The Applicant then identified potential impacts to the resource under OAR 345-021-0010(1)(s)(D) and provides this mitigation plan to prevent destruction of the resource in accordance with OAR 345-021-0010(1)(s)(D)(iii).

## 3.0 Description of the Aboveground Historic Property

This section provides a description of the identified properties, the determination of probable eligibility for inclusion in the NRHP, ownership associated with the properties, and the setting within the vicinity of the properties.

### 3.1 Property Descriptions

#### *3.1.1 Pendleton Ranches Sheep Camp/Bunk House*

The Pendleton Ranches Sheep Camp structures consist of a historic sheep ranching camp associated with Pendleton Ranches, Inc., including two standing buildings. The site is located at the head of Slusher Canyon. One standing building consists of a largely intact single-story, side gabled six-room bunkhouse that rests on concrete piers (Photograph 1). Some of the siding is deteriorating and in places it has fallen from the walls. The roof is covered in wood shingles in a plain pattern; many of the shingles are missing, leaving the roof rafters exposed.

The second standing structure consists of a single-story, one-room, front-gabled concrete and wooden subterranean cistern. The subterranean portion of the structure is constructed of form-and-poured conglomerate concrete, and the aboveground portion of the structure consists of the wooden low-pitched roof (Photograph 2).

The structures are located on private land owned by the Cunningham Sheep Ranch and accessible only by private two-track farm road.





### ***3.1.2 Property at T2N/R30E, Barn, Foundation, and Associated Structures***

Limited information is available on the structures at T2N/R30E, NW 1/4 SW 1/4 Section 35, and a full evaluation has not been conducted. Based on recent photographic evidence provided by the landowner (Photograph 3), the structures appear to include an unused and dilapidated wooden barn, a smaller storage shed, and a stone foundation that included steps down into a basement with no remaining aboveground features. The structures are located on private property owned by the Cunningham Sheep Ranch, 0.5 mile from the nearest proposed wind turbine location.



### ***3.1.3 Property at T2N/R29E, Residence, Barn, and Windmill***

Limited information is available on the structures at T2N/R29E, NE 1/4 NE 1/4 Section 26, and a full evaluation has not been conducted. Based on recent photographic evidence (Photograph 4), the structures appear to include a residence, barn, and one windmill. The structures are located on private property owned by the Cunningham Sheep Ranch, 0.4 mile from the nearest proposed wind turbine location.





### **3.2 Determination of Eligibility and Preliminary Communication with Oregon State Historic Preservation Office**

A full determination of eligibility has not been completed for any of these structures at this time. However, available historic information suggests they may be eligible for NRHP listing, and the Applicant concurs with a decision to treat them as if they are eligible with the aspect integrity of setting as a character-defining feature.

### **3.3 History**

This section provides a history of the Pendleton Ranches Sheep Camp and Bunkhouse property. Research regarding the specific history of the other two properties has not yet been conducted as they are located outside of the site boundary on property not under lease for the Project. Additional background research on these properties will be conducted as part of the future mitigation effort.

The Pendleton Ranch bunkhouse and cistern were used as a bunkhouse for agricultural field crews in the 1950s and 1960s, in conjunction with operations of Pendleton Ranches, Inc., located just south of the main ranch in Nolin. Fencing and corrals are still present nearby, outside of the site, although the fencing has been replaced and the bunkhouse, no longer in use, is deteriorating. The home ranch, Cunningham Sheep Ranch, established in Nolin in the 1880s, is approximately 11 miles



north of the sheep camp. While no land modifications are indicated for this area on the 1861 General Land Office (GLO) plat maps, a building is indicated at the sheep camp's vicinity on the 1908 U.S. Geological Survey Umatilla 1:125,000 quadrangle. A 1952 aerial photograph shows a large barn on the land, closer to County Road 1363, which is no longer present, as well as fencing and corrals. The house and cistern are not visible in the photograph. However, a 1965 aerial photograph shows the house and cistern as well as the large barn, indicating the house and cistern were built or moved to the area from another location between 1952 and 1963.

The 1914 Standard Atlas of Umatilla County shows the site and surrounding section as owned by William M. Slusher. Slusher, a Joint Representative from Morrow and Umatilla counties in the 1907 legislature who was indicted for land fraud in 1908 (*Morning Oregonian* 1908), was also active in the State Woolgrowers' Association (*Oregon Daily Journal* 1907). By 1932, the land on which this sheep camp is located was owned by Pendleton Ranches, Inc., as indicated by the Umatilla County Metsker map for the site location. Pendleton Ranches, Inc. continues to own the land today.

Research revealed that several other family-owned sheep ranches dating from the late nineteenth and early twentieth centuries are in operation or are listed on the NRHP in east Oregon. However, despite the rich history of sheep ranching in Umatilla County, the results of a search in the Oregon Historic Sites Database resulted in no NRHP-eligible or -listed sheep ranches recorded in Umatilla County. This may be due to the fact that there have not been sheep ranches evaluated for listing on the NRHP in Umatilla County. (Outside of Umatilla County there are sheep ranches such as the Cant Ranch and Roba Ranch that are listed on the NRHP.) The City of Echo includes the Cunningham Sheep Company in Nolin in its Cultural Resources Inventory of 2002, along with other early farms (City of Echo 2015).

Based on information provided by the landowner, while the Pendleton/Cunningham enterprise did raise sheep, most of the sheep ranching occurred near Pilot Rock; the area where the abandoned house and cistern are located was mostly agricultural fields, as of the 1950s. This does not rule out the possibility that the land surrounding the house and cistern could have been used for sheep ranching in the 1920s, 1930s, or 1940s, nor does it negate the possibility that the house was used for shelter tending to sheep elsewhere on the Cunningham/Pendleton Ranch land and then moved.

Based on the known and potential history of these structures, they are being treated as eligible for listing in the NRHP for their association with the agricultural history of the area.

### 3.4 Setting

The three properties are all in isolated areas of private property that is not accessible to the public. The setting consists of rolling hills and identified features are located in draws at lower elevation, surrounded by hills. The Pendleton Sheep Ranch Camp/Bunk House is located approximately 0.25 mile from the nearest proposed wind turbine, with all or portions of up to 30 turbines potentially visible from this location. The unidentified structures are approximately 0.4 mile from the nearest proposed wind turbine, with portions of blade tips from 9 turbines visible, while an additional 5 turbines would have portions or all of the blades, hub, and tower visible. At T2N/R30E, blade tips

from up to 34 turbines may be visible from the barn or associated structures; in addition, 12 turbines would have hub or lower (tower) portions visible. At T2N/R29E, blade tips of up to 5 turbines would be visible, while up to 21 turbine towers (hub height or lower) would be visible from the residence, barn, or windmill structures. Table 1 also depicts this information.

**Table 1. Wind Turbines Visible from Historic Property Sites Near Project**

<b>Resource</b>	<b>Number of Turbines Visible (Blades or Portions of Blades only)</b>	<b>Number of Turbines Visible (Towers and Blades) (Hub Height: 266 feet)</b>
T2N/R30E, Barn and Associated structures	34 turbines visible (blades only)	12 turbine towers visible (hub height or lower)
T2N/R29E, Residence, barn, and windmill	5 turbines visible (blades only)	21 turbine towers visible (hub height or lower)
Pendleton Ranches Sheep Camp/Bunk House	9 turbines visible (blades only)	5 turbine towers visible (hub height or lower)

## 4.0 Description of the Impacts Addressed by the Plan

Although none of the three properties are accessible to the public, their setting would contribute to presumed eligibility for listing on the NRHP and the presence of wind turbines in the vicinity of these three properties would adversely impact their setting.

Because no feasible turbine realignment exists that avoids these impacts, the Applicant will implement the mitigation action provided in Section 5.

## 5.0 Mitigation Measure

### 5.1 Intensive Level Surveys

The Applicant will conduct three Intensive Level Surveys, using the *Guidelines for Historic Resources Surveys in Oregon* (the Guidelines; OPRD 2011) for each of the properties: Pendleton Ranches Sheep Camp/Bunk House; the property at T2N/R30E, barn, foundation, and associated structures; and the property at T2N/R29E, residence, barn, and windmill.

During teleconference communications with Jason Allen (Oregon SHPO), Kathleen Sloan (Oregon Department of Energy [ODOE]), and the Applicant's consultant (Tetra Tech, Inc.), in November 2021, the specific aspects of the Guidelines applicable to this Project were discussed and specified. The scope of work for each property is the result of those discussions and detailed below, and the Oregon SHPO's communication regarding the Project heavily influenced this scope. The work shall be conducted by an historian/architectural historian who meets the Secretary of the Interior's Professional Qualification Standards. No formal NRHP evaluation will be completed for any of the properties.

Using the Guidelines, the following tasks will be done for each of the three properties:

- *Research* – Prior to conducting the fieldwork, an architectural historian will review the Oregon Historic Sites Database and other online, local, and academic repositories to obtain background information about agricultural structures. Ownership information and history of properties will be conducted to the greatest extent feasible, given there is little information readily available. In addition to the review of historical literature, maps, and photos, this research will include communicating with the Umatilla County Historical Society Museum staff to determine if the Society has information about these topics.
- *Fieldwork*—A field investigation will be conducted and consist of:
  - Take photographs of the buildings and structures at the three properties, including photographs of the setting prior to construction of the Project. Overview photographs of the exteriors (and interiors, where accessible) and showing the associated buildings as they relate to the setting and in every direction, prior to construction of wind turbines.
  - Prepare measured drawings (to scale) except at properties the Oregon SHPO deems unnecessary (see specific property list below) and prepare site sketch maps with orientation of buildings and structures, prior to construction of wind turbines.
  - Provide detailed physical descriptions of the exterior and interior (where accessible) of buildings and structures.
- *Reporting*—Historians/Architectural historians will prepare three individual draft and final reports. The draft report will be reviewed by the Oregon SHPO. One (1) round of comments from the Oregon SHPO will be addressed in a final report.

Using the Guidelines, the following specific items will be included in the intensive survey report for the **Pendleton Ranches Sheep Camp/Bunk House**, a property which the Oregon SHPO staff suspects is a moveable house that is not an architectural type recorded or documented in their records:

- Prepare a thorough historic context for these types of moveable ranching properties and where they might be found or were used in Oregon. Bunk house should be considered similar to an artifact from which to glean information of these property types to use for future surveys that may include these types of buildings.

Using the Guidelines, the following specific items will be included in the intensive survey report for the **Property at T2N/R30E**, barn, foundation, and associated structure:

- Stone foundation: Emphasis will be on the physical nature of the resource, including a measured plan drawing including width of the perimeter, type of stone used, type of mortar (or dry laid technique) and how the foundation can lead to clues about the house.
- Barns on property will be documented but not to level of detail as foundation (no

measured plans required).

Using the Guidelines, the following specific items will be included in the intensive survey report for the **Property at T2N/R29E**, residence, barn, and windmill. Using the Guidelines, the following will be included in the intensive survey:

- Perimeter measurements of barn and residence only. Measured drawings are not required. Historians will look into windows of barn to determine floorplan because building is collapsing and is unsafe to enter.

## 6.0 Duration

Mitigation will be implemented within three (3) years from the start of construction. Prior to construction, photos of the setting of the three resources will be taken, capturing these properties within their unaltered setting (overview shots showing the in their context). Construction can then begin, as long as it does not impede further access to these properties.

## 7.0 Amendment of the Plan

This Historical Resource Mitigation Plan may be amended from time to time by agreement of the Applicant and the Energy Facility Siting Council (Council). SHPO will have the opportunity to review and participate in proposed amendments. Such amendments may be made without amendment of the site certificate. The Council authorizes the ODOE to agree to amendments to this plan. The Department shall notify the Council of all amendments, and the Council retains the authority to approve, reject, or modify any amendment of this plan agreed to by the Department.

## 8.0 References

Allen, Jason. Oregon Heritage and State Office of Historic Preservation. 2021. Personal Communication with Katie Clifford, Oregon Department of Energy. Email communication October 18, 2021.

Allen, Jason. Oregon Heritage and State Office of Historic Preservation. 2021. Personal Communication with Julia Mates, Tetra Tech, and Kathleen Sloan. Video teleconference. November 19, 2021.

City of Echo. 2015. Echo's Cultural Inventory. Electronic document, <http://www.echo-oregon.com/pub/inventory-15.pdf>, accessed October 17, 2017.

*Morning Oregonian*. 2008. "Eleven Accused of Land Fraud: Prominent Umatilla Men Indicted." June 9, 2008. Portland, Oregon.

OPRD (Oregon Parks and Recreation Department). 2011. *Guidelines for Historic Resources Surveys in*

*Oregon. State Historic Preservation Office.* Available online at:

[https://www.oregon.gov/oprd/OH/Documents/guidelines\\_for\\_historic\\_resource\\_surveys.pdf](https://www.oregon.gov/oprd/OH/Documents/guidelines_for_historic_resource_surveys.pdf)

*Oregon Daily Journal, The.* 1907. "Woolgrowers' Session Ends." 14 Nov 1907, page 6. Portland, Oregon,

## Figure

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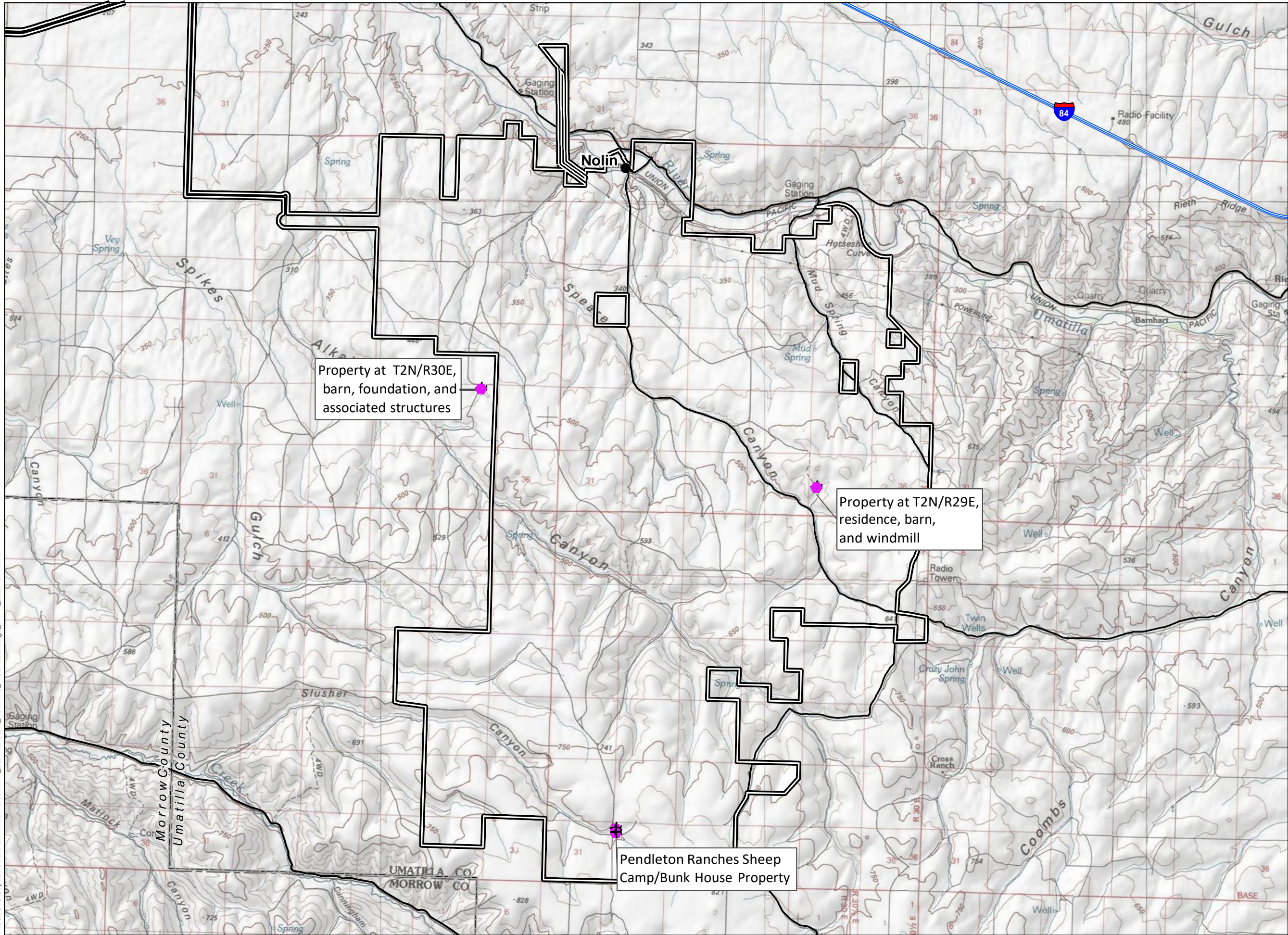


# Nolin Hills Wind Power Project

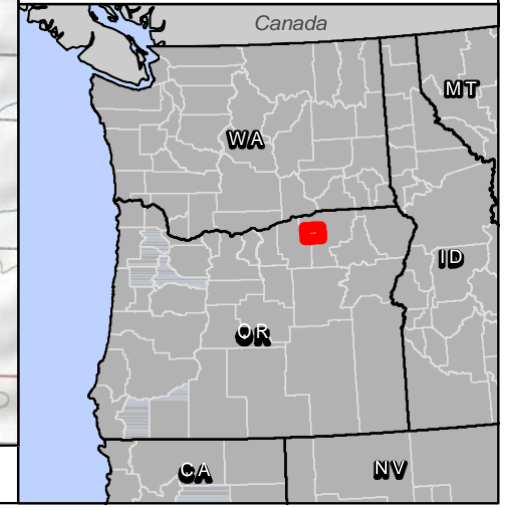
Figure 1  
Locations of Historic Buildings

UMATILLA COUNTY, OREGON

- Proposed Site Boundary
- Interstate Highway
- Secondary Road
- City/Town
- Historic Buildings



Reference Map





**Attachment S-3: Draft Subsurface Probing Plan**

# MEMO

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**To:** Katie Clifford, ODOE

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**Cc:** Linnea Fossum, Tetra Tech  
Matthew Martin, Capital Power

---

**From:** Erin King, MA, RPA

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**Date:** Friday, July 30, 2021

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**Subject:** Subsurface Probing Plan for the Nolin Hills Wind Power Project

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**Draft**  
**Subsurface Probing Plan for the Nolin Hills Wind Power Project**  
**Umatilla County, Washington**

The Nolin Hill Wind Project (Project) is located entirely on private lands near the town of Echo in Umatilla County, Oregon. The Project will apply for a Site Certificate from the Oregon Department of Energy's (ODOE) Energy Facility Siting Council. Multiple cultural resources surveys have been conducted by Tetra Tech, Inc. for the Project in support of the Site Certificate. A total of 42 archaeological sites and 20 isolated finds (IFs) have been identified. (Additional aboveground historic sites have also been identified but are not addressed herein.)

During the surveys, several areas of poor ground surface visibility as well as areas suitable for unidentified archaeological resources ("high-probability areas") were encountered. Areas identified as high-probability areas were determined based on sedimentation rates and observed resource distribution patterns within the surveys. The locations of IFs, poor ground surface visibility areas, and high-probability areas are depicted on the attached map.\* Since design of the Project is still underway, some of these areas may be located outside of the final Project design, in which case they would not be impacted.

Shovel probing of the above areas of concern has been proposed to occur following final Project design, but prior to construction, to avoid unnecessary disturbance in the event that the final Project design avoids these areas. Probing, as proposed, would be limited to those areas of poor ground surface visibility and the high-probability areas within the final Project design footprint. In addition, all IFs within 164 feet (50 meters) of the disturbance footprint of the final Project design would be probed. This draft Subsurface Probing Plan provides a general overview of methods to be employed during the subsurface probing program. It is expected that this document will be finalized, in coordination with tribes and the Oregon State Historic Preservation Office (SHPO), prior to implementation of the shovel probing program.

The results of the shovel probing program will be documented in a supplemental survey report to be submitted to ODOE, SHPO, and tribes.

\*Confidential map removed from public version of memo.

## **Poor Ground Surface Visibility Areas**

Agricultural fields where crop coverage created areas of poor ground surface visibility during Project surveys will be subjected to a second pedestrian survey when crops have been recently harvested or planted, allowing for good ground surface visibility. If the construction schedule does not allow for this, subsurface probing will be conducted. Probes will be plotted evenly across the area and based on the expected or most likely distribution and size of archaeological resources for the specific location. If archaeological materials are identified during probing, additional probes around the positive probe will be excavated in following the same guidance as described below for IFs.

## **High-Probability Areas**

A select number of probes will be plotted based on the total final disturbance acreage within the impacted high-probability areas. Probe locations will be distributed based on prior disturbance, sedimentation, topography, and expected or most likely distribution and size of archaeological resources for the specific location. A set of probes will be reserved for placement in the field, based on the Field Director's professional judgment of areas with potential for buried archaeological deposits. If archaeological materials are identified during probing, additional probes around the positive probe will be excavated in following the same guidance as described below for IFs.

## **Isolated Finds**

Resource boundary probes will be excavated around IFs to confirm they are not representative of archaeological deposits. A minimum of two probes in each cardinal direction will be excavated. Two consecutive negative probes will be considered confirmation of the resource boundary. The first probe in each direction will be 5 meters from the IF. The second and any subsequent probes in each direction will be spaced at 20 meters. Once 10 artifacts are identified, boundary probing will be stopped since the IF would meet the definition of an archaeological site at this point, and the goal of shovel probing of IF boundaries has been achieved. Recommendations for additional work at the former IF location may be made in the supplemental survey report.

## **Excavation of Probes**

All shovel probes will consist of 1-foot (30-centimeter) diameter holes excavated in arbitrary 4-inch (10-centimeter) levels. Each level will be described on a shovel probe form, including soils, disturbance, and any artifacts. All excavated materials will be screened through a 1/4-inch mesh. Shovel probes will extend to the C-horizon, or until two sterile levels (i.e., 9 inches [20 centimeters]) are encountered below any culture-bearing levels and after extending a minimum of 20 inches (50 centimeters) in depth (unless bedrock or other obstructions prevent going to this depth). Any artifacts identified in the probes will be preliminarily identified/described and returned to the bottom of the probe in a labeled bag. No artifact collection will occur (unless requested by the landowner, SHPO, or tribes). All probes will be backfilled after being excavated and profiled. Probe locations that require relocation from a pre-planned location will be mapped using a sub-meter GPS unit.

If any human remains are identified during fieldwork, all work within the area will be stopped and the Umatilla County Coroner, ODOE, SHPO, tribes, and Capital Power will immediately be notified.

**Attachment U-1: Draft Traffic Management Plan**

# Draft Traffic Management Plan

## I. Introduction

The applicant estimates that at peak construction periods, there would be approximately 500 workers needed onsite. The applicant assumes that most workers would drive alone, and that the average vehicle would only have 1.25 occupants. This makes the estimated daily round-trip vehicle trips 400 and 800 one-way trips for the peak period and 112 round trip and 224 one-way trips for the average workforce. The applicant then breaks down truck deliveries associated with the construction of facility components including the transmission line, solar and BESS, and the wind facility components, estimating that, during construction, there would be up to 117 round trips per day or 234 one-way trips per day delivery truck trips per day. Total maximum one-way trips for all construction-related traffic would be approximately 1,034 trips daily.

The 234 one-way truck trip and deliveries, throughout all construction phases would include the following activities:

- Civil construction and material (aggregate, culverts, etc.) supply for new roads and upgrades to existing roads, turbine erection pads and crane pads, solar inverter/transformer and BESS areas, substations, laydown areas, collector lines, transmission lines, and the O&M Building;
- Turbine and related component delivery, including towers, nacelles, hubs, blades, pad mount transformers, substation equipment and transformers, collector line components, transmission line towers and conductor, and O&M Building materials;
- Solar modules and related equipment delivery, including racking system structure, electrical wiring/cabling and equipment, steel posts, inverters, and transformers;
- BESS delivery, including containers, battery modules, and all related equipment based on the final technology selected;
- Material supply for turbine foundations and solar area foundations such as for posts and BESS containers (sand, aggregate, cement, and steel rebar);
  - The Applicant assumes concrete would be batched on-site in temporary plants; local suppliers may be used instead at the option of the construction contractor;
- Delivery of on-site construction equipment such as cranes, dozers, graders, compactors, forklifts, etc.; and
- Water truck traffic (assumes water comes from Hermiston, Stanfield, Echo, and Pendleton).

### ***1.a. Construction Access Roads***

Primary transportation corridors, major county roads, and local county roads would carry the majority of construction-related truck and workforce traffic. The workforce expected to use the same roads to access the proposed facility site as the equipment transporters. Figure 1: *Preliminary Construction Transportation Routes*, below illustrates the primary and secondary transportation routes proposed to be used for construction activities. The 2002 Umatilla County Transportation System Plan (TSP) county road classification system includes four road classes;

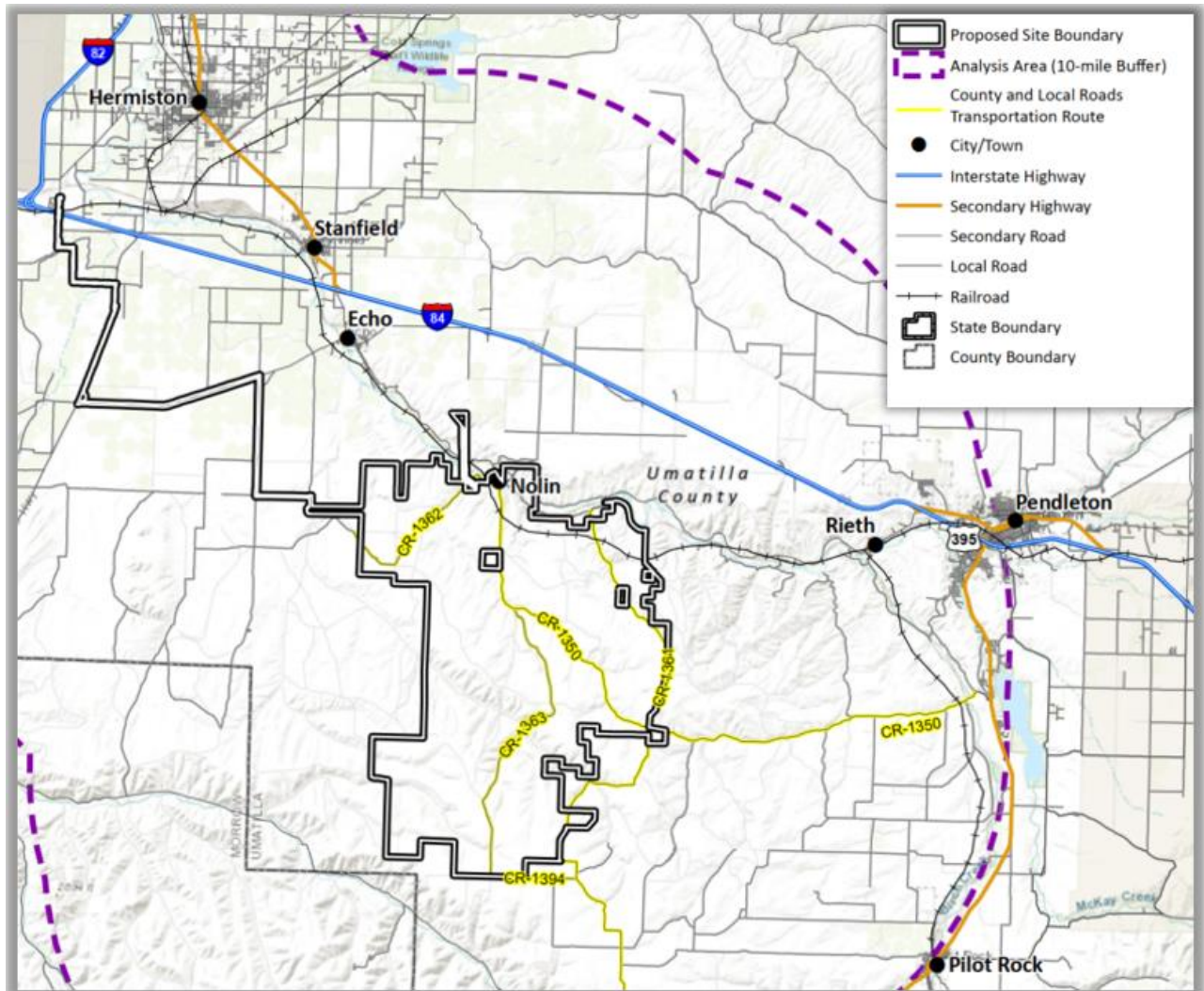
## **Draft Traffic Management Plan**

all arterials in Umatilla County are interstate, national, and state highways, part of the state highway system; rural county roads are classified as either rural major collectors, rural minor collectors, or rural local roads and are assigned a County Road Number by the County Public Works Department.

The primary corridors and highways identified by the applicant are I-84, I-82, and US Highway 395 (US- 395). The applicant discusses that the routes that would experience the highest increase in traffic from deliveries would be County Road (CR) 1350 (Coombs Canyon Road) from US-395. Other local county roads, such as CR-1361, CR-1362, CR-1363, and CR-1394 would experience increases in traffic. These CR's are located within the proposed facility site boundary and would be used during construction and operation, and vary from improved gravel two-lane roads to two-track roads with minimal aggregate surfacing, yet are well-maintained gravel roads in good condition. Another category of roads that would be used for proposed facility construction and operation are local county roads that are not paved. The applicant notes that these roads are either one or two lanes wide, have some to minimal aggregate on the surface, frequently have culvert pipes with inadequate covers, and have grades and corners that may require flattening or widening to accommodate the large and long construction trucks, in particular the turbine component and transformer delivery trucks. Finally, the applicant states that private roads would be used for construction and operation of the proposed facility and may require upgrading to accommodate truck traffic associated with the wind farm construction, which could include widening, replacing cattle guards, replacing or adding covers to culverts, or adding road base aggregate to the existing private roads.

## Draft Traffic Management Plan

Figure 1: Preliminary Construction Transportation Routes



### II. Construction Best Management Practices to Minimize Traffic Service Provider Impacts

#### *Traffic Safety Best Management Practices (BMPs):*

- To minimize conflicts between proposed facility traffic and background traffic, movements of normal heavy trucks (dump trucks, concrete trucks, standard size tractor-trailers or flatbeds, etc.) would be minimized (essential deliveries only), to the extent practicable, during peak traffic times.
- Movements of oversize trucks would be prohibited during peak times (rush-hour traffic periods), to the extent practicable. If possible, and considering worker safety, such oversize deliveries would occur during other parts of the day, when background traffic

## **Draft Traffic Management Plan**

tends to be lower, such as late morning and early afternoon. The applicant would work with local law enforcement to assist with proposed facility deliveries.

- Using chase vehicles as required (or police vehicles, if required by ODOT) to give drivers additional warning.
- Coordinating the timing and locations of road closures or oversize load movements on public roads in advance with emergency services such as fire, paramedics, and essential services such as mail delivery and school buses.
- Coordinate with adjacent landowners to understand seasonal harvesting and times when agricultural traffic equipment use is the highest. Provide notice to adjacent landowners about the timing and locations of road closures, oversize load movements, and high traffic use on roads used for agricultural purposes.
- Maintaining emergency vehicle access to private property, and on public roads.
- Developing plans as required by county or state permit to accommodate traffic where construction would require closures of state- or county-maintained roads for longer periods.
- Posting signs on county- and state-maintained roads, where appropriate, to alert motorists of construction and warn them of slow, merging, or oversize traffic.
- Using traffic control measures such as traffic control flaggers, warning signs, lights, and barriers during construction to ensure safety and to minimize localized traffic congestion. These measures would be required at locations and during times when trucks would be entering or exiting highways frequently.
- Notifying landowners prior to the start of construction near residences, including residences within one mile of the site boundary where helicopters would be used for construction.
- Notify airports within 10 miles of the site boundary of construction-related helicopter use.
- Restoring residential areas as soon as possible, and fencing construction areas near residences at the end of the construction day. Gates would be installed on access roads to reduce unauthorized access when requested by property owners.

### ***II.a. Agency Coordination - ODOT***

The applicant would coordinate with ODOT and Umatilla County road officials as needed on road improvements, road closures, and permits needed for construction or movement of oversized loads of construction equipment or materials. Three permits from ODOT may be required (see also Exhibit E):

- Oversize Load Movement Permit/Load Registration. This permit is required for the movement of oversize or overweight loads on state highways, such as construction cranes, substation transformers, or other large equipment.
- Permit to Occupy or Perform Operations Upon a State Highway. This permit addresses utility installations within the right-of-way of an interstate or state highway, including



## **Draft Traffic Management Plan**

the crossings of interstate and state highways by the proposed facility transmission lines.

- Access Management Permit. This permit may be needed if a proposed facility access road intersects directly with a state highway, and improvements are required at that intersection.

### **II.a.1 Helicopter Use:**

If the UEC Cottonwood route is selected for the 230-kV transmission line, it would cross I-84. To construct the line across I-84, structures would be placed on either side of I-84 and a helicopter would be used to fly the lines across. There would be five lines including the grounding wire, each flown over and secured individually. During construction, flaggers would control traffic using a rolling slowdown method when each line is flown across. No lanes would be closed, and the process would occur over a few hours in one day. As such, this would be a short-term, temporary disruption to the normal flow of traffic along I-84. This work would be coordinated with ODOT and conducted in accordance with provisions of the applicable Permit to Occupy or Perform Operations Upon a State Highway, discussed further below as part of the proposed facility's impact minimization measures.

### ***II.b. Agency Coordination – Umatilla County***

In addition to these state permits, the applicant would coordinate with Umatilla County road officials as needed to address necessary road turning radius improvements, temporary road closures, oversize load movements, and monitoring of impacts to county roads. Pursuant to ORS 374.305, all affected counties require permitting for any work to be done within a county right-of-way, including making improvements to roads or intersections, or crossing a county road with the collector lines. The specific permit requirements and the names of those permits vary from county to county, as indicated in Exhibit E, Section 5, Third Party State or Local Permits; the applicant would verify and comply with all local permit requirements prior to beginning construction on the proposed facility.

The applicant would cooperate with the Public Works Department in Umatilla County with respect to obtaining permits to improve the roads and also to make repairs to roads that might result from construction traffic. In addition, the applicant expects to enter into road use agreements with Umatilla County, to ensure that public roads impacted by construction would be left in 'as good or better' condition than that which existed prior to the start of construction. A component of road use agreements would be a traffic management plan. The traffic management plan would address such issues as flagging, signage, and traffic flow around work sites on public roads; timing of oversize/overweight truck loads to avoid impacts to school bus schedules or during peak travel hours; and other mitigation measures if deemed necessary. These measures would help to prevent any construction-related traffic safety issues and would facilitate the free movement of traffic through the proposed facility vicinity. While the

## **Draft Traffic Management Plan**

movement of heavy or oversized loads of construction materials or equipment may cause some localized traffic delays, these disruptions would be intermittent and temporary.

**Attachment U-2: Draft Fire Prevention, Suppression and Emergency Management Plan**

# Draft Fire Prevention, Suppression and Emergency Management Plan

## I. Construction Fire Risk:

Construction and operation of the proposed facility could result in impacts to fire protection providers due to increased fire risk within the analysis area. Construction-related fire risks include accidental fires caused by from metal cutting and welding used to construct the steel reinforcing cages for foundations. Additional construction-related fire hazards could result from workers smoking and vehicle and equipment refueling, and operating equipment off roadways in areas of tall dry grass that could ignite upon contact with hot vehicle parts, particularly in dry seasons.

### *I.A. Construction: Avoidance, Reduction, and Mitigation Measures to Reduce Fire Hazard:*

- Employee Awareness Training on all of the topics below
- Fire Prevention, Suppression and Emergency Preparedness:
  - During periods of high fire danger potential sources of fire ignition (vehicle exhaust systems, cigarettes, matches, propane torches, sparks from various hot work operations, etc.) must be used with extra precaution.
  - Prior to performing hot work (anything that creates a spark or an open flame is considered hot work), fire suppression equipment must be immediately available, hot work must only be done on road or turbine pad surfaces cleared of vegetation, and the on-site Safety Supervisor must be notified.
  - During construction, a water truck would be on-site to keep the ground and vegetation moist during extreme fire conditions.
  - Prior to start of construction work activities, contact the local fire department(s) and advise them of work type, location, and probable duration. Maintain open communication with local fire district personnel to identify and address fire hazards
  - Keep emergency firefighting equipment on-site when potentially hazardous operations are taking place.
  - Conduct welding or metal cutting only in areas cleared of vegetation
- Vehicles:
  - Plan and manage the work and the movement of vehicles. No off-road driving is to be done while working alone.
  - Prohibit construction workers from parking vehicles in areas of tall dry vegetation, to prevent fires caused by contact with hot mufflers or catalytic converters
  - Each vehicle used on-site shall have a fire extinguisher of sufficient type and capacity to suppress small fires around vehicles. Vehicle occupants shall be familiar with the location of these fire extinguishers. All employees who may have a need to use a fire extinguisher shall be current in their training on the general principles of fire extinguisher use and the hazards involved with incipient stage firefighting.

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- The general contractor would be responsible for identifying and marking the path for all off-road vehicle travel.
- All off-road vehicle travel is to stay on the identified path.
- In the event a vehicle gets stuck, shut the engine off. Periodically inspect the area adjacent to the exhaust system for evidence of ignition of vegetation. Do not "rock" the vehicle to free it; rather, pull it out. Inspect the area after the vehicle has been moved.
- In tall grass (i.e., tall or taller than the exhaust system of the vehicle[s]), pre-wet the area with water prior to driving on it with vehicles
- Fueling
  - The general contractor would designate a location for field fueling operations at each construction yard. Any fueling of generators, pumps, etc., shall take place at this location only.
  - Fuel containers, if used, shall remain in a vehicle or equipment trailer, parked at a designated location alongside county rights-of-way. No fuel containers shall be in the vehicles that exit the right-of-way except for one 5-gallon container that is required for the water truck pump
- Smoking
  - Smoking shall only be allowed in the designated smoking areas of the Proposed facility.
- Emergency Notification and Follow Up
  - The following course of action should be taken if an emergency situation develops:
    - Evacuate as necessary. Maintain site security and control if possible. If crews are working at different areas of the site, a designated meeting location would be created for all people to gather.
    - Notify proper emergency services (fire, ambulance, etc.) for assistance.
    - Notify site management of any possible fires.
    - Prepare a summary report of the incident as soon as possible after the incident.

### II. Operational Fire Risk:

The risks of fires during operation of the proposed facility would vary depending on the type of equipment operating. There is the potential for electrical fires from electrical equipment associated with the wind turbines, solar modules, transmission lines, and the lithium-ion batteries associated with the Battery Energy Storage System (BESS).

Wind turbines: Potential risks of fire and health and safety risks could arise from improper maintenance, electrical malfunction, blade failure, structural and reliability concerns, ice throw, and risks to public providers of fire service during tower rescue events.

Solar panels and BESS: Specific fire and safety risks associated with the operation of the battery energy storage system (BESS) include short-circuiting of electrical equipment which could

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generate sparking, which could cause fires. The chemicals used in lithium-ion batteries are generally nontoxic but do present a flammability hazard. Lithium-ion batteries are susceptible to overheating and typically require cooling systems dedicated to each BESS enclosure, especially at the utility scale. Other risks include the transportation of the lead acid batteries and any associated battery waste, and onsite handling and storage of battery related materials and waste.

Transmission lines and 34.5 kV collector system: The applicant does not specifically discuss the risk of fires to and from operational transmission lines and collector equipment, only to say that fires would be rare and would result from improper maintenance of electrical equipment.

### ***IIA. Operation: Avoidance, Reduction, and Mitigation Measures to Reduce Fire Hazard:***

Facility roads would be sufficiently sized for emergency vehicle access in accordance with 2019 Oregon Fire Code requirements, including Section 503 and Appendix D - Fire Apparatus Access Roads. Specifically, roads would be 16 to 20 feet wide with an internal turning radius of 28 feet and less than 10 percent grade to provide access to emergency vehicles. Maintenance vehicles would drive and park on maintained gravel roads and turbine pads, avoiding hazards associated with driving or parking in tall dry grass. The total mileage of the site access roads for the wind layout would be approximately 62 miles, of which about 43 miles would be new permanent access roads and 19 miles would be temporary improvements to existing roads. Exhibit C presents the areas of temporary and permanent disturbance associated with the site access roads. An additional approximately 18 miles of new permanent access roads would be constructed to access the solar array and BESS within the permanent solar siting area fence line as noted earlier.

Within the micrositing area for wind facility components, the site would include approximately 43 miles of new permanent access roads and 19 miles of road improvements. Temporary access road disturbance would extend 82 feet in width and accounts for the road, crane paths, cut and fill slopes, and any necessary drainage or erosion control features. Permanent access roads would extend 16 feet in width.

Within the micrositing area for solar facility components, the site would include 16-20 foot wide access roads, but all are within the perimeter fenceline, assumed as a permanent disturbance for the facility footprint. An additional approximately 18 miles of new permanent access roads would be constructed to access the solar array and BESS within the permanent solar siting area fence line.<sup>1</sup>

All newly constructed and improved site access roads would be graded and graveled to meet load requirements for heavy construction equipment, as necessary. Most site access roads would be initially constructed to be wider than needed for operations, to accommodate the

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<sup>1</sup> NHWAPDoc2-1 ASC Exhibit B. Proposed facility Desc\_2022-01-31, Section 7.6.

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large equipment needed for construction. Following turbine construction, the site access roads would be narrowed for use during O&M.<sup>2</sup>

The Supervisory Control and Data Acquisition (SCADA) system (described in Exhibit B) acts as the “nerve center” of the Proposed facility by connecting individual turbines, solar strings, BESS, substation(s), and meteorological towers to a central computer housed in the O&M Building. The SCADA system allows each component of the Proposed facility to be monitored for activity in present time. If an issue arises with a turbine or solar string, it alerts the O&M staff so that the component can be shut down to minimize consequences of failure and potential safety risks. In the event an anomaly is observed by the SCADA system or during an inspection, original equipment manufacturer (i.e., OEM) engineering is advised, and further inspection may be carried out by subject matter experts to determine root cause and resulting action required to rectify the issue.

### Wind turbines:

- The risk of turbine fires would be minimized through proper maintenance of the turbine and its critical mechanical and electrical components. Turbine towers and blades are regularly inspected during annual turbine maintenance activities. These inspections include all turbine related components for irregular wear and may be supplemented with further repair as needed.
- Electrical concerns are identified by the SCADA system during operation and mechanical factors are identified during inspections. In the event an anomaly is observed by the SCADA system or during an inspection, original equipment manufacturer (i.e., OEM) engineering is advised, and further inspection may be carried out by subject matter experts to determine root cause and resulting action required to rectify the issue.
- Turbine models considered would be equipped with internal fire suppression systems in the nacelles.
- Lightning protection systems are built into the turbine blades and tower to electrically ground the entire structure and to eliminate the potential for lightning-caused fires
- Wind turbines contain a number of safety features designed to provide increased fire protection; for example, fully independent braking systems and emergency shutoff devices.
- Turbines and their foundations are regularly inspected during monthly operating rounds and regular annual turbine maintenance activities. Operating rounds consist of a visual assessment of turbine foundations and the materials connecting the turbine to the foundation, as well as observation of SCADA data that provide insight into how the turbine structural components are withstanding the stresses applied to them. Annual turbine maintenance includes inspections on turbine components, lubrications and replacement of worn parts as necessary.

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<sup>2</sup> NHWAPPDoc2-29 ASC Exhibit DD. Specific Standards\_2022-01-31, Section 4.1.

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### Transmission lines, 34.5 kV collector system, and substation:

- Proper maintenance and safety checks.
- Substations, collector lines, and other electrical connections would be built to National Electrical Safety Code standards.
- All transmission lines would be constructed according to National Electrical Safety Code (NESC) standards.

### Solar panels and BESS:

- proper installation and maintenance of electrical equipment to prevent short-circuits and consequent sparking, and reduction in fuel to reduce the chance of fire spreading.
- solar array would have shielded electrical cabling, as required by applicable code, to prevent electrical fire
- Vegetation near and under solar panels may be mowed periodically, and weeds would be managed in accordance with the weed management procedures described in the Revegetation Plan
- electrical equipment would meet National Electrical Code and Institute of Electrical and Electronics Engineers standards and would not pose a significant fire risk.
- The areas immediately around the O&M Building, Proposed facility substations, and BESS would be graveled, with no vegetation present.
- The batteries would be contained in completely leak-proof modules, and stored upon a concrete pad.
- Transportation of lithium-ion batteries is subject to 49 CFR 173.185 – Department of Transportation Pipeline and Hazardous Material Administration. This regulation contains requirements for prevention of a dangerous evolution of heat; prevention of short circuits; prevention of damage to the terminals; and prevention of batteries coming into contact with other batteries or conductive materials.
- Adherence to the requirements and regulations, personnel training, safe interim storage, and segregation from other potential waste streams would minimize any public hazard related to transport, use, or disposal of batteries.
- The Applicant would employ the following design practices:
  - Use of lithium iron phosphate battery chemistry that does not release oxygen when it decomposes due to temperature;
  - Employment of an advanced and proven battery management system;
  - Qualification testing of battery systems in accordance with UL 9540A (UL 2018);
  - Installation of fire sensors, alarms, and clean agent-based fire extinguishing systems in every battery container (e.g., FM200, Novec 1230);
  - Installation of deflagration venting and/or sacrificial deflagration panels per National Fire Protection Association standards 68 and 69 (NFPA 2020);
  - Installation of remote power disconnect switches; and
  - Clear and visible signs to identify remote power disconnect switches.



## **Draft Fire Prevention, Suppression and Emergency Management Plan**

Attachment 1: Solar Emergency Site Plan TOC

Attachment 2: Wind Emergency Site Plan TOC