**BEFORE THE**
**ENERGY FACILITY SITING COUNCIL**
**OF THE STATE OF OREGON**

| | | |
|---|---|---|
| In the Matter of the Application for Site Certificate For the Bakeoven Solar Project | ) ) ) ) | DRAFT PROPOSED ORDER ON APPLICATION FOR SITE CERTIFICATE |

January 2020

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## ATTACHMENTS

Attachment A: Recommended Site Certificate Conditions
(To be replaced in final order with Site Certificate)
Attachment B: Index of Reviewing Agency Comments on complete ASC;
Comments Relied upon in DPO
(Including Department's Consultant Review Memos)
Attachment C: [Reserved for Draft Proposed Order Comments/Index]
Attachment D: Draft Erosion and Sediment Control Plan and Best Management Practices
Attachment E: Owner Legal Parcel Status
Attachment F: Forest-Farm Management Easement
Attachment G: Protection for Generally Accepted Farming and Forestry Practices – Complaint and Mediation Process
Attachment H: Draft Habitat Mitigation Plan
Attachment I: Draft Revegetation Plan
Attachment J: Draft Wildlife Monitoring Plan
Attachment K: Draft Noxious Weed Control Plan
Attachment L: Draft Inadvertent Discovery Plan
Attachment M: Draft Construction Traffic Management Plan
Attachment N: Draft Operational Fire Protection and Emergency Response Plan

## ACRONYMS AND ABBREVIATIONS

| | |
|---|---|
| AC | Alternating Current |
| ASC | Application for Site Certificate for the Bakeoven Solar Project |
| BMP | Best Management Practice |
| BPA | Bonneville Power Administration |
| Council | Oregon Energy Facility Siting Council |
| dBA | A-weighted decibel |
| Department | Oregon Department of Energy |
| DEQ | Oregon Department of Environmental Quality |
| DOGAMI | Oregon Department of Geology and Mineral Industries |
| DSL | Oregon Department of State Lands |
| EFSC | Oregon Energy Facility Siting Council |
| ESCP | Erosion and Sediment Control Plan |
| EFU | Exclusive Farm Use |
| HMP | Habitat Mitigation Plan |
| kV | kilovolts |
| Li-ion | Lithium Ion |
| MW | Megawatt(s) |
| NPDES | National Pollutant Discharge Elimination System |
| O&M | Operations and Maintenance |
| OAR | Oregon Administrative Rule |
| ODFW | Oregon Department of Fish and Wildlife |
| ODOE | Oregon Department of Energy |
| ODOT | Oregon Department of Transportation |
| ORBIC | Oregon Biodiversity Information Center |
| ORS | Oregon Revised Statutes |
| pASC | Preliminary Application for Site Certificate |
| RAI | Request for Additional Information |
| SAG | Special Advisory Group |
| USFWS | United States Fish and Wildlife Service |
| WCLUDO | Wasco County Land Use and Development Ordinance |

# I. INTRODUCTION

The Oregon Department of Energy (Department) issues this draft proposed order (DPO) in accordance with Oregon Revised Statute (ORS) 469.370(1), based on its review of the Application for Site Certificate (ASC) for the proposed Bakeoven Solar Project (proposed facility) and comments and recommendations received by state agencies, local governments, and tribal governments. This DPO includes recommended conditions of approval for inclusion in the site certificate to ensure or maintain compliance with applicable rules and standards during proposed facility construction, operation and retirement. Based upon its review, including recommending findings of fact, conclusions of law and conditions, the Department recommends Council approve the ASC and issue a site certificate for the proposed facility.

The applicant, Bakeoven Solar, LLC (applicant), a wholly owned subsidiary of Avangrid Renewables, LLC, seeks Energy Facility Siting Council (EFSC or Council) approval to construct and operate a solar photovoltaic energy generation facility, and related or supporting facilities including an approximately 11-mile 230 kilovolt (kV) transmission line; a collector substation; an operations and maintenance building; communication and supervisory control and data acquisition (SCADA) system; site access, internal service roads, 8-foot perimeter fencing, and gates; temporary staging areas, and up to 100 MW of either lithium-ion or flow battery storage system. The proposed facility would occupy up to 2,717 acres on Exclusive Farm Use zoned land, predominately composed of soils in capability class III (approx. 2,518 of 2,717 acres), as specified by the National Cooperative Soil Survey (operated by the Natural Resources Conservation Service of the United States Department of Agriculture).

As further described in this order, the applicant seeks approval of a micrositing corridor containing approximately 2,7174,160 acres – a micrositing corridor, if authorized by Council, grants approval for siting of facility components anywhere within. Therefore, the extent of potential impacts for the proposed facility is based on occupation of up to 2,717 acres anywhere within the 4,160 acre micrositing corridor, all of which is within Exclusive Farm Use zoned land, with 3,664 acres composed of soils in capability class III. The proposed facility would be located within southeastern Wasco County, approximately 5 miles east of the City of Maupin and U.S. Highway 97; and, 5 miles south of State Highway 216. The proposed facility would be capable of generating approximately 303 megawatts (MW) of electricity.

The proposed facility is subject to EFSC review pursuant to ORS 469.300(11)(a)(D)(ii) as it is proposed as a solar photovoltaic power generation facility that would use more than 1,280 acres of land predominately composed of soils in a capability class I to IV, as specified by the National Cooperative Soil Survey.[1] Approval of a site certificate by EFSC is therefore required for the construction, operation, and retirement of the proposed facility.[2]

[1] The definitions contained in ORS 469.300 and Oregon Administrative Rule (OAR) 345-001-0010 apply to terms used in this DPO.
[2] ORS 469.320.

In addition to the conditions recommended in this DPO, the applicant would be subject to the conditions and requirements contained in local ordinances in effect on the date the preliminary application was submitted and the rules and standards of the Council and state laws in effect on the date the site certificate is executed. Under ORS 469.401(2), upon a clear demonstration of a significant threat to public health, safety, or the environment that requires application of later-adopted laws or rules, the Council may require compliance with such later-adopted laws or rules. The Department recognizes that many specific tasks related to the design, construction, operation, and retirement of the proposed facility would be undertaken by the applicant's agents or contractors. Nonetheless, the certificate holder remains responsible for ensuring compliance with all provisions of the site certificate.

The Council does not have jurisdiction over matters that are not included in and governed by the site certificate or amended site certificate, including design-specific construction or operating standards and practices that do not relate to siting, as well as matters relating to employee health and safety, building code compliance, wage and hour or other labor regulations, or local government fees and charges.[3] Also outside the Council's jurisdiction are matters of land-acquisition, land purchases, land leases and right-of-way easements.

A site certificate is a binding agreement between the State of Oregon and the applicant, authorizing the applicant to design, construct, operate, and retire a facility on an approved site, incorporating all conditions imposed by the Council on the applicant.[4] A site certificate issued by EFSC binds the state and all counties, cities and political subdivisions of Oregon. Once EFSC issues a site certificate, any affected state agency, county, city or political subdivision with an applicable permit identified in the ASC and to be governed by the site certificate, must, upon submission by the applicant of the proper applications and payment of the proper fees, but without hearing or other proceeding, promptly issue the permits, licenses and certificates addressed in the site certificate.[5] The Council has continued authority over the site for which the site certificate is issued and may inspect, or direct Department staff to inspect, or request another state agency or local government to inspect, the site at any time in order to ensure that the facility is being operated consistently with the terms and conditions of the site certificate.[6]

## II. PROCEDURAL HISTORY

### II.A. Notice of Intent

On November 2, 2018, the Department received a Notice of Intent (NOI) from Bakeoven Solar, LLC (applicant) to file an application for site certificate (ASC) for a proposed 303 megawatt (MW) solar photovoltaic energy facility. On November 16, 2018, the Council appointed the

[3] ORS 469.401(4).
[4] ORS 469.300(26).
[5] ORS 469.401(3).
[6] ORS 469.430.

Wasco County Board of Commissioners as the Special Advisory Group (SAG) for siting proceedings associated with the proposed facility, in accordance with ORS 469.480(1).[7] On November 28, 2018, the Department issued public notice of the NOI to the Council's general mailing list and to adjacent property owners as defined at OAR 345-020-0011(1)(f). Further, in accordance with OAR 345-020-0040, the Department distributed the NOI to the SAG, reviewing agencies, and tribal governments along with a memorandum requesting comments on the NOI. The Department also published notice of the NOI on November 28, 2018 in The Dalles Chronicle, a newspaper of general circulation in the area of the proposed facility. The NOI comment deadline was January 11, 2019. Pursuant to OAR 345-015-0140, the Department provided copies of each public comment to the applicant for consideration in the development of the ASC.

**II.B. Project Order**

On February 1, 2019, the Department issued a project order in accordance with ORS 469.330(3) and OAR 345-015-0160(1), which requires the Department to specify the state statutes, administrative rules, and local, state, and tribal permitting requirements applicable to the construction and operation of the proposed facility. The project order also outlines the ASC requirements from OAR 345-021-0010 that are relevant to the proposed facility.

**II.C. Application for Site Certificate**

The Department received the preliminary Application for Site Certificate (pASC) on July 5, 2019. The Department distributed the pASC to reviewing agencies and requested pASC review and comment by July 26, 2019. Additionally, the Department posted an announcement on its project website notifying the public that the pASC had been received.

Pursuant to OAR 345-015-0190(1), on July 31, 2019, the Department determined the pASC to be incomplete; requests for additional information were issued by the Department on July 31 and August 6, 2019. The applicant provided responses to the Department's information requests on October 1st, 8th, and 22nd; and, provided supplemental responses to information requested for one mitigation option proposed in the draft Habitat Mitigation Plan on December 10th, 2019 (note that this information was not necessary in order for the Department to deem the ASC complete). After reviewing the applicant's responses and revised ASC exhibits, the Department determined the pASC to be complete on October 31, 2019.[8] The applicant filed a complete ASC on November 4, 2019.

[7] BSPNOI, SAG Appointment Wasco County, 2018-11-16. Under ORS 469.480(1), the Council must designate as a Special Advisory Group the governing body of any local government within whose jurisdiction the facility is proposed to be located.

[8] Pursuant to OAR 345-015-0190(5), an ASC is complete when the Department finds that the applicant has submitted information adequate for the Council to make findings or impose conditions on all applicable Council standards.

Public notice of the complete ASC was issued on November 5, 2019, with notice posted in The Dalles Chronicle on November 6, 2019. The Department held a public information meeting on the complete ASC on November 13, 2019 in Maupin, Oregon. Pursuant to OAR 345-015-0200, the Department distributed electronic copies of the complete ASC to reviewing agencies, along with a request for agency reports on the complete ASC by December 6, 2019. The Department received comments from six agencies, including reviewing agencies and a tribal government.[9]

On October 25, 2019, the Council appointed Joe Allen, J.D., an administrative law judge with the Oregon Office of Administrative Hearings, as the hearing officer to conduct the public hearing on the draft proposed order and to conduct the contested case proceeding.

**II.D. Council Review Process**

The issuance of this DPO initiates a 39-day comment period. The Council's appointed, third-party hearing officer will conduct a public hearing on the DPO starting at 6:00 P.M. on Tuesday, February 25, 2020 at the Maupin Civic Center in Maupin, Oregon – representing the geographic area affected by the proposed facility. In addition to accepting written comments during the comment period, the hearing officer will also accept oral testimony at the public hearing.[10] Following the close of the record of the public hearing and Council review of the DPO at a subsequent Council meeting, the Department will issue a Proposed Order, taking into consideration Council comments, any comments received "on the record of the public hearing" (i.e. oral testimony provided at the public hearing and written comments received by the Department from January 17, 2020 through February 25, 2020, as well as any responses to public comments by the applicant), and agency consultation.

Concurrent with the issuance of the Proposed Order, the Department will issue a notice of contested case and a public notice of the Proposed Order.[11] Only those persons who comment in person or in writing on the record of the public hearing may request to participate as a party or limited party in the contested case proceeding. Additionally, to raise an issue in a contested case, the issue must be within Council jurisdiction, and the person must have raised the issue on the record of the public hearing with "sufficient specificity to afford the Council, the department, and the applicant an adequate opportunity to respond."[12] At the conclusion of the contested case proceeding, the hearing officer must issue a proposed contested case order stating the hearing officer's findings of fact, conclusions of law and recommended site certificate conditions on the issues in the contested case. The Council may adopt, modify or reject the hearing officer's proposed contested case order.

[9] Reviewing agencies that commented on the complete ASC include Wasco County Planning Department, City of Maupin, CTWSRO, SHPO, DOGAMI, and ODFW.
[10] ORS 469.370(2).
[11] See ORS 469.370(4) and OAR 345-015-0014.
[12] ORS 469.370(3).

Following the contested case proceeding, the Council will take action to ether modify or approve the Proposed Order as the Final Order and issue a site certificate; or, may reject the Proposed Order, denying the Final Order and issuance of a site certificate based upon the standards adopted under ORS 469.501, and any additional state statutes, rules, or local government regulations or ordinances determined to be applicable to the proposed facility in the Project Order.[13] The Council's Final Order is subject to judicial review by the Oregon Supreme Court. Only a party to the contested case proceeding may request judicial review and the issues on appeal are limited to those raised by the parties to the contested case proceeding. A petition for judicial review must be filed with the Supreme Court within 60 days after the date of service of the Council's final order or within 30 days after the date of the petition for rehearing is denied or deemed denied.[14]

## III. DESCRIPTION OF THE PROPOSED FACILITY

The information presented in this section is based upon details provided in ASC Exhibits B and C. Section III.A., *Proposed Facility Components* describes proposed facility components and Section II.B., *Proposed Facility Location* described the proposed location, site boundary and micrositing corridor of the facility.

### III.A. Proposed Facility Components

A proposed facility includes the energy facility together with any related or supporting facilities. Related or supporting facilities means any structure proposed by the applicant to be constructed or substantially modified in connection with the construction of an energy facility.[15] As stated in ASC Exhibit B, the proposed facility includes a solar photovoltaic power generation facility and related and supporting facilities, with a nominal and average generating capacity of approximately 303 MW. The applicant seeks flexibility in final facility layout, number of equipment, and technology type selected, and has analyzed maximum impacts within a designated micrositing corridor to support Council review of requested flexibility, as further described in Section III.B., *Proposed Facility Location, Site Boundary and Micrositing Corridor* below.

*Energy Facility*

The proposed energy facility would be comprised of solar modules (mono- or poly-crystalline cells), tracker systems, posts (approx. 150,300 posts, steel or pile-type, assumed concrete foundations), and related electrical equipment (cabling; approx. 153 inverter/transformer stations; and, approx. 23 miles of above- and 4.2 miles of belowground 34.5 kV collection system - aboveground collector lines to be placed on single or double circuit monopole

[13] ORS 469.370(7).
[14] ORS 469.403.
[15] OAR 345-001-0010(21) and – (50)

structures, 75 feet in height). The solar array will be enclosed with a chain-link perimeter fence, up to 8 feet in height, with two 16-foot-wide gates and one pedestrian, 4-foot-wide gate.[16]

The solar array will have shielded electrical cabling, as required by applicable code, to prevent electrical fires. The vegetation in the area under and around each solar module installation would be mowed annually and maintained sufficiently low, in accordance with the applicant's draft Operational Fire Protection and Emergency Response Plan, to reduce fire-related fuels (see Attachment N of this order).

Routine operations and maintenance (O&M) activity would potentially include solar panel washing (approximately 1 million gallons of water per year), and infrequent repair and replacement of solar arrays and associated electrical equipment.

*Related or Supporting Facilities*

Proposed related or supporting facilities, as further described below, would include:

- 230 kV Transmission Line
- Collector Substation and Operations and Maintenance (O&M) Building/Onsite Sewage Disposal System
- Communication and Supervisory Control and Data Acquisition (SCADA) System
- Site Access, Service Roads, Perimeter Fencing, and Gates
- Temporary Staging Areas
- Battery Storage System, including 10,000-gallon water tank

*Proposed 230 kV Transmission Line*

The proposed 230 kV transmission line would extend approximately 11 miles from the proposed collector substation to Bonneville Power Administration's (BPA) existing Maupin Substation, which interconnects to BPA's 230 kV Big-Eddy to Redmond transmission line. The proposed 230 kV transmission line route extends northwest from the proposed collector substation for approximately 7.5 miles, and then for approximately 3.5 miles parallels Bakeoven Road to terminate at BPA's Maupin Substation. The proposed 230 kV transmission line would be supported by two galvanized steel or wood pole H-frame structures or galvanized steel or wood monopole structures ranging from 80 to 100 feet in height, spaced approximately 700 feet apart (see ASC Exhibit B Figure B-7, B-8 and B-9).

*Proposed Collector Substation and O&M Building*

The proposed collector substation would combine and step up the voltage of energy generated by the proposed energy facility to the desired transmission voltage. The proposed collector substation would likely include two non-polychlorinated biphenyl oil-containing transformers

[16] BSPAPPDoc6 2 Exhibit B. Project Desc 2019-11-04, Section 4.1.

(49,385 gallons total); circuit-breakers; power transformer(s); bus and insulators; disconnect switches; relaying, battery and charger; surge arresters; alternating current and direct current supplies; control enclosure; metering equipment; grounding; and associated control wiring. The proposed substation would be located within an approximately 3 acre graveled area, and would be within a fenced area within the fenced solar array area, near the transmission line corridor, at the southern end of the proposed site boundary (see ASC Exhibit C, Figure C-2). The proposed collector substation will have sufficient spacing between equipment to prevent the spread of fire and will also be located on a gravel surface with no vegetation present to reduce any risk of fire from and to the proposed facility. All electrical equipment will meet National Electrical Code and Institute of Electrical and Electronics Engineers standards and will not pose a significant fire risk.[17]

The proposed operations and maintenance (O&M) building would be a single-story building, approximately 20 feet in height, within an approximately 5,000 square foot area, and would include office space, storage, bathroom, and breakroom facilities. Water would be supplied via an existing or newly constructed on-site permit exempt groundwater well (see ASC Exhibit O). The O&M building would also have an on-site, state permitted septic system, permitted by the Oregon Department of Environmental Quality, with a discharge capacity of up to 7,500 gallons. Electric power and telephone service would be provided via local service providers. A gravel parking and storage area would be located adjacent to the building. The proposed O&M building would be located near the solar array and would be located within the solar array perimeter fence. To reduce any risks of fire, the fenced areas around the O&M building will be graveled, with no vegetation present. The O&M building will have basic firefighting equipment for use on site during maintenance activities, such as shovels, beaters, portable water for hand sprayers, fire extinguishers, and other equipment.

*Proposed Communication and Supervisory Control and Data Acquisition System*

A proposed communication and SCADA system would be installed to collect operating and performance data from the solar array. The SCADA system would allow for remote operation of the proposed facility from the O&M building and the applicant's national control center in Portland, Oregon. Fiber optic cables for the SCADA system would be installed with the collection system. In areas where the collection system would be buried, the fiber cables would be installed in the same trench. Where the collection system is above ground, the fiber cables would be mounted on overhead poles along with conductors.

*Proposed Site Access, Service Roads, Perimeter Fencing, and Gates*

The proposed facility would be accessed from Bakeoven Road east of Maupin, Oregon. The locations of access points would depend on the final configuration of the solar array, and any section of Bakeoven Road within the micrositing corridor could be improved to provide access to the proposed facility. Within the site boundary, approximately 24 miles of service roads

[17] BSPAPPDoc6 2 Exhibit B. Project Desc 2019-11-04, Section 2.7.

would be constructed for access and maintenance purposes. New service roads within the site boundary would be up to 20 feet wide with an internal turning radius sufficiently sized for emergency vehicle access. Facility roads will be sized for emergency vehicle access in accordance with 2014 Oregon Fire Code requirements, including Section 503 and Appendix D - Fire Apparatus Access Roads. Specifically, roads will 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.[18] These fire prevention measures are discussed further in Section IV.M., *Public Services*, and in Attachment N Operational Fire Protection and Emergency Response Plan, attached to this order. Chain-link perimeter fencing, up to 8 feet in height, would enclose the solar array. The perimeter fencing would have vehicle and pedestrian access gates, including two 16-foot-wide gates and one 4-foot-wide gate (see ASC Exhibit C, Figure C-2).

*Proposed Temporary Staging Areas*

Three temporary staging areas to be used for equipment and supply storage, and one or more temporary concrete batch plant staging areas, are assumed to be needed during construction. All temporary staging areas would be located with the applicant's proposed micrositing corridor. Employees will be required to keep vehicles on roads and off dry grassland during the dry months of the year, unless such activities are required for emergency purposes, in which case fire precautions will be observed.

*Proposed Battery Storage System*

The proposed battery storage system would be comprised of either lithium-ion (Li-ion) or flow batteries and would include the following elements:

- Battery storage equipment, including batteries and racks or containers, inverters, isolation transformers, and switchboards.
- Balance of plant equipment (more advanced systems required for Li-ion), which may include a warehouse-type building, medium-voltage and low-voltage electrical systems, fire suppression, heating, ventilation, and air-conditioning systems, building auxiliary electrical systems, and network/SCADA systems.
- Cooling system (more advanced systems required for Li-ion), which may include a separate chiller plant located outside the battery racks with chillers, pumps, and heat exchangers.
- High-voltage (HV) equipment, including a step-up transformer, HV circuit breaker, HV current transformers and voltage transformers, a packaged control building for the HV breaker and transformer equipment, HV towers, structures, and HV cabling.
- Aboveground, cylindrical water storage tank, approximately 14 feet tall and 12 feet in diameter, with a 10,000-gallon capacity to supplement water for fire-fighting and solar panel washing.

[18] BSPAPPDoc6 2 Exhibit B. Project Desc 2019-11-04, Section 2.7.

Both the Li-ion and flow battery technologies are often placed in standard-sized shipping containers on a concrete slab, as represented in ASC Exhibit B, Figure B-10. Each container would hold batteries, a supervisory and power management system, cooling system (if needed), and a fire prevention system. By connecting multiple containers, the battery storage system could be scaled to the desired capacity. Containers may be stacked up to two levels with an estimated maximum height of approximately 20 feet.

Routine O&M activities would include battery replacement every 7 years; and, replacement of electrolyte solution every 20 years at a rate of 7,000 gallons per 1 MW of electrolyte solution, if flow battery storage systems are selected in final design.

**III.B. Proposed Facility Location, Site Boundary and Micrositing Corridor**

The proposed facility would be located within southeastern Wasco County, approximately 5 miles east of the City of Maupin and U.S. Highway 97; and, 5 miles south of State Highway 216. The facility is proposed to occupy approximately 2,717 acres and be located within an approximately 10,640 acre site boundary, entirely within private property. "Site boundary" means the perimeter of the site of a proposed energy facility and its related or supporting facilities, all temporary laydown and staging areas and all corridors proposed by the applicant.[19]

Within the site boundary, the applicant seeks approval of an approximately 4,160 acre micrositing corridor to allow flexibility in the final location of facility components. As defined in OAR 345-001-0010, a "micrositing corridor" means a continuous area of land within which construction of facility components may occur, subject to site certificate conditions. Micrositing corridors are intended to allow some flexibility in specific component locations and design in response to site-specific conditions and engineering requirements to be determined prior to construction. In order for Council to authorize a micrositing corridor, allowing placement of facility components anywhere within, the Council must find that the applicant can comply with requirements of all Council standards and applicable rules and requirements based on siting of facility components anywhere within the micrositing corridor. As presented in Section IV. *Evaluation of Council Standards* of this order, based on the applicant's methodology, where surveys and analysis encompassed the entirety of the micrositing corridor to inform the evaluation of impacts under each Council standard, the Department recommends Council approve the micrositing corridor. While the applicant represents that the proposed facility would occupy up to 2,717 acres, in order to authorize a micrositing corridor, the Department recommends Council evaluate the permanent occupation of the proposed facility and potential impacts based on the size of the micrositing corridor, or 4,160 acres.

The regional location of the proposed facility site boundary and micrositing corridor are presented in Figure 1, *Proposed Facility Location*. The location of proposed facility components are presented in Figure 2, *Proposed Facility Layout*.

[19] OAR 345-001-0010(55)

1 **Figure 1: Proposed Facility Location**

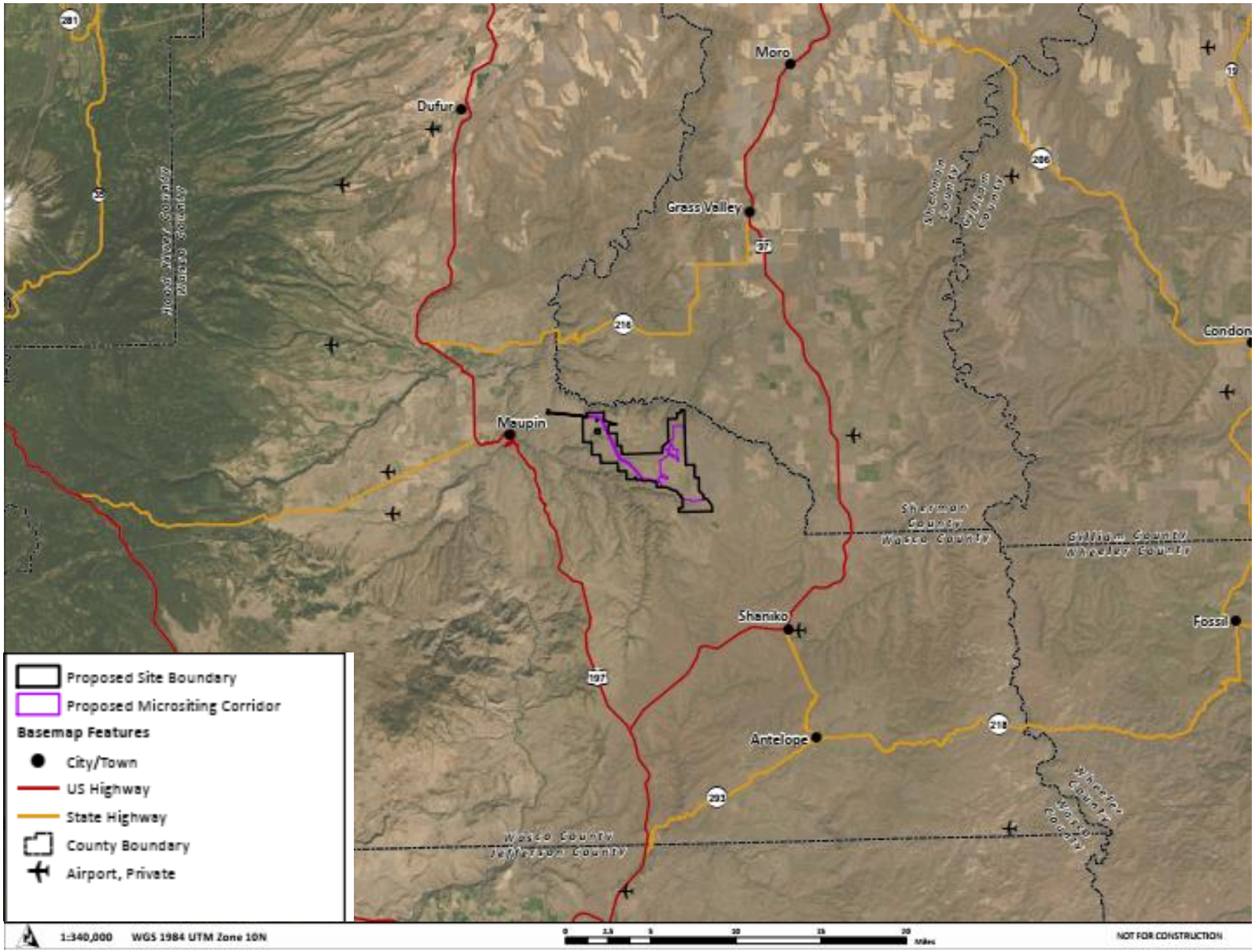
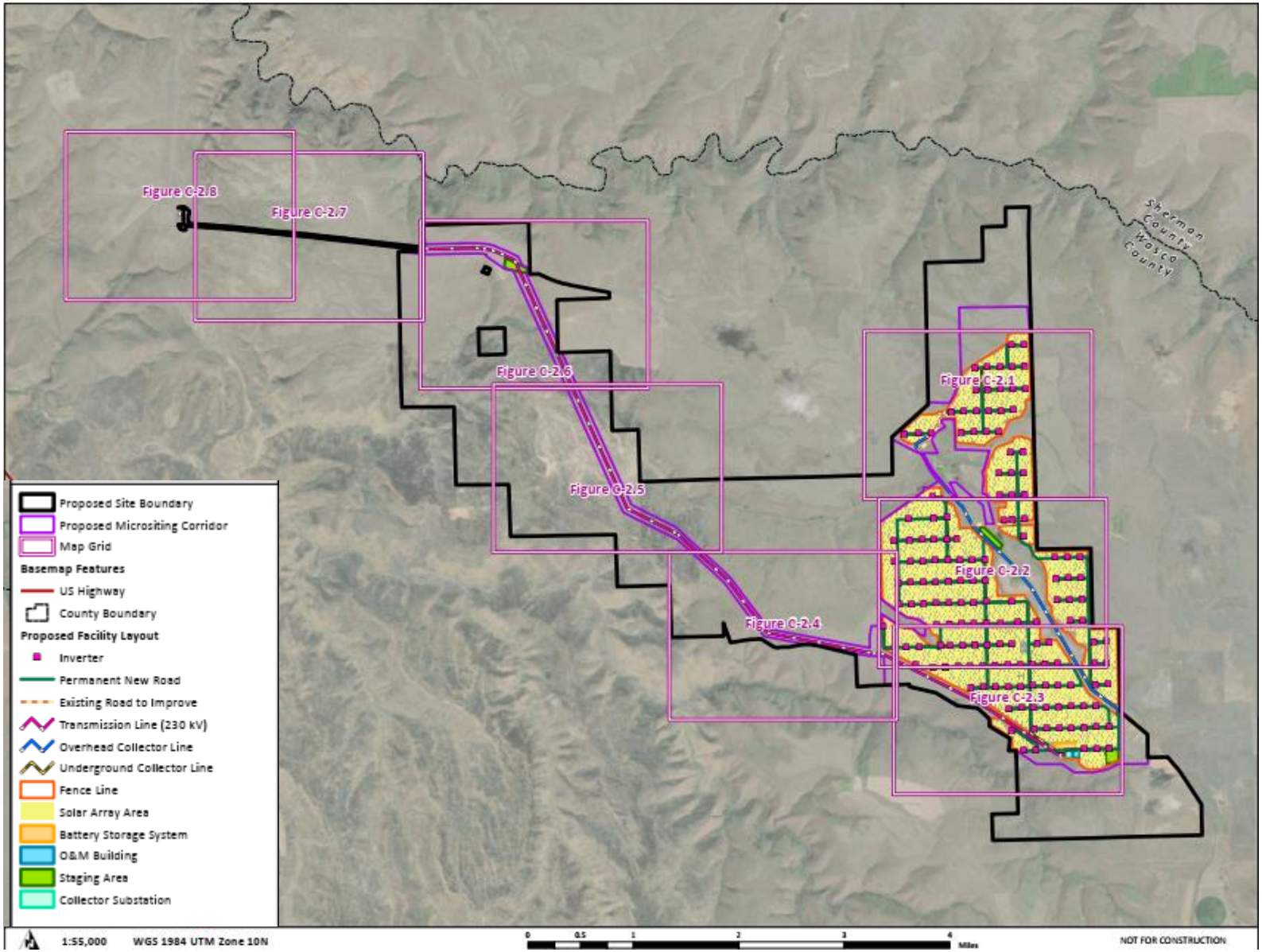


**Figure 2: Proposed Facility Layout**



## IV. EVALUATION OF COUNICL STANDARDS

As discussed above, ORS 469.320 requires a site certificate from the Energy Facility Siting Council (EFSC or Council) before construction of a "facility." ORS 469.300(14) defines "facility" as an "energy facility together with any related or supporting facilities." The proposed facility qualifies as an "energy facility" under the definition in ORS 469.300(11)(a)(D)(ii).

To issue a site certificate for a proposed facility, the Council must determine that "the facility complies with the applicable standards adopted by the Council pursuant to ORS 469.501 or the overall public benefits of the facility outweigh any adverse effects on a resource or interest protected by the applicable standards that the facility does not meet."[20] The Council must also determine that the proposed facility complies with all other applicable Oregon statutes and administrative rules, as identified in the project order, excluding requirements governing design or operational issues that do not relate to siting[21] and excluding compliance with requirements of federally-delegated programs.[22] Nevertheless, the Council may consider these programs in the context of its own standards to ensure public health and safety and protection of the environment.[23]

Under ORS 469.310, the Council is charged with ensuring that the "siting, construction and operation of energy facilities shall be accomplished in a manner consistent with protection of the public health and safety." ORS 469.401(2) further provides that the Council must include in the site certificate "conditions for the protection of the public health and safety," for the time for completion of construction, and to ensure compliance with the standards, statutes and rules described in ORS 469.501 and ORS 469.503."[24] The Council implements this statutory framework and ensures the protection of public health and safety by adopting findings of fact, conclusions of law, and conditions of approval concerning the proposed facility's compliance with the Council's Standards for Siting Facilities at OAR 345, Divisions 22, 24, 26, and 27.

This DPO includes the Department's initial analysis of whether the proposed facility meets each applicable Council Standard (with mitigation and subject to compliance with recommended conditions, as applicable), based on the information in the ASC. Following the 39-day comment period on the DPO, public hearing on February 25, 2020, and Council's review of the DPO and comments received at a subsequent Council meeting, likely in March 2020, the Proposed Order would be issued presenting the Department's evaluation of the comments and additional evidence, if received on the record of the DPO.

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[20] ORS 469.503(1).

[21] As stated above, such matters include design-specific construction or operation standards and practices that do not relate to siting, as well as matters relating to employee health and safety, building code compliance, wage and hour or other labor regulations, or local government fees and charges.

[22] ORS 469.401(4); ORS 469.503(3).

[23] The Council does not have jurisdiction over matters that are not included in and governed by the site certificate or amended site certificate. However, the Council may rely on the determinations of compliance and the conditions in the permits issued by these state agencies and local governments in deciding whether the facility meets other standards and requirements under its jurisdiction.

[24] ORS 469.401(2).

## IV.A. General Standard of Review: OAR 345-022-0000

*(1) To issue a site certificate for a proposed facility or to amend a site certificate, the Council shall determine that the preponderance of evidence on the record supports the following conclusions:*

*(a) The facility complies with the requirements of the Oregon Energy Facility Siting statutes, ORS 469.300 to ORS 469.570 and 469.590 to 469.619, and the standards adopted by the Council pursuant to ORS 469.501 or the overall public benefits of the facility outweigh the damage to the resources protected by the standards the facility does not meet as described in section (2);*

*(b) Except as provided in OAR 345-022-0030 for land use compliance and except for those statutes and rules for which the decision on compliance has been delegated by the federal government to a state agency other than the Council, the facility complies with all other Oregon statutes and administrative rules identified in the project order, as amended, as applicable to the issuance of a site certificate for the proposed facility. If the Council finds that applicable Oregon statutes and rules, other than those involving federally delegated programs, would impose conflicting requirements, the Council shall resolve the conflict consistent with the public interest. In resolving the conflict, the Council cannot waive any applicable state statute.*

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*(4) In making determinations regarding compliance with statutes, rules and ordinances normally administered by other agencies or compliance with requirement of the Council statutes if other agencies have special expertise, the Department of Energy shall consult such other agencies during the notice of intent, site certificate application and site certificate amendment processes. Nothing in these rules is intended to interfere with the state's implementation of programs delegated to it by the federal government.*

### Findings of Fact

OAR 345-022-0000 provides the Council's General Standard of Review and requires the Council to find that a preponderance of evidence on the record supports the conclusion that a proposed facility would comply with the requirements of EFSC statutes and the siting standards adopted by the Council and that a proposed facility would comply with all other Oregon statutes and administrative rules applicable to the issuance of a site certificate for the facility.[25]

[25] OAR 345-022-0000(2) and (3) apply to proposed facilities where an applicant has shown that the proposed facility cannot meet Council standards or has shown that there is no reasonable way to meet the Council standards through mitigation or avoidance of adverse effects to protected resources; and, for those instances, establish criteria for the Council to evaluate in making a balancing determination. The applicant does not assert that the proposed facility cannot meet an applicable Council standard. Therefore, OAR 345-022-0000(2) and (3) do not apply to this review.

The requirements of OAR 345-022-0000 are discussed in the sections that follow. The Department consulted with other state agencies, and the Wasco County Board of Commissioners during review of the ASC to aid in the evaluation of whether the proposed facility would satisfy the requirements of applicable statutes, rules and ordinances otherwise administered by other agencies. Additionally, in many circumstances the Department relies upon these reviewing agencies' special expertise in evaluating compliance with the requirements of Council standards.

OAR 345-022-0000(2) and (3) apply to ASCs where an applicant has shown that the proposed facility cannot meet Council standards, or has shown that there is no reasonable way to meet the Council standards through mitigation or avoidance of the damage to protected resources; and, for those instances, establish criteria for the Council to evaluate in making a balancing determination. The applicant does not assert that the proposed facility would not meet an applicable Council standard. Therefore, OAR 345-022-0000(2) and (3) do not apply to this review.

Certificate Expiration (OAR 345-027-0013)

ORS 469.370(12) requires the Council to "specify in the site certificate the date by which construction of the facility must begin." ORS 469.401(2) requires that the site certificate contain a condition "for the time for completion of construction." Under OAR 345-025-0006(4), the certificate holder must begin construction on the facility no later than the construction beginning date specified by Council in the site certificate. "Construction" is defined in ORS 469.300(6) and OAR 345-010-0010(12) to mean "work performed on a site, excluding surveying, exploration or other activities to define or characterize the site, the cost of which exceeds $250,000."

In ASC Exhibit B, the applicant requests Council consideration of a construction commencement deadline 5 years from issuance of the site certificate to allow flexibility if the facility is constructed in phases, and a construction completion deadline 6 years from issuance of the site certificate (or, 1 year after the construction commencement deadline).[26] The applicant represents that the proposed facility would be constructed either in one or several phases, allowing the applicant to tailor power delivery to customers based on market demand. If the proposed facility were constructed as one phase, the construction duration would be approximately 5 years (2020 through 2025). If the proposed facility were constructed in 3 phases, the duration of each phase is represented as 1 to 2 years (2020 through 2025).

While each ASC is evaluated on its own facts, the Council has decided during its review of previous energy facility ASCs that an applicant should have up to 3 years to commence construction, and no more than 6 years to complete construction from the effective date of the site certificate. A request to begin and complete construction within a longer timeframe must be balanced against potential changes in the existing environment (such as wildlife habitat) and

[26] BSPAPPDoc6 2 Exhibit B. Project Desc 2019-11-04, Section 6.0.

in land use ordinance provisions and Council standards in the interim. In contrast, the Council should also consider unforeseen factors that could impact a certificate holder's ability to meet the construction commencement and completion deadlines, such as financial, economic, or technological changes.

Based on the factors recommended be considered above for granting a construction commencement deadline that differs (5 years) from past Council decisions (3 years), including changes in environmental conditions and regulatory requirements, the Department provides the following analysis. Any potential incremental change in environmental conditions, specific to wildlife habitat quality, between 3 to 5 years from the effective date of the site certificate would not impact the applicant's mitigation obligation or validity of information provided in the ASC because the proposed facility site and area within the proposed site boundary is within the Oregon Department of Fish and Wildlife's (ODFW) designated Category 2 big game winter range habitat (see Section IV.H. *Fish and Wildlife Habitat* of this order*;* ASC Exhibit P); therefore, ODFW's overriding Category 2 habitat designation would offset any potential changes in habitat quality within the site boundary that could occur within the timeframe under review.

As previously described, the applicant proposes to complete construction within 6 years of the effective date of the site certificate, which is consistent with past Council decisions on ASCs; the difference of 2 years proposed in the commencement deadline would not impact the overall timeframe – 6 years - determined reasonable by Council through past EFSC decisions on ASCs to represent a timeframe where regulatory requirements were not likely to change significantly or render the evaluation and requirements for which the facility were to be constructed as outdated. However, because the applicant represents that the proposed facility may be constructed in phases and has not represented that the entirety of the proposed facility could feasibly be constructed in 1 year if construction commencement (of the facility) were to occur on year 5, the Department recommends Council impose construction commencement deadlines that align with the applicant's request and representations of construction schedule (i.e. a 3 and 5 year commencement deadline based on phase).

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

a. Construction of the facility or any phase 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 that it has met the construction commencement deadline.
b. Construction of the last phase of the facility, if constructed in phases, shall commence within five 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 that it has met the construction commencement deadline.
c. Construction of all facility components shall be completed within six years after the date of Council action [DATE TO BE SPECIFIED]. 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)]

*Mandatory and Site-Specific Conditions in Site Certificates [OAR 345-025-0006 and OAR 345-025-0010]*

OAR 345-025-0006 lists certain mandatory conditions that the Council must adopt in every site certificate. Mandatory conditions OAR 345-025-0006(7) through (9) and (16) are discussed and applied in Section IV.G., *Retirement and Financial Assurance*, of this order as they relate to the restoration of the site, Council approval of a retirement plan, and bonding requirements of the applicant. Mandatory conditions OAR 345-025-0006(12) through (14) are discussed and applied in Section IV.C, *Structural Standard*, because they are associated with the design, construction and the operation of the proposed facility to avoid dangers of seismic hazards, coordination with and notifications to the Department of Geology and Mineral Industries. In addition, pursuant to OAR 345-025-0006(10), the Council shall include as conditions in the site certificate all representations in the ASC and supporting record the Council deems to be binding commitments made by the applicant, as necessary to avoid or minimize a potential impact. Mandatory conditions that are not otherwise addressed in the evaluation of compliance with specific standards are discussed below, in the context of the Council's General Standard of Review.

The following are applicable mandatory conditions required pursuant to OAR 345-025-0006:

**Recommended General Standard Condition 2:** 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 or any phase 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.
[GEN-OPS-01; Mandatory Condition OAR 345-025-0006(2)]

**Recommended General Standard Condition 3:** The certificate holder shall design, construct, operate, and retire the facility or any phase of 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)]

**Recommended General Standard Condition 4:** 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)]

**Recommended General Standard Condition 5:** If the certificate holder becomes aware of a significant environmental change or impact attributable to the facility or any phase of 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)]

**Recommended General Standard Condition 6:** 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)]

**Recommended General Standard Condition 7:** Before any transfer of ownership of the facility, any phase 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)]

*Site Specific Conditions [OAR 345-025-0010]*

In addition to mandatory conditions imposed on all facilities, the Council rules also include "site specific" conditions at OAR 345-025-0010 that the Council may include in the site certificate to address issues specific to certain facility types or proposed features of facilities.[27]

[27] Site-Specific Conditions at OAR 345-025-0010(1)-(3), and (6)-(7) do not apply to the proposed facility based on facility energy source/type (solar photovoltaic power generation facility with related and supporting facilities including a proposed 230 kV transmission line).

Because the proposed facility includes a 230 kV transmission line, the Department recommends the Council adopt the following site specific conditions:

**Recommended General Standard Condition 8:** The certificate holder shall:

a. Design, construct and operate the transmission line in accordance with the requirements of the National Electrical Safety Code as approved by the American National Standards Institute; and
b. The certificate holder shall 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.

[GEN-GS-05; Site Specific Condition OAR 345-025-0010(4)]

**Recommended General Standard Condition 9:** The certificate holder is authorized to construct a 230 kV transmission line anywhere within the approved corridor, subject to the conditions of the site certificate. The approved corridor extends approximately 11 miles from the micrositing corridor containing the solar arrays and other related or supporting facilities, along the transmission corridor route, to the interconnection point at the BPA Maupin Substation, as further described in ASC Exhibit B and C and as presented in Figure 1 of the site certificate.
[GEN-GS-06; Site Specific Condition OAR 345-025-0010(5)]

*Construction and Operation Rules for Facilities [OAR Chapter 345, Division 26]*

The Council has adopted rules at OAR Chapter 345, Division 26 to ensure that construction, operation, and retirement of facilities are accomplished in a manner consistent with the protection of the public health, safety, and welfare and protection of the environment. These rules include requirements for compliance plans, inspections, reporting and notification of incidents. The certificate holder must construct the facility substantially as described in the site certificate and the certificate holder must construct, operate, and retire the facility in accordance with all applicable rules adopted by the Council in OAR Chapter 345, Division 26.[28]

The Department recommends that the Council adopt General Standard Condition 10, as presented below, to support the Department's review of ongoing site certificate compliance, in accordance with OAR Chapter 345, Division 26.

**Recommended General Standard Condition 10:** At least 90 days prior to beginning construction of the facility or any phase 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.

[28] Applicable rule requirements established in OAR Chapter 345, Division 26 include OAR 345-026-0005 to OAR 345-026-0170.

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-01; OAR 345-026-0048]

**Conclusions of Law**

Based on the foregoing recommended findings of fact, conclusions of law, and subject to recommended conditions, the Department recommends Council find that the proposed facility would satisfy the requirements of OAR 345-022-0000.

**IV.B. Organizational Expertise: OAR 345-022-0010**

*(1) To issue a site certificate, the Council must find that the applicant has the organizational expertise to construct, operate and retire the proposed facility in compliance with Council standards and conditions of the site certificate. To conclude that the applicant has this expertise, the Council must find that the applicant has demonstrated the ability to design, construct and operate the proposed facility in compliance with site certificate conditions and in a manner that protects public health and safety and has demonstrated the ability to restore the site to a useful, non-hazardous condition. The Council may consider the applicant's experience, the applicant's access to technical expertise and the applicant's past performance in constructing, operating and retiring other facilities, including, but not limited to, the number and severity of regulatory citations issued to the applicant.*

*(2) The Council may base its findings under section (1) on a rebuttable presumption that an applicant has organizational, managerial and technical expertise, if the applicant has an ISO 9000 or ISO 14000 certified program and proposes to design, construct and operate the facility according to that program.*

*(3) If the applicant does not itself obtain a state or local government permit or approval for which the Council would ordinarily determine compliance but instead relies on a permit or approval issued to a third party, the Council, to issue a site certificate, must find that the third party has, or has a reasonable likelihood of obtaining, the necessary permit or approval, and that the applicant has, or has a reasonable likelihood of entering into, a contractual or other arrangement with the third party for access to the resource or service secured by that permit or approval.*

*(4) If the applicant relies on a permit or approval issued to a third party and the third party does not have the necessary permit or approval at the time the Council issues the site certificate, the Council may issue the site certificate subject to the condition that the applicant shall not commence construction or operation as appropriate until the third party has obtained the necessary permit or approval and the applicant has a contract or*

*other arrangement for access to the resource or service secured by that permit or approval.*

**Findings of Fact**

Subsections (1) and (2) of the Council's Organizational Expertise standard require that the applicant demonstrate its ability to design, construct and operate the proposed facility in compliance with Council standards and all site certificate conditions, and in a manner that protects public health and safety, as well as its ability to restore the site to a useful, non-hazardous condition. The Council may consider the applicant's experience and past performance in constructing, operating and retiring other facilities in determining compliance with the Council's Organizational Expertise standard. Subsections (3) and (4) address third party permits.

*Construction, Operation and Retirement of the Proposed Facility*

The Council may consider an applicant's past performance, including but not limited to the quantity or severity of any regulatory citations in the construction or operation a facility, type of equipment, or process similar to the facility, in evaluating whether the applicant has demonstrated an ability to design, construct and operate a facility in compliance with Council standards and site certificate conditions.[29] To evaluate whether the applicant has demonstrated an ability to comply with Council standards and site certificate conditions, the Department presents an evaluation of the applicant's relevant experience with constructing and operating similar systems and considers whether any regulatory citations have been received for its facilities.

Bakeoven Solar, LLC is a project-specific LLC and therefore relies upon the organizational expertise and experience of its parent company, Avangrid Renewables, LLC, to demonstrate compliance with the Council's Organizational Expertise standard, as presented in ASC Exhibit D. Exhibit D states that Avangrid has experience in the design, construction, and operation of wind energy facilities, solar energy facilities, natural gas fired generation and co-generation facilities, substations, and low- and high voltage electrical lines. Moreover, Avangrid owns and operates more than 6,000 MW of utility-scale renewable energy production, with more than 1,483 MW of utility-scale wind and solar generation within Oregon. While the applicant represents that is has not constructed and operated battery storage systems specifically, Avangrid is currently in the permitting phase for four battery storage projects within the United States, and considers the design and operation of a battery to be fundamentally similar to its other facilities and components.

The applicant's parent company is also the certificate holder parent company for six EFSC-jurisdictional energy facilities including Leaning Juniper IIA Wind Power Facility, Leaning Juniper IIB Wind Power Facility, Klondike III Wind Project, Montague Wind Power Facility, Golden Hills

[29] OAR 345-021-0010(1)(d)(D)

Wind Farm, and Klamath Cogeneration Project, some of which are operational, were recently constructed (2016-2019) or are planned to commence construction (2020-2021). The applicant affirms that neither the LLC or its parent company have received regulatory citations for any EFSC jurisdiction facility or related to constructing or operating any other facility, type of equipment, or process similar to the proposed facility within the United States.

Because the organizational expertise of Avangrid is relied upon to satisfy the requirements of the standard, the Department recommends Council impose the following condition to ensure that the applicant notifies the Department of any changes in the corporate structure of Avangrid Renewables:

> **Recommended Organizational Expertise Condition 1:** During construction and operation of the facility or any phase of the facility, the certificate holder shall report to the Department, within 7 days, any change in the corporate structure of the parent company, Avangrid Renewables, LLC that could impact the certificate holder's access to the financial resources or expertise of Avangrid Renewables, LLC.
> [GEN-OE-01]

The applicant has not selected an architect, engineer, prime contractor, or a major component vendor for the proposed facility; the applicant states in ASC Exhibit D that it has extensive experience selecting and working with experienced contractors during construction, operation and maintenance on similar facilities and components. The applicant refers to its experience utilizing specific selection criteria in the process of obtaining a qualified contractor to design and construction the proposed facility.[30] Because the ultimate responsibility for compliance with the site certificate would lie with the certificate holder, but it is recognized that the certificate holder would hire various contractors to design and build components of the proposed facility, the Department recommends that Council adopt the following conditions that clarify and confirm that the responsibility of compliance with the site certificate would be with the certificate holder.

> **Recommended Organizational Expertise Condition 2:** Before beginning construction of the facility or any phase of the facility, the certificate holder shall notify the Department of 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. The certificate holder shall report to the Department any changes of major contractors.
> [PRE-OE-01]

> **Recommended Organizational Expertise Condition 3:** During design, construction, operation, and retirement of the facility or any phase of the facility, the certificate holder shall contractually require all contractors and subcontractors to comply with all applicable laws and regulations and with the terms and conditions of the site certificate. The

[30] BSPAPPDoc6 4. ASC Exhibit D, p. 6. 2019-11-01.

contractual obligation shall be required of each contractor and subcontractor prior to that firm working on the facility. Such contractual provisions shall not operate to relieve the certificate holder of responsibility under the site certificate.
[GEN-OE-02]

**Recommended Organizational Expertise Condition 4**: 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.
[GEN-OE-03]

**Recommended Organizational Expertise Condition 5:** 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.
[GEN-OE-04]

The applicant relies on the experience of its parent company in implementation of habitat mitigation, as required under the Council's Fish and Wildlife Habitat standard (OAR 345-022-0060). In ASC Exhibit D, the applicant discusses its parent company's experience designing habitat mitigation projects for its other state and local jurisdictional energy facilities including Klondike Wind III, Leaning Juniper Wind IIA, Leaning Juniper IIB, Montague Wind Power Facility, Klamath Cogeneration, and Gala Solar. As evidence to support its documented experience in habitat mitigation implementation, the applicant refers to annual reports submitted to the Department documenting continued monitoring, reporting and adherence to agency recommendations; and, a 2019 email from the Department's compliance officer, Duane Kilsdonk, confirming continued compliance with the requirements of EFSC-jurisdictional Habitat Mitigation Plan requirements.

*Public Health and Safety*

The proposed solar facility components and transmission line could result in health and safety risks from risks to public providers of fire service during fire response events. The Department's evaluation of these risks is presented in Section IV.M., *Public Services* of this order.

Construction and operation of the proposed battery storage system could also result in public health and safety risks during battery and battery waste transport; and, onsite handling and storage of battery-related materials and waste. This is further discussed in Sections IV.M., *Public Services* and Section IV.N., *Waste Minimization* of this order.

In ASC Exhibit G, the applicant states that the proposed battery storage system would be constructed and operated to comply with the requirements of the Department of Transportation Pipeline and Hazardous Material Administration's *49 Code of Federal Regulations (CFR) 173.185*. These regulations provide requirements for the prevention of

dangerous evolution of heat; prevention of short circuits; prevention of damage to terminals; and, prevention of contact with other batteries or conductive materials. To minimize potential health and safety impacts during onsite handling and transport of battery and battery waste during proposed battery storage system construction and operation, the Department recommends Council impose the following condition:

> **Recommended Organizational Expertise Condition 6:** During construction and operation of the facility or any phase of the facility, the certificate holder shall contractually require its third-party contractor used to transport and dispose battery and battery waste to comply with all applicable federal regulations and manufacturer recommendations related to the transport and handling of battery related waste.
> [GEN-OE-05]

Based upon the evidence and reasoning provided in the ASC, and compliance with the recommended conditions, the Department agrees with the applicant's conclusions and recommends Council find that the applicant provides reasonable assurance that it can design, construct, operate, and retire the proposed facility in a manner that protects public health and safety in accordance with the Organizational Expertise standard.

*Ability to Restore the Site to a Useful, Non-Hazardous Condition*

The applicant's ability to restore the facility site to a useful, non-hazardous condition is evaluated in Section III.G., *Retirement and Financial Assurance* of this order, in which the Department recommends that Council find that the applicant has demonstrated an ability to comply with the Retirement and Financial Assurance standard.

*ISO 900 or ISO 14000 Certified Program*

OAR 345-022-0010(2) is not applicable because the applicant has not proposed to design, construct or operate the proposed facility according to an ISO 9000 or ISO 14000 certified program.

*Third-Party Permits*

OAR 345-022-0010(3) addresses the requirements for potential third party contractors. Further, the standard requires that prior to issuing a site certificate, the Council must find that the applicant has, or has a reasonable likelihood of entering into, a contractual or other arrangement with the third party for access to the resource or service secured by that permit or approval.

The applicant states that it may rely on construction contractors to obtain the following permits: an onsite sewage disposal construction installation permit for the O&M building; a general Water Pollution Control Facilities Permit (batch plant washwater); limited water use license (existing or newly constructed well); and an oversized load movement permit. With the

exception of the limited water use license, these third-party permits are ministerial and would not ordinarily be reviewed by the Council to determine compliance, nor governed by the site certificate.

Because the applicant proposes to obtain access to water during construction through a third-party limited water use license, which would normally be included in and governed by the site certificate and is a necessary permit for the construction of the proposed facility – and are permits for a well that would be located within the proposed site boundary, the Department recommends Council impose the following condition:

> **Organizational Expertise Condition 7:** Before beginning construction of the facility or any phase of the facility, the certificate holder shall submit to the Department and Wasco County a copy of the limited water use license obtained by the third-party contractor from Oregon Department of Water Resources.
> [PRE-OE-02]

**Conclusions of Law**

Based on the evidence in the record, and subject to compliance with the recommended conditions of approval, the Department recommends that the Council find that the applicant would satisfy the Council's Organizational Expertise standard.

**IV.C. Structural Standard: OAR 345-022-0020**

*(1) Except for facilities described in sections (2) and (3), to issue a site certificate, the Council must find that:*

*(a) The applicant, through appropriate site-specific study, has adequately characterized the seismic hazard risk of the site;*

*(b) The applicant can design, engineer, and construct the facility to avoid dangers to human safety and the environment presented by seismic hazards affecting the site, as identified in subsection (1)(a);*

*(c) The applicant, through appropriate site-specific study, has adequately characterized the potential geological and soils hazards of the site and its vicinity that could, in the absence of a seismic event, adversely affect, or be aggravated by, the construction and operation of the proposed facility; and*

*(d) The applicant can design, engineer and construct the facility to avoid dangers to human safety and the environment presented by the hazards identified in subsection*

*(c).*

*(2) The Council may not impose the Structural Standard in section (1) to approve or deny an application for an energy facility that would produce power from wind, solar or geothermal energy. However, the Council may, to the extent it determines appropriate, apply the requirements of section (1) to impose conditions on a site certificate issued for such a facility.*
***[31]

**Findings of Fact**

As provided in section (1) above, the Structural Standard generally requires the Council to evaluate whether the applicant has adequately characterized the potential seismic, geological and soil hazards of the site, and whether the applicant can design, engineer and construct the facility to avoid dangers to human safety and the environment from these hazards. Pursuant to OAR 345-022-0020(2), the Council may issue a site certificate for a solar energy facility without making findings regarding compliance with the Structural Standard; however, the Council may apply the requirements of the standard to impose site certificate conditions.

The analysis area for review of geologic and soil stability, as evaluated under the Council's Structural Standard, is the area within the site boundary.[32] The analysis area for historic seismic and potentially active faults, as defined by the applicant, extends 50-miles from the proposed site boundary.

*DOGAMI Consultation*

Council rules at OAR Chapter 345 Division 21 require the applicant to consult with the Oregon Department of Geology and Mineral Industries (DOGAMI) on the appropriate methodology and scope of the seismic hazards, and geology and soil-related hazards assessments, and the appropriate site-specific geotechnical work to be completed to demonstrate compliance with the Council's Structural Standard. The applicant consulted with DOGAMI and the Department during an in-person meeting on December 21, 2018. The applicant provides notes, as reviewed and concurred by DOGAMI staff, from the DOGAMI consultation in ASC Exhibit H Attachment H-1.[33]

*Potential Seismic, Geologic, and Soil Hazards within Analysis Area*

OAR 345-022-0020(1)(a) requires the Council to find that the applicant has adequately characterized the seismic, geologic, and soil hazards of a proposed site.

[31] OAR 345-022-0020(3) does not apply to this ASC because the proposed facility would not meet the criteria for a special criteria facility as defined in ORS 469.373(1).
[32] Site boundary, as defined in OAR 345-001-0010(55), is the area within the perimeter of the facility, its related or supporting facilities, all temporary laydown and staging areas, and all micrositing corridors.
[33] BSPAPP. pASC Review - DOGAMI Consultation. 2018-12-27; 2019-04-03.

*Earthquake and Seismic Hazards*

The applicant conducted a literature review, collected 1-foot contour data and conducted a limited geologic site reconnaissance of the area to inform the seismic characterization of the proposed site. Literature publications reviewed include topographic and geologic maps, aerial photographs, existing geological reports, and data provided by DOGAMI, Oregon Water Resources Department, United States Geological Survey (USGS), and the National Resource Conservation Survey. The site reconnaissance included a visual evaluation of existing exposures of soil and rock, classification of soils, and observation of typical slopes, as visible from roads, within the area of proposed facility components. Seismic hazards from earthquake events include seismic shaking or ground motion, fault rupture, liquefaction, seismically induced landslides, subsidence, which are described below.

The applicant identifies four sources of earthquakes and seismic activity in the region including crustal, intraplate, volcanic, and the Cascadia Subduction Zone. Based on the applicant's literature review and 1-foot contour data collected at the site, there were no potentially active faults identified within the site boundary. However, based on a review of historic earthquakes, there were over 200 significant earthquakes within 50-miles of the proposed site boundary recorded since 1970. Significant earthquakes are those that caused Modified Mercalli Intensity (MMI) III shaking intensity or greater (i.e. shaking that is noticeable indoors but not be recognized as an earthquake). Of those, 3 significant historic earthquakes were recorded within the proposed site boundary (all recorded in 1976), with the closest most recent recorded significant earthquakes occurring in 2011 (0.79 of a mile from the proposed site boundary) and 2010 (0.17 of a mile from the proposed site boundary).

Based on historical recorded earthquakes within 50-miles of the proposed site boundary, the applicant conducted a Ground Response Spectra Assessment to inform design requirements. The assessment assumed Site Class D amplification factors, a more conservative assumption than DOGAMI's recommended Site Class C amplification assumption and more conservative given likely amplification factors of Site Class B at the site, but to be verified during the pre-construction assessment as further described below. Based on the assessment, the applicant represents that peak horizonal ground acceleration would be 0.187 acceleration from gravity (g) at bedrock and 0.270 g at ground surface. Then, for short period (0.2-second) and 1-second period ground motion, response acceleration is quantified at 0.644 g and 0.397 g, respectively. This information is used to inform the design requirements for the proposed facility, as further described below.

The applicant relies upon DOGAMI's Statewide Landslide Information Database for Oregon (SLIDO) Version 2 database and review of its 1-foot contour data collected at the proposed site to ascertain that no historic or active landslides are currently mapped at the proposed site. The applicant relies upon DOGAMI's Oregon HazVu: Statewide Geohazards Viewer earthquake hazard layer, USGS's Geologic Hazards Science Center, and its 1-foot contour data collected at the site to ascertain that no currently active faults are mapped at the proposed site. In ASC

Exhibit H, the applicant commits to completion of a site-specific geotechnical investigation prior to construction to inform final facility design, based on any difference in seismic hazards at the site. The Department recommends Council impose the following pre-construction condition:

> **Recommended Structural Standard Condition 1:** At least 60-days prior to the commencement of construction of the facility or any phase of the facility, the certificate holder shall conduct a site-specific geotechnical investigation and shall report its findings to the Oregon Department of Geology and Mineral Industries (DOGAMI) and the Department. The certificate holder shall conduct the geotechnical investigation after consultation with DOGAMI and in general accordance with the 2014 Oregon State Board of Geologist Examiners Guideline for Preparing Engineering Geologic Reports, or newer guidelines if available.
> [PRE-SS-01]

*Non-Seismic Geologic Hazards*

Non-seismic geologic hazards include landslides, volcanic eruptions, collapsing soils and erosion potential, and flooding. To evaluate the presence of non-seismic geologic hazards, the applicant conducted a literature review of various sources including DOGAMI's SLIDO database (landslides); erosion factors mapped by National Resources Conservation Survey Web Soil Survey (collapsing soils and erosion potential); and DOGAMI's Statewide Flood Hazard Database for Oregon – Federal Emergency Management Agency Insurance inundation zones (floods). Based on review of these sources, the applicant confirms that there are no mapped or active landslides within the site boundary; limited potential for impacts from an eruption from Mount Hood – the nearest volcanic source within 50-miles of the proposed site; moderate to highly erodible soils with a potential for sheet and rill erosion by water; and a low potential for risk to flooding within the site boundary based on the fact that the proposed site boundary is not within a mapped FEMA floodplain.

*Design, Engineer and Construct Proposed Facility to Avoid Potential Seismic Hazards within Surrounding Area*

The Structural Standard requires the Council to find that, based on an adequate characterization of the seismic risks of the site – as presented above, that the applicant demonstrates an ability to design, engineer and construct the proposed facility to avoid potential seismic hazards (i.e. ground motion, ground failure, fault displacement, landslides, liquefaction, lateral spreading, and subsidence) within the surrounding area.

*Measures to Design Proposed Facility to Avoid Seismic and Non-Seismic Hazards*

The State of Oregon has adopted International Building Codes (IBC, 2012) for structural design. Specifically, IBC Chapter 16 Section 1613 (Earthquake Loads) establishes codes for structural design based on a probabilistic seismic risk assessment. The applicant describes that the proposed facility would be designed in accordance with the current version of the latest IBC,

Oregon Structural Specialty Code (OSSC) and building codes in effect at the time of construction. In ASC Exhibit H, the applicant represents that solar panel post foundations would be supported by steel posts or may require concrete foundations, typically extending depths of 8 feet below the surface.

In ASC Exhibit H, the applicant describes that solar foundation design would be based on the site-specific investigation report, and would address extreme loads, load cases for up-lift, shear failure, tension loads (for pile foundations), earthquake loads, fatigue loads, subsoil properties, spring constants, verification procedures, and maximum allowable inclination moisture content and density, soil/bedrock bearing capacity, bedrock depth, settlement characteristics, structural backfill characteristics, soil improvement (if required), and dynamic soil/bedrock properties including shear modulus and Poisson's Ratio of the subgrade. The Council's Mandatory Conditions at OAR 345-025-0006(12) – (14) provide structural related design requirements, which the Department recommends Council find sufficient to address the applicant's ability to design the proposed facility to minimize public health and safety risk from a seismic or non-seismic related event, as represented below:

> **Recommended Structural Standard Condition 2:** 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.
> [GEN-SS-01; Mandatory Condition OAR 345-025-0006(12)]
>
> **Recommended Structural Standard Condition 3:** 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.
> [GEN-SS--02; Mandatory Condition OAR 345-025-0006(13)]
>
> **Recommended Structural Standard Condition 4:** 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.
> [GEN-SS-03; Mandatory Condition OAR 345-025-0006(14)]

As described above, the proposed site contains a moderate to high potential for soil erosion. To minimize potential soil erosion risks during construction and operation, the applicant relies upon the best management practices (BMPs) that would be imposed through its National Pollutant Discharge Elimination Permit (NPDES) 1200-C Stormwater Permit, to be issued prior to construction by the Oregon Department of Environmental Quality. The NPDES 1200-C permit would include an Erosion and Sediment Control Plan, which includes detailed engineering drawings of the site and specific measures necessary to minimize the potential of any sources of dirt and debris from polluting waterways and waters of the state. BMPs would likely include the installation of silt fences or other physical controls to divert flows from exposed soils; or otherwise limit runoff and pollutants from exposed areas within the site boundary; implementation of materials handling; disposal requirements; and spill prevention methods. As presented in Section IV.D. *Soil Protection* of this order, because the applicant relies upon the BMPs imposed through its NPDES 1200-C to minimize potential erosion-related impacts, the Department recommends Council impose conditions requiring that the applicant remit a copy of its NPDES 1200-C permit to the Department for review, and document through its semi-annual and annual reporting to the Department its ongoing compliance with the permit requirements.

*Disaster Resilience and Climate Change Adaption*

The applicant represents that the proposed facility would be designed for disaster resiliency in various ways. First, the applicant describes that the pre-construction site-specific assessment of the seismic, geologic, and soil hazards of the site would be conducted by a qualified geologist. The site-specific assessment would then be used to inform facility design, which would adhere to IBC and OSSC in effect at the time of construction. In ASC Exhibit H, the applicant describes that solar facilities are designed to be modular, with different circuits and disconnect switches between inverters which allows for portions of a facility to be taken off line for repair following a disaster, while the remainder of the solar arrays would continue to operate in a reduced capacity. Excess cabling would be installed between strings to allow for splicing and repairs in the event of a disaster. Should proposed facility elements like the access roads or solar panels be damaged, the applicant would assess the damage and complete repairs necessary to recover operations after a major storm event. The proposed facility site is located within a sparsely populated area; therefore, the risks to human safety and the environment due to seismic hazards would be minimal.

The applicant's parent company, Avangrid, is a member of the North American Electrical Reliability Corporation and follows its standards for critical infrastructure protection, emergency preparedness and operations, and facility design. Avangrid operates a North American Electrical Reliability Corporation-compliant national control center in Portland, Oregon that could operate the proposed facility remotely in the event of on-site disaster. Avangrid also maintains a backup control center in Arizona to provide continuity of service in the event that the Portland center is disabled.

Similarly, BPA confirmed that it has system recovery plans for Maupin Substation and its associated transmission lines. Avangrid also operates 2,200 MW of northwest energy generation assets as a standalone Balancing Authority, and the proposed facility could be part of this network that serves regional energy markets. The applicant's parent company, Avangrid, has the unique ability to manage and deliver energy through its Balancing Authority. In the event of disaster at the proposed facility site, Avangrid could re-dispatch resources from elsewhere in its Balancing Authority, such as the Klamath Cogeneration Facility[34] in southern Oregon, to serve load in place of the proposed facility.

Future climatic conditions within the area of the proposed facility are projected to include greater annual average and summer temperatures, and more severe storm events and wildfires, among other changes. These specific changes are expected to increase stress to power lines in the region. The applicant asserts that reinforcing the local electric grid with solar power, battery storage, and a new transmission line would provide resilience to the overall energy grid in this part of Oregon. This reinforcement would be direct, by upgrading the system, which is anticipated to experience higher loads under rising temperatures and the related increases in power demand for summer cooling. It is also indirect, by supporting the delivery of power generated through a larger variety of sources, minimizing the potential reduction in hydro power's role under future conditions. Based on the proposed system upgrade and additional reliability provided by the proposed facility, the Department recommends Council find that the design measures outlined in ASC Exhibit H would sufficiently address disaster resiliency and offset impacts of future climate change.

**Conclusions of Law**

Based on the foregoing analysis, and in compliance with OAR 345-022-0020(2), the Department recommends Council include the conditions listed above in the site certificate to address the Council's Structural Standard.

## IV.D. Soil Protection: OAR 345-022-0022

> *To issue a site certificate, the Council must find that the design, construction and operation of the facility, taking into account mitigation, are not likely to result in a significant adverse impact to soils including, but not limited to, erosion and chemical factors such as salt deposition from cooling towers, land application of liquid effluent, and chemical spills.*

**Findings of Fact**

The Soil Protection standard requires the Council to find that, taking into account mitigation, the design, construction and operation of a proposed facility are not likely to result in a significant adverse impact to soils. The applicant's assessment of potential soil impacts and

[34] 525 MW natural gas-fired, combined-cycle generation facility located near Klamath Falls, Oregon.

compliance with the Soil Protection standard are included in ASC Exhibit I. Additional information related to the proposed facility's potential effects to soils and proposed mitigation measures, as described by the applicant can be found in ASC Exhibit G (Materials Analysis) and ASC Exhibit K (Land Use).

The analysis area for the Soil Protection standard is the area within the site boundary. The applicant describes that construction activities would result in approximately 176 acres of temporary disturbance, and approximately 2,717 acres of permanent disturbance. As noted throughout this order, the Department recommends Council evaluate potential temporary and permanent impacts based on the entirety of the micrositing corridor, which would equate to approximately 4,160 acres of temporary and permanent disturbance.

*Existing Soil Conditions and Land Use*

Existing soil conditions within the analysis area are shown in ASC Exhibit I. The applicant classifies soil types using Natural Resources Conservation Service (NRCS) Soil Survey Geographic Database. As represented in Figure 3: *Soil Types within Analysis Area*, seven major soil types were identified within the analysis area, characterized as shallow to deep with high to very high permeability, with areas of fertile silt loams in loess deposits (i.e., wind-blown silt with lesser and variable amounts of sand and clay) on the flatter surface. Soils within the analysis area have a K factor (erosion factor that indicates the susceptibility of a soil to sheet and rill erosion by water) that ranges from 0.10 to 0.37, which could be considered moderately to highly erodible, and subject to sheet erosion and rill erosion by water. Land use within the analysis area is primarily composed of open rangeland, with a small portion used for cultivated agriculture (dry land wheat), as represented in Figure 4: *High Value Farmland within Analysis Area.* In Figure 4: *High Value Farmland within Analysis Area,* soils identified as "farmland of statewide significance," represents arable soils and soils identified as "not prime farmland" represents non-arable soils.

## Figure 3: Soil Types within Analysis Area

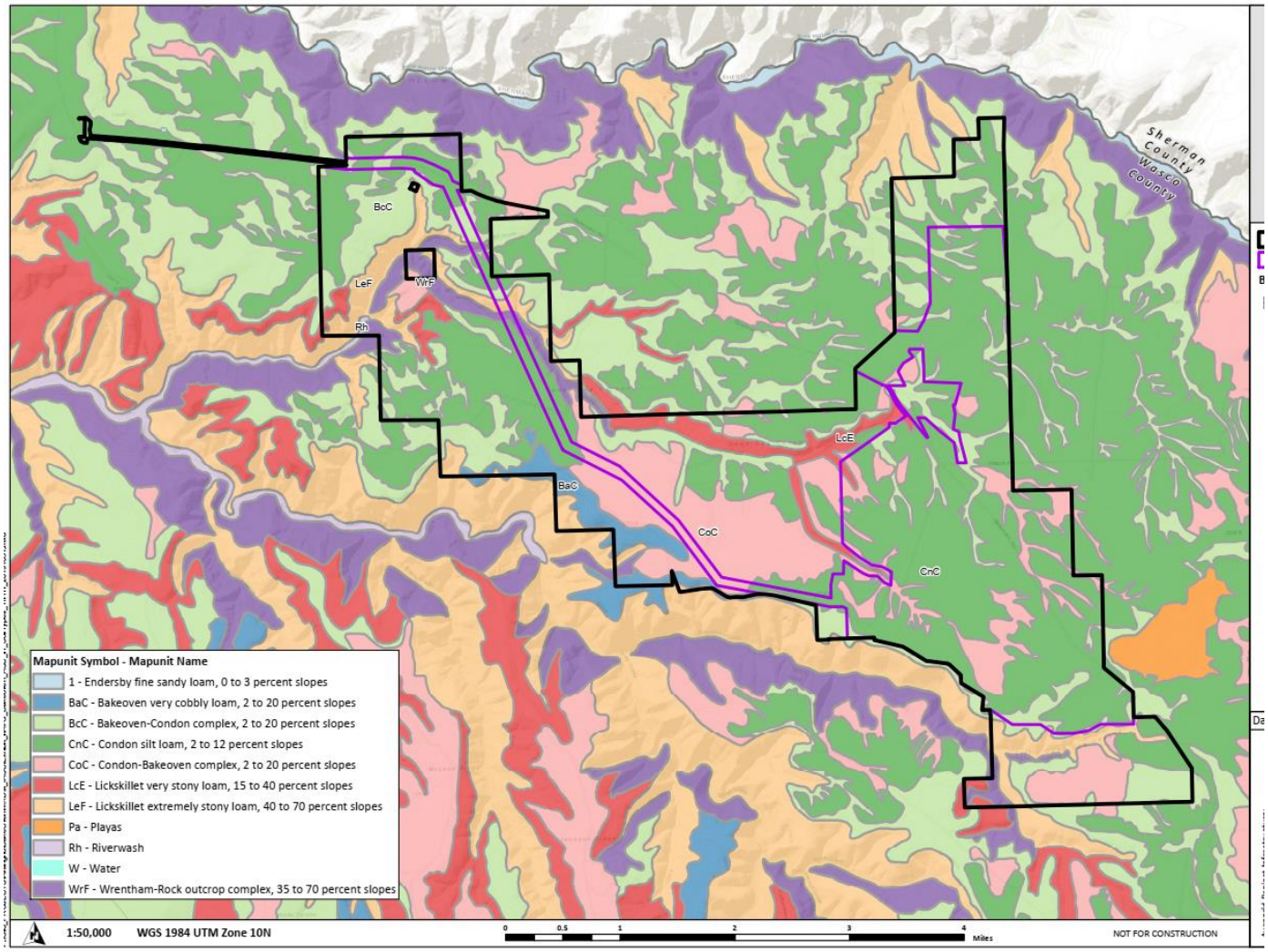
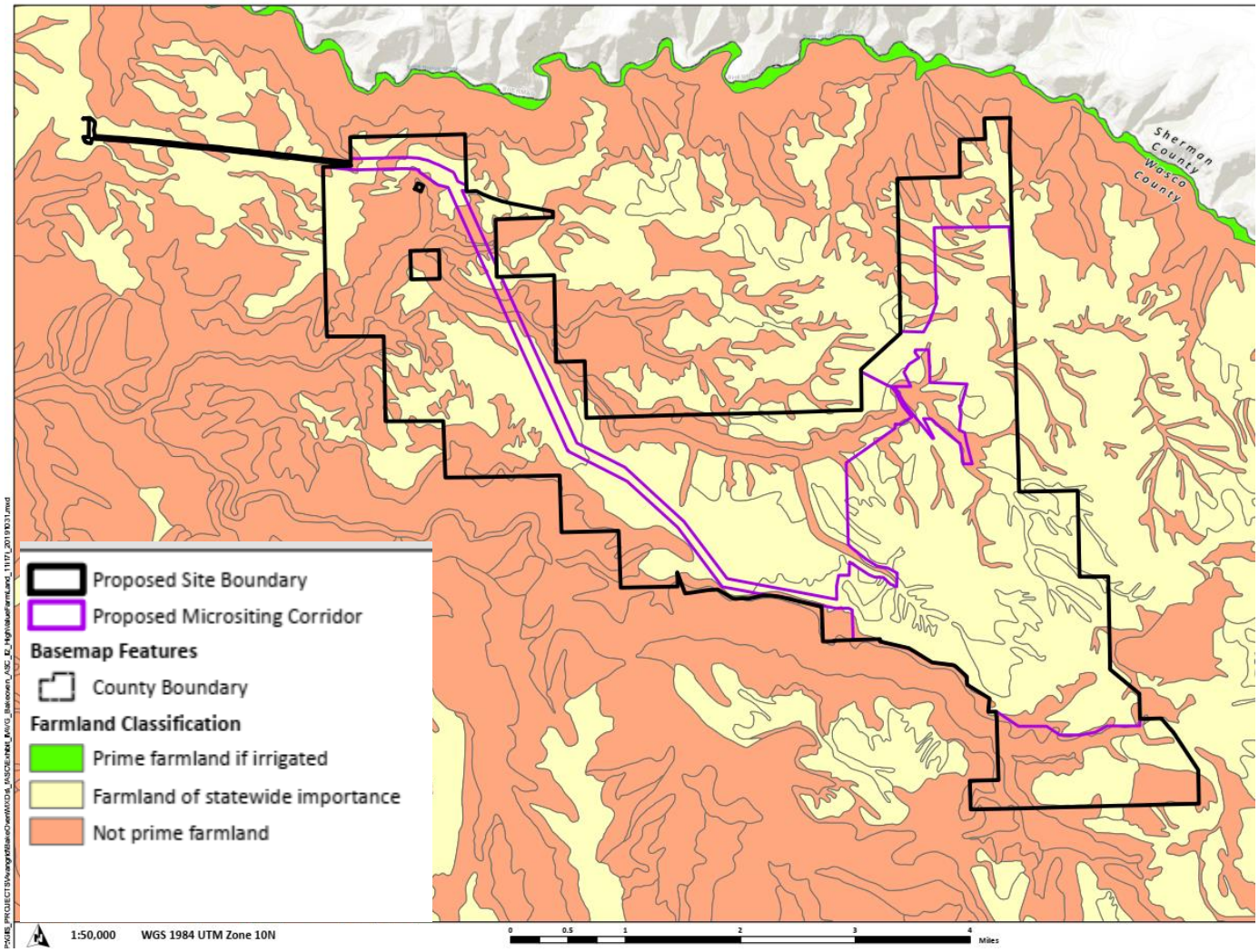


**Figure 4: High-Value Farmland Within Analysis Area**




*Potential Adverse Impacts to Soil*

ASC Exhibit I includes the applicant's assessment of how the proposed facility may impact soils. Additional information related to the facility's potential impacts to soils, as described by the applicant, and proposed mitigation measures can be found in ASC Exhibit G and Exhibit K.

*Construction*

As described by the applicant, during construction soils may be adversely impacted by a number of construction activities. These activities include: clearing and grubbing of vegetation in temporary construction areas, grading and widening of existing access roads, construction of new access roads, heavy equipment and haul truck traffic for the delivery of aggregates, concrete, water, drill rigs, and similar construction supplies, and fueling or maintenance of

construction equipment or vehicles. These activities can lead to wind or water erosion, compaction, changes in drainage patterns, or spills or releases of chemicals or other liquid materials used during construction.[35]

To address these impacts, the applicant has proposed a number of management and mitigation measures. The mitigation measures and best management practices (BMPs) specific to soils are included in the applicants NPDES 1200-C permit application, specifically the Erosion and Sediment Control Plan (ESCP). The NPDES and ESCP are included in Exhibit I, Attachment I-1. NPDES 1200-C permits are federally-delegated from EPA to DEQ, and are therefore not included in or governed by the site certificate (draft ESCP is provided as Attachment D of this order). The NPDES 1200-C permit applies during construction, and is intended to regulate and manage stormwater. To ensure compliance with the NPDES 1200-C permit and the ESCP, the Department recommends that the Council adopt the following condition, requiring the applicant to implement all provisions of the NPDES 1200-C permit and the final ESCP, as approved by DEQ:

**Recommended Soil Protection Condition 1:**

a. Prior to construction of the facility or any phase of the facility, the certificate holder shall provide a copy to the Department of its DEQ-issued NPDES 1200-C permit, including final Erosion Sediment Control Plan and associated drawings (as provided in Attachment D of the Final Order on the ASC).
b. During construction of the facility or any phase of the facility, the certificate holder shall conduct all work in compliance with a final Erosion and Sediment Control Plan that is satisfactory to the Oregon Department of Environmental Quality as required under the National Pollutant Discharge Elimination System Construction Stormwater Discharge General Permit 1200-C.

[GEN-SP-01]

A monitoring program is required as part of the ESCP and NPDES 1200-C permit, and the monitoring schedule is described in the ESCP submitted as Exhibit I, Attachment I-1. The ESCP, including the monitoring component, would be required to be implemented in accordance with DEQ requirements and Soil Protection Condition 1. In addition, the revegetation plan, required under Recommended General Standard of Review 6 also includes a monitoring program.

*Operation*

As described by the applicant, potential impacts to soils from proposed facility operation could include accidental spills from oil- and other non-hazardous liquid containing equipment including solar facility inverters and transformers (approximately 37,332 gallons), substation transformers (approximately 49,385 gallons) and battery storage systems (approximately 1.4 million gallons of electrolyte solution). Based on the quantity of onsite oil-containing equipment proposed by the applicant, federal Spill Prevention Countermeasure and Control

[35] BSPAPPDoc6 9 ASC Exhibit I, pp. 4-5.

(SPCC) requirements pursuant to 40 CFR Part 112 would apply. Federal SPCC requirements include development and implementation of an SPCC plan, based on type and quantity of onsite materials, that would reduce the potential for accidental hazardous material spills to adversely impact soils, and would contain procedures to properly manage, contain, and reduce the significance of any spills that unintentionally occur during facility operations.

As described in ASC Exhibit I, proposed facility operations would have minimal likelihood of impacting soils from potential spills of oil or other materials because all oil-containing equipment including solar facility inverters and transformers, and battery storage systems would be stored in completely contained, leak-proof modules on concrete pads, all of which would be inspected monthly by facility personnel. Nonetheless, because an SPCC is a federal requirement and the applicant refers to the implementation of an SPCC plan to demonstrate compliance with Council's standard, the Department recommends that Council find that implementation of the SPCC as described above and in the ASC would reduce the potential for accidental hazardous material spills to adversely impact soils, and would contain procedures to properly manage, contain, and reduce the significance of any spills that unintentionally occur during facility operations. In order to ensure implementation of these measures, the Department recommends the Council adopt the following condition, requiring the applicant to develop and implement the SPCC in order to protect soils and mitigate potential adverse impacts to soils:

> **Recommended Soil Protection Condition 2:** Prior to operation of the facility or any phase of the facility, the certificate holder shall provide a copy, to the Department, of an operational Spill Prevention Control and Countermeasures (SPCC) plan, if required pursuant to OAR 340-041-0001 to -0240.
> [PRO-SP-01]

The applicant states that proposed facility operations would have no impact on soil erosion, as operations would be restricted to access roads and no ground disturbance would occur.[36] In addition, as discussed in Section IV.A. *General Standard of Review* of this order, Recommended General Standard of Review Condition 6 requires the applicant to restore vegetation to the extent practicable and landscape all areas disturbed by construction. Restoration of temporarily impacted areas would further reduce the potential for erosion during facility operation.

Subject to compliance with the recommended conditions above, the Department recommends that the Council find the design, construction, and operation of the proposed facility would not result in a significant adverse impact to soils.

[36] *Id.*

**Conclusions of Law**

Based on the foregoing findings of fact and conclusions, and subject to compliance with the recommended site certificate conditions, the Department recommends that the Council find that the proposed facility would comply with the Council's Soil Protection standard.

**IV.E. Land Use: OAR 345-022-0030**

*(1) To issue a site certificate, the Council must find that the proposed facility complies with the statewide planning goals adopted by the Land Conservation and Development Commission.*

*(2) The Council shall find that a proposed facility complies with section (1) if:*

*(a) The certificate holder elects to obtain local land use approvals under ORS 469.504(1)(a) and the Council finds that the facility has received local land use approval under the acknowledged comprehensive plan and land use regulations of the affected local government; or*

*(b) The applicant elects to obtain a Council determination under ORS 469.504(1)(b) and the Council determines that:*

*(A) The proposed facility complies with applicable substantive criteria as described in section (3) and the facility complies with any Land Conservation and Development Commission administrative rules and goals and any land use statutes directly applicable to the facility under ORS 197.646(3);*

*(B) For a proposed facility that does not comply with one or more of the applicable substantive criteria as described in section (3), the facility otherwise complies with the statewide planning goals or an exception to any applicable statewide planning goal is justified under section (4); or*

*(C) For a proposed facility that the Council decides, under sections (3) or (6), to evaluate against the statewide planning goals, the proposed facility complies with the applicable statewide planning goals or that an exception to any applicable statewide planning goal is justified under section (4).*

*(3) As used in this rule, the "applicable substantive criteria" are criteria from the affected local government's acknowledged comprehensive plan and land use ordinances that are required by the statewide planning goals and that are in effect on the date the applicant submits the application. If the special advisory group recommends applicable substantive criteria, as described under OAR 345-021-0050, the Council shall apply them. If the special advisory group does not recommend applicable substantive criteria, the Council shall*

*decide either to make its own determination of the applicable substantive criteria and apply them or to evaluate the proposed facility against the statewide planning goals.*

*(4) The Council may find goal compliance for a proposed facility that does not otherwise comply with one or more statewide planning goals by taking an exception to the applicable goal. Notwithstanding the requirements of ORS 197.732, the statewide planning goal pertaining to the exception process or any rules of the Land Conservation and Development Commission pertaining to the exception process, the Council may take an exception to a goal if the Council finds:*

*(a) The land subject to the exception is physically developed to the extent that the land is no longer available for uses allowed by the applicable goal;*

*(b) The land subject to the exception is irrevocably committed as described by the rules of the Land Conservation and Development Commission to uses not allowed by the applicable goal because existing adjacent uses and other relevant factors make uses allowed by the applicable goal impracticable; or*

*(c) The following standards are met:*

*(A) Reasons justify why the state policy embodied in the applicable goal should not apply;*

*(B) The significant environmental, economic, social and energy consequences anticipated as a result of the proposed facility have been identified and adverse impacts will be mitigated in accordance with rules of the Council applicable to the siting of the proposed facility; and*

*(C) The proposed facility is compatible with other adjacent uses or will be made compatible through measures designed to reduce adverse impacts.*
*****

**<u>Findings of Fact</u>**

The Land Use standard requires the Council to find that a proposed facility complies with the statewide planning goals adopted by the Land Conservation and Development Commission (LCDC). Under ORS 469.504(1)(b)(A), the Council may find compliance with statewide planning goals if the Council finds that a proposed facility "complies with applicable substantive criteria from the affected local government's acknowledged comprehensive plan and land use regulations that are required by the statewide planning goals and in effect on the date the application is submitted…" The preliminary ASC was received on July 5, 2019.

The analysis area for potential land use impacts, as defined in the project order, is the area within and extending ½-mile from the proposed site boundary.

The proposed facility would be located within Wasco County. Therefore, the governing body within Wasco County is the Special Advisory Group (SAG).[37] Prior to receipt of the pASC, the Council appointed the Wasco County Board of Commissioners as a SAG.

IV.E.1 Local Applicable Substantive Criteria

Under OAR 345-022-0030(2), the Council must apply the applicable substantive criteria recommended by the SAG, as long as those criteria are required by the statewide planning goals and in effect on the date the pASC is submitted. Applicable substantive criteria identified by the applicant in ASC Exhibit K are presented in Table 1: *Wasco County Applicable Substantive Criteria*.

**Table 1: Wasco County Applicable Substantive Criteria**

| **Wasco County Land Use and Development Ordinance (WCLUDO)** | |
|---|---|
| *Chapter 1 Introductory Provisions* | |
| Section 1.030 | Severability (Legal Parcel Status) |
| *Chapter 3 Basic Provisions* | |
| Section 3.210 | Exclusive Farm Use (A-1) Zone |
| 3.2.1.4 | Uses Permitted Subject to Standards/Type II Review |
| 3.2.1.5 | Uses Permitted Subject to Standards/Type III Review |
| 3.2.1.6 | EFU Property Development Standards |
| 3.2.1.8 | Agricultural Protection |
| *Chapter 5 Conditional Use Review* | |
| Section 5.020 | Authorization to Grant or Deny Conditional Uses, and Standards and Criteria Used |
| *Chapter 10 Fire Safety Standards* | |
| Section 10.020 | Applicability of Fire Safety Standards |
| Section 10.110 | Siting Standards – Locating Structure for Good Defensibility |
| Section 10.120 | Defensible Space – Clearing and Maintaining a Fire Fuel Break |
| Section 10.130 | Construction Standards for Dwellings and Structures – Decreasing The Ignition Risks by Planning for A More Fire-Safe Structure |
| *Chapter 19 Standards for Non-Commercial Energy Facility, Commercial Energy Facilities & Related Uses* | |
| Section 19.030 | Commercial Power Generating Facilities Review Process & Approval Standards |
| C | General Standards |
| D2 | Specific Standards, Solar Energy Facilities |
| *Chapter 20 Site Plan Review* | |
| Section 20.050 | Off Street Parking |

[37] Under ORS 469.480(1), the Council must designate as a Special Advisory Group the governing body of any local government within whose jurisdiction the facility is proposed or proposed changes of a facility would be located.

**Table 1: Wasco County Applicable Substantive Criteria**

| | |
|---|---|
| Section 20.055 | Bicycle Parking Requirements |
| Section 20.070 | Off Street Loading |
| Section 20.080 | General Provisions – Off Street Parking and Loading |
| **Wasco County Comprehensive Plan** | |
| Chapter 5 Community Facilities and Services – J. Parks and Recreation and Scenic Areas – Subpart 3<br>Chapter 15 Goals and Policies<br>Goal 3 Agricultural Lands – Policy I<br>Goal 5 – Open Spaces, Scenic and Historic Areas and Natural Resources – Policies 5, 9, and 10<br>Goal 6 – Air, Water and Land Resources Quality – Policies 1 and 4<br>Goal 9 – Economy of the State – Policies 1, 2 and 3<br>Goal 11 – Public Facilities and Services – Policies 1 and 3<br>Goal 12 – Energy Conservation – Policies 1, 2 and 6 | |
| Notes:<br>WCLUDO Section 20.030 (Contents of the Site Plan) and 20.040 (Site Plan Approval standards) were identified in ASC Exhibit K, but based on the ministerial nature of the criteria are not considered applicable substantive criteria and therefore not included in this order for Council to make findings of fact and conclusions of law. In ASC Exhibit K, the applicant provides information for these provisions, sufficient for the Department to confirm that the proposed facility would be consistent with the design requirements. | |

**Wasco County Land Use and Development Ordinance (WCLUDO)**

*WCLUDO Chapter 1 Introductory Provisions*

*WCLUDO Section 1.030 Severability*

*…The Director, the Director's designee or other Approving Authority shall not approve a development or use of land that has been previously divided or otherwise developed in violation of this Ordinance, regardless of whether the applicant created the violation, unless the violation can be rectified as part of the development proposal.*

WCLUDO Section 1.030 specifies that development shall not be approved if located on land that has been previously divided or otherwise developed in violation of the WCLUDO. The applicant represents that based on its due diligence, there are no illegally created parcels within the site boundary. The Department requested review of the legal parcel status by the Wasco County Planning Department, where there were no illegally established parcels identified. Based on the applicant's evaluation of legal parcel status, and review by Wasco County Planning Department, the Department concurs with the determinations presented in Table 2: *Legal Status of Parcels within Proposed Site Boundary* (see Attachment E for legal parcel status table and confirmation

1 obtained from Wasco County Planning Department).[38] Therefore, the Department recommends
2 the Council find that the proposed facility would satisfy this criteria.

**Table 2: Legal Status of Parcels within Proposed Site Boundary**

| Township, Range, Section, Tax Lot | Acct # | Acres within Site Boundary | Parcel Crosses Micrositing Corridor? | Legal Parcel Status | Landowner |
|---|---|---|---|---|---|
| 4S 14E 0 2700 | 15676 | 28.0 | Yes | Partition# PAR-92 132; filed 3/21/1995 | WAKERLIG, LLC |
| 4S 15E 0 1500 | 12335 | 750.6 | Yes | Pre-1974 Deed #67-1797, dated 6/28/1963; Current Deed#: 2008-004940, filed Nov 24, 2008 | ASHLEY L STEVEN ET AL, |
| 5S 15E 0 1900 | 12514 | 13.9 | Yes | Doc num. PRONO 3308; Current Deed#: 2008-004940, filed Nov 24, 2008 | |
| 5S 15E 0 100 | 12511 | 4239.01 | Yes | Pre-1974 Deed# 83-2012, recorded 10/25/1966: Current Deed#: 2008-004940, filed Nov 24, 2008 | |
| 4S 15E 0 800 | 12337 | 1374.7 | Yes | Pre-1974 Deed# 67-0132 dated 3/22/67; Current Deed# 2018-002595, filed 7/12/18 | TOWNSEND ROBERT |
| 5S 15E 0 500 | 12516 | 1529.5 | Yes | Deed# 76-3327; Current Deed# 2018-002595, filed 7/12/18 | |
| 5S 15E 0 600 | 12517 | 236.6 | No | Deed 76-3327; Current Deed# 2018-002595, filed 7/12/18 | |

[38] BSPAPP. ASC Completeness Review, Reviewing Agency Comment – Wasco County Planning Department, Dougherty. 2020-01-09.

**Table 2: Legal Status of Parcels within Proposed Site Boundary**

| Township, Range, Section, Tax Lot | Acct # | Acres within Site Boundary | Parcel Crosses Micrositing Corridor? | Legal Parcel Status | Landowner |
|---|---|---|---|---|---|
| 5S 15E 0 1000 | 12520 | 39.3 | No | Deed 74-2167; Current Deed# 2018-002595, filed 7/12/18 | |
| 5S 15E 0 1100 | 12512 | 410.2 | Yes | Partition # REP-07-106, Filed 5/24/2007; Current Deed# 2011-001253, filed 04/05/2011 | ASHLEY LARRY C & VICKI |
| 5S 16E 0 1201 | 17123 | 269.7 | Yes | Partition# 05-105, filed 2/8/2006; Current Deed# 2011-001253, filed 04/05/2011 | |
| 5S 15E 0 1800 | 13313 | 277.6 | Yes | Memo of sale #84-3078; Current Deed# 2011-001253, filed 04/05/2011 | |
| 5S 16E 0 2200 | 13316 | 870.9 | Yes | Partition# PAR-98-101, filed 5/7/1998; Current Deed# 2011- 001253, filed 04/05/2011 | |
| 5S 16E 0 1200 | 12535 | 548.3 | Yes | Partition# PAR-05-105, filed 2/8/2006; Current Deed# 2011- 001253, filed 04/05/2011 | A & K RANCHES |
| Note: All parcels are zoned A-1 (160). | | | | | |

*WCLUDO Chapter 3 Basic Provisions*

*Section 3.210 Exclusive Farm Use (A-1) Zone*

The proposed facility would be located on EFU-zoned land in Wasco County and is evaluated as two separate land use categories: Commercial Utility Facilities for the Purpose of Generating

Power for Public Use by Sale (303 MW of solar photovoltaic energy generation equipment including modules and accessory equipment like trackers, posts, cabling, inverters, transformers, collection system, site access, private service roads, perimeter fencing, gates, temporary construction areas, and 100 MW of battery storage equipment); and, Utility Facilities Necessary for Public Service (proposed 11-mile 230 kV transmission line). An evaluation of the applicable substantive criteria for these uses within EFU-zoned land is presented below.

*Section 3.2.1.4 Uses Permitted Subject to Standards/Type II Review*

*The following uses may be permitted on a legal parcel on lands designated Exclusive Farm Use (A-1) Zone subject to the Section 3.216 - Property Development Standards, Section 3.218 - Agricultural Protection, Chapter 10 - Fire Safety Standards, Chapter 20 - Site Plan Review only if the request includes off-street parking, off-street loading or bicycle parking, as well as any other listed, referenced or applicable standards*

*L. Utility facilities "necessary" for public service, including wetland waste treatment systems and Electrical Transmission Facilities under 200 feet in height, but not including commercial utility facilities for the purpose of generating electrical power for public use by sale, or Electrical Transmission Facilities over 200 feet in height, subject to Section 3.219 H below.*

WCLUDO Section 3.214(L) identifies utility facilities “necessary” for public service as a conditional use permitted on EFU zoned land. Pursuant to 215.283(1)(c)(B), a transmission line is a utility necessary for public service if it is an associated transmission as defined in ORS 215.274. As provided in Section IV.E.2. *Directly Applicable State Statutes*, the proposed transmission line would be an associated transmission line. Notwithstanding the language in the county’s code, the conditional use requirements beyond those that are consistent with ORS 215.274 are not applicable to proposed facility because, as a utility facility necessary for public service under ORS 215.283(1)(c), the use is permitted subject only to the requirements of ORS 215.274 and the county cannot impose additional approval criteria. Therefore, the conditional use requirements WCLUDO Section 3.216 - Property Development Standards, Section 3.218 - Agricultural Protection, Chapter 10 - Fire Safety Standards, Chapter 20 - Site Plan Review would not apply to the proposed transmission line.

*Section 3.2.1.5 Uses Permitted Subject to Standards/Type III Review*

*The following uses may be permitted on a legal parcel designated Exclusive Farm Use (A-1) Zone subject to Section 3.216 - Property Development Standards, Section 3.218 - Agricultural Protection, Chapter 5 - Conditional Use Review, Chapter 10 - Fire Safety Standards, Chapter 20 - Site Plan Review only if the request includes off-street parking, off-street loading or bicycle parking, as well as any other listed, referenced, or applicable standards:*

*M. Commercial Power Generating Facility (Utility Facility for the Purpose of Generating Power) subject to Section 19.030. Except for wind facilities, transmission lines or pipelines, unless otherwise allowed by state regulations, the energy facility shall not preclude more than 12 acres from use as a commercial agricultural enterprise unless an exception is taken pursuant to OAR Chapter 660-004, or 20 acres from use as a commercial agricultural enterprise unless an exception is taken pursuant to OAR Chapter 660-004 and ORS 197.732. (Added 4/12)*

WCLUDO Section 3.215(M) identifies "commercial power generating facility" (commercial utility facilities) as a permitted conditional use in an EFU zone. The section limits commercial utility facilities from precluding more than 12 acres of high-value farmland or more than 20 acres of arable land from use as a commercial agricultural enterprise, unless an exception to the statewide policy embodied in Goal 3 is taken. The section also requires conditionally permitted uses to comply with WCLUDO Section 3.216 - Property Development Standards, Section 3.218 - Agricultural Protection, Chapter 10 - Fire Safety Standards, Chapter 20 - Site Plan Review.

The proposed solar facility, not including the proposed 230 kV transmission line, is evaluated under the "commercial power generating facility" land use category. The proposed solar facility would preclude more than 20 acres of arable land from use as a commercial agricultural enterprise. Therefore, because the proposed solar facility would preclude more than 20 acres of arable land from use as a commercial agricultural enterprise, the applicant would not comply with the WCLUDO Section 3.215(M) acreage limitation and a Goal 3 exception would be needed. In ASC Exhibit K, the applicant requests Council review and approval of a Goal 3 exception, as evaluated in Section IV.E.3., *Goal 3 Exception* below.

The evaluation of WCLUDO Section 3.216 - Property Development Standards, Section 3.218 - Agricultural Protection, Chapter 10 - Fire Safety Standards, Chapter 20 - Site Plan Review for the proposed solar facility is provided below.

*Section 3.2.1.6 EFU Property Development Standards*

*Property development standards are designed to preserve and protect the character and integrity of agricultural lands, and minimize potential conflicts between agricultural operations and adjoining property owners….*

*A. Setbacks*

*1. Property Line*

*a. All dwellings (farm and non-farm) and accessory structures not in conjunction with farm use, shall comply with the following property line setback requirements:*

*(1) If adjacent land is being used for perennial or annual crops, the setback shall be a minimum of 200 feet from the property line.*

*(2) If adjacent land is being used for grazing, is zoned Exclusive Farm*

*Use and has never been cultivated or is zoned F-1 or F-2, the setback shall be a minimum of 100 feet from the property line.*

*(3) If the adjacent land is not in agricultural production and not designated Exclusive Farm Use, F-1 or F-2, the setback shall be a minimum 25 Feet from the property line.*

*(4) If any of the setbacks listed above conflict with the Sensitive Wildlife Habitat Overlay the following shall apply and no variance shall be required:*

*a. The structure shall be set back a minimum of 25 feet from the road right of way or easement;*

*b. The structure shall be located within 300 feet of the road right of way or easement pursuant Section 3.920(F)(2), Siting Standards; and*

*c. As part of the application the applicant shall document how they are siting the structure(s) to minimize impacts to adjacent agricultural uses to the greatest extent practicable.*

WCLUDO Section 3.216(A)(1)(a) establishes setbacks for dwellings and dwelling accessory structures, which because the proposed facility does not include these components, would not apply.

*b. Farm structures shall be set back a minimum of 25 feet from the property line.*

WCLUDO Section 3.216(A)(1)(b) establishes a minimum 25 foot setback from farm structures to the property line, which because the proposed facility does not include farm structures, would not apply. In ASC Exhibit K, the applicant describes that if the proposed O&M building were to remain on the landscape following facility decommissioning, at the landowner's request, that it would comply with WCLUDO Section 3.216(b), which is a future, forecasted circumstance that is outside the scope of this review.

*c. Additions, modifications or relocation of existing structures shall comply with all EFU setback standards. Any proposal that cannot meet these standards is subject to the following:*

*(1) Dwellings: The proposed addition modification or relocation shall not result in nonconformity or greater nonconformity to property line setbacks or resource buffer requirements unless the addition will extend a structure further away from and perpendicular to the property line or resource. Any proposal that would place a relocated dwelling or extend an existing dwelling into or further toward the property line or resource, or expand an existing dwelling parallel into a setback or buffer shall also be subject to Chapters 6 & 7 - Variances and any other applicable review criteria. The provisions of Chapter 13 - Nonconforming Uses,*

*Buildings and Lots are not applicable to replacement dwellings. (Added 4/12)*

*(2) Farm & Non-Farm buildings and structures: The proposed addition, modification or relocation shall not result in nonconformity or greater nonconformity to property line setbacks or resource buffer requirements. If the building or structure currently conforms to all setback standards and the proposal would result in non-conformity a Chapter 6 or 7 variance will be required. If the building or structure currently does not conform to all setback standards and the proposal would increase the non-conformity it shall be subject to the applicable provisions of Chapter 13 - Nonconforming Uses, Buildings and Lots.*

WCLUDO Section 3.216(A)(1)(c) establishes setback standards for additions, modifications, or relocation of existing dwellings, farm and non-farm buildings, which is not proposed by the applicant and therefore would not apply.

*d. Property line setbacks do not apply to fences, signs, roads, or retaining walls less than four (4) feet in height.*

*Front yard (road) property line setbacks do not apply to parking areas for farm related uses. However, parking areas for farm related uses must meet side and rear yard property line setbacks.*

WCLUDO Section 3.216(A)(1)(d) provides that setbacks do not apply to fences, signs and roads, which while it applies to the proposed facility, does not require a finding of compliance by Council.

*2. Waterways*

*a. Resource Buffers: All bottoms of foundations of permanent structures, or similar permanent fixtures shall be setback from the high water line or mark, along all streams, lakes, rivers, or wetlands.*

*(1) A minimum distance of one hundred (100) feet when measured horizontally at a right angle for all water bodies designated as fish bearing by any federal, state or local inventory.*

*(2) A minimum distance of fifty (50) feet when measured horizontally at a right angle for all water bodies designated as non-fish bearing by any federal, state or local inventory.*

*(3) A minimum distance of twenty-five (25) feet when measured horizontally at a right angle for all water bodies (seasonal or permanent) not identified on any federal, state or local inventory.*

*(4) If the proposal does not meet these standards it shall be subject to Section 3.216 A1c - Additions or Modifications to Existing Structures, above.*

*(5) The following uses are not required to meet the waterway setbacks, however they must be sited, designed and constructed to minimize intrusion into the riparian area to the greatest extent possible: (a) Fences; (b) Streets, roads, and paths; (c) Drainage facilities, utilities, and irrigation pumps; (d) Water-related and water-dependent uses such as docks and bridges; (e) Forest practices regulated by the Oregon Forest Practices Act; (f) Agricultural activities and farming practices, not including the construction of buildings, structures or impervious surfaces; and (g) Replacement of existing structures with structures in the same location that do not disturb additional riparian surface area.*

WCLUDO Section 3.216(A)(2)(a) establishes setback distances from structure foundations to the high water line or mark along streams, lakes, rivers and wetlands. The applicant represents that based on field surveys and literature review, the closest fish-bearing stream, Bakeoven Creek, is over 100 feet from the proposed micrositing corridor. The applicant also represents that, in accordance with WCLUDO Section 3.216(e)(3), proposed facility components would be setback a minimum distance of 25 feet from streams within the micrositing corridor, which includes a portion of Salt Creek (which flows through Dead Dog Canyon) and 13 unnamed ephemeral or intermittent streams.

To ensure compliance with the applicable setback requirement, the Department recommends Council impose the following setback condition:

**Recommended Land Use Condition 1:** Prior to construction of the facility or any phase of the facility, the certificate holder shall demonstrate to the Department and Wasco County through mapping or other engineering drawing that the final facility layout, or layout of any final phase of the facility, complies with the following county setback requirements:

a. 25-foot minimum setback distance from permanent foundations (posts if in concrete, substation, O&M building) to all water bodies (seasonal or permanent) not identified on any federal, state or local inventory. Waterbodies not identified on a federal, state or local inventory within the micrositing corridor include a portion of Salt Creek (which flows through Dead Dog Canyon) and 13 unnamed ephemeral or intermittent streams, as identified in ASC Exhibit J.
b. 50-foot minimum setback distance from structures (posts if in concrete, O&M building, substation) to the centerline of an irrigation ditch or pipeline, if the ditch or pipeline continues past the subject parcel to provide water to other nonparticipating property owners.
c. 30-foot vision clearance at access road driveways constructed by the facility that provide access to a public roadway.

[PRE-LU-01]

Based on compliance with the above-recommended condition, the Department recommends Council find that the proposed facility would comply with WCLUDO Section 3.216(A)(2)(a).

*b. Floodplain: Any development including but not limited to buildings, structures or excavation, proposed within a FEMA designated flood zone, or sited in an area where the Planning Director cannot deem the development reasonably safe from flooding shall be subject to Section 3.740 - Flood Hazard Overlay (EPD 1).*

WCLUDO Section 3.216(A)(2)(b) establishes requirements for buildings, structures or excavation within a Federal Emergency Management Agency (FEMA) designated flood zone; the applicant confirms that the proposed site boundary is not within a FEMA designated flood zone or Wasco County Flood Hazard Overlay zone. Therefore, this provision would not apply.

*3. Irrigation Ditches: All dwellings and structures shall be located outside of the easement of any irrigation or water district. In the absence of an easement, all dwellings and structures shall be located a minimum of 50 feet from the centerline of irrigation ditches and pipelines which continue past the subject parcel to provide water to other property owners. Substandard setbacks must receive prior approval from the affected irrigation district. These setbacks do not apply to fences and signs.*

WCLUDO Section 3.216(A)(3) establishes a minimum 50 foot setback requirement from structures to the centerline of irrigation pipelines which continue past the subject parcel to provide water to other property owners. The applicant represents that there are a limited number of privately owned irrigation pipelines near or within the place of use irrigation water rights located within the proposed site boundary, but that setbacks would be adhered to through the applicant's lease agreement terms. To further ensure that this setback is adhered to during final facility design, the Department recommends Council impose Land Use Condition 1(b), consistent with the language of WCLUDO Section 3.216(A)(3) as referenced above. Based on compliance with the above-recommended condition, the Department recommends Council find that the proposed facility would comply with WCLUDO Section 3.216(A)(3).

*4. Wasco County Fairground*

*a. Front Yard: No structure other than a fence or sign shall be located closer than ten (10) feet from the rights of way of a public road.*

*b. Side Yard: No structure other than a fence or sign shall be located closer than seven (7) feet for buildings not exceeding two and one half (2 & 1/2) stories in height; for buildings exceeding two and one half stories in height, such side yard shall be increased three (3) feet in width for every story or portion thereof that such buildings' height exceeds two and one half stories.*

*c. Rear Yard: No structure other than a fence shall be located closer than ten (10) feet from the rear yard property line.*

*d. RV Spaces: RV spaces are subject to the setback requirements of Chapter 17 - Recreational Vehicle Parks.*

*e. Existing & Replacement Structures: All lawfully established structures which do not conform to current setback standards shall be allowed to be expanded, or replaced and expanded into the required setback as long as the expansion does not encroach upon the required setback more than the existing structure.*

WCLUDO Section 3.216(A)(4) establishes setback requirements for structures and yards to Wasco County Fairgrounds, which would not apply to the proposed facility because the proposed facility site boundary is not located in or near the Wasco County Fairground.

*B. Height: Except for those uses allowed by Section 4.070 - General Exception to Building Height Requirements, no building or structure shall exceed a height of 35 feet. Height is measured from average grade.*

WCLUDO Section 3.216(B) establishes a restriction of 35 feet for the height of buildings or structures, with exceptions to the restriction identified in WCLUDO Section 4.070. in WCLUDO Section 4.070 "uses specified in Chapter 19 – Energy Facilities (meteorological towers, transmission towers and lines, and commercial, net-metering, and non-commercial/stand-alone power generating facilities)" are listed as exceptions to the building height requirements because the standards in WCLUDO Chapter 19 govern. Therefore, WCLUDO Section 3.216(A)(B) would not apply to the proposed facility; compliance with WCLUDO Chapter 19 requirements is evaluated below.

*C. Vision Clearance: Vision clearance on corner properties shall be a minimum of thirty (30) feet.*

WCLUDO Section 3.216(C) establishes a 30 foot vision clearance requirement on corner properties. WCLUDO Section 4.090 describes the vision clearance area as a triangular area measured from the corner intersection of the street lot lines, and requires this area to contain no planting, fence, wall, structure, or temporary or permanent obstruction exceeding 2.5 feet in height. For purposes of this standard, corner properties should be identified along the outside property lines of the applicant's leased boundary, not the internal property lines located within the site boundary.

The applicant represents that for any corner lots identified along the perimeter of the site boundary, the associated vision clearance area of 30 feet would be maintained at access road driveways according to the provisions under WCLDU Section 4.090, which the Department recommends Council impose in Land Use Condition 1. Based on compliance with the above-recommended condition, the Department recommends Council find that the proposed facility would comply with WCLUDO Section 3.216(C).

*D. Signs*

1. *Permanent signs shall not project beyond the property line.*
2. *Signs shall not be illuminated or capable of movement.*
3. *Permanent signs shall describe only uses permitted and conducted on the property on which the sign is located.*
4. *Size and Height of Permanent Signs:*
   (a) *Freestanding signs shall be limited to twelve square feet in area and 8 feet in height measured from natural grade.*
   (b) *Signs on buildings are permitted in a ratio of one square foot of sign area to each linear foot of building frontage but in no event shall exceed 32 square feet and shall not project above the building.*
5. *Number of permanent signs:*
   (a) *Freestanding signs shall be limited to one at the entrance of the property. Up to one additional sign may be placed in each direction of vehicular traffic running parallel to the property if they are more than 750 feet from the entrance of the property.*
   (b) *Signs on buildings shall be limited to one per building and only allowed on buildings conducting the use being advertised.*
6. *Temporary signs such as signs advertising the sale or rental of the premise are permitted provided the sign is erected no closer than ten feet from the public road right-of-way.*

WCLUDO Section 3.216(D) establishes sign requirements. The applicant describes that typical sign arrangements include one or two permanent free-standing signs located at or near the entrance to the facility site, or at the entrance to the O&M building. The applicant confirms that free-standing signs at the proposed facility would comply with Wasco County's property development standards and would be no taller than 8 feet in height measured from the average grade, and would be no larger than 12 square feet in area.

In ASC Exhibit K, the applicant affirms that signs on the O&M building would be mounted on the front façade near the building's main entrance. The sign would not project above the building, and would have an area less than the code's requirement of 1 square foot of sign area per 1 linear foot of building frontage.

The applicant anticipates using temporary signs during construction to guide construction traffic. Temporary construction signs are addressed in WCLUDO Section 21.410.E.2.g regarding public streets and roadways, and Section 21.420.E.2 regarding private roads. In accordance with these code provisions, the applicant's temporary construction signs would comply with the *Manual on Uniform Traffic Control Devices*, as published by the Federal Highway Administration, and supplemented by the Oregon Department of Transportation's (ODOT) *Standard Practice and Interpretations*.

Based on the applicant's representations of proposed facility sign design, the Department recommends Council find that the proposed facility would satisfy the requirements of WCLUDO Section 3.216(D).

> *E. Lighting: Outdoor lighting shall be sited, limited in intensity, shielded and hooded in a manner that prevents the lighting from projecting onto adjacent properties, roadways and waterways. Shielding and hooding materials shall be composed of non-reflective, opaque materials.*

WCLUDO Section 3.216(E) establishes outdoor lighting requirements. In ASC Exhibit K, the applicant describes that the O&M building, substation, and battery storage facility would have outdoor lighting as needed for safe operation. Lighting at the substation and battery system would only operate when crews are on site for maintenance activities. Lighting at the O&M building would be motion activate or on a timer to limit duration of illumination. The applicant affirms that outdoor lighting associated with final facility design would adhere to the county's lighting requirements. To ensure compliance with WCLUDO Section 3.216(E), the Department recommends Council impose the following condition:

> **Recommended Land Use Condition 2:** Prior to construction of the facility or any phase of the facility, the certificate holder shall demonstrate to the Department and Wasco County that all outdoor lighting at the O&M building and substation would be limited in intensity, shielded and hooded using non-reflective, opaque materials.
> [PRE-LU-02]

Based on the applicant's representations of proposed facility lighting design, and compliance with the above-recommended condition, the Department recommends Council find that the proposed facility would satisfy the requirements of WCLUDO Section 3.216(E).

> *F. Parking: Off street parking shall be provided in accordance with Chapter 20.*

WCLUDO Section 3.216(F) refers to off-street parking requirements as established in WCLUDO Chapter 20, which is evaluated in the following subsections.

> *G. New Driveways: All new driveways and increases or changes of use for existing driveways which access a public road shall obtain a Road Approach Permit from the appropriate jurisdiction, either the Wasco County Public Works Department or the Oregon Dept. of Transportation.*

WCLUDO Section 3.216(G) requires an applicant to obtain a Road Approach Permit for new or changes in existing driveways accessing public roads. The applicant proposes to construct access roads which would connect to public roadways, and therefore commits to obtaining Road Approach Permits from the appropriate jurisdiction, either the Wasco County Public Works Department or ODOT. The Department recommends Council impose the following condition to ensure that all necessary access permits are obtained prior to construction.

**Recommended Land Use Condition 3:** Prior to construction of the facility or any phase of the facility, the certificate holder shall obtain a road approach permit for any new or substantially modified road approaches accessing a county road. Copies of Road Approach Permits obtained from Wasco County Public Works Department and/or ODOT shall be provided to the Department.
[PRE-LU-03]

Based on the applicant's representation, and compliance with the above-recommended condition, the Department recommends Council find that the proposed facility would satisfy the requirements of WCLUDO Section 3.216(G).

*Section 3.2.1.8 Agricultural Protection*

*The uses listed in Section 3.214 - Uses Allowed Subject to Standards and Section 3.215 - Conditional Uses must meet the following standards:*

*A. Farm-Forest Management Easement: The landowner is required to sign and record in the deed records for the county a document binding the landowner, and the landowner's successors in interest, prohibiting them from pursuing a claim for relief or case of action alleging injury from farming or forest practices for which no action or claim is allowed under ORS 30.936 or 30.937.*
*B. Protection for Generally Accepted Farming and Forestry Practices - Complaint and Mediation Process: The landowner will receive a copy of this document.*

WCLUDO Section 3.218 requires an applicant to sign and record a farm-forest management easement and establish a complaint and mediation process. The applicant commits to obtained signed easements from all affected landowners and recording easements with the county. To ensure compliance with the requirements of (A) and (B) of this provision, the Department recommends Council impose the following condition:

**Recommended Land Use Condition 4:** Prior to construction of the facility or any phase of the facility, the certificate holder shall demonstrate to the Department and Wasco County that the following actions have been completed:
a. Sign and record with the Wasco County Clerk a completed Forest-Farm Management Easement for each participating landowner (Attachment F of this order).
b. Provide a copy of the "Protection for Generally Accepted Farming and Forestry Practices – Complaint and Mediation Process" document (Attachment G of this order) to participating landowners.
[PRE-LU-04]

Based on the applicant's representation, and compliance with the above-recommended condition, the Department recommends Council find that the proposed facility would satisfy the requirements of WCLUDO Section 3.218.

*WCLUDO Chapter 5 Conditional Use Review*

*Section 5.020 Authorization to Grant or Deny Conditional Uses, and Standards and Criteria Used*

*Conditional uses listed in this Ordinance shall be permitted, enlarged or otherwise altered or denied upon authorization by Administrative Action in accordance with the procedures set forth in Chapter 2 of this Ordinance. In judging whether or not a conditional use proposal shall be approved or denied, the Administrative Authority shall weigh the proposal's appropriateness and desirability or the public convenience or necessity to be served against any adverse conditions that would result from authorizing the particular development at the location proposed, and to approve such use, shall find that the following criteria are either met, can be met by observance of conditions, or are not applicable.*

*A. The proposal is consistent with the goals and objectives of the Comprehensive Plan and implementing Ordinances of the County.*

WCLUDO Section 5.020(A) requires a conditionally permitted use to demonstrate consistency with goals and objectives of the Wasco County Comprehensive Plan and Wasco County zoning ordinance. Based on the evaluation presented in this section, the Department recommends Council find that the proposed facility would satisfy WCLUDO Section 5.020(A).

*B. Taking into account location, size, design and operational characteristics of the proposed use, the proposal is compatible with the surrounding area and development of abutting properties by outright permitted uses.*

WCLUDO Section 5.020(B) requires proposed uses to demonstrate compatibility with the surrounding area and development of abutting properties. Based on the analysis area, which includes all area within and extending 0.5-mile from the proposed site boundary, the surrounding area is characterized as rural agricultural, with agricultural uses comprised of grazing and limited crop cultivation, and ranch homesites. Potential impacts from the proposed facility to the surrounding area include increased traffic on local roads (Bakeoven and Wilson Roads) during construction, construction and operational noise, and visual impacts, all of which are evaluated below.

The applicant describes that tractor and harvest related traffic associated with the limited areas within the surrounding area used for cultivation primarily utilize the south side of Bakeoven Road, which would be beyond the proposed facility site and not likely utilized by construction vehicles. Farm related traffic on Bakeoven Road also includes cattle transport vehicles, which the applicant represents only occurs a few times per year. Due to the limited agricultural use of the surrounding area, and the actual areas of active agriculture (primarily the south side of Bakeoven Road) compared to the proposed facility, and limited frequency of cattle transport on Bakeoven Road, potential construction-related traffic increases would not be expected to

impact or be incompatible with agricultural operations, or the rural agricultural character, of the surrounding area.

The evaluation of potential construction and operational noise from the proposed facility is evaluated in ASC Exhibit X and Section IV.Q.1. *Noise Control Regulation*, where construction-related noise would be short-term and temporary and operational noise would not exceed the ambient degradation or maximum allowable noise standards, even for residents identified within the micrositing corridor. Therefore, noise related impacts would not be expected to impact or be incompatible with agricultural operations within the surrounding area. Potential visual impacts from proposed facility components would modify the existing visual character of the surrounding area. However, modifying the existing visual character would not be expected to impact or be incompatible with agricultural uses of the surrounding area and would be over 1,600 feet from the nearest ranch homestead.

Based on the impact assessment presented above, the Department recommends Council find that the proposed facility would satisfy WCLUDO Section 5.020(B).

> *C. The proposed use will not exceed or significantly burden public facilities and services available to the area, including, but not limited to: roads, fire and police protection, sewer and water facilities, telephone and electrical service, or solid waste disposal facilities.*

WCLUDO Section 5.020(C) requires a demonstration that impacts of a proposed use would not significantly burden public facilities and services. Public services that could be impacted by the proposed facility include local public roads (Bakeoven and Wilson Roads), fire protection districts (Juniper Flat Rural Fire Protection District, Bakeoven Shaniko Rural Fire Protection District), City of Maupin water, and local electric and communication suppliers. The applicant describes implementation of the following measures to minimize potential impacts to the above-referenced public services:

**Local Public Roads (Bakeoven and Wilson Roads):** Road approach permits would be obtained from Wasco County Public Works Department, ensuring adherence to design standards. Road use agreements would be executed prior to construction between applicant and Wasco County Public Works Department and would provide financial security regarding county road use, maintenance, and repair related to construction (see recommended Public Services Condition 3).

**Fire and Police Protection:** A Fire Prevention and Protection Plan (see Attachment N of this order) will be finalized with both the Juniper Flat Rural Fire Protection District and the newly formed Bakeoven Shaniko Rural Fire Protection District; a contractual agreement would be executed with Juniper Flat Rural Fire Protection District to provide 24-hour, 7-day per week fire response to the proposed facility site. The proposed facility would be equipped with fire protection equipment in accordance with the Oregon Fire Code and, as

presented below in WCLUDO Chapter 5, would comply with Wasco County's Fire Safety Standards.

On-site security would be provided by the applicant, and facility personnel would maintain on-going communication with the Wasco County Sheriff's Office, headquartered in The Dalles, Oregon. Operational facility components would be fenced; the proposed O&M building and substation would have locked gates.

**Sewer and Water Facilities:** The proposed facility would not require a connection to sewers or sewage treatment facilities.

Potential water sources to meet proposed facility water demand include the City of Maupin (under an existing municipal water right) and an existing or newly constructed well under a limited license to be issued by the Oregon Water Resources Department (OWRD). The applicant obtained confirmation from the City of Maupin that it could meet the facility's construction-related water demand, while maintaining adequate service to the community.

**Telephone and Electrical Service:** Electricity and communication service for the O&M building would be provided by local service providers.

**Solid Waste Disposal Facilities:** The applicant coordinated with Wasco County Landfill to confirm sufficient capacity to accommodate solid waste disposal from the proposed facility.

Based on the impact assessment presented above, the Department recommends Council find that the proposed facility would satisfy WCLUDO Section 5.020(C).

*D. The proposed use will not unduly impair traffic flow or safety in the area.*

WCLUDO Section 5.020(D) requires a demonstration that a proposed used would not unduly impair traffic flow or safety in the area. Based on the ASC, the applicant evaluates potential traffic and transportation impacts within analysis areas extending up to 20 miles from the proposed site boundary (ASC Exhibit U Public Services). Based on this assessment, construction-related traffic would result in up to 750 average daily trips (ADT) (including worker vehicles, pick-up trucks, material delivery vehicles) on I-84 and Bakeoven Road, 364 ADTs on US 197, 92 ADTs on US 97 (north, part of alternate route), and 46 ADTs on US 97 (south, workforce-only). Construction-related traffic, based on increases in ADT on local roads, could result in short-term, traffic delays; however, the applicant proposes several BMPs designed to maintain safe and available roadways, and development of Construction Traffic Management Plans in consultation with state and local agencies for the facility or any phase of the facility. These measures have been incorporated and included in a condition recommended by the Department for Council's inclusion in the site certificate (see recommended Public Services Condition 3).

As presented in Section IV.M. *Public Services* of this order, based on compliance with recommended Public Services Condition 3, the Department recommends Council find that construction-related impacts would not unduly impair traffic flow or safety in the area. Operations-related traffic would result in 5 to 10 ADTs on the above-referenced local roads, and would not be expected to result in impacts to traffic flow or safety in the area. Based on the above-reasoning and analysis, the Department agrees with the applicant's conclusion and recommended Council find that the proposed facility would satisfy WCLUDO Section 5.020(D).

*E. The effects of noise, dust and odor will be minimized during all phases of development and operation for the protection of adjoining properties.*

WCLUDO Section 5.020(E) requires a demonstration that, during construction and operation, a proposed use would minimize noise, dust and odor to protect adjoining properties from such impacts. Wasco County assesses adjoining properties as those lands which share a common boundary line with the properties involved with the proposed use. For this analysis, the Department recommends Council evaluate adjoining properties as those land which share a common boundary line with the properties where facility components could be located, rather than limited to those which share a common boundary line with properties which the site boundary would be located. For the proposed facility, adjoining properties include three ranch homesites within 0.5-mile.

Construction would generate noise and dust from operation of heavy equipment and haul trucks; construction activities would not result in odor impacts. As identified in ASC Exhibit X, construction activities may generate noise in excess of 10 dBA above existing ambient conditions and have the potential to cause temporary, short-term noise disturbances. In order to minimize potential noise impacts during proposed facility construction in accordance with WCLUDO Section 5.020(E), the Department recommends Council impose the following condition:

**Recommended Land Use Condition 5**: The certificate holder shall:

a. Prior to construction of the facility or any phase of the facility, provide written notification to residences located on land within 1,000 feet of the facility micrositing corridor, identifying the type, duration and frequency of construction activities. Notification materials shall also identify a mechanism for residents to register complaints with the facility if construction noise levels or overly intrusive.
b. During construction of the facility or any phase of the facility, implement the following noise reduction measures:
    1. All construction equipment shall be equipped with noise-reduction devices such as mufflers to minimize construction noise, and all internal combustion engines shall be equipped with exhaust and intake silencers in accordance with manufacturer specifications.
    2. Construction site and haul road speed limits shall be established and enforced.
    3. The use of bells, whistles, alarms and horns shall be restricted to safety warning purposes only. [GEN-LU-01]

Construction-related dust would be minimized using water applied via daily water truck operation, as proposed by the applicant as a best management practice and included in the NPDES 1200-C permit requirements (see recommended Soil Protection Condition 1).

Proposed facility operations would result in noise impacts, but based on the type of facility – solar photovoltaic energy facility - would not be expected to generate dust or odor impacts. As presented in ASC Exhibit X and evaluated in Section IV.Q.1. *Noise Control Regulation* of this order, based on the applicant's statistical noise modeling analysis, operational noise from the proposed facility would not exceed DEQ's ambient degradation standard or maximum allowable threshold at any residences within 1-mile of the proposed site boundary.

Based on the above-reasoning and analysis, and compliance with the recommended conditions, the Department recommends Council find that the proposed facility would minimize noise, dust and odor to protect adjoining properties from such impacts and therefore would satisfy WCLUDO Section 5.020(E).

*F. The proposed use will not significantly reduce or impair sensitive wildlife habitat, riparian vegetation along streambanks and will not subject areas to excessive soil erosion.*

WCLUDO Section 5.020(F) requires a demonstration that the proposed use would not significantly reduce or impair sensitive wildlife habitat, riparian vegetation and would not create excessive soil erosion. The proposed facility would result in temporary and permanent wildlife impacts, all of which would be mitigated through implementation of a Revegetation Plan (see Attachment I of this order) and Habitat Mitigation Plan (see Attachment H of this order), both of which have been reviewed by the Department, ODFW and Wasco County Planning Department. The proposed facility would not be located on or within, or otherwise result in impacts to streams or riparian vegetation. Potential soil erosion impacts would be minimized through compliance with the NPDES 1200-C permit, which includes BMPs to minimize soil erosion impacts and implementation of a Revegetation Plan, which would ensure soil stabilizations. As presented throughout this order, the Department recommends Council impose conditions to ensure the applicant's obtains necessary permits, and implements and adheres to BMPs and plan requirements. Based on compliance with recommended conditions, the Department recommends Council find that the proposed facility would satisfy WCLUDO Section 5.020(F).

*G. The proposed use will not adversely affect the air, water, or land resource quality of the area.*

WCLUDO Section 5.020(G) requires a demonstration that the proposed use would not adversely affect the air, water or land resource quality of the area.

Construction-related activities would generate emissions, including dust, that would result in air quality impacts. However, any potential air quality impacts would be temporary and short-term

in nature, and would dissipate rather quickly given the extent of the area within which construction activities could occur. If a temporary concrete batch plant is needed during construction, it would be permitted through DEQ's General Permit, with established emission limits that the applicants' third-party contractor would be required to satisfy. In addition, the applicant proposes to manage dust through daily application of water via water truck. Operation of the proposed facility, as a renewable, non-fuel operated solar facility, would not result in air quality impacts, other than the negligible emissions generated from vehicle miles travelled to the facility site from the 5 to 10 potential permanent employees.

Construction-related activities would require approximately 77 million gallons per year or per phase, which would be obtained from the City of Maupin or an existing or newly constructed water well. As provided in ASC Exhibit U and confirmed by the Department, the City of Maupin affirms that the construction water demand of the proposed facility could be met under the city's existing water right. In addition, if water were to be provided by an existing or newly constructed water well, it would require a limited water use license from the Oregon Department of Water Resources, which would include an evaluation of water availability and would require adherence to specific conditions.

Construction-related activities could result in water quality impacts through stormwater run-off at the proposed site. The applicant proposes to manage and minimize potential stormwater run-off impacts through implementation of erosion control measures and BMPs in accordance with its NPDES 1200-C (see recommended Soil Protection Condition 1). Proposed facility operations include minimal ongoing activity and minimal use of materials, limiting any potential for water quality impacts.

Construction and operation of the proposed facility would result in impacts to EFU-zoned land, including the use and occupation of approximately 2,717 acres of agricultural lands by proposed solar facility components. The applicant describes that the proposed facility would not result in adverse impacts to agricultural land resources for several reasons. The potential impact to cultivated agriculture would be minimal – limited to approximately 323 acres within over 3,654 acres of arable land. Potential impacts to high-value farmland would be negligible as there are approximately 10.8 acres of high-value farmland within the proposed micrositing corridor, which is not used for irrigated agriculture but for the creation of big game habitat for hunting. The proposed facility would result in approximately 10 square feet of impacts to high value farmland, which the Department recommends be considered negligible. The applicant commits to recording Farm-Forest Management Easements with each landowner with property within the proposed site boundary (see recommended Land Use Condition 4), as required per WCLUDO Section 3.218 and represents that the proposed facility would have a net benefit to agricultural incomes by provided a stable, supplemental income resource through lease payments.

Based on the information and analysis presented above, the Department recommends Council find that the proposed facility would not adversely affect the air, water or land resource quality of the area and therefore would satisfy WCLUDO Section 5.020(G).

*H. The location and design of the site and structures for the proposed use will not significantly detract from the visual character of the area.*

WCLUDO Section 5.020(H) requires a demonstration that the location and design of the site and structures of the proposed use would not significantly detract from the visual character of the area.

In ASC Exhibit K, "visual character" is described as the natural landscape, and evident modifications of the landscape, that have occurred through human development actions. The natural landscape of the area primarily consists of relatively flat and gently sloping terrain, with few hills or ridges that provide noticeable features of topographic relief. The canyon of Buck Hollow Creek, which flows generally to the northwest toward the Deschutes River, is a significant topographic feature in the northern part of the analysis area. Elsewhere, the plateau is dissected by small streams that typically flow to the west. Vegetation conditions within the area reflect the predominant use as open rangeland and some areas of cultivated land.

Modifications of the landscape within the area is limited to widely scattered clusters of ranch structures (homes and outbuildings), fencing, and roads. Paved roads, such as Bakeoven Road, are more noticeable modifications of the landscape where they are visible. Limited other infrastructure facilities are present, although electric transmission lines and communications towers are visible within some parts of the analysis area. A BPA substation is located on the south side of Bakeoven Road and west of the proposed solar arrays. The substation occupies approximately 20 acres and is intersected by three major, high- voltage transmission lines supported on lattice-steel structures. The substation and transmission lines are prominent features of the local visual setting.

Potential visibility of proposed facility components would modify the existing visual character of the area. The applicant describes that visibility of solar arrays would create non-natural geometric shapes or lines in locations where they are visible, particularly if seen from an elevated vantage point. The transmission line and overhead collection line structures would create recurring vertical elements and long linear features that would be noticeable changes on the landscape in some locations, although they would be similar and subordinate to existing infrastructure in other locations. Based on the existing visual character of the area which includes electrical infrastructure, and the fact that proposed facility visibility would be limited to observation of a shape or line from elevated vantage points, the Department agrees with the applicant's conclusion and recommends Council find that the proposed facility would not significantly detract from the visual character of the area and therefore would satisfy WCLUDO Section 5.020(H).

*I. The proposal will preserve areas of historic value, natural or cultural significance, including archaeological sites, or assets of particular interest to the community.*

WCLUDO Section 5.020(I) requires a demonstration that the proposal would preserve areas of

historic value, natural or cultural significance, or assets of particular interest to the community.

As presented in ASC Exhibit S and Section IV.K. *Cultural, Historic and Archeological Resources* of this order, the applicant identifies eighteen archeological sites, including two with historic built components, and 22 isolates within the analysis area. Based on the applicant's evaluation of NRHP criteria, and as supported by the Department's consultant, Golder, fourteen archeological sites are considered not eligible for NRHP-listing, with the remaining four archeological sites conservatively assumed likely eligible for NRHP-listing because of the applicant's limited ability to evaluate NRHP Criteria D. In addition, the applicant proposes that none of the isolates meet the definition of an archeological object and therefore would not be considered a resource of significance.

To minimize potential impacts to area of historic value, natural or cultural significance, the applicant proposes to require all workers to complete a Worker Environmental Awareness Training, implementation of an Inadvertent Discovery Plan, and the Department recommends Council impose a condition requiring avoidance of disturbance for the four resources identified as likely eligible for NRHP-listing (see recommended Historic, Cultural and Archeological Condition 1).

Based upon the analysis presented in ASC Exhibit S, and the recommended condition of compliance, the Department agrees with the applicant's conclusions and recommends Council find that the proposed facility would preserve areas of historic value, natural or cultural significance, or assets of particular interest to the community and therefore would satisfy WCLUDO Section 5.020(I).

> *J. The proposed use will not significantly increase the cost of accepted farm or forest practices on surrounding lands devoted to or available for farm and forest use. (Revised 1- 92)*
>
> *K. The proposed use will not force a significant change in accepted farm or forest practices on surrounding lands devoted to or available for farm or forest use. (Revised 1-92)*

WCLUDO Section 5.020(J) and (K) require a demonstration that a proposed use would not force a significant change in accepted farm or forest practices or significantly increase the cost of accepted farm or forest practices on surrounding lands. Accepted farm practices on the 21 tax parcels located within 0.5-mile of the proposed site boundary include grazing, ranching and limited crop cultivation (primarily dryland wheat); the applicant confirms that there is no forest use or forest practices within the land use analysis area.

Potential impacts to accepted farm practices from proposed facility construction and operation include temporary traffic impacts and increased risk of wildland fire. The applicant provides the following information to support a conclusion that potential impacts would be less than significant:

- Construction vehicles would use Bakeoven and Wilson Roads and would result in congestion and potential traffic flow and delay impacts. However, the primary segments of these roads that are used to support active cultivation (i.e. tractor and Harvey related traffic) – south side of Bakeoven Road - would not be used.
- In accordance with WCLUDO Section 3.218, Farm-Forest Management Easements would be signed and recorded by each landowner with property within the site boundary.
- The proposed facility would not limit or impact current or future farm activities on the surrounding land and would not diminish the opportunity for neighboring parcels to expand, purchase, or lease any vacant land available for agricultural uses. In addition, the current agricultural uses within the site boundary would not be impacted and would continue during proposed facility construction and operation.
- The applicant would finalize a draft Operational Fire Protection and Emergency Response Plan (as provided in Attachment N of this order). Measures identified in the draft plan include design requirements for the proposed O&M building and substation, onsite fire protection equipment, worker training, financial agreements and ongoing coordination with local fire districts. in accordance with the Oregon Fire Code, and a Fire Plan will be developed for the Facility.

Based on review of the above-referenced information, the Department agrees with the applicant's conclusion and recommends that Council find that the proposed facility would not significantly change the accepted farming practices or significantly increase the cost of accepted farming practices within the surrounding area, and therefore would comply with WCLUDO Section 5.020(J) and (K).

*WCLUDO Chapter 10 Fire Safety Standards*

*Section 10.020 Applicability of Fire Safety Standards*

*Applicability of Fire Safety Standards in Different Rural Zones: County Ordinances affect all rural zones (all zones outside an Urban Growth Boundary). All rural zones are subject to fire standards but the applicability of the specific standards varies by zone and by use type…*

WCLUDO Section 10.020 establish applicability of the county's Fire Safety Standards, which includes commercial power generating facilities located in the resource zone outside of an Urban Growth Boundary. Therefore, WCLUDO Chapter 10 requirements would apply to the proposed facility.

*Section 10.110 Siting Standards – Locating Structure for Good Defensibility*

*A. Does your building avoid slopes steeper than 40% (more than 40-foot elevation gain*

*over 100 feet horizontal distance)?*

*B. Is your building set back from the top of slopes greater than 30% by at least 50 feet? Or, is your building set back from the top of slopes greater than 30% at least 30 feet? And, no structures or other extensions closer than 30 feet from top of slope?*

WCLUDO Section 10.110 establishes siting standards for buildings, which are defined in WCLUDO as any structure built for the support, shelter or enclosure of persons, animals or property. Based on this definition, the components of the proposed facility subject to the siting standards would include the proposed O&M building, substation and battery storage system. The applicant affirms that all proposed buildings would be on land with less than a 40 percent slope, consistent with WCLUDO Section 10.110(A). The applicant also affirms that proposed buildings would be setback at least 50 feet from the top of any slopes greater than 30 percent, consistent with WCLUDO Section 10.110(B). Based on the applicant's representation of facility design, and to ensure compliance with WCLUDO Section 10.110, the Department recommends Council impose the following condition:

**Recommended Land Use Condition 6:** Prior to construction of the facility or any phase of the facility, the certificate holder shall provide written confirmation to the Department, based on final design, engineering and geotechnical investigation, that the O&M building, substation and battery storage system would be located on land with less than a 40 percent slope and setback at a minimum of 50 feet from the top of slopes greater than 30 percent. [PRE-LU-05]

Based on the proposed facility design and siting, the Department agrees with the applicant's conclusion and recommends that Council find that the proposed facility would comply with WCLUDO Section 10.110.

*Section 10.120 Defensible Space – Clearing and Maintaining a Fire Fuel Break*

*A. Is your building surrounded by a 50-foot wide fire fuel break?*

*B. Is dense unmanaged vegetation beyond 50 feet from the outer edges of your buildings, including any extensions such as decks or eaves, kept to a MINIMUM? If located on steeper ground, have you created and maintained some clearings beyond the 50 feet fire fuel break?*

WCLUDO Section 10.120(A) and (B) establish a 50-foot minimum clearance distance and 50-foot vegetation maintenance requirement for buildings. As described above, for the proposed facility, buildings would include the O&M building, collector substation and battery storage systems. The applicant commits to maintaining a 50-foot fire fuel break around these buildings. The fenced areas around the O&M building, collector substation, and battery storage system would be graveled, with no vegetation present. Unmanaged vegetation beyond the 50-foot fuel break located around the O&M building, battery storage system, and substation would be

minimal, as these facilities would be located in an area of low-growing shrubs and grass. As described in Attachment N (draft Operational Fire Protection and Emergency Response Plan) of this order, the applicant confirms that vegetation in the transmission corridor, and particularly around related infrastructure (e.g., poles), would be maintained pursuant to the Minimum Vegetation Clearance Distances defined under North American Electric Reliability Corporation and National Electric Code standards.

WCLUDO Section 10.120 wildfire fuel break and vegetation maintenance requirements are reflected in the draft Fire Prevention and Protection Plan provided as Attachment N of this order, and required to be finalized and implemented under recommended Land Use Condition 7. Based on the applicant's representations and compliance with the recommended condition, the Department recommends Council find that the proposed facility would satisfy WCLUDO Section 10.120.

*Section 10.130 Construction Standards for Dwellings and Structures – Decreasing The Ignition Risks by Planning for A More Fire-Safe Structure*

*A. Is your building designed, built, and maintained to include the following features and materials necessary to make the structure more fire resistant?*

*1. Roof Materials: Do you or will you have fire resistant roofing installed to the manufacturers specification and rated by Underwriter's Laboratory as Class A, B, or its equivalent (includes but not limited to: slate, ceramic tile, composition shingles, and metal)? NOTE: To give your structure the best chance of surviving a wild fire, all structural projections such as balconies, decks and roof gables should be built with fire resistant materials equivalent to that specified in the uniform building code.*

*2. Fire resistant roofing will be utilized at the O&M building. No decks or horizontal extensions are planned for the O&M building. No trees will be planted or maintained adjacent to the building. This standard does not apply to the Facility structures including the substation, battery storage system, and solar arrays.*

*3. No other standards under this section apply.*

WCLUDO Section 10.130 establishes roofing material requirements for dwellings and structures. The applicant identifies the O&M building as a structure and confirms that fire resistant roofing would be utilized. Based on this design representation, the Department recommends Council find that the proposed facility would satisfy WCLUDO Section 10.130.

*WCLUDO Chapter 19 Standards for Non-Commercial Energy Facility, Commercial Energy Facilities & Related Uses*

*Section 19.030 Commercial Power Generating Facilities Review Process & Approval Standards*

*C. General Standards - The following standards apply to energy facilities as outlined in Section A above, in addition to meeting the Conditional Use Standards listed in Chapter 5:*

*1. Air Safety - All structures that are more than 200 feet above grade or, exceed airport imaginary surfaces as defined in OAR 738-070, shall comply with the air hazard rules of the Oregon Department of Aviation and/or Federal Aviation Administration. The applicant shall notify the Oregon Department of Aviation and the Federal Aviation Administration of the proposed facility and shall promptly notify the planning department of the responses from the Oregon Department of Aviation and/or Federal Aviation Administration.*

*Aerial Sprayers and operators who have requested to be notified will receive all notifications associated with the energy facility as required by Chapter 2, Development Approval Procedures.*

WCLUDO Section 19.030(C)(1) establishes air safety standards for commercial power generating facilities, when structures greater than 200 feet in height, or that would exceed an airport imaginary surface, are proposed. As presented in ASC Exhibit C, proposed facility structures would include an overhead 230 kV transmission line, with structures up to 100 feet in height; overhead 34.5 kV collector transmission lines, with structures up to 75 feet in height; and other facility structures (solar panels, O&M building, collector substation, and battery storage systems) ranging from 12 to 20 feet in height. Based on the maximum height of proposed facility structures, no structures would be more than 200 feet in height, nor would any proposed facility structures exceed an airport imaginary surface. Therefore, based on the maximum height of proposed facility structures, the Department recommends Council find that WCLUDO Section 19.030(C)(1) would not apply.

*2. Interference with Communications - The energy facility shall be designed, constructed and operated so as to avoid any material signal interference with communication systems such as, but not limited to, radio, telephone, television, satellite, microwave or emergency communication systems. Should any material interference occur, the permit holder must develop and implement a mitigation plan in consultation with the planning department.*

WCLUDO Section 19.030(C)(2) requires that commercial power generating facilities be designed, constructed and operated to avoid material signal interference with communication systems (radio, telephone, television, satellite, microwave or emergency communication systems). As explained in ASC Exhibit AA, interference with communication systems may result

from corona discharge associated with the proposed 230 kV transmission line, which is evaluated as a "utility facility necessary for public service" under WCLUDO Section 3.214(L), not as a commercial power generating facility under Chapter 19. While the proposed facility components evaluated as a "commercial power generating facility" would include aboveground segments of 34.5 kV transmission line, lower voltage lines would not be expected to generate audible corona noise. Based on the above-reasoning, the Department agrees with the applicant's conclusion that the proposed facility components evaluated as a "commercial power generating facility" would not result in interference with communications and therefore would satisfy WCLUDO Section 19.030(C)(2).

3. *Noise - The energy facility shall comply with the noise regulations in OAR 340-035. The applicant may be required to submit a qualified expert's analysis and written report.*

WCLUDO Section 19.030(C)(3) requires that commercial power generating facilities demonstrate compliance with DEQ's noise rules at OAR 340-035-0035 (i.e. ambient degradation standard and maximum allowable standard). As presented in Section IV.Q.1. *Noise Control Regulation* of this order, the ambient noise degradation standard requires a demonstration that noise generated during proposed facility operation must not cause the hourly L50 noise level at any noise-sensitive property to exceed 10 dBA above measured ambient conditions or, in this case, ambient conditions ranging from 17 to 31 dBA.

Based upon the applicant's noise analysis and noise contour maps provided in ASC Exhibit X, maximum increases in ambient noise levels from proposed facility operation would not exceed 9 dBA, as presented in ASC Exhibit X Tables X-8 and X-9. Therefore, the ambient noise degradation standard would not be exceeded at any noise sensitive property, even during maximum operational noise/rainy conditions. Additionally, the noise modeling results show that noise generated during proposed facility operation would not exceed the maximum allowable standard of 50 dBA at any noise sensitive property within the analysis area, with maximum statistical noise levels modeled at 35 dBA, as presented in ASC Exhibit X Tables X-8 and X-9. Based on review of the applicant's statistical noise modeling analysis, the Department agrees with the applicant's conclusion of compliance with OAR 340-035-0035 and recommends Council find that the proposed facility would satisfy WCLUDO Section 19.030(C)(3).

4. *Visual Impact*

a. *Scenic Resources – To issue a conditional use permit for an energy facility, the county must find that the design, construction and operation of the facility, taking into account mitigation, are not likely to result in significant adverse impact to scenic resources or values identified as significant or important in the Wasco County Comprehensive Plan.*

WCLUDO Section 19.030(C)(4)(a) requires the governing body to find that the commercial power generating facility would not be likely to result in significant adverse impacts to scenic

resources or values identified as significant or important in the WCCP. As presented in ASC Exhibit R, the applicant identifies that the WCCP includes the following important or significant scenic resources within the analysis area:

- Deschutes River: Areas within the river canyon that can be seen from the Deschutes River or lands designated under the State Scenic Rivers Act.
- White River: Lands within the river canyon, or lands within approximately 4 miles of the river.
- Designated Scenic Routes: Specific segments along US 97, US 197, OR 216, OR 218

Based on review of the applicant's visual impact assessment, the existing visual character of the area within and near the identified important or significant resources, as further evaluated in Section IV.J. of this order, either the proposed facility would not be visible from the identified resources or would result in a minimal change in visual context. Therefore, the Department agrees with the applicant's conclusion and recommends Council find that the proposed facility would satisfy WCLUDO Section 19.030(C)(4)(a).

*b. Protected Areas - Except as provided in subsections (b) and (c) below, an energy facility shall not be located in the areas listed below:*

*(1) National recreation and scenic areas, including but not limited to the Columbia River Gorge National Scenic Area;*

*(2) Scenic waterways designated pursuant to ORS 390.826, wild or scenic rivers designated pursuant to 16 U.S.C. 1271 et seq., and those waterways and rivers listed as potentials for designation;*

*(3) State parks and waysides as listed by the Oregon Department of Parks and Recreation;*

*(4) State wildlife areas and management areas identified in OAR 635-008;*

*(5) National and state fish hatcheries or national and state wildlife refuges;*

*(6) State natural heritage areas listed in the Oregon Register of Natural Heritage Areas pursuant to ORS 273.581;*

*(7) Wilderness areas established pursuant to The Wilderness Act, 16 U.S.C. 1131 et seq. and areas recommended for designation as wilderness areas pursuant to 43 U.S.C. 1782; and*

*(a) Exceptions to Protected Areas - Except where the following uses are regulated by federal, state or local laws, including but not limited to the Columbia River Gorge National Scenic Area Act and implement land use ordinances, the following may be approve in a protected area identified in subsection b above if other alternative routes or sites have been studied and been determined to have greater impacts*

- *An electrical transmission line;*
- *A natural gas pipeline; or*
- *An energy facility located outside a protected area that includes an electrical transmission line or natural gas or water pipeline as a*

*related or supporting facility located within a protected area.*

*(b) Transmission Line & Pipeline Exception - The provisions of subsection b above do not apply to electrical transmission lines or natural gas pipelines routed within 500 feet of an existing utility right-of-way containing at least one transmission line or one natural gas pipeline.*

*(c) Additional Visual Mitigation Impacts for all Facilities - The design, construction and operation of the energy facility, taking into account mitigation, are not likely to result in significant adverse impact to scenic resources and values identified in subsection (b) above. Methods to mitigate adverse visual impacts could include but are not limited to:*

*(1) Building the energy facility near the edge of contiguous timber areas or using the natural topography to obscure the energy facility;*

*(2) Using materials and colors that blend with the background unless otherwise required by the Federal Aviation Administration or the Oregon Department of Aviation; and*

*(3) Retaining or planting vegetation to obscure views of the energy facility.*

WCLUDO Section 19.030(C)(4)(b) prohibits siting of a commercial power generating facility within designated protected areas, including national recreation and scenic areas, scenic waterways, state parks and waysides, state wildlife and management areas, national and state fish hatcheries, state natural heritage areas, and wilderness areas. As presented in ASC Exhibit P (Protected Areas), the applicant has not proposed to locate any facility components within designated protected areas. Therefore, based on avoidance of siting proposed facility components within any designated protected area, the Department agrees with the applicant's conclusion and recommends Council find that the proposed facility would satisfy WCLUDO Section 19.030(C)(4)(b).

*5. Natural Resource/Wildlife Protection - Taking into account mitigation, siting, design, construction and operation the energy facility will not cause significant adverse impact to important or significant natural resources identified in the Wasco County Comprehensive Plan, Wasco County Land Use and Development Ordinance or by any jurisdictional wildlife agency resource management plan adopted and in effect on the date the application is submitted. As appropriate, the permit holder agrees to implement monitoring and mitigation actions that Wasco County determines appropriate after consultation with the Oregon Department of Fish and Wildlife, or other jurisdictional wildlife or natural resource agency. Measures to reduce significant impacts may include, but are not limited to the following:*

*a. Providing information pertaining to the energy facility's potential impacts and measures to avoid impacts on:*

*(1) Wildlife (all potential species of reasonable concern);*

*(2) Wildlife Habitat;*
*(3) Endangered Plants; and*
*(4) Wetlands & Other Water Resources.*

*b. Conducting biologically appropriate baseline surveys in the areas affected by the proposed energy facility to determine natural resources present and patterns of habitat use.*

*c. Selecting locations to reduce the likelihood of significant adverse impacts on natural resources based on expert analysis of baseline data.*

*d. Utilizing turbine towers that are smooth steel structures that lack features that would allow avian perching. Where horizontal surfaces cannot be avoided, antiperching devices shall be installed where it is determined necessary to reduce bird mortality.*

*e. Designing and installing all aboveground transmission line support structures following the current suggested practices for avian protection on power lines published by the Avian Power Line Interaction Committee.*

*f. Utilizing towers and transmission line support structures designed so the foundation area and supports avoid the creation of artificial habitat or shelter for raptor prey.*

*g. Controlling weeds to avoid the creation of artificial habitat suitable for raptor prey such as spreading gravel on turbine pad.*

*h. Avoiding construction activities near raptor nesting locations during sensitive breeding periods and using appropriate no construction buffers around known nest sites.*

*i. Locating transmission lines or associated transmission lines with the energy facility to minimize potential impacts (e.g., 50 feet from the edge of the nearest wetland or water body except where the line is required to cross the wetland or water body; or separating transmission lines or associated transmission lines with the energy facility from the nearest wetland or water body by topography or substantial vegetation to the extent practical, except where the line is required to cross the wetland or water body).*

*j. Locating transmission towers or associated transmission towers outside of Class I or II streams unless:*

*(1) Adjoining towers and conductors cannot safely and economically support the line(s) that span the stream without an in stream tower; and*
*(2) The lines cannot be safely and economically placed under the water or streambed.*
*(3) Developing a plan for post-construction monitoring of the facility site using appropriate survey protocols to measure the impact of the project on identified natural resources in the area.*

WCLUDO Section 19.030(C)(5) requires the governing body to find that the siting, design, construction and operation of a commercial power generating facility would not cause significant adverse impacts to important or significant natural resources identified in the WCCP, WCLUDO, or by any adopted jurisdictional wildlife agency management plan. Based on WCCP

Goal 5 resources, WCLUDO and ODFW's Mule Deer Management Plan, the proposed facility would be located within ODFW's Category 2 habitat for big game winter range, but would not impact any important or significant natural resources identified in the WCCP or WCLUDO. WCLUDO Section 19.030(C)(5) then provides measures that could be implemented to reduce significant impacts, which the applicant addresses in ASC Exhibit K and therefore are evaluated below.

Potential wildlife impacts from proposed facility construction and operation are evaluated under the Council's Fish and Wildlife Habitat standard (ASC Exhibit P). As presented in ASC Exhibit P, the applicant conducted special status wildlife and habitat surveys and a literature review to identify all potential species of reasonable concern with the potential to occur within or near the site boundary. "Species of reasonable concern" are defined as those species listed under federal or state Endangered Species Acts or listed on ODFW's list of Species of Concern. Based on this review, the only federally listed wildlife species with the potential to occur within or near the facility is the wolverine (*Gulo gulo*), which has only remote potential to occur as a transient (Exhibit Q), as the applicant verified that suitable habitat was not present within the analysis area. Two state sensitive species, Swainson's hawk and Burrowing Owl, were observed during the applicant's 2018 field surveys.

As provided in ASC Exhibit K and P, proposed facility impacts to wildlife species of reasonable concern and its habitat include permanent and temporary habitat loss, introduction of noxious weeds, potential nesting and breeding disturbance, electrocution, powerline collision, structure collision, vehicular collision, disturbance related to artificial lighting, disturbance to wintering big game, and entrapment within fenced areas. As provided in ASC Exhibit P and evaluated in Section IV.H. *Fish and Wildlife Habitat* of this order, the applicant utilized information about sensitive resources to select siting locations; and, proposes avoidance and minimization measures, compensatory mitigation, and implementation of a long-term revegetation and noxious weed control plan, all of which were reviewed by the Department, ODFW and Wasco County Planning Department. Siting factors considered by the applicant in site selection included:

- Avoidance of fish bearing waters, vernal pools, and large wetland complexes to the extent practicable;
- Avoidance of ODFW Category 1 habitat;
- Avoidance of Comprehensive Plan designated EPD-7 Natural Areas and EDP-8 Sensitive Bird Overlay;
- To the extent feasible, siting on previously disturbed habitat, including dryland wheat and planted grassland, and outside sagebrush steppe, which is an ODFW conservation strategy habitat.
- Siting away from identified nests of Swainson's hawk, ferruginous hawk, and golden eagles such that these nests will not be disturbed by the Facility;
- Avoidance of open water habitat and cliff habitat;
- Co-location of access roads and electrical lines with existing farm roads; and
- Minimization of the use overhead collection lines to the extent possible.

Based upon the above-analysis supported by the evaluation provided in ASC Exhibit P, which is largely consistent with the requirements of Section 19.030(C)(5), and Department recommendations presented in Section IV.H. *Fish and Wildlife Habitat* of this order, the Department recommends Council find that the proposed facility would satisfy WCLUDO Section 19.030(C)(5).

> 6. *Protection of Historical and Cultural Resources - The applicant shall complete a cultural resources survey of areas where there will be temporary or permanent disturbance. During construction, cultural resources included in the Wasco County Comprehensive Plan shall be flagged and avoided in areas of potential temporary or permanent disturbance, and construction activities monitored to ensure all cultural resources in such areas are avoided, unless appropriate permits are obtained from the Oregon State Historic Preservation Office. Prior to construction an Inadvertent Discovery Plan (IDP) shall be developed that must outline the procedures to be followed in the case previously undiscovered archeological, historical or cultural artifacts are encountered during construction or operation of the energy facility, in compliance with ORS 358.905-358.955 and any other applicable local, state and federal law.*

WCLUDO Section 19.030(C)(6) requires that an applicant for a commercial power generating facility complete a cultural resource survey within areas of potential temporary and permanent disturbance and implement flagging and avoidance measures in areas with cultural resources identified in WCCP have been identified. WCLUDO Section 10.030(C)(6) also requires development and implementation of an Inadvertent Discovery Plan, consistent with ORS 358.905-358.955. As presented in ASC Exhibit S, the applicant's consultant, PaleoWest, conducted intensive pedestrian surveys, in accordance with the Oregon State Historic Preservation Office's (SHPO) 2016 field guidelines, within a 4,530 acre survey area (i.e. micrositing corridor), with 30 meter transect spacing. For the ASC, the applicant's consultant also conducted a literature review including Oregon Archeological Records Remote Access (OARRA, 2018) system, NRHP, U.S. General Land Office, land patents, historical U.S. Geological Survey topographic maps, and ethnographic literature. Based on this review, there were no WCCP cultural resources identified; however, there were eighteen archeological sites, including two with historic built components, identified within the survey area.

The applicant commits to developing and finalizing an Inadvertent Discovery Plan, and provides (in ASC Exhibit S) a draft plan, as provided in Attachment L and recommended as a site certificate condition in recommended Cultural, Historic and Archeological Resources Condition 1.

Based on the applicant's cultural resource survey, as provided in ASC Exhibit K, and the fact that no WCCP cultural resources were identified within the proposed site boundary, the Department recommends Council find that the proposed facility would satisfy WCLUDO Section 19.030(C)(6).

> *7. Fire Protection & Emergency Response - A fire protection and emergency response plan shall be developed and implemented in consultation with the applicable fire district or department and/or land management agency to minimize the risk of fire and respond appropriately to any fire or emergency that occurs onsite for all phases of the life of the facility. In developing the plan the applicant shall take into account, among other things, the terrain, dry nature of the region, address risks on a seasonal basis, and identify the locations of fire extinguishers, nearby hospitals, telephone numbers for emergency responders, and first aid techniques.*

WCLUDO Section 19.030(C)(7) requires that an applicant for a commercial power generating facility develop and implement a Fire Protection and Emergency Response Plan, for all phases of construction and operation, in consultation with applicable fire districts and/or land management agency, and that the plan address, at a minimum, terrain, dry nature of the region, process for evaluating risks during seasonal variation, identify the location of fire extinguishers, nearby hospital, emergency responder telephone number and first aid techniques.

In ASC Exhibit K, the applicant represents that a construction and operational fire plan would be developed in consultation with the Oregon State Fire Marshal and Bakeoven Shaniko Rangeland Fire Protection Association, and explains that the plans would adhere to WCLUDO Section 10.030(C)(7) requirements. The applicant also identifies, in ASC Exhibit U, that it would work with and have a contractual agreement with the Juniper Rural Flat Protection District, to provide 24-hour, 7-day a week emergency service to the proposed facility. Based on representations the ASC, the Department consolidated fire response and prevention measures into a draft Fire Prevention and Response Plan for proposed facility operation, as provided in Attachment N of this order. To ensure compliance with WCLUDO Section 19.030(C)(7) fire protection and emergency response requirements, the Department recommends Council impose the following condition:

**Recommended Land Use Condition 7:**

a. Prior to construction of the facility or any phase of the facility, the certificate holder shall submit a Construction Fire Prevention and Emergency Response Plan to the Department, for review and approval, in consultation with Wasco County Planning Department.
b. Prior to operation of the facility or any phase of the facility, the certificate holder shall submit an Operational Fire Prevention and Emergency Response Plan, consistent with the components included in the draft plan provided in Attachment N of the Final Order on the ASC).
c. The certificate holder shall demonstrate that the draft plans submitted under (a) and (b) of this condition were developed in consultation with the Oregon State Fire Marshal, Bakeoven Shaniko Rangeland Fire Protection Association, and Juniper Rural Flat Protection District. The plans shall, at a minimum, identify:
    i. Fire-related risks associated with construction, operation and maintenance of facility components, during winter and summer conditions; and of the area, during both

summer and winter conditions, based on specific terrain and dry nature of the area.

ii. The plans shall address emergency response by local service providers, and include emergency responders contact name and telephone number; a description of and map of the location of onsite fire-fighting equipment; address, map and directions to the nearest hospitals; and, shall describe first aid techniques that could be implemented by trained onsite personnel if fire-related injuries occur onsite.

iii. The plans shall address public safety through access restrictions, via perimeter fencing, and any other measures included in facility design that minimize public safety risk from hazardous areas within the facility area.

[GEN-LU-02]

Based on the applicant's representations described above, and compliance with recommended Land Use Condition 7, the Department recommends Council find that the applicant would satisfy WCLUDO Section 19.030(C)(7).

*8. Public Safety - A public safety plan shall be developed and implemented to exclude members of the public from hazardous areas within the Energy Facility Project Area.*

WCLUDO Section 19.030(C)(8) requires that an applicant for a commercial power generating facility develop and implement a public safety plan to exclude members of the public from hazardous areas within the proposed facility area (or proposed micrositing corridor). The proposed facility would exclude members of the public by design installation of an 8-foot, chain-link perimeter fence around the entirety of the solar arrays. The proposed O&M building, collector substation, and battery storage systems would be located within this fenced area, with the collector substation being restricted from access through additional perimeter fencing. The applicant represents that public access restriction through perimeter fencing for public safety would be documented in its Fire Protection and Emergency Response Plan, which the Department recommends Council impose as Land Use Condition 7, referenced above. Based upon the applicant's proposed perimeter fencing for the facility, and internal potentially hazardous facility components such as the substation, and verified through compliance with recommended Land Use Condition 7, the Department recommends Council find that the applicant would satisfy WCLUDO Section 19.030(C)(8).

*9. Transportation Plan - A transportation plan shall be developed and implemented in consultation with the Wasco County Road Department and/or the Oregon Department of Transportation (ODOT). The plan shall be consistent with any applicable requirements from the Wasco County Transportation System Plan and shall also provide or address:*

*a. The size, number, and location of vehicle access points off of public roads.*

*b. Use of existing roads to the extent practical to minimize new access roads.*

*c. Restoring the natural grade and revegetating all temporary road cuts, used during construction of the energy facility. The applicant shall specify the type and amount of native seed or plants used to revegetate the disturbed areas and*

*a timeline to complete this work.*

*d. A Road Impact Assessment/Geotechnical Report for roads to be used by the project. Said report should include an analysis of project-related traffic routes to be used during phases of construction, project operation and decommissioning. The report and any subsequent amendments shall be used as a discipline study and shall be incorporated into the Road Use Agreement between the Applicant and the County.*

WCLUDO Section 19.030(C)(9) requires that an applicant for a commercial power generating facility develop and implement a Transportation Plan that identifies public road access points, use of existing roads, road cut restoration measures, and includes a Road Impact Assessment/Geotechnical Report for public roads to be used/impacted. To address this criteria, the applicant commits to using existing roads to the extent practicable, and refers to the Road Approach Permits that would be obtained from Wasco County Public Works Department and ODOT, as applicable, and the Road Use Agreement with Wasco County Public Works Department as the mechanisms that would ensure that the details required under WCLUDO Section 19.030(C)(9) are satisfied. As presented in Section IV.M. *Public Services,* the Department recommends Council impose Public Services Condition 3, related to construction-related traffic minimization measures, road approach permits and road use agreements, with a built-in requirement that, prior to construction and as part of the road use agreement, the applicant (certificate holder) complete a Road Impact Assessment/Geotechnical Report for roads to be used during proposed facility construction – to then be used to inform level of road improvements and/or restoration.

Based upon the applicant's representations and compliance with recommended Public Services Condition 3, the Department recommends Council find that the applicant would satisfy WCLUDO Section 19.030(C)(9).

*10. Road Use Agreement - Where applicable, the Wasco County Road Department shall require the applicant to enter into a Road Use Agreement with the County to ensure that project construction traffic is mitigated and any damage to county roads that is caused by the construction of the energy facility or its related or supporting facilities is repaired by the applicant, and such county roads are restored to pre-construction conditions or better (this includes a weed plan and providing for re-vegetation).*

- *General design standards for roads shall, in general, conform to policies set forth in Chapter 21.*
- *As part of the Road Use Agreement the applicant shall also obtain a utility permit for all project utility installation and approach permits for road approach access to county roads.*

WCLUDO Section 19.030(C)(10) requires that an applicant for a commercial power generating facility execute a road use agreement with the Wasco County Road Department to ensure that construction-related traffic impacts to county roads are repaired to pre-construction conditions

or better. The applicant commits to executing a road use agreement with the Wasco County Road Department in accordance with WCLUDO Section 19.030(C)(10), prior to construction. As described above, the Department recommends Council impose Public Services Condition 3, related to construction-related traffic minimization measures, road approach permits and road use agreements. Based upon the applicant's representations and compliance with recommended Public Services Condition 3, the Department recommends Council find that the applicant would satisfy WCLUDO Section 19.030(C)(10).

> *11. Onsite Access Roads and Staging Areas - The impact of onsite access roads and staging areas within the Energy Facility Project Area shall be limited by:*
>
> *a. Constructing and maintaining onsite access roads for all-weather use to assure adequate, safe and efficient emergency vehicle and maintenance vehicle access to the site;*
>
> *b. Using existing onsite access roads to the extent practical and avoiding construction of new on-site access roads as much as possible; and*
>
> *c. Restoring the natural grade and revegetating all temporary access roads, road cuts, equipment staging areas and field office sites used during construction of the energy facility. The applicant shall specify the type and amount of native seed or plants used to revegetate the disturbed areas and a timeline to complete this work.*

WCLUDO Section 19.030(C)(11) requires a demonstration that a proposed commercial power generating facility would adhere to specific minimization measures to reduce potential impacts to onsite access roads and staging areas. In ASC Exhibit K, the applicant describes that onsite access roads would be graded and covered with graveled, all-weather surface. Construction of new access roads would be minimized to the extent possible, with use of existing access roads potentially limited by landowner preference. Temporary access roads and staging areas would be restored through gravel removal and revegetation consistent with pre-disturbance vegetation. The applicant is required to finalize its draft Revegetation Plan (see Attachment I of this order), in accordance with several conditions imposed through this order, which would ensure temporary impacts are restored and that success of restoration is monitored long-term, to ensure limiting factors such as unsuccessful seeding, weeds or fire don't impact revegetation success. Based on compliance with the requirements of the draft Revegetation Plan, as imposed in recommended Fish and Wildlife Condition 1, the Department recommends Council find that the applicant would satisfy WCLUDO Section 19.030(C)(11).

> *12. Dust Control - All approved non-paved temporary or permanent roads and staging areas within the Energy Facility Project Area shall be constructed and maintained to minimize dust, which may be addressed through the Road Use Agreement. If roads and staging areas are not construct with material that would prevent dust, the permit holder must regularly water roads and staging areas as necessary or apply an approved dust suppression agent such as Earthbind 100 to minimize dust and wind erosion.*

WCLUDO Section 19.030(C)(12) requires a demonstration that a proposed commercial power generating facility would minimize and control dust. Proposed facility construction would generate dust, which the applicant commits to controlling through daily water application via water truck. Additional dust control measures identified by the applicant include graveling of permanent roads, revegetation of temporarily disturbed areas, and imposing a 20 mile per hour speed limit. Based on implementation of the applicant's proposed dust control measures, the Department recommends Council find that the applicant would satisfy Section 19.030(C)(12).

> *13. Erosion and Sediment Control - All ground disturbing activities shall be conducted in compliance with a National Pollutant Discharge Elimination System (NPDES) permit as may be required by Oregon Department of Environmental Quality. Where applicable, an NPDES permit must be obtained. The plan must include best management practices for erosion control during construction and operation and permanent drainage and erosion control measures to prevent damage to local roads or adjacent areas and to minimize sediment run- off into waterways.*

WCLUDO Section 19.030(C)(13) requires a demonstration that a proposed commercial power generating facility would adhere to the requirements of a DEQ-issued NPDES 1200-C permit to minimize erosion and implement sediment control. The applicant identifies that a NPDES 1200-C permit would be required for proposed facility construction, which the Department recommends be obtained and complied with under Soil Protection Condition 1. Based on compliance with recommended Soil Protection Condition 1, the Department recommends Council find that the applicant would satisfy WCLUDO Section 19.030(C)(13).

> *14. Weed Control - A weed plan shall be developed in consultation with the Wasco County Weed Department and implemented during construction and operation of the energy facility.*

WCLUDO Section 19.030(C)(14) requires a permittee of a proposed commercial power generating facility to develop a Weed Control Plan, in consultation with the Wasco County Weed Department, to be implemented during construction and operation. In accordance with this criteria, the applicant developed a draft Noxious Weed Control Plan, as provided in Attachment K of this order, and consulted with Wasco County Weed Department Supervisor – Merle Keys. Additionally, the Department consulted with Merle Keys on December 31, 2019, where Mr. Keys confirmed that he had reviewed the draft plan and confirmed that it was adequate and had no additional comments. Development and implementation of a Noxious Weed Control Plan is required under various Council standards (Fish and Wildlife Habitat, Land Use) and LCDC's solar rules; therefore, the Department recommends Council impose Fish and Wildlife Habitat Condition 2, requiring that the applicant finalize the plan, in consultation with the Department and County Weed Control Supervisor, and implement and adhere to the requirements of the plan during both construction and operation. Based on compliance with recommended Fish and Wildlife Habitat Condition 2, the Department recommends Council find that the applicant would satisfy WCLUDO Section 19.030(C)(14).

*15. Signs - Outdoor displays, signs or billboards within the energy facility project boundary shall not be erected, except:*

*a. Signs required for public or employee safety or otherwise required by law; (e.g., OSHA or compliance with the Manual of Uniform Traffic Control Devices (MUTCD) administered through the County Road Department); and*

*b. No more than two signs relating to the name and operation of the energy facility of a size and type to identify the property for potential visitors to the site, but not to advertise the product. No signs for advertising of other products are permitted.*

WCLUDO Section 19.030(C)(15) requires a permittee of a proposed commercial power generating facility to adhere to limitations of erecting signs, including only signs for safety and no more than two signs relating to site access and facility name. The applicant commits to complying with this limitation. To provide the Department and the county the opportunity to verify compliance with this sign limitation, the Department recommends Council impose the following condition:

**Recommended Land Use Condition 8:** During construction and operation of the facility or any phase of the facility, the certificate holder shall prohibit posting of any advertising signs. If the facility posts external signage (i.e. outdoor displays, signs or billboards), such signage shall be limited to safety signs and no more than two signs presenting the facility name. [GEN-LU-03]

Based on compliance with recommended Land Use Condition 8, and the applicant's commitment to complying the criteria, the Department recommends Council find that the applicant would satisfy WCLUDO Section 19.030(C)(15).

*16. Underground Systems - Where reasonably practicable, power collector and communication systems shall be installed underground, at a minimum depth of 3 feet. Shallower depths may be authorized where notification and safety measures are taken and wires are placed in schedule 40 conduit. The cable collector system shall be installed to prevent adverse impacts on agriculture operations and natural resources.*

WCLUDO Section 19.030(C)(16) requires a permittee of a proposed commercial power generating facility to install power collection and communication systems belowground surface at a minimum depth of 3 feet. The applicant proposes and commits to installing underground collector lines at a minimum of 3 beet below ground surface. Based on the applicant's proposed design and belowground burial depth, the Department recommends Council find that the proposed facility would satisfy WCLUDO Section 19.030(C)(16).

*17. Operation & Maintenance Buildings - Permanent maintenance/operations buildings shall be located in the same zone as the principal energy facility, except that such buildings may be constructed in a separate zone if:*

*a. The building is designed and constructed generally consistent with the character of similar buildings used in the surrounding area; and*
*b. The building will be removed or converted to another approved use upon decommissioning of the energy facility consistent with the provisions of this ordinance.*

WCLUDO Section 19.030(C)(17) requires a permittee of a proposed commercial power generating facility to site its O&M building in the same zone as the principle energy facility. As described in this section and presented in ASC Exhibit K, all proposed facility components would be located in the same zone – Wasco County's A-1 EFU-zone. Because all proposed facility components, including the proposed O&M building would be located in the same zone, the Department recommends Council find that the proposed facility would satisfy WCLUDO Section 19.030(C)(17).

*18. Coordination and Documentation - Prior to commencement of any construction, all other necessary permits shall be obtained, e.g. building permit, rural address, road approach, utility and other permits from the Wasco County Public Works Department, and/or from ODOT as well as any other applicable local, state or federal permits or approvals.*

WCLUDO Section 19.030(C)(18) requires a permittee of a proposed commercial power generating facility to, prior to construction, obtain all necessary permits, rural address, road approach, utility and other permits as well as other applicable local, state or federal permits or approvals. The applicant identifies all necessary federal, state and local permits in ASC Exhibit E, many of which would be obtained by a third-party contractor. Permits that would be obtained by the applicant for the proposed facility include: a conditional use and zoning permit, building permit, utility crossing permit and access approach site permit, and road use agreement. The applicant identifies the following potential third-party state or local permits needed for the proposed facility: a DEQ-issued onsite sewage disposal construction-installation permit (O&M building), a DEQ-issued General Water Pollution Control Facilities Permit (temporary concrete batch plant), Department of Water Resources-issued limited water use license, and ODOT-issued oversize load movement permit/load registration. Consistent with WCLUDO Section 19.030(C)(18), the Department recommends Council impose the following condition to ensure that the applicant obtains and provides evidence to the Department and Wasco County that all necessary permits have been obtained prior to construction.

**Recommended Land Use Condition 9**: Prior to construction of facility components necessitating state or local permits, the certificate holder shall provide evidence to the Department that:

a. All local permits and approvals have been obtained including a conditional use and zoning permit, building permit, utility crossing permit, access approach site permit, and road use agreement.
b. Any necessary state and local permits have been obtained by its third-party contractors,

specifically and as applicable, a DEQ-issued onsite sewage disposal construction-installation permit (O&M building), a DEQ-issued General Water Pollution Control Facilities Permit (temporary concrete batch plant), Department of Water Resources-issued limited water use license (O&M well).

c. A Request for Comprehensive Plan Amendment has been submitted to Wasco County Planning Department to reflect, in the Wasco County Comprehensive Plan (WCCP), the Energy Facility Siting Council's findings and approval of the exception taken to the statewide policy embodied in Goal 3 due to the solar facility's use of more than 20 acres of arable land, subject to the county's comprehensive plan amendment procedures. The certificate holder shall notify the Department once Wasco County's Board of Commissioners amends the WCCP.

[PRE-LU-06]

Based upon compliance with the above-recommended condition, the Department recommends Council find that the proposed facility would satisfy WCLUDO Section 19.030(C)(18).

*19. Termination and Decommissioning. For an energy facility sited through EFSC, compliance with EFSC's financial assurance and decommissioning standards shall be deemed to be in compliance with these requirements.*

*a. The applicant shall prepare a decommissioning plan that describes the actions to restore the site to a useful, non-hazardous condition, including options for postdismantle or decommission land use, information on how impacts on fish, wildlife and the environment would be minimized during the dismantling or decommissioning process, and measures to protect the public against risk or danger resulting from post- decommissioning site conditions in compliance with the requirements of this section.*

*b. The applicant shall provide a detailed cost estimate, a comparison of that estimate with funds to be set aside, in the form of a financial assurance (bond, letter of credit, insurance policy other such form of guarantee acceptable to Wasco County), and a plan for assuring the availability of adequate funds for completion of dismantling or decommissioning. The cost estimate and financial assurance may take into account salvage value associated with the project, and can be requested for review and update by Wasco County at their discretion (e.g., every 5 years).*

*c. The following shall be required as conditions of the Wasco County approval:*

*(1) If operation of the energy facility ceases or begins construction of the project, but does not complete it, the permit holder shall restore the site according to a plan approved by Wasco County. A plan shall be submitted that ensures the site will be restored to a useful, non-hazardous condition without significant delay, including but not limited to the following:*

*(a) Removal of aboveground and underground equipment, structures and foundations to a depth of at least three feet below grade (four feet if cropland). Underground equipment, structures and foundations need not be removed if they are at least three feet below grade and do not*

*constitute a hazard or interfere with agricultural use or other resource uses of the land. Restoration of the surface grade and soil after removal of aboveground structures and equipment.*

*(b) Removal of graveled areas and access roads and restoration of surface grade and soil.*

*(c) Revegetation of restored soil areas with native seed mixes, plant species suitable to the area, consistent with Wasco County's weed control plan.*

*(d) For any part of the energy facility on leased property, the plan may incorporate agreements with the landowner regarding leaving access roads, fences, gates or buildings in place or regarding restoration of agricultural crops or forest resource land. Said landowner will be responsible for maintaining said facilities for purposes permitted under applicable zoning.*

*(e) The underground power collector and communication lines need not be removed if at a depth of three feet or greater. These cables can be abandoned in place if they are deemed not a hazard or interfering with agricultural use or other consistent resource uses of the land*

*(f) The plan must provide for the protection of public health and safety and for protection of the environment and natural resources during site restoration.*

*(g) The plan must include a schedule for completion of site restoration work.*

*(2) Before beginning construction of the energy facility, the permit holder must submit in a form and amount satisfactory to Wasco County, assuring the availability of adequate irrevocably committed funds to restore the site to a useful, non-hazardous condition naming Wasco County as beneficiary or payee. The form may include posting a bond, issuing an irrevocable letter of credit, purchasing a paid up insurance policy or by other means acceptable by Wasco County and shall ensure continuity between owners.*

*(3) The amount of the financial assurance (bond or other such form of guarantee) shall be annually adjusted for inflation 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 (the "Index"). The permit holder (including possible successor if sold or transferred) shall increase the amount of the financial assurance annually by the percentage increase in the Index and shall pro-rate the amount within the year to the date of retirement. If at any time the Index is no longer published, Wasco County shall select a comparable index for adjusting the amount. The amount of the financial assurance shall be prorated within the year to the date of decommissioning.*

*(4) Per the request of Wasco County, the permit holder (including possible successor if sold or transferred) shall describe the status of the financial assurance in a report (e.g., annual update report submitted to Wasco County).*

*(5) The financial assurance shall not be subject to revocation or reduction before retirement of the energy facility site.*

WCLUDO Section 19.030(C)(19) requires a permittee of a proposed commercial power generating facility to satisfy specific termination and decommissioning requirements, including cost estimating and submittal of a bond or letter of credit. The criteria specifically allows EFSC-jurisdictional facilities to comply with these provisions through compliance with the Council's Retirement and Financial Assurance standard. As presented in Section IV.G. *Retirement and Financial Assurance* of this order, based upon compliance with recommended conditions, the Department recommends Council find that the applicant would satisfy the requirements of the Council's standard and therefore, based upon this recommended conclusion, the Department recommends Council find that the applicant would also satisfy the requirements of WCLUDO Section 19.030(C)(19).

*20. Final Location - The actual latitude and longitude location or Oregon State Plane NAD83 HARN (international feet) coordinates of the energy facility and related or supporting facilities shall be provided to the County GIS Department once commercial electrical power production begins. Alternatively, this information could be provided in GIS layer consistent with the datum referenced above or any other datum deemed acceptable by the Wasco County GIS Department.*

WCLUDO Section 19.030(C)(20) requires that, once permitted, a commercial power generating facility provide the actual latitude and longitude location, or other acceptable format, of all facility components to the governing body. This zoning provision is not substantive criteria for which the Council need make findings; however, because the information supports future planning and is an information requirement, the Department recommends Council impose the following condition:

**Recommended Land Use Condition 10:** Within 90-days of commercial operation of the facility or any phase of the facility, the certificate holder shall provide to the Department and Wasco County GIS Department the actual latitude and longitude location or Oregon State Plan NDA83 HARN (international feet) coordinate of all facility components. GIS layers may be provided consistent with the datum reference above or any other datum deemed acceptable by the Department.
[OPR-LU-01]

*21. Power Production Reporting - The County may require a report of nonproprietary power production for any time frame after the energy facility first begins production if permitted through the County. If requested, the permit holder shall have 180 days to produce said report.*

WCLUDO Section 19.030(C)(21) provides authority to the governing body of a permitted commercial power generating facility to request a report of nonproprietary power production for any timeframe after commercial operation, and is therefore not considered applicable

substantive criteria for which Council needs to make findings. Wasco County Board of Commissioners did not request that Council impose a condition requiring that the applicant submit a nonproprietary power production report, and therefore is not included in this order.

*Specific Standards, Solar Energy Facilities*

*D. Specific Standards - The following standards apply to specific types of energy facilities as described, in addition to the General Standards in Section C above.*

*k. Solar Energy Facilities:*

*a. Ground Leveling – The solar energy facility shall be designed and constructed to minimize ground leveling and to the extent reasonably practicable, limit ground leveling to those areas needed for effective solar energy collection.*

*b. Misdirection of Solar Radiation - The solar energy facility shall be designed, constructed, and operated to prevent the misdirection of concentrated solar radiation onto nearby properties, public roadways or other areas accessible to the public, or mitigated accordingly.*

*c. Glare - The solar energy facility shall be designed, constructed and operated such that any significant or prolonged glare is directed away from any nearby properties or public roadways, or mitigated accordingly.*

*d. Cleaning Chemicals and Solvents - During operation of the solar energy facility, all chemicals or solvents used to clean solar panels or heliostats shall be low in volatile organic compounds and to the extent reasonably practicable, the permit holder shall use recyclable or biodegradable products.*

*e. Wildlife - Measures to reduce wildlife impact may include using suitable methods such as coloration or sound producing devices to discourage birds from entering areas of concentrated solar energy near solar-thermal mirrors or other devices that concentrate solar radiation.*

WCLUDO Section 19.030(D) establishes specific standards for a commercial power generating facility that is a solar energy facility, including ground leveling, misdirection of solar radiation, glare, cleaning chemicals and solvents, and wildlife impact minimization measures. The solar energy facility criteria for misdirection of solar radiation and wildlife impact minimization measures are specific to solar facilities proposing to use concentrated solar radiation technology, which are not applicable to the proposed facility (proposing photovoltaic solar panels) and not further evaluated below.

In response to WCLUDO Section 19.030(D)(a), the applicant describes that the proposed facility site is relatively flat and therefore would not be expected to require significant leveling of ground surfaces which may otherwise be necessary to provide flat terrain for siting of proposed facility components. In response to WCLUDO Section 19.030(D)(c), the applicant confirms that the proposed facility would include modules designed with antireflective technology – limiting

potential glare – and that the design of the modules includes tracking systems that would rotate the modules, further reducing any potential glare impacts in any one location. In response to WCLUDO Section 10.030(D)(d), the applicant explains that solar panel washing may occur up to two times per year, and that recyclable or biodegradable products would be used, to the extent reasonably practicable. To ensure compliance with WCLUDO Section 19.030(D)(d), the Department recommends Council impose the following condition:

> **Recommended Land Use Condition 11:** During operation of the facility or any phase of the facility, the certificate holder shall provide to the Department and Wasco County copies of the Chemical Safety Data Sheets (SDS) for cleaning chemicals and solvents to be used in solar panel washing. The SDSs must demonstrate that the cleaning product is low in volatile organic compounds and, to the extent feasible, is a recyclable or biodegradable product. If the product is non-recyclable or non-biodegradable, the certificate holder shall provide an explanation and demonstrate that an evaluation of the availability of recyclable and biodegradable products was completed. During any year of operation, the certificate holder shall notify and provide updated SDSs to the Department if the cleaning products change.
> [OPR-LU-02]

Based on proposed facility design and compliance with the above-recommended condition, the Department recommends Council find that the applicant would also satisfy the requirements of WCLUDO Section 19.030(D).

*Section 20.050 Off Street Parking*

**** The following are the uses and minimum standards provided for off street parking:*

*G. Industrial*

1. *Storage warehouse, manufacturing establishment, rail or trucking freight terminal: One (1) space per employee.*
2. *Wholesale establishment: One (1) space per employee plus one (1) space per seven hundred (700) square feet of patron serving area.*

WCLUDO Section 20.050 provides off-street parking requirements for industrial land uses, including one space per employee for various industrial uses including a storage warehouse. While the section does not appear to apply directly to a commercial power generating facility, the applicant confirms that the proposed O&M building would include parking space for 10 employees, which is the maximum number of permanent workers anticipated for proposed facility operation. Therefore, based on the O&M parking lot design (10 spaces) and maximum number of workers (10), the Department recommends Council find that the proposed facility would comply with Section 20.050(G).

*Section 20.055 Bicycle Parking Requirements*

*At the time of erection of a new structure or at the time of enlargement or change in use of an existing structure, bicycle parking shall be provided in accordance with the following standards:*

*A. Number of Bicycle Parking Spaces - A minimum of two (2) bicycle parking spaces per use is required for all uses with greater than 10 vehicle parking spaces.*

*C. Location and Design - Bicycle parking shall be conveniently located with respect to both the road right-of-way and at least one building entrance (e.g., no farther away than the closest parking space). It should be incorporated whenever possible into building design and coordinated with the design of street furniture when it is provided. Street furniture includes benches, street lights, planters and other pedestrian amenities.*

*D. Visibility and Security - Bicycle parking shall be visible to cyclists from roadway sidewalks or building entrances, so that it provides sufficient security from theft and damage;*

*E. Options for Storage - Bicycle parking requirements for long-term and employee parking can be met by providing a bicycle storage room, bicycle lockers, racks, or other secure storage space inside or outside of the building;*

*F. Lighting - Bicycle parking shall be least as well-lit as vehicle parking for security.*

*G. Reserved Areas - Areas set aside for bicycle parking shall be clearly marked and reserved for bicycle parking only.*

*H. Hazards - Bicycle parking shall not impede or create a hazard to pedestrians. Parking areas shall be located to avoid conflict with vision clearance standards (Section 4.090 Vision Clearance).*

WCLUDO Section 20.055 establishes bicycle parking requirements, including a minimum of 1 bicycle parking space for parking lots with less than 10 parking spaces, which the applicant asserts would be satisfied through the O&M building parking lot design. Based on the O&M parking lot design (1 bicycle space) and maximum number of workers (10), the Department recommends Council find that the proposed facility would comply with Section 20.055.

*Section 20.070 Off Street Loading*

*B. Merchandise, materials or supplies: Buildings or structures to be built or substantially altered to receive and distribute materials or merchandise by truck shall provide and maintain off street loading berths in sufficient numbers and size to adequately handle the needs of the particular use. If loading space has been provided in connection with an existing use or is added to an existing use, the loading space shall not be eliminated if elimination would result in less space than is required to adequately handle the needs of the particular use. Off street parking areas used to fulfill the requirements of this Ordinance shall not be used for loading and unloading operations except during periods of the day when not required to take care of parking needs.*

WCLUDO Section 20.070 establishes off-street loading requirements, which the applicant asserts would be satisfied by the design of the proposed O&M building yard design. Based on the size of the O&M building yard (3 acres), the Department recommends Council find that the proposed facility would comply with Section 20.070.

*Section 20.080 General Provisions – Off Street Parking and Loading*

WCLUDO Section 20.080 establishes general off-street parking and loading provisions, which the applicant asserts would be satisfied through O&M building design, which includes sufficient space given the size of the O&M building (5,000 square feet), within a 3-acre site, with parking spaces for up to 10 vehicles and 1 bicycle. Based on the proposed O&M building design, the Department recommends Council find that the proposed facility would comply with Section 20.080.

*Wasco County Comprehensive Plan*

*Chapter 5. Community Facilities and Services – J. Parks and Recreation and Scenic Areas – Subpart 3*

*Outstanding Scenic and Recreational Areas*

*Outstanding scenic and recreational areas have exceptional qualities which draw visitors from outside the county, as well as provide local citizens with excellent recreational opportunities. These areas are listed in Table 11.*

WCCP Chapter 5J Subpart 3 establishes outstanding scenic and recreational areas as natural resources protected in the WCCP. The applicant confirm that based upon review of the WCCP, there are no outstanding scenic and recreational areas within the 0.5-mile land use analysis area. Therefore, the proposed facility would be consistent, or have no impact to resources protected under WCCP Chapter 5 Subpart 3.

*Chapter 15 Goals and Policies*

*GOAL #3 – AGRICULTURAL LANDS: To preserve and maintain agricultural lands.*

*Policy 9 – Fish and Wildlife*

- *Encourage land use and land management practices which contribute to the preservation and enhancement of fish and wildlife resources, with consideration for private agricultural practices.*
- *To conserve and protect existing fish and wildlife areas.*
- *To maintain wildlife diversity and habitat so that it will support optimum numbers of game and nongame wildlife for recreation and aesthetic opportunities.*

WCCP Chapter 15 Goal 3, Policy 9 establishes parameters for protecting fish and wildlife habitat. Based on the evaluation presented in ASC Exhibit P and Section IV.H *Fish and Wildlife Habitat* of this order, the Department recommends Council find that the proposed facility would be consistent with policies aimed at protecting fish and wildlife habitat.

*Goal 6 – Air, Water and Land Resources Quality: To maintain and improve the quality of the air, and land resources of the County.*

*Policy 1: Encourage land uses and land management practices which preserve both the quantity and quality of air, water and land resources*

WCCP Goal 6 Policy 1 is implemented in WCLUDO Section 5.020(G). As presented in the evaluation of WCLUDO Section 5.020(G), the Department recommends Council find that the proposed facility would either not result in or would minimize air quality, water quantity and quality and land resource impacts. Therefore, the Department recommends Council find that the proposed facility would not consistent with this policy.

*Policy 4: Noise levels should be maintained in compliance with state and federal standards.*

*<u>Implementation</u>*

*A. Noise levels for all new industries must be kept within standards set by state and federal agencies.*

*B. Consideration for the effects of noise on the surrounding environment will be given when a new development of any kind is proposed.*

*C. Noise sensitive areas should be identified and only compatible uses permitted in their vicinity.*

WCCP Goal 6 Policy 4 is implemented in WCLUDO Section 5.020(B) and (E). As presented in the evaluation of WCLUDO Section 5.020(B) and (E), the Department recommends Council find that the proposed facility would comply with DEQ's noise control rules and based upon compliance with recommended Land Use Condition 6, would also minimize noise during construction. Therefore, the Department recommends Council find that the proposed facility would be consistent with this policy.

*GOAL # 9 – ECONOMY OF THE STATE: To diversify and improve the economy of Wasco County.*

*Policy 1: Maintain agriculture and forestry as a basis of the County's rural economy.*

*Policy 2: Commercial and industrial development compatible with the County's agricultural and forestry based economy will be encouraged.*

*Policy 3: Wasco County will support the expansion and increased productivity of existing industries and firms as a means to strengthen local and regional economic development*

WCCP Goal 9 Policies 1 through 3 provide directives to Wasco County related to the protection and preservation of agriculture and forestry within the county. The proposed facility would occupy or use up to 2,717 acres of arable land, which would result in a reduction in lands available for agriculture. However, as noted throughout ASC Exhibit K, less than 323 acres of the area within the proposed micrositing corridor is currently used for cultivated agriculture, with the remaining lands deemed unsuitable for agricultural cultivation or not economically viable to use for cultivation due to lower than average prices (bushel per acre) for winter wheat crops. As evaluated in Section IV.E.3 *Goal 3 Exception* of this order, the applicant represents that agricultural income of underlying landowners would be supplemented through lease payment and would provide a stable source of income that would more than offset any lost revenue from the elimination of the 323 acres used for cultivation. The applicant also represents that the additional supplemental income provided through lease payment would allow landowners to maintain their current practices, with a higher likelihood of keeping the property within their family and used for ranching and other agricultural practices.

Based on the limited production of cultivated agriculture within the proposed micrositing corridor that either could or would be impacted, and supplemental income provided to landowners from proposed facility lease payments, the Department recommends Council find that the proposed facility would be consistent with this policy. .

*GOAL #11 – PUBLIC FACILITIES AND SERVICES: To plan and develop a timely, orderly and efficient arrangement of public facilities and services to serve as a framework for urban and rural development.*

> *Policy 1: Provide an appropriate level of fire protection, both structural and wildfire, for rural areas.*

WCCP Goal 11 Policy 1 is implemented in WCLUDO Chapter 10. As presented in the evaluation of WCLUDO Chapter (10), and based upon compliance with recommended Land Use Condition 7, the Department recommends Council find that the proposed facility would support local fire protection and provide adequate coordination and protection measures to minimize potential impacts to public service providers of fire and emergency response Therefore, the Department recommends Council find that the proposed facility would be consistent with this policy.

> *Policy 3: Minimize adverse impacts resulting from power line corridor and utility development.*
>
> > *B. When economically and physically feasible, transmission lines should be laid underground.*
> > *****
> > *E. Maximum utilization of existing utility right-of-way should be encouraged to minimize the need for additional rights-of-way.*

WCCP Goal 11 Policy 3(B) and (E) is implemented in WCLUDO Section 3.214(L) and ORS 215.274,

which are evaluated in this order. As presented in the evaluation of WCLUDO Section 3.214(L) and ORS 215.274 of this order, the Department recommends Council find that the proposed facility would be locationally dependent and there is a lack of an available right of way for the entire length of the proposed transmission line. Therefore, the Department recommends Council find that the proposed facility would be consistent with this policy.

*GOAL #12 – TRANSPORTATION: To provide and encourage a safe, convenient and economic transportation system.*

*Policy 1: Develop and maintain an adequate County road system.*

WCCP Goal 12 Policy 1 is implemented in WCLUDO Section 19.030(C), which is evaluated in this order. As presented in the evaluation of WCLUDO Section 19.030(C), and based upon compliance with recommended Public Services Condition 3, the Department recommends Council find that the proposed facility would be consistent with this policy.

*GOAL #13 – ENERGY CONSERVATION: To conserve energy.*

*Policy 1: The County will work with appropriate State and Federal agencies to identify and protect, and if feasible, develop potential energy resources, especially renewable energy resources*

*Policy 2: Reduce the consumption of non-renewable sources of energy whenever possible.*

*A. Conversion of energy sources from non-renewable sources to renewable sources shall be encouraged.*

*B. The allocation of land and uses permitted on the land should seek to minimize the depletion of non-renewable sources of energy.*

*Policy 6: Use of renewable energy shall be encouraged.*

WCCP Goal 13 Policies 1, 2 and 3 are directives to the county related to renewable resources. Because the proposed facility is a renewable resource, the Department recommends Council find that the proposed facility would be consistent with these policies.

<u>IV.E.2 Directly Applicable State Statutes and Administrative Rules</u>

**Oregon Revised Statutes**

*ORS 215.283(1)(c) and ORS 215.274 – Associated Transmission Lines Necessary for Public Service*

Transmission lines that meet the definition of an “associated transmission line” must consider the requirements of ORS 215.274. If a utility facility necessary for public service is an

"associated transmission line" as defined in ORS 215.274 and ORS 469.300, the use may be established in EFU-zoned land pursuant to ORS 215.283(c).

ORS 469.300(3) defines "associated transmission lines" as "new transmission lines constructed to connect an energy facility to the first point of junction of such transmission line or lines with either a power distribution system or an interconnected primary transmission system or both or to the Northwest Power Grid," and that definition is incorporated by reference in ORS 215.274. Associated transmission lines reviewed under ORS 215.274 are a subset of the transmission lines that could be evaluated as utility facilities necessary for public service under ORS 215.283(1)(c). The proposed 11-mile 230 kV transmission line would interconnect the proposed collector substation to the northwest power grid through interconnection to BPA's existing Maupin Substation (see Figure 3: *Proposed Facility Layout* in Section III., *Proposed Facility Location, Site Boundary and Micrositing Corridor* of this order).[39] As such, the proposed 230 kV transmission line is an "associated transmission line." Wasco County has not adopted local code provisions to implement ORS 215.274. Therefore, the requirements of the statute apply directly to the proposed 230 kV transmission line and the applicable requirements are evaluated below.

> *<u>ORS 215.274(2)</u>: An associated transmission line is necessary for public service if an applicant for approval under ORS 215.213 (Uses permitted in exclusive farm use zones in counties that adopted marginal lands system prior to 1993) (1)(c)(B) or 215.283 (Uses permitted in exclusive farm use zones in nonmarginal lands counties) (1)(c)(B) demonstrates to the governing body of a county or its designee that the associated transmission line meets:*
>
> > *(a) At least one of the requirements listed in subsection (3) of this section; or*
> > *(b) The requirements described in subsection (4) of this section.*

ORS 215.274 requires that the applicant demonstrate that the associated transmission line meets the requirements of either ORS 215.274(3) or (4). As discussed below, in ASC Exhibit K, the applicant provides evidence to support Council's review of the requirements of subsection (4); the applicant acknowledges that it does not meet the requirements of subsection (3).

> *<u>ORS 215.274(3):</u> The governing body of a county or its designee shall approve an application under this section if an applicant demonstrates that the entire route of the associated transmission line meets at least one of the following requirements:*
>
> > *(a) The associated transmission line is not located on high-value farmland, as defined in ORS 195.300 (Definitions for ORS 195.300 to 195.336), or on arable land;*
> > *(b) The associated transmission line is co-located with an existing transmission line;*

[39] BSPAPP. Exhibit K Section 4.3.1. 2019-11-01.

*(c) The associated transmission line parallels an existing transmission line corridor with the minimum separation necessary for safety; or*

*(d) The associated transmission line is located within an existing right of way for a linear facility, such as a transmission line, road or railroad, that is located above the surface of the ground.*

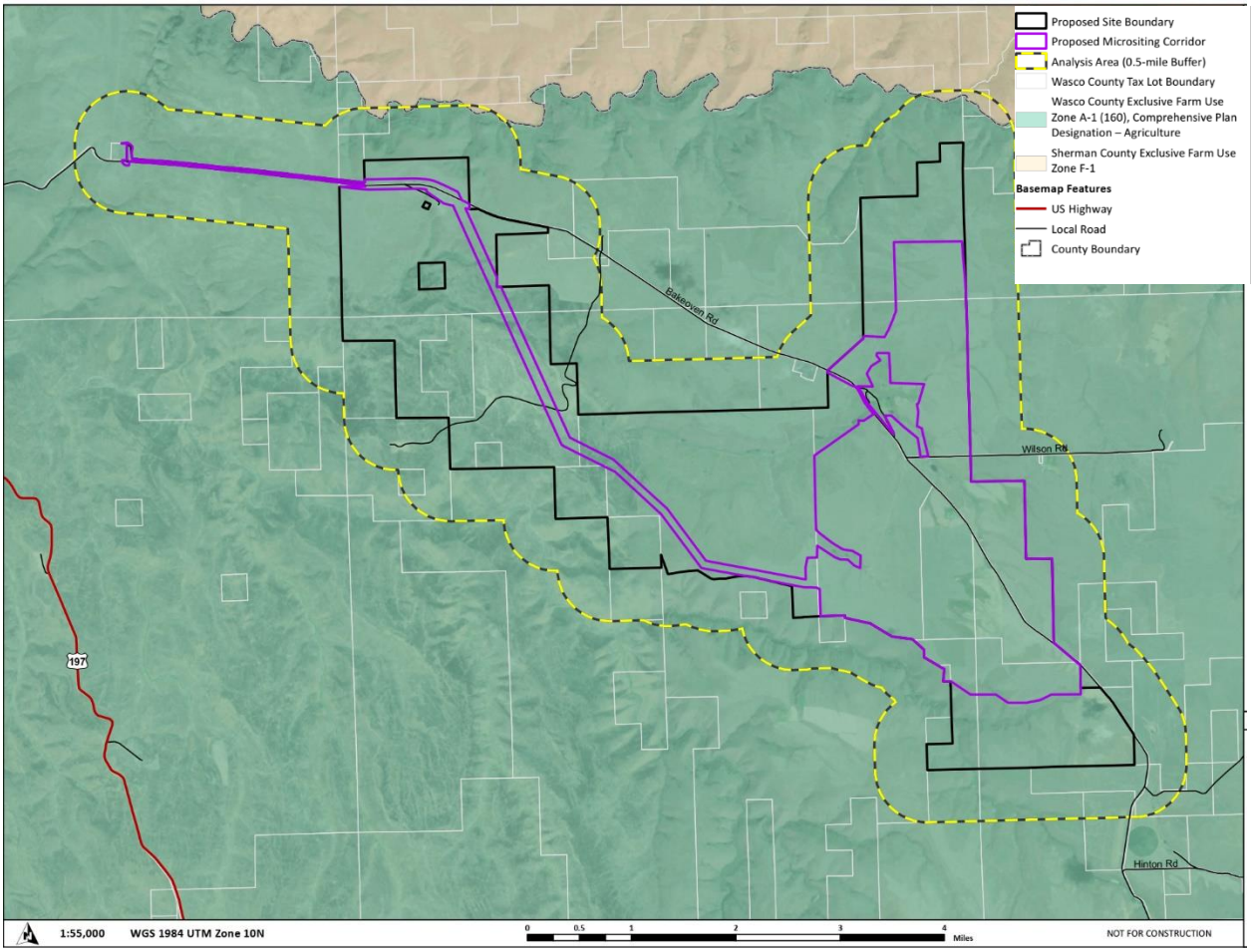
As noted above, the applicant acknowledges that the proposed 230 kV transmission line would not meet the requirements of subsection ORS 215.274(3) and therefore is not further evaluated.

*<u>ORS 215.274(4)(a):</u> Except as provided in subsection (3) of this section, the governing body of a county or its designee shall approve an application under this section if, after an evaluation of reasonable alternatives, the applicant demonstrates that the entire route of the associated transmission line meets, subject to paragraphs (b) and (c) of this subsection, two or more of the following factors:*

ORS 215.274(4)(a) requires an evaluation of reasonable alternatives to determine whether the associated transmission line may be sited on land other than EFU-zoned land. The evaluation of "reasonable alternatives" does not require an evaluation of all alternative EFU zoned routes on which the transmission line could be located. Rather, the applicant must consider reasonable alternatives and show that the transmission line must be sited on EFU-zoned land in order to provide the service.

In ASC Exhibit K, the applicant describes that, based on the proposed interconnection of the proposed facility to BPA's existing Maupin Substation, a fixed endpoint, and the proposed facility location, there are no alternative alignments that would avoid EFU zoned land. As presented in Figure 3, *Zoning and Comprehensive Plan Designations*, the area within the site boundary, the 0.5 mile analysis area and further surrounding area is EFU zoned land.

**Figure 5: Zoning and Comprehensive Plan Designations**




Nonetheless, the applicant considered three alternative transmission line routes, that while located on EFU-zoned land, are represented as minimizing impacts to arable lands by co-locating the transmission line on existing transmission infrastructure or existing rights-of-way. Generally, the proposed alternative routes considered are as follows:

- Co-location of the proposed 230 kV transmission line with Wasco Electric Cooperative's existing 65 kV transmission line, which runs southeast from the Maupin Substation, generally along Bakeoven Road toward US 97, and passes within approximately 3,300 feet of the proposed collector substation.
- Placement of the proposed 230 kV transmission line within a new right-of-way that would parallel the existing Wasco Electric Cooperative 65-kV transmission line
- Co-location of the proposed 230 kV transmission line within the Bakeoven Road right-of-way.

As presented in Figure 3, *Zoning and Comprehensive Plan Designations*, the entire proposed site boundary and proposed transmission interconnection point would be located within EFU zoned

land. Therefore, there is no non-EFU zoned land between the proposed solar facility and the interconnection point, BPA's Maupin Substation, that provide an alternative route. The Department therefore recommends Council find that the applicant has evaluated reasonable alternatives and demonstrates that no reasonable alternatives that would avoid EFU land exist. However, note that ORS 215.274(4) requires both a demonstration that no reasonable alternatives that would avoid EFU land exist, and that two or more of the listed factors [ORS 215.274(a)(A) through (E)] be met, which is evaluated below.

*ORS 215.274(4)(a)(A): Technical and engineering feasibility;*

ORS 215.274(4)(a)(A) provides that an applicant may demonstrate that the proposed transmission line must be sited in an EFU zone due to technical and engineering feasibility constraints. The Department interprets this factor as requiring a demonstration that technical or engineering constraints, such as extreme topographic features, cannot be overcome but for facility engineering through EFU-zoned land.

The applicant, in contrast, evaluates the technical and engineering feasibility of the above-described alternative routes and compared the feasibility of constructing alternative routes to the proposed route based on differences in existing infrastructure and access. All of the routes – the proposed and three alternative routes - would be located within EFU zoned lands; and, as described under the evaluation of ORS 215.274(4)(a) above, non EFU zoned land does not exist within or surrounding the proposed site boundary. Therefore, the Department recommends Council find that technical or engineering constraints, such as extreme topographic features, that could not be overcome but for siting the proposed 230 kV transmission line through EFU zoned land were not the primary drivers for siting the proposed transmission line on EFU zoned land. ORS 215.274(4)(a)(A) would not be satisfied.

*ORS 215.274(4)(a)(B): The associated transmission line is locationally dependent because the associated transmission line must cross high-value farmland, as defined in ORS 195.300 (Definitions for ORS 195.300 to 195.336), or arable land to achieve a reasonably direct route or to meet unique geographical needs that cannot be satisfied on other lands;*

ORS 215.274(4)(a)(B) provides that an applicant may demonstrate that the proposed transmission line must cross high value farmland or arable land to achieve a reasonably direct route and therefore is locationally dependent. For the proposed 230 kV transmission line, the analysis focuses on the availability of non-arable land because the proposed transmission line would not be located on or within high value farmland as defined in ORS 195.300(10)).

As presented in ASC Exhibit K Figure K-5, *Arable and Non-Arable Lands*, the proposed 230 kV transmission line route is surrounded by interspersed, patchy and highly irregularly shaped areas of arable land, creating challenges in proposing a relatively linear transmission line route from the proposed facility site to the grid-interconnection point at BPA's existing Maupin Substation, if impacts to arable lands were attempted to be avoided. The applicant asserts that

the proposed 230 kV transmission must cross arable land to achieve a reasonably direct route because the proposed facility site contains specific geographic characteristics necessary to support facility operation, slopes below 15 percent and adequate distance from sun-blocking landforms or objects, and BPA's Maupin Substation, as an existing facility, is a fixed point location. While not required, the applicant provides an analysis of the three alternative routes considered, which would minimize impacts to arable lands by utilizing existing infrastructure or new rights-of-way, but determined the alternative routes to be infeasible due to topography constraints, lack of easements, and insufficient space and infrastructure capacity.

Because there is no reasonable route to interconnect the proposed collector substation to BPA's Maupin Substation without traversing arable land, the Department recommends Council find that the proposed 230 kV transmission line must cross arable land to achieve a reasonably direct route, and that the associated transmission line is therefore "locationally dependent" and would satisfy ORS 215.274(4)(a)(B).

> *ORS 215.274(4)(a)(C): Lack of an available existing right of way for a linear facility, such as a transmission line, road or railroad, that is located above the surface of the ground;*

ORS 215.274(4)(a)(C) provides that an applicant may demonstrate a lack of available existing linear facility rights-of-way for which the proposed transmission line could be located. To inform this criterion, the applicant evaluates the availability and feasibility of siting the proposed 230 kV transmission line within Bakeoven Road right-of-way. The Bakeoven Road right-of-way is 60-feet wide and contains Wasco Electric Cooperative's 65 kV transmission line. The applicant explains that a minimum fall distance separation equal to the transmission structure height of 80 to 100 feet, plus 10 percent, or a minimum of 88 feet must be maintained between the existing 65 kV and proposed 230 kV transmission line to limit system reliability impacts, and therefore the available space within the existing right-of-way is not sufficient to accommodate the proposed transmission line. For high voltage lines, the Western Electricity Coordinating Council recommends a minimum fall distance separation of 250 feet, which is typically extended by individual utility company design standards up to 1,500 feet.[40]

Based on the reasoning provided above and evaluation of availability of the existing road right of way, as presented in ASC Exhibit K, the Department recommends the Council find that the proposed 230 kV transmission line would satisfy ORS 215.274(4)(a)(C).

> *ORS 215.274(4)(a)(D): Public health and safety; or*

ORS 215.274(4)(a)(D) provides that the applicant may demonstrate that the proposed transmission line must be sited on EFU-zoned land to minimize potential impacts to public health and safety. For this ASC, the applicant has not requested Council consideration of this criterion.

[40] WECC White Paper at: https://www.wecc.org/Reliability/FAC-010_White%20Paper_2-6-13.pdf

*ORS 215.274(4)(a)(E): Other requirements of state or federal agencies.*

ORS 215.274(4)(a)(E) provides that the applicant may demonstrate that the proposed transmission line must be sited in an EFU zone due to other state or federal requirements. For this ASC, the applicant has not requested Council consideration of this criterion.

*ORS 215.274(4)(b): The applicant shall present findings to the governing body of the county or its designee on how the applicant will mitigate and minimize the impacts, if any, of the associated transmission line on surrounding lands devoted to farm use in order to prevent a significant change in accepted farm practices or a significant increase in the cost of farm practices on the surrounding farmland.*

ORS 215.274(4)(b) requires that the applicant demonstrate that the proposed transmission line would not result in a significant change in accepted farm practices or a significant increase in cost of farm practices on surrounding land. The area surrounding the proposed site boundary (i.e. within 0.5 miles) is primarily used for grazing, within limited dryland wheat and other row crop cultivation. As presented in ASC Exhibit K Figure K-3 *Existing Land Use and Water Rights*, the proposed 230 kV transmission line would be located entirely within non-cultivated lands, and therefore would avoid direct impacts to agricultural practices. Cattle or sheep grazing could still occur around the transmission line poles. The applicant also represents that permanent disturbance within EFU-zoned land from the proposed 230 kV transmission line would be negligible (i.e. less than 0.1 acre) based on approximately 84 pole structures, each resulting in 40 square feet of permanent disturbance. Because the area crossed by the transmission line is not used for cultivated crops, the transmission line would not affect other types of agricultural practices that would be associated with crop cultivation. The applicant further asserts that landowners would continue to have access to their land, once the transmission line was in place, minimizing impacts to access or use of the land from siting of the energy infrastructure.

Based on the avoidance of direct impacts to agricultural practices, minimal amount of permanent impacts within EFU-zoned land, and the availability of continued access and use of the land by underlying landowners, the Department recommends Council find that the proposed 230 kV transmission line would not result in a significant change to accepted farm practices or significantly increase costs of farm practices on surrounding land. Therefore, the Department recommends Council find that the proposed 230 kV transmission line would satisfy 215.274(4)(b).

*ORS 215.274(4)(c): The governing body of a county or its designee may consider costs associated with any of the factors listed in paragraph (a) of this subsection, but consideration of cost may not be the only consideration in determining whether the associated transmission line is necessary for public service.*

ORS 215.274(4)(c) allows for consideration of costs in determining whether the associated transmission line is necessary for public service. The applicant indicates that, based on its review of three alternative routes and the increased length of those routes, construction costs

would increase. Although this subsection does not require the consideration of costs, the Department acknowledges that if the transmission line were to utilize Bakeoven Road rights of ways, the length of the transmission line would increase and the certificate holder would be required to obtain new land rights; these changes would increase costs associated with the transmission line.

For the above stated reasons, the Department recommends that the Council find that the applicant provides a sufficient alternative analysis required under ORS 215.274(4)(a), that the associated transmission line is locationally dependent under ORS 215.274(4)(a)(B) and that there is a lack of available existing right of way for a linear facility under ORS 215.274(4)(a)(C). As such, the Department recommends that the Council find that the associated transmission line is "necessary for public service."

<u>Oregon Administrative Rules</u>

*OAR 660-033-0130 (38) – Standards for Approval for Photovoltaic Solar Power Generation Facility in Exclusive Farm Use Zones*

*(g) For high-value farmland described at ORS 195.300(10), a photovoltaic solar power generation facility shall not use, occupy, or cover more than 12 acres unless:*
*(A) The provisions of paragraph (h)(H) are satisfied; or*
*(B) A county adopts, and an applicant satisfies, land use provisions authorizing projects subject to a dual-use development plan. Land use provisions adopted by a county pursuant to this paragraph may not allow a project with a nominal electric generating capacity greater than 3 Mw or in excess of 20 acres. Land use provisions adopted by the county must require sufficient assurances that the farm use element of the dual-use development plan is established and maintained so long as the photovoltaic solar power generation facility is operational or components of the facility remain on site.*

OAR 660-033-0130(38)(g) restricts a photovoltaic solar power generation facility from using, occupying, or covering more than 12 acres of high value farmland unless the provisions of OAR 660-033-0130(38)(h)(H) are satisfied or the County adopts a dual-use development plan, which would then allow use, occupation or coverage on no more than 20 acres of high-value farmland. Neither of these provisions are applicable to the proposed facility as the extent of high-value farmland within the micrositing corridor is limited to 10.8 acres, of which only 10 square feet would be impacted. Therefore, because there is less than 12 acres within the micrositing corridor that could be impacted, and the applicant estimates that proposed facility impacts would result in the use, occupation or coverage of less than 10 square feet of high-value farmland, considerably less than the 12 acre threshold, the Department recommends

Council find that the proposed facility would satisfy the requirements under OAR 660-033-0130(38)(g).

*(h) The following criteria must be satisfied in order to approve a photovoltaic solar power generation facility on high value farmland described at ORS 195.300(10):*

*(A) The proposed photovoltaic solar power generation facility will not create unnecessary negative impacts on agricultural operations conducted on any portion of the subject property not occupied by project components. Negative impacts could include, but are not limited to, the unnecessary construction of roads dividing a field or multiple fields in such a way that creates small or isolated pieces of property that are more difficult to farm, and placing photovoltaic solar power generation facility project components on lands in a manner that could disrupt common and accepted farming practices;*

*(B) The presence of a photovoltaic solar power generation facility will not result in unnecessary soil erosion or loss that could limit agricultural productivity on the subject property. This provision may be satisfied by the submittal and county approval of a soil and erosion control plan prepared by an adequately qualified individual, showing how unnecessary soil erosion will be avoided or remedied. The approved plan shall be attached to the decision as a condition of approval;*

*(C) Construction or maintenance activities will not result in unnecessary soil compaction that reduces the productivity of soil for crop production. This provision may be satisfied by the submittal and county approval of a plan prepared by an adequately qualified individual, showing how unnecessary soil compaction will be avoided or remedied in a timely manner through deep soil decompaction or other appropriate practices. The approved plan shall be attached to the decision as a condition of approval;*

*(D) Construction or maintenance activities will not result in the unabated introduction or spread of noxious weeds and other undesirable weed species. This provision may be satisfied by the submittal and county approval of a weed control plan prepared by an adequately qualified individual that includes a long-term maintenance agreement. The approved plan shall be attached to the decision as a condition of approval;*

OAR 660-033-0130(38)(h)(A) – (D) requires a demonstration that the proposed photovoltaic solar power generation facility would not create unnecessary negative impacts to agricultural operations, soil erosion or loss, soil compaction, or the unabated introduction or spread of noxious weeds.

*OAR 660-033-0130(38)(h)(A) Unnecessary Negative Impacts to Agricultural Operations*

OAR 660-033-0130(38)(h)(A) requires a demonstration that the proposed facility would not create unnecessary negative impacts to agricultural operations, such as dividing a field or multiple fields or placing facility components on lands in a manner that could disrupt accepted farming practices. For this analysis, impacts from the proposed 230 kV transmission line are not

considered as the transmission line connecting the solar facility to the grid does is not included in the definition of a photovoltaic solar power generation facility OAR 660-033-0130(38)(f).

Construction and operation of the proposed solar facility would result in impacts to EFU-zoned land, including the use, occupation or covering of approximately 2,717 acres of agricultural lands by proposed solar facility components. Other than these direct impacts to EFU-zoned lands, construction related impacts would be minimal, such as potential short-term traffic delays and dust generation. The applicant commits to implementation of a Construction Traffic Management Plan (see proposed best management practices in Attachment M of this order) and application of water during dust-generating activities (site preparation; road construction; and, concrete foundation work), which would minimize short-term impacts to agricultural practices within the area. Operational impacts would not be expected as the proposed solar facility would not result in impacts outside of the perimeter fenceline, other than activities associated with ongoing noxious weed control and revegetation of temporarily disturbed areas.

Direct impacts to agricultural lands from the proposed solar facility would be limited to approximately 323 acres within over 3,654 acres of arable land. Potential impacts to high-value farmland would be negligible as there are only approximately 10.8 acres of high-value farmland within the proposed micrositing corridor, which is not used for irrigated agriculture but for the creation of big game habitat for hunting. The proposed facility would result in approximately 10 square feet of impacts to high value farmland, which the Department recommends be considered negligible. The applicant commits to recording Farm-Forest Management Easements with each landowner with property within the proposed site boundary (see recommended Land Use Condition 4), as required per WCLUDO Section 3.218.

Potential operational impacts from the proposed solar facility include increased fire risk, both to the proposed facility and from the proposed facility. As presented in Attachment N, draft Operational Fire Protection and Emergency Response Plan, the applicant commits to preventing fire risk within the fenced solar facility area through ongoing vegetation management, agreement and coordination with local fire districts to ensure 24-hr, 7-day week fire response, worker training requirements, and maintenance of onsite fire protection and response equipment.

Outside of the potential impacts to cultivated agriculture within the proposed micrositing corridor, based on the short-term construction impacts and limited activities associated with O&M of a solar facility, the Department recommends that the Council conclude that the proposed facility would not create unnecessary negative impacts on agricultural operations conducted on any portion of the subject property not occupied by facility components, and therefore would satisfy the requirements under OAR 660-033-0130(38)(h)(A).

*OAR 660-033-0130(38)(h)(B) Unnecessary Soil Erosion or Loss*

OAR 660-033-0130(38)(h)(B) requires the applicant to demonstrate that the proposed facility would not “result in unnecessary soil erosion or loss that could limit agricultural productivity on

the subject property" and states that the "provision may be satisfied by submittal and county approval of a soil and erosion control plan prepared by an adequately qualified individual, showing how unnecessary soil erosion will be avoided or remedied."

As presented in Section IV.D. *Soil Protection*, the applicant represents that a DEQ-issued NPDES 1200-C permit would be required during proposed facility construction (see recommended Soil Protection Condition 1). The NPDES 1200-C permit requires finalization of an Erosion Sediment Control Plan (ESCP), including engineering drawings, and best management practices to minimize soil erosion and loss to be implemented during facility construction and operation. The draft ESCP as Attachment D of this order.

Based on compliance with the NPDES 1200-C, as required under recommended Soil Protection Condition 1, the Department recommends that the Council conclude that the proposed facility would not result in unnecessary soil erosion or loss that could limit agricultural productivity, and therefore would satisfy the requirements under OAR 660-033-0130(38)(h)(B).

*OAR 660-033-0130(38)(h)(C) Unnecessary Soil Compaction*

OAR 660-033-0130(38)(h)(C) requires the applicant to demonstrate that the proposed facility would not "result in unnecessary soil compaction that reduces the productivity of soil for crop production." The applicant asserts that construction of the proposed solar facility would not result unnecessary soil compaction because grading would be limited to roads and areas within the perimeter fenceline. In ASC Exhibit P, the applicant proposes to adhere to the requirements of a Revegetation Plan, as provided in Attachment I of this order and recommended as a condition (recommended Fish and Wildlife Habitat Condition 1). The recommended condition includes a requirement that, based on the applicant's representation, soil preparation methods for revegetation areas would include deep soil decompaction, unless otherwise agreed to by the underlying landowner.

Based on the limited potential for unnecessary soil compaction during construction and the applicant's representation to complete deep soil decompaction during revegetation activities, and compliance with the requirements of a finalized Revegetation Plan, the Department recommends that the Council conclude that the proposed facility would not result in unnecessary soil compaction and would satisfy the requirements under OAR 660-033-0130(38)(h)(C).

*OAR 660-033-0130(38)(h)(D) Unnecessary Spread of Noxious Weeds*

OAR 660-033-0130(38)(h)(D) requires the applicant to demonstrate that the proposed facility would not result in the "unabated introduction or spread of noxious weeds and other undesirable weed species." Control of noxious weeds is a priority and required during all phases of facility construction and operation. As presented in Attachment K of this order, the applicant commits to implementing the requirements of a Noxious Weed Control Plan, which the Department recommends be imposed as a condition (recommended Fish and Wildlife Condition

2). The draft plan was reviewed by the Wasco County Weed Control Supervisor, as verified by the Department on January 2, 2020. Based on compliance with the Department's recommended condition, the applicant would be required to finalize the draft plan, prior to construction, in consultation with the Department and Wasco County Weed Control Department.

Based upon compliance with recommended Fish and Wildlife Condition 2, the Department recommends that the Council conclude that the proposed solar facility would not result in unabated introduction or spread of noxious weeds or other undesirable weed species and would satisfy the requirements under OAR 660-033-0130(38)(f)(D).

> *(E) Except for electrical cable collection systems connecting the photovoltaic solar generation facility to a transmission line, the project is not located on those highvalue farmland soils listed in OAR 660-033-0020(8)(a);*

OAR 660-033-0130(38)(h)(E) requires that the applicant demonstrate that, with the exception of grid interconnection electrical collection systems, the proposed facility would not be located on high-value farmland soils. As defined in OAR 660-033-0020(8)(a), high value soils are defined as irrigated and classified prime, unique, Class I or II soils; or, not irrigated and classified prime, unique, Class I or Class II soils.

As presented in ASC Exhibit K, Table K-2 *Summary of Soil Classifications..*, the Natural Resource Conservation Service (NRCS) soil classification for soils within the proposed micrositing corridor include Class III and VII soils, which as described above, would not be considered high value soil. Therefore, because high-value farmland soils are not located within the proposed micrositing corridor and therefore would not be impacted by the proposed solar facility, the Department recommends Council find that the proposed solar facility would satisfy OAR 660-033-0130(38)(h)(E).

> *(F) The project is not located on those high-value farmland soils listed in OAR 660-033-0020(8)(b)-(e) or arable soils unless it can be demonstrated that:*
> *(i) Non high-value farmland soils are not available on the subject tract;*
> *(ii) Siting the project on non high-value farmland soils present on the subject tract would significantly reduce the project's ability to operate successfully; or*
> *(iii) The proposed site is better suited to allow continuation of an existing commercial farm or ranching operation on the subject tract than other possible sites also located on the subject tract, including those comprised of non high value farmland soils; and*

OAR 660-033-0130(38)(h)(F) requires the applicant to demonstrate that the proposed solar facility could not be located on high-value farmland soils or arable soils unless: 1) non high-value farmland soils are not available on the subject tract; 2) siting the project on non high-value farmland soils, if present, would significantly impact the project's ability to operate; or 3) the site is better suited than other possible sites because it would allow continued operation of

existing farmland.[41] Based on the evaluation presented in ASC Exhibit K, the proposed solar facility would not be located on high-value farmland soils, as defined in OAR 660-033-0020(8)(b)-(e); therefore, OAR 660-033-0130(38)(h)(F) does not apply and, instead, OAR 660-033-010(38)(i) applies, as evaluated below.

> *(G) A study area consisting of lands zoned for exclusive farm use located within one mile measured from the center of the proposed project shall be established and:*
>
> *(i) If fewer than 48 acres of photovoltaic solar power generation facilities have been constructed or received land use approvals and obtained building permits within the study area, no further action is necessary.*
>
> *(ii) When at least 48 acres of photovoltaic solar power generation facilities have been constructed or received land use approvals and obtained building permits, either as a single project or as multiple facilities within the study area, the local government or its designate must find that the photovoltaic solar power generation facility will not materially alter the stability of the overall land use pattern of the area. The stability of the land use pattern will be materially altered if the overall effect of existing and potential photovoltaic solar power generation facilities will make it more difficult for the existing farms and ranches in the area to continue operation due to diminished opportunities to expand, purchase or lease farmland, acquire water rights, or diminish the number of tracts or acreage in farm use in a manner that will destabilize the overall character of the study area.*

OAR 660-033-0130(38)(h)(G) requires an evaluation of photovoltaic solar power generation facility development within 1-mile of the proposed facility site. Based on review of aerial imagery and multiple site visits in 2019/2020, the Department confirms that there are fewer than 48 acres of other photovoltaic solar power generation facilities within 1-mile of the proposed facility site. Therefore, no further action is necessary.

> *(i) For arable lands, a photovoltaic solar power generation facility shall not use, occupy, or cover more than 20 acres. The governing body or its designate must find that the*

[41] As defined in OAR 660-033-0020, "tract" means one or more contiguous lots or parcels under the same ownership. The Department notes that because OAR 660-033-0130(38)(g)(A) requires an evaluation of soil conditions on the "subject tract," that such an evaluation may require the review of areas outside of the proposed site boundary area.

*following criteria are satisfied in order to approve a photovoltaic solar power generation facility on arable land.*

*(A) The project is not located on those high-value farmland soils listed in OAR 660-033-0020(8)(a);*
*(B) The project is not located on those high-value farmland soils listed in OAR 660-033-0020(8)(b)-(e) or arable soils unless it can be demonstrated that:*
*i. Nonarable soils are not available on the subject tract; (ii) Siting the project on nonarable soils present on the subject tract would significantly reduce the project's ability to operate successfully; or*
*ii. The proposed site is better suited to allow continuation of an existing commercial farm or ranching operation on the subject tract than other possible sites also located on the subject tract, including those comprised of nonarable soils;*
*(C) No more than 12 acres of the project will be sited on high-value farmland soils described at ORS 195.300(10);*

OAR 660-033-0130(38)(i)(A)-(C) restricts a photovoltaic solar power generation facility from occupying more than 20 acres of high value farmland and requires the following criteria to be met: 1) with the exception of a grid interconnecting electrical collection line, facility would not be located on high-value farmland soils; 2) facility is not located on high-value farmland soils or arable soils unless i) nonarable soils are not available on the subject tract; ii) siting facility on nonarable soils on subject tract would significantly increase cost of project operability; or iii) proposed site is better suited to provide continuation of farming on subject tract; and 3) no more than 12 acres of high value farmland soils would be precluded by the project.

As described in ASC Exhibit K, the proposed micrositing corridor contains less than 10.8 acres of high-value farmland under the ORS 195.300(10)(c)(A) farmland definition (i.e. within the place of use for a water permit). Based on NRCS soil classification, there are no high-value soils present within the proposed micrositing corridor. However, the proposed solar facility would use, occupy or cover more than 20 acres of arable land and therefore would not satisfy OAR 660-033-0130(38)(i) and would require a Goal 3 exception.

ASC Exhibit K Figures K-4 represent arable and non-arable lands within the subject tracts within the analysis area. The applicant describes that most of the non-arable soils within the analysis area are located either on slopes that are north facing, over 15 percent or within a drainage, making them unsuitable for construction and operation of a photovoltaic solar power generation facility. The applicant asserts that, based on industry standard, slopes above 15 percent would require extensive grading to allow for the construction of a photovoltaic solar power generation facility and are recommended be avoided for siting. Extensive amounts of cut and fill would significantly increase construction costs and could lead to greater impacts to soil erosion and sediment loss.

Based on the representations of engineering and technical constraints associated with siting facility components on non-arable lands, as summarized above, the Department recommends Council find that the proposed solar facility would satisfy OAR 660-033-0130(38)(i)(A)-(C).

*(D) A study area consisting of lands zoned for exclusive farm use located within one mile measured from the center of the proposed project shall be established and:*

*i. If fewer than 80 acres of photovoltaic solar power generation facilities have been constructed or received land use approvals and obtained building permits within the study area no further action is necessary.*

*ii. When at least 80 acres of photovoltaic solar power generation facilities have been constructed or received land use approvals and obtained building permits either as a single project or as multiple facilities, within the study area the local government or its designate must find that the photovoltaic solar power generation facility will not materially alter the stability of the overall land use pattern of the area. The stability of the land use pattern will be materially altered if the overall effect of existing and potential photovoltaic solar power generation facilities will make it more difficult for the existing farms and ranches in the area to continue operation due to diminished opportunities to expand, purchase or lease farmland, acquire water rights or diminish the number of tracts or acreage in farm use in a manner that will destabilize the overall character of the study area; and*

OAR 660-033-0130(38)(i)(D) requires an evaluation of photovoltaic solar power generation facility development within 1-mile of the proposed project site. Based on review of aerial imagery and multiple site visits in 2019/2020, the Department confirms that there are fewer than 80 acres of other photovoltaic solar power generation facilities within 1-mile of the proposed facility site. Therefore, no further action is necessary.

*(E) The requirements of OAR 660-033-0130(38)(h)(A), (B), (C) and (D) are satisfied.*

OAR 660-033-0130(38)(i)(E) requires Council to find that OAR 660-033-0130(38)(h)(A)-(D) are satisfied. As presented in this section, the Department recommends Council find that the proposed solar facility would satisfy the requirements of OAR 660-033-0130(38)(h)(A)-(D).

*(k) An exception to the acreage and soil thresholds in subsections (g), (h), (i), and (j) of this section may be taken pursuant to ORS 197.732 and OAR chapter 660, division 4.*

OAR 660-033-0130(38)(k) establishes that, for projects that would be sited on 20 acres or more of high-value farmland, an exception is required pursuant to ORS 197.732 and OAR Chapter 660, division 4. The proposed solar facility would use, occupy or cover more than 20 acres of high-value farmland from agricultural use. The Department's assessment of the applicant's Goal 3 exception request is evaluated in Section III.E.3, *Goal 3 Exception* of this order below and recommends that the Council find that an exception to Goal 3 is justified.

*(l) The county governing body or its designate shall require as a condition of approval for a photovoltaic solar power generation facility, that the project owner sign and record in the deed records for the county a document binding the project owner and the project owner's successors in interest, prohibiting them from pursuing a claim for relief or cause of action alleging injury from farming or forest practices as defined in ORS 30.930(2) and (4).*

OAR 660-033-0130(38)(l) requires the governing body to impose a condition that the applicant sign and record in the deed records for the County a document binding the applicant and the applicant owner's successors in interest, prohibiting them from pursuing a claim for relief or cause of action alleging injury from farming. Recommended Land Use Condition 4 requires the applicant to record a Farm-Forest Management Easement with landowners (draft easement provided in Attachment F of this order), which would be consistent with and would satisfy the requirements of this provision. Based on compliance with the recommended condition, the Department recommends that Council conclude the requirements under OAR 660-033-0130(38)(k) would be satisfied.

*(m) Nothing in this section shall prevent a county from requiring a bond or other security from a developer or otherwise imposing on a developer the responsibility for retiring the photovoltaic solar power generation facility.*

OAR 660-033-0130(38)(m) allows for the governing body to require a bond or letter of credit for the amount necessary to retire the facility during decommissioning. Recommended Retirement and Financial Assurance Conditions 4 and 5 would require the applicant to obtain a bond or letter of credit, before beginning construction. Therefore, based upon compliance with these recommended conditions, the Department recommends that Council conclude that the requirements under OAR 660-033-0130(38)(l) would be satisfied.

IV.E.3 Goal 3 Exception

The proposed facility would use, occupy or cover more than 20 acres of arable land. Therefore, the proposed facility would not comply with OAR 660-033-0130(38)(i) unless a goal exception is taken. Pursuant to ORS 469.504(1)(b)(B), non-compliance with a statewide planning goal requires a determination by the Council that an exception to Goal 3 is warranted under ORS 469.504(2) and the implementing rule at OAR 345-022-0030(4).

Goal 2, under OAR 660-004-0020(2)(a), permits an “exception” to the requirement of a goal for “specific properties or situations.” The text of Goal 2, part II, pertaining to exceptions is codified in ORS 197.732; however, for EFSC-jurisdictional facilities, ORS 469.504(2) establishes the requirements that must be met for the Council to take an exception to a land use planning goal, not the LCDC rule or statute. The Council’s Land Use standard at OAR 345-022-0030(4), mirrors the language of ORS 469.504(2),stating:

*(4) The Council may find goal compliance for a proposed facility that does not otherwise comply with one or more statewide planning goals by taking an exception to the applicable goal. Notwithstanding the requirements of ORS 197.732, the statewide planning goal pertaining to the exception process or any rules of the Land Conservation and Development Commission pertaining to the exception process goal, the Council may take an exception to a goal if the Council finds:*

*(a) The land subject to the exception is physically developed to the extent that the land is no longer available for uses allowed by the applicable goal;*
*(b) The land subject to the exception is irrevocably committed as described by the rules of the Land Conservation and Development Commission to uses not allowed by the applicable goal because existing adjacent uses and other relevant factors make uses allowed by the applicable goal impracticable; or*
*(c) The following standards are met:*

*(A) Reasons justify why the state policy embodied in the applicable goal should not apply;*

*(B) The significant environmental, economic, social and energy consequences anticipated as a result of the proposed facility have been identified and adverse impacts will be mitigated in accordance with rules of the Council applicable to the siting of the proposed facility; and*

*(C) The proposed facility is compatible with other adjacent uses or will be made compatible through measures designed to reduce adverse impacts.*

The provisions of OAR 345-022-0030(4)(a) and (b) are not applicable to the proposed facility. In ASC Exhibit K, the applicant provides an assessment as to why a goal exception, under OAR 345-022-0030(4)(c), for impacts exceeding the 20 acre arable land threshold is appropriate for the proposed facility; based on the evaluation presented below, the Department agrees and recommends Council find that a goal exception under OAR 345-022-0030(4)(c) is appropriate.

<u>Reasons Supporting an Exception</u>

Under OAR 345-022-0030(4)(c)(A) (and ORS 469.504(2)(c)(A)), in order for the Council to determine whether to grant an exception to a statewide planning goal, the applicant must provide reasons justifying why the state policy embodied in the applicable goal should not apply. The state policy embodied in Goal 3 is the preservation and maintenance of agricultural land for farm use. The applicant's arguments relating to "reasons supporting an exception" are discussed below.

*Minimal Impacts to Cultivated Agriculture*

The applicant requests that Council consider the proposed facility's minimal impacts to cultivated agriculture as a reason for granting an exception to the state policy embodied in Goal 3; as described above, an exception is required pursuant to OAR 660-033-0130(38)(i) for potential impacts to agricultural lands exceeding the 20 acre arable land threshold. As noted throughout this order, the applicant seeks Council approval of a 4,160 acre micrositing corridor, which if approved, would authorize placement of facility components or potential impacts anywhere within. Therefore, this arable lands impact assessment (percentage of impacts) is based on agricultural cultivation on arable lands within the entirety of the micrositing corridor (3,654 acres), as lands deemed unsuitable for cultivation (non-arable, 495 acres) would not have the potential to be impacted and are not lands that, based on the Department's knowledge, are otherwise used to support farming operations on the 3,654 acres such as by hosting a barn or crop processing equipment areas.

The proposed micrositing corridor contains 4,160 acres; 495 acres (12 percent) are NRCS Class VII non-arable soils and are considered non-arable, or not suitable for cultivation. Placement of proposed facility components within non-arable land would not have the ability to impact cultivation and are not otherwise used to support farming operations on the remaining lands, and therefore these 495 acres are excluded from the impact assessment (to cultivated lands).[42] Approximately 10.8 acres are high-value farmland, pursuant to ORS 195.300(10)(c)(A), due to an existing water right used to provide wildlife habitat for big game, where the water right is not used for irrigation purposes. The amount of high-value farmland that could be impacted is below LCDC's 12 acre threshold for requiring a goal exception; therefore, this acreage is not included in the arable lands impact assessment (percentage of impacts), and a Goal 3 exception would not be required based solely on potential impacts to high-value farmland.

Approximately 3,654 acres (88 percent) within the micrositing corridor are NRCS Class III arable soils and therefore considered arable land.[43] While the land within the micrositing corridor is predominately arable land, and based on NRCS soil classification contains soils suitable for cultivation, less than 324 acres (9 percent) are used for non-irrigated cultivation of wheat and other row crops. The remaining 3,330 acres is non-irrigated, non-cultivated and used as either rangeland or is currently or was formally enrolled in the United States Department of Agriculture's Conservation Reserve Program (CRP), where much of the land is no longer eligible for CRP funding due to its 10-15 year term per parcel. Lands enrolled in CRP are not used for agriculture but are placed in conservation to recover from agricultural or other sensitive (erosion, compaction) impacts. The applicant asserts that cultivation on the 3,330 acres of non-cultivated, non-irrigated lands within the proposed micrositing corridor is not economically viable, nor on the cultivated areas due to limited annual average rainfall ranging between 1 and 7 inches within the area, and lower than average winter wheat production capacity (less than

[42] OAR 660-033-0130(38)(d) & (e)

[43] OAR 660-033-0130(38)(a) defines arable lands as, "land that is predominately cultivated or, if not currently cultivated, predominately comprised of arable soils."

60 bushels an acre). In summary, the applicant represents that potential impacts to cultivated agriculture within the micrositing corridor would be minimal at 9 percent of the total arable land to be potentially impacted, and would be more than offset through lease payments that could be used to supplement income necessary to maintain agricultural operations on other lands owned by underlying landowners.

The Department agrees with the applicant's reasoning as presented in this section. The land, while classified as "arable" based on the soil classification, is not viable for productive crop cultivation due to the lack of irrigation water or other water source. The Department recommends that Council conclude that due to minimal impacts to agriculture, particularly cultivated agriculture, as well as the low value of rangeland for grazing purposes, and other findings presented here, this "reason" justifies a Goal 3 exception.

*Local Economic Benefits*

The applicant requests that Council consider the local economic benefits from construction and operation of the proposed facility as a reason for granting an exception to the state policy embodied in Goal 3.

As identified by the applicant, local economic benefits from proposed facility construction and operation would likely include lease payments to underlying landowners, additional landowner compensation for back and future taxes, job creation, and potentially community service fees paid to Wasco County through a Strategic Investment Program (SIP) agreement. The applicant represents that lease payments to landowners of the area where proposed facility components would be placed would provide a net benefit to landowner incomes, replacing lost CRP income, and would provide a stable and predictable source of income that would supplement farm/ranch revenues and help ensure these properties could stay within current ownership rather than being sold to corporations or subdivided. In addition, the applicant describes providing landowners additional compensation for any back and future taxes necessary for any land disqualified from CRP due to the proposed facility's use of the land.

Rural economic development would benefit from proposed facility construction based on potentially available jobs, where the applicant estimates that up to 120 local construction jobs would be available for multiple 9 to 12 month phases. Rural economic development would also benefit from tax revenue generated during construction activities from the use of local goods and services (housing, food, gas, etc.), as well as from the facility's payment of property taxes or through fees paid directly to the county under a program such as the Rural Renewable Energy Development incentive program or the Strategic Investment Program where fees are paid directly to the county in lieu of property taxes. The income generated through either the proposed facility's property tax revenue or the proposed facility's service fee payments could fund infrastructure improvements, such as rural fire fighting engines and equipment, that would benefit Wasco County's agricultural and forestry-based economy.

The Department agrees that proposed facility construction and operation would benefit the local economy as presented in the findings here. The Department recommends the Council conclude that this argument is a relevant "reason" justifying a Goal 3 exception.

*Proposed Facility Components are Locationally Dependent*

The Department recommends Council consider that the proposed facility is locationally dependent as a reason for granting an exception to the state policy embodied in Goal 3. In the ASC, the applicant describes important geographic characteristics of the proposed facility site and the grid interconnection location at BPA's existing Maupin Substation, which are primary drivers for the location of the proposed facility site – resulting in a reason considering the locational dependence of proposed facility components within the proposed micrositing corridor.

In its evaluation of ORS 215.274(B) for the proposed 230 kV transmission line, the applicant describes that the site of the proposed solar facility provides unique geographic features including slopes below 15 percent and sufficient space away from objects or landforms that would cause shading. In ASC Exhibit B, the applicant describes that an agreement with BPA would be executed for interconnection to the northwest powergrid via BPA's existing Maupin Substation. Based on the proximity of the proposed facility site to BPA's existing Maupin Substation, and representations that an executed interconnection agreement with BPA would be obtained following receipt of an approved site certificate, the Department recommends Council conclude that this argument is a relevant reason justifying a Goal 3 exception.

*Reasons Recommended Not be Considered by Council for a Goal 3 Exception*

In addition to the reasons described above, the applicant requests Council consideration of reasons which the Department recommends not be considered, as further described below. The applicant asserts that it does not seek to permanently remove land from agricultural production, and that the land, which per lease terms, would be returned to agricultural purposes following retirement and restoration. The Department agrees that the site could be returned to agricultural purposes after facility retirement; however, the Department does not consider this argument relevant to "reasons supporting an exception." The site, as requested, would preclude agricultural use for 40+ years, at least. While effects of the land removal may not "permanent" in a long time scale, such effects nonetheless sufficiently disturb land for an extended period of time. The Department therefore recommends that the Council conclude that the mere fact that the land may be returned for agricultural use, after its projected retirement after 40 years or more, is not a sufficient "reason" justifying a Goal 3 exception for the proposed facility.

The applicant also asserts that the availability of reliable renewable energy relates to the ability to recruit and retain energy-dependent businesses, which may maintain renewable energy procurement policies. The applicant has not provided evidence of any specific companies that are considering to expand, or move business, because of renewable energy procurement

policies. Therefore, the Department considers this argument to be attenuated and lacking specifics and recommends Council conclude that this argument is not a sufficient reason justifying a Goal 3 exception.

The applicant asserts that the proposed facility would further public and private policies, including but not limited to Oregon's Renewable Portfolio Standard (RPS), which requires utilities to provide 50 percent of its electricity from renewable sources by 2040. The Department agrees that energy generated by the proposed facility could apply towards the State's RPS requirements if RECs are generated and purchased by in-state utilities. However, there is no requirement in the state RPS requirements that renewable energy be procured from Oregon-based resources, nor direct facility development on agricultural lands, the Department does not consider abstract consistency with the State's RPS standard to be a sufficient "reason" justifying a Goal 3 exception, specifically. Additionally, the applicant has not provided a power purchase agreement or other documentation that would demonstrate that the proposed facility would provide power to an Oregon utility in support of its RPS requirements. Therefore, the Department recommends that Council conclude that although the development of the proposed facility as a renewable energy source would further and advance the State's renewable energy resources policy, this is not considered a sufficient reason supporting or justifying a Goal 3 exception for the proposed facility.

Finally, the applicant asserts that the proposed facility would further Statewide Planning Goal 13. Although Goal 13 requires consideration of renewable energy in planning efforts, it does not call for development of new renewable energy facilities or address where such facilities should be located. Goal 13 is thus consistent with Goal 3 and the longstanding Agricultural Land Use Policy statement in ORS 215.243 as it does not direct renewable energy to be sited in exclusive farm use zones. Therefore, the Department recommends that Council not consider the applicant's assertion of Goal 13 consistency as a sufficient reason supporting or justifying a Goal 3 exception for the proposed facility.

The applicant asserts that the proposed facility would be consistent with Wasco County Goal 13. Specifically, Policies 1, 2, and 6.

> *Policy 1: The County will work with appropriate State and Federal agencies to identify and protect, and if feasible, develop potential energy resources, especially renewable energy resources.*
>
> *Policy 2: Reduce the consumption of non-renewable sources of energy whenever possible.*
> *A. Conversion of energy sources from non-renewable sources to renewable sources shall be encouraged.*
> *B. The allocation of land and uses permitted on the land should seek to minimize the depletion of non-renewable sources of energy.*

*Policy 6*
*Use of renewable energy shall be encouraged.*

These three policies broadly direct the county to encourage the development of renewable energy resources. As the proposed facility is a solar generating facility

Significant Environmental, Economic, Social and Energy Consequences

Under OAR 345-022-0030(4)(c)(B) and ORS 469.504(2)(c)(B), in order for the Council to determine whether to grant an exception to a statewide planning goal, the applicant must show that "the significant environmental, economic, social and energy consequences" of the proposed facility have been identified and mitigated in accordance with Council standards.

*Environmental Consequences*

The proposed facility must satisfy the requirements of all applicable EFSC standards, rules and statutes. Applicable environmental EFSC standards include: General Standard of Review; Soil Protection standard; Protected Areas standard; Recreation Standard; Scenic Resources standard; Fish and Wildlife Habitat standard; and the Threatened and Endangered Species standard. As presented in this order, the Department recommends that the Council find that the proposed facility has been designed to avoid and where necessary, to mitigate impacts to soils, wetlands, fish and wildlife habitats, and threatened and endangered species through recommended conditions of approval.

Based on the recommended findings of fact, conclusions of law, and conditions of approval presented within this order, the Department recommends that Council find that the proposed facility, including mitigation, would not cause significant adverse environmental consequences or impacts.

*Economic Consequences*

Economic consequences of a proposed facility could include potential impacts to providers of public services, as well as benefits from local job creation, increased tax revenue from property taxes received from the proposed facility site and from consumption of local goods and services from new or temporary residents associated with the proposed facility, and supplemental income to property owners through lease payments or other compensatory payments. As presented in ASC Exhibit U and evaluated in Section IV.M. *Public Services* of this order, based upon compliance with recommended conditions, the Department recommends Council find that the proposed facility would not have a significant impact on providers of public or private services. As evaluated above, under the *Local Economic Benefits* reason, construction and operation of the proposed facility would provide economic benefits through multiple sources. Based on these factors as evaluated under the applicant's public services impact assessment, recommended conditions of approval, and local economic benefits realized from proposed facility construction and operation, the Department recommends

that the Council conclude that the proposed facility represents a net benefit compared to the proposed site's existing uses and economic consequences.

*Social Consequences*

Social consequences of a proposed facility could include impacts from proposed facility visibility, noise, traffic or demand on providers of public services (health care, education, housing, water supply, waste disposal, transportation, fire and safety). As demonstrated in the applicable sections of this order, the Department recommends Council find that impacts to important or significant scenic resources, protected areas, and recreational opportunities would not result in significant adverse impacts and would comply with the appropriate Council standards. The Department addresses potential adverse impacts to public services in Section IV.M, *Public Services*, and impacts to cultural resources in Section IV.K., *Historic, Cultural and Archaeological Resources*. Based on the Department's recommended findings of fact and conclusions of law, and recommended conditions of compliance, as presented in the proposed order under the Council's Scenic Resources standard; Historic, Cultural and Archeological standard; Public Services standard; and Recreation standard, the Department recommends Council conclude that the proposed facility would not cause significant adverse social consequences.

*Energy Consequences*

Energy consequences of a proposed facility could include the amount of energy a proposed facility would require, the source of energy, and whether the proposed facility is consistent with state and local energy policies. The proposed facility would provide a renewable source of energy for sale to the public. In addition, the proposed facility, as a renewable energy source, would be consistent with Oregon's Climate Plan, which establishes goals to reduce greenhouse gas emission levels to at least 45 percent below 1990 emissions levels by 2035 and at least 80 percent below 1990 emissions levels by 2050. As a renewable energy source, the proposed facility would not rely upon other energy generation sources, and with 100 MW of proposed battery storage, would provide a net benefit in renewable energy sources. Based upon the above analysis, the Department recommends the Council find that the proposed facility would have beneficial energy consequences.

*Compatibility of Adjacent Uses*

Under OAR 345-022-0030(4)(c)(C) (and ORS 469.504(2)(c)(C)), in order for the Council to determine whether to grant an exception to a statewide planning goal, the applicant must show that the proposed facility is compatible with other adjacent land uses or will be made compatible through mitigation measures. As explained in ASC Exhibit K, adjacent land uses include agricultural ranching with some mixed residential/agricultural uses. Adjacent land use zones within the 0.5-mile analysis area are exclusively EFU-zoned land.

For adjacent and nearby farmland, as described above [under the ORS 215.274 analysis], the Department recommends that the Council conclude that the proposed facility would not cause a significant change to accepted farm practices nor significantly increase the cost of accepted farm practices within the surrounding area. Moreover, the economic benefits of the proposed facility would more than offset any potential impacts to arable land and cultivated agriculture. Potential impacts to adjacent farm practices would be limited to short-term, temporary construction impacts associated with dust, construction-related traffic, and temporary increases in local population and resource demand, which would be minimized through compliance with recommended conditions. Therefore, the Department recommends that Council conclude that the proposed facility would be compatible with other adjacent land uses and land use zones and that the proposed facility would meet the standard under OAR 345-022-0030(4)(c)(C).

*Goal 3 Conclusion of Law*

Based on the foregoing findings and evidence in the record, the Department recommends that Council grant a Goal 3 exception for the 3,654 acres of arable land within the proposed micrositing corridor that could be occupied by proposed facility components, subject to compliance with the recommended site certificate conditions.

*Wasco County Comprehensive Plan Amendment to Reflect Goal Exception*

In ASC Exhibit K, the applicant requests Council impose a condition requiring that, prior to construction of the proposed facility, the applicant submit proper application and filing fees to the county for a comprehensive plan amendment to reflect the exception to Goal 3 taken through the ASC approval process. The applicant suggests that the request for a comprehensive plan amendment should be completed by the county without hearing or other procedure because it is a land use review pursuant to ORS 469.504(1)(b) and 469.504(2)(c) and should be considered like a permit governed by a site certificate, where the county's procedural requirements are superseded by procedural requirements of the Council, through the consolidated state-level permitting process.

As provided by Wasco County Planning Department in a comment on the ASC, an exception to a goal embodied in a statewide policy is a provision of a comprehensive plan pursuant to OAR 660-015-0000(2) and ORS 197.732; therefore, if the Council takes an exception based upon an applicant's request, the applicant is obligated to request that the exception taken by the Council be reflected in the county's comprehensive plan. Pursuant to ORS 469.504(7), the county is obligated to update or amend its comprehensive plan based on the findings and approval of the Council, and therefore, while the Department does not consider the site certificate procedural requirements to supersede the county's comprehensive plan amendment process, it does consider the county to be precluded from applying any substantive review or make findings of facts, related to the exception taken by Council, during its comprehensive plan amendment process. Based on this analysis and reasoning, the Department recommends Council impose the following condition:

**Recommended Land Use Condition 12:** Prior to construction of the facility:

a. The certificate holder shall submit a complete Comprehensive Plan Amendment Request/Application to Wasco County Planning Department and necessary fees to amend the Wasco County Comprehensive Plan (WCCP) to reflect the Energy Facility Siting Council's (Council) findings and approval of the exception taken to the statewide policy embodied in Goal 3 due to the solar facility's use, occupation or coverage of more than 20 acres of arable land. [WCLUDO Section 3.215(M); OAR 660-033-0130(3)]
b. The WCCP amendment requested by the certificate holder under (a) of this condition shall be subject to the county's administrative procedures in WCCP Chapter 11(J) but pursuant to ORS 469.504(7), the county shall be required to amend the WCCP to reflect the goal exception taken.
c. The county's WCCP Chapter 11(J) administrative procedures do not represent a permit or land use decision or approval necessary for the siting or approval of the facility and cannot result in changes to the findings and approval of the goal exception taken by Council, or impact the certificate holder's ability to comply with the terms and conditions of the site certificate or any local or state permit governed by the site certificate.
d. The certificate holder shall notify the Department once the Wasco County Board of Commissioners amends the WCCP.

[PRE-LU-07]

**Conclusions of Law**

Based on the foregoing recommended findings and the evidence in the record, and subject to compliance with the recommended site certificate conditions, the Department recommends the Council finds an exception to Goal 3 is justified under OAR 345-022-0030(4)(c) and ORS 469.504(2)(c); and that therefore the Department recommends the Council find that the proposed facility would comply with the applicable statewide planning goal (Goal 3). As such, subject to the recommended conditions, the Department recommends Council find that the proposed facility would comply with the Council's Land Use standard.

**IV.F. Protected Areas: OAR 345-022-0040**

*(1) Except as provided in sections (2) and (3), the Council shall not issue a site certificate for a proposed facility located in the areas listed below. To issue a site certificate for a proposed facility located outside the areas listed below, the Council must find that, taking into account mitigation, the design, construction and operation of the facility are not likely to result in significant adverse impact to the areas listed below. References in this rule to protected areas designated under federal or state statutes or regulations are to the designations in effect as of May 11, 2007:*

*(a) National parks, including but not limited to Crater Lake National Park and Fort Clatsop National Memorial;*

*(b) National monuments, including but not limited to John Day Fossil Bed National Monument, Newberry National Volcanic Monument and Oregon Caves National Monument;*

*(c) Wilderness areas established pursuant to The Wilderness Act, 16 U.S.C. 1131 et seq. and areas recommended for designation as wilderness areas pursuant to 43 U.S.C. 1782;*

*(d) National and state wildlife refuges, including but not limited to Ankeny, Bandon Marsh, Baskett Slough, Bear Valley, Cape Meares, Cold Springs, Deer Flat, Hart Mountain, Julia Butler Hansen, Klamath Forest, Lewis and Clark, Lower Klamath, Malheur, McKay Creek, Oregon Islands, Sheldon, Three Arch Rocks, Umatilla, Upper Klamath, and William L. Finley;*

*(e) National coordination areas, including but not limited to Government Island, Ochoco and Summer Lake;*

*(f) National and state fish hatcheries, including but not limited to Eagle Creek and Warm Springs;*

*(g) National recreation and scenic areas, including but not limited to Oregon Dunes National Recreation Area, Hell's Canyon National Recreation Area, and the Oregon Cascades Recreation Area, and Columbia River Gorge National Scenic Area;*

*(h) State parks and waysides as listed by the Oregon Department of Parks and Recreation and the Willamette River Greenway;*

*(i) State natural heritage areas listed in the Oregon Register of Natural Heritage Areas pursuant to ORS 273.581;*

*(j) State estuarine sanctuaries, including but not limited to South Slough Estuarine Sanctuary, OAR Chapter 142;*

*(k) Scenic waterways designated pursuant to ORS 390.826, wild or scenic rivers designated pursuant to 16 U.S.C. 1271 et seq., and those waterways and rivers listed as potentials for designation;*

*(l) Experimental areas established by the Rangeland Resources Program, College of Agriculture, Oregon State University: the Prineville site, the Burns (Squaw Butte) site, the Starkey site and the Union site;*

*(m) Agricultural experimental stations established by the College of Agriculture, Oregon State University, including but not limited to: Coastal Oregon Marine*

*Experiment Station, Astoria Mid-Columbia Agriculture Research and Extension Center, Hood River Agriculture Research and Extension Center, Hermiston Columbia Basin Agriculture Research Center, Pendleton Columbia Basin Agriculture Research Center, Moro North Willamette Research and Extension Center, Aurora East Oregon Agriculture Research Center, Union Malheur Experiment Station, Ontario Eastern Oregon Agriculture Research Center, Burns Eastern Oregon Agriculture Research Center, Squaw Butte Central Oregon Experiment Station, Madras Central Oregon Experiment Station, Powell Butte Central Oregon Experiment Station, Redmond Central Station, Corvallis Coastal Oregon Marine Experiment Station, Newport Southern Oregon Experiment Station, Medford Klamath Experiment Station, Klamath Falls;*

*(n) Research forests established by the College of Forestry, Oregon State University, including but not limited to McDonald Forest, Paul M. Dunn Forest, the Blodgett Tract in Columbia County, the Spaulding Tract in the Mary's Peak area and the Marchel Tract;*

*(o) Bureau of Land Management areas of critical environmental concern, outstanding natural areas and research natural areas;*

*(p) State wildlife areas and management areas identified in OAR chapter 635, Division 8.*

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*(3) The provisions of section (1) do not apply to transmission lines or natural gas pipelines routed within 500 feet of an existing utility right-of-way containing at least one transmission line with a voltage rating of 115 kilovolts or higher or containing at least one natural gas pipeline of 8 inches or greater diameter that is operated at a pressure of 125 psig.*

**Findings of Fact**

The Protected Areas standard requires the Council to find that, taking into account mitigation, the design, construction and operation of a proposed facility are not likely to result in significant adverse impacts to any protected area as defined by OAR 345-022-0040.[44] As required under OAR 345-021-0010(L), the applicant identifies the protected areas within the analysis area and evaluates the following potential impacts during proposed facility

[44] OAR 345-001-0010(53) defines "Significant" as "…having an important consequence, either alone or in combination with other factors, based upon the magnitude and likelihood of the impact on the affected human population or natural resources, or on the importance of the natural resource affected, considering the context of the action or impact, its intensity and the degree to which possible impacts are caused by the proposed action. Nothing in this definition is intended to require a statistical analysis of the magnitude or likelihood of a particular impact."

construction and operation: excessive noise, increased traffic, water use, wastewater disposal, visual impacts of facility structures.[45]

The analysis area for protected areas is the area within and extending 20 miles from the proposed site boundary. The applicant addresses protected areas in ASC Exhibit L. The applicant's assessment of impacts to protected areas also relies on information presented in ASC Exhibit R (Scenic Resources) and ASC Exhibit X (Noise).

As presented in Table 3: *Protected Areas within Proposed Facility Analysis Area, and Potential Visibility and Audibility of Proposed Facility (Solar Facility and 230 kV Transmission Line)*, 13 protected areas were identified by the applicant within the analysis area, where based upon a visual impact assessment, proposed facility components would be visible or partially visible from 7 protected areas, and based upon a statistical noise analysis, audibility of proposed facility operations would not occur at any protected area. Potential impacts from the proposed facility at protected area within the analysis area are evaluated below.

[45] The proposed facility would not generate any emission plumes and therefore would not result in visual impacts from air emissions. Therefore, visual impacts from air emissions resulting from proposed facility construction or operation, including but not limited to impacts on Class I Areas as described in OAR 340-204-0050, is not applicable and therefore not addressed in this order.

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**Table 3: Protected Areas within Proposed Facility Analysis Area, and Potential Visibility and Audibility of Proposed Facility (Solar Facility and 230 kV Transmission Line)**

| Protected Area (OAR Reference) | Direction from Proposed Facility | Proposed 230 kV Transmission Line | | Proposed Solar Array | | Operational Noise Potentially Audible? |
|---|---|---|---|---|---|---|
| | | Distance (miles) | Potentially Visible? | Distance (miles) | Potentially Visible? | |
| Deschutes River – Federal Wild and Scenic River (OAR 345-022-0040(1)(k)) | West | 1.9 | Yes | 8.5 | No | No |
| Oak Springs Fish Hatchery, Oregon Department of Fish and Wildlife (OAR 345-022-0040(1)(f)) | Northwest | 2.9 | No | 9.9 | No | No |
| White Wild and Scenic River (OAR 345-022-0040(1)(k)) | Northwest | 3.1 | Yes | 9.7 | Yes | No |
| White River Falls State Park (OAR 345-022-0040(1)(h)) | Northwest | 3.5 | No | 10.1 | No | No |
| Tygh Valley State Natural Area (OAR 345-022-0040(1)(i)) | Northwest | 4 | No | 10.7 | No | No |
| White River ODFW Wildlife Area (OAR 345-022-0040(1)(p)) | Northwest | 9.2 | Yes | 16.2 | Yes | No |
| Lower White River Wilderness (OAR 345-022-0040(1)(d)) | West | 15.7 | Yes | 21.9 | Yes | No |
| Badger Creek Wilderness (including National Recreation Trail) (OAR 345-022-0040(1)(c)) | Northwest | 16.8 | Yes | 23.9 | Yes | No |
| John Day River – Federal Wild and Scenic River and Oregon Scenic Waterway John Day River – Federal Wild and Scenic River and Oregon Scenic Waterway | East | 16.8 | No | 16.2 | No | No |

**Table 3: Protected Areas within Proposed Facility Analysis Area, and Potential Visibility and Audibility of Proposed Facility (Solar Facility and 230 kV Transmission Line)**

| Protected Area (OAR Reference) | Direction from Proposed Facility | Proposed 230 kV Transmission Line | | Proposed Solar Array | | Operational Noise Potentially Audible? |
|---|---|---|---|---|---|---|
| | | Distance (miles) | Potentially Visible? | Distance (miles) | Potentially Visible? | |
| (OAR 345-022-0040(1)(k)) | | | | | | |
| Lower Deschutes ODFW Wildlife Area (OAR 345-022-0040(1)(p)) | North | 18 | Yes | 18 | Yes | No |
| Mount Hood National Recreation Area (OAR 345-022-0040(1)(g)) | Northwest | 19.6 | Yes | 26.4 | Yes | No |
| Deschutes-Oregon Wildlife Heritage Foundation (OAR 345-022-0040(1)(h)) | North | 19.6 | No | 19.7 | No | No |
| Fifteenmile Creek Wild and Scenic River (OAR 345-022-0040(1)(k)) | Northwest | 19.7 | No | 26.4 | No | No |
| Source: ASC Exhibit L Table L-1 | | | | | | |

*Potential Noise Impacts*

The significance of potential noise impacts to identified protected areas is based on the magnitude and likelihood of the impact on the affected human population or natural resources that uses the protected area. The nearest protected area to the proposed site boundary that could be potentially impacted by noise generated during proposed facility construction or operation is White River Falls State Park, located approximately 3.5 miles and 10.1 miles northwest from the proposed transmission line and solar array area, respectively.[46] Potential noise impacts from proposed facility construction and operation are evaluated below.

*Construction*

As evaluated in the ASC Exhibit X, construction-related noise impacts are based on equipment sound levels as provided in the 2006 Federal Highway Administration Roadway Construction Noise Model. Proposed facility construction would include site preparation, grading, preparation of staging areas and onsite access routes; array foundation installation, conductor installation, and construction of collector substation; solar panel assembly and construction electrical components; inverter pad construction; commissioning of solar array and grid interconnection; installation of transmission structure foundations; erection of support structures; and, conductor stringing.

As presented in ASC Exhibit X Table X-4, typical construction equipment and predicted sound pressure levels at specific distances would include but is not limited to: bulldozer (88 - 43 dBA at 50 – 5,000 ft), grader (85 – 40 dBA at 50 – 5,000 ft), crane (83 – 38 dBA at 50 – 5,000 ft), and portable generator (84 – 39 dBA at 50 – 5,000 ft). Based on the typical sound pressure levels of equipment that could be used during proposed facility construction of 43 dBA at 5,000 feet (less than 1-mile), where 43 dBA is identified in ASC Exhibit X as equivalent to a quiet rural residential area with no activity, due to attenuation at the nearest protected area that could be impacted by construction-related noise – located at a distance of approximately 3.9 miles – construction-related noise would not be expected to be audible at White River Falls State Park.

Based on review of the applicant's construction-related noise impact assessment, as described above, the Department recommends that Council find that proposed facility construction would not result in noise impacts at White River Falls State Park. Because the other protected areas within the analysis area are located at greater distances from the proposed site boundary than

[46] There are three protected areas located in closer proximity to the proposed site boundary than White River State Falls. However, the Department recommends Council find that the two wild and scenic rivers and one state fish hatchery, based on its purpose and protection under the Council's Protected Areas standard, would not have the potential to be impacted by noise. The Deschutes River and White River are protected under the Council's Protected Areas standard due to its wild and scenic river designation, which is based upon the rivers being free of impoundments, with primitive and undeveloped shorelines, which would not have the potential to be impacted by proposed facility noise. Similarly, ODFW's Oak Springs Fish Hatchery is protected under the Council's Protected Areas standard due to its designation as a state fish hatchery, with a primary purpose of egg production, incubation and rearing of fish species, which would not have the potential to be impacted by proposed facility noise.

White River Falls State Park, the Department recommends that Council find that there would be no impacts from proposed facility construction noise at the other protected areas.

*Operation*

Proposed facility components that would generate noise during operations include: transformers and inverters associated with the solar arrays, inverters and cooling systems associated with battery storage systems; and corona discharge noise (buzz or crackling during wet conditions) from the 230 kV transmission line. In ASC Exhibit X, the applicant provides a noise analysis inclusive of the operational sources and sound power levels (in A-weighted decibels) for proposed facility components, as listed below:

- 152 inverters, each at 88 dBA
- 152 distribution transformers, each at 77 dBA
- 2 substation transformers at 106 dBA
- 208 battery storage heating, ventilation and air conditioning units, each at 89 dBA
- 103 battery storage transformers, each at 77 dBA
- 230 kV transmission line at 76 to 99 dBA (fair to rainy conditions)

As presented in ASC Exhibit X, statistical noise modeling results indicate that maximum operational noise levels of the proposed facility would range between 20 to 25 dBA within 1-mile of the proposed facility, which would be extremely quiet.[47] At distances greater than 1-mile, due to noise attenuation based on distance, operational noise from the proposed facility would not be audible. Therefore, because the nearest important protected area to proposed facility components would be at a distance of 3.9-miles, the Department recommends Council find that operational noise from the proposed facility would not impact any protected areas within the analysis area.

*Traffic Impacts (Construction and Operation)*

Proposed facility construction would result in up to 750 average daily trips (ADT) (including worker vehicles, pick-up trucks, material delivery vehicles) on I-84 and Bakeoven Road, 364 ADTs on US 197, 92 ADTs on US 97 (north, part of alternate route), and 46 ADTs on US 97 (south, workforce-only). Access to the Deschutes River Federal Wild and Scenic River is provided by Deschutes River Road (also known as Lower Deschutes River Back County Byway), which is fed by US 197 and Bakeoven Road. As presented in ASC Exhibit L, based upon potential construction-related traffic, access to the Deschutes River may be impacted by intermittent short-term traffic delays. The applicant proposes several best management practices, as presented in Attachment M of this order and represented below, in addition to developing a

[47] Beranek, L. 1988. Noise and Vibration Control, Chapter 7 - Sound Propagation Outdoors. Institute of Noise Control Engineering, Washington, DC. EPA (U.S. Environmental Protection Agency). 1971. Community Noise. NTID300.3 (N-96-01 IIA- 231). Prepared by Wylie Laboratories

Construction Traffic Management Plan in coordination with the City of Maupin, Wasco County Public Works Department, BLM (Deschutes River managing agency), and ODOT (see recommended Public Services Condition 3).

- Complete consultation with landowners to minimize disruptions to ranching and farming operations due to construction activities such as equipment delivery
- Provide proper road signage and warnings of "Equipment on Road," "Truck Access," or "Road Crossings"
- Implement traffic-diversion equipment (such as advance signage and pilot cars) whenever possible when slow or oversize loads are being hauled;
- Employ flag persons to direct traffic when large equipment is exiting or entering public roads to minimize risk of accidents. Flag persons may facilitate two-way traffic on one lane by alternately restricting travel directions. This method would not require full lane closures, detours, or reroutes. Flag persons would also monitor through traffic on public roadways as necessary so that they are not in conflict with construction vehicles.
- Maintain at least one travel lane at all times so that roadways would not be closed to traffic due to construction vehicles entering or exiting public roads
- Avoid peak traffic times identified through consultation with Wasco County and the City of Maupin by adjusting scheduling of workforce shifts or other methods, such as requiring construction workers to check for congestion prior to leaving for the Facility to consider an alternate route.
- Conduct awareness training for all construction workforce drivers, including appropriate techniques for sharing roads with recreation users (especially cyclists and during peak tourist season mid-June through early September) and proper navigation of tight curves in and near Maupin

Potential traffic impacts during proposed facility construction would be intermittent and temporary, and traffic levels would return to normal following construction.

During operations, the proposed facility would generate an additional 5 to 10 one-way trips on existing local roads. Based on the minimal number of operational trips, the Department agrees with the applicant that the increase would not be likely to have any impact on protected areas, including access points to protected areas.[48]

Based on review of the applicant's analysis and proposed BMPs, the Department agrees with the applicant's conclusions and recommends Council find that potential traffic-related impacts during construction and operation of the proposed facility would not likely result in significant adverse impacts to any protected areas.

[48] See Section IV.M, *Public Services* of this order for further discussion of traffic impacts.

*Water Use and Wastewater Disposal (Construction and Operation)*

The applicant discusses the proposed facility's water use in Exhibit O. Generation and management of wastewater during construction and operation are evaluated in Exhibit V and discussed in Section IV.N, *Waste Minimization* of this order.

Proposed facility construction would use, under high temperatures, dry climactic conditions (i.e. "worst-case conditions") up to 77 million gallons of water per year for dust suppression, road compaction, concrete foundations, on-site worker drinking and sanitation use. Proposed facility operation would use approximately 1 million gallons of water per year to support O&M building drinking water use and solar panel washing. In ASC Exhibit O, the applicant describes that construction-related water would be obtained from the City of Maupin, through an existing water right permit, or use of an existing or newly constructed well, which would be permitted by a third-party under an Oregon Department of Water Resources-issued limited water use license. Operational water would be obtained by the same sources identified for construction. In ASC Exhibit O, the applicant provides a letter from the City of Maupin dated May 30, 2019, where Mayor Ewing confirms an ability of the city under its existing water right permit number S18591 to provide water to meet the applicant's forecasted construction related water demand. The applicant asserts that through its communication with the City of Maupin, that the existing water right S18591 could serve the proposed facility's construction-related water demand during normal and dry conditions throughout the year. Therefore, the applicant does not anticipate any impact to protected areas from water use during construction or operation of the proposed facility.

As explained in Exhibit L, the applicant indicates that industrial wastewater would not be produced during construction or operation of the proposed facility. Stormwater runoff, which is not considered wastewater but discussed nonetheless, would be managed on site according to the BMPs as described in the NPDES 1200-C / Erosion and Sediment Control Plan (ASC Exhibit I), such that no stormwater would leave the site boundary. During construction, sanitary wastewater would be contained in portable toilets, which the applicant explains would be provided and maintained by a licensed contractor. During operations, sanitary wastes from the O&M buildings would be discharged to a permitted onsite septic system.

Based upon evaluated of the applicant's proposed water use and non-generation of offsite wastewater, the Department agrees with the applicant's conclusions and recommends Council find that water use and wastewater disposal during construction and operation of the proposed facility would not result in a significant adverse impact, or any impact, to water quality or quantity within any protected area within the analysis area.

*Potential Visual Impacts of Proposed Facility Structures*

The applicant's visual impact assessment methodology includes bare-earth modeling, zone of visual influence (ZVI) analyses. The ZVI analyses were performed using the Spatial Analyst extension of the ESRI ArcGIS software, using a 10-meter digital elevation model to represent

the terrain within the analysis area. The ArcGIS software generates lines of sight from the three-dimensional coordinates of the proposed solar facilities (i.e. solar arrays, battery storage system, O&M building, 230 kV transmission line, and overhead 34.5 kV collector line) to points on the terrain surface (factoring a 6-foot offset for viewer height), thereby identifying locations from which the proposed facility components would potentially be visible.[49] In ASC Exhibit R, the applicant explains that a bare-earth analysis does not take into account the visibility effects of existing vegetation or buildings, which in practice would block or screen views in some places. In addition, the ZVI model does not account for distance, lighting and atmospheric factors (such as weather) that can diminish visibility under actual field conditions. In other words, the results of the ZVI analysis, which present potential lines of site of proposed facility components, is extremely conservative in identifying potential visibility impacts.

The results of the ZVI analysis indicate that one or more facility components would be visible or partially visible from all 7 protected areas within the analysis area (see Table PA-1, *Protected Areas within the Proposed Facility Analysis Area*). However, as explained in ASC Exhibit L, the applicant considers visual impacts to be negligible for most protected areas, primarily due to the distance of 9 to 20 miles from the site boundary. Based on the applicant's ZVI analysis, two protected areas within the analysis area would have limited visibility of the proposed facility, including the Deschutes River Federal Wild and Scenic River and the White Wild and Scenic River. Limited visibility refers to potential visibility of the proposed 230 kV transmission line, only, from short river segments at limited locations along the river canyons. Based on review of the applicant's viewshed analysis, the Department agrees with the applicant's conclusion and recommends Council find that the proposed facility would not cause a significant, adverse visual impact to the Deschutes Federal Wild and Scenic River or White Wild and Scenic River, or to any other protected area in the analysis area.

**Conclusions of Law**

Based on the foregoing recommended findings, and subject to compliance with the recommended conditions of approval, the Department recommends the Council conclude that, taking into account mitigation, the design, construction and operation of the proposed facility would not be likely to result in significant adverse impacts to any protected areas, in compliance with the Council's Protected Area standard.

**IV.G. Retirement and Financial Assurance: OAR 345-022-0050**

> *To issue a site certificate, the Council must find that:*
>
> *(1) The site, taking into account mitigation, can be restored adequately to a useful, non-hazardous condition following permanent cessation of construction or operation of the facility.*

[49] BSPAPPDoc6 18 ASC Exhibit R Scenic. P. 8-9. 2019-11-04.

*(2) The applicant has a reasonable likelihood of obtaining a bond or letter of credit in a form and amount satisfactory to the Council to restore the site to a useful, non-hazardous condition.*

**Findings of Fact**

The Retirement and Financial Assurance standard requires a finding that the proposed facility site can be restored to a useful, non-hazardous condition at the end of the facility's useful life, should either the applicant (certificate holder) stop construction or should the facility cease to operate. In addition, it requires a demonstration that the applicant can obtain a bond or letter of credit in a form and amount satisfactory to the Council to restore the site to a useful, non-hazardous condition.

*Restoration of the Site Following Cessation of Construction or Operation*

OAR 345-022-0050(1) requires the Council to find that the site of the proposed facility can be restored to a useful non-hazardous condition at the end of the proposed facility's useful life, or if construction of the proposed facility were to be halted prior to completion. The applicant estimates the proposed facility's useful life as 40 years, although describes that the proposed facility would likely be upgraded with more efficient equipment over time extending the useful life for much longer than 40 years.

As described in ASC Exhibit W, restoring the site to a useful, nonhazardous condition upon cessation of construction or operation (or upon retirement) would involve dismantling solar and battery components, and related aboveground equipment (O&M building, transmission and overhead collector lines, transformer/inverter pads, and substation). Solar modules would be separated from anchored steel poles, and directly loaded onto trucks or roll-off containers for off-site disposal. Steel poles would then be removed and recycled. Transformers would be decommissioned (oil would be removed) and hauled and disposed off-site.

Decommissioning of battery storage components would include draining fluids within the flow batteries, and transporting to an off-site facility for recycling. If lithium-ion batteries are selected, disposal would be accomplished in the same manner as routine battery replacement. Self-contained battery components would be removed and disposed of or recycled by a qualified vendor. Once the self-contained battery components have been removed, the containers and associated components would be disassembled and transported off site via truck for disposal or recycling. In both cases, the footprint of the battery storage system would be regraded and seeded for final stabilization. Any unsalvageable material would be disposed of at authorized sites.

Concrete pads and foundations (solar panel posts, substation, O&M building and battery storage systems) would be removed to a minimum of 3 feet below grade. Portions of underground electrical and communication cable buried below 3 feet would be left in place. Disturbed areas would be regraded and reseeded with native seed mix, based on landowner

consultation. Access roads would then be removed. Access road areas would be restored to surface grade and soil to a condition useful for agriculture or grazing, depending on the use of surrounding lands. Roads also may be left in place based on landowner preference.

The Council's rules include several mandatory site certificate conditions relating to the obligation of an applicant (certificate holder) to prevent the development of conditions on the site that would preclude restoration of the site and requiring the applicant (certificate holder) to obtain Council approval of a retirement plan in the event that the facility ceases construction or operation, which are as follows:

> **Recommended Retirement and Financial Assurance Condition 1:** 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); GEN-RF-01]
>
> **Retirement and Financial Assurance Condition 2:** 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); RET-RF-01]
>
> **Retirement and Financial Assurance Condition 3:** 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); RET-RF-02]

In Section IV.B, *Organizational Expertise* of this order, the Department recommends that the Council find that the applicant has the organizational expertise to construct, operate, and retire the proposed facility in compliance with that Council standard. In addition, the Department recommends that the Council find that the applicant meets the Council's Soil Protection, Fish and Wildlife Habitat, and Waste Minimization standards (Sections IV.D, IV.H, and IV.N of this order, respectively). Each of those sections imposes conditions on the applicant that are designed to ensure that construction and operation of the proposed facility would not have adverse impacts on the surrounding land.

Based on compliance with the above-referenced mandatory conditions, and the applicant's assessment of decommissioning tasks and actions, the Department recommends the Council find that the site of the proposed facility could be restored adequately to a useful, non-hazardous condition following permanent cessation of construction or operation.

*Estimated Cost of Site Restoration*

OAR 345-022-0050(2) requires the Council to find that the applicant has demonstrated a reasonable likelihood of obtaining a bond or letter of credit in a form and amount necessary to restore the site of the proposed facility to a useful non-hazardous condition. A bond or letter of credit provides a site restoration remedy to protect the state of Oregon and its citizens if the applicant (certificate holder) fails to perform its obligation to restore the site. The bond or letter of credit must remain in force until the applicant (certificate holder) has fully restored the site. OAR 345-027-0010(8) establishes a mandatory condition, included as Retirement and Financial Assurance Condition 4, which ensures compliance with this requirement.

In ASC Exhibit W, the applicant provides a site restoration cost estimate of approximately $20.1 million (Q1 2019 dollars). The site restoration cost estimate was prepared by the applicant's consultant, TetraTech. The scope of work and individual tasks were established using professional experience, in collaboration with the applicant's engineering staff and contractors. Production rates were based on professional knowledge and published standards, including review of "RS Means," a construction cost estimating software. Labor and equipment rates were obtained based on U.S. Department of Labor wage determinations. Typical industry standards were applied for contingency (5 percent), overhead and fee (13 percent).

Based on the decommissioning tasks and actions described above; the level of detail obtained to support the per task cost breakdown (including 50 percent facility engineering and design); the information sources relied upon for hourly rates, equipment and materials (U.S. Department of Labor and RS Means); and, the generally low level of complexity associated with solar facility decommissioning, which are all factors evaluated under the Association for Advancement of Cost Engineering International Cost Estimate Classification System (Classification System), the applicant represents that the cost estimate provided in ASC Exhibit W Attachment W-1, and re-formatted below to present task and unit cost, is a "Class 1" estimate. The applicant then relies upon the Classification System's guidance to request Council consideration of a lower future development contingency than has historically been applied to

EFSC facilities of 3 versus up to 20 percent. The Department presents its assessment of this request following Table 3: *Proposed Facility Decommissioning Cost Estimate and Unit Costs* below.

The applicant also provides an estimate of potential expenses incurred by the Department in the event the applicant (certificate holder) were to become unable to manage the decommissioning process. The applicant estimates potential expenses incurred by the Department based on fully loaded rates (rate + overhead + benefits) of 2 full-time employees (FTE) ($200,000 per FTE) for 16 months, which includes an anticipated 10 month duration for facility decommissioning and 6 months for preparation and close-out. Based on these assumptions, the applicant seeks Council approval of a contingency equal to approximately $533,000 rather than a contingency of 10 percent applied to the total decommissioning amount, as Council has historically imposed on decommissioning estimates for EFSC facilities. The Department presents its assessment of this request following Table 3: *Proposed Facility Decommissioning Cost Estimate and Unit Costs* below.

As presented in ASC Exhibit W, the applicant evaluates labor requirements, equipment needs and duration for each of the tasks and actions identified for site restoration based on the following methods and assumptions:

- Mobilization and demobilization costs reflect the anticipated cost to mobilize equipment, facilities and crew to the proposed facility site, assuming the work is performed by local contractors.
- Restoration is estimated on a unit cost basis, priced by task, and follows the progression of work from start to finish.
- Roads would be restored pursuant to the approved retirement plan so that they become a part of the natural surroundings and are no longer recognizable or usable as a road.
- Temporary facilities required during the decommissioning effort have been included in the restoration cost.
- Field management during construction activities has been added to the estimate.
- 5 percent for Home Office and Project Management, and 13 percent for Overhead and Fee were included for contractor overhead fees (approximately $2.74 million total)

Notwithstanding the applicant's proposed contingencies, which are further evaluated below, the Department recommends Council conclude that the applicant's consultant, TetraTech, and engineering staff have the experience necessary to adequately and accurately prepare a cost estimate for decommissioning and restoration of the site of the proposed facility. A detailed breakdown of tasks, sub-tasks and costs is presented in ASC Exhibit W Attachment W-1, and is summarized in Table 4: *Proposed Facility Decommissioning Cost Estimate and Unit Costs*.

**Table 4: Applicant's Proposed Facility Decommissioning Cost Estimate and Unit Costs**

| Task or Action | Quantity | Unit Cost[1] ($) | Unit | Estimate ($) |
|---|---|---|---|---|
| *Equipment Mobilization/Demobilization* | | | | |
| Equipment Mobilization | 1 | 61,200 | Total | 61,200 |
| Site Facilities | 1 | 2,200 | Total | 2,200 |
| Crew Mobilization and Site Setup | 3 | 12,065 | Day | 36,197 |
| Crew Demobilization and Site Cleanup | 2 | 12,065 | Day | 24,131 |
| Home Office (5%)/Contractor Overhead and Fee (13%) | 1 | | % of Cost | 20,775 |
| | | | Subtotal = | 144,503 |
| *Substation and Transmission Line* | | | | |
| | **Quantity** | **Unit Cost[1]** | **Unit** | **Estimate** |
| Fence Removal | 1 | 1,202 | Day | 1,202 |
| Transformer/Oil Removal | 2 | 94,339 | Equip. | 188,678 |
| Remove Control Building | 1 | 2,432 | Equip. | 2,432 |
| Underground Utility and Ground Removal | 2 | 1,202 | Day | 2,404 |
| Remove Foundations to Subgrade | 500 | 27 | Cu. Yd. | 13,512 |
| Misc. Materials Disposal | 1 | 1,675 | Day | 1,675 |
| Restore Yard | 4 | 15,650 | Acres | 62,603 |
| Conductor Removal | 11 | 33,955 | mile | 373,513 |
| Structure Removal | 83 | 4,467 | Each | 370,806 |
| Remove Foundations to Subgrade | 83 | 4,620 | Each | 383,496 |
| Home Office (5%)/Contractor Overhead and Fee (13%) | 1 | | % of Cost | 235,137 |
| | | | Subtotal = | 1,635,458 |
| *Solar Array* | | | | |
| Site Facilities | 303 | 71 | MW | 21,550 |
| Field Management | 303 | 2,884 | MW | 874,069 |
| Fence Removal | 303 | 238 | MW | 72,260 |
| Inverter/Transformer Removal | 152 | 5,089 | Each | 773,629 |
| Inverter/Transformer Disposal | 3,496 | 30 | Ton | 104,880 |
| Remove Foundations to Subgrade | 29,184 | 27 | Cu. Yd. | 394,341 |
| Solar Panel Removal | 951,900 | 2.78 | Each | 2,650,331 |
| Solar Panel Trucking | 846 | 1,375 | Each | 1,163,250 |
| Solar Panel Disposal | 19,038 | 30 | Ton | 571,140 |
| Solar Rack and Post Removal | 25,050 | 242 | Each | 6,062,063 |
| Solar Rack and Post Trucking | 446 | 1,375 | Each | 613,250 |
| Solar Rack and Post Disposal | 10,020 | 30 | Ton | 300,600 |

**Table 4: Applicant's Proposed Facility Decommissioning Cost Estimate and Unit Costs**

| Task or Action | Quantity | Unit Cost[1] ($) | Unit | Estimate ($) |
|---|---|---|---|---|
| *Site Restoration* | | | | |
| Decompact Roads | 180,000 | 2.68 | Linear Feet | 482,765 |
| Spot Grade Disturbed Areas | 294 | 536 | Acres | 157,703 |
| Re-seeding | 361 | 500 | Acres | 180,500 |
| Home Office (5%)/Contractor Overhead and Fee (13%) | 1 | | % of Cost | 2,421,755 |
| | | | Subtotal = | 16,844,086 |
| *Battery Storage System* | | | | |
| | **Quantity** | **Unit Cost[1]** | **Unit** | **Estimate** |
| Remove Batteries | 66 | 1,737 | Day | 114,704 |
| Transport Batteries | 33 | 1,480 | Day | 48,859 |
| Battery Disposal and Fee | 432 | 200 | Ton | 86,400 |
| Structure Demolition | 429 | 111 | Ton | 47,915 |
| Structural Trucking | 33 | 1,375 | Each | 43,375 |
| Structure Disposal | 429 | 30 | Ton | 12,870 |
| Home Office (5%)/Contractor Overhead and Fee (13%) | 1 | 70,802 | % of Cost | 59,799 |
| | | | Subtotal = | 413,922 |
| | | | All Tasks, Subtotal = | 19,037,969 |
| *Applicant Proposed Contingencies* | | | | |
| Department Project Management Cost (2 FTE at $200k/yr for 16 months) | | | | 533,000 |
| Future Development (3%) | | | | 504,197 |
| **Proposed Facility Decommissioning Cost (Q1 2019 Dollars) – Rounded to the Nearest $1,000 =** | | | | **20,072,000** |

*Evaluation of Applicant Proposed Contingencies*

As presented in ASC Exhibit W, and described above, the applicant seeks Council approval of proposed contingencies which differ from Council's past practice. Specifically, the applicant seeks Council approval of a project management cost based on an assumed facility decommissioning duration that, with preparation and closeout, would not exceed 16 months, rather than Council's past practice of applying a 10 percent mark-up to the total decommissioning cost to cover potential ODOE project management and administration costs. The applicant also seeks Council approval of a future development contingency equal to 3

percent, rather than Council's past practice of applying 10 to 20 percent to the total decommissioning cost.

*Department Project Management Cost*

In the event that the applicant (certificate holder) were to become unable to fulfill its obligation to complete facility decommissioning, the Department would require staff time related to the preparation and approval of a final retirement plan, obtaining legal permission to proceed with demolition of the facility, legal expenses for protecting the State's interest, preparing specification bid documents and contracts for demolition work, managing the bidding process, negotiations of contracts, and other tasks. In ASC Exhibit W, the applicant explains that it anticipates a 10 month duration for facility decommissioning, as well as six months for pre- and post- decommissioning planning. The applicant further proposes that for estimating purposes, the project management tasks could necessitate up to two full time employees (FTE) for the 16 month decommissioning period, at $200,000 per FTE. The total applicant estimated cost for project management and administration, based on these numbers, is $533,000.

The Department has considered the applicant's proposal, but recommends that Council continue to apply a 10 percent project management and administration mark-up for the following reasons. The applicant's basis for the 10 month assumed duration and two FTEs is not supported by sufficient information or evidence. The Department questions the sufficiency of the assumed duration and FTE requirement to cover all of the necessary process and contracting requirements, including legal and consultation requirements under the applicant's lease agreements, in addition to the actual time necessary to decommission and restore (where restoration could take several years) the impacts of a 303 MW solar facility and related or supporting facilities, including an 11-mile 230 kV transmission line. The Council has imposed the 10 percent project management and administration mark-up to retirement bond cost estimates for all EFSC facilities, and while the Department does not support utilization of the 2005 Facility Retirement Cost Estimating Guide for cost-estimating purposes, that guide does include the recommendation of utilizing a 10 percent mark-up for administration and project management.

Because the applicant's Department project management contingency is based upon an assumed decommissioning duration that is not supported by evidence, the Department recommends Council apply a 10 percent project management contingency to the total decommissioning estimate, consistent with historic contingencies applied by Council for other EFSC facilities.

*Future Development Contingency*

The Council has historically applied a future development contingency of 10 to 20 percent to an applicant's decommissioning cost estimate based on uncertainty in the decommissioning estimate. If site restoration becomes necessary, it might be many years in the future where there is uncertainty of continued adequacy of the retirement cost estimate. Uncertainty factors include different environmental standards or other legal requirements; and, changes in cost of

labor and equipment that increase at a rate exceeding the standard inflation adjustment. As explained above, the applicant seeks Council approval of a 3 percent future development contingency based on the level of detail obtained to support the per task cost breakdown (including 50 percent facility engineering and design); the information sources relied upon for hourly rates, equipment and materials (U.S. Department of Labor and RS Means); and, the generally low level of complexity associated with solar facility decommissioning, which are all factors evaluated under the Association for Advancement of Cost Engineering International Cost Estimate Classification System (Classification System).[50]

Based on the Department's review of the Classification System, the expected accuracy range for a Class 1 estimate is 3 to 15 percent. The applicant argues for the lower end of the range given the presumed low complexity of solar facility decommissioning and level of detail provided in the estimate. The Department agrees that based on the Classification System guidance, the lower range of presumed accuracy is appropriate. However, the Classification System guidance is not intended to account for future uncertainties related to environmental standards, legal requirements, or changes in cost of labor and equipment in 30 to 50 years, which are the underlying factors considered in the Council's application of a future development contingency.

Historically, Council has applied a 10 percent future development contingency for wind energy facilities, and in recent years, has applied 10 or 20 percent for solar facilities, based mostly on the existing facility for which the solar was proposed (i.e. solar proposed with natural gas, solar proposed with wind). Council has also imposed varying future development contingencies based on specific facility components, bifurcating the future development contingency of battery storage systems from the rest of the proposed facility. When Council has differentiated the future development contingency applied to battery storage components from the rest of a proposed facility, Council has traditionally applied a 20 percent contingency to the battery storage components due to its potentially hazardous subsurface impacts and uncertainty of regulatory requirements for hazardous materials and cleanup costs. Because a solar facility, like a wind facility, has limited, if any, potential for subsurface hazardous impacts, the Department recommends Council apply a future development contingency of 10 percent to all facility components, with the exception of the proposed battery storage system, which the Department recommends Council apply a 20 percent contingency.

If Council finds that contingencies should be applied to the applicant's decommissioning cost for potential Department project management and future development uncertainties, the total decommissioning amount, based on the tasks, actions and unit costs as presented in Table 5: *Proposed Facility Decommissioning Cost Estimate and Unit Costs* above, would be approximately $23 million, approximately $4 million higher than the applicant's estimate.

[50] https://www.costengineering.eu/Downloads/articles/AACE_CLASSIFICATION_SYSTEM.pdf

**Table 5: Department Adjusted Decommissioning Cost Estimate**

| | |
|---|---|
| All Tasks, Subtotal | 19,037,969 |
| *Department Recommended Contingencies* | |
| Performance and Payment Bond (1%) | 190,380 |
| Department Project Management (10%) | 1,903,797 |
| Future Development (10%/20%)[1] | 1,945,189 |
| **Proposed Facility Decommissioning Cost (Q1 2019 Dollars) – Rounded to the Nearest $1,000 =** | **23,077,335** |
| Notes:<br>A 10% future development contingency is applied to all tasks, with the exception of the proposed battery storage system ($1,8m). A 20% future development contingency is applied to the proposed battery storage system ($82,784). | |

*Ability of the Applicant to Obtain a Bond or Letter of Credit*

OAR 345-022-0050(2) requires the Council to find that the applicant has a reasonable likelihood of obtaining a bond or letter of credit in a form and amount satisfactory to Council to restore the proposed facility site to a useful non-hazardous condition. A bond or letter of credit provides a site restoration remedy to protect the state of Oregon and its citizens if the applicant (certificate holder) fails to perform its obligation to restore the site. The bond or letter of credit must remain in force until the applicant (certificate holder) has fully restored the site. OAR 345-025-0006(8) establishes a mandatory condition which ensures compliance with this requirement, as recommended for inclusion in the site certificate and referenced below:

> **Recommended Retirement and Financial Assurance Condition 4:** Before beginning construction of the facility or any phase of the facility, the certificate holder shall submit to the State of Oregon, through the Council, a bond or letter of credit in a form and amount satisfactory to the Council to restore the site to a useful, non-hazardous condition. The certificate holder shall maintain a bond or letter of credit in effect at all times until the facility has been retired. The Council may specify different amounts for the bond or letter of credit during construction and during operation of the facility.
> [Mandatory Condition OAR 345-025-0006(8); PRE-RF-01]

Based on the estimate shown Table 4: *Proposed Facility Decommissioning Cost Estimate and Unit Costs* and, as adjusted in Table 5: *Department Adjusted Decommissioning Estimate* the value of the financial assurance bond or letter of credit for restoring the proposed facility site would be approximately $23 million (Q1 2019 dollars), adjusted annually as described in the recommended condition below.

The applicant provides information about its financial capability in ASC Exhibit M. The applicant proposes to provide a financial assurance bond or letter of credit in a form approved by the Council before beginning construction. To demonstrate its ability to receive an adequate bond or letter of credit, the applicant provides a letter from Liberty Mutual, a financial institution

approved by Council as an acceptable form under the standard in October 2017, confirming that the applicant's parent company, Avangrid Renewables, LLC, has the qualifications necessary for the financial institution to issue a bond or letter of credit up to $50 million. To address the applicant's financial assurance obligations and ensure the adequacy of the bond or letter of credit, the Department recommends Council adopt the following condition:

**Recommended Retirement and Financial Assurance Condition 5**: Before beginning construction of the facility or any phase of the facility, 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 $23,036,000 million dollars (Q1 2019 dollars), to be adjusted to the date of issuance, 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 and general costs illustrated in Table 3 of the Final Order on the ASC, and the contingencies illustrated in Table 4 of the Final Order on the ASC. Any revision to the restoration costs should be adjusted to the date of issuance as described in (b) and 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 2019 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 2019 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 2019 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 approved by the Council, based on the Council's pre-approved financial institution list.
d. The certificate holder shall use a form of bond or letter of credit approved by the Council. The certificate holder shall describe the status of the bond or letter of credit in the annual report submitted to the Council under OAR 345-026-0080. The bond or letter of credit shall not be subject to revocation or reduction before retirement of the facility site.

[PRE-RE-02]

*Applicant's Request for Council Consideration of a Phased Approach to Decommissioning Security*

*Summary of Applicant's Proposal*

In ASC Exhibit W, the applicant requests Council consideration of a phased approach to decommissioning surety and accounting for the value of scrap metal. The phased approach would include providing to the Department a bond or letter of credit in the full amount necessary for facility decommissioning, not including scrap value. Then, the bond or letter of credit would be reduced to $1, once the facility was in commercial operation. In year 20 of operation, or the last year of the applicant's Power Purchase Agreement, whichever is later, the bond or letter of credit would be based on the full facility decommissioning amount, not including scrap metal, for the remainder of the facility's operational life. If Council were to consider applying the value of scrap metal as a discount to the decommissioning estimate, the applicant proposes to evaluate changes in scrap metal and submit annual updates to the Department to verify adequacy of the existing bond or letter of credit, in addition to proposing to enter into an agreement with the Department to grant the Department a security interest in facility equipment salvage.

The applicant asserts that a phased approach to the decommissioning bond considers the real-world economics of utility scale energy projects, as the level of investment in an energy project of this type are typically on the order of $100 million or more. The applicant describes that this level of investment is usually made in partnership with one or more equity investors in the facility. Equity investors in energy projects hire independent evaluators to perform due diligence on projects prior to investing. Industry independent evaluators typically state the used and useful life of energy projects, such as the facility, would have a used and useful life of 35 years or more.

Assuming projects have a 35-year useful life, the applicant asserts that if a project owner were to become insolvent during the lifetime of the facility, the facility's equity investors would step in to be sure that the facility would remain operational. The applicant describes that the industry's financial and real estate agreements are set up so that equity investors in a facility can take over the facility should the certificate holder go into default. If a certificate holder goes into default, the facility's banks and investors would then file for bankruptcy protection and find a new buyer to own and operate the project.

In ASC Exhibit W, the applicant provides an example to support its proposal – the 2016 SunEdison bankruptcy case. The applicant describes that at the time of their bankruptcy in 2016, SunEdison had an entire portfolio of development and operating assets. When SunEdison declared Chapter 11 bankruptcy, these assets were repackaged and sold to other energy developers, such as Terra Nova, NRG Energy, and the Middle Eastern-backed firm Greenko Energy. Because of the way in which these deals are structured, the applicant argues that it is not realistic that a multi-million dollar energy generation project would ever need to be decommissioned in the first 20 years of facility operation, or during the term of the Power

Purchase Agreement, as there is both a contractual obligation to deliver energy and a revenue stream. On this basis, the applicant requests Council consideration of a phased approached to financial security for decommissioning because the risk of facility abandonment within the first 20 years of operations is near zero.

*Council Appointed Consultant Review of Applicant's Proposal*

In accordance with ORS 469.470(6), at the September 26-27, 2019 meeting, Council appointed Golder Associates, Inc. (Golder) based on their experience and qualifications related to the Council's Retirement and Financial Assurance standard, as a qualified consultant to provide technical expertise in review of the above-requested approach (i.e. discounted decommissioning amount based on scrap metal value, and a phased decommissioning surety approach). Golder's scope of work included: review case history and context supporting ODOE's policy of not allowing scrap value to be applied to decommissioning bond amounts; and evaluate the financial risk of the phased decommissioning surety approach.

*Summary of Review of Applicant's Request for Use of Scrap Metal Value*

Council has historically reviewed requests for consideration of scrap metal value. In the early 2000s, Council allowed retirement bonds to be reduced to account for the value of salvage or scrap metals. In 2006 and 2007, the Department recommended and Council agreed to implement a policy limiting use of scrap value in decommissioning estimates and bond amounts based on concerns of risk related to fluctuating market value, and perhaps more importantly, that third party creditors or other parties could assert a claim against the scrap or salvage value that might result in that value being unavailable to the State to offset site restoration costs, or, require a potentially costly and lengthy legal challenge by the State in a bankruptcy court to access the value of the salvaged materials. Council has not authorized use of the value of scrap metal to lower a decommissioning estimate since that time.

In addition to reviewing historic Council decisions and policy on use of scrap metal in decommissioning estimates and bond amounts, the Department's technical expert, Golder, reviewed regulatory requirements applicable to industrial facility decommissioning in California, Washington, Alaska, British Columbia and Canada, to determine whether scrap metal value is considered under similar regulatory requirements. Based on this review, Golder found that no state or provincial-level programs support use of the value of scrap metal to reduce a decommissioning bond requirement for the state or provincial level permitting programs for mining and waste disposal landfill sites. Cited reasons under these other similar regulatory programs for not considering the value of scrap metal included difficulty in tracking the total value over a facility's operational lifetime, uncertainty as to the actual value, difficulty ensuring that the assets remain onsite, and potential problems associated with creditor's rights. However, the Department notes that Wasco County itself, for county-level jurisdictional facilities, allows the value of scrap to be considered in the retirement bond estimate (see WCLUDO Section 19.030(C)(19)).

The Department's technical expert, Golder, also reviewed the applicant's steel market value information source, SteelBenchmarker.com, and based on the value of "#1 heavy melting scrap," the metal type used by the applicant, Golder found the fluctuation in value to be between $200 and $400/ton over the last ten years.

Based on the above-summarized review by Golder, and as provided in Attachment B of this order, the Department has determined that the underlying risk to the State of accepting salvage material value to reduce the retirement bond amount has not changed since the 2007 Council review and policy decision. While the questions related to the fluctuating value of scrap steel can potentially be addressed via a condition of approval requiring a regular update to the scrap steel valuation and corresponding adjustment of the retirement bond, the issue related to the risk that the Council and State may not have access to the scrap value due to claims by third-party facility creditors or other interested parties is more difficult to address. The applicant has proposed to enter into an agreement with the Department (on behalf of the Council) to grant the Department a security interest in facility equipment salvage. The Council has never taken on this type of arrangement, and even if such an agreement was agreed upon by Council, and vetted by Oregon Department of Justice, it is likely that risk still exists that would either limit the availability of salvage value to the State or make accessing that value challenging, costly, and lengthy. For example, it is uncertain if a future bankruptcy court would honor such an agreement, or if a third-party creditor of the facility would accept such an agreement and waive a claim to access salvage value of facility materials. Ultimately, accepting such a proposed agreement would have the effect of putting extra risk upon the Department, the Council, and the State, with unclear value in return to the Department, Council, and State for accepting that risk.

Based on the findings presented here, the Department recommends Council not change its policy on use of scrap metal value in lowering a bond or letter of credit obligation as there has been no change in the risks previously identified by Council as the reasons to limit use of scrap metal value.

*Summary of Review of Applicant's Request for Phased Decommissioning Surety Approach*

Charlie Voss, Principle in Risk and Decision Analysis at Golder, reviewed the applicant's phased decommissioning surety approach and analyzed that the approach, of reducing the bond amount to $1 for the first 20 years of operation, would result in significant risks to the State including risk of a non-operational facility and the potential for the State to incur all costs associated with the decommissioning if the assets in bankruptcy are not acquired by another solar operator/developer. Moreover, if the certificate holder were to become insolvent and no new investors stepped up so the facility would remain operational, there is a chance creditors would take legal action for the scrap value. While the probabilities for the applicant to become insolvent and declare bankruptcy (i.e., no new investors step forward) are likely to be small, they are not zero and the likelihood in the future may be higher based on technology changes, energy market changes, or other future changes that are unknown at this time. The potential

risk is elevated because the developer is an independent power producer, and not a public utility, which would have access to rate recovery authorization from a state PUC to dismantle and restore a facility site. As was stated above under the Department's assessment of scrap metal value, accepting such a proposal would have the effect of putting extra risk upon the Department, the Council, and the State, with unclear value in return to the Department, Council, and State for accepting that risk.

Therefore, based on Golder's analysis and the above-stated risk, the Department recommends Council not consider a phased decommissioning surety as sufficient for meeting the Council's standard.

*Conclusion*

Subject to compliance with Retirement and Financial Assurance Conditions 1, 2 and 3, the Department recommends the Council find that the proposed facility can be restored adequately to a useful, non-hazardous condition following permanent cessation of construction or operation of the proposed facility. Subject to compliance with Retirement and Financial Assurance Conditions 4 and 5, the Department recommends that the Council find that the applicant has a reasonable likelihood of obtaining a bond or letter of credit in a form and amount satisfactory to the Council to restore the site to a useful, non-hazardous condition.

**Conclusions of Law**

Based on the foregoing recommended findings of fact, and subject to compliance with the recommended conditions, the Department recommends that the Council find that the proposed facility would comply with the Council's Retirement and Financial Assurance standard.

**IV.H. Fish and Wildlife Habitat: OAR 345-022-0060**

> *To issue a site certificate, the Council must find that the design, construction and operation of the facility, taking into account mitigation, are consistent with:*
>
> > *(1) The general fish and wildlife habitat mitigation goals and standards of OAR 635-415-0025(1) through (6) in effect as of February 24, 2017****

**Findings of Fact**

The EFSC Fish and Wildlife Habitat standard requires the Council to find that the design, construction and operation of a facility is consistent with the Oregon Department of Fish and Wildlife's (ODFW) habitat mitigation goals and standards, as set forth in OAR 635-415-0025. This rule creates requirements to mitigate impacts to fish and wildlife habitat, based on the quantity and quality of the habitat as well as the nature, extent, and duration of the potential impacts to the habitat. The rule also establishes a habitat classification system based on value

the habitat would provide to a species or group of species. There are six habitat categories; Category 1 being the most valuable and Category 6 the least valuable.

The analysis area for potential impacts to fish and wildlife habitat, as defined in the project order, is the area within and extending ½-mile from the site boundary. To inform the evaluation of impacts under the Council's Fish and Wildlife Standard, the applicant completed wetland delineation surveys, special-status plant surveys, botanical surveys, and habitat mapping, as further described below.

*Methodology*

To inform ASC Exhibit P, the applicant consulted with ODFW and conducted multiple site visits with ODFW regional biologist, Jeremy Thompson. Based on ODFW consultation, multiple recommendations were provided related to minimizing potential impacts to mule deer, mule deer winter range, ground nesting birds and raptor nests, all of which were incorporated as mitigation by the applicant, and recommended by the Department for Council's inclusion as site certificate conditions.

To identify potential habitat category and types within the analysis area, the applicant's consultant TetraTech conducted both field and desktop surveys. The applicant's literature review included Oregon Biodiversity Information Center (ORBIC) (2016; 2018), ODFW's 2016 Sensitive Species List and 2017 Threatened, endangered and candidate fish and wildlife species list; the 2016 Oregon Conservation Strategy; and United States Fish and Wildlife Service's 2018 Information for Planning and Consultation, and online critical habitat map for threatened and endangered species. The applicant also reviewed survey information for its adjacent local-jurisdictional facility - Imperial Wind, aerial photographs, National Wetlands Inventory data, the National Hydrography Dataset, and big game winter range spatial data to inform habitat characteristics within the analysis area.

In ASC Exhibit P, the applicant provides reference to surveys completed by Avangrid, its parent company, within the analysis area over the last 10 years, which includes more than 9 wildlife and habitat related surveys. Using the results of its previous surveys, aerial photography, and United States Department of Agriculture CropScape Cropland Geographic Information System (GIS), preliminary habitat maps based on types within the analysis area were developed. These maps were then used as a guide during June/July 2018 special status species surveys and botanical surveys. The special status species surveys were conducted in accordance with ODFW's 2008 Oregon Columbia Plateau Ecoregion Wind Energy Siting and Permitting Guidelines. The applicant also refers to avian use surveys conducted within the area, including: a 10-minute small bird point-count survey that is followed by a 60-minute large bird point-count survey. Surveys are ongoing, and are being conducted during daylight hours once a month for up to 2 years. Small and large bird surveys commenced in September and October of 2018, respectively.

*Habitat Types and Categories in the Analysis Area*

Habitat types and categories within the analysis area, based on the applicant's literature and field surveys described above, include ODFW's designated big-game winter range Category 2 habitat and Category 6. Because the quality of ODFW's designated Category 2 habitat varies but is designated Category 2 habitat regardless of habitat quality, the applicant provides the category of habitat based on quality in parenthesis listed below. The identified habitat subtypes within Category 2 and 6 habitat identified within the analysis area include the following:

- Category 2 Big Game Winter Range
    - Riparian Forest and Natural Shrubland Complexes – Eastside Riparian (Category 3 quality)
    - Upland Grassland, Shrub-Steppe and Shrubland – Eastside Grassland (Categories 3 and 5 quality)
    - Upland Grassland, Shrub-Steppe and Shrubland – Shrub-steppe (Categories 3, 4 and 5 quality)
    - Upland Forests and Woodlands – Juniper Woodland (Category 5 quality)
    - Agriculture Pasture – Planted Grasslands (Category 3, 4, 5 and 6 quality)
    - Cliffs, caves, and talus (Category 3 quality)
    - Open Water – Lakes Rivers Streams – Seasonal Pond (Category 4 quality)
    - Open Water – Lakes Rivers Streams – Intermittent or Ephemeral Streams (Category 4 quality)
- Category 6
    - Agriculture, Pasture and Mixed Environs – Orchards, Vineyards, Wheat Crops and Other Row Crops
    - Urban and Mixed Environs

*Potential Impacts to Fish and Wildlife Habitat*

Construction and operation of the proposed facility would result in temporary, temporal and permanent habitat impacts to Category 2 habitat. Impacts to Category 6 habitat do not require compensatory mitigation under the Council's Fish and Wildlife Habitat standard. Temporary habitat impacts are those that would last for less than the operational lifetime of the proposed facility and would result during construction and installation of proposed facility components. The duration of temporary impacts to habitat is variable, based on vegetation type and extent. Temporary impacts to habitat requiring a longer restoration timeframe (+five years) are considered temporal impacts and typically require additional mitigation beyond revegetation to account for the loss of habitat function and values from the time of impact to the time when the restored habitat provides a pre-impact level of habitat function.

Permanent impacts are defined as impacts that would exist for the operational life of the proposed facility and would result from placement of permanent facility structures.

As presented in Table 6: *Summary of Habitat Categories within Micrositing Corridor and Estimated Permanent and Temporary Habitat Impacts from Proposed Facility,* the proposed facility would temporarily disturb approximately 157 acres of Category 2 habitat (ranging in quality from Category 3, 4 and 5), resulting in temporary and temporal habitat impacts. The proposed facility would permanently disturb approximately 2,473 acres of Category 2 habitat (ranging in quality from Category 3, 4 and 5).

**Table 6: Summary of Habitat Categories within Micrositing Corridor and Estimated Permanent and Temporary Habitat Impacts from Proposed Facility**

| Habitat Category and Type | Micrositing Corridor | Perm. | Temp. |
|---|---|---|---|
| | Acres | | |
| *Category 2*[1] | | | |
| Wetlands – Emergent Wetlands | 5.7 | -- | -- |
| Wetlands – Shrub-scrub Wetlands | 0.1 | -- | -- |
| Riparian Forest and Natural Shrubland Complexes – Eastside Riparian | 19.0 | 0.6 | 1.3 |
| Upland Grassland, Shrub-Steppe and Shrubland – Eastside Grassland | 2,087.6 | 1,674.8 | 48.8 |
| Upland Grassland, Shrub-Steppe and Shrubland - Shrub-Steppe | 670.2 | 196.3 | 80.2 |
| Agriculture, Pasture, Mixed Environs – Planted Grassland | 948.4 | 600.6 | 24.2 |
| Cliffs, Caves, and Talus | 5.0 | 0.0 | 0.4 |
| Open Water - Lakes Rivers Streams – Seasonal Pond[2] | 2.7 | 0.7 | 0.1 |
| Open Water - Lakes Rivers Streams – Intermittent or Ephemeral Streams[2] | 0.8 | 0.0 | 0.1 |
| Upland Forests and Woodlands – Juniper Woodland[3] | 25.9 | 0.0 | 2.6 |
| *Category 6* | | | |
| Agriculture, Pasture, Mixed Environs – Orchards, Vineyards, Wheat Crops and Other Row Crops | 323.7 | 240.4 | 4.3 |
| Urban and Mixed Environs | 70.5 | 3.6 | 14.7 |
| *Habitat Impact Summary* | | | |
| Non-Category 6 Acres within Micrositing Corridor = | 3,765.4 | -- | -- |
| Estimated Category 2 Impacts = | -- | 2,473.0 | 157.7 |
| Estimated Category 6 Impacts = | -- | 244.0 | 19.0 |

Notes: Perm. = Permanent; Temp. = Temporary

1. As presented in the table, all non-Category 6 habitat is within ODFW's designated Category 2 big-game winter range. However, the quality of habitat with the designated Category 2 area varies. Based on applicant's habitat assessment, the habitat category, notwithstanding ODFW's Category 2 designation is as follows:

   *Micrositing Corridor*

   Wetlands – Emergent Wetlands = 1.8 (Cat 3) + 3.9 (Cat 5) = 5.7

   Upland Grassland, Shrub-Steppe and Shrubland – Eastside Grassland = 722.7 (Cat 3) + 955.5 (Cat 4) + 409.4 (Cat 5)

   Upland Grassland, Shrub-Steppe and Shrubland – Shrub-Steppe = 273 (Cat 3) + 6.6 (Cat 4) + 390.6 (Cat 5)

   Agriculture, Pasture, Mixed Environs – Planted Grassland = 686.7 (Cat 3) + 253.8 (Cat 4) + 7.9 (Cat 5)

   *Permanent Impacts*

   Upland Grassland, Shrub-Steppe and Shrubland – Eastside Grassland = 579.1 (Cat 3) + 792.3 (Cat 4) + 303.4 (Cat 5)

   Upland Grassland, Shrub-Steppe and Shrubland – Shrub-Steppe = 103.4 (Cat 3) + 1.8 (Cat 4) + 91.1 (Cat 5)

**Table 6: Summary of Habitat Categories within Micrositing Corridor and Estimated Permanent and Temporary Habitat Impacts from Proposed Facility**

| Habitat Category and Type | Micrositing Corridor | Perm. | Temp. |
|---|---|---|---|
| | Acres | | |
| Agriculture, Pasture, Mixed Environs – Planted Grassland = 423.4 (Cat 3) + 177.1 (Cat 4) + 0.1 (Cat 5) | | | |
| *Temporary Impacts* | | | |
| Upland Grassland, Shrub-Steppe and Shrubland – Eastside Grassland = 14.4 (Cat 3) + 17 (Cat 4) + 17.4 (Cat 5) | | | |
| Upland Grassland, Shrub-Steppe and Shrubland – Shrub-Steppe = 32 (Cat 3) + 0.6 (Cat 4) + 47.6 (Cat 5) | | | |
| Agriculture, Pasture, Mixed Environs – Planted Grassland = 16.2 (Cat 3) + 7.3 (Cat 4) + 0.7 (Cat 5) | | | |
| 2. Based on applicant's habitat assessment, notwithstanding ODFW's Category 2 designation due to the location of habitat within big game winter range, the habitat category based on quality is Category 4. | | | |
| 3. Based on applicant's habitat assessment, notwithstanding ODFW's Category 2 designation due to the location of habitat within big game winter range, the habitat category based on quality is Category 5. | | | |

*Proposed Habitat Mitigation*

The mitigation goal for Category 2 habitat is no net loss of either habitat quantity or quality and provision of a net benefit of habitat quantity or quality. To achieve this goal, impacts must be avoided or unavoidable impacts must be mitigated through "reliable in-kind, in-proximity" habitat mitigation to achieve no net loss; and a net benefit of habitat quantity or quality must be provided.[51]

As presented in the draft Revegetation Plan, provided as Attachment I of this order, and draft Noxious Weed Control Plan, provided as Attachment K of this order, the applicant proposes to mitigate temporary, non-temporal habitat impacts through revegetation and noxious weed control. As presented in the draft Revegetation Plan, prior to construction, the applicant proposes to identify monitoring sites, including both a reference and monitoring site, for each habitat subtype to be impacted by the proposed facility. The final number of monitoring sites per habitat would be based on the extent and diversity of vegetation within each habitat type, with an anticipated average of two to five paired monitoring sites per habitat type, to be reviewed and approved by the Department in consultation with ODFW. The applicant would then be obligated to monitor and report on the success of revegetation at the identified monitoring sites; success would be measured, as specified in Section 7.3 of the draft plan, based on percentage of desirable vegetation cover, vegetation density and weed cover. The applicant proposes to conduct annual monitoring of monitoring sites for the first 5-years post-construction, and would ultimately be based on the impacted habitat recovery period.

As represented in the draft Plan, if after 5 years, additional remedial actions are determined necessary by either the applicant, the Department or ODFW, annual reporting would continue until reclamation actions have satisfied all success criteria. If, after 5-years of annual monitoring, some sites have not attained the success criteria or if at any point during the annual monitoring it is clear that revegetation cannot be successful, the applicant commits to

[51] OAR 635-415-0025(5)(b)

coordinating with the Department and ODFW on reseeding, weed control or other remedial measures determined appropriate. Based on compliance with the draft Revegetation and Weed Control Plans provided as Attachment I and K of this order, the Department recommends the Council find that the applicant would meet the habitat mitigation goals for temporary habitat impacts. Based on the applicant's draft plans, and in order to provide the Department, ODFW and Wasco County Planning/Weed Department the opportunity to review final plans, the Department recommends Council impose the following conditions:

**Recommended Fish and Wildlife Habitat Condition 1:** The certificate holder shall:

a. Prior to construction of the facility, or any phase of the facility, the certificate holder shall finalize and submit a Revegetation Plan, based upon the draft plan provided in Attachment I of the Final Order on the ASC, for review and approval by the Department, in consultation with ODFW and Wasco County Planning Department. The scope of finalizing the plan shall, at a minimum, include the following:
    1. Final assessment of temporary habitat impacts (in acres), based on habitat quality of habitat subtype, and final facility design, presented in tabular format.
    2. Survey and sampling protocol for evaluating the success criteria against paired monitoring and reference sites determined to represent a statistically significant number of sites based on pre-disturbance habitat quality and diversity of habitat temporarily impacted.
    3. Description of deep soil decompaction measures to be implemented.
b. During construction and operation of the facility or any phase of the facility, the certificate holder shall implement the requirements of the plan; monitor and report results of revegetation activities to the Department, as required by the plan.

[GEN-FW-01]

**Recommended Fish and Wildlife Habitat Condition 2:** The certificate holder shall:

a. Prior to construction of the facility or any phase of the facility, the certificate holder shall finalize and submit a Noxious Weed Control Plan, based upon the draft plan provided in Attachment K of the Final Order on the ASC, for review and approval by the Department, in consultation with ODFW and Wasco County Planning Department. Components of the plan to be finalized shall include, at a minimum:
    1. Pre-disturbance survey or assessment of weed species within areas to be impacted.
    2. Reporting format including report content and supporting materials to be included to demonstrate completion of weed control activities.
b. During construction and operation of the facility or any phase of the facility, the certificate holder shall implement the requirements of the plan.

[GEN-FW-02]

The applicant proposes two compensatory mitigation options to mitigate temporal (i.e. loss of habitat function and values from the time an impact occurs to the time when the restored habitat provides a pre-impact level of habitat function) and permanent habitat impacts. One option includes providing a lump sum payment to a third-party land trust entity to support a

large land acquisition of land with similar habitat quality and quantity as the habitat to be impacted, that would then be managed and maintained for habitat enhancement and conservation consistent with the enhancement actions outlined in the draft Habitat Mitigation Plan (HMP), provided as Attachment H of this order, into perpetuity via the terms and requirements of an executed memorandum of understanding between applicant and third-party. The land would be secured from future development through a long-term easement and property rights held by the third-party land management entity. Lands available under this option are identified in the draft plan as the Western Rivers Conservancy John Day option (includes lands along the John Day River in Wasco County) and the Trout Creek Preserve (includes 5,820 acres in south Wasco County). The location of these sites are presented in Figure 1 of the draft HMP, would be located within ODFW's designated Category 2 habitat, and are recognized by ODFW as suitable mitigation sites.

The second compensatory mitigation option is considered a traditional compensatory mitigation approach for EFSC facilities, where the applicant would work with landowners to secure rights to a permanent conservation easement on a habitat mitigation area (HMA) in-proximity to the proposed amended site boundary, which contains similar habitat quality and quantity as the habitat to be impacted. For this option, the applicant identifies potential HMAs on A&K Ranch (2,428 acres) and a Maupin Opportunity Area (40,322 acres). The location of these sites are presented in Figure 1 of the draft HMP, would be located within ODFW's designated Category 2 habitat, and are recognized by ODFW as suitable mitigation sites.

For either compensatory mitigation option, the applicant proposes acreage ratios to meet ODFW's mitigation goal for Category 2 habitat impacts. Specifically, for temporal habitat impacts, the applicant proposes to include in its HMA 0.5 acres for every 1 acre of Category 2 habitat (of Category 3 quality) with a shrub-steppe component that would be temporarily disturbed (a 0.5:1 ratio). The applicant proposes to include in its HMA 1.3, 1.2 and 1.1 acres for every 1 acre of Category 2 with Category 3, 4 and 5 quality, respectively, for habitat permanently impacted (a ratio ranging from 1.3 to 1.1 to provide no net loss and a net benefit of habitat quality). Based on this proposed methodology, the HMA for the proposed facility would include approximately 3,039 acres as mitigation for permanent and temporal habitat loss. Based on the Department's review of the applicant draft HMP, in coordination with ODFW, the Department recommends Council find that the proposed mitigation would satisfy the Council's Fish and Wildlife Habitat standard, and recommends Council impose the following condition:

**Recommended Fish and Wildlife Habitat Condition 3:** The certificate holder shall:

a. Prior to construction of the facility or any phase of the facility, the certificate holder shall finalize and submit a Habitat Mitigation Plan, based upon the draft plan provided in Attachment H of the Final Order on the ASC, for review and approval by the Department, in consultation with ODFW. In the finalization of the plan, the Department may request specific reporting requirements including specific information, frequency and format. Components of the plan to be finalized shall include, at a minimum, a final

assessment of permanent habitat impacts (in acres) based on habitat quality of habitat subtype, and final facility design, presented in tabular format.

If Option 2 is selected, the certificate holder shall:

i. Provide a copy of the executed Memorandum of Understanding with the land management entity demonstrating land acquisition of lands to satisfy ODFW's Category 2 habitat mitigation goal (net benefit; no net loss – quantity, quality and location); confirms applicability of mitigation equation as presented in the plan, and includes a copy of the management plan with enhancement actions, as outlined in the plan, for which the third-party land management entity agrees to adhere.
ii. Provide a parent company guarantee, or equivalent financial security agreement, to the Department including terms and conditions which could result in new compensatory mitigation in the event reports from the third-party land management entity demonstrate long-term failure (i.e. documented trends not achieving success with plan's success criteria) of the mitigation area, or other mitigation actions such as different enhancement actions at the mitigation area.

If Option 3 is selected, the certificate holder shall:

i. Acquire the legal right to create, enhance, maintain and protect a habitat mitigation area as long as the site certificate is in effect by means of an outright purchase, conservation easement or similar conveyance and shall provide a copy of the documentation to the Department. Within the habitat mitigation area, the certificate holder shall improve the habitat quality as described in the final Habitat Mitigation Plans for each phase of the facility.
ii. Provide a habitat assessment of the habitat mitigation area, based on a protocol approved by the Department in consultation with ODFW, which includes methodology, habitat map, and available acres by habitat category and subtype in tabular format.

b. During construction and operation of the facility or any phase of the facility, the certificate holder shall implement the requirements of the plan.

[GEN-FW-05]

*State Sensitive Species within the Analysis Area and Proposed Facility Potential Impacts*

As presented in ASC Exhibit P, the following sensitive species were identified within the potential to occur within the analysis area and therefore could be impacted by proposed facility construction and operation due to the introduction of noxious weeds and other non-native invasive species, potential nesting and breeding disturbance, electrocution, powerline collision, structure collision, vehicular collision, disturbance related to artificial lighting, entrapment within open vertical pipes, disturbance to wintering big game, and entrapment within fenced area.

- **Bald eagle** (BGEPA). Bald eagles were not observed within the analysis area during 2018 special status species surveys but were recorded as transients during nearby surveys

performed by Avangrid Renewables. No bald eagle nests are located within 10 miles of the proposed micrositing corridor (WEST 2018). Bald eagles are observed during all months of the year in Wasco County (Sullivan et al. 2009). The Deschutes River provides bald eagle habitat, and a winter roost comprised of several individuals has been documented near where Buckhollow Creek empties into the Deschutes River (NWC 2011). Bald eagles primarily hunt in or near aquatic habitats, but opportunistically forage on carrion particularly in winter (Buehler 2000). Powerline collision and electrocution are the primary potential, adverse impacts to bald eagles, mainly during migration and winter.[52]

- **Brewer's sparrow** (state sensitive). Brewer's sparrows were not observed during 2018 surveys at the Facility. This species uses shrublands, generally with a canopy height of more than 5 feet. Brewer's sparrows are most closely associated with big sagebrush (*Artemesia tridentate*. Potential adverse impacts to this species due to the construction and operation of the proposed facility are habitat loss and potential nesting disturbance in areas where limited stands of larger shrubs may be located. Additionally, collision with infrastructure during nocturnal migration may be an adverse impact to this species.

- **Burrowing owl** (state sensitive-critical). This species breeds in burrows excavated by other animals in open areas with a high proportion of bare ground (OCS 2016). A family group of two adults and three young was observed during 2018 surveys in the proposed micrositing corridor, at a site consisting of two burrows (Figure P-5). Potential adverse impacts to this species during construction are nesting and foraging habitat loss (burrows and grassland, respectively), and vehicle collision.

- **Common nighthawk** (state sensitive). Common nighthawk was not observed in the analysis area during 2018 surveys but has been recorded during nearby surveys performed by Avangrid Renewables (Attachment P-1). A long-distance migrant, this species is only present in Oregon during its breeding season, arriving in mid- to late-May (Brigham et al. 2011). Common nighthawks are rarely observed in Wasco County after August (Sullivan et al. 2009). Surveys were conducted during this species' breeding period in Oregon; however, common nighthawks are most active at dusk and dawn. Construction and operation of the proposed facility could pose a risk to these birds, which nest on a variety of substrates in open areas including bare ground, gravel, and lithosol. Males also tend to roost on gravel roads, and therefore may roost in temporary impact areas in use during construction such as staging areas. During construction and operation, nesting disturbance and collision with vehicles may adversely impact this species.

- **Ferruginous hawk** (state sensitive-critical). This species occurs in open, grassy areas and shrub-steppe with scattered shrubs or trees for perching and nesting. They can nest in juniper or cottonwood trees near small streams, on rocky sites with an expansive view, on rimrock, or on undisturbed ground (OCS 2016). Nesting opportunities for this species are

[52] Bald and golden eagles are not listed by ODFW as a state-sensitive species, and the applicant must comply with the Bald and Golden Eagle Protection Act independent of the EFSC site certificate process.

limited within the proposed micrositing corridor, but the available habitat is appropriate for hunting during the breeding season and during migration. Surveys at the Facility occurred during the breeding period, when this species was most likely to be observed. This species was not detected during 2018 surveys within the proposed micrositing corridor, but has been recorded during nearby surveys performed by Avangrid Renewables (Attachment P-1). In addition to potential electrocution and powerline collision, impacts to this species include habitat loss and potential nesting disturbance if ferruginous hawks build new nests adjacent to, but outside the proposed micrositing corridor.

- **Golden eagle** (BGEPA). Golden eagles are known to nest on rocky cliffs along the Deschutes and John Day rivers, outside the analysis area (ORBIC 2018). Avangrid Renewables (NWC 2011; WEST 2018) and the Oregon Eagle Foundation (Isaacs 2018) have observed eagle nests along Buck Hollow and the lower portions of the Bakeoven Creek drainage. Potential powerline collision and electrocution are more likely potential impacts to golden eagles than habitat disturbance due to the construction and operation of the Facility.[53]

- **Grasshopper sparrow** (state sensitive). Grasshopper sparrows were not recorded during 2018 surveys at the Facility, but were recorded during surveys at the adjacent Imperial Wind Project (Attachment P-1). This species uses dry grasslands with low shrub cover for breeding (OCS 2016). In Oregon, this species breeds primarily in native bunchgrass. Its breeding period generally begins in May (Vickery 1996). This species may be attracted to artificial lights during migration; therefore, collision is an additional potential, adverse impact to this species during construction and operation of the proposed facility.

- **Lewis's woodpecker** (sensitive-critical). Habitat disturbance due to the 2018 Boxcar Fire has increased the potential for this species to occur within the analysis area. This cavity nesting species may find increased nesting opportunities in snags in the riparian canyons adjacent to the proposed micrositing corridor (Vierling et al. 2013). This species has limited potential to occur at the proposed facility as a vagrant during migration. Construction of the proposed facility would not result in a loss of habitat for this species. A diurnal migrant, this species will not be adversely impacted by artificial lighting.

- **Loggerhead shrike** (state sensitive). This species uses patches of tall brush or trees in open habitats for nesting and roosting, and forages in open areas with grasses and bare ground (Csuti et al. 2001;OCS 2016). This species was not observed during 2018 surveys but is known to occur nearby (Attachment P-1). The primary potential adverse effects to loggerhead shrike are habitat loss and nesting disturbance.

- **Long-billed curlew** (state sensitive-critical). This grassland-associated species prefers shorter grass, and can occur in dryland wheat (Dugger and Dugger 2002; OCS 2016).

[53] Bald and golden eagles are not listed by ODFW as a state-sensitive species, and the applicant must comply with the Bald and Golden Eagle Protection Act independent of the EFSC site certificate process.

Longbilled curlews were not observed during 2018 surveys, but have been observed nearby (Attachment P-1). Potential adverse impacts due to proposed facility operation are limited to the migration window for this species during the spring and early summer, and consist only of potential collision with vehicles intermittently operating on site.

- **Sagebrush sparrow** (state sensitive-critical). This often difficult-to-detect species is found in shrub-steppe habitat with high shrub cover, and is closely associated with big sagebrush communities (Martin and Carlson 1998; OCS 2016). This species was not observed during 2018 surveys, but it occurs in Wasco County (ORBIC 2016). Potential adverse effects to sagebrush sparrows are habitat loss, nesting disturbance, and possibly lighting-related disturbance during migration, though its migratory behavior is poorly described.

- **Swainson's hawk** (state sensitive). Swainson's hawks are open-country specialists that hunt and forage in grassland, shrub-steppe, and agricultural areas, and often focus on row crop agriculture. Nests are frequently in lone trees or isolated shrubs in open country. In the non-breeding season, particularly during fall migration in North America, they are often observed hunting in groups behind agricultural equipment, opportunistically preying on rodents and insects (Bechard et al. 2010). This species was observed twice in the proposed micrositing corridor during 2018 surveys (Figure P-5). Nearby surveys performed by the applicant in 2018 identified three nests near Route 97, approximately 6 miles south of the analysis area (Attachment P-1). Construction will result in permanent and temporary impacts to habitat appropriate for hunting during breeding and migration. Nesting disturbance could also occur if Swainson's hawks build new nests adjacent to the proposed micrositing corridor.

- **Northern sagebrush lizard** (state sensitive). This species occurs in shrub-steppe and juniper woodland habitat with sandy soils and sparse vegetation in the grass/forb layer (OCS 2016). Northern sagebrush lizards were not observed during 2018 surveys, but have been recorded during nearby surveys. Potential adverse impacts to this species include loss of habitat and disturbance during construction if individuals are present.

- **California Mountain Kingsnake** (state sensitive). This species occurs in oak and pine woodlands, which are limited within the analysis area and in the proposed micrositing corridor (Table P-3; OCS 2016). No records of California mountain kingsnake were identified by an ORBIC query by the Applicant (ORBIC 2018); however, this species occurs within Wasco County and is sensitive in the Columbia Plateau ecoregion (ORBIC 2016; ODFW 2016). Potential adverse impacts to this species include loss of habitat and disturbance during construction if individuals are present.

Based upon potential impacts of the proposed facility to the above-described sensitive species (both federal and state), including introduction of noxious weeds and other non-native invasive species, potential nesting and breeding disturbance, electrocution, powerline collision, structure collision, vehicular collision, disturbance related to artificial lighting, entrapment within open vertical pipes, disturbance to wintering big game, and entrapment within fenced

area, the applicant proposed a suite of mitigation measures which are represented as recommended conditions below:

**Recommended Fish and Wildlife Habitat Condition 4:** During design of the facility or any phase of the facility, the certificate holder shall ensure that:

a. Aboveground transmission lines, including the 230 kV transmission line and aboveground segments of 34.5 kV collector line, adhere to current APLIC guidelines for minimizing avian electrocution risk associated.
b. Spiral markers are installed on the 230 kV transmission line ground wire, in locations where the line crosses over canyons or would be located within 2 miles of a known eagle nest.
c. Vertical pipe and piles are capped or otherwise modified to prevent entrance or use by cavity dwelling and nesting birds.
d. Extra gates are installed within the perimeter fenceline to allow big game to escape if trapped.

[GEN-FW-04]

**Recommended Fish and Wildlife Habitat Condition 5:** Prior to construction of the facility or any phase of the facility, the certificate holder shall conduct a raptor nest survey within 0.5 mile of the defined work area to identify the location of raptor nests that could be affected by construction. The certificate holder shall submit to the Department, for review and concurrence, a survey protocol that identifies the survey area and methods to be used to identify raptor nests.

[PRE-FW-01]

**Recommended Fish and Wildlife Habitat Condition 6:** If active raptor nests are identified during the pre-construction surveys completed in accordance with Fish and Wildlife Habitat Condition 6, the certificate holder shall adhere to the spatial buffer and seasonal restrictions, for state-sensitive species, presented in the table below. For non-state sensitive species, the certificate holder shall adhere to the spatial buffer and seasonal restrictions, to the extent feasible.

| **ODFW Raptor Nest Buffers and Seasonal Restrictions** | | | |
|---|---|---|---|
| **Species** | **Spatial Buffer** | **Seasonal Restriction** | **Release Date if Unoccupied** |
| Western Burrowing Owl | 0.25 mile | April 1 to August 15 | May 31 |
| Golden eagle | 0.5 mile | Feb 1- Aug 15 | May 15 |
| Red-tailed hawk | 100-500 feet | Mar 1 – Aug 15 | May 31 |
| Ferruginous hawk | 0.25 mile | Mar 15 – Aug 15 | May 31 |
| Swainson's hawk | 0.25 mile | Apr 1 – Aug 15 | May 31 |
| Prairie falcon | 0.25 mile | Mar 15 – Jul 1 | May 15 |
| Peregrine falcon | 0.25 mile | Jan 1 – Jul 1 | May 15 |
| American kestral | 0.25 mile | Mar 1 – Jul 31 | May 15 |

If a nest becomes active during construction that was not identified as active during the pre-construction surveys, the certificate holder may request review by the Department, in consultation with ODFW, of an exception to the spatial buffer and seasonal restrictions. [CON-FW-01]

**Recommended Fish and Wildlife Habitat Condition 7:** Prior to and during construction of the facility or any phase of facility construction, the certificate holder shall:

a. Conduct surveys to identify active burrowing owl burrows, using a qualified biologist, within suitable habitat within the micrositing corridor.
b. If there are any active burrows identified per (a) of this condition, a qualified biologist shall ensure that these nest locations are covered outside of the breeding season.
c. To the extent practical, schedule vegetation clearing activities to occur before the critical period for ground-nesting birds (April 15 – September 1), to avoid disturbing active nests.
    i. Any burrowing owl burrows identified inside the facility perimeter fenceline will be removed during vegetation clearing.
d. If vegetation clearing activities are necessary between April 15 to September 1, the certificate holder shall hire a qualified biologist to conduct a clearance survey for nesting birds prior to vegetation removal. The certificate holder shall ensure that active nest sites identified during the clearance survey are flagged and marked as sensitive areas on construction maps.

[PRE-FW-02]

**Recommended Fish and Wildlife Habitat Condition 8:** Prior to and during construction of the facility or any phase of facility construction, the certificate holder shall:

a. Develop constraint maps for construction contractors and facility personnel presenting the location of streams, wetlands, and other sensitive habitat features (e.g., mature trees, intact sagebrush) within the micrositing corridor that are not proposed to be impacted. These maps should also show buffer zones and temporal restrictions of sensitive resources.
b. Install flagging around all sensitive resources identified under (a) of this condition.
c. Educate construction workers on avoidance of sensitive resources and instruct workers to avoid and conduct work outside of the sensitive areas.
d. Minimize construction activities outside of the facility perimeter fenceline during mule deer winter range sensitive season (December 1 through April 1).
e. Impose a 20 mile per hour speed limit on all facility access roads (excluding public roads).

[PRE-FW-03]

**Recommended Fish and Wildlife Habitat Condition 9:** The certificate holder shall:

a. Prior to construction of the facility or any phase of the facility, the certificate holder shall finalize and submit a Wildlife Monitoring Plan (WMP), based upon the draft plan

provided in Attachment J of the Final Order on the ASC, for review and approval by the Department, in consultation with ODFW.

b. During operation of the facility or any phase of the facility, the certificate holder shall implement and comply with the requirements of the WMP, as finalized under (a) of this condition.

[GEN-FW-05]

**Conclusions of Law**

Based on the foregoing findings of fact and conclusions, and subject to compliance with the recommended site certificate conditions, the Department recommends the Council find that proposed facility would comply with the Council's Fish and Wildlife Habitat standard.

**IV.I. Threatened and Endangered Species: OAR 345-022-0070**

*To issue a site certificate, the Council, after consultation with appropriate state agencies, must find that:*

*(1) For plant species that the Oregon Department of Agriculture has listed as threatened or endangered under ORS 564.105(2), the design, construction and operation of the proposed facility, taking into account mitigation:*

*(a) Are consistent with the protection and conservation program, if any, that the Oregon Department of Agriculture has adopted under ORS 564.105(3); or*

*(b) If the Oregon Department of Agriculture has not adopted a protection and conservation program, are not likely to cause a significant reduction in the likelihood of survival or recovery of the species; and*

*(2) For wildlife species that the Oregon Fish and Wildlife Commission has listed as threatened or endangered under ORS 496.172(2), the design, construction and operation of the proposed facility, taking into account mitigation, are not likely to cause a significant reduction in the likelihood of survival or recovery of the species.*

**Findings of Fact**

The Threatened and Endangered Species standard requires the Council to find that the design, construction, and operation of the proposed facility are not likely to cause a significant reduction in the likelihood of survival or recovery of a fish, wildlife, or plant species listed as threatened or endangered by Oregon Department of Fish and Wildlife (ODFW) or Oregon Department of Agriculture (ODA). For threatened and endangered plant species, the Council must also find that the proposed facility is consistent with an adopted protection and conservation program from ODA. Threatened and endangered species are those listed under ORS 564.105(2) for plant species and ORS 496.172(2) for fish and wildlife species. For the

purposes of this standard, threatened and endangered species are those identified as such by either the Oregon Department of Agriculture or the Oregon Fish and Wildlife Commission.[54]

The analysis area for threatened or endangered plant and wildlife species, as defined in the Project Order, is the area within and extending 5-miles from the amended site boundary.

*Methodology – Literature Review*

In order to identify threatened or endangered species that might occur within the analysis area, the applicant consulted with the Oregon Department of Fish and Wildlife (ODFW) and conducted 2018 literature and field surveys. The certificate holder's 2018 literature review evaluated the following sources:

- Burke Museum of Natural History and Culture (2018)
- Oregon Department of Fish and Wildlife's (ODFW) 2016 Oregon Conservation Strategy
- Oregon Department Agriculture's 2018 Oregon Listed Plants by County
- ODFW's 2016 Sensitive Species List
- ODFW's 2017 Threatened, endangered and candidate fish and wildlife species list
- Oregon Biodiversity Information Center 2016 Rare, Threatened and Endangered Species of Oregon
- Oregon Flora Project – 2017 - Oregon Plant Atlas and digitized specimen labels and submitted observations
- Oregon Flora Project – 2017 - Rare Plant Guide; Oregon State University
- U.S. Fish and Wildlife Service's (USFWS) 2008 Birds of Conservation Concern.
- USFWS's 2018 Critical Habitat for Threatened & Endangered Species
- USFWS's 2018 Federally Listed, Proposed, Candidate, Delisted Species and Species of Concern Under the Jurisdiction of the Fish and Wildlife Service which May Occur in Oregon
- USFWS's 2018 Information for Planning and Consultation - Oregon's Endangered Species in Sherman and Wasco Counties
- USFW's 2018 Oregon Endangered Species List – Plants. Oregon Fish and Wildlife Office

Based on the 2018 literature review, two listed threatened or endangered species were identified with the potential for occurrence within 5 miles of the proposed site boundary including one mammal and one plant. These species include Wolverine (Gulo gulo, state listed threatened species, federal proposed threatened) and Tygh Valley milkvetch (Astragalus tyghensis; state listed threatened species; no federal status). It is noted that an additional seven listed or candidate species known to occur in Wasco County were identified during the literature review, but based on lack of suitable habitat within the analysis area, were not

[54] Although the Council's standard does not address federally-listed threatened or endangered species, certificate holders must comply with all applicable federal laws, including laws protecting those species, independent of the site certificate.

further evaluated as potential species that could be impacted.[55] In addition, the applicant identifies the following four federally listed species (two mammals and two fish species) with potential to occur within the analysis area: Canada lynx (*Lynx canadensis*; federally threatened, no state status), the gray wolf (*Canis lupus*; federally endangered, state delisted), steelhead (*Oncorhynchus mykiss*; Middle Columbia River Evolutionarily Significant Unit/Species Management Unit, summer run; federally threatened, state sensitive- critical), and bull trout (*Salvelinus confluentus*; Columbia Basin Distinct Population Segment, Deschutes Species Management Unit; federally threatened, no state status in the Columbia Plateau).

*Methodology – Field Surveys*

The applicant conducted botanical surveys in June/July 2018 using the Intuitive Controlled survey method, which incorporates survey lines that traverse the survey area and target the full array of major vegetation types, aspects, topographical features, habitats, and substrate types. Results of the surveys are provided in ASC Exhibit P Attachment P-1.

*Field Survey Results*

Results of 2018 special status wildlife and botanical surveys resulted in no observations of state or federally listed threatened or endangered species. As noted throughout ASC Exhibit Q, in 2018, a large portion of the analysis area was burned in the Boxcar Fire; burned areas, at the time of the surveys, were not considered suitable habitat and therefore not include in the survey area, but included areas of potentially suitable habitat pre-burn condition. Therefore, based on the potential for habitat recovery in burned areas, which includes the proposed 230 kV transmission line corridor, the Department recommends Council impose a condition requiring a pre-construction botanical survey to verify the presence or absence of the state-listed threatened plant species, Tygh Valley milkvetch, identified through literature review as having a potential to occur within the proposed 230 kV transmission line corridor.

**Recommended Threatened or Endangered Species Condition 1:** Prior to construction or operation of the facility or any phase of the facility, the certificate holder shall:

a. Conduct botanical surveys to confirm the presence or absence of Tygh Valley milkvetch, a state listed threatened plant species, within areas of permanent or temporary disturbance. The certificate holder shall submit a survey protocol to establish the survey area and methods to the Department for review, in consultation with the Oregon Department of Agriculture or third-party consultant, as necessary.
b. If the pre-construction surveys identify Tygh Valley milkvetch, 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

[55] Candidate species are those species that are being monitored and assessed for potential listing as threatened or endangered. While candidate species have the potential to be listed as threatened or endangered in the future, they are not currently listed as such, and are therefore applicants are not required to demonstrate that a proposed facility meets the Threatened and Endangered Species Standard for candidate species.

propose mitigation, as determined appropriate by the Department, in consultation with the Oregon Department of Agriculture or its third-party consultant, as necessary. [PRE-TE-01]

**Conclusions of Law**

Based on the foregoing recommended findings of fact and conclusions, and subject to compliance with the recommended site certificate condition, the Department recommends that the Council find that the proposed facility would comply with the Council's Threatened and Endangered Species standard.

**IV.J. Scenic Resources: OAR 345-022-0080**

*(1) Except for facilities described in section (2), to issue a site certificate, the Council must find that the design, construction and operation of the facility, taking into account mitigation, are not likely to result in significant adverse impact to scenic resources and values identified as significant or important in local land use plans, tribal land management plans and federal land management plans for any lands located within the analysis area described in the project order.*
*****[56]

**Findings of Fact**

The Scenic Resources standard requires the Council to find that visibility of proposed facility structures, plumes, vegetation loss and landscape alterations would not cause a significant adverse impact to identified scenic resources and values. To be considered under the standard, scenic resources and values must be identified as significant or important in local land use plans, tribal land management plans, and/or federal land management plans.

The analysis area for the Scenic Resources standard is the area within and extending 10-miles from the proposed site boundary, as presented in ASC Exhibit R Figure R-1: A*nalysis Area for Scenic Resources*.

[56] The proposed facility is not a special criteria facility under OAR 345-015-0310; therefore OAR 345-022-0080(2) is not applicable.

Applicable Land Use and Management Plans

The applicant evaluates multiple land use management plans to determine whether scenic resources were identified as significant or important within the analysis area. As presented in ASC Exhibit R, Table R-1: *Inventory of Scenic Resources*, reviewed plans include the following:

- Wasco County Comprehensive Plan (WCCP) 1983, as updated through 2010
- Sherman County Comprehensive Land Use Plan 1994, as updated through 2007
- City of Maupin Comprehensive Land Use Plan Update (2005)
- City of Shaniko Comprehensive Land Use Plan (1978)
- Bureau of Land Management - Prineville District: Two Rivers Resource Management Plan Record of Decision (BLM 1986)
- Bureau of Land Management - Prineville District: Lower Deschutes River Management Plan Record of Decision (BLM 1993)
- United States Forest Service White River National Wild and Scenic River Management Plan, Decision Notice and Finding of No Significant Impact (USFS 1994)

Based on review of the above-referenced plans, the applicant identifies that the WCCP includes the following important or significant scenic resources within the analysis area:

- Deschutes River: Areas within the river canyon that can be seen from the Deschutes River or lands designated under the State Scenic Rivers Act.
- White River: Lands within the river canyon, or lands within approximately 4 miles of the river.
- Designated Scenic Routes: Specific segments along US 97, US 197, OR 216, OR 218

The Department reviewed the WCCP and consulted with Wasco County Planning Staff (Will Smith, Senior Planner) to confirm that the above-listed scenic resources are identified in the WCCP as significant or important.[57] A summary of each important or significant scenic resource is presented below.

*Deschutes River*

The Deschutes River is a federally-designated wild and scenic river pursuant to 16 U.S.C. 1271 and is listed in the WCCP as an outstanding scenic and recreation area; therefore, it is identified and evaluated under Council's standard as an important or significant scenic resource.[58, 59] The

[57] 2020-01-03. Department staff phone communication with Wasco County Planner Will Smith.
[58] 16 U.S.C. 1273. Scenic river areas are those rivers or sections of rivers that are free of impoundments, with shorelines or watershed still largely primitive and shorelines largely undeveloped, but accessible in places by roads. Wild river areas are those rivers or sections of rivers that are free of impoundments and generally inaccessible except by trail, with watersheds or shorelines essentially primitive and water unpolluted.
[59] The Deschutes River is a state-designated scenic waterway pursuant to ORS 390.826; however, ORS 390.805 limits the area included in the scenic waterway to within ¼ mile of the bank of the river and ORS 390.826(5)

approximate distance from the proposed site boundary to the Deschutes River ranges from 2.5 to 5 miles.

*White River*

The White River is a federal wild and scenic river pursuant to 16 U.S.C. 1271, and is listed in the WCCP as an outstanding scenic and recreation area; therefore, it is identified and evaluated under Council's standard as an important or significant scenic resource. The proposed site boundary is approximately 3 miles from the White River.

*Designated Scenic Routes (US 97 and 197; OR 216 and 218)*

US 97 (Milepost [MP] 30.00 – 48.81, 48.81 – 56.04, 56.72 – 68.66), US 197 (MP 22.42 – 43.83, 47.00 – 50.00), OR 216 (MP 0.00 – 26.17, 6.00 – 8.30), and OR 218 (MP 0.56 – 7.31, 8.3 – 11.00) are designated scenic highways in the WCCP, defined as route segments "adjacent to or passing through scenic areas in State of Federal parks, historic sites, or any area of natural beauty that has been designated a scenic area by the Wasco County Scenic Area Board." Based on the Wasco County Scenic Area Board's designation of the above-referenced route segments as scenic routes and inclusion in the WCCP as a scenic highway, these highway route segments are identified and evaluated under Council's standard as significant or important scenic resources. The approximate distance from the proposed site boundary to US 97 is 8 miles, 3 to 4 miles to US 197, 4 to 5 miles to OR 216, and 8 miles to OR 218.

<u>Visual Impacts</u>

Under the Scenic Resources standard, consistent with the information requirement under OAR 345-021-0010(r)(C), potential visual impacts from loss of vegetation, alteration of landscape, facility structures and plumes during proposed facility-related construction and operations are evaluated. The proposed facility would not result in plumes and therefore plume-related visual impacts would not occur. Additionally, the potential for glare from solar panels is sometimes identified as a potential visibility impact, but is addressed through the applicant's proposed design feature to select technology with antireflective coating, as described below in recommended Scenic Resources Condition 1.

Dimensions and footprint of proposed facility structures, including height and area, are considered when evaluating proposed facility visual impacts at important or significant scenic resources within the analysis area; for the proposed facility, the dimensions and footprint of facility components are summarized below:

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excludes the boundaries of the City of Maupin. Therefore, the basis of the impact assessment under the Council's Scenic Resources standard at the Deschutes River is its consideration as an important or significant scenic resource under the WCCP and 16 U.S.C. 1271, and not as a state scenic waterway.

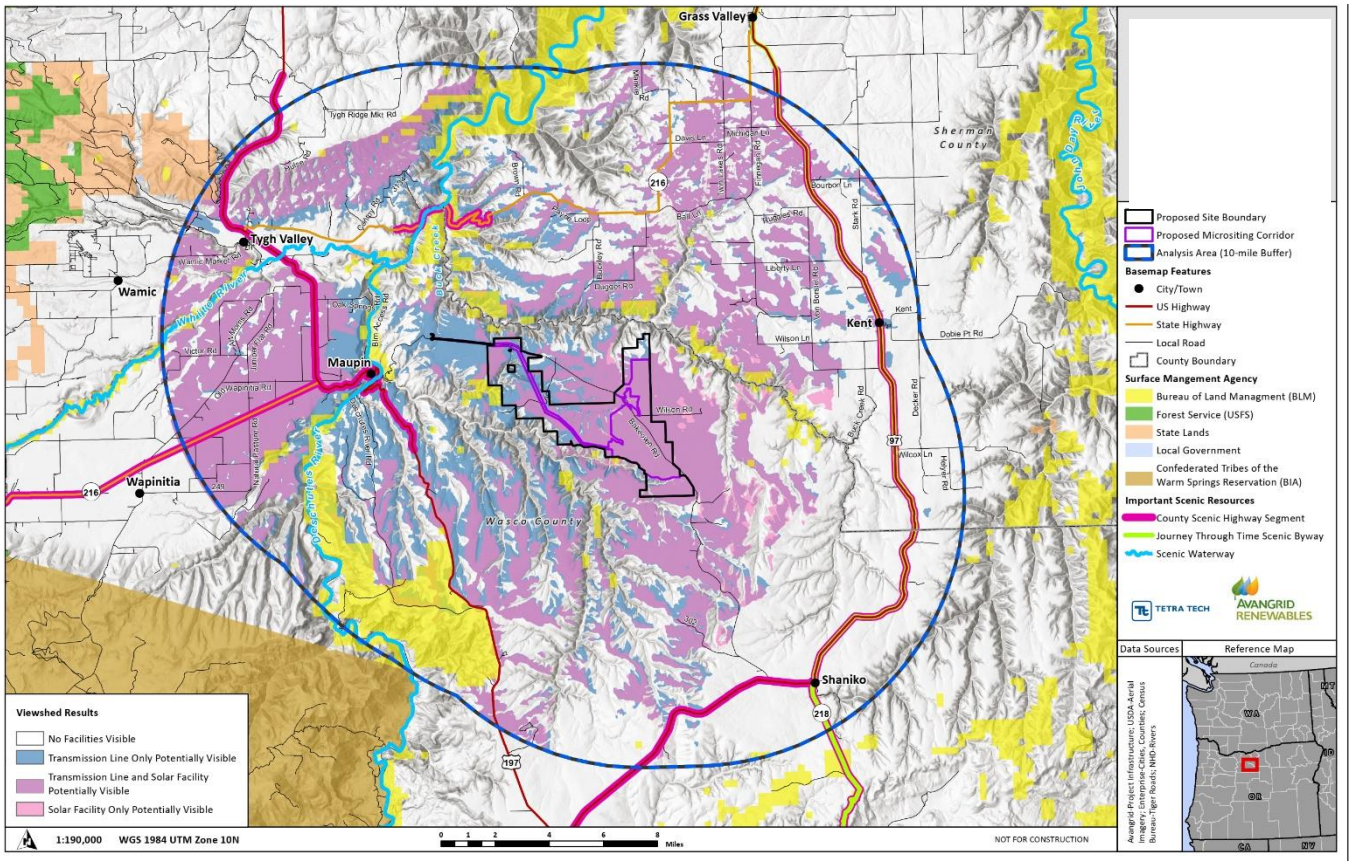
- 303 MW of solar facility components occupying up to 2,717 acres, with approximately 150,300 posts, with a maximum array tilt height of 12 feet;
- 8 foot solar facility perimeter chain-link fencing
- 34.5 kV overhead collector line, extending approximately 4.2 miles, on 60 to 75 foot tall single or double-circuit wood monopole structures;
- Collector substation on 3-acre area, with structure extending 10 feet in height;
- O&M building on 3-acre area, with structure extending 20 feet in height
- Battery storage system (containers) on 8.4 acre area, with containers extending 20 feet in height
- 230 kV transmission line, extending approximately 11 miles, on 80 to 100 foot tall steel or wood H-frame pole structures, or single metal monopole structures;

*Visual Impact Assessment Methodology*

The applicant's visual impact assessment methodology includes bare-earth modeling, zone of visual influence (ZVI) analyses. The ZVI analyses were performed using the Spatial Analyst extension of the ESRI ArcGIS software, using a 10-meter digital elevation model to represent the terrain within the analysis area. The ArcGIS software generates lines of sight from the three-dimensional coordinates of the proposed solar facilities (i.e. solar arrays, battery storage system, O&M building, 230 kV transmission line, and overhead 34.5 kV collector line) to points on the terrain surface (factoring a 6-foot offset for viewer height), thereby identifying locations from which the proposed facility components would potentially be visible.[60] In ASC Exhibit R, the applicant explains that a bare-earth analysis does not take into account the visibility effects of existing vegetation or buildings, which in practice would block or screen views in some places. In addition, the ZVI model does not account for distance, lighting and atmospheric factors (such as weather) that can diminish visibility under actual field conditions. In other words, the results of the ZVI analysis, which present potential lines of site of proposed facility components, is extremely conservative in identifying potential visibility impacts. The results of the applicant's ZVI analyses is presented in Figure 6: *Viewshed Analyses for Proposed Facility Components* below.

[60] BSPAPPDoc6 18 ASC Exhibit R Scenic. P. 8-9. 2019-11-04.

**Figure 6: Viewshed Analyses for Proposed Solar Facility Components**




*Loss of Vegetation or Alteration of the Landscape*

The proposed facility would result in temporary and permanent vegetation loss. Temporary vegetation loss would be restored through the applicant's implementation of a final Revegetation Plan and Noxious Weed Control Plan, to be reviewed and approved by the Department prior to construction, in accordance with recommended Fish and Wildlife Habitat Conditions 1 and 2. Proposed facility operation would result in permanent vegetation loss from the footprint of facility components. In ASC Exhibit R, the applicant represents that the proposed facility site would be cleared and graded, but that views of the graded area, or changes in vegetation, would be obscured by views of proposed facility components. The Deschutes River Canyon is the closest significant or important scenic resource to the proposed site boundary, at over 2 miles. Based on this distance, visibility of temporary and permanent vegetation loss would not be expected. Therefore, the Department recommends Council find that visual impacts from vegetation loss associated with proposed facility construction and operation would not be visible from any important or significant scenic resource and therefore

would not result in significant, adverse impacts at important or significant scenic resource within the analysis area.

*Potential Visual Impacts from Facility Structures*

The applicant evaluates potential visibility impacts from proposed facility structures using the above-described bare-earth modeling, ZVI analyses at significant or important scenic resources identified within the analysis area. Proposed facility components would be located in an upland area situated between the canyons of Buck Hollow Creek to the north and east and the Bakeoven Creek system to the south. Elevations reach approximately 2,700 feet just beyond the southern edge of the proposed site boundary and gradually decrease toward the northwest, with typical elevations declining to about 2,300 feet near the western edge of the solar arrays and Bakeoven Substation and to 1,800 feet at Maupin Substation. Low ridges to the east of Hauser Canyon (a tributary of Buck Hollow) and slightly higher terrain to the southwest and north of the proposed site boundary effectively limit potential visibility of proposed solar facility components, not including the 230 kV transmission line, in most areas that are beyond 2 or 3 miles of the site.[61]

As presented in Table 7: *Important Scenic Resources, Distance from Proposed Site Boundary and Potential Visibility of Proposed Facility Components*, there is no potential visibility of proposed facility components from the following identified important or significant scenic resources within the analysis area: White River Canyon, US 97 (MP 48.81 – 56.04), OR 216 (MP 6.00 – 8.30, 8.30 – 11.00), or 218 (0.56 – 7.31). As presented below, the Department presents its analysis of the applicant's visual impact assessment for the important or significant scenic resources where potential visibility of proposed facility structures was identified.

**Table 7: Important Scenic Resources, Distance from Proposed Site Boundary and Potential Visibility of Proposed Facility Components**

| Important Scenic Resource | Distance from Proposed Site Boundary | Visibility Assessment of Proposed Facility Components |
|---|---|---|
| Deschutes River Canyon | | |
| Wasco County | 2.5 | Transmission line; |
| Sherman County | 5 | Transmission line |
| White River Canyon | 3 | No visibility |
| US Highway 97 | | |
| MP 48.81 – 56.04 | 8 | No visibility; |
| MP 56.72 – 68.66 | 8 | Transmission line; overhead collector line; |
| MP 30.00 – 48.81 | 8 | Solar facilities, transmission line, overhead collector line |

[61] BSPAPPDoc6 18 ASC Exhibit R. p.10. 2019-11-04.

**Table 7: Important Scenic Resources, Distance from Proposed Site Boundary and Potential Visibility of Proposed Facility Components**

| Important Scenic Resource | Distance from Proposed Site Boundary | Visibility Assessment of Proposed Facility Components |
|---|---|---|
| US Highway 197<br>MP 22.42 – 43.83<br>MP 47.00 – 50.00 | <br>4<br>3 | Solar facilities, transmission line, overhead collector line;<br>Transmission line |
| OR 216<br>MP 0.00 – 26.17<br>MP 6.00 – 8.30<br>MP 8.30 – 11.00 | <br>5<br>4<br>4 | Solar facilities, transmission line, overhead collector line;<br>No visibility;<br>No visibility |
| OR Highway 218 MP 0.56 – 7.31 | 8 | No visibility |
| Source: ASC Exhibit R Table R-2 | | |

*Deschutes River*

The Deschutes River would be 2.5 to 5 miles from the proposed site boundary, where the existing viewshed includes BPA's existing Maupin Substation, a railroad, roads, and urbanized development in the City of Maupin. Based on the applicant's viewshed analysis and multiple site visits conducted by the applicant and the Department, views of proposed solar facility components, not including the proposed 230 kV transmission line, would be blocked entirely by canyon terrain. The proposed 230 kV transmission line, though, may be intermittently visible from elevated points on the canyon walls above river level, on Deschutes River Road (where viewers are unlikely to be present).

The WCCP identifies areas within the river canyon that can be seen from the Deschutes River as the significant or important scenic resource. Based on the applicant's viewshed analysis, potential visibility of the proposed 230 kV transmission line would be limited to elevated canyon locations – and would not be visible from parts of the river considered to be the significant or important scenic resource. Nonetheless, the applicant describes the potential impact of the change in viewshed from the elevated points along canyon walls and indicates that it would create a minimal change in contrast with the current visual context and would be seen by few, if any, viewers. Therefore, based on the applicant's viewshed analysis, existing viewshed character, distance (2.5 to 5 miles) and elevation change from the river to the proposed 230 kV transmission line (1,345 compared to 2,300 feet), the Department recommends Council find that the proposed facility would not cause a significant, adverse visual impact to the Deschutes River.

*US 97 (MPs 30.00 – 48.81, 56.72 – 68.66)*

Designated significant or important scenic route segments on US 97 (MPs 30.00 – 48.81, 56.72 – 68.66) would be located approximately 8 miles from the proposed site boundary, where the existing viewshed includes expansive views of open terrain. At a distance of 8 to 9 miles, the

existing viewshed also includes two parallel 500 kV transmission lines that run north-south to interconnect to BPA's Bakeoven Substation; and, five transmission lines that generally run east-west and north-south interconnecting at BPA's Maupin Substation. Based on the applicant's viewshed analysis and multiple site visits conducted by the applicant and the Department, the proposed 230 kV transmission line and aboveground 34.5 collector line may be potentially visible from two short segments where the highway runs along a minor drainage divide (MP 62), but from a distance of 9 miles where as described above contains existing transmission infrastructure. Proposed solar facility components may be visible, at distances of 8 miles, from an approximately 0.5 mile route segment that passes through the unincorporated community of Kent; and, for approximately 4 miles extending along the route segment from Bourbon Lane to the northern edge of the analysis area.

As presented in ASC Exhibit R, the applicant represents that the potential change in viewshed would include a minimal change in contrast with the current visual context and would not likely be noticeable by viewers travelling on the route segments. Based on evaluation of the applicant's viewshed analysis, existing viewshed character, and viewer distance (8 to 9 miles), the Department agrees with the applicant's conclusions and recommends Council find that the proposed facility would not cause a significant, adverse visual impact to US 97 (MPs 30.00 – 48.81, 56.72 – 68.66).

*US 197*

Designated significant or important scenic route segments on US 197 (MPs 22.42 – 43.83; 47.00 – 50.00) would be located approximately 3 to 4 miles from the proposed site boundary, where the existing viewshed includes expansive views of open terrain. The existing viewshed also includes two parallel 500 kV transmission lines that run north-south to interconnect to BPA's Bakeoven Substation; and, five transmission lines that generally run east-west and north-south interconnecting at BPA's Maupin Substation (see ASC Exhibit C Figure C-3). Notably, two of the existing transmission lines would be closer than proposed facility transmission and collector lines, where one of the existing transmission lines would be located in between the scenic route segment and proposed facility components. Based on the applicant's viewshed analysis, approximately one-third of proposed solar array components may be intermittently visible from most of US 197 (PM 22.42 – 43.83), at a distance of 10 miles. Proposed solar facility components would not be visible from US 197 (47.00 – 50.00). The proposed 230 kV transmission line and aboveground 34.5 collector line may be potentially visible from both US 197 route segments (MPs 22.42 – 43.83; 47.00 – 50.00), at distances ranging from 3 to 10 miles, where the existing viewshed contains existing transmission infrastructure.

As presented in ASC Exhibit R, the applicant represents that the potential change in viewshed would include a minimal change in contrast with the current visual context and would not likely be noticeable by viewers travelling on the scenic route segments. Based on evaluation of the applicant's viewshed analysis, existing viewshed character, the Department agrees with the applicant's conclusions and recommends Council find that the proposed facility would not cause a significant, adverse visual impact to US 197 (MPs 22.42 – 43.83; 47.00 – 50.00).

*OR 216*

A designated significant or important scenic route segment on OR 216 (MP 0.00 – 26.17) would be located approximately 4 miles from the proposed site boundary, where the existing viewshed includes expansive views of open terrain. The existing viewshed also includes two parallel 500 kV transmission lines that run north-south to interconnect to BPA's Bakeoven Substation; and, five transmission lines that generally run east-west and north-south interconnecting at BPA's Maupin Substation (see ASC Exhibit C Figure C-3). Notably, two of the existing transmission lines would be closer (crosses route segment) than proposed facility transmission and collector lines. Based on the applicant's viewshed analysis, approximately one-third of the proposed solar array components, 230 kV transmission line and aboveground 34.5 collector line may be intermittently visible from most of the route segment, at a distance of 4 miles.

As presented in ASC Exhibit R, the applicant represents that the potential change in viewshed would include a minimal change in contrast with the current visual context and would not likely be noticeable by viewers travelling on this route segment. Based on evaluation of the applicant's viewshed analysis and existing viewshed character, the Department agrees with the applicant's conclusions and recommends Council find that the proposed facility would not cause a significant, adverse visual impact to OR 216 (MP 0.00 – 26.17).

*Applicant Proposed Facility Design Features*

In ASC Exhibit R, the applicant proposes to implement best management practices (BMP) into the proposed facility design to minimize visual impacts. While the Department recommends Council find that the proposed facility would not have significant adverse visual impacts at any important or significant scenic resource within the analysis area, the Department considers these proposed BMPs to be binding representations and recommends that the Council adopt the following condition requiring implementation of the BMPs proposed by the applicant, as follows:

**Recommended Scenic Resources Condition 1:** During design of the facility or any phase of the facility, the certificate holder shall demonstrate to the Department that the following best management practices have been incorporated:

a. Solar modules with antireflective coating will be selected to minimize potential for glare.
b. The length of overhead collector line will be minimized.
c. Permanent lighting fixtures will contain downward shielding to limit off-site lighting.
d. The O&M building will be painted using a low-reflectivity, neutral color to blend with the surrounding landscape.
e. Onsite signage will be limited to those needed for manufacturer or installer identification, warning signs, or owner identification.

[GEN-SR-01]

**Conclusion of Law**

Based on the foregoing findings of fact, the Department recommends the Council conclude that the design, construction and operation of the proposed facility is not likely to result in significant adverse impacts to any scenic resource, in compliance with Council's Scenic Resources standard.

**IV.K. Historic, Cultural, and Archaeological Resources: OAR 345-022-0090**

> *(1) Except for facilities described in sections (2) and (3), to issue a site certificate, the Council must find that the construction and operation of the facility, taking into account mitigation, are not likely to result in significant adverse impacts to:*
>
> > *(a) Historic, cultural or archaeological resources that have been listed on, or would likely be listed on the National Register of Historic Places;*
> >
> > *(b) For a facility on private land, archaeological objects, as defined in ORS 358.905(1)(a), or archaeological sites, as defined in ORS 358.905(1)(c); and*
> >
> > *(c) For a facility on public land, archaeological sites, as defined in ORS 358.905(1)(c).*
>
> *(2) The Council may issue a site certificate for a facility that would produce power from wind, solar or geothermal energy without making the findings described in section (1). However, the Council may apply the requirements of section (1) to impose conditions on a site certificate issued for such a facility.*
>
> ** * **

**Findings of Fact**

Section (1) of the Historic, Cultural and Archaeological Resources standard generally requires the Council to find that a proposed facility is not likely to result in significant adverse impacts to identified historic, cultural, or archaeological resources. Under Section (2), the Council may issue a site certificate for a solar power facility without making findings of compliance with this section. However, the Council may impose site certificate conditions based on the requirements of this standard.[62]

The analysis area for the Historic, Cultural and Archaeological Resources standard includes the area within the proposed site boundary; however, the applicant's literature review, as further described below, extended 1-mile beyond the proposed site boundary. The analysis area is within the ceded lands and traditional use area of the Confederated Tribes of the Warm Springs Indian Reservation of Oregon (CTWSRO).

[62] The site boundary does not encompass public lands; therefore, OAR 345-022-0090(1)(c) is not applicable.

*Description of Discovery Measures*

The applicant's consultant, PaleoWest, conducted desktop and field surveys, developed a cultural resource sensitivity model to inform siting and consulted with CTWSRO to evaluate the presence and potential impacts of the proposed facility on historic and cultural resources determined likely eligible for listing on the National Register of Historic Places (NRHP); and, archeological objects and sites. As explained in ASC Exhibit S, the literature review evaluated the Oregon Archeological Records Remote Access (OARRA, 2018) system, NRHP, U.S. General Land Office, land patents, historical U.S. Geological Survey topographic maps, and ethnographic literature.

In 2018, PaleoWest completed intensive pedestrian surveys, in accordance with the Oregon State Historic Preservation Office's (SHPO) 2016 field guidelines, within a 4,530 acre survey area (i.e. micrositing corridor), with 30 meter transect spacing. The applicant notes, however, that small portions of the micrositing corridor were excluded from the field survey due to access restrictions; proposed facility components would not be located within these small areas. The applicant's representation of restricting placement of proposed facility components or disturbance impacts is reflected in the Department's recommended condition below. Built historic resources were recorded in these areas and reflected below (as unevaluated and conservatively considered likely eligible for NRHP-listing). Based on the results of the pedestrian survey, PaleoWest prepared a site inventory and conducted subsurface probing at the location of a single isolate. Built environment features were documented using Global Positioning System (GPS) units, color photographs, and notes. PaleoWest also developed a sensitivity model to identify low, moderate and high sensitivity areas for cultural resources within the site boundary, which was then used to inform proposed facility component location.

The applicant consulted with CTWSRO via email, conference call and two site visits; and, completed an archival and oral history investigation, to inform the evaluation of potential impacts to tribal resources.[63]

*Results of Discovery Measures – Historic and Cultural Resources; Archeological Sites*

The desktop survey identified 5 previously recorded cultural resources within 1-mile of the analysis area, none of which were recorded within the analysis area. Eighteen archeological sites, including two with historic built components, and 22 isolates were identified within the analysis area.[64] Based on the definition under ORS 358.905(1)(a), the applicant asserts that

[63] BSPAPP. ASC Review Tribal Gov Comment CTWS. Nauer. 2019-12-17. In a comment received on the complete ASC, Archeologist Christian Nauer with CTWSRO confirmed that the description of tribal consultation was accurate and that CTWSRO was satisfied with the evaluation and level of assessment provided in ASC Exhibit S and associated confidential technical reports.

[64] ORS 358.905(1) defines "archeological object" as, "an object that is at least 75 years old; is part of the physical record of an indigenous or other culture found in the state or waters of the state; and is material remains of past

none of the identified 22 isolates meet the definition of an archeological object. There were no tribal resources identified within the analysis area.[65] The summary of archeological sites and isolates identified within the analysis area is presented in Table 8: *Archeological Resources within the Analysis Area and Distance to Proposed Facility Components* below.

**Table 8: Archeological Resources within the Analysis Area and Distance to Proposed Facility Components**

| Resource Description | Resource No. | NRHP Eligibility[1,2] | Distance to Nearest Proposed Facility Component (feet) |
|---|---|---|---|
| *Archeological Sites* | | | |
| Cairn | 18-344-001 | Not eligible (A-D) | 2,035 |
| Homestead | 18-344-002 | Likely Eligible Unevaluated (D) | 1,012 |
| Cairn | 18-344-003 | Not eligible (A-D) | 1,354 |
| Cairn | 18-344-004 | Not eligible (A-D) | 789 |
| Refuse Scatter | 18-344-005 | Not eligible (A-D) | 0 |
| Check Dam | 18-344-006 | Not eligible (A-D) | 0 |
| Check Dam | 18-344-007 | Not eligible (A-D) | 0 |
| Homestead | 18-344-008 | Likely Eligible Unevaluated (D) | 98 |
| Historic-Period Road and Check Dam | 18-344-009 | Not eligible (A-D) | 4 |
| Refuse Scatter | 18-344-010 | Not eligible (A-D) | 0 |
| Cairn and Refuse Scatter | 18-344-011 | Not eligible (A-D) | 133 |
| Refuse Scatter | 18-344-012 | Not eligible (A-D) | 0 |
| Refuse Scatter | 18-344-013 | Not eligible (A-D) | 123 |
| Homestead | 18-344-014 | Likely Eligible Unevaluated (D) | 0 |
| Refuse Scatter | 18-344-015 | Not eligible (A-D) | 20 |
| Rock Wall | 18-344-016 | Not eligible (A-D) | 102 |
| Rockshelter | 18-344-044 | Likely Eligible Unevaluated (D) | 58 |
| Refuse Scatter | 18-344-045 | Not eligible (A-D) | 0 |
| *Isolates* | | | |

human life or activity that are of archeological significance including, but not limited to, monuments, symbols, tools, facilities, technological by-products and dietary by-products."
SHPO's Guidelines for Conducting Field Archeology in Oregon (2016) define an isolate as, "Any precontact or historic artifact occurrence that does not qualify for a site designation (i.e. less than nine [9] artifacts)."

[65] BSPAPPDoc6 19 Exhibit S. 2019-11-04. The applicant describes that a rock shelter of indeterminate age (Site 18-344-044) was of particular concern and interest to CTWSRO during a 2019 site visit; however, it was not identified as a tribal resource or Historic Property of Religious and Cultural Significance to Indian Tribes.

**Table 8: Archeological Resources within the Analysis Area and Distance to Proposed Facility Components**

| Resource Description | Resource No. | NRHP Eligibility[1,2] | Distance to Nearest Proposed Facility Component (feet) |
|---|---|---|---|
| Basal-notched quartz projectile point, Columbia Stemmed or Quilomene Bar series | KJ01 | Not eligible (A-D) | 562 |
| Iron hole-in-top cap cans | KJ02 | Not eligible (A-D) | 1,365 |
| Ferrous metal strap with rivets | KJ03 | Not eligible (A-D) | 0 |
| Ferrous metal oil can | KJ04 | Not eligible (A-D) | 0 |
| Metal stove | KJ06 | Not eligible (A-D) | 0 |
| Furrowing disc | KJ07 | Not eligible (A-D) | 149 |
| Furrowing disc | KJ08 | Not eligible (A-D) | 149 |
| Rectangular can with soldered seam, hole-in-cap can | KJ10 | Not eligible (A-D) | 0 |
| Harrow or disc frame | KJ11 | Not eligible (A-D) | 0 |
| Wood axle, wood spokes, ferrous metal components, likely farm equipment | KJ12 | Not eligible (A-D) | 179 |
| Wood axle, wood spokes, ferrous metal components, embossed with “ML&C,” likely farm equipment. | KJ13 | Not eligible (A-D) | 149 |
| Lunch pail | KJ19 | Not eligible (A-D) | 208 |
| Red chert biface | KJ20 | Not eligible (A-D) | 253 |
| Ferrous metal and wood roller wheels from farm roller | KJ101 | Not eligible (A-D) | 0 |
| Metal sickle bar mower | SY05 | Not eligible (A-D) | 167 |
| Farm equipment consisting of ferrous metal and wood | SY09 | Not eligible (A-D) | 187 |
| Solder seamed gas can | SY14 | Not eligible (A-D) | 0 |
| Solder seamed gas can | SY15 | Not eligible (A-D) | 30 |
| Ferrous metal frame with stakes, possibly a tiller | Sy16 | Not eligible (A-D) | 137 |
| Solder seam sardine can | SY17 | Not eligible (A-D) | 202 |
| Wood and ferrous metal wagon frame | SY18 | Not eligible (A-D) | 137 |
| Horse-drawn "Oliver" brand weeder | SY22 | Not eligible (A-D) | 510 |

**Table 8: Archeological Resources within the Analysis Area and Distance to Proposed Facility Components**

| Resource Description | Resource No. | NRHP Eligibility[1,2] | Distance to Nearest Proposed Facility Component (feet) |
|---|---|---|---|

Notes:
1. NRHP eligibility determination is based on recommendation by applicant's consultant, PaleoWest, and confirmed by the Department's third-party contractor, Historical Research Associates, Inc.
2. The following are a summary of the criteria A-D used to evaluate NRHP eligibility in addition to evaluating the integrity of location, design, setting, materials, workmanship, feeling, and association:
   A. The property must be associated with events that have made a significant contribution to the broad patterns of our history.
   B. The property must be associated with the lives of persons significant in our past.
   C. The property must embody the distinctive characteristics of a type, period, or method of construction, represent the work of a master, possess high artistic values, or represent a significant and distinguishable entity whose components may lack individual distinction.
   D. The property must show, or may be likely to yield, information important to history or prehistory.

*National Registry of Historic Places – Eligibility Status*

A confidential Archeology and Built Environment Report was submitted, with ASC Exhibit S, in May and, as revised in November 2019, to SHPO for review of the resources identified and NRHP eligibility recommendations, as presented in Table 5: *Archeological Resources within the Analysis Area and Distance to Proposed Facility Components*. Based on review of the May 2019 report and exhibit, SHPO's Assistant State Archeologist John Pouley provided comments on the technical information and requested additional information on the NRHP eligibility criteria for the isolates identified within the site boundary.[66] In November 2019, the applicant revised and re-submitted the report for SHPO review. To support SHPO and the Department in technical review of ASC Exhibit S and technical reports, as authorized under ORS 469.470(6) (in October 2018) the Council appointed Golder and its sub-consultant – Historical Research Associates, Inc (HRA). HRA reviewed the May and November 2019 technical reports and, in September and December 2019, provided their recommendations to the Department and SHPO (see Attachment B of this order).[67] Their recommendations concurred with the NRHP eligibility determinations as presented in the table above, which were based on review of the updated analysis provided by the applicant in response to SHPO's recommendations for further analysis of NRHP eligibility criteria for isolates.

As presented in Table 5: *Archeological Resources within the Analysis Area and Distance to Proposed Facility Components*, there are four identified archeological sites that could not be

[66] BSPAPP. pASC Review SHPO Pouley. 2019-10-04.
[67] BSPAPP. ODOE Consultant (HRA) Review of ASC Exhibit S. 2019-09-19; 2019-12-10.

properly evaluated under NHRP criteria D, and therefore, are conservatively evaluated as likely eligible for NRHP listing. These resources are further described below.

*Site 18-344-002*

Site 18-344-002 is an archeological site described as the remains of a historic homestead. The site has multiple features and an artifact concentration located on the eastern end of Little Dog Canyon. The site is an open field with four features: three building foundations and one refuse scatter. Based on site access restrictions, the applicant was unable to properly evaluate NRHP eligibility criteria D and therefore assumes that this site is likely eligible for NRHP listing.

*Site 18-344-008*

Site 18-344-008 is an archeological site described as a newly recorded historic-period homestead site composed of artifact concentration and 12 features. The features include: a dwelling, a barn, a root cellar, a well foundation, a possible foundation, a possible foundation or wall alignment, a horse-drawn plow, a fenceline with rock cairn support fence posts, three check dams, and a wall alignment along the drainage likely to manage water flow. Based on site access restrictions, the applicant was unable to properly evaluate NRHP eligibility criteria D and therefore assumes that this site is likely eligible for NRHP listing.

*Site 18-344-044*

Site 18-344-044 is an archeological site described as a newly recorded rockshelter of unknown age. The site may represent precontact, historic, or modern use. Based on site access restrictions, the applicant was unable to properly evaluate NRHP eligibility criteria D and therefore assumes that this site is likely eligible for NRHP listing.

*Site 18-344-014*

Site 18-344-0014 is an archeological site described as a newly recorded historic-period homestead site and artifact concentration. The features include: a house, barn, large tractor wheel and axle, and a concrete cistern. Based on site access restrictions, the applicant was unable to properly evaluate NRHP eligibility criteria D and therefore assumes that this site is likely eligible for NRHP listing.

*Potential Impacts to Archeological Sites*

Potential impacts are evaluated for the four archeological sites listed above (18-344-002, 18-344-008, 18-344-014, 18-344-044) as likely eligible for NRHP listing. Potential impacts include direct and indirect impacts. Direct impacts could include temporary and permanent disturbance to the resource; indirect impacts could include impacts from facility noise and visibility to integrity of the resource – integrity aspects include location, setting, design, materials,

workmanship, feeling, and association.[68] However, the applicant asserts, and based on HRA's review the Department agrees, that based on the type and characteristics of archeological sites identified, potential impacts would be specific to physical damage, and that the integrity (including setting) of the archeological sites would not likely be impacted by the visibility or proximity to the proposed facility.

In ASC Exhibit S, the applicant commits to designing the proposed facility to avoid the four archeological sites (18-344-002, 18-344-008, 18-344-014, 18-344-044) and would impose a 20-meter avoidance buffer from all construction activities. In addition, the applicant commits to implementing an Inadvertent Discovery Plan and Worker Environmental Awareness Training to minimize potential impacts to unknown resources, if discovered during construction activities. Therefore, the Department recommends Council impose the following condition requirements during construction:

**Recommended Historic, Cultural and Archeological Condition 1:** The certificate holder shall:

a. Prior to construction of the facility or any phase of the facility, finalize the draft Inadvertent Discovery Plan, as provided in Attachment L of the Final Order on ASC, based on review and concurrence from the Department, in consultation with SHPO or the Department's third-party contractor.
b. During construction of the facility or any phase of the facility, require all onsite personnel to complete a Worker Environmental Awareness Training provided by a qualified archeologist as defined in OAR 736-051-0070 to properly identify sensitive historic, cultural and archeological resources that could be inadvertently uncovered during construction, and on measures to avoid accidental damage to such resources. Records of all trainings shall be maintained onsite during construction.
c. During construction of the facility or any phase of the facility, ensure its contractors utilize constraint maps and design facility components to adhere to a 20-meter avoidance buffer for archeological resources 18-344-002, 18-344-008, 18-344-014, 18-344-044. Constraint maps shall also identify the entirety of the areas not included in the pedestrian level ground surveys, if outside of the 20-meter avoidance buffer area, and shall preclude placement of facility components or disturbance impacts unless appropriate field surveys are conducted.
d. During construction and operation of the facility or any phase of the facility, the certificate holder shall implement and adhere to the requirements of the Inadvertent Discovery Plan, as reviewed and finalized per sub(a) of this condition. [GEN-HC-01]

## Conclusions of Law

Based on the foregoing recommended findings of fact and conclusions of law, and based upon compliance with the recommended conditions, the Department recommends Council find that

[68] National Register Bulletin: How to Apply the National Register Criteria for Evaluation

the proposed facility would comply with the Council's Historic, Cultural, and Archeological Resources standard.

**IV.L. Recreation: OAR 345-022-0100**

> *(1) Except for facilities described in section (2), to issue a site certificate, the Council must find that the design, construction and operation of a facility, taking into account mitigation, are not likely to result in a significant adverse impact to important recreational opportunities in the analysis area as described in the project order. The Council shall consider the following factors in judging the importance of a recreational opportunity:*
>
> > *(a) Any special designation or management of the location;*
> > *(b) The degree of demand;*
> > *(c) Outstanding or unusual qualities;*
> > *(d) Availability or rareness;*
> > *(e) Irreplaceability or irretrievability of the opportunity.*
> > *****[69]

**Findings of Fact**

The Recreation standard requires the Council to find that the design, construction, and operation of a facility would not likely result in significant adverse impacts to "important" recreational opportunities. Therefore, the Council's Recreation standard applies only to those recreation areas that the Council finds to be "important," utilizing the factors listed in the sub-paragraphs of section (1) of the standard. The importance of recreational opportunities is assessed based on five factors outlined in the standard: special designation or management, degree of demand, outstanding or unusual qualities, availability or rareness, and irreplaceability or irretrievability of the recreational opportunity.

The applicant evaluates impacts to important recreational opportunities based on the potential of construction or operation of the proposed facility to result in any of the following: direct or indirect loss of a recreational opportunity, excessive noise, increased traffic, and visual impacts of facility structures or plumes. ASC Exhibit T provides information about recreational opportunities. The analysis area for the Recreation standard is the area within and extending five miles from the site boundary.

To analyze the proposed facility against this standard, the Council must first evaluate whether an identified recreational opportunity is important. The Council must then evaluate whether the design, construction or operation of the facility could adversely impact the identified

[69] The proposed facility is not a special criteria facility under OAR 345-0015-0310; therefore, OAR 345-022-0100(2) is not applicable.

important recreational opportunity. If the proposed facility could adversely impact the resource, then the Council must consider the significance of the possible impact.

Recreational Opportunities within the Analysis Area

In accordance with OAR 345-001-0010(59)(d), and consistent with the study area boundary, the analysis area for recreational opportunities is the area within and extending 5 miles from the proposed amended site boundary. As presented in ASC Exhibit T, the applicant conducted a review of published and unpublished resources including maps, GIS files, comprehensive plans, park and recreation plans, park master plans, and internet sites to identify existing recreational opportunities within the analysis area. Based on this review, 9 recreational opportunities were identified within the analysis area at distances of 0.2 to 4 miles, as presented in Table 9: *Recreational Opportunities within the Analysis Area and Distance from Proposed Site Boundary*.

**Table 9: Recreational Opportunities within the Analysis Area and Distance from Proposed Site Boundary**

| Recreational Opportunity | Management or Jurisdiction | Distance from Site Boundary (miles) | Special Designation |
|---|---|---|---|
| Sage Canyon Outfitters | Private | 0.2 | None |
| Sherar's Falls Scenic Bikeway | State - OPRD | 2.0 | Scenic Bikeway |
| Deschutes Wild and Scenic River | Federal - BLM | 2.0 | Federal Wild and Scenic River |
| Oasis Campground | Private | 2.1 | None |
| Deschutes River Campgrounds (Oak Springs, Blue Hole, White River) | Federal - BLM | 2.2 | N/A |
| Maupin City Park | City of Maupin | 2.4 | N/A |
| Oak Springs Fish Hatchery | State - ODFW | 2.9 | N/A |
| White Wild and Scenic River | Federal - BLM | 3.1 | Federal Wild and Scenic River |
| White River Falls State Park | State - OPRD | 4.0 | The park overlaps areas of a state natural area (Tygh Valley State Natural Area) |

Notes:
OPRD = Oregon Parks and Recreation Department; ODFW = Oregon Department of Fish and Wildlife
BLM – Bureau of Land Management
Source: BSPAPPDoc6 20 Exhibit T. Recreation 2019-11-04, Attachment T-1.

Under the Council's Recreation standard, the Council must find that, taking into account mitigation, the proposed facility is not likely to result in a significant adverse impact to those identified important recreational opportunities. In ASC Exhibit T, the applicant characterizes 2 recreational opportunities as not important (Sage Canyon Outfitters and Oasis Campground) of the 9 recreational opportunities as important. Based on the evaluation presented below, the Department agrees with the applicant's conclusions related to the two opportunities identified

as not important, but also recommends Council consider the Oak Springs Fish Hatchery not to be an important recreational opportunity under Council's Recreation standard. The Department's evaluation of the applicant's recreational opportunity "importance" assessment is presented below.

*Recreational Opportunity Importance Assessment*

*Sage Canyon Outfitters*

As presented in ASC Exhibit T, Sage Canyon Outfitters is a private business that provides opportunities for upland bird hunting, guided and non-guided hunting trips and lodging, located approximately 0.2-of-a-mile from the proposed site boundary. Sage Canyon Outfitters is not covered under a state or local management plan, and has no special designation. The applicant describes the demand for opportunities at Sage Canyon Outfitters to be low, and confirms that because there are other hunting opportunities within the area, the opportunity at this resource is not considered rare and would be replaceable. For all of these reasons, the Department agrees with the applicant's conclusions and recommends Council find this recreational opportunity not to be "important" under the Council's standard.

*Sherar's Falls Scenic Bikeway*

As presented in ASC Exhibit T, Sherar's Falls Scenic Bikeway is a 33-mile bikeway route designated by the Oregon Parks and Recreation Department as a scenic bikeway. The bikeway traverses diverse topography through the City of Maupin, along the Deschutes River, passing tribal fishing sites, a section of the White River, and passing White River Falls State Park. The bikeway is located approximately 2 miles from the proposed site boundary. The applicant describes the bikeway as rare due to its special designation as a state scenic bikeway, which is a relatively new program and few currently designated routes; and, irreplaceable due to the unique topography and resources, as described, that the bikeway passes. For all of these reasons, the Department agrees with the applicant's conclusions and recommends Council find this recreational opportunity to be "important" under the Council's standard.

*Deschutes Wild and Scenic River*

As presented in ASC Exhibit T, the Deschutes Wild and Scenic River is designated as a federal wild and scenic river, managed by the Bureau of Land Management, located approximately 2 miles from the proposed site boundary. The river provides opportunities for non-motorized boating (rafting, kayaking), fishing and camping. The applicant describes that recreational opportunities at the river are high in demand, with irreplaceable qualities provided by rafting, kayaking and fishing opportunities. For all of these reasons, the Department agrees with the applicant's conclusions and recommends Council find this recreational opportunity to be "important" under the Council's standard.

*Oasis Campground*

As presented in ASC Exhibit T, Oasis Campground is a privately-owned campground, with opportunities for tent and recreational vehicle (RV) camping, located approximately 2.1 miles from the proposed site boundary. The campground is not managed under a state or local plan, and while in high demand during summer and fall seasons, is relatively common in the area and therefore would be replaceable. For all of these reasons, the Department agrees with the applicant's conclusions and recommends Council find this recreational opportunity to be "important" under the Council's standard.

*Deschutes River Campgrounds*

As presented in ASC exhibit T, Deschutes River Campgrounds, including Oak Springs, Blue Hole and White River, are a series of small campgrounds managed by the BLM, which provide camping and day use opportunities with access to the Deschutes River. The applicant describes that the resource is not managed under a state or local plan and would be replaceable given the availability of other campgrounds in the area. However, the applicant asserts that based on the high demand of the campgrounds, and the uniqueness of the location with direct access to the river and small campground size, the resource should be considered important. The Department agrees that because the Deschutes River is important due to its opportunities for fishing and non-boating opportunities, which would be served, in many instances, by the Deschutes River Campgrounds, that the resource be considered "important" under Council's standard due to demand and uniqueness.

*Maupin City Park*

As presented in ASC Exhibit T, Maupin City Park is a park located on the eastern bank of the Deschutes River, with opportunities for tent and RV camping, with river access, located approximately 2.4 miles from the proposed site boundary. The park is not managed under a state or local plan; however, it receives a high level of user demand during summer and fall, provides amenities not available at other campgrounds, and contains highest campsite capacity of other campgrounds within the area. For these reasons, the Department agrees with the applicant's conclusions and recommends Council find this recreational opportunity to be "important" under the Council's standard.

*Oak Springs Fish Hatchery*

As presented in ASC Exhibit T, Oak Springs Fish Hatchery includes opportunities for birdwatching and picnicking and includes a fountain and show pond, located approximately 2.9 miles from the proposed site boundary. The resource is a state-designated fish hatchery, managed by ODFW, but is not specially designated under a state or local plan as a recreational resource. The applicant identifies user demand of the fish hatchery as low and recreational opportunities, bird watching and picnicking, to be replaceable. The applicant identifies the fish hatchery as important due to the fact that it is rare, given lack of any other fish hatchery in the

analysis area. However, for this resource, because it does not have a special designation as a recreational resource under a state or local plan, has low demand, with recreational opportunities that would be replaceable within the area, the Department recommends Council find that the fish hatchery not be considered an "important" recreational opportunity under Council's standard. It is noted, that state designated fish hatcheries are evaluated under the Council's Protected Areas standard in Section IV.F. Protected Areas of this order, which includes an evaluation of potential impacts from the proposed facility at Oak Springs Fish Hatchery (where no impacts are anticipated).

*White Wild and Scenic River*

As presented in ASC Exhibit T, the White Wild and Scenic River is a federally designated wild and scenic river, managed by BLM, extending 50-miles through two wilderness areas, to then converge with the Deschutes Wild and Scenic River. The river is located approximately 3.1 miles from the proposed site boundary. Recreational opportunities include photography, camping, rugged hiking, and nature and wildlife observation. The applicant identifies that the user demand for the resource is low/moderate and irreplaceable recreational opportunities, given the degree of solitude afforded by the location. Due to the special designation under a state management plan as a wild and scenic river with multiple recreational opportunities with a unique degree of solitude, the Department agrees with the applicant's conclusions and recommends Council find this recreational opportunity to be "important" under the Council's standard.

*White River Falls State Park*

As presented in ASC Exhibit T, White River Falls State Park is a state park managed by OPRD, which provides opportunities for picnicking, hiking and fishing, located approximately 4 miles from the proposed site boundary. Unique aspects of the park include dramatic viewpoints of the White River and a trail to the historic hydroelectric power plant located at the base of the falls. The applicant identifies that user demand of this resource is moderate and given the general opportunities – picnicking and hiking – would be replaceable. However, based on its designation as a state park and unique location along the White River, the Department agrees with the applicant's conclusions and recommends Council find this recreational opportunity to be "important" under the Council's standard.

*Potential Direct or Indirect Loss of Recreational Opportunity*

*Direct Loss*

A direct loss to an important recreational opportunity would occur when construction or operation of the proposed facility would impact a recreational opportunity by directly altering the resource so that it no longer exists in its current state. Based on the location of the proposed facility in relation to the six identified important recreational opportunities, as presented in Table 9: *Recreational Opportunities within the Analysis Area and Distance from*

*Proposed Site Boundary,* ranging from 2 to 9 miles, the proposed facility would not physically disturb, or result in ground disturbance, to those recreational opportunities. The proposed facility would also not require any temporary or permanent closure or removal of the important recreation opportunities to public use. Therefore, based upon review of the location and proximity of important recreational opportunities to the proposed facility site, the Department recommends the Council find that the proposed facility would not be expected to result in indirect impacts to the important recreational opportunities.

*Indirect Loss*

Similar to the assessment of direct loss, indirect loss would result if construction or operation of the proposed facility would impact a recreational opportunity by indirectly altering the resource or some component of it. To evaluate indirect loss associated resulting from the construction and operation of the proposed facility, the Department considers potential noise, traffic and visual impacts to the above mentioned important recreational opportunities.

*Potential Noise Impacts*

The significance of potential noise impacts to identified protected areas is based on the magnitude and likelihood of the impact on the affected human population or natural resources that uses the important recreational opportunity. The nearest important recreational opportunity to the proposed site boundary is Sherar's Falls Scenic Bikeway, located approximately 2.0 miles from the proposed site boundary. Potential noise impacts from proposed facility construction and operation are evaluated below.

*Construction*

As evaluated in the ASC Exhibit X, construction-related noise impacts are based on equipment sound levels as provided in the 2006 Federal Highway Administration Roadway Construction Noise Model. Proposed facility construction would include site preparation, grading, preparation of staging areas and onsite access routes; array foundation installation, conductor installation, and construction of collector substation; solar panel assembly and construction electrical components; inverter pad construction; commissioning of solar array and grid interconnection; installation of transmission structure foundations; erection of support structures; and, conductor stringing.

As presented in ASC Exhibit X Table X-4, typical construction equipment and predicted sound pressure levels at specific distances would include but is not limited to: bulldozer (88 - 43 dBA at 50 – 5,000 ft), grader (85 – 40 dBA at 50 – 5,000 ft), crane (83 – 38 dBA at 50 – 5,000 ft), and portable generator (84 – 39 dBA at 50 – 5,000 ft). Based on the typical sound pressure levels of equipment that could be used during proposed facility construction of 43 dBA at 5,000 feet (less than 1-mile), where 43 dBA is identified in ASC Exhibit X as equivalent to a quiet rural residential area with no activity, due to attenuation at the nearest important recreational

opportunity – located at a distance of approximately 2.0 miles – construction-related noise would not be expected to be audible at Sherar's Falls Scenic Bikeway.

Based on review of the applicant's construction-related noise impact assessment, as described above, the Department recommends that Council find that proposed facility construction would not result in noise impacts at Sherar's Falls Scenic Bikeway. Because the other important recreational opportunities within the analysis area are located at greater distances from the proposed site boundary than the scenic bikeway, the Department recommends that Council find that there would be no impacts from proposed facility construction noise at the other important recreational opportunities.

*Operation*

Proposed facility components that would generate noise during operations include: transformers and inverters associated with the solar arrays, inverters and cooling systems associated with battery storage systems; and corona discharge noise (buzz or crackling during wet conditions) from the 230 kV transmission line. In ASC Exhibit X, the applicant provides a noise analysis inclusive of the operational sources and sound power levels (in A-weighted decibels) for proposed facility components, as listed below:

- 152 inverters, each at 88 dBA
- 152 distribution transformers, each at 77 dBA
- 2 substation transformers at 106 dBA
- 208 battery storage heating, ventilation and air conditioning units, each at 89 dBA
- 103 battery storage transformers, each at 77 dBA
- 230 kV transmission line at 76 to 99 dBA (fair to rainy conditions)

As presented in ASC Exhibit X, statistical noise modeling results indicate that maximum operational noise levels of the proposed facility would range between 20 to 25 dBA within 1-mile of the proposed facility, which would be extremely quiet.[70] At distances greater than 1-mile, due to noise attenuation based on distance, operational noise from the proposed facility would not be audible. Therefore, because the nearest important recreational opportunity to proposed facility components would be at a distance of 2-miles, the Department recommends Council find that operational noise from the proposed facility would not impact any important recreational opportunities within the analysis area.

*Traffic Impacts*

Proposed facility construction would result in up to 750 average daily trips (ADT) (including worker vehicles, pick-up trucks, material delivery vehicles) on I-84 and Bakeoven Road, 364

[70] Beranek, L. 1988. Noise and Vibration Control, Chapter 7 - Sound Propagation Outdoors. Institute of Noise Control Engineering, Washington, DC. EPA (U.S. Environmental Protection Agency). 1971. Community Noise. NTID300.3 (N-96-01 IIA- 231). Prepared by Wylie Laboratories

ADTs on US 197, 92 ADTs on US 97 (north, part of alternate route), and 46 ADTs on US 97 (south, workforce-only). Access to Sherar's Falls Scenic Bikeway and Deschutes River Federal Wild and Scenic River is provided by Deschutes River Road (also known as Lower Deschutes River Back County Byway), which is fed by US 197 and Bakeoven Road. As presented in ASC Exhibit L and T, based upon potential construction-related traffic, access to the Deschutes River and Sherar's Falls Scenic Bikeway may be impacted by intermittent short-term traffic delays. The applicant proposes several best management practices, as presented in Attachment M of this order and represented below, in addition to developing a Construction Traffic Management Plan in coordination with the City of Maupin, Wasco County Public Works Department, BLM (Deschutes River managing agency), and ODOT (see recommended Public Services Condition 3).

- Complete consultation with landowners to minimize disruptions to ranching and farming operations due to construction activities such as equipment delivery
- Provide proper road signage and warnings of "Equipment on Road," "Truck Access," or "Road Crossings"
- Implement traffic-diversion equipment (such as advance signage and pilot cars) whenever possible when slow or oversize loads are being hauled;
- Employ flag persons to direct traffic when large equipment is exiting or entering public roads to minimize risk of accidents. Flag persons may facilitate two-way traffic on one lane by alternately restricting travel directions. This method would not require full lane closures, detours, or reroutes. Flag persons would also monitor through traffic on public roadways as necessary so that they are not in conflict with construction vehicles.
- Maintain at least one travel lane at all times so that roadways would not be closed to traffic due to construction vehicles entering or exiting public roads
- Avoid peak traffic times identified through consultation with Wasco County and the City of Maupin by adjusting scheduling of workforce shifts or other methods, such as requiring construction workers to check for congestion prior to leaving for the Facility to consider an alternate route.
- Conduct awareness training for all construction workforce drivers, including appropriate techniques for sharing roads with recreation users (especially cyclists and during peak tourist season mid-June through early September) and proper navigation of tight curves in and near Maupin

Potential traffic impacts during proposed facility construction would be intermittent and temporary, and traffic levels would return to normal following construction.

During operations, the proposed facility would generate an additional 5 to 10 one-way trips on existing local roads. Based on the minimal number of operational trips, the Department agrees with the applicant that the increase would not be likely to have any impact on important recreational opportunities, including access points.[71]

[71] See Section IV.M, *Public Services* of this order for further discussion of traffic impacts.

Based on review of the applicant's analysis and proposed BMPs, the Department agrees with the applicant's conclusions and recommends Council find that potential traffic-related impacts during construction and operation of the proposed facility would not likely result in significant adverse impacts to any important recreational opportunity.

*Potential Visual Impacts*

The applicant conducted a zone of visual influence (ZVI) analysis to determine if the proposed facility components could be seen from important recreational opportunities within the analysis area. A detailed discussion of the methodology and visual assessment approach is provided in Section IV.J., *Scenic Resources*, of this order. The ZVI analysis methodology and overall visual impact assessment approach were the same for recreational opportunities, protected areas, and scenic resources. The result of the ZVI analysis is provided in ASC Exhibit T, Figure T-2, which represents that proposed facility components would be potentially visible at 2 of important recreational opportunities identified within the analysis area, including the Deschutes Federal Wild and Scenic River and Sherar's Falls Scenic Bikeway. Potential visibility impacts of proposed facility components at these two important recreational opportunities is evaluated below.

*Deschutes Federal Wild and Scenic River*

The Deschutes River would be 2.5 to 5 miles from the proposed site boundary, where the existing viewshed includes BPA's existing Maupin Substation, a railroad, roads, and urbanized development in the City of Maupin. Based on the applicant's viewshed analysis and multiple site visits conducted by the applicant and the Department, views of proposed solar facility components, not including the proposed 230 kV transmission line, would be blocked entirely by canyon terrain. The proposed 230 kV transmission line, though, may be intermittently visible from elevated points on the canyon walls above river level, on Deschutes River Road (where viewers are unlikely to be present). Based on the applicant's viewshed analysis, potential visibility of the proposed 230 kV transmission line would be limited to elevated canyon locations – and would not be visible from parts of the river considered to be the significant or important scenic resource. Nonetheless, the applicant describes the potential impact of the change in viewshed from the elevated points along canyon walls and indicates that it would create a minimal change in contrast with the current visual context and would be seen by few, if any, viewers. Therefore, based on the applicant's viewshed analysis, existing viewshed character, distance (2.5 to 5 miles) and elevation change from the river to the proposed 230 kV transmission line (1,345 compared to 2,300 feet), the Department recommends Council find that the proposed facility would not cause a significant, adverse visual impact to the Deschutes River.

*Sherar's Falls Scenic Bikeway*

Sherar's Falls Scenic Bikeway would be 2 miles from the proposed site boundary, where the existing viewshed includes BPA's existing Maupin Substation, a railroad, roads, and urbanized

development in the City of Maupin. Based on the applicant's viewshed analysis, less than one-third of the proposed solar array and portions of the 34.5 kV and 230 kV transmission lines may be visible along the western and southern sections of the bikeway, along OR 216 and US 197. The applicant suggests that based on viewing distance, topography of the area, and existing visual character, the potential change in viewshed contrast from potential visibility of proposed facility components would be minimal, which the Department agrees. Based on this reasoning and analysis, supported by the visual impact assessment, the Department recommends Council find that the proposed facility would not cause a significant, adverse visual impact to the bikeway.

**Conclusions of Law**

Based on the foregoing recommended findings of fact, the Department recommends that the Council find that the design, construction and operation of the proposed facility are not likely to result in a significant adverse impact to any important recreational opportunities in the analysis area and therefore the proposed facility would comply with the Council's Recreation standard.

**IV.M. Public Services: OAR 345-022-0110**

> *(1) Except for facilities described in sections (2) and (3), to issue a site certificate, the Council must find that the construction and operation of the facility, taking into account mitigation, are not likely to result in significant adverse impact to the ability of public and private providers within the analysis area described in the project order to provide: sewers and sewage treatment, water, storm water drainage, solid waste management, housing, traffic safety, police and fire protection, health care and schools.*
>
> *(2) The Council may issue a site certificate for a facility that would produce power from wind, solar or geothermal energy without making the findings described in section (1). However, the Council may apply the requirements of section (1) to impose conditions on a site certificate issued for such a facility.*
> *****[72]

**Findings of Fact**

The Council's Public Services standard requires the Council to find that the proposed facility is not likely to result in significant adverse impacts on the ability of public and private service providers to supply sewer and sewage treatment, water, stormwater drainage, solid waste management, housing, traffic safety, police and fire protection, health care, and schools. Pursuant to OAR 345-022-0110(2), the Council may issue a site certificate for a facility that would produce power from solar energy without making findings regarding the Public Services

[72] OAR 345-022-0110(3) does not apply to this ASC because the proposed facility would not meet the criteria for a special criteria facility as defined in ORS 469.373(1).

standard; however, the Council may impose site certificate conditions based upon the requirements of the standard.

The analysis area for potential impacts to public services from construction and operation of the proposed facility is the area within and extending 10-miles from the site boundary. Information about construction phasing and potential impacts to public service providers can be found in ASC Exhibit B and U.

*Important Assumptions used in Applicant's Impact Assessment*

Important assumptions relied upon by the applicant to evaluate potential impacts from proposed facility construction and operation to private and public providers of services include number of workers needed, population shifts and use of transportation routes.

Proposed facility construction is anticipated to commence in 2020 and be completed by 2025, with construction potentially occurring in multiple 9 to 12 month phases. The construction workforce is estimated at 250 workers on average, with a peak of 400 workers. Construction-related vehicle trips per day, per phase, are assumed to include 630 truck trips per day (315 roundtrips), with a peak of 750 trips (375 roundtrips), which accounts for a carpool factor of 2 persons per vehicle for survey crews and 1.5 persons per vehicle for all other categories. Interstate Highway 84 (I-84), U.S. Highway (US) 197 near The Dalles, and Bakeoven Road are identified as the primary transportation routes during proposed facility construction. Additional routes that could be using during proposed facility construction include I-84 to US 97 (Sherman Highway) at Biggs Junction, southbound through the town of Shaniko and US 97 north/northeast to Bakeoven Road. Potential impacts to transportation routes are based on an assumption that 70 percent of the workforce traffic would use the primary route, 20 percent would use the alternate transporter route, and 10 percent would use US 97 north to Bakeoven Road.

The applicant assumes that 30 percent of the construction workforce would represent local residents (Wasco Sherman, Gilliam, Wheeler and Jefferson counties), and the remainder of workers hired from outside the surrounding four-county area. Based on this assumption, population shifts would include an average of 175 and a maximum of 280 workers, and then adjusted for average household size, to 560 temporary residents during proposed facility construction.

The operational workforce is estimated at 5 to 10 workers, assuming 50 percent are hired from outside the local area, resulting in approximately 15 new permanent residents. It is assumed that operational staff would reside locally and would result in minimal increase in vehicle trips per day (i.e. 30 roundtrips per day).

*Sewers and Sewage Treatment*

The applicant does not propose to connect to any public sewer or sewage treatment facility. During construction, the applicant intends to collect sanitary wastes onsite in portable toilets, to be provided and maintained by a licensed subcontractor.

As stated in ASC Exhibit U, the applicant intends to utilize a licensed onsite septic system to serve the domestic wastewater disposal needs at the Operations and Maintenance Buildings.[73] To ensure minimal impacts on the sewage and solid waste services provided by surrounding communities, the Department recommends the Council adopt the following condition:

> **Recommended Public Services Condition 1:** During operation of the facility, the certificate holder shall discharge sanitary wastewater generated at the O&M building to a licensed on-site septic systems in compliance with State permit requirements (DEQ issued Onsite Sewage Disposal Construction-Installation Permit).The certificate holder shall design the septic system for a discharge capacity of 7,500 gallons per day.
> [OPR-PS-01]

Based upon the applicant's proposal for waste disposal and the condition recommended above, the Department recommends that the Council find that the construction and operation of the proposed facility are not likely to result in significant adverse impacts to the ability of service providers to provide for waste disposal.

*Water Supply*

The applicant estimates that approximately 77.1 million gallons of water would be needed during construction, primarily for road compaction and for dust control.[74] As discussed in Section IV.Q.3., *Water Rights*, the applicant is not requesting a groundwater permit, a surface water permit, a water rights transfer, or any other specific water use license.

The applicant states that it would obtain water for construction activities from the City of Maupin's existing water right, and provides a copy of written correspondence with the City of Maupin confirming adequate capacity to cumulatively provide sufficient water supply for facility construction.[75] The applicant proposes to supply water for operations from an existing or newly construction permit exempt well; or, if a well is installed and used for construction water under a limited water use license obtained by a third-party contractor, that well may be used during facility operation, but used under exempt groundwater purposes. As discussed in Section IV.Q.3. *Water Rights* of this order, an onsite well drawing less than 5,000 gallons per day does not require a water right permit, but a usage log must be maintained in accordance

[73] BSPAPPDoc6 21 ASC Exhibit U, p. 16.
[74] BSPAPPDoc6 15 ASC Exhibit O. As discussed in ASC Exhibit O, the worst case scenario would be an especially dry and hot year, necessitating more water used for dust control.
[75] BSPAPPDoc6 21 ASC Exhibit U. Attachment U-3.

with ORS 537.765.[76] To ensure compliance with statutory and public service provider requirements, the Department recommends the following condition:

> **Recommended Public Services Condition 2:** During facility operation, the certificate holder shall ensure that if a permit exempt well is constructed to provide water to the O&M building, the certificate holder shall maintain a usage log in accordance with ORS 537.765. The certificate holder shall not use more than 5,000 gallons of water per day from the onsite well. The certificate holder may use other sources of water for onsite uses subject to approval by the Department.
> [OPR-PS-02]

Based upon the applicant's proposed water sources and the condition recommended above, the Department recommends that the Council find that the construction and operation of the proposed facility are not likely to result in significant adverse impacts to the ability of water service providers to provide water.

*Stormwater Drainage*

Existing stormwater drainage facilities within the analysis area are limited to public road drainage, managed by Wasco County. Construction related stormwater would be managed in accordance with the requirements of a DEQ-issued 1200-C permit, which establishes controls and BMPs to implement to minimize potential for offsite contamination. Operational stormwater would be minimal and would follow existing drainage patterns, which would not be impacted by the proposed facility. Because the proposed facility would not interconnect nor impact any public or private stormwater drainage systems, the Department recommends Council find that the construction and operation of the proposed facility are not likely to result in significant adverse impacts to the ability of stormwater drainage service providers to provide water.

*Solid Waste Management*

Proposed facility construction, operation and decommissioning would result in solid waste generation. Proposed facility construction would generate approximately 4,000 to 7,000 cubic yards of solid waste, total, including discarded construction materials, packaging materials, spent erosion control materials, wood form work, scrap metal from damaged pilings or racking equipment, or unused wiring. Construction waste would be stored in onsite debris bins, including separate bins for hazardous and non-hazardous materials. Materials suitable for recycle include some packaging materials, metals, glass, paper, wood and concrete, which the applicant commits to recycling to the extent possible. Remaining hazardous (i.e. oily rags) and non-hazardous waste would be managed by a local solid waste hauler and disposed of at a

[76] ORS 537.545(1)(f).

licensed facility. The applicant's proposed measures for minimizing construction-related solid waste include: detailed material estimating and efficient construction practices.

Solid waste generated during proposed facility operation would include approximately 6 yards of office waste from the O&M building; and, damaged or defective solar panels, batteries, and other electrical equipment, which is expected to be infrequent. All solid waste generated during proposed facility operation would be collected onsite and recycled at licensed facilities, as feasible. Solid waste generated during proposed facility decommissioning would include steel, aluminum, concrete, solar photovoltaic modules, cable, plastics, and battery components. The applicant represents that these materials would be recycled or reused, sold for scrap, or taken to a landfill.

As presented in ASC Exhibit U, the applicant commits to minimizing onsite solid waste through appropriate materials estimating and recycling, to the extent feasible. In addition, to ensure onsite waste is minimized to the extent feasible, the Department recommends Council impose a condition under the Waste Minimization standard (see Section IV.N. Waste Minimization of this order), requiring that the applicant develop and implement a Solid Waste Management Plan during all phases of construction, operation and decommissioning. The applicant also obtained confirmation from the Wasco County Landfill (ASC Exhibit U, Attachment U-2) confirming adequate long-term capacity to meet the proposed facility's solid waste disposal needs. Therefore, based on the quantity and type of solid waste generated by the proposed facility, compliance with the above-described recommended condition, and the confirmation obtained from the landfill, the Department recommends Council find that the construction and operation of the proposed facility are not likely to result in significant adverse impacts to the ability of solid waste disposal providers to dispose generated waste.

*Traffic Safety*

Potential impacts from the proposed facility on the ability of public and private providers of traffic safety are based on the volume and weight of vehicles, including worker vehicles and trucks delivering equipment and materials, and the capacity and existing condition of the transportation routes that would be utilized during construction and operation to support the increase in traffic volume and type of use.

As provided in ASC Exhibit U, the applicant contracted with Westwood Surveying and Engineering to develop a Traffic Count Plan (ASC Exhibit U Attachment U-1), which evaluates proposed work tasks, construction equipment and materials, material and equipment delivery vehicles, and the construction schedule to determine a peak daily trip estimate from proposed facility construction. Based on Westwood's Traffic Count Plan, and the assumptions described above and in ASC Exhibit U, proposed facility construction would result in up to 750 average daily trips (ADT) (including worker vehicles, pick-up trucks, material delivery vehicles) on I-84 and Bakeoven Road, 364 ADTs on US 197, 92 ADTs on US 97 (north, part of alternate route), and 46 ADTs on US 97 (south, workforce-only).

Based on review of Oregon Department of Transportation's (ODOT) 2017 Traffic Volumes on State Highways, the most recent year evaluated, segments of I-84 carried an ADT volume ranging from 16,700 to 23,600 vehicles between The Dalles and Bigg Junction; segments of US 97 carried an ADT volume ranging from 2,900 to 7,100 vehicles; and segments of US 97 carried an ADT volume ranging from 2,300 to 7,800. Based on the lowest ADT volume recorded in 2017 on the transportation routes to be used during construction and projected peak ADT from proposed facility construction, the increase in traffic volume on I-84 would be approximately 5 percent (750/16,700); increase of approximately 13 percent (364/2,900) on US 197; and, an increase of approximately 4 percent (92/2,300) on US 97. The potential increases in ADT range on the proposed transportation routes range from 4 to 13 percent and would be short-term and temporary in duration.

In ASC Exhibit U, the applicant describes that traffic counts on Bakeoven Road are not available, but that based on review of Wasco County's 2009 Transportation System Plan, rural major collector roads could be expected to carry 2,000 vehicles per day. Based on projected proposed facility construction-related traffic of 750 ADTs on Bakeoven Road, the potential increase in ADT would be approximately 50 percent or greater, depending on the season.

Existing conditions of proposed transportation routes ranges from fair to very good, with fair conditions described as those with minor or low severity pavement deficiencies that typically lead to treatment such as chip seal or light resurfacing.

To reduce potential impacts to traffic service providers for impacts from proposed facility construction, the Department recommends the Council impose the following condition:

**Recommended Public Services Condition 3:**

a. Prior to construction of the facility or any phase of the facility, the certificate holder shall:
    i. Consult with Wasco County Road Division and ODOT to determine whether any segments of roadway or bridges are restricted for travel, and to obtain any heavy haul permits required to allow transport of these loads.
    ii. Execute a Road Use Agreement with Wasco County Public Works Roads Division to ensure that any unusual damage or wear to state or county roads that is caused by facility construction related traffic and road use is repaired by the certificate holder. The Road Use Agreements shall establish and provide financial security regarding county road use, maintenance, and repair from construction-related impacts. Regardless of existing pavement conditions, the road use agreements shall establish that roadway segments will be reviewed prior to any added construction traffic, and establish a system for monitoring safety or degradation to pavement prior to and during construction. The certificate holder shall complete a Road Impact Assessment/Geotechnical Report for public roads to be used during construction, pursuant to WCLUDO Section 10.030(C)(9), and shall incorporate the report/results into the Road Use Agreement to identify appropriate improvement and/or level of restoration.

iii. Coordinate with local transportation officials to make improvements where necessary to accommodate facility construction traffic, and improvements will be restricted to areas within the respective rights-of-way.
iv. Submit to the Department for review in consultation with Wasco County Public Works Roads Division, City of Maupin, ODOT, and Bureau of Land Management a Construction Traffic Management Plan that includes, at a minimum, the best management practices provided in Attachment M of the Final Order on the ASC.

b. During construction of any phase of the facility, the certificate holder shall implement the Construction Traffic Management Plan, as approved by the Department under sub(a)(iv) of this condition.

[GEN-PS-01]

Based on compliance with the above-referenced condition, and the temporary nature of potential construction-related impacts, the Department recommends Council find that the construction and operation of the proposed facility are not likely to result in significant adverse impacts to the ability of transportation providers to provide traffic safety.

*Police and Fire Protection*

As presented in ASC Exhibit U, police protection services are provided by most of the incorporated cities within the 20-mile analysis area, with backup law enforcement available from the Oregon State Police Central Region, with offices in Madras, The Dalles, Government Camp, and Prineville.

Proposed facility construction could result in increased demand of police protection services due to the increase in onsite temporary workers and new activity at the proposed site. The applicant provides that onsite protection from crime or vandalism would be minimized through its onsite security and commits to maintaining good communications between onsite security personnel and the Wasco County Sheriff's Office. The applicant also provides, as evidence, a letter from Wasco County Sherriff's Office (ASC Exhibit U-F), confirming that the county would not consider the proposed activities or increase in temporary workers to create excessive demand on its providers. Proposed facility operation would be secured from crime or vandalism, which could increase demand of local police protection providers, through perimeter fencing and locked gates at the proposed substation, O&M building and battery storage system. Based on the applicant's representation, the Department recommends Council impose the following condition:

**Recommended Public Services Condition 4:** During construction of the facility or any phase of the facility, the certificate holder shall provide 24-hour onsite security and maintain good communication between onsite security personnel and the Wasco County Sherriff Office. [CON-PS-01]

As presented in ASC Exhibit U, fire protection services within the analysis area include Juniper Flat Rural Fire Protection District and the newly formed Bakeoven-Shaniko Rangeland Fire

Protection Association; however, neither service territories would cover the proposed facility. The applicant commits to executing a contractual agreement with Juniper Flat Rural Fire Protection District, which is a fully-equipped fire district, to implement a Fire Prevention and Emergency Response Plan and provide 24-hour, 7 days a week emergency service to the proposed facility; this commitment is reflected in the Department's recommended Land Use Condition 7.

The proposed facility could result in increased fire risk within the analysis area during both construction and operation. Construction-related fire risks include accidental grass fires. As reflected in recommended Land Use Condition 7, the applicant commits to minimizing these risks by establishing roads before accessing the site to keep vehicles away from grass, using diesel vehicles whenever possible (to prevent potential ignition by catalytic converters), avoiding idling vehicles in grassy areas, keeping cutting torches and similar equipment away from grass, and development of a health and safety plan.

Operations related fire risk include unanticipated equipment malfunction of lithium-ion batteries and vegetation impacts to high-voltage transmission lines. The applicant proposes to minimize these potential fire risks through facility design, adherence to applicable requirements, and implementation of an Operational Fire Prevention and Emergency Response Plan (provided as Attachment N of this order), as recommended in Land Use Condition 7.

> **Recommended Public Service Condition 5:** Prior to construction of the facility or any phase of the facility, the certificate holder must coordinate with the Oregon State Fire Marshal's Office to determine if the facility is compliant with state requirements for a commercial solar energy generation facility. A statement from the Oregon State Fire Marshal's office demonstrating their concurrence that the facility complies with their requirements shall be provided to the Department and Wasco County Planning Department.
> [PRE-PS-01]

Based on compliance with the above-recommended conditions, the Department recommends Council find that the construction and operation of the proposed facility are not likely to result in significant adverse impacts to the ability of police protection or fire services providers to provide services.

*Housing*

Proposed facility construction could necessitate temporary housing needs for a maximum of up to 280 households, with an average of 175 new households during any phase of construction, if the facility is constructed in phases. The applicant assumes that 30 percent of construction workers would be hired locally, with the remaining workers representing out of town workers, but that would commute up to 50-miles for temporary housing. Within 50-miles of the proposed facility, the applicant identifies availability of more than 1,000 hotel and motel rooms. The applicant also asserts that based on its industry experience, utility scale energy facilities can be constructed within rural areas without impacted local housing providers, due to the likelihood of workers

willing to commute greater distances for temporary housing than the immediate area within City of Maupin, which could be impacted negatively housing needs during construction were served solely by the City of Maupin. Proposed facility operations would result in 5 to 10 permanent employees and would not be expected to impact local providers of housing service. Based on the applicant's industry experience and availability of temporary housing within a 50-mile radius of the proposed facility, the Department recommends Council find that construction and operation of the proposed facility are not likely to result in significant adverse impacts to the ability of housing providers to provide housing.

*Schools and Healthcare*

Proposed facility construction could result in increased demand of health care providers. However, due to the relatively small number of new temporary residents and new permanent residents, significant new demands are not expected from health care facilities that serve the area. Therefore, no significant adverse impact on the ability of communities to provide health care is anticipated as a result of proposed facility construction or operation.

Proposed facility construction would not be expected to increase demand of school providers due to the temporary nature of the activity and low likelihood that families would relocate permanently. Due to the relatively small number of new temporary residents and new permanent residents, significant new demands are not expected from schools that serve the area. Therefore, the Department recommends Council find that construction and operation of the proposed facility are not likely to result in significant adverse impacts to the ability of school providers to provide schools.

**Conclusions of Law**

Based on the foregoing analysis, and in compliance with OAR 345-022-0110(2), the Department recommends that the Council include the above referenced conditions in the site certificate to address the Council's Public Services Standard.

**IV.N. Waste Minimization: OAR 345-022-0120**

> *(1) Except for facilities described in sections (2) and (3), to issue a site certificate, the Council must find that, to the extent reasonably practicable:*
>
> > *(a) The applicant's solid waste and wastewater plans are likely to minimize generation of solid waste and wastewater in the construction and operation of the facility, and when solid waste or wastewater is generated, to result in recycling and reuse of such wastes;*
> >
> > *(b) The applicant's plans to manage the accumulation, storage, disposal and transportation of waste generated by the construction and operation of the facility are likely to result in minimal adverse impact on surrounding and adjacent areas.*

*(2) The Council may issue a site certificate for a facility that would produce power from wind, solar or geothermal energy without making the findings described in section (1). However, the Council may apply the requirements of section (1) to impose conditions on a site certificate issued for such a facility.*
*****

**Findings of Fact**

The Waste Minimization Standard requires the Council to find that the applicant would minimize the generation of solid waste and wastewater, and that the waste generated would be managed to minimally impact surrounding and adjacent areas. Pursuant to OAR 345-022-0020(2), the Council may issue a site certificate for a solar facility without making findings regarding the Waste Minimization standard; however, the Council may impose site certificate conditions based upon the requirements of the standard.

*Solid Waste*

Proposed facility construction, operation and decommissioning would result in solid waste generation. Proposed facility construction would generate approximately 4,000 to 7,000 cubic yards of solid waste, total, including discarded construction materials, packaging materials, spent erosion control materials, wood form work, scrap metal from damaged pilings or racking equipment, or unused wiring. Construction waste would be stored in onsite debris bins, including separate bins for hazardous and non-hazardous materials. Materials suitable for recycle include some packaging materials, metals, glass, paper, wood and concrete, which the applicant commits to recycling to the extent possible. Remaining hazardous (i.e. oily rags) and non-hazardous waste would be managed by a local solid waste hauler and disposed of at a licensed facility. The applicant's proposed measures for minimizing construction-related solid waste include: detailed material estimating and efficient construction practices.

Solid waste generated during proposed facility operation would include approximately 6 yards of office waste from the O&M building; and, damaged or defective solar panels, batteries, and other electrical equipment, which is expected to be infrequent. All solid waste generated during proposed facility operation would be collected onsite and recycled at licensed facilities, as feasible. Solid waste generated during proposed facility decommissioning would include steel, aluminum, concrete, solar photovoltaic modules, cable, plastics, and battery components. The applicant represents that these materials would be recycled or reused, sold for scrap, or taken to a landfill.

Based on the applicant's solid waste minimization measures, the Department recommends Council impose the following condition:

**Recommended Waste Minimization Condition 1:** During construction, operation and decommissioning of the facility or any phase of the facility, the certificate holder shall

develop and implement a Solid Waste Management Plan that includes but is not limited to the following measures:

e. Recycling steel and other metal scrap
f. Recycling wood waste
g. Recycling packaging wastes such as paper and cardboard
h. Collecting non-recyclable waste for transport to a local landfill by a licensed waste hauler
i. Segregating all hazardous wastes such as oil, oily rags and oil-absorbent materials, mercury containing lights and lead-acid and nickel-cadmium batteries for disposal by a licensed firm specializing in the proper recycling or disposal of hazardous waste.

[GEN-WM-01]

*Wastewater*

Proposed facility construction, operation and decommissioning would result in wastewater generation. Proposed facility construction would result in sanitary waste from onsite portable toilets and concrete wash water from concrete trucks, which would be managed to minimize potential for offsite contamination through the applicant's NPDES 1200-C permit. Proposed facility operation would result in minimal sanitary waste (limited to 7,500 gallons based on the septic system capacity). While proposed facility operations would include solar panel washing and electrolyte solution replacement, for the battery storage systems, these sources would not be considered wastewater. Based on the limited sources of wastewater, it would be unlikely for the surrounding area to be impacted by proposed facility wastewater generation.

**Conclusions of Law**

Based on the foregoing analysis, and in compliance with OAR 345-022-0120(2), the Department recommends that the Council find that, based upon negligible sources of facility-related wastewater and compliance with the recommended solid waste management plan condition, waste would be minimized during proposed facility construction, operation and decommissioning and therefore the applicant has sufficiently addressed the Council's Waste Minimization Standard.

## IV.O. Division 23 Standards

The Division 23 standards apply only to "nongenerating facilities" as defined in ORS 469.503(2)(e)(K), except nongenerating facilities that are related or supporting facilities. The proposed facility would not be a nongenerating facility as defined in statute and therefore Division 23 is not applicable.

## IV.P. Division 24 Standards

The Council's Division 24 standards include specific standards for the siting of energy facilities, including wind projects, underground gas storage reservoirs, transmission lines, and facilities

that emit carbon dioxide. Because the proposed facility includes an approximately 11-mile 230 kV transmission line, which would transmit energy generated at the site to BPA's existing Maupin Substation, the Council's Division 24 Siting Standards for Transmission Line standard applies, as evaluated below.

IV.P.1. Siting Standards for Transmission Lines: OAR 345-024-0090

*To issue a site certificate for a facility that includes any transmission line under Council jurisdiction, the Council must find that the applicant:*

*(1) Can design, construct and operate the proposed transmission line so that alternating current electric fields do not exceed 9 kV per meter at one meter above the ground surface in areas accessible to the public;*
*(2) Can design, construct and operate the proposed transmission line so that induced currents resulting from the transmission line and related or supporting facilities will be as low as reasonably achievable.*

**Findings of Fact**

The Siting Standards for Transmission Lines address issues associated with alternating current electric fields and induced currents generated by high-voltage transmission lines. OAR 345-024-0090(1) sets a limit for electric fields from transmission lines of not more than 9 kV per meter at one meter above the ground surface in areas that are accessible to the public. Section (2) requires implementation of measures to reduce the risk of induced current. ASC Exhibit AA provides the applicant's analysis to support Council's review of the proposed facility's compliance with the standard.

*Electric Fields*

Electric fields around transmission lines are produced by the presence of an electric charge, measured as voltage, on the energized conductor. Electric field strength is directly proportional to the line's voltage; increased voltage produces a stronger electric field. The strength of the electric field is inversely proportional to the distance from the conductors; the electric field strength declines as the distance from the conductor increases.[77]

Peak electrical currents were modeled using the software modeling program, Corona and Field Effects Program (Version 3.1) developed by the Bonneville Power Administration, to analyze electromagnetic fields, measured in units of kilovolts per meter (kV/m), which would be produced by the proposed above-ground 34.5 collector line and 230 kV transmission line. As shown in ASC Exhibit AA Table AA-2 and Figure AA-3, the maximum electric field modeled for the proposed 230 kV transmission line is 2.68 kV per meter; and for the proposed 34.5 kV collector

[77] BSPAPPDoc6 27 ASC Exhibit AA. p.1. 2019-11-04.

lines is 0.756 kV per meter; both of which are below the 9-kV per meter threshold set forth in OAR 345-024-0090(1).

Based upon review of the applicant's modeling results presented in ASC Exhibit AA, the Department recommends that the Council find that the proposed 230 kV transmission line and 34.5 kV collector lines would not exceed 9 kV per meter at one meter above ground level.

*Induced Voltage and Current*

The Siting Standards for Transmission Lines requires the Council to find that the applicant "can design, construct and operate the proposed transmission line so that induced currents resulting from the transmission line and related or supporting facilities will be as low as reasonably achievable." Recommended Site Specific Condition 1 [based on the mandatory condition contained in OAR 345-025-0010(4)], presented in Section IV.A. *General Standard of Review* requires, in part, the certificate holder to 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. To further reduce the risk of induced current and nuisance shocks, the Department recommends the Council adopt the following condition:

> **Recommended Siting Standards for Transmission Lines Condition 1**: Prior to operation of the facility or any phase of the facility, the certificate holder shall provide landowners within 500 feet of the site boundary a map of the 230 kV transmission line and aboveground 34.5 kV collector lines and inform landowners of possible health and safety risks from induced currents caused by electric and magnetic fields.
> [PRO-TL-01]

**<u>Conclusions of Law</u>**

Based on the foregoing findings of fact and conclusions, and subject to compliance with the recommended site certificate conditions, the Department recommends that the Council find that the proposed facility would comply with the Council's Siting Standards for Transmission Lines.

## <u>IV.Q. Other Applicable Regulatory Requirements Under Council Jurisdiction</u>

Under ORS 469.503(3) and under the Council's General Standard of Review (OAR 345-022-0000), the Council must determine whether the proposed facility complies with "all other Oregon statutes and administrative rules…as applicable to the issuance of a site certificate for the proposed facility." This section addresses the applicable Oregon statutes and administrative rules that are not otherwise addressed in Council standards, including noise control regulations, regulations for removal or fill of material affecting waters of the state, and regulations for water rights.

IV.Q.1. Noise Control Regulation: OAR 340-035-0035

*(1) Standards and Regulations:*
*****
*(b) New Noise Sources:*
*(B) New Sources Located on Previously Used Sites: No person owning or controlling a new industrial or commercial noise source located on a previously used industrial or commercial site shall cause or permit the operation of that noise source if the statistical noise levels generated by that new source and measured at an appropriate measurement point, specified in subsection (3)(b) of this rule, exceed the levels specified in Table 8, except as otherwise provided in these rules. For noise levels generated by a wind energy facility including wind turbines of any size and any associated equipment or machinery, subparagraph (1)(b)(B)(iii) applies.*
*(C) New Sources Located on Previously Unused Site:*
*(ii) No person owning or controlling a new industrial or commercial noise source located on a previously unused industrial or commercial site shall cause or permit the operation of that noise source if the noise levels generated or indirectly caused by that noise source increase the ambient statistical noise levels, L10 or L50, by more than 10 dBA in any one hour, or exceed the levels specified in Table 8, as measured at an appropriate measurement point, as specified in subsection (3)(b) of this rule, except as specified in subparagraph (1)(b)(B)(iii).*
*(iii) The ambient statistical noise level of a new industrial or commercial noise source on a previously unused industrial or commercial site shall include all noises generated or indirectly caused by or attributable to that source including all of its related activities. Sources exempted from the requirements of section (1) of this rule, which are identified in subsections (5)(b) - (f), (j), and (k) of this rule, shall not be excluded from this ambient measurement.*
*****
*(c) Quiet Areas. No person owning or controlling an industrial or commercial noise source located either within the boundaries of a quiet area or outside its boundaries shall cause or permit the operation of that noise source if the statistical noise levels generated by that source exceed the levels specified in Table 9 as measured within the quiet area and not less than 400 feet (122 meters) from the noise source.*
*****

*(3) Measurement:*
*(a) Sound measurements procedures shall conform to those procedures which are adopted by the Commission and set forth in Sound Measurement Procedures Manual (NPCS-1), or to such other procedures as are approved in writing by the Department;*

*(b) Unless otherwise specified, the appropriate measurement point shall be that point on the noise sensitive property, described below, which is further from the noise source:*

*A. 25 feet (7.6 meters) toward the noise source from that point on the noise sensitive building nearest the noise source;*

*B. That point on the noise sensitive property line nearest the noise source.*

*(4) Monitoring and Reporting:*

*(a) Upon written notification from the Department, persons owning or controlling an industrial or commercial noise source shall monitor and record the statistical noise levels and operating times of equipment, facilities, operations, and activities, and shall submit such data to the Department in the form and on the schedule requested by the Department. Procedures for such measurements shall conform to those procedures which are adopted by the Commission and set forth in Sound Measurement Procedures Manual (NPCS-1);…*

*(5) Exemptions: Except as otherwise provided in subparagraph (1)(b)(B)(ii) of this rule, the rules in section (1) of this rule shall not apply to:*

*****

*(c) Sounds created by the tires or motor used to propel any road vehicle complying with the noise standards for road vehicles;*

*****

*(g) Sounds that originate on construction sites.*

*****

*(k) Sounds created by the operation of road vehicle auxiliary equipment complying with the noise rules for such equipment as specified in OAR 340-035-0030(1)(e);*

*****

**Findings of Fact**

OAR 340-035-0035 provides the DEQ noise rules for industry and commerce and establish noise limits for new industrial or commercial noise sources based upon whether those sources would be developed on a previously used or previously unused site.[78] Pursuant to OAR 340-035-0015(47), a "previously unused industrial or commercial site" is defined as property which has not been used by any industrial or commercial noise source during the 20 years immediately preceding commencement of construction of a new industrial or commercial source on that property. There is no evidence in the record that the proposed facility site has been in industrial or commercial use at any time during the last 20 years, therefore the site is considered a previously unused site and evaluated per the requirements of OAR 340-035-0035(1)(b)(B).

[78] A "previously unused industrial or commercial site" is defined in OAR 340-035-0015(47) as property which has not been used by any industrial or commercial noise source during the 20 years immediately preceding commencement of construction of a new industrial or commercial source on that property.

Noise generated by a new industrial or commercial source located on a previously unused site must comply with two standards: the "ambient noise degradation standard" and the "maximum allowable noise standard." Both of these standards represent allowable noise levels at "real properties normally used for sleeping," otherwise referred to as a "noise sensitive property."[79] The analysis area for evaluating compliance with the DEQ noise rules includes the area within and extending 1-mile from the proposed site boundary. Within the analysis area, the applicant identifies 23 noise sensitive properties. Therefore, compliance with the DEQ noise rules, as further described below, is based upon modeled noise levels of proposed facility operation at the identified 23 noise sensitive properties.

Under the ambient noise degradation standard, facility-generated noise must not increase the ambient hourly L10 or L50 noise levels at any noise sensitive property by more than 10 dBA, with ambient noise levels established based on noise measurements taken at an appropriate noise measurement location (point on the noise sensitive property line nearest to the noise source).[80] Under the maximum allowable noise standard at OAR 340-035-0035(1)(b)(B)(i), new industrial or commercial noise sources may not exceed the noise levels specified in the noise rules, as represented in Table 10: *Statistical Noise Limits for Industrial and Commercial Noise Sources* below.

**Table 10: Statistical Noise Limits for Industrial and Commercial Noise Sources**

| Statistical Descriptor[1] | Maximum Permissible Hourly Statistical Noise Levels (dBA) | |
|---|---|---|
| | Daytime (7:00 AM - 10:00 PM) | Nighttime (10:00 PM - 7:00 AM) |
| L50 | 55 | 50 |
| L10 | 60 | 55 |
| L1 | 75 | 60 |

Notes:
1. The hourly L50, L10 and L1 noise levels are defined as the noise levels equaled or exceeded 50 percent, 10 percent, and 1 percent of the hour, respectively.

Source: OAR 340-035-0035, Table 8

*Potential Noise Impacts*

The applicant's evaluation of compliance with DEQ's noise rules is presented in ASC Exhibit X. Based upon review of ASC Exhibit X, the Department presents its assessment for Council review

[79] OAR 340-035-0015(38) defines noise sensitive property as, "real property normally used for sleeping, or normally used as schools, churches, hospitals or public libraries. Property used in industrial or agricultural activities is not Noise Sensitive Property unless it meet the above criteria in more than an incidental manner."

[80] OAR 340-035-0035(3)(b) establishes appropriate measurement points as also inclusive of "25 feet toward the noise source from that point on the noise sensitive building nearest the noise source," which was not referenced above because the applicant evaluated ambient based on the point on the property line nearest to the noise source, as also allowed by the rule.

of the applicant's ability to comply with the noise requirements.

*Construction*

OAR 340-035-0035(5)(g) specifically exempts noise caused by construction activities; however, an evaluation of construction-related noise is presented in accordance with OAR Chapter 345 Division 21 information requirements and to inform the construction-related noise analysis required under the Council's Protected Areas and Recreation standards.

Proposed facility construction, including solar components and 230 kV transmission line, would include site preparation, grading, preparation of staging areas and onsite access routes; array foundation installation, conductor installation, and construction of collector substation; solar panel assembly and construction electrical components; inverter pad construction; commissioning of solar array and grid interconnection; installation of transmission structure foundations, erection of support structures and conductor stringing. Using equipment sound levels documented in the Federal Highway Administration's 2006 Roadway Construction Noise Model, the applicant represents the following typical construction equipment and predicted sound pressure levels at specific distances: bulldozer (88 - 43 dBA at 50 – 5,000 ft), grader (85 – 40 dBA at 50 – 5,000 ft), crane (83 – 38 dBA at 50 – 5,000 ft), and portable generator (84 – 39 dBA at 50 – 5,000 ft).

*Operations*

As described above, OAR 340-035-0035(1)(b)(B)(i) requires a demonstration that noise generated during proposed facility operation must not cause the ambient hourly L10 and L50 noise levels at any noise-sensitive property to exceed 10 dBA above ambient, with ambient noise levels established using noise measurements at the location on the noise sensitive property line nearest to the proposed noise source.

Proposed facility components that would generate noise during operations include: transformers and inverters associated with the solar arrays, inverters and cooling systems associated with battery storage systems; and corona discharge noise (buzz or crackling during wet conditions) from the 230 kV transmission line. In ASC Exhibit X, the applicant provides a noise analysis inclusive of the operational sources and sound power levels (in A-weighted decibels) for proposed facility components, as listed below:

- 152 inverters, each at 88 dBA
- 152 distribution transformers, each at 77 dBA
- 2 substation transformers at 106 dBA
- 208 battery storage heating, ventilation and air conditioning units, each at 89 dBA
- 103 battery storage transformers, each at 77 dBA
- 230 kV transmission line at 76 to 99 dBA (fair to rainy conditions)

*Ambient Noise Measurements*

OAR 340-035-0035(1)(b)(B)(i) restricts noise levels of new industrial or commercial noise sources located on a previously unused industrial or commercial site from increasing the ambient statistical noise level, L10 or L50, by more than 10 dBA in any one hour, where ambient noise levels must be based on an appropriate noise measurement, as previously discussed, and noise measurement procedures established in OAR 340-035-0035(3)(b). OAR 340-035-0035(3)(b) establishes acceptable procedures as the Sound Measurement Procedure Manual (NPCS-1) adopted by the DEQ Commission in the 1970's or as otherwise approved by the Department.

As presented in ASC Exhibit X, the applicant seeks Council approval of ambient noise measurement procedures other than NPCS-1, for the proposed solar facility and the 230 kV transmission line. To evaluate ambient conditions within the proposed solar facility area, the applicant requests Council approval of a noise measurement procedure based on American National Standards Institute (ANSI) S12.9-2005/Part 2 Quantities and Procedures for Description and Measurement of Environmental Sound – Part 2: Measurement of long-term, wide area sound) and S1.13-2005 (Measurement of Sound Pressure Levels In Air). The applicant represents that the procedures used for ambient measurements are commonly accepted standards within the acoustic engineer industry.

To evaluate ambient conditions along the 11-mile 230 kV transmission line corridor, the applicant requests Council approval of a conservative default ambient noise level, based on the average L50 nighttime noise levels measured at the four ambient sound monitoring locations (20 dBA) and adjusted based on a noise level of rainfall assumed to be perceivable by the human ear (6 dBA), equating to a default ambient of 26 dBA. Based on review of information published by health care provider, *Center for Hearing and Communication,* and BRE Environment, the applicant provides that 26 dBA is an extremely conservative ambient noise level for a transmission line, where corona noise would be generated during wet, rainy conditions, where rainy conditions alone would typically generate noise levels above 50 dBA. Based on review of the above-referenced procedures and applicant's supporting information, the Department recommends Council approve use of the proposed ambient measurement procedures.

Using the above-referenced procedures, four noise sensitive properties nearest to the proposed solar facility components were identified, at distances of 465, 800, 1,161 and 5,585 feet. At each of the four identified noise sensitive property locations, four short-term (30-minute) sound measurements were taken, with statistical sound levels measured in consecutive 1-second and 1-minute intervals. Measurements of the existing sound levels were conducted for both the daytime (7AM to 10PM) and nighttime (10PM to 7AM) periods. All measurements were taken with a pre-field calibrated Larson Davis 831 real-time sound level analyzer, equipped with a PCB model 377B02 ½-inch precision condenser microphone. The applicant confirms that weather conditions during the ambient measurements were conducive for accurate data collection. The results of the ambient noise measurements are presented in Table

11: *Summary of Ambient Measurement Results* below.

**Table 11: Summary of Ambient Measurement Results**

| NSR ID | Distance to Nearest Facility Fenceline (feet) | Time Period | Baseline Sound Level | | | |
|---|---|---|---|---|---|---|
| | | | Leq | L10 | L50 | L90 |
| ST-1 | 1,161 | Day | 54 | 44 | 26 | 21 |
| | | Night | 47 | 35 | 25 | 21 |
| ST-2 | 800 | Day | 55 | 36 | 29 | 26 |
| | | Night | 27 | 26 | 22 | 20 |
| ST-3 | 465 | Day | 54 | 39 | 29 | 23 |
| | | Night | 23 | 28 | 17 | 16 |
| ST-4 | 5,585 | Day | 33 | 37 | 31 | 24 |
| | | Night | 35 | 31 | 29 | 16 |
| Source: ASC Exhibit X Table X-3 | | | | | | |

As presented in Table 11: *Summary of Ambient Measurement Results*, ambient conditions as measured at the noise sensitive properties located in closest proximity to proposed facility components range from 26 to 31 dBA for daytime L50 and from 17 to 29 dBA for nighttime L50.

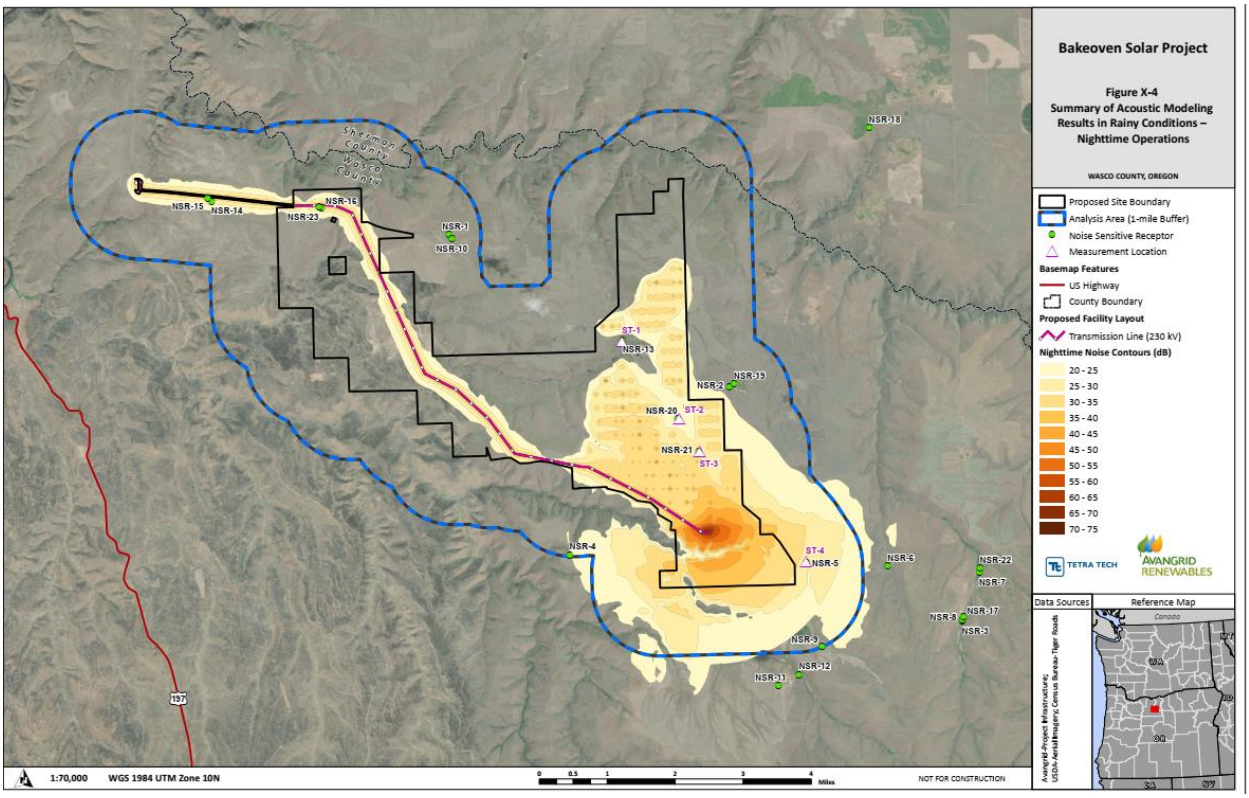
*Statistical Noise Modeling*

The applicant used two acoustic modeling software programs to evaluate operational noise from the proposed facility - the Corona and Field Effects Program Version 3 (Corona 3) for the 230 kV transmission line and the Computer Aided Noise Abatement (CadnaA) version 2018 MR1 for solar facility components and the transmission line - to model predicted maximum operational noise at noise sensitive properties within the analysis area. Corona 3 uses algorithms to predict a variety of outputs including electric and magnetic field and audible noise from transmission lines. The results of Corona 3 were then input into the CadnaA program to evaluate the maximum operational noise levels of the proposed facility.

CadnaA includes sound propagation factors adopted from International Organization for Standardization's (ISO) 9613-2 "Attenuation of Sound during Propagation Outdoors" to account for geometric divergence, atmospheric absorption, reflection from surfaces, screening by topography and obstacles, terrain complexity and ground effects, source directivity factors, seasonal foliage effects, and meteorological conditions. Topographical information was imported into the acoustic model using the official U.S. Geological Survey (USGS) digital elevation dataset to accurately represent terrain in three dimensions. Terrain conditions, vegetation type, ground cover, and the density and height of foliage can also influence the absorption that takes place when sound waves travel over land.

Results of the noise analysis are presented graphically on noise contour maps identifying proposed facility component locations and noise sensitive properties within 1-mile of the proposed site boundary, identifying the boundaries of noise contours ranging from 20-25 to 70-75 dBA. Maximum noise levels from the proposed facility, based on rainy conditions during the quietest time (nighttime), are presented in Figure 7: *Summary of Acoustic Modeling Results in Rainy Conditions – Nighttime Operations*.

**Figure 7: Summary of Acoustic Modeling Results in Rainy Conditions – Nighttime Operations**




*Ambient Noise Degradation and Maximum Allowable Standards*

The ambient noise degradation standard requires a demonstration that noise generated during proposed facility operation must not cause the hourly L50 noise level at any noise-sensitive property to exceed 10 dBA above measured ambient conditions or, in this case, ambient conditions ranging from 17 to 31 dBA. Based upon the applicant's noise analysis and noise contour maps, maximum increases in ambient noise level from proposed facility operation would not exceed 9 dBA, as presented in ASC Exhibit X Tables X-8 and X-9. Therefore, the ambient noise degradation standard would not be exceeded at any noise sensitive property, even during maximum operational noise/rainy conditions. Additionally, the noise modeling results show that noise generated during proposed facility operation would not exceed the maximum allowable standard of 50 dBA at any noise sensitive property within the analysis area, with maximum statistical noise levels modeled at 35 dBA, as presented in ASC Exhibit X Tables

X-8 and X-9. Therefore, the maximum allowable standard would not be exceeded at any noise sensitive property, even during maximum operational noise/rainy conditions

In ASC Exhibit X, the applicant represents that, to ensure compliance with the DEQ noise rules and verify consistency with the noise analysis provided in ASC Exhibit X, the final equipment specifications and noise warranty data of noise generating equipment associated with the proposed facility would be reviewed by an acoustician. Based upon this representation, the Department recommends Council impose the following condition to afford the Department the ability to verify compliance with DEQ's noise rules, based on consistency of sound power levels associated with final equipment selection compared to equipment information relied upon in ASC Exhibit X:

**Recommended Noise Control Condition 1:** Prior to construction of the facility or any phase of the facility, the certificate holder shall:

a. Submit to the Department a noise summary report presenting the sound power levels (in dBA) of noise generating equipment including solar array inverters and transformers, substation transformers, and battery system inverters and cooling systems, as applicable to final design. The sound power levels shall be supported by equipment manufacturer specifications and noise data. The certificate holder shall provide, in tabular format, a comparison of the sound power levels used in ASC Exhibit X for noise generating equipment and sound power levels validated by manufacturer specifications.
b. If the sound power levels used in ASC Exhibit X to evaluate compliance with DEQ's noise rules are lower than sound power levels of final equipment selected, the certificate holder shall provide an updated noise analysis to demonstrate compliance with the ambient degradation standard and maximum allowable threshold. The ambient noise level utilized in ASC Exhibit X may be used for the updated noise analysis, if required.

[PRE-NC-01]

**Conclusions of Law**

Based on the foregoing findings, and compliance with the recommended condition, the Department recommends that the Council find that the proposed facility would comply with the Noise Control Regulations in OAR 340-035-0035(1)(b)(B).

IV.Q.2. Removal-Fill

The Oregon Removal-Fill Law (ORS 196.795 through 196.990) and Department of State Lands (DSL) regulations (OAR 141-085-0500 through 141-085-0785) require a removal-fill permit if 50 cubic yards or more of material is removed, filled, or altered within any "waters of the state."[81] The Council, in consultation with DSL, must determine whether a removal-fill permit is needed

[81] ORS 196.800(15) defines "Waters of this state." The term includes wetlands and certain other waterbodies.

and if so, whether a removal-fill permit should be issued. The analysis area for wetlands and other waters of the state is the area within the site boundary.

**Findings of Fact**

The applicant states that a removal-fill permit is not needed for the proposed facility because the facility would not temporarily or permanently impact waters of the state. The applicant conducted wetland delineation studies in 2018. The results of these studies are presented in ASC Exhibit J, and summarized in Table J-1.[82] The applicant completed a wetland delineation report and submitted with the report with the ASC Exhibit J, Attachment J-2. As shown in ASC Exhibit J Table J-1, the wetland delineation study determined that there are four types of wetlands and other water features in the analysis area: palustrine emergent wetlands; palustrine scrub-shrub/palustrine emergent wetland; palustrine scrub-shrub/palustrine forested wetland; and intermittent streams. Of these features, palustrine emergent wetlands were found to be the most common. Based on the types of wetlands and other water features, 18 were identified as wetlands and 4 were identified as other water features.

DSL reviewed the wetland delineation report and provided a concurrence letter in August 2019, in which DSL agreed with the wetland delineation and classifications.[83] As the applicant demonstrates in ASC Exhibit J and associated wetland delineation report, the proposed facility would not impact waters of the state; therefore, a removal-fill permit is not required.

Therefore, the Department recommends the Council find that the proposed facility maintains compliance with the removal-fill law and the certificate holder is not currently required to obtain a removal-fill permit.

**Conclusions of Law**

Based on the foregoing findings of fact and conclusions, the Department recommends that the Council find that a removal-fill permit is not needed for the proposed facility.

### IV.Q.3. Water Rights

Under ORS Chapters 537 and 540 and OAR Chapter 690, the Oregon Water Resources Department (OWRD) administers water rights for appropriation and use of the water resources of the state. Under OAR 345-022-0000(1)(b), the Council must determine whether the proposed facility would comply with these statutes and administrative rules. OAR 345-021-0010(1)(o)(F) requires that if a proposed facility needs a groundwater permit, surface water permit, or water right transfer, that a decision on authorizing such a permit rests with the Council.

[82] BSPAPPDoc6 10. ASC Exhibit J, p. 4. 2019-11-04.
[83] BSPAPP. pASC Reviewing Agency Comment DSL Concurrence, 2019-09-16.

**Findings of Fact**

As explained in ASC Exhibit O, proposed facility construction would use, under high temperatures, dry climactic conditions (i.e. "worst-case conditions") up to 77 million gallons of water per year for dust suppression, road compaction, concrete foundations, on-site worker drinking and sanitation use. Proposed facility operation would use approximately 1 million gallons of water per year to support O&M building drinking water use and solar panel washing. Estimated water use from proposed facility construction and operation is presented in Table 12 below.

**Table 12: Estimated Water Use from Proposed Facility Construction and Operation**

| Water Use Description | Quantity/Units |
|---|---|
| *Construction* | Gallons/Year |
| Site Dust Control | 75 million |
| Road Compaction | 182,400 |
| Concrete Mixing | 1.7 million |
| Drinking Water/Sanitation | 187,500 |
| **Annual Estimated Construction Water Use =** | 77.1 million |
| *Operation* | Gallons/Year |
| O&M Building | 7,500 |
| Solar Panel Washing | 1 million |
| **Annual Estimated Operational Water Use =** | 1,007,500 |
| Source: ASC Exhibit O | |

In ASC Exhibit O, the applicant describes that construction-related water would be obtained from the City of Maupin, through an existing water right permit, or use of an existing or newly constructed well, which would be permitted by a third-party under an Oregon Department of Water Resources-issued limited water use license. Operational water would be obtained by the same sources identified for construction. In ASC Exhibit O, the applicant provides a letter from the City of Maupin dated May 30, 2019, where Mayor Ewing confirms an ability of the city under its existing water right permit number S18591 to provide water to meet the applicant's forecasted construction related water demand. The applicant asserts that through its communication with the City of Maupin, that the existing water right S18591 could serve the proposed facility's construction-related water demand during normal and dry conditions throughout the year.

Based on the recommended findings, the Department recommends Council find that the applicant has demonstrated an ability to obtain adequate water for construction and operation of the proposed facility and does not need a groundwater permit, surface water permit, or water right transfer. If such a permit is required by the applicant at a later time, a site certificate amendment would be required to review and consider such a permit application.

**Conclusions of Law**

Based on the foregoing findings of fact, the Department recommends that the Council conclude that the proposed facility does not need a groundwater permit, surface water permit, or water right transfer.

## V. PROPOSED CONCLUSIONS AND ORDER

The applicant submitted an application for site certificate to construct and operate approximately 303 MW of solar photovoltaic power generation equipment and its related or supporting facilities (11-mile 230 kV transmission line; collector substation; operations and maintenance building; communication and supervisory control and data acquisition system; temporary staging areas; battery storage) to be located in southern Wasco County. Subject to compliance with the recommended site certificate conditions and based on the preponderance of evidence on the record, the Department recommends Council find that:

1. The proposed Bakeoven Solar Project complies with the requirements of the Oregon Energy Facility Siting Statutes, ORS 469.300 to 469.520.

2. The proposed Bakeoven Solar Project complies with the standards adopted by the Council pursuant to ORS 469.501.

3. The proposed Bakeoven Solar Project complies with all other Oregon statutes and administrative rules identified in the second amended project order as applicable to the issuance of a site certificate for the proposed facility.

Based on the recommended findings of fact, reasoning, recommended conditions and conclusions of law in this draft proposed order, the Department recommends that Council conclude that the applicant has satisfied the requirements for issuance of a site certificate for the proposed Bakeoven Solar Project. The Department further recommends that, pursuant to ORS 469.401, the Chairperson execute the site certificate authorizing the applicant to construct, operate and retire the facility subject to the conditions set forth in the site certificate.

Issued this 17th day of January 2020

The OREGON DEPARTMENT OF ENERGY

By: _____

Todd Cornett
Assistant Director, Energy Facility Siting Division
Oregon Department of Energy

**Attachments:**

Attachment A: Recommended Site Certificate Conditions
(To be replaced in final order with Site Certificate)
Attachment B: Index of Reviewing Agency Comments on complete ASC;
Comments Relied upon in DPO
(Including Department's Consultant Review Memos)
Attachment C: [Reserved for Draft Proposed Order Comments/Index]
Attachment D: Draft Erosion and Sediment Control Plan and Best Management Practices
Attachment E: Owner Legal Parcel Status
Attachment F: Forest-Farm Management Easement
Attachment G: Protection for Generally Accepted Farming and Forestry Practices – Complaint and Mediation Process
Attachment H: Draft Habitat Mitigation Plan
Attachment I: Draft Revegetation Plan
Attachment J: Draft Wildlife Monitoring Plan
Attachment K: Draft Noxious Weed Control Plan
Attachment L: Draft Inadvertent Discovery Plan
Attachment M: Draft Construction Traffic Management Plan
Attachment N: Draft Operational Fire Protection and Emergency Response Plan

**Notice of the Right to Appeal**

[Text to be added to Final Order]

## 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:** The certificate holder shall begin and complete construction of the facility or any phase of the facility by the dates specified in the site certificate.

a. Construction of the facility or any phase 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 that it has met the construction commencement deadline.
b. Construction of the last phase of the facility, if constructed in phases, shall commence within five 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 that it has met the construction commencement deadline.
c. Construction of all facility components shall be completed within six years after the date of Council action [DATE TO BE SPECIFIED]. 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)]

**Recommended General Standard Condition 2:** 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 or any phase 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.
[GEN-OPS-01; Mandatory Condition OAR 345-025-0006(2)]

**Recommended General Standard Condition 3:** The certificate holder shall design, construct, operate, and retire the facility or any phase of 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)]

**Recommended General Standard Condition 4:** 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)]

**Recommended General Standard Condition 5:** If the certificate holder becomes aware of a significant environmental change or impact attributable to the facility or any phase of 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)]

**Recommended General Standard Condition 6:** Upon completion of construction of the facility or any phase of the facility, 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)]

**Recommended General Standard Condition 7:** Before any transfer of ownership of the facility, any phase 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:** The certificate holder shall:

a. Design, construct and operate the transmission line in accordance with the requirements of the National Electrical Safety Code as approved by the American National Standards Institute; and
b. The certificate holder shall 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.

[GEN-GS-05; Site Specific Condition OAR 345-025-0010(4)]

**Recommended General Standard Condition 9:** The certificate holder is authorized to construct a 230 kV transmission line anywhere within the approved corridor, subject to the conditions of the site certificate. The approved corridor extends approximately 11 miles from the micrositing corridor containing the solar arrays and other related or supporting facilities, along the transmission corridor route, to the interconnection point at the BPA Maupin Substation, as further described in ASC Exhibit 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 10:** At least 90 days prior to beginning construction of the facility or any phase 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-01; OAR 345-026-0048]

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

**Recommended Organizational Expertise Condition 1:** During construction and operation of the facility or any phase of the facility, the certificate holder shall report to the Department, within 7 days, any change in the corporate structure of the parent company, Avangrid Renewables, LLC that could impact the certificate holder's access to the financial resources or expertise of Avangrid Renewables, LLC.
[GEN-OE-01]

**Recommended Organizational Expertise Condition 2:** Before beginning construction of the facility or any phase of the facility, the certificate holder shall notify the Department of 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. The certificate holder shall report to the Department any changes of major contractors.
[PRE-OE-01]

**Recommended Organizational Expertise Condition 3:** During design, construction, operation, and retirement of the facility or any phase of the facility, the certificate holder shall contractually require all contractors and subcontractors to comply with all applicable laws and regulations and with the terms and conditions of the site certificate. The contractual obligation shall be required of each contractor and subcontractor prior to that firm working on the facility. Such contractual provisions shall not operate to relieve the certificate holder of responsibility under the site certificate.
[GEN-OE-02]

**Recommended Organizational Expertise Condition 4**: 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.
[GEN-OE-03]

**Recommended Organizational Expertise Condition 5:** 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.
[GEN-OE-04]

**Recommended Organizational Expertise Condition 6:** During construction and operation of the facility or any phase of the facility, the certificate holder shall contractually require its third-party contractor used to transport and dispose battery and battery waste to comply with all applicable federal regulations and manufacturer recommendations related to the transport and handling of battery related waste.
[GEN-OE-05]

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

**Recommended Structural Standard Condition 1:** At least 60-days prior to the commencement of construction of the facility or any phase of the facility, the certificate holder shall conduct a site-specific geotechnical investigation and shall report its findings to the Oregon Department of Geology and Mineral Industries (DOGAMI) and the Department. The certificate holder shall conduct the geotechnical investigation after consultation with DOGAMI and in general accordance with the 2014 Oregon State Board of Geologist Examiners Guideline for Preparing Engineering Geologic Reports, or newer guidelines if available.
[PRE-SS-01]

**Recommended Structural Standard Condition 2:** 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.
[GEN-SS-01; Mandatory Condition OAR 345-025-0006(12)]

**Recommended Structural Standard Condition 3:** 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.
[GEN-SS--02; Mandatory Condition OAR 345-025-0006(13)]

**Recommended Structural Standard Condition 4:** 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.
[GEN-SS-03; Mandatory Condition OAR 345-025-0006(14)]

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

**Recommended Soil Protection Condition 1:**

a. Prior to construction of the facility or any phase of the facility, the certificate holder shall provide a copy to the Department of its DEQ-issued NPDES 1200-C permit, including final Erosion Sediment Control Plan and associated drawings (as provided in Attachment D of the Final Order on the ASC).
b. During construction of the facility or any phase of the facility, the certificate holder shall conduct all work in compliance with a final Erosion and Sediment Control Plan that is satisfactory to the Oregon Department of Environmental Quality as required under the National Pollutant Discharge Elimination System Construction Stormwater Discharge General Permit 1200-C.

[GEN-SP-01]

**Recommended Soil Protection Condition 2:** Prior to operation of the facility or any phase of the facility, the certificate holder shall provide a copy, to the Department, of an operational Spill Prevention Control and Countermeasures (SPCC) plan, if required pursuant to OAR 340-041-0001 to -0240.
[PRO-SP-01]

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

**Recommended Land Use Condition 1:** Prior to construction of the facility or any phase of the facility, the certificate holder shall demonstrate to the Department and Wasco County through mapping or other engineering drawing that the final facility layout, or layout of any final phase of the facility, complies with the following county setback requirements:

a. 25-foot minimum setback distance from permanent foundations (posts if in concrete, substation, O&M building) to all water bodies (seasonal or permanent) not identified on any federal, state or local inventory. Waterbodies not identified on a federal, state or local inventory within the micrositing corridor include a portion of Salt Creek (which flows through Dead Dog Canyon) and 13 unnamed ephemeral or intermittent streams, as identified in ASC Exhibit J.
b. 50-foot minimum setback distance from structures (posts if in concrete, O&M building, substation) to the centerline of an irrigation ditch or pipeline, if the ditch or pipeline continues past the subject parcel to provide water to other nonparticipating property owners.
c. 30-foot vision clearance at access road driveways constructed by the facility that provide access to a public roadway.
   [PRE-LU-01]

**Recommended Land Use Condition 2:** Prior to construction of the facility or any phase of the facility, the certificate holder shall demonstrate to the Department and Wasco County that all outdoor lighting at the O&M building and substation would be limited in intensity, shielded and hooded using non-reflective, opaque materials.
[PRE-LU-02]

**Recommended Land Use Condition 3:** Prior to construction of the facility or any phase of the facility, the certificate holder shall obtain a road approach permit for any new or substantially modified road approaches accessing a county road. Copies of Road Approach Permits obtained from Wasco County Public Works Department and/or ODOT shall be provided to the Department.
[PRE-LU-03]

**Recommended Land Use Condition 4:** Prior to construction of the facility or any phase of the facility, the certificate holder shall demonstrate to the Department and Wasco County that the following actions have been completed:

a. Sign and record with the Wasco County Clerk a completed Forest-Farm Management Easement for each participating landowner (Attachment F of this order).
b. Provide a copy of the "Protection for Generally Accepted Farming and Forestry Practices – Complaint and Mediation Process" document (Attachment G of this order) to participating landowners.

[PRE-LU-04]

**Recommended Land Use Condition 5**: The certificate holder shall:

a. Prior to construction of the facility or any phase of the facility, provide written notification to residences located on land within 1,000 feet of the facility micrositing corridor, identifying the type, duration and frequency of construction activities. Notification materials shall also identify a mechanism for residents to register complaints with the facility if construction noise levels or overly intrusive.
b. During construction of the facility or any phase of the facility, implement the following noise reduction measures:
    1. All construction equipment shall be equipped with noise-reduction devices such as mufflers to minimize construction noise, and all internal combustion engines shall be equipped with exhaust and intake silencers in accordance with manufacturer specifications.
    2. Construction site and haul road speed limits shall be established and enforced.
    3. The use of bells, whistles, alarms and horns shall be restricted to safety warning purposes only.

    [GEN-LU-01]

**Recommended Land Use Condition 6:** Prior to construction of the facility or any phase of the facility, the certificate holder shall provide written confirmation to the Department, based on final design, engineering and geotechnical investigation, that the O&M building, substation and battery storage system would be located on land with less than a 40 percent slope and setback at a minimum of 50 feet from the top of slopes greater than 30 percent. [PRE-LU-05]

**Recommended Land Use Condition 7:**

a. Prior to construction of the facility or any phase of the facility, the certificate holder shall submit a Construction Fire Prevention and Emergency Response Plan to the Department, for review and approval, in consultation with Wasco County Planning Department.
b. Prior to operation of the facility or any phase of the facility, the certificate holder shall submit an Operational Fire Prevention and Emergency Response Plan, consistent with the components included in the draft plan provided in Attachment N of the Final Order on the ASC.
c. The certificate holder shall demonstrate that the draft plans submitted under (a) and (b) of this condition were developed in consultation with the Oregon State Fire Marshal, Bakeoven Shaniko Rangeland Fire Protection Association, and Juniper Rural Flat Protection District. The plans shall, at a minimum, identify:
    i. Fire-related risks associated with construction, operation and maintenance of facility components, during winter and summer conditions; and of the area, during both summer and winter conditions, based on specific terrain and dry nature of the area.
    ii. The plans shall address emergency response by local service providers, and include emergency responders contact name and telephone number; a description of and map of the location of onsite fire-fighting equipment; address, map and directions to the nearest hospitals; and, shall describe first aid techniques that could be implemented by trained onsite personnel if fire-related injuries occur onsite.
    iii. The plans shall address public safety through access restrictions, via perimeter fencing, and any other measures included in facility design that minimize public safety risk from hazardous areas within the facility area.

    [GEN-LU-02]

**Recommended Land Use Condition 8:** During construction and operation of the facility or any phase of the facility, the certificate holder shall prohibit posting of any advertising signs. If the facility posts external signage (i.e. outdoor displays, signs or billboards), such signage shall be limited to safety signs and no more than two signs presenting the facility name. [GEN-LU-03]

**Recommended Land Use Condition 9**: Prior to construction of facility components necessitating state or local permits, the certificate holder shall provide evidence to the Department that:

a. All local permits and approvals have been obtained including a conditional use and zoning permit, building permit, utility crossing permit, access approach site permit, and road use agreement.
b. Any necessary state and local permits have been obtained by its third-party contractors, specifically and as applicable, a DEQ-issued onsite sewage disposal construction-installation permit (O&M building), a DEQ-issued General Water Pollution Control Facilities Permit (temporary concrete batch plant), Department of Water Resources-issued limited water use license (O&M well).

[PRE-LU-06]

**Recommended Land Use Condition 10:** Within 90-days of commercial operation of the facility or any phase of the facility, the certificate holder shall provide to the Department and Wasco County GIS Department the actual latitude and longitude location or Oregon State Plan NDA83 HARN (international feet) coordinate of all facility components. GIS layers may be provided consistent with the datum reference above or any other datum deemed acceptable by the Department.
[OPR-LU-01]

**Recommended Land Use Condition 11:** During operation of the facility or any phase of the facility, the certificate holder shall provide to the Department and Wasco County copies of the Chemical Safety Data Sheets (SDS) for cleaning chemicals and solvents to be used in solar panel washing. The SDSs must demonstrate that the cleaning product is low in volatile organic compounds and, to the extent feasible, is a recyclable or biodegradable product. If the product is non-recyclable or non-biodegradable, the certificate holder shall provide an explanation and demonstrate that an evaluation of the availability of recyclable and biodegradable products was completed. During any year of operation, the certificate holder shall notify and provide updated SDSs to the Department if the cleaning products change.
[OPR-LU-02]

**Recommended Land Use Condition 12:** Prior to construction of the facility:

a. The certificate holder shall submit a complete Comprehensive Plan Amendment Request/Application to Wasco County Planning Department and necessary fees to amend the Wasco County Comprehensive Plan (WCCP) to reflect the Energy Facility Siting Council's (Council) findings and approval of the exception taken to the statewide policy embodied in Goal 3 due to the solar facility's use, occupation or coverage of more than 20 acres of arable land. [WCLUDO Section 3.215(M); OAR 660-033-0130(3)]
b. The WCCP amendment requested by the certificate holder under (a) of this condition shall be subject to the county's administrative procedures in WCCP Chapter 11(J).
c. The county's WCCP Chapter 11(J) administrative procedures do not represent a permit or land use decision or approval necessary for the siting or approval of the facility and cannot result in changes to the findings and approval of the goal exception taken by

Council, or impact the certificate holder's ability to comply with the terms and conditions of the site certificate or any local or state permit governed by the site certificate.

d. The certificate holder shall notify the Department once the Wasco County Board of Commissioners amends the WCCP.

[PRE-LU-07]

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

The Department does not recommend any conditions specific to the Protected Areas standard.

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

**Recommended Retirement and Financial Assurance Condition 1:** 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); GEN-RF-01]

**Recommended Retirement and Financial Assurance Condition 2:** The certificate holder must retire the facility in accordance with a retirement plan approved by the Council if the certificate holder permanently ceases construction or operation of the facility. The retirement plan must describe the activities necessary to restore the site to a useful, nonhazardous condition, as described in OAR 345-027-0110(5). After Council approval of the plan, the certificate holder must obtain the necessary authorization from the appropriate regulatory agencies to proceed with restoration of the site. [Mandatory Condition OAR 345-025-0006(9); RET-RF-01]

**Recommended Retirement and Financial Assurance Condition 3:** The certificate holder is obligated to retire the facility upon permanent cessation of construction or operation. 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 must 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 345-027-0020(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 must pay any additional cost necessary to restore the site to a useful, nonhazardous condition. After completion of site restoration, the Council must 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); RET-RF-02]

**Recommended Retirement and Financial Assurance Condition 4:** Before beginning construction of the facility or any phase of the facility, the certificate holder shall submit to the State of Oregon, through the Council, a bond or letter of credit in a form and amount satisfactory to the Council to restore the site to a useful, non-hazardous condition. The certificate holder shall maintain a bond or letter of credit in effect at all times until the facility has been retired. The Council may specify different amounts for the bond or letter of credit during construction and during operation of the facility. [Mandatory Condition OAR 345-025-0006(8); PRE-RF-01]

**Recommended Retirement and Financial Assurance Condition 5**: Before beginning construction of the facility or any phase of the facility, 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 $23,036,000 million dollars (Q1 2019 dollars), to be adjusted to the date of issuance, 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 and general costs illustrated in Table 3 of the Final Order on the ASC, and the contingencies illustrated in Table 4 of the Final Order on the ASC. The certificate holder may provide a bond or letter of credit for any phase of the facility, based on the unit costs and general costs illustrated in Table 3 of the Final Order on the ASC, and the contingencies illustrated in Table 4 of the Final Order on the ASC. Any revision to the restoration costs should be adjusted to the date of issuance as described in (b) and 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 2019 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 2019 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 2019 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 approved by the Council, based on the Council's pre-approved financial institution list.
d. The certificate holder shall use a form of bond or letter of credit approved by the Council. The certificate holder shall describe the status of the bond or letter of credit in the annual report submitted to the Council under OAR 345-026-0080. The bond or letter of credit shall not be subject to revocation or reduction before retirement of the facility site. [PRE-RF-02]

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

**Recommended Fish and Wildlife Habitat Condition 1:** The certificate holder shall:

a. Prior to construction of the facility, or any phase of the facility, the certificate holder shall finalize and submit a Revegetation Plan, based upon the draft plan provided in Attachment I of the Final Order on the ASC, for review and approval by the Department, in consultation with ODFW and Wasco County Planning Department. The scope of finalizing the plan shall, at a minimum, include the following:
    1. Final assessment of temporary habitat impacts (in acres), based on habitat quality of habitat subtype, and final facility design, presented in tabular format.
    2. Survey and sampling protocol for evaluating the success criteria against paired monitoring and reference sites determined to represent a statistically significant number of sites based on pre-disturbance habitat quality and diversity of habitat temporarily impacted.
    3. Description of deep soil decompaction measures to be implemented.
b. During construction and operation of the facility or any phase of the facility, the certificate holder shall implement the requirements of the plan; monitor and report results of revegetation activities to the Department, as required by the plan.

[GEN-FW-01]

**Recommended Fish and Wildlife Habitat Condition 2:** The certificate holder shall:

a. Prior to construction of the facility or any phase of the facility, the certificate holder shall finalize and submit a Noxious Weed Control Plan, based upon the draft plan provided in Attachment K of the Final Order on the ASC, for review and approval by the Department, in consultation with ODFW and Wasco County Planning Department. Components of the plan to be finalized shall include, at a minimum:
    1. Pre-disturbance survey or assessment of weed species within areas to be impacted.
    2. Reporting format including report content and supporting materials to be included to demonstrate completion of weed control activities.
b. During construction and operation of the facility or any phase of the facility, the certificate holder shall implement the requirements of the plan.

[GEN-FW-02]

**Recommended Fish and Wildlife Habitat Condition 3:** The certificate holder shall:

a. Prior to construction of the facility or any phase of the facility, the certificate holder shall finalize and submit a Habitat Mitigation Plan, based upon the draft plan provided in Attachment H of the Final Order on the ASC, for review and approval by the Department, in consultation with ODFW. In the finalization of the plan, the Department may request specific reporting requirements including specific information, frequency and format. Components of the plan to be finalized shall include, at a minimum, a final assessment of permanent habitat impacts (in acres) based on habitat quality of habitat subtype, and final facility design, presented in tabular format.

If Option 2 is selected, the certificate holder shall:

i. Provide a copy of the executed Memorandum of Understanding with the land management entity demonstrating land acquisition of lands demonstrated to satisfy ODFW's Category 2 habitat mitigation goal (net benefit; no net loss – quantity, quality and location); confirms applicability of mitigation equation as presented in the plan, and includes a copy of the management plan with enhancement actions, as outlined in the plan, for which the third-party land management entity agrees to adhere.
ii. Provide a parent company guarantee, or equivalent financial security agreement, to the Department including terms and conditions which would result in new compensatory mitigation in the event reports from the third-party land management entity demonstrate long-term failure (i.e. documented trends not achieving success with plan's success criteria) of the mitigation area.

If Option 3 is selected, the certificate holder shall:

i. Acquire the legal right to create, enhance, maintain and protect a habitat mitigation area as long as the site certificate is in effect by means of an outright purchase, conservation easement or similar conveyance and shall provide a copy of the documentation to the Department. Within the habitat mitigation area, the certificate holder shall improve the habitat quality as described in the final Habitat Mitigation Plans for each phase of the facility.
ii. Provide a habitat assessment of the habitat mitigation area, based on a protocol approved by the Department in consultation with ODFW, which includes methodology, habitat map, and available acres by habitat category and subtype in tabular format.

b. During construction and operation of the facility or any phase of the facility, the certificate holder shall implement the requirements of the plan.

[GEN-FW-03]

**Recommended Fish and Wildlife Habitat Condition 4:** During design of the facility or any phase of the facility, the certificate holder shall ensure that:

a. Aboveground transmission lines, including the 230 kV transmission line and aboveground segments of 34.5 kV collector line, adhere to current APLIC guidelines for minimizing avian electrocution risk associated.
b. Spiral markers are installed on the 230 kV transmission line ground wire, in locations where the line crosses over canyons or would be located within 2 miles of a known eagle nest.
c. New or modified vertical pipe and piles are capped to prevent entrance or use by cavity dwelling and nesting birds.
d. Extra gates are installed within the perimeter fenceline to allow big game to escape if trapped.

[GEN-FW-04]

**Recommended Fish and Wildlife Habitat Condition 5:** Prior to construction of the facility or any phase of the facility, the certificate holder shall conduct a raptor nest survey within 0.5 mile of the defined work area to identify the location of raptor nests that could be affected by construction. The certificate holder shall submit to the Department, for review and concurrence, a survey protocol that identifies the survey area and methods to be used to identify raptor nests.
[PRE-FW-02]

**Recommended Fish and Wildlife Habitat Condition 6:** If active raptor nests are identified during the pre-construction surveys completed in accordance with Fish and Wildlife Habitat Condition 6, the certificate holder shall adhere to the spatial buffer and seasonal restrictions, for state-sensitive species, presented in the table below. For non-state sensitive species, the certificate holder shall adhere to the spatial buffer and seasonal restrictions, to the extent feasible.

| **ODFW Raptor Nest Buffers and Seasonal Restrictions** | | | |
|---|---|---|---|
| **Species** | **Spatial Buffer** | **Seasonal Restriction** | **Release Date if Unoccupied** |
| Western Burrowing Owl | 0.25 mile | April 1 to August 15 | May 31 |
| Golden eagle | 0.5 mile | Feb 1- Aug 15 | May 15 |
| Red-tailed hawk | 100-500 feet | Mar 1 – Aug 15 | May 31 |
| Ferruginous hawk | 0.25 mile | Mar 15 – Aug 15 | May 31 |
| Swainson's hawk | 0.25 mile | Apr 1 – Aug 15 | May 31 |
| Prairie falcon | 0.25 mile | Mar 15 – Jul 1 | May 15 |
| Peregrine falcon | 0.25 mile | Jan 1 – Jul 1 | May 15 |
| American kestral | 0.25 mile | Mar 1 – Jul 31 | May 15 |

If a nest becomes active during construction that was not identified as active during the pre-construction surveys, the certificate holder may request review by the Department, in consultation with ODFW, of an exception to the spatial buffer and seasonal restrictions.
[CON-FW-01]

**Recommended Fish and Wildlife Habitat Condition 7:** Prior to and during construction of the facility or any phase of facility construction, the certificate holder shall:

a. Conduct surveys to identify active burrowing owl burrows, using a qualified biologist, within suitable habitat within the micrositing corridor.
b. If there are any active burrows identified per (a) of this condition, a qualified biologist shall ensure that these nest locations are covered outside of the breeding season.
c. To the extent practical, schedule vegetation clearing activities to occur before the critical period for ground-nesting birds (April 15 – September 1), to avoid disturbing active nests.
    i. Any burrowing owl burrows identified inside the facility perimeter fenceline will be removed during vegetation clearing.

d. If vegetation clearing activities are necessary between April 15 to September 1, the certificate holder shall hire a qualified biologist to conduct a clearance survey for nesting birds prior to vegetation removal. The certificate holder shall ensure that active nest sites identified during the clearance survey are flagged and marked as sensitive areas on construction maps.

[PRE-FW-02]

**Recommended Fish and Wildlife Habitat Condition 8:** Prior to and during construction of the facility or any phase of facility construction, the certificate holder shall:

a. Develop constraint maps for construction contractors and facility personnel presenting the location of streams, wetlands, and other sensitive habitat features (e.g., mature trees, intact sagebrush) within the micrositing corridor that are not proposed to be impacted. These maps should also show buffer zones and temporal restrictions of sensitive resources.
b. Install flagging around all sensitive resources identified under (a) of this condition.
c. Educate construction workers on avoidance of sensitive resources and instruct workers to avoid and conduct work outside of the sensitive areas.
d. Limit construction activities outside of the facility perimeter fenceline during mule deer winter range sensitive season (December 1 through April 1).
e. Impose a 20 mile per hour speed limit on all facility access roads (excluding public roads). [PRE-FW-04]

**Recommended Fish and Wildlife Habitat Condition 9:** The certificate holder shall:

a. Prior to construction of the facility or any phase of the facility, the certificate holder shall finalize and submit a Wildlife Monitoring Plan (WMP), based upon the draft plan provided in Attachment J of the Final Order on the ASC, for review and approval by the Department, in consultation with ODFW.
b. During operation of the facility or any phase of the facility, the certificate holder shall implement and comply with the requirements of the WMMP, as finalized under (a) of this condition.

[GEN-FW-05]

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

**Recommended Threatened or Endangered Species Condition 1:** Prior to construction or operation of the facility or any phase of the facility, the certificate holder shall:

a. Conduct botanical surveys to confirm the presence or absence of Tygh Valley milkvetch, a state listed threatened or endangered plant species, within areas of permanent or temporary disturbance. The certificate holder shall submit a survey protocol to establish the survey area and methods to the Department for review, in consultation with the Oregon Department of Agriculture or third-party consultant.
b. If the pre-construction surveys identify Tygh Valley milkvetch, 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.

[PRE-TE-01]

### *Scenic Resources (OAR 345-022-0080)*

**Recommended Scenic Resources Condition 1:** During design of the facility or any phase of the facility, the certificate holder shall demonstrate to the Department that the following best management practices have been incorporated:

a. Solar modules with antireflective coating will be selected to minimize potential for glare.
b. The length of overhead collector line will be minimized.
c. Permanent lighting fixtures will contain downward shielding to limit off-site lighting.
d. The O&M building will be painted using a low-reflectivity, neutral color to blend with the surrounding landscape.
e. Onsite signage will be limited to those needed for manufacturer or installer identification, warning signs, or owner identification.

[GEN-SR-01]

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

**Recommended Historic, Cultural and Archeological Condition 1:** The certificate holder shall:

a. Prior to construction of the facility or any phase of the facility, finalize the draft Inadvertent Discovery Plan, as provided in Attachment H of the Final Order on ASC, based on review and concurrence from the Department, in consultation with SHPO or the Department's third-party contractor.
b. During construction of the facility or any phase of the facility, require all onsite personnel to complete a Worker Environmental Awareness Training provided by a qualified archeologist as defined in OAR 736-051-0070 to properly identify sensitive historic, cultural and archeological resources that could be inadvertently uncovered

during construction, and on measures to avoid accidental damage to such resources. Records of all trainings shall be maintained onsite during construction.

c. During construction of the facility or any phase of the facility, ensure its contractors utilize constraint maps and design facility components to adhere to a 20-meter avoidance buffer for archeological resources 18-344-002, 18-344-008, 18-344-014, 18-344-044. Constraint maps shall also identify the entirety of the areas not included in the pedestrian level ground surveys, if outside of the 20-meter avoidance buffer area, and shall preclude placement of facility components or disturbance impacts.
d. During construction and operation of the facility or any phase of the facility, the certificate holder shall implement and adhere to the requirements of the Inadvertent Discovery Plan, as reviewed and finalized per sub(a) of this condition.

[GEN-HC-01]

***Recreation (OAR 345-022-0010)***

The Department does not recommend any conditions specific to the Recreation standard.

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

**Recommended Public Services Condition 1:** During operation of the facility, the certificate holder shall discharge sanitary wastewater generated at the O&M building to a licensed on-site septic systems in compliance with State permit requirements (DEQ issued Onsite Sewage Disposal Construction-Installation Permit). The certificate holder shall design the septic system for a discharge capacity of less than 7,500 gallons per day.
[OPR-PS-01]

**Recommended Public Services Condition 2:** During facility operation, the certificate holder shall ensure that if a new well is constructed to provide water to the O&M building, the certificate holder shall maintain a usage log in accordance with ORS 537.765. The certificate holder shall not use more than 5,000 gallons of water per day from the onsite well.
[OPR-PS-02]

**Recommended Public Services Condition 3:**

a. Prior to construction of the facility or any phase of the facility, the certificate holder shall:
    i. Consult with Wasco County Road Division and ODOT to determine whether any segments of roadway or bridges are restricted for travel, and to obtain any heavy haul permits required to allow transport of these loads.
    ii. Execute a Road Use Agreement with Wasco County Public Works Roads Division to ensure that any unusual damage or wear to state or county roads that is caused by facility construction related traffic and road use is repaired by the certificate holder. The Road Use Agreements shall establish and provide financial security regarding county road use, maintenance, and repair from construction-related impacts. Regardless of existing pavement conditions, the road use agreements shall establish

that roadway segments will be reviewed prior to any added construction traffic, and establish a system for monitoring safety or degradation to pavement prior to and during construction. The certificate holder shall complete a Road Impact Assessment/Geotechnical Report for public roads to be used during construction, pursuant to WCLUDO Section 10.030(C)(9), and shall incorporate the report/results into the Road Use Agreement to identify appropriate improvement and/or level of restoration.

iii. Coordinate with local transportation officials to make improvements where necessary to accommodate facility construction traffic, and improvements will be restricted to areas within the respective rights-of-way.

iv. Submit to the Department for review in consultation with Wasco County Public Works Roads Division, City of Maupin, ODOT, and Bureau of Land Management a Construction Traffic Management Plan that includes, at a minimum, the best management practices provided in Attachment M of the Final Order on the ASC.

b. During construction of any phase of the facility, the certificate holder shall implement the Construction Traffic Management Plan, as approved by the Department under sub(a)(iv) of this condition. [GEN-PS-01]

**Recommended Public Services Condition 4:** During construction of the facility or any phase of the facility, the certificate holder shall provide 24-hour onsite security and maintain good communication between onsite security personnel and the Wasco County Sherriff Office. [CON-PS-01]

**Recommended Public Service Condition 5:** Prior to construction of the facility or any phase of the facility, the certificate holder must coordinate with the Oregon State Fire Marshal's Office to determine if the facility is compliant with state requirements for a commercial solar energy generation facility. A statement from the Oregon State Fire Marshal's office demonstrating their concurrence that the facility complies with their requirements shall be provided to the Department and Wasco County Planning Department.
[PRE-PS-01]

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

**Recommended Waste Minimization Condition 1:** During construction, operation and decommissioning of the facility or any phase of the facility, the certificate holder shall develop and implement a Solid Waste Management Plan that includes but is not limited to the following measures:

e. Recycling steel and other metal scrap
f. Recycling wood waste
g. Recycling packaging wastes such as paper and cardboard
h. Collecting non-recyclable waste for transport to a local landfill by a licensed waste hauler

i. Segregating all hazardous wastes such as oil, oily rags and oil-absorbent materials, mercury containing lights and lead-acid and nickel-cadmium batteries for disposal by a licensed firm specializing in the proper recycling or disposal of hazardous waste.

[GEN-WM-01]

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

**Recommended Siting Standards for Transmission Lines Condition 1**: Prior to operation of the facility or any phase of the facility, the certificate holder shall provide landowners within 500 feet of the site boundary a map of the 230 kV transmission line and aboveground 34.5 kV collector lines and inform landowners of possible health and safety risks from induced currents caused by electric and magnetic fields.
[PRO-TL-01]

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

**Recommended Noise Control Condition 1:** Prior to construction of the facility or any phase of the facility, the certificate holder shall:

a. Submit to the Department a noise summary report presenting the sound power levels (in dBA) of noise generating equipment including solar array inverters and transformers, substation transformers, and battery system inverters and cooling systems, as applicable to final design. The sound power levels shall be supported by equipment manufacturer specifications and noise warranty data. The certificate holder shall provide, in tabular format, a comparison of the sound power levels used in ASC Exhibit X for noise generating equipment and sound power levels validated by manufacturer specifications.
b. If the sound power levels used in ASC Exhibit X to evaluate compliance with DEQ's noise rules are lower than sound power levels of final equipment selected, the certificate holder shall provide an updated noise analysis to demonstrate compliance with the ambient degradation standard and maximum allowable threshold. The ambient noise level utilized in ASC Exhibit X may be used for the updated noise analysis, if required.

[PRE-NC-01]

**Attachment B: Index of Reviewing Agency Comments on complete ASC; Comments Relied upon in DPO**

**Reviewing Agency/ODOE Consultant Comment Index - Bakeoven Solar Project Complete ASC**

| Date Received | Commenter Name | Agency/Organization (*Relied upon in DPO) |
|---|---|---|
| 09/18/2019 | Natalie Perrin and Bran Bowden | Historic Research and Associates* |
| 11/05/2019 | Kara Warner and Charlie Voss | Golder, Inc.* |
| 12/10/2019 | Christian Nauer | Confederated Tribes of the Warm Springs Reservation of Oregon* |
| 12/17/2019 | Jeremy Thompson | Oregon Department of Fish and Wildlife* |
| 01/03/2020; 01/08/2020 | Yumei Wang | Oregon Department of Geology and Mineral Industries |
| 01/02/2020 | John Pouley | Oregon State Historic Preservation Office |
| 01/09/2020; 01/15/2020 | Daniel Dougherty; Kelly Howsley Grover | Wasco County Planning Department* |
| 01/10/2020 | Lynn Ewing, Mayor | City of Maupin* |

*Comments relied upon in recommended findings in the DPO provided in this attachment.

# TECHNICAL MEMORANDUM

**DATE** November 5, 2019 **Reference No.** 178839003

**TO** Sarah Esterson, Senior Siting Analyst
Oregon Department of Energy

**CC** Gary Zimmerman (Golder)

**FROM** Kara Warner, Charlie Voss **EMAIL kwarner@golder.com**

**REVIEW OF BAKEOVEN SOLAR PROJECT, EXHIBIT W: RETIREMENT AND FINANCIAL ASSURANCE**

Bakeoven Solar Project (Bakeoven) is a solar photovoltaic energy generation facility proposed by Bakeoven Solar, LLC ("Applicant") with a nominal generating capacity of 303 megawatts (MW), and a proposed battery storage system capable of storing 100 MW of energy. The facility components are proposed to be sited on approximately 3,030 acres within a site boundary of approximately 10,615 acres in Wasco County, Oregon.

Exhibit W of the preliminary Application for Site Certificate (pASC)[1] contained the Applicant's proposal for compliance with Oregon Administrative Rule (OAR) 345-021-0010(1)(w) for facility retirement and site restoration (also referred to herein as "decommissioning") information required in a pASC, and with the Oregon Energy Facility Siting Council (EFSC or "Council") Retirement and Financial Assurance Standard (OAR 345-022-0050).[2] Exhibit W includes proposed approaches to financial assurance, including that scrap value be considered to discount decommissioning bond obligations, separate financial assurance for separate facility portions, and a phased approach to the amount required in a decommissioning bond. The purpose of this memorandum is to provide the Oregon Department of Energy (ODOE) and the Council with the following:

- A summary of the case-history context surrounding the Council's current policy regarding scrap value.
- Recommendations regarding a change to or retention of the Council's policy, including rationale.
- Evaluation of potential financial risk associated with the Applicant's financial assurance proposal.
- Options for ODOE and the Council based on the Applicant's financial assurance proposal, and recommendations for compliance with the Council's Retirement and Financial Assurance Standard.

[1] Reviewed online at https://www.oregon.gov/energy/facilities-safety/facilities/Pages/BSP.aspx (accessed October 2019

[2] Chapter 345 of Oregon Administrative Rules is available online at https://secure.sos.state.or.us/oard/displayChapterRules.action?selectedChapter=79 (accessed October 2019

# 1.0 SCRAP VALUE

## 1.1 A Summary of the Council's Current Policy Regarding Scrap Value

In 2009, as part of a review of the Stateline Wind Project Request for Amendment #4 to its Site Certificate Agreement, ODOE considered offsetting the certificate holder's financial assurance obligation with the value of scrap or salvage. As described in the Final Order on the amendment request[3],

> *In 2006, as a result of concerns expressed by Council members, the Department conducted an internal review of the risks involved in allowing a deduction for scrap or salvage value in calculating the financial assurance amount. The Department concluded that there was a significant risk that third party creditors or other parties could assert a claim against the scrap or salvage value that might result in that value being unavailable to the State to offset site restoration costs. At a public Council meeting on February 2, 2007, the Council discussed the issue and considered comments from facility developers. During the discussion, several Council members expressed the opinion that there should be no deduction of scrap or salvage value in calculating the amount of financial assurance required for site restoration. The Council did not take any formal action on the matter. In subsequent site certificate and amendment proceedings, however, the Council has not allowed a deduction for the scrap or salvage value of turbines and towers in its findings on site restoration costs for wind energy facilities.*

In response to statements from the Stateline Wind Project certificate holder and the Umatilla County Planning Director, ODOE recommended that the Council allow a limited offset of the financial assurance amount based on the estimated scrap value of steel. The Final Order on the amendment request stated:

> *The financial assurance amount… may reasonably allow for an offset based on the estimated scrap value of the turbines and turbine towers so long as the offset amount does not exceed the dismantling and removal costs. That limitation would ensure that the financial assurance amount is sufficient to cover all other estimated costs of site retirement… If the actual scrap value at the time of site restoration exceeds the dismantling and removal costs, the excess amount could potentially be subject to a third party claim. Accordingly, the Department recommended that the offset be "capped" at the estimated cost of turbine dismantling and removal (adjusted annually for inflation).*

Following the decision in the Stateline Final Order on the amendment request, the certificate holder for Leaning Juniper II Wind Power Facility submitted Amendment Request #1 for its facility, suggesting that the salvage value of the turbines and towers warrants consideration. The Council did not allow an offset for scrap or salvage value in the financial assurance amount.[4]

Since 2009, the Council's policy of not allowing a deduction in the financial assurance amount has extended beyond wind energy facilities. For example, the Final Order on the Carty Generating Station (a combined-cycle natural gas-fueled electric generating power plant) described a cost of facility retirement and site restoration "assuming no allowance for scrap value."[5]

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[3] Stateline Wind Project Final Order on Amendment #4 – March 27, 2009. Available at https://www.oregon.gov/energy/facilities-safety/facilities/Pages/SWP.aspx (accessed October 2019)

[4] Leaning Juniper II Wind Power Facility Final Order on Amendment #1 – November 20, 2009. Available at https://www.oregon.gov/energy/facilities-safety/facilities/Pages/LJB.aspx. (accessed October 2019)

[5] Carty Generating Station Final Order – June 29, 2012. Available at https://www.oregon.gov/energy/facilities-safety/facilities/Pages/CGS.aspx. (accessed October 2019)

## 1.2 Fluctuation in Scrap Value

In Exhibit W, the Applicant cited SteelBenchmarker.com as their pricing source for the value of metal scrap, specifically referencing the price of "#1 heavy melting scrap." The Applicant noted a scrap value of $298/ton (Exhibit W is dated May 2019) and proposed carrying a value of $216/ton for the purpose of discounting the estimate.

Golder reviewed historical pricing for #1 heavy melting scrap as published by SteelBenchmarker.com[6] and noted the current price (as of September 23, 2019) is $206/ton. In the last decade, the price has fluctuated between $140/ton (in November 2015) and $425/ton (in January 2011), although prices typically remained with the range of $200/ton to $400/ton. During the last 12 months, the year-over-year price is trending down from $305 to $206/ton. For the complete price history of #1 heavy melting scrap from 2007 onwards, as published by SteelBenchmarker.com (Attachment A).

## 1.3 Practices or Policies Regarding Scrap Value in Other Jurisdictions

This section is intended to provide a summary of the policies around using the value of scrap or salvageable resources on the site to reduce the amount of reclamation security/financial assurance in other western North American jurisdictions: California, Washington, Alaska, British Columbia, and Alberta. Each of these jurisdictions has legislation requiring financial security for either mines or other types of facilities.

California has regulations requiring financial assurance for closure of solid waste (California Code of Regulations, Title 27, Section 21820) and hazardous waste facilities (California Code of Regulations, Title 22, Section 66264.142).[7] Although the regulation detailing closure cost estimates for solid waste facilities does not specifically mention salvage value, the regulation for closure cost estimates for hazardous waste facilities states the following: "the closure cost estimate shall not incorporate any salvage value that may be realized with the sale of hazardous wastes,…facility structures or equipment, land, or other assets associated with the facility at the time of partial or final closure."

Washington energy facility siting regulations for decommissioning and site restoration in Chapter 463-72 of Washington Administrative Code[8] do not address whether to consider or preclude the salvage value of materials, equipment, or facilities remaining on-site when determining the value of the bond, letter of credit, or another financial assurance instrument. In the absence of guidance from the rules, applicants for site certification under the Energy Facility Site Evaluation Council (EFSEC) generally have included salvage value in decommissioning and site restoration cost estimates. However, in one case Washington State prohibited the consideration of salvage value when setting financial assurance requirements for decommissioning and restoration. The Centralia Generating Plant began commercial operation in 1971. It was permitted under the jurisdiction of the Washington State Department of Ecology because it was designed, permitted, and constructed before EFSEC existed. Washington State passed Senate Bill 5769 specifically to address the schedule and requirements for the eventual closure of the Centralia plant. This law amended state law [Revised Code of Washington 80.80.040(3)(c)[9]]; Section 201(d)(2) required that the closure cost estimates be included in the subsequent decommissioning of the

[6] Available online at http://www.steelbenchmarker.com/.

[7] The California Code of Regulations is available online at https://oal.ca.gov/publications/ccr/. (accessed October 2019)

[8] Title 463 of the Washington Administrative Code is available online at https://apps.leg.wa.gov/wac/. (accessed October 2019)

[9] The Revised Code of Washington is available online at https://apps.leg.wa.gov/rcw/. (accessed October 2019)

Centralia Generating Plant, and that the site restoration plan may not include "…a net present value adjustment or offsets for salvage value of wastes or other property."

Alaska requires reclamation security for mines under Title 43, Subpart 3809 of the Code of Federal Regulations. Alaska's Bureau of Land Management has published the *Mining Reclamation Bonding Guide*[10] that details instructions for the financial guarantee as well as the reclamation cost estimate. The reclamation estimate check list section of the *Bonding Guide* states: "No provision for salvage value or credit is to be considered."

British Columbia (BC) is another jurisdiction that requires reclamation security for mines, as legislated by under Section 10 of the *Mines Act.* None of the written statutes or policies in BC explicitly discuss the use of salvage value to reduce the amount of financial assurance. However, BC has developed the *Regional Reclamation Bond Calculator (The Bond Calculator)* and the associated *Regional Reclamation Bond Calculator Guidance Document*[11] in order to promote consistency in assessing reclamation securities for mines. The *Bond Calculator* is in the form of an Excel spreadsheet that must be completed by the applicant, with line items for each closure activity, with no line item provided for salvage value.

Finally, Alberta requires financial security (under Section 84 of the *Environmental Protection and Enhancement Act*[12]) for the closure of landfills and waste management facilities, and facilities listed under the *Mine Financial Security Program*, including coal mines, coal processing plants, and oil sands. Alberta's *Guide to Content for Industrial Approval Applications*[13] states that for waste management facilities, "it is not permissible to use estimates of the value of saleable resources on the site to reduce the amount of security." Alberta's *Guide to the Mine Financial Security Program*[14] does not state whether salvage value can be used to reduce the security value, although it does state that the liability calculation should consider costs for disposal of dismantled and demolished components of plants and equipment.

In summary, none of the policies for the jurisdictions that Golder reviewed explicitly allowed for the use of scrap or salvage value to reduce the security value, although several expressly disallowed it. Among those jurisdictions that provided reasoning for disallowing it, the reasons included difficulty in tracking the total value over a facility's operational life, uncertainty as to the actual value, difficulty ensuring that the assets remain onsite, and problems associated with creditor's rights.

## 1.4 Recommendation

Based on the policies and practices in other states and provinces in the region, the recommendation is not to reduce the Facility retirement and restoration cost estimate by the estimated scrap or salvage value. In the event the Council decides to consider the scrap value in the facility retirement and site restoration cost estimate, it is recommended that a scrap value of $100/ton be used for the calculation as a representative value for a

[10] The Alaska Mining Reclamation Bond Guide is available online at https://www.blm.gov/documents/alaska/public-room/guidebook/blm-alaska-mining-reclamation-bonding-guide. (accessed October 2019)

[11] BC's Regional Reclamation Bond Calculator and associated guidance document are available online at https://www2.gov.bc.ca/gov/content/industry/mineral-exploration-mining/permitting/reclamation-closure. (accessed October 2019)

[12] The Alberta Environmental Protection and Enhancement Act is available online at https://open.alberta.ca/publications/e12. (accessed October 2019)

[13] Alberta's Guide to Content for Industrial Approval Applications is available online at https://open.alberta.ca/publications/9781460112557. (accessed October 2019)

[14] Alberta's Guide to the Mine Financial Security Program is available online at https://www.aer.ca/regulating-development/project-closure/liability-management-programs-and-processes/mine-financial-security-program. (accessed October 2019).

reasonable floor price. The value of #1 heavy melting scrap was $100/ton on November 10, 2008 at the beginning of the Great Recession, as published by SteelBenchmarker.com (Attachment A).

# 2.0 FINANCIAL ASSURANCE

## 2.1 The Applicant's Proposal for Compliance with the Council's Retirement and Financial Assurance Standard

The Council's Retirement and Financial Assurance Standard (OAR 345-022-0050)[15] states the following:

> *To issue a site certificate, the Council must find that:*
> *(1) The site, taking into account mitigation, can be restored adequately to a useful, non-hazardous condition following permanent cessation of construction or operation of the facility.*
>
> *(2) The applicant has a reasonable likelihood of obtaining a bond or letter of credit in a form and amount satisfactory to the Council to restore the site to a useful, non-hazardous condition.*

In Exhibit W of the pASC, the Applicant proposed a "phased approach to decommissioning security," as summarized below:

- Prior to construction, the Applicant would provide a decommissioning bond for the full amount, not including scrap value. The amount will be scaled to the actual Bakeoven size based on final design. Once Bakeoven begins commercial operations, the bond would be reduced to $1.00.
- In year 20 of operation, or in the last year of Bakeoven's Power Purchase Agreement, whichever is later, the certificate holder would provide a decommissioning bond for the full amount discounted for scrap value and scaled to the actual Facility design. The bond would remain in effect for remainder of Bakeoven's life, and be updated annually to adjust for inflation and scrap value.
- To assure that ODOE has the first interest in the scrap value over other creditors, the Applicant proposed to enter into a security agreement with ODOE granting ODOE a security interest in Bakeoven component salvage.
- Each phase of Bakeoven would hold separate financial assurances for decommissioning that particular portion of the facility.

Among the Council's Mandatory Conditions in Site Certificates (OAR 345-025-0006) are the following:

> *(8) Before beginning construction of the facility, the certificate holder shall submit to the State of Oregon, through the Council, a bond or letter of credit in a form and amount satisfactory to the Council to restore the site to a useful, non-hazardous condition. The certificate holder shall maintain a bond or letter of credit in effect at all times until the facility has been retired. The Council may specify different amounts for the bond or letter of credit during construction and during operation of the facility.*
>
> *(9) 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*

[15] Chapter 345 of Oregon Administrative Rules is available online at https://secure.sos.state.or.us/oard/displayChapterRules.action?selectedChapter=79

*cost to restore the site to a useful, non-hazardous condition at the time of retirement, notwithstanding the Council's approval in the site certificate of an estimated amount required to restore the site.*

*(16) 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 Office 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 section (8) to restore the site to a useful, non-hazardous 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, non-hazardous 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.*

The last sentence in condition (8) appears to allow for the Council to consider the Applicant's request to *specify different amounts for the bond or letter of credit during construction and during operation of the facility.* The proposed $1.00 bond value would technically meet the requirement that the *certificate holder shall maintain a bond or letter of credit in effect at all times*. However, if Bakeoven were to become insolvent during the first 20 years of operation and enters into default, ODOE and the State of Oregon would be at risk of being responsible for the cost of restoring the site to a useful, non-hazardous condition. Allowing for this eventuality appears to conflict with the intent of condition (9) that the *certificate holder shall pay the actual cost to restore the site to a useful, non-hazardous condition...* The eventuality would also preclude the intent in condition (16) *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, non-hazardous condition*.

In Exhibit W, Section 5.0 the Applicant contends that "it is unrealistic that a multi-million-dollar energy generation project would ever need to be decommissioned in the first 20 years of a project…there is both a contractual obligation to deliver energy and a revenue stream. On this basis, a phased approach to financial security for decommissioning is reasonable because the risk of Facility abandonment within the first 20 years of operations is near zero." However, as pointed out in Exhibit W, SunEdison declared Chapter 11 bankruptcy in 2016. While these assets were eventually sold to other energy developers, disruptions in energy market are likely as the cost of new technologies fall over time impacting the financial performance of a facility.

If the Council allows for the bond amount to decrease to basically a zero value once Bakeoven begins commercial operation, it runs the risk of a non-operational facility and the potential for the State to incur all costs associated with the decommissioning if the assets in bankruptcy are not acquired by another solar operator/developer. Per OAR 345-025-0006 condition (9) that states the *certificate holder shall pay the actual cost to restore the site to a useful, non-hazardous condition* the State should not assume this risk. While reducing the decommissioning bond requirement to $1.00 would certainly be to the financial benefit of the Applicant it is unclear how transferring the financial risk to the State is in the State's best interest or benefit.

In the example of the Leaning Juniper II Wind Power Facility Amendment Request #1 (previously discussed in Section 1.1), the certificate holder made a similar request of the Council with respect to the amount required for financial assurance during the life of the facility. As described in the Final Order on Amendment Request #1[16],

> *In the amendment request, [the certificate holder] asks the Council to consider the cost of "decommissioning security" and to take into account the following when establishing the amount and timing the "security" (financial assurance):*
>
> - *The risk of the… facility ceasing operations in the first 10 years is extremely low.*
> - *The wind turbines will have a significant resale value in the early years of facility life.*
> - *The salvage value of the turbines and towers warrants consideration.*
> - *The landowner leases require [the certificate holder] to decommission the facility.*
>
> *Specifically, [the certificate holder] requests the following: "[The certificate holder] prefers that the decommissioning security requirement become effective in the later years of the… facility's life (e.g., in year 15). At that point, the facility will still have substantial commercial value, but decommissioning could be expected after another 15 to 20 years." OAR 345-027-0020(8) requires the certificate holder to submit a financial assurance instrument to the State of Oregon "before beginning construction of the facility." The form and amount must be "satisfactory to the Council to restore the site to a useful, non-hazardous condition." The Council finds that [the certificate holder's] request to delay the effective date of the financial assurance requirement until "the later years of the… facility's life" conflicts with the requirements of OAR 345-027-0020(8). The Council, therefore, denies the request.*

In the question of allowing separate bonds or letters of credit for separate phases of a facility, the Council has made provisions in site certificate conditions to allow for this option. In the case of the Carty Generating Station, the Council noted the following in the Final Order[17]:

> *In its comments on the Retirement and Financial Assurance section in the Draft Proposed Order (DPO), [the certificate holder] pointed out that the DPO did not reflect the intent of the applicant to build the Carty Generating Station in two phases (Block 1 and Block 2). [The certificate holder] requested that "...the estimated costs of restoration be calculated on a per block basis and that the per block costs be added to the text and conditions." …The Council agrees that the certificate holder should not have to provide the site restoration financial assurance for Block 2 until such time that the certificate holder is ready to begin construction… The Council adopts Condition IV.G.2.9 which requires the certificate holder to submit a bond or letter of credit for Department review and approval prior to the start of construction of each block in the amounts described above, and adjusted as required by Condition IV.G.2.9.*

## 2.2 Decision Alternatives

The decision tree in Figure 1 illustrates the different decision alternatives regarding the Applicant's proposal and the associated financial consequences to the State. The two decisions (indicated by the boxes in Figure 1) are whether the Council reduces the decommissioning cost by the scrap metal value (the first set of branches) and whether to require a decommissioning bond during the first 20 years the facility operates. The consequence of these decisions will depend on several chance events (uncertain outcomes) indicated by the circles. The first is

[16] Leaning Juniper II Wind Power Facility Final Order on Amendment #1 – November 20, 2009. Available at https://www.oregon.gov/energy/facilities-safety/facilities/Pages/LJB.aspx. (accessed October 2019)

[17] Carty Generating Station Final Order – June 29, 2012. Available at https://www.oregon.gov/energy/facilities-safety/facilities/Pages/CGS.aspx. (accessed October 2019)

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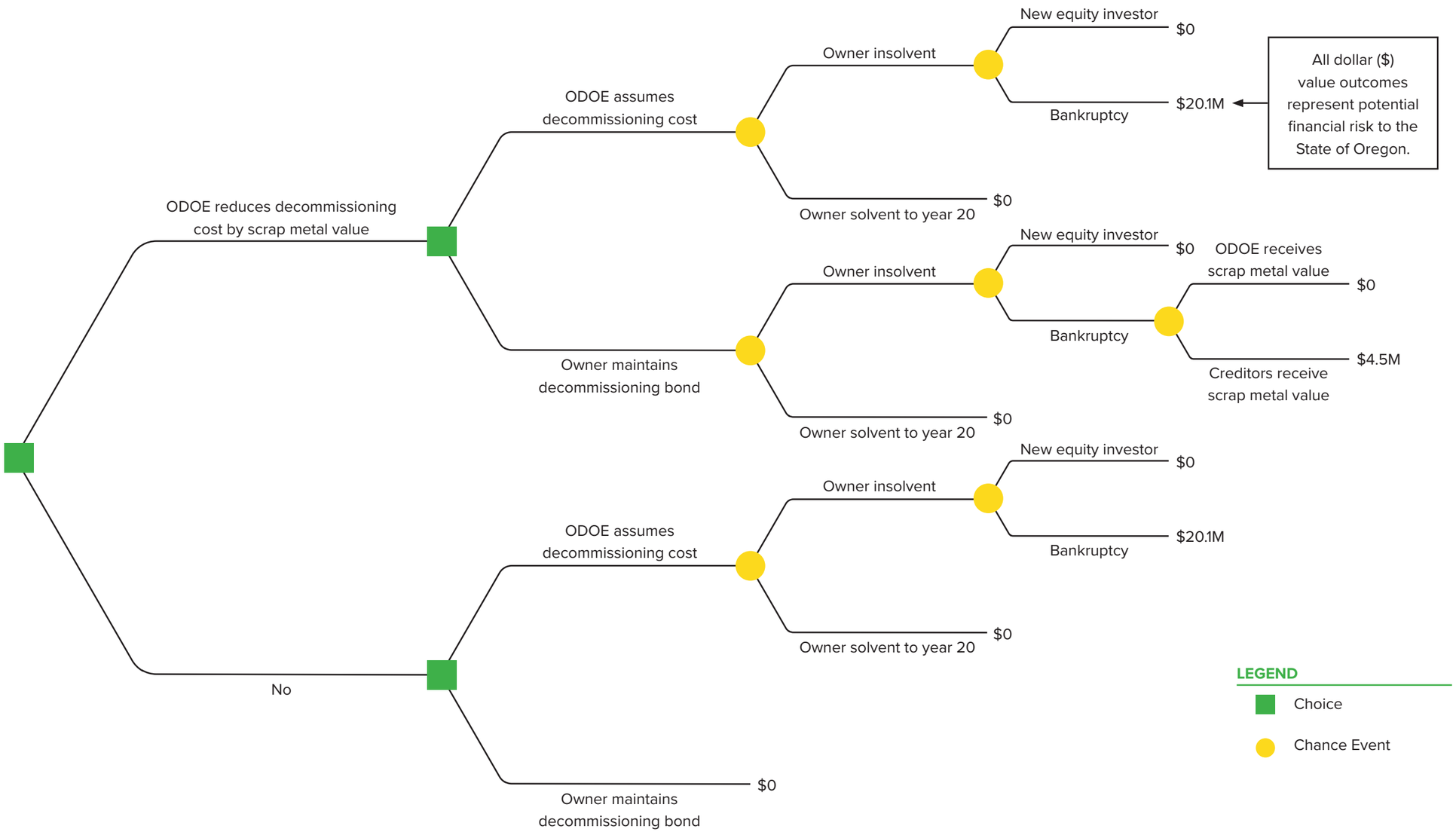
# ODOE Scrap Metal and Decommissioning Bond Decision Tree



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whether the certificate holder becomes insolvent, the second is whether a new investor can be found to step in to so the facility would remain operational.

The remaining chance event is for the scenario where the Council reduces the decommissioning cost by the scrap metal value but does not agree to reduce the decommissioning bond to $1.00 for the first 20 years. If the certificate holder becomes insolvent and no new investors step up so the facility would remain operational, there is a chance creditors will take legal action for the scrap value. The expected monetary loss for a branch is the probability-weighted average of its possible values. Estimating the chance event probabilities is outside the scope of this technical memorandum. However, while the probabilities for the Owner to become insolvent and Bakeoven to declare bankruptcy (i.e., no new investors step forward) are likely to be small, they are not zero and the likelihood in the future may be higher.

## 2.3 Recommendation

The Council is advised to deny the Applicant's request to reduce the decommissioning bond to $1.00 once Bakeoven begins commercial operation. Furthermore, already stated in Section 1.4, the Council is advised not to reduce the facility retirement and restoration cost estimate by the estimated scrap or salvage value. These recommendations are based on the assumption that the Council's objective in deciding on the Applicants requests is to minimize the risk to the State. As stated in Section 2.1, while the financial return to the Applicant would be improved by eliminating the requirement for a decommissioning bond during the first 20 years of operation, the associated risk would entirely be borne by the State with no clear benefit. In addition, making these exceptions would set a precedent that, if applied to future applications for site certificate, would result in the State managing a portfolio of decommissioning costs. Ultimately, the liability could negatively impact the State's credit rating.

The above recommendations assume a fundamental objective of minimizing the monetary risk to the State. The objective determines how the potential outcomes of a decision should be measured and the kinds of uncertainties to be considered. Another consideration is the Council's risk appetite – the amount and type of risk they are prepared to accept on behalf of the State in pursuit of EFSC objectives. Facility retirement and site restoration bonding requirements are required to manage or mitigate the risk of exposing the State to become responsible for these costs. Eliminating or reducing the bonding requirements transfers the risk to the State.

## 3.0 CLOSURE

We trust that the information provided in this technical memorandum is sufficient for your present needs. Should you require anything further, please contact the undersigned.

Kara Warner, PhD
*Senior Consultant*

Charlie Voss, MS
*Principal, Risk and Decision Analysis*

Attachment A: Steel Benchmarker

KW/CV/kt

https://golderassociates.sharepoint.com/sites/114305/project files/6 deliverables/phase 2000_retirement/draft deliverable/1788390-tm-rev0-review of bakeoven solar project-110419.docx

**ATTACHMENT A**

# SteelBenchmarker

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SteelBenchmarker™

# Price History

## Tables and Charts

**USA** **China**

**Western Europe** **World Export**

Hot-rolled Band

Cold-rolled Coil

Standard Plate

Rebar

Steel Scrap

Register at: **www.steelbenchmarker.com**

SteelBenchmarker™

# USA

**delivered to steel plant**

*Dollars per Gross Ton*

| | ----------Steel Scrap**---------- | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | #1 Heavy Melting | | | Shredded Scrap | | | #1 Busheling | | |
| | Price | Dlr Chng | Pct Chng | Price | Dlr Chng | Pct Chng | Price | Dlr Chng | Pct Chng |
| 10-Apr-06 | - | | | - | | | - | | |
| 24-Apr-06 | - | - | - | - | - | - | - | - | - |
| 8-May-06 | - | - | - | - | - | - | - | - | - |
| 22-May-06 | - | - | - | - | - | - | - | - | - |
| 12-Jun-06 | - | - | - | - | - | - | - | - | - |
| 26-Jun-06 | - | - | - | - | - | - | - | - | - |
| 10-Jul-06 | - | - | - | - | - | - | - | - | - |
| 24-Jul-06 | - | - | - | - | - | - | - | - | - |
| 14-Aug-06 | - | - | - | - | - | - | - | - | - |
| 28-Aug-06 | - | - | - | - | - | - | - | - | - |
| 11-Sep-06 | - | - | - | - | - | - | - | - | - |
| 25-Sep-06 | - | - | - | - | - | - | - | - | - |
| 9-Oct-06 | na | - | - | na | - | - | na | - | - |
| 23-Oct-06 | na | - | - | na | - | - | na | - | - |
| 13-Nov-06 | na | - | - | na | - | - | na | - | - |
| 27-Nov-06 | na | - | - | na | - | - | na | - | - |
| 11-Dec-06 | na | - | - | na | - | - | na | - | - |
| 25-Dec-06 | na | - | - | na | - | - | na | - | - |
| 8-Jan-07 | na | - | - | na | - | - | na | - | - |
| 22-Jan-07 | na | - | - | na | - | - | na | - | - |
| 12-Feb-07 | 253 | - | - | 280 | - | - | 294 | - | - |
| 26-Feb-07 | 271 | 18 | 7.1% | 292 | 12 | 4.3% | 300 | 6 | 2.0% |
| 12-Mar-07 | 297 | 26 | 9.6% | 337 | 45 | 15.4% | 361 | 61 | 20.3% |
| 26-Mar-07 | 300 | 3 | 1.0% | 349 | 12 | 3.6% | 364 | 3 | 0.8% |
| 9-Apr-07 | 270 | -30 | -10.0% | 317 | -32 | -9.2% | 336 | -28 | -7.8% |
| 23-Apr-07 | 271 | 1 | 0.4% | 299 | -18 | -5.7% | 328 | -8 | -2.4% |
| 14-May-07 | 239 | -32 | -11.8% | 258 | -41 | -13.7% | 278 | -50 | -15.2% |
| 28-May-07 | 234 | -5 | -2.1% | 254 | -4 | -1.6% | 274 | -4 | -1.4% |
| 11-Jun-07 | 239 | 5 | 2.1% | 253 | -1 | -0.4% | 277 | 3 | 1.1% |
| 25-Jun-07 | 235 | -4 | -1.7% | 251 | -2 | -0.8% | 278 | 1 | 0.4% |
| 9-Jul-07 | 241 | 6 | 2.6% | 255 | 4 | 1.6% | 278 | 0 | 0.0% |
| 23-Jul-07 | 241 | 0 | 0.0% | 255 | 0 | 0.0% | 276 | -2 | -0.8% |
| 13-Aug-07 | 248 | 7 | 2.9% | 270 | 15 | 5.9% | 300 | 24 | 8.8% |
| 27-Aug-07 | 249 | 1 | 0.4% | 283 | 13 | 4.7% | 297 | -3 | -1.0% |
| 10-Sep-07 | 257 | 8 | 3.2% | 290 | 7 | 2.5% | 310 | 13 | 4.4% |
| 24-Sep-07 | 260 | 3 | 1.2% | 289 | -1 | -0.3% | 313 | 3 | 1.0% |
| 8-Oct-07 | 250 | -10 | -3.8% | 282 | -7 | -2.4% | 303 | -10 | -3.2% |
| 22-Oct-07 | 249 | -1 | -0.4% | 279 | -3 | -1.1% | 301 | -2 | -0.7% |
| 12-Nov-07 | 240 | -9 | -3.5% | 272 | -7 | -2.5% | 289 | -12 | -3.9% |
| 26-Nov-07 | 239 | -1 | -0.6% | 269 | -3 | -1.0% | 285 | -4 | -1.4% |
| 10-Dec-07 | 261 | 22 | 9.2% | 295 | 26 | 9.7% | 318 | 33 | 11.5% |
| 24-Dec-07 | 268 | 7 | 2.7% | 299 | 4 | 1.4% | 321 | 3 | 0.9% |

SteelBenchmarker™

# USA

**delivered to steel plant**

*Dollars per Gross Ton*

| | ----------Steel Scrap**---------- | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | ***#1 Heavy Melting*** | | | ***Shredded Scrap*** | | | ***#1 Busheling*** | | |
| | **Price** | **Dlr Chng** | **Pct Chng** | **Price** | **Dlr Chng** | **Pct Chng** | **Price** | **Dlr Chng** | **Pct Chng** |
| **14-Jan-08** | 329 | 61 | 22.8% | 390 | 91 | 30.4% | 405 | 84 | 26.2% |
| **28-Jan-08** | 328 | -1 | -0.3% | 386 | -4 | -1.1% | 394 | -11 | -2.7% |
| **11-Feb-08** | 316 | -12 | -3.7% | 373 | -13 | -3.3% | 380 | -14 | -3.6% |
| **25-Feb-08** | 318 | 2 | 0.6% | 371 | -2 | -0.5% | 383 | 3 | 0.8% |
| **10-Mar-08** | 341 | 23 | 7.2% | 388 | 17 | 4.6% | 401 | 18 | 4.7% |
| **24-Mar-08** | 352 | 11 | 3.2% | 388 | 0 | 0.0% | 393 | -8 | -2.0% |
| **14-Apr-08** | 485 | 133 | 37.8% | 541 | 153 | 39.5% | 573 | 180 | 45.8% |
| **28-Apr-08** | 500 | 15 | 3.1% | 557 | 16 | 2.9% | 587 | 14 | 2.4% |
| **12-May-08** | 495 | -5 | -1.0% | 547 | -10 | -1.8% | 674 | 87 | 14.9% |
| **26-May-08** | 497 | 2 | 0.4% | 542 | -5 | -0.9% | 680 | 6 | 0.9% |
| **9-Jun-08** | 472 | -25 | -5.0% | 531 | -11 | -2.0% | 726 | 46 | 6.8% |
| **23-Jun-08** | 468 | -4 | -0.8% | 537 | 6 | 1.1% | 733 | 7 | 1.0% |
| **14-Jul-08** | 501 | 33 | 7.1% | 575 | 38 | 7.1% | 838 | 104 | 14.2% |
| **28-Jul-08** | 493 | -8 | -1.5% | 576 | 1 | 0.2% | 846 | 8 | 1.0% |
| **11-Aug-08** | 451 | -42 | -8.6% | 535 | -41 | -7.2% | 814 | -32 | -3.7% |
| **25-Aug-08** | 415 | -36 | -8.0% | 510 | -25 | -4.6% | 784 | -30 | -3.7% |
| **8-Sep-08** | 305 | -110 | -26.5% | 388 | -122 | -23.9% | 539 | -245 | -31.3% |
| **22-Sep-08** | 290 | -15 | -4.9% | 361 | -27 | -7.0% | 527 | -12 | -2.2% |
| **13-Oct-08** | 186 | -104 | -35.9% | 229 | -132 | -36.5% | 251 | -276 | -52.4% |
| **27-Oct-08** | 153 | -33 | -17.7% | 200 | -29 | -12.7% | 175 | -76 | -30.3% |
| **10-Nov-08** | 100 | -53 | -34.5% | 139 | -61 | -30.5% | 133 | -42 | -24.0% |
| **24-Nov-08** | 120 | 20 | 19.8% | 169 | 30 | 21.6% | 158 | 25 | 18.9% |
| **8-Dec-08** | 179 | 59 | 49.2% | 233 | 64 | 38.0% | 236 | 78 | 49.3% |
| **22-Dec-08** | 187 | 8 | 4.5% | 236 | 3 | 1.2% | 245 | 9 | 3.8% |
| **12-Jan-09** | 194 | 7 | 3.7% | 241 | 5 | 2.1% | 249 | 4 | 1.6% |
| **26-Jan-09** | 199 | 5 | 2.6% | 240 | -1 | -0.4% | 247 | -2 | -0.8% |
| **9-Feb-09** | 181 | -18 | -9.0% | 219 | -21 | -8.8% | 227 | -20 | -8.1% |
| **23-Feb-09** | 176 | -5 | -2.8% | 210 | -9 | -4.0% | 215 | -12 | -5.3% |
| **9-Mar-09** | 161 | -15 | -8.6% | 193 | -17 | -8.3% | 193 | -22 | -10.2% |
| **23-Mar-09** | 161 | 0 | 0.2% | 186 | -7 | -3.4% | 185 | -8 | -4.1% |
| **13-Apr-09** | 146 | -15 | -9.4% | 169 | -17 | -9.1% | 166 | -19 | -10.2% |
| **27-Apr-09** | 164 | 18 | 12.5% | 178 | 9 | 5.3% | 172 | 6 | 3.5% |
| **11-May-09** | 184 | 20 | 12.1% | 207 | 29 | 16.3% | 212 | 40 | 23.3% |
| **25-May-09** | 183 | -1 | -0.5% | 207 | 0 | 0.0% | 209 | -3 | -1.5% |
| **8-Jun-09** | 182 | -1 | -0.4% | 207 | 0 | 0.0% | 210 | 1 | 0.5% |
| **22-Jun-09** | 195 | 13 | 7.0% | 216 | 9 | 4.3% | 215 | 5 | 2.3% |
| **13-Jul-09** | 232 | 37 | 19.0% | 257 | 41 | 19.0% | 288 | 73 | 34.0% |
| **27-Jul-09** | 229 | -3 | -1.3% | 257 | 0 | 0.0% | 287 | -1 | -0.2% |
| **10-Aug-09** | 241 | 12 | 5.2% | 267 | 10 | 3.9% | 302 | 15 | 5.3% |
| **24-Aug-09** | 254 | 13 | 5.4% | 277 | 10 | 3.7% | 309 | 7 | 2.2% |
| **14-Sep-09** | 255 | 1 | 0.4% | 286 | 9 | 3.2% | 319 | 10 | 3.2% |
| **28-Sep-09** | 252 | -3 | -1.2% | 282 | -4 | -1.3% | 319 | 0 | 0.0% |

SteelBenchmarker™

# USA

**delivered to steel plant**

*Dollars per Gross Ton*

| | Steel Scrap** | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | #1 Heavy Melting | | | Shredded Scrap | | | #1 Busheling | | |
| | Price | Dlr Chng | Pct Chng | Price | Dlr Chng | Pct Chng | Price | Dlr Chng | Pct Chng |
| **12-Oct-09** | 237 | -15 | -6.0% | 257 | -25 | -8.9% | 290 | -29 | -9.0% |
| **26-Oct-09** | 228 | -9 | -3.9% | 247 | -10 | -3.9% | 281 | -9 | -3.2% |
| **9-Nov-09** | 209 | -19 | -8.3% | 230 | -17 | -6.9% | 258 | -23 | -8.1% |
| **23-Nov-09** | 222 | 13 | 6.1% | 237 | 7 | 3.0% | 267 | 9 | 3.3% |
| **14-Dec-09** | 253 | 31 | 14.1% | 285 | 49 | 20.5% | 318 | 51 | 19.3% |
| **28-Dec-09** | 265 | 12 | 4.7% | 290 | 4 | 1.5% | 327 | 9 | 2.8% |
| **11-Jan-10** | 301 | 36 | 13.6% | 328 | 38 | 13.2% | 366 | 39 | 11.9% |
| **25-Jan-10** | 301 | 0 | 0.1% | 335 | 7 | 2.1% | 371 | 5 | 1.4% |
| **8-Feb-10** | 294 | -7 | -2.4% | 325 | -10 | -3.0% | 385 | 14 | 3.8% |
| **22-Feb-10** | 298 | 4 | 1.5% | 330 | 5 | 1.5% | 391 | 6 | 1.6% |
| **8-Mar-10** | 337 | 39 | 13.0% | 373 | 43 | 13.0% | 441 | 50 | 12.8% |
| **22-Mar-10** | 342 | 5 | 1.5% | 376 | 3 | 0.8% | 445 | 4 | 0.9% |
| **12-Apr-10** | 350 | 8 | 2.3% | 390 | 14 | 3.7% | 469 | 24 | 5.4% |
| **26-Apr-10** | 338 | -12 | -3.4% | 372 | -18 | -4.5% | 457 | -12 | -2.6% |
| **10-May-10** | 320 | -18 | -5.3% | 352 | -20 | -5.4% | 437 | -20 | -4.4% |
| **24-May-10** | 311 | -9 | -2.8% | 343 | -10 | -2.7% | 434 | -3 | -0.7% |
| **14-Jun-10** | 316 | 5 | 1.6% | 337 | -6 | -1.7% | 426 | -8 | -1.8% |
| **28-Jun-10** | 296 | -20 | -6.3% | 317 | -20 | -5.9% | 415 | -11 | -2.6% |
| **12-Jul-10** | 285 | -11 | -3.8% | 314 | -3 | -0.9% | 395 | -20 | -4.9% |
| **26-Jul-10** | 279 | -6 | -2.0% | 309 | -5 | -1.6% | 394 | -1 | -0.3% |
| **9-Aug-10** | 304 | 25 | 9.0% | 340 | 31 | 10.0% | 401 | 7 | 1.7% |
| **23-Aug-10** | 311 | 7 | 2.3% | 345 | 5 | 1.5% | 399 | -2 | -0.4% |
| **13-Sep-10** | 323 | 12 | 3.9% | 358 | 13 | 3.7% | 405 | 6 | 1.5% |
| **27-Sep-10** | 318 | -5 | -1.5% | 353 | -5 | -1.4% | 404 | -1 | -0.2% |
| **11-Oct-10** | 307 | -11 | -3.5% | 336 | -17 | -4.9% | 382 | -22 | -5.4% |
| **25-Oct-10** | 309 | 2 | 0.7% | 339 | 3 | 1.0% | 383 | 1 | 0.3% |
| **8-Nov-10** | 318 | 9 | 2.9% | 348 | 9 | 2.7% | 385 | 2 | 0.5% |
| **22-Nov-10** | 327 | 9 | 2.7% | 354 | 6 | 1.8% | 388 | 3 | 0.8% |
| **13-Dec-10** | 352 | 26 | 7.9% | 390 | 36 | 10.1% | 415 | 27 | 6.9% |
| **27-Dec-10** | 362 | 10 | 2.9% | 397 | 7 | 1.8% | 438 | 23 | 5.6% |
| **10-Jan-11** | 416 | 54 | 14.8% | 462 | 65 | 16.4% | 473 | 35 | 8.0% |
| **24-Jan-11** | 425 | 9 | 2.2% | 455 | -7 | -1.6% | 477 | 4 | 0.9% |
| **14-Feb-11** | 397 | -28 | -6.6% | 432 | -23 | -5.0% | 460 | -17 | -3.6% |
| **28-Feb-11** | 396 | -1 | -0.3% | 432 | 0 | 0.0% | 465 | 5 | 1.1% |
| **14-Mar-11** | 404 | 8 | 2.0% | 442 | 10 | 2.3% | 472 | 7 | 1.5% |
| **28-Mar-11** | 407 | 3 | 0.8% | 446 | 4 | 0.9% | 478 | 6 | 1.4% |
| **11-Apr-11** | 400 | -7 | -1.7% | 442 | -4 | -0.9% | 471 | -7 | -1.5% |
| **25-Apr-11** | 395 | -5 | -1.3% | 438 | -4 | -0.9% | 467 | -4 | -0.8% |
| **9-May-11** | 391 | -4 | -1.0% | 427 | -11 | -2.5% | 461 | -6 | -1.4% |
| **23-May-11** | 387 | -5 | -1.2% | 428 | 1 | 0.2% | 459 | -2 | -0.4% |
| **13-Jun-11** | 403 | 17 | 4.3% | 442 | 14 | 3.3% | 483 | 24 | 5.3% |
| **27-Jun-11** | 405 | 2 | 0.5% | 440 | -2 | -0.5% | 490 | 7 | 1.5% |

SteelBenchmarker™

# USA

**delivered to steel plant**

*Dollars per Gross Ton*

| | Steel Scrap** | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | #1 Heavy Melting | | | Shredded Scrap | | | #1 Busheling | | |
| | Price | Dlr Chng | Pct Chng | Price | Dlr Chng | Pct Chng | Price | Dlr Chng | Pct Chng |
| **11-Jul-11** | 401 | -4 | -1.1% | 443 | 3 | 0.7% | 483 | -7 | -1.4% |
| **25-Jul-11** | 400 | -1 | -0.2% | 439 | -4 | -0.9% | 484 | 1 | 0.2% |
| **8-Aug-11** | 406 | 6 | 1.4% | 436 | -3 | -0.7% | 481 | -3 | -0.6% |
| **22-Aug-11** | 402 | -4 | -0.9% | 439 | 3 | 0.7% | 476 | -5 | -1.1% |
| **12-Sep-11** | 401 | -1 | -0.2% | 444 | 5 | 1.1% | 483 | 8 | 1.6% |
| **26-Sep-11** | 402 | 1 | 0.2% | 442 | -2 | -0.5% | 482 | -1 | -0.3% |
| **10-Oct-11** | 396 | -6 | -1.5% | 440 | -2 | -0.5% | 485 | 3 | 0.6% |
| **24-Oct-11** | 392 | -4 | -1.0% | 429 | -11 | -2.4% | 479 | -6 | -1.2% |
| **14-Nov-11** | 368 | -24 | -6.1% | 405 | -25 | -5.7% | 436 | -43 | -9.0% |
| **28-Nov-11** | 374 | 6 | 1.6% | 414 | 9 | 2.2% | 446 | 10 | 2.3% |
| **12-Dec-11** | 398 | 24 | 6.4% | 434 | 20 | 4.9% | 475 | 29 | 6.5% |
| **26-Dec-11** | 409 | 11 | 2.7% | 449 | 15 | 3.5% | 494 | 19 | 4.0% |
| **9-Jan-12** | 420 | 11 | 2.8% | 466 | 17 | 3.7% | 504 | 10 | 2.0% |
| **23-Jan-12** | 414 | -7 | -1.5% | 462 | -4 | -0.9% | 490 | -14 | -2.8% |
| **13-Feb-12** | 393 | -21 | -5.0% | 435 | -27 | -5.8% | 470 | -20 | -4.1% |
| **27-Feb-12** | 397 | 4 | 1.0% | 438 | 3 | 0.7% | 457 | -13 | -2.7% |
| **12-Mar-12** | 397 | 0 | 0.0% | 439 | 1 | 0.2% | 459 | 2 | 0.4% |
| **26-Mar-12** | 394 | -3 | -0.8% | 435 | -4 | -0.9% | 459 | 0 | 0.0% |
| **9-Apr-12** | 390 | -4 | -1.1% | 430 | -5 | -1.1% | 441 | -18 | -3.9% |
| **23-Apr-12** | 392 | 2 | 0.5% | 428 | -2 | -0.5% | 440 | -1 | -0.2% |
| **14-May-12** | 390 | -2 | -0.5% | 428 | 0 | 0.1% | 442 | 2 | 0.5% |
| **28-May-12** | 380 | -9 | -2.4% | 419 | -9 | -2.2% | 427 | -15 | -3.3% |
| **11-Jun-12** | 336 | -44 | -11.6% | 373 | -46 | -11.0% | 383 | -44 | -10.4% |
| **25-Jun-12** | 331 | -5 | -1.5% | 365 | -8 | -2.1% | 376 | -7 | -1.8% |
| **9-Jul-12** | 295 | -36 | -10.9% | 332 | -33 | -9.0% | 329 | -47 | -12.5% |
| **23-Jul-12** | 308 | 13 | 4.4% | 338 | 6 | 1.8% | 336 | 7 | 2.1% |
| **13-Aug-12** | 354 | 46 | 15.0% | 393 | 55 | 16.3% | 397 | 61 | 18.2% |
| **27-Aug-12** | 362 | 8 | 2.3% | 393 | 0 | 0.0% | 403 | 6 | 1.5% |
| **10-Sep-12** | 345 | -17 | -4.8% | 382 | -11 | -2.8% | 376 | -27 | -6.6% |
| **24-Sep-12** | 336 | -9 | -2.6% | 368 | -14 | -3.7% | 376 | 0 | -0.1% |
| **8-Oct-12** | 301 | -35 | -10.4% | 330 | -38 | -10.3% | 337 | -39 | -10.4% |
| **22-Oct-12** | 305 | 4 | 1.3% | 336 | 6 | 1.8% | 334 | -3 | -0.9% |
| **12-Nov-12** | 342 | 37 | 12.0% | 382 | 46 | 13.7% | 380 | 46 | 13.8% |
| **26-Nov-12** | 342 | 0 | 0.1% | 383 | 1 | 0.3% | 381 | 1 | 0.3% |
| **10-Dec-12** | 344 | 2 | 0.5% | 381 | -2 | -0.5% | 376 | -5 | -1.3% |
| **24-Dec-12** | 336 | -8 | -2.2% | 381 | 0 | 0.0% | 389 | 13 | 3.3% |
| **14-Jan-13** | 339 | 3 | 0.9% | 384 | 3 | 0.8% | 383 | -6 | -1.4% |
| **28-Jan-13** | 346 | 7 | 2.1% | 379 | -5 | -1.3% | 385 | 2 | 0.5% |
| **11-Feb-13** | 332 | -14 | -4.1% | 366 | -13 | -3.4% | 370 | -15 | -3.9% |
| **25-Feb-13** | 339 | 7 | 2.0% | 371 | 5 | 1.4% | 373 | 3 | 0.8% |
| **11-Mar-13** | 362 | 23 | 6.9% | 392 | 21 | 5.7% | 399 | 26 | 7.0% |
| **25-Mar-13** | 364 | 2 | 0.6% | 393 | 1 | 0.3% | 396 | -3 | -0.8% |

SteelBenchmarker™

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**delivered to steel plant**

*Dollars per Gross Ton*

| | Steel Scrap** | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | #1 Heavy Melting | | | Shredded Scrap | | | #1 Busheling | | |
| | Price | Dlr Chng | Pct Chng | Price | Dlr Chng | Pct Chng | Price | Dlr Chng | Pct Chng |
| 8-Apr-13 | 348 | -16 | -4.3% | 377 | -16 | -4.1% | 378 | -18 | -4.5% |
| 22-Apr-13 | 340 | -9 | -2.4% | 371 | -6 | -1.6% | 383 | 5 | 1.3% |
| 13-May-13 | 317 | -23 | -6.7% | 354 | -17 | -4.6% | 363 | -20 | -5.2% |
| 27-May-13 | 321 | 4 | 1.3% | 358 | 4 | 1.2% | 372 | 9 | 2.5% |
| 10-Jun-13 | 321 | 0 | 0.0% | 352 | -6 | -1.7% | 371 | -1 | -0.3% |
| 24-Jun-13 | 327 | 6 | 1.9% | 359 | 7 | 1.9% | 375 | 4 | 1.1% |
| 8-Jul-13 | 337 | 10 | 3.1% | 369 | 10 | 2.8% | 389 | 14 | 3.7% |
| 22-Jul-13 | 335 | -2 | -0.7% | 373 | 4 | 1.2% | 392 | 3 | 0.8% |
| 12-Aug-13 | 348 | 13 | 3.9% | 365 | -8 | -2.2% | 399 | 7 | 1.7% |
| 26-Aug-13 | 339 | -9 | -2.5% | 360 | -5 | -1.5% | 394 | -5 | -1.2% |
| 9-Sep-13 | 337 | -2 | -0.6% | 350 | -10 | -2.8% | 390 | -4 | -1.0% |
| 23-Sep-13 | 330 | -7 | -2.1% | 356 | 6 | 1.8% | 392 | 2 | 0.5% |
| 14-Oct-13 | 332 | 2 | 0.6% | 352 | -4 | -1.2% | 389 | -3 | -0.8% |
| 28-Oct-13 | 328 | -4 | -1.2% | 356 | 4 | 1.2% | 387 | -2 | -0.5% |
| 11-Nov-13 | 357 | 29 | 8.8% | 375 | 19 | 5.3% | 411 | 24 | 6.2% |
| 25-Nov-13 | 350 | -7 | -1.9% | 377 | 2 | 0.5% | 417 | 6 | 1.4% |
| 9-Dec-13 | 364 | 14 | 4.0% | 395 | 18 | 4.7% | 416 | -1 | -0.3% |
| 23-Dec-13 | 376 | 12 | 3.3% | 406 | 11 | 2.9% | 423 | 7 | 1.7% |
| 13-Jan-14 | 392 | 16 | 4.3% | 421 | 15 | 3.8% | 429 | 6 | 1.4% |
| 27-Jan-14 | 389 | -3 | -0.8% | 419 | -2 | -0.5% | 421 | -8 | -1.9% |
| 10-Feb-14 | 363 | -26 | -6.7% | 393 | -26 | -6.2% | 397 | -24 | -5.8% |
| 24-Feb-14 | 356 | -7 | -1.9% | 383 | -10 | -2.7% | 396 | -1 | -0.2% |
| 10-Mar-14 | 348 | -8 | -2.3% | 374 | -9 | -2.2% | 386 | -10 | -2.5% |
| 24-Mar-14 | 352 | 4 | 1.2% | 382 | 8 | 2.1% | 389 | 3 | 0.8% |
| 14-Apr-14 | 366 | 14 | 3.9% | 394 | 12 | 3.1% | 398 | 9 | 2.3% |
| 28-Apr-14 | 364 | -2 | -0.4% | 391 | -3 | -0.8% | 399 | 1 | 0.2% |
| 12-May-14 | 357 | -7 | -2.0% | 378 | -13 | -3.3% | 398 | -1 | -0.2% |
| 26-May-14 | 348 | -9 | -2.5% | 377 | -1 | -0.3% | 392 | -6 | -1.5% |
| 9-Jun-14 | 343 | -5 | -1.4% | 363 | -14 | -3.7% | 396 | 4 | 1.0% |
| 23-Jun-14 | 343 | 0 | 0.0% | 365 | 2 | 0.5% | 400 | 4 | 0.9% |
| 14-Jul-14 | 347 | 4 | 1.2% | 373 | 8 | 2.3% | 396 | -4 | -0.9% |
| 28-Jul-14 | 345 | -2 | -0.6% | 370 | -3 | -0.8% | 397 | 1 | 0.3% |
| 11-Aug-14 | 349 | 4 | 1.2% | 369 | -1 | -0.2% | 397 | 0 | 0.0% |
| 25-Aug-14 | 345 | -4 | -1.2% | 376 | 7 | 1.8% | 399 | 2 | 0.5% |
| 8-Sep-14 | 350 | 5 | 1.5% | 371 | -5 | -1.3% | 400 | 1 | 0.3% |
| 22-Sep-14 | 348 | -2 | -0.6% | 374 | 3 | 0.9% | 399 | -1 | -0.3% |
| 13-Oct-14 | 338 | -10 | -3.0% | 357 | -17 | -4.7% | 386 | -13 | -3.3% |
| 27-Oct-14 | 333 | -5 | -1.4% | 352 | -5 | -1.4% | 384 | -2 | -0.6% |
| 10-Nov-14 | 298 | -35 | -10.4% | 327 | -25 | -7.1% | 360 | -24 | -6.1% |
| 24-Nov-14 | 308 | 10 | 3.2% | 321 | -6 | -1.8% | 356 | -4 | -1.1% |
| 8-Dec-14 | 307 | -1 | -0.3% | 326 | 5 | 1.6% | 356 | 0 | 0.1% |
| 22-Dec-14 | 310 | 3 | 1.0% | 328 | 2 | 0.6% | 353 | -3 | -0.9% |

SteelBenchmarker™

# USA

**delivered to steel plant**

*Dollars per Gross Ton*

| | Steel Scrap** | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | #1 Heavy Melting | | | Shredded Scrap | | | #1 Busheling | | |
| | Price | Dlr Chng | Pct Chng | Price | Dlr Chng | Pct Chng | Price | Dlr Chng | Pct Chng |
| 12-Jan-15 | 314 | 4 | 1.3% | 336 | 8 | 2.4% | 356 | 3 | 0.7% |
| 26-Jan-15 | 315 | 1 | 0.3% | 329 | -7 | -2.2% | 355 | -1 | -0.3% |
| 9-Feb-15 | 227 | -88 | -27.9% | 251 | -78 | -23.6% | 267 | -88 | -24.8% |
| 23-Feb-15 | 227 | 0 | 0.1% | 247 | -4 | -1.6% | 256 | -11 | -4.1% |
| 9-Mar-15 | 227 | 0 | -0.1% | 247 | 0 | 0.0% | 248 | -8 | -3.1% |
| 23-Mar-15 | 230 | 3 | 1.3% | 251 | 4 | 1.8% | 247 | -1 | -0.4% |
| 13-Apr-15 | 228 | -2 | -0.8% | 254 | 3 | 1.0% | 250 | 3 | 1.2% |
| 27-Apr-15 | 227 | -1 | -0.5% | 254 | 0 | 0.0% | 248 | -2 | -0.8% |
| 11-May-15 | 231 | 4 | 1.8% | 259 | 5 | 2.0% | 250 | 2 | 0.8% |
| 25-May-15 | 229 | -2 | -0.9% | 257 | -2 | -0.8% | 250 | 0 | 0.2% |
| 8-Jun-15 | 248 | 19 | 8.5% | 278 | 21 | 8.1% | 270 | 20 | 7.8% |
| 22-Jun-15 | 245 | -3 | -1.2% | 277 | -1 | -0.3% | 273 | 3 | 1.1% |
| 27-Jul-15 | 234 | -11 | -4.7% | 260 | -17 | -6.1% | 265 | -8 | -2.9% |
| 10-Aug-15 | 212 | -22 | -9.4% | 235 | -25 | -9.5% | 243 | -22 | -8.5% |
| 24-Aug-15 | 211 | -1 | -0.5% | 232 | -3 | -1.4% | 240 | -3 | -1.1% |
| 14-Sep-15 | 201 | -10 | -4.7% | 223 | -9 | -4.0% | 233 | -7 | -2.9% |
| 28-Sep-15 | 184 | -17 | -8.5% | 206 | -17 | -7.5% | 218 | -15 | -6.6% |
| 12-Oct-15 | 151 | -33 | -17.9% | 172 | -34 | -16.5% | 184 | -34 | -15.5% |
| 26-Oct-15 | 148 | -3 | -2.0% | 172 | 0 | 0.0% | 185 | 1 | 0.3% |
| 9-Nov-15 | 140 | -8 | -5.4% | 171 | -1 | -0.6% | 165 | -20 | -10.6% |
| 23-Nov-15 | 143 | 3 | 2.1% | 167 | -4 | -2.3% | 168 | 3 | 1.8% |
| 14-Dec-15 | 146 | 3 | 2.1% | 176 | 9 | 5.6% | 167 | -1 | -0.4% |
| 28-Dec-15 | 148 | 2 | 1.4% | 175 | -1 | -0.8% | 168 | 1 | 0.4% |
| 11-Jan-16 | 154 | 6 | 4.1% | 183 | 8 | 4.6% | 180 | 12 | 7.4% |
| 25-Jan-16 | 164 | 10 | 6.6% | 187 | 4 | 2.2% | 181 | 1 | 0.3% |
| 8-Feb-16 | 162 | -2 | -1.3% | 184 | -3 | -1.6% | 184 | 3 | 1.7% |
| 22-Feb-16 | 164 | 2 | 1.4% | 187 | 3 | 1.6% | 181 | -3 | -1.4% |
| 14-Mar-16 | 175 | 11 | 6.5% | 199 | 12 | 6.4% | 190 | 9 | 4.7% |
| 28-Mar-16 | 176 | 1 | 0.6% | 198 | -1 | -0.5% | 195 | 5 | 2.4% |
| 11-Apr-16 | 220 | 44 | 24.9% | 248 | 50 | 25.3% | 243 | 48 | 24.9% |
| 25-Apr-16 | 220 | 0 | -0.1% | 244 | -4 | -1.6% | 241 | -2 | -0.6% |
| 9-May-16 | 241 | 22 | 9.8% | 270 | 26 | 10.6% | 276 | 35 | 14.4% |
| 23-May-16 | 243 | 2 | 0.6% | 270 | 0 | 0.1% | 279 | 3 | 1.0% |
| 13-Jun-16 | 223 | -20 | -8.2% | 249 | -21 | -7.7% | 273 | -6 | -2.3% |
| 27-Jun-16 | 216 | -7 | -3.1% | 246 | -3 | -1.4% | 276 | 3 | 1.1% |
| 11-Jul-16 | 226 | 10 | 4.8% | 236 | -10 | -4.1% | 285 | 10 | 3.5% |
| 25-Jul-16 | 212 | -15 | -6.5% | 241 | 5 | 2.1% | 280 | -5 | -1.9% |
| 8-Aug-16 | 216 | 4 | 2.0% | 241 | 0 | 0.0% | 266 | -14 | -5.1% |
| 22-Aug-16 | 216 | 0 | 0.0% | 236 | -5 | -2.1% | 256 | -10 | -3.6% |
| 12-Sep-16 | 202 | -14 | -6.5% | 217 | -19 | -8.1% | 226 | -30 | -11.6% |
| 26-Sep-16 | 197 | -5 | -2.5% | 216 | -1 | -0.5% | 231 | 5 | 2.3% |

SteelBenchmarker™

# USA

**delivered to steel plant**

*Dollars per Gross Ton*

| | ----------Steel Scrap**---------- | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | #1 Heavy Melting | | | Shredded Scrap | | | #1 Busheling | | |
| | Price | Dlr Chng | Pct Chng | Price | Dlr Chng | Pct Chng | Price | Dlr Chng | Pct Chng |
| 10-Oct-16 | 177 | -20 | -10.2% | 197 | -19 | -8.8% | 202 | -29 | -12.7% |
| 24-Oct-16 | 177 | 0 | 0.0% | 197 | 0 | 0.0% | 202 | 0 | 0.0% |
| 14-Nov-16 | 202 | 25 | 14.1% | 236 | 39 | 19.8% | 241 | 39 | 19.3% |
| 28-Nov-16 | 216 | 14 | 6.9% | 256 | 20 | 8.5% | 261 | 20 | 8.3% |
| 12-Dec-16 | 246 | 30 | 13.9% | 276 | 20 | 7.7% | 280 | 19 | 7.3% |
| 26-Dec-16 | 246 | 0 | 0.0% | 276 | 0 | 0.0% | 285 | 5 | 1.9% |
| 09-Jan-17 | 285 | 39 | 15.9% | 315 | 39 | 14.3% | 325 | 40 | 14.0% |
| 23-Jan-17 | 280 | -5 | -1.8% | 300 | -15 | -4.8% | 320 | -5 | -1.5% |
| 13-Feb-17 | 256 | -24 | -8.6% | 285 | -15 | -5.0% | 315 | -5 | -1.6% |
| 27-Feb-17 | 290 | 34 | 13.4% | 300 | 15 | 5.2% | 320 | 5 | 1.6% |
| 13-Mar-17 | 285 | -5 | -1.8% | 320 | 20 | 6.7% | 364 | 44 | 13.8% |
| 27-Mar-17 | 290 | 5 | 1.8% | 315 | -5 | -1.6% | 369 | 5 | 1.4% |
| 10-Apr-17 | 271 | -20 | -6.8% | 295 | -20 | -6.2% | 354 | -15 | -4.0% |
| 24-Apr-17 | 261 | -10 | -3.6% | 290 | -5 | -1.7% | 369 | 15 | 4.2% |
| 08-May-17 | 271 | 10 | 3.7% | 295 | 5 | 1.7% | 369 | 0 | 0.0% |
| 22-May-17 | 276 | 5 | 1.9% | 290 | -5 | -1.7% | 369 | 0 | 0.0% |
| 12-Jun-17 | 266 | -10 | -3.7% | 285 | -5 | -1.8% | 364 | -5 | -1.4% |
| 26-Jun-17 | 266 | 0 | 0.0% | 285 | 0 | 0.0% | 364 | 0 | 0.0% |
| 10-Jul-17 | 266 | 0 | 0.0% | 290 | 5 | 1.8% | 369 | 5 | 1.4% |
| 24-Jul-17 | 266 | 0 | 0.0% | 280 | -10 | -3.5% | 369 | 0 | 0.0% |
| 14-Aug-17 | 280 | 14 | 5.4% | 305 | 25 | 8.9% | 384 | 15 | 4.1% |
| 28-Aug-17 | 280 | 0 | 0.0% | 305 | 0 | 0.0% | 384 | 0 | 0.0% |
| 11-Sep-17 | 280 | 0 | 0.0% | 305 | 0 | 0.0% | 384 | 0 | 0.0% |
| 25-Sep-17 | 276 | -4 | -1.5% | 300 | -5 | -1.6% | 379 | -5 | -1.3% |
| 09-Oct-17 | 250 | -26 | -9.3% | 271 | -29 | -9.8% | 348 | -31 | -8.1% |
| 23-Oct-17 | 255 | 5 | 2.0% | 275 | 4 | 1.6% | 345 | -3 | -1.0% |
| 13-Nov-17 | 255 | 0 | 0.0% | 275 | 0 | 0.0% | 345 | 0 | 0.0% |
| 27-Nov-17 | 260 | 5 | 2.0% | 280 | 5 | 1.8% | 340 | -5 | -1.4% |
| 11-Dec-17 | 290 | 30 | 11.5% | 320 | 40 | 14.3% | 370 | 30 | 8.8% |
| 25-Dec-17 | 290 | 0 | 0.0% | 330 | 10 | 3.1% | 371 | 1 | 0.3% |
| 08-Jan-18 | 310 | 20 | 6.9% | 345 | 15 | 4.4% | 385 | 14 | 3.8% |
| 22-Jan-18 | 310 | 0 | 0.0% | 345 | 0 | 0.0% | 385 | 0 | 0.0% |
| 12-Feb-18 | 315 | 5 | 1.6% | 345 | 0 | 0.0% | 385 | 0 | 0.0% |
| 26-Feb-18 | 315 | 0 | 0.0% | 345 | 0 | 0.0% | 385 | 0 | 0.0% |
| 12-Mar-18 | 340 | 25 | 7.9% | 365 | 20 | 5.9% | 380 | -5 | -1.3% |
| 26-Mar-18 | 340 | 0 | 0.0% | 365 | 0 | 0.0% | 380 | 0 | 0.0% |
| 09-Apr-18 | 355 | 15 | 4.4% | 385 | 20 | 5.5% | 395 | 15 | 3.9% |
| 23-Apr-18 | 350 | -5 | -1.4% | 380 | -5 | -1.3% | 395 | 0 | 0.0% |
| 14-May-18 | 350 | 0 | 0.0% | 370 | -10 | -2.6% | 395 | 0 | 0.0% |
| 28-May-18 | 350 | 0 | 0.0% | 370 | 0 | 0.0% | 395 | 0 | 0.0% |
| 11-Jun-18 | 350 | 0 | 0.0% | 375 | 5 | 1.4% | 405 | 10 | 2.5% |
| 25-Jun-18 | 350 | 0 | 0.0% | 375 | 0 | 0.0% | 405 | 0 | 0.0% |
| 09-Jul-18 | 350 | 0 | 0.0% | 375 | 0 | 0.0% | 415 | 10 | 2.4% |
| 23-Jul-18 | 350 | 0 | 0.0% | 375 | 0 | 0.0% | 415 | 0 | 0.0% |

SteelBenchmarker™

# USA

**delivered to steel plant**

*Dollars per Gross Ton*

| | Steel Scrap** | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | #1 Heavy Melting | | | Shredded Scrap | | | #1 Busheling | | |
| | Price | Dlr Chng | Pct Chng | Price | Dlr Chng | Pct Chng | Price | Dlr Chng | Pct Chng |
| 13-Aug-18 | 325 | -25 | -7.1% | 350 | -25 | -6.7% | 405 | -10 | -2.4% |
| 27-Aug-18 | 325 | 0 | 0.0% | 350 | 0 | 0.0% | 405 | 0 | 0.0% |
| 10-Sep-18 | 305 | -20 | -6.2% | 330 | -20 | -5.7% | 385 | -20 | -4.9% |
| 24-Sep-18 | 305 | 0 | 0.0% | 330 | 0 | 0.0% | 385 | 0 | 0.0% |
| 08-Oct-18 | 315 | 10 | 3.3% | 340 | 10 | 3.0% | 405 | 20 | 5.2% |
| 22-Oct-18 | 315 | 0 | 0.0% | 340 | 0 | 0.0% | 405 | 0 | 0.0% |
| 12-Nov-18 | 335 | 20 | 6.3% | 360 | 20 | 5.9% | 405 | 0 | 0.0% |
| 26-Nov-18 | 335 | 0 | 0.0% | 360 | 0 | 0.0% | 405 | 0 | 0.0% |
| 10-Dec-18 | 331 | -4 | -1.2% | 357 | -3 | -0.8% | 403 | -2 | -0.5% |
| 24-Dec-18 | 325 | -6 | -1.8% | 352 | -5 | -1.4% | 400 | -3 | -0.7% |
| 14-Jan-19 | 303 | -22 | -6.8% | 328 | -24 | -6.8% | 375 | -25 | -6.3% |
| 28-Jan-19 | 299 | -4 | -1.3% | 324 | -4 | -1.2% | 366 | -9 | -2.4% |
| 11-Feb-19 | 302 | 3 | 1.0% | 327 | 3 | 0.9% | 358 | -8 | -2.2% |
| 25-Feb-19 | 307 | 5 | 1.7% | 333 | 6 | 1.8% | 368 | 10 | 2.8% |
| 11-Mar-19 | 320 | 13 | 4.2% | 345 | 12 | 3.6% | 378 | 10 | 2.7% |
| 25-Mar-19 | 320 | 0 | 0.0% | 345 | 0 | 0.0% | 378 | 0 | 0.0% |
| 08-Apr-19 | 298 | -22 | -6.9% | 324 | -21 | -6.1% | 350 | -28 | -7.4% |
| 22-Apr-19 | 292 | -6 | -2.0% | 315 | -9 | -2.8% | 340 | -10 | -2.9% |
| 13-May-19 | 264 | -28 | -9.6% | 293 | -22 | -7.0% | 315 | -25 | -7.4% |
| 27-May-19 | 272 | 8 | 3.0% | 296 | 3 | 1.0% | 320 | 5 | 1.6% |
| 10-Jun-19 | 238 | -34 | -12.5% | 265 | -31 | -10.5% | 287 | -33 | -10.3% |
| 24-Jun-19 | 229 | -9 | -3.8% | 255 | -10 | -3.8% | 276 | -11 | -3.8% |
| 08-Jul-19 | 226 | -3 | -1.3% | 250 | -5 | -2.0% | 272 | -4 | -1.4% |
| 22-Jul-19 | 238 | 12 | 5.3% | 265 | 15 | 6.0% | 290 | 18 | 6.6% |
| 12-Aug-19 | 246 | 8 | 3.4% | 279 | 14 | 5.3% | 298 | 8 | 2.8% |
| 26-Aug-19 | 246 | 0 | 0.0% | 278 | -1 | -0.4% | 297 | -1 | -0.3% |
| 09-Sep-19 | 220 | -26 | -10.6% | 251 | -27 | -9.7% | 259 | -38 | -12.8% |

Notes: ** Steel scrap delivered to steel plant

#1 heavy melting – demolition scrap that is at least ¼" thick. This grade does not include the heavy "p & s" (plate and structural ) category that includes the very thick scrap items.

Shredded – largely old cars and some appliances – for all but the West Coast (CA, OR & WA).

#1 busheling – new sheet steel scrap.

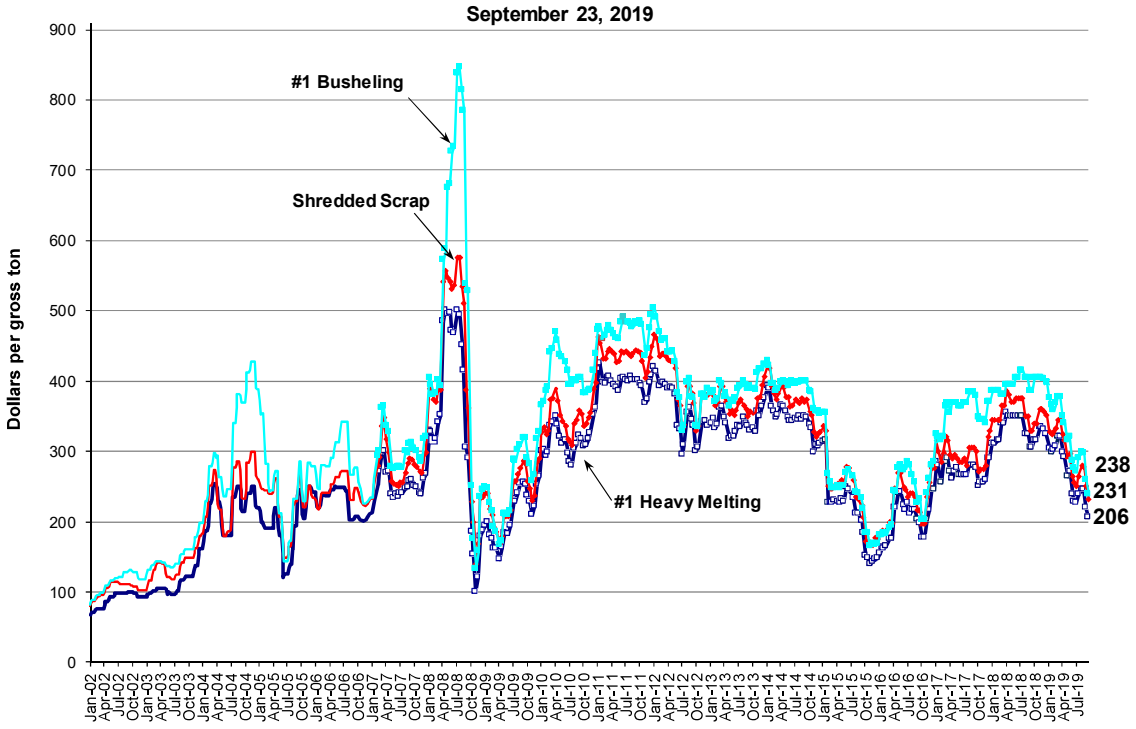
Prices released on Wednesdays following the 2nd and 4th Mondays of the month at 9:00 AM to Price Assessment Providers. If a price is not indicated, fewer than ten (10) price inputs were received at that time.

For product specifications refer to last page, or go to steelbenchmarker.com/specifications

## *SteelBenchmarker*™ Scrap Price

**USA, delivered to steel plant**

(AMM scrap price data, Jan. 2002 - Jan. 2007; SteelBenchmarker data begins Feb. 2007)



Historical Research Associates, Inc.

MEMORANDUM

| | |
|---|---|
| To: | Ian Johnson and John Pouley, Oregon State Historic Preservation Office, Department of Parks and Recreation |
| CC: | Kellen Tardaewether, Oregon Department of Energy; Kara Warner, Golder Associates, Inc. |
| From: | Natalie Perrin and Brad Bowden, Historical Research Associates, Inc. |
| Subject: | Review of Requested Additional Information (RAI), Exhibit S, Bakeoven Solar Project |
| Date: | December 10, 2019 |

## Introduction

Bakeoven Solar, LLC (Applicant), proposes to construct and operate the Bakeoven Solar Project (Project) in Wasco County, Oregon. Prior to construction, the Applicant must receive a site certificate from the Energy Facility Siting Council (EFSC or the Council). The Applicant submitted to the Oregon Department of Energy (ODOE) a Preliminary Application for Site Certificate (pASC), which seeks authorization for project features within Oregon in accordance with the EFSC process.

Exhibit S of the pASC (TetraTech 2019) provides information on the historic, cultural, and archaeological resources on which the Project may have an impact. The information in Exhibit S must demonstrate that the Project will comply with EFSC's Historic, Cultural, and Archaeological Resources Standard, Oregon Administrative Rule (OAR) 345-022-0090, which requires that neither project construction nor operation (taking into account mitigation) are likely to result in significant adverse impacts to historic, cultural, or archaeological resources listed, or eligible for listing, in the National Register of Historic Places (NRHP); archaeological objects; or archaeological sites.

ODOE retained Golder Associates, who contracted Historical Research Associates, Inc. (HRA), to assist the Oregon State Historic Preservation Office (SHPO) in review of Exhibit S for completeness as defined in OAR 345-021-0010(s).

HRA provided SHPO a Completeness Review Memo on September 18, 2019, within which HRA recommended minor clarifying edits to Exhibit S. HRA also recommended that sufficient information was provided for SHPO to make determinations of eligibility on all resources and concurred with Paleo West's resource recommendations presented in Exhibit S, Attachment S-2, Appendix B, Site and Isolate Forms. HRA observed that forms submitted by Paleo West electronically to the Oregon Archaeological Records Remote Access (OARRA) database met minimum SHPO requirements for review and acceptance.

After reviewing HRA's Completeness Review Memo, John Pouley of SHPO responded in a letter dated October 4, 2019, with the following clarification:

> For any object, isolate, or site to be determined not eligible to the NRHP (not significant), there must still be justification other than because something is an isolate or object. The level of effort for assessing isolates or objects is incredibly low, but must address NRHP criteria. As such, Oregon SHPO would like to see isolates addressed with some justification.

In response to HRA's Completeness Review Memo and SHPO's subsequent letter, the Applicant provided HRA with a revised technical report, dated October 31, 2019 (Tudor Elliott and Johnson 2019, as revised).

## Review of Requested Additional Information (RAI)

HRA reviewed the revised technical report (Tudor Elliott and Johnson 2019, as revised) to ensure it fulfilled the requests for clarifications and additional information presented by HRA and SHPO. During Completeness Review, HRA identified the following items for consideration.

1. Remove Attachment S-2, Sensitivity Model, from Exhibit S submittal.

   **Notes from Completeness Review Memo**: Attachment S-2, Sensitivity Model ("Phase I Cultural Resource Study in Support of the Bakeoven Energy Project, Wasco County, Oregon," Jordan et al. 2018) is a desktop study of a larger area than the Project's analysis area. With the exception of Attachment S-2, Appendix B, Inadvertent Discovery Plan (IDP), it does not appear that it was necessary to submit Attachment S-2 with Exhibit S; its inclusion is potentially confusing because it includes studies of an area other than the project area. Attachment S-2 could be removed from the Exhibit S submission for clarity, with the IDP extracted and included as a standalone attachment to Exhibit S.

   **Response to Completeness Review Memo**: In a comment matrix received with the revised technical report, Paleo West noted that this comment was aimed at TetraTech's Exhibit S documentation and not at the *Archaeological and Built Environment Inventory for the Bakeoven Solar Project, Wasco County, Oregon* (Tudor Elliott and Johnson 2019). Paleo West agreed that including the Sensitivity Model was potentially confusing and that the salient parts of the Sensitivity Model were summarized in Section 4.5 of the technical report (Tudor Elliott and Johnson 2019).

   **Conclusion**: It is unclear if the originating comment from the Completeness Review Memo was addressed or will be addressed by the Applicant with the final Exhibit S submittal in the application for site certificate. However, as noted in HRA's Completeness Review Memo, the application can be deemed complete without revision to or removal of Attachment S-2.

2. Clarify definitions of archaeological object and sites.

   **Notes from Completeness Review Memo:** Both Exhibit S and Attachment S-3 used definitions of archaeological objects and sites that follow the state's archaeological field guidelines, but not the definitions in state law (ORS 358.905). HRA recommended updating Exhibit S, specifically Section 3.2 (Tetra Tech 2019:2), as follows:

   > A total of 18 archaeological sites (2 with historic built environment components) and 22 isolates were identified on private lands within the analysis area. None of the isolates meet the definition of an archaeological object as defined in ORS 358.905(1)(a), as none appear to be eligible/significant. These are summarized in Table S-1. Their locations are shown in confidential Attachment S-1.

HRA also recommended updating all references to "archaeological objects" in Exhibit S to clarify the use of archaeological objects versus isolates.

**Response to Completeness Review Memo**: In a comment matrix received with the revised technical report, Paleo West noted that they added definitions for archaeological objects under state law in Section 2.1, and additional text clarifying evaluations of isolated finds in Section 7.4 (Tudor Elliott and Johnson 2019, as revised). Paleo West also reviewed the technical report to ensure that language was consistently used to define archaeological objects and isolated artifacts (isolates).

HRA reviewed the additive language in Section 2.1, which was limited to the addition of language providing the definition of an archaeological object under ORS 385.905(1)(a). Additive language in Section 7.4 primarily pertained to the justification of eligibility recommendations for isolates (see comment No. 5 below). However, the author also noted that none of the isolates met the definition of an archaeological object as defined in ORS 358.905(1)(a), being "…material remains of past human life or activity that are of archaeological significance" (Tudor Elliott and Johnson 2019, as revised:72).

**Conclusion**: It is unclear if the originating comment from the Completeness Review Memo was addressed or will be addressed by the Applicant with the final Exhibit S submittal in the application for site certificate. However, Paleo West's revised technical report does clarify the definitions of archaeological object as defined in state law as requested by HRA in the Completeness Review Memo.

3. Clarify the potential presence of subsurface deposits.

**Notes from Completeness Review Memo:** Attachment S-3, Section 5.1 (Tudor Elliott and Johnson 2019:34) states that the survey was designed to identify areas that may have increased sensitivity for buried deposits; however, there was only a brief mention that the potential for subsurface deposits is low and that no monitoring is recommended. HRA recommended surface visibility be discussed in greater detail in a revised IDP, with representative photographs to document the lack of potential for buried deposits.

**Response to Completeness Review Memo**: In a comment matrix received with the revised technical report, Paleo West noted that the area of project impact was selected based on many criteria, one of which was the availability of ridges and higher areas to mount the solar panels. Paleo West purported that the project area avoids the lower areas where there has been considerable erosion and alluvial development; that is why most of the 4,500 acres are not considered likely to contain buried deposits.

**Conclusion**: It is unclear if this comment was addressed or will be addressed by the Applicant with the final Exhibit S submittal in the application for site certificate, specifically via a revised IDP. Paleo West's justification should be added to a revised IDP as requested in the Completeness Review Memo.

4. Clarify sources for age justification of historical resources.

**Notes from Completeness Review Memo:** It was unclear what criteria were used to determine some recorded were old enough to be considered historical (Tudor Elliott and Johnson 2019:49–55,

specifically resources 18-344-003 and 18-344-004). HRA requested aerials used to determine age range be appropriately cited.

**Response to Completeness Review Memo**: In a comment matrix received with the revised technical report, Paleo West noted the addition of text to those sections explaining how the amount of lichen and sod growth suggested that the resources were over 75 years of age.

**Conclusion**: Paleo West's revisions to the technical report clarify the justification and meet HRA's request in the Completeness Review Memo.

5. Justify eligibility recommendations of isolates.

**Letter from SHPO following Completeness Review Memo:** Review all objects, isolates, and sites under NRHP criteria and provide justifications for eligibility recommendations.

**Response to Completeness Review Memo**: In a comment matrix received with the revised technical report, Paleo West noted the addition of clarifying text to evaluations of isolated finds in Section 7.4.

Added language in Section 7.4 did not individually evaluate the 22 identified isolates, but rather grouped them by date range (historic-period, prehistoric [precontact]). For the 20 historic-period isolates, which included primarily abandoned agricultural equipment or ferrous metal cans, the author stated that the isolates could not be associated with a significant historical event (Criterion A) or prominent personage to the community (Criterion B); that they do not embody a unique type of object or display rare workmanship, nor were they the "finest examples of their type" (Criterion C); and that there were no indications that historic-period isolated artifacts were the surface expressions of unidentified subsurface deposits, and any potential to convey information was "exhausted during field recording" (Criterion D) (Tudor Elliott and Johnson 2019, as revised:72). For the two precontact isolates, the author likewise noted that they could not be associated with a significant event or person of the past; were not of a unique type or style; did not appear to be associated with subsurface Deposits; and that any information potential was exhausted during field recordation (Tudor Elliott and Johnson 2019, as revised:72). As noted above, the author also stated that none of the isolates meet the definition of an archaeological object as defined in ORS 358.905(1)(a), being "…material remains of past human life or activity that are of archaeological significance" (Tudor Elliott and Johnson 2019, as revised:72).

**Conclusion**: Paleo West's revisions to the technical report justify the ineligible recommendations of isolates and meet SHPO's request in the letter following the Completeness Review Memo.

## Conclusion

Pale West revised the *Archaeological and Built Environment Inventory for the Bakeoven Solar Project, Wasco County, Oregon* technical report in response to the clarifications and revisions requested in HRA's Completeness Review Memo and SHPO's October 4, 2019 letter. It is HRA's opinion that the revised technical report addressed the requests of both HRA and SHPO.

It is still unclear if requested revisions to Exhibit S, as noted in Items 1–3 above, have been or will be addressed, as a revised Exhibit S was not submitted for HRA's review. HRA continues to recommend these minor clarifying edits to Exhibit S.

Based on HRA's previous Completeness Review of Exhibit S and its attachments, and this review of the revised technical report, sufficient information was provided for SHPO to make determinations of eligibility on all resources. HRA recommends SHPO concurrence with Paleo West's resource recommendations, which were presented in Exhibit S, Attachment S-2, Appendix B, Site and Isolate Forms. Paleo West also submitted these forms electronically to SHPO via the OARRA database. During Completeness Review, HRA observed that submitted site forms appear to meet minimum SHPO requirements and can be reviewed and accepted. However, the site forms for resources 18-344-003 and 18-344-004 and all isolate forms submitted with the revised technical report do not appear to have been updated to reflect the requests for additional information identified in Nos. 4 and 5 above. These forms should be updated via the electronic OARRA database and resubmitted for SHPO review and concurrence.

## ESTERSON Sarah * ODOE

**From:** Christian Nauer <christian.nauer@ctwsbnr.org>
**Sent:** Tuesday, December 17, 2019 3:11 PM
**To:** ESTERSON Sarah * ODOE
**Subject:** Re: Bakeoven Solar Project - Request for Review of Description of Tribal Consultation
**Attachments:** PastedGraphic-1.pdf

Hi Sarah,

I think the recitation of tribal consultation in particular and Exhibit S in general look appropriate. I really don't think I have anything to add at this time.

Upon more thought, it would have been nice for Avangrid to provide our office with a copy of the final report; how otherwise am I supposed to know if they incorporated our suggestions and comments? I'll give Matt Hutchinson a call to request the final report.

Thank you for your efforts to facilitate the process (and thereby protect cultural resources). Please contact me if you have any questions or concerns.

Best Regards,

Christian

Christian Nauer, MS
Archaeologist
Confederated Tribes of the Warm Springs Reservation of Oregon
Branch of Natural Resources

christian.nauer@ctwsbnr.org
Office 541.553.2026
Cell 541.420.2758

On Dec 17, 2019, at 1:41 PM, ESTERSON Sarah * ODOE <Sarah.Esterson@oregon.gov> wrote:

<19 Exhibit S. Cultural 2019-11-01 FINAL.pdf>

## ESTERSON Sarah * ODOE

**From:** Jeremy Thompson <Jeremy.L.Thompson@state.or.us>
**Sent:** Tuesday, December 17, 2019 12:52 PM
**To:** ESTERSON Sarah * ODOE
**Cc:** ROSENBERG Andrew J; ADKINS Kalysta I; HARRINGTON Michael R; GREGORY Sara C; REIF Sarah J
**Subject:** ODFW comments on Application for Site Certificate- Bakeoven Solar
**Attachments:** ODFW_comments_ASC_Bakeoven.pdf

Sarah,

Please see the attached comments from the Oregon Department of Fish and Wildlife.


**Jeremy Thompson**
District Wildlife Biologist
Mid-Columbia District, ODFW
3701 W. 13th. St.
The Dalles, OR 97058
541-296-4628 office
541-980-8524 cell
541-298-4993 fax

**Department of Fish and Wildlife**
Mid-Columbia Field Office
3701 West 13th Street
The Dalles, OR 97058
(541) 296-4628
FAX (541) 298-4993

Oregon
Kate Brown, Governor

December 13, 2019

Sarah Esterson
Oregon Department of Energy
550 Capitol St. NE
Salem, OR 97301

RE: Request for comments on the Application for Site Certificate submitted by Bakeoven Solar, LLC for the Bakeoven Solar Project in Wasco County

Dear Sarah:

Oregon Department of Energy (ODOE) has requested comments from the Oregon Department of Fish and Wildlife (ODFW) on the Application for Site Certificate (ASC) for Bakeoven Solar Project outside of Maupin. This Letter contains: (1) ODFW contact information for the project; and (2) ODFW's comments on the ASC.

**A. Contacts**

I will be the main contact person for ODFW for the Energy Facility Siting Council (EFSC) permitting process and my contact information is: Jeremy Thompson, 3701 W 13th St. The Dalles, OR 97058. My phone number is (541) 296-4628. Jeremy.L.Thompson@state.or.us. In addition, please copy Sarah Reif, Energy Program Coordinator, 4034 Fairview Industrial Drive SE, Salem OR 97302. Phone number (503) 947-6082, Sarah.J.Reif@state.or.us. ODFW requests that as applicable, all correspondence for this project be conveyed electronically.

**B. Comments on the ASC**

General Comments

Please find below a listing of the most applicable statutes, administrative rules and policies administered by ODFW that would pertain to the siting of this proposed facility. ODFW will review and make recommendations for the proposed project based on the following applicable statutes and rules.

**Oregon Revised Statutes (ORS)**

- ORS 496.012 Wildlife Policy

- ORS 506.036 Protection and Propagation of Fish

- ORS 496.171 through 496.192 Threatened and Endangered Wildlife and Fish Species. A listing of State and Federal threatened, endangered and candidate species can be found on ODFW's website at: http://www.dfw.state.or.us/wildlife/diversity/species/threatened_endangered_candidate_list.asp

- ORS 498.301 through 498.346 Screening and By-pass devices for Water Diversions or Obstructions

- ORS 506.109 Food Fish Management Policy

- ORS 509-140 Placing Explosives in Water

- ORS 509.580 through 509.910 Fish Passage; Fishways: Screening Devices- a listing of requirements under ODFW's Fish Passage Program can be found on ODFW's website at http://www.dfw.state.or.us/fish/passage/

**Oregon Administrative Rules (OAR)**

- OAR Chapter 635, Division 100 provides authority for adoption of the State sensitive species list and the Wildlife Diversity Plan, and contains the State list of threatened and endangered wildlife and fish species. A current list of State sensitive species can be found on ODFW's website at: https://www.dfw.state.or.us/wildlife/diversity/species/docs/2017_Sensitive_Species_List.pdf

- OAR Chapter 635, Division 415 (ODFW's Fish and Wildlife Mitigation Policy found on ODFW's website at: http://www.dfw.state.or.us/lands/mitigation_policy.asp describes six habitat categories and establishes mitigation goals and standards for each wildlife habitat ranging from Category 1 (irreplaceable, essential, limited) to Category 6 (non-habitat)

- The Policy goal for Category 1 habitat is no loss of either habitat quantity or quality via avoidance of impacts through development alternatives, or an ODFW recommendation of denial of the proposed development action if impacts cannot be avoided. Categories 2-4 are essential or important but not irreplaceable habitats. Category 5 habitat is not essential or important habitat, but has a high restoration potential. The application for a site certificate must identify the appropriate habitat category for all affected areas of the proposed project on mapping; provide basis for each habitat category selection; and provide an appropriate mitigation plan; all subject to ODOE and ODFW review and comment. ODOE has adopted this rule into OAR 345-022-0060 as an energy facility siting standard for Applicants to meet in order to obtain a site certificate.

DRAFT

- ODFW also provides technical review and recommendations on compliance with Oregon EFSC rules, particularly OAR 345-02100010(1) (p) and (q) and 345-22-040, 060 and 070.

- ODFW also advocates for project proponents to site solar facilities in a manner consistent with the Oregon Columbia Plateau Ecoregion (CPE) Wind Energy Siting and Permitting Guidelines that were established in conjunction with multiple state, federal and industry partners. The intent of these guidelines were to create a balance between the development of renewable energy and environmental protection. While these guidelines were developed for wind facilities, they are also applicable to solar projects within the CPE.

General Comments

- ODFW finds that application to be thorough and complete in its assessment of biological resources present on the facility and the potential impact to those resources based on current and best science.

- Many of the requests presented within ODFW's specific comments on the pASC were not incorporated into the ASC, and thus are still within the specific comments section of this letter.

- The applicant makes an argument that due to proportion of lands that ODFW designates as winter range within the region, they may not be limited or essential. ODFW advocates for the protection of existing winter range as essential due to loss of the highest quality habitats that were once present within the region. Human development and presence is centered along stream and river corridors throughout eastern Oregon, and these lands should be looked at as the truly critical winter range historically. With current human presence, wildlife now has the remaining range in which to seek critical habitat during high stress periods of their life cycle, and as such these lands are critical to the survival of many species. ODFW appreciates the applicants efforts to not only identify appropriate mitigation sites to offset the impacts of this project to winter range habitats, but also their efforts at contributing to larger scale mitigation concepts to increase landscape scale conservation in the region.

- ODFW appreciates the applicant's willingness to conduct post-construction monitoring to better the local understanding of potential impacts from solar development on local bird and bat species.

Specific Comments

Please refer to the attached table for specific comments on the ASC.

Respectfully,

DRAFT

Jeremy Thompson
Mid-Columbia District Wildlife Biologist

Cc: Jon Germond, Salem
Sarah Reif, Salem
Michael Harrington, Bend

DRAFT

Oregon
Kate Brown, Governor

**Department of Fish and Wildlife**
Mid-Columbia Field Office
3701 West 13th Street
The Dalles, OR 97058
(541) 296-4628
FAX (541) 298-4993

| **Bakeoven Solar Project<br>Comments on the Application for Site Certificate (ASC)<br>From ODFW** | | | |
|---|---|---|---|
| **Exhibit** | **Rule/ Ordinance/Law Reference** | **Pg. / Para. / Sentence Reference (as needed)** | **Comment or Information Request** |
| P | OAR 635, DIV. 415 | Pg. 1, 3.0 | Given the loss of critical winter range within valley bottoms within the CPE, ODFW views all remaining winter range as critical. |
| P | OAR 635, DIV. 415 | Pg. 1, 3.0 | At this time, ODFW assumes that mule deer are non-migratory within the project area. Current monitoring is underway to determine if any migration occurs within this population. It is also possible that current human disturbance has limited the ability for many species to undertake historical migrations in this landscape. |
| P | OAR 635, DIV. 415 | Pg. 3, 3.0 | ODFW has met with the applicant, at their request, to explore potential mitigation options for this project. ODFW has encouraged the applicant to look at contributing to ongoing mitigation and conservation projects within the area. The purpose of ODFW's recommendation is to leverage greater conservation benefit to wildlife and their habitats by working at landscape scales, and to increase the likelihood of success for Bakeoven Solar's mitigation efforts. ODFW has reviewed the draft Habitat Mitigation Plan in Exhibit P and our assessment is that the concepts are in place, but the details are still in development. Prior to issuance of a Site Certificate, ODFW recommends greater detail and specificity regarding the boundary of the mitigation area, the actual location of the habitat treatments, and demonstration that wildlife habitat functions and values will be maintained for life of the project's impacts (durability). Greater specificity in monitoring and reporting would also be expected once mitigation projects are solidified. ODFW looks forward to continued coordination with ODOE and applicant. |

| Bakeoven Solar Project<br>Comments on the Application for Site Certificate (ASC)<br>From ODFW | | | |
|---|---|---|---|
| **Exhibit** | **Rule/ Ordinance/Law Reference** | **Pg. / Para. / Sentence Reference (as needed)** | **Comment or Information Request** |
| P | OAR 635, DIV. 100 | Pg. 14, Table P-4 | For species noted in the table as "detected nearby" or "known occurrence nearby", ODFW requests that the applicant consider impacts to these species during their permitting and construction activities. |
| P | OAR 635, DIV. 100 | Pg. 15, Table P-4 | This occurrence of burrowing owl is one of the westernmost locations found within the local district. ODFW requests the applicant plan development activities and siting to avoid the area within ¼ mile of owl burrows. |
| P | OAR 635, DIV 415 | Pg. 19, 6.2, paragraph 2 | ODFW requests this statement be revised to "Mule deer within….are non-migratory *based on current data,* and thus ODFW anticipates that the Facility*, as currently presented and considered by itself is not likely to negatively affect habitat connectivity.* |
| P | OAR 635, DIV 415 | Pg. 19, 6.2, paragraph 2 | ODFW does not concur with the statement that wintering deer are less likely to use dry-land wheat or non-native grasslands in the winter. |
| P | OAR 635, DIV. 100 | Pg.27, 8.2.2, paragraph 2 | ODFW requests the applicant plan development activities and siting to avoid the area within ¼ mile of owl burrows. |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

DRAFT

## ESTERSON Sarah * ODOE

**Subject:** FW: Bakeoven Solar Project - Legal Parcel Status Review

**From:** Daniel Dougherty <danield@co.wasco.or.us>
**Sent:** Thursday, January 9, 2020 2:54 PM
**To:** ESTERSON Sarah * ODOE <Sarah.Esterson@oregon.gov>
**Subject:** Re: Bakeoven Solar Project - Legal Parcel Status Review

Ms. Esterson,

We checked out the properties. They look good. Brent Byee, the Associate Planner who worked our locally reviewed wind application had already confirmed all of these properties earlier, so it did not take as long as I envisioned.

Respectfully,

Daniel Dougherty

**Daniel Dougherty** | ***Associate Planner***
**PLANNING DEPARTMENT**

**danield@co.wasco.or.us** | **http://www.co.wasco.or.usdepartments/planning/index.php**

541-506-2560 | Fax 541-506-2561
2705 E Second Street | The Dalles, OR 97058

On Wed, Jan 8, 2020 at 11:56 AM Daniel Dougherty <danield@co.wasco.or.us> wrote:

> Ms. Esterson,
>
> It's good the list provides deeds or partitions. I will give them a review to be sure, and get back to you before next Tuesday.
>
> Respectfully,
>
> Daniel Dougherty
>
> On Wed, Jan 8, 2020 at 11:19 AM ESTERSON Sarah * ODOE <Sarah.Esterson@oregon.gov> wrote:
>
>> Hi Daniel,
>>
>> It was really nice talking with you – please find the attached table presenting Avangrid's review of legal parcel status within the proposed site boundary of the Bakeoven Solar Project.
>>
>> Please let me know if you identify any issues or concerns, or don't have time to complete the review.
>>
>> Thanks again,
>>
>> Sarah

**Sarah T. Esterson**
Senior Siting Analyst
550 Capitol St. NE | Salem, OR 97301
P: 503-373-7945

C: 503-385-6128
P (In Oregon): 800-221-8035

Stay connected!

# MEMORANDUM

**SUBJECT: Goal Exceptions for Oregon Department of Energy Reviewed Energy Facilities**

TO: FILE CC: OREGON DEPARTMENT OF ENERGY

FROM: KELLY HOWSLEY-GLOVER, LONG RANGE PLANNER

DATE: 1/10/2019

State rules allow for applicants to apply for "exceptions" to Statewide Land Use Planning Goals based on three main possible arguments; reasons, irrevocably committed or physical development conditions. The Oregon Department of Energy (ODOE) is currently evaluating an application for the Bakeoven Solar Facility in South Wasco County. Part of that proposal includes a Goal 3 exception, based on reasons, to permit a solar facility on arable agricultural lands. The applicant has made the argument to ODOE that they should be able to administer the Comprehensive Plan Amendment, or essentially waive this requirement, as part of their review. ODOE has reached out for an interpretation of our rules as pertain to the Comprehensive Plan Amendment.

Exceptions are, by definition a "comprehensive plan provision" that requires "an amendment to an acknowledged comprehensive plan" (OAR 660-015-0000(2) and ORS 197.732). As such, applications that include Goal Exceptions necessarily also require a Wasco County Comprehensive Plan Amendment. Chapter 11 of the Comprehensive Plan clear states that: "Each plan change or revision will first be heard by the Planning commission on a first-come, first serve basis". The Planning Commission makes recommendation to the Board of County Commission which then adopts the change to the Comprehensive Plan. To amend the Comprehensive Plan, the Wasco County Planning Department is also required to submit a Post Acknowledgment Plan Amendment (PAPA) to the Department of Land Conservation and Development (DLCD).

These processes all have specific, statutorily required timelines including a 35 day notice prior to the first evidentiary hearing to DLCD, and 20 days between the Planning Commission and Board of County Commissioner hearing. Provided there are no other hearings scheduled, the process at a minimum takes three months.

In the case of ODOE review of the solar facility, ODOE will apply Wasco County rules in the course of the permit, but cannot amend the Wasco County Comprehensive Plan. This means if, during the course of issuing the permit, ODOE finds the application meets the Goal Exception criteria, the applicant would be required to go through the Wasco County Comprehensive Plan Amendment process, including a 35 day notice to DLCD followed by three hearings.

Although the Goal Exception will have already been adjudicated by ODOE, including opportunities for public comment, the hearings represent another opportunity for comment on the actual amendment of the Comprehensive Plan.

There is some confusion about why ODOE can make findings, with Wasco County oversight, and issue a permit in Wasco County but not amend the Wasco County Comprehensive Plan during the same process. Some energy facilities, due to the size or the location on high value or arable farm lands require Energy Facility Siting Council review. During this process, Wasco County Land Use and Development Ordinance rules apply and Wasco County Planning staff functions in the capacity of adviser on those rules. The development review process includes statutorily required noticing, findings based on criteria, and appeal opportunities. Once complete, a development permit is issued. This process is similar, although usually on a longer time line and larger scale, than most development permits issued by the Wasco County Planning Department.

A Comprehensive Plan Amendment, however, is not a permit. It is a modification to state required Wasco County land use plans. By design, no other agency or entity has the ability to modify Wasco County land use plans without going through the quasi-judicial or legislative process including hearings before the Planning Commission and Board of County Commissioners. The permitting and plan amendment process are fundamentally different; ODOE cannot amend Wasco County plans.

Staff is aware that this may create additional time constraints on the applicant, however, we are not at liberty to waive or modify those timelines required by state law. Staff will be able to use the findings and approval from ODOE about the Goal Exception, limiting the amount of staff time, however will still need to notice and hold hearings consistent with state law, the Wasco County Land Use and Development Ordinance and the Wasco County Comprehensive Plan. This process will include some costs; printing and modification to plans, noticing, meeting room rental and other fees, and staff time for hearings. Our current fee schedule calculates a Goal Exception at the rate of $1,740 plus an hourly rate of $76/hour over 20 hours. This fee includes those costs outlined above.

State law is clear that a “planning exception takes effect when the comprehensive plan or plan amendment is adopted by the city or county governing body” and not merely at the time of approval by the permitting agency (OAR 660-004-0030). Based on all of these factors, it is the staff’s interpretation that all Goal Exceptions approved by ODOE must then go through a Comprehensive Plan Amendment process to include three hearings and, at a minimum, three months and the additional Wasco County fees.

## ESTERSON Sarah * ODOE

**Subject:** Bakeoven Solar Project - Traffic Mgmt; Fire Prevention and Control; Noxious Weed Plan (Comments by Jan 8/9?)

**From:** Maupin Mayor <maupinmayor@gmail.com>
**Sent:** Friday, January 10, 2020 11:20 AM
**To:** ESTERSON Sarah * ODOE <Sarah.Esterson@oregon.gov>
**Subject:** Re: Bakeoven Solar Project - Traffic Mgmt; Fire Prevention and Control; Noxious Weed Plan (Comments by Jan 8/9?)

We have reviewed the documents from the email regarding the Bakeoven Solar Project regarding traffic, fire, and weed control. At this point, we have no major concerns, but would like to be included in any future discussions on these topics.

--
Lynn Ewing
Mayor
City of Maupin, Oregon
Ph. 541-395-2698
Fax: 541-395-2499
Cell: 541-993-5956

## ESTERSON Sarah * ODOE

**Subject:** Bakeoven Solar Project - Projected Water Use - Adequate ability for City to meet forecasted usage?

**From:** Maupin Mayor <maupinmayor@gmail.com>
**Sent:** Friday, January 10, 2020 11:22 AM
**To:** ESTERSON Sarah * ODOE <Sarah.Esterson@oregon.gov>
**Subject:** Re: Bakeoven Solar Project - Projected Water Use - Adequate ability for City to meet forecasted usage?

We have reviewed the information from the email regarding the Bakeoven Solar Project in relation to water usage. At this point, we have no major concerns, but would like to be involved as details are worked out.

--
Lynn Ewing
Mayor
City of Maupin, Oregon
Ph. 541-395-2698
Fax: 541-395-2499
Cell: 541-993-5956

On Mon, Dec 30, 2019 at 12:12 PM ESTERSON Sarah * ODOE <Sarah.Esterson@oregon.gov> wrote:

Mayor Ewing,

For the Bakeoven Solar Project, the applicant represents that the coordinated with the City of Maupin on its forecasted water usage during construction and operation. I wanted to make sure that you had received their forecasted water use – as represented below:

**Estimated Water Use from Proposed Facility Construction and Operation**

| Water Use Description | Quantity/Units |
|---|---|
| *Construction* | Gallons/Year |
| Site Dust Control | 75 million |
| Road Compaction | 182,400 |
| Concrete Mixing | 1.7 million |
| Drinking Water/Sanitation | 187,500 |
| **Annual Estimated Construction Water Use =** | 77.1 million |
| *Operation* | Gallons/Year |
| O&M Building | 7,500 |
| Solar Panel Washing | 1 million |
| **Annual Estimated Operational Water Use =** | 1,007,500 |
| Source: ASC Exhibit O | |

Could you confirm that the City could adequately provide up to 77 million gallons of water per year for up to 5 years, and up to 1 million gallons per year during long-term operations?

Thanks,

Sarah

**Sarah T. Esterson**
Senior Siting Analyst
550 Capitol St. NE | Salem, OR 97301
P: 503-373-7945

C: 503-385-6128
P (In Oregon): 800-221-8035

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

**Attachment D: Erosion and Sediment Control Plan (ESCP) Drawings and BMPS**

# AVANGRID RENEWABLES
# BAKEOVEN SOLAR PROJECT
# EROSION AND SEDIMENT CONTROL PLAN (ESCP) DRAWINGS

1750 SW HARBOR WAY, SUITE 400
PORTLAND, OR 97201
PHONE: (503) 221-8636 FAX: (503) 227-1287
www.tetratech.com
TETRA TECH

## STANDARD EROSION AND SEDIMENT CONTROL PLAN DRAWING NOTES:

1. Hold a pre–construction meeting of project construction personnel that includes the inspector to discuss erosion and sediment control measures and construction limits. (Schedule A.8.c.i.(3))
2. All inspections must be made in accordance with DEQ 1200–C permit requirements.
3. Inspection logs must be kept in accordance with DEQ's 1200–C permit requirements.
4. Retain a copy of the ESCP and all revisions on site and make it available on request to DEQ, Agent, or the local municipality. During inactive periods of greater than seven (7) consecutive calendar days, retain the ESCP at the construction site or at another location. (Schedule B.2.a)
5. All permit registrants must implement the ESCP. Failure to implement any of the control measures or practices described in the ESCP is a violation of the permit. (Schedule A 8.a)
6. The ESCP measures shown on this plan are minimum requirements for anticipated site conditions. During the construction period, upgrade these measures as needed to comply with all applicable local, state, and federal erosion and sediment control regulations. (Schedule A.8.c.ii.(1)(c))
7. Submission of all ESCP revisions is not required. Submittal of the ESCP revisions is only under specific conditions. Submit all necessary revision to DEQ or Agent. (Schedule A.12.c.iii)
8. Phase clearing and grading to the maximum extent practical to prevent exposed inactive areas from becoming a source of erosion. (Schedule A 8.c.ii.(1)(d))
9. Identify, mark, and protect (by fencing off or other means) critical riparian areas and vegetation including important trees and associated rooting zones, and vegetation areas to be preserved. Identify vegetative buffer zones between the site and sensitive areas (e.g., wetlands), and other areas to be preserved, especially in perimeter areas. (Schedule A.8.c.i.(1) & (2))
10. Preserve existing vegetation when practical and re–vegetate open areas. Re–vegetate open areas when practicable before and after grading or construction. Identify the type of vegetative seed mix used. (Schedule A.7.b.iii(1) and A.7.b.iii(3))
11. Erosion and sediment control measures including perimeter sediment control must be in place before vegetation is disturbed and must remain in place and be maintained, repaired, and promptly implemented following procedures established for the duration of construction, including protection for active storm drain inlets and catch basins and appropriate non–stormwater pollution controls. (Schedule A.7.d.i and A.8.c)
12. Establish concrete truck and other concrete equipment washout areas before beginning concrete work. (Schedule A.8.c.i.(6))
13. Apply temporary and/or permanent soil stabilization measures immediately on all disturbed areas as grading progresses and for all roadways including gravel roadways. (Schedule A.8.c.ii.(2))
14. Establish material and waste storage areas, and other non–stormwater controls. (Schedule A.8.c.i.(7))
15. Prevent tracking of sediment onto public or private roads using BMPs such as: graveled (or paved) exits and parking areas, gravel all unpaved roads located onsite, or use an exit tire wash. These BMPs must be in place prior to land–disturbing activities. (Schedule A 7.d.ii.(1) and A.8.c.i(4))
16. When trucking saturated soils from the site, either use water–tight trucks or drain loads on site. (Schedule A.7.d.ii.(3))
17. Use BMPs to prevent or minimize stormwater exposure to pollutants from spills; vehicle and equipment fueling, maintenance, and storage; other cleaning and maintenance activities; and waste handling activities. These pollutants include fuel, hydraulic fluid, and other oils from vehicles and machinery, as well as debris, leftover paints, solvents, and glues from construction operations. (Schedule A.7.e.i.(2))
18. Implement the following BMPs when applicable: written spill prevention and response procedures, employee training on spill prevention and proper disposal procedures, spill kits in all vehicles, regular maintenance schedule for vehicles and machinery, material delivery and storage controls, training and signage, and covered storage areas for waste and supplies. (Sch A 7.e.iii.)
19. Use water, soil–binding agent or other dust control technique as needed to avoid wind–blown soil. (Schedule A 7.b.ii)
20. The application rate of fertilizers used to reestablish vegetation must follow manufacturer's recommendations to minimize nutrient releases to surface waters. Exercise caution when using time–release fertilizers within any waterway riparian zone. (Schedule A.9.b.iii)
21. If a stormwater treatment system (for example, electro–coagulation, flocculation, filtration, etc.) for sediment or other pollutant removal is employed, submit an operation and maintenance plan (including system schematic, location of system, location of inlet, location of discharge, discharge dispersion device design, and a sampling plan and frequency) before operating the treatment system. Obtain plan approval before operating the treatment system. Operate and maintain the treatment system according to manufacturer's specifications. (Schedule A.9.d)
22. Temporarily stabilize soils at the end of the shift before holidays and weekends, if needed. The registrant is responsible for ensuring that soils are stable during rain events at all times of the year. (Schedule A 7.b)
23. At the end of each workday soil stockpiles must be stabilized or covered, or other BMPs must be implemented to prevent discharges to surface waters or conveyance systems leading to surface waters. (Schedule A 7.e.ii.(2))
24. Construction activities must avoid or minimize excavation and creation of bare ground during wet weather. (Schedule A.7.a.i)
25. Sediment fence: remove trapped sediment before it reaches one third of the above ground fence height and before fence removal. (Schedule A.9.c.i)
26. Other sediment barriers (such as biobags): remove sediment before it reaches two inches depth above ground height. and before BMP removal. (Schedule A.9.c.ii)
27. Catch basins: clean before retention capacity has been reduced by fifty percent. Sediment basins and sediment traps: remove trapped sediments before design capacity has been reduced by fifty percent and at completion of project. (Schedule A.9.c.iii & iv)
28. Within 24 hours, significant sediment that has left the construction site, must be remediated. Investigate the cause of the sediment release and implement steps to prevent a recurrence of the discharge within the same 24 hours. Any in–stream clean up of sediment shall be performed according to the Oregon Division of State Lands required timeframe. (Schedule A.9.b.i)
29. The intentional washing of sediment into storm sewers or drainage ways must not occur. Vacuuming or dry sweeping and material pickup must be used to cleanup released sediments. (Schedule A.9.b.ii)
30. The entire site must be temporarily stabilized using vegetation or a heavy mulch layer, temporary seeding, or other method should all construction activities cease for 30 days or more. (Schedule A.7.f.i)
31. Provide temporary stabilization for that portion of the site where construction activities cease for 14 days or more with a covering of blown straw and A tackifier, loose straw, or an adequate covering of compost mulch until work resumes on that portion of the site. (Schedule A.7.f.ii)
32. Provide permanent erosion control measures on all exposed areas. Do not remove temporary sediment control practices until permanent vegetation or other cover of exposed areas is established. However, do remove all temporary erosion control measures as exposed areas become stabilized, unless doing so conflicts with local requirements. Properly dispose of construction materials and waste, including sediment retained by temporary BMPs. (Schedule A.7.b.iii(2) and A.8.c.iii)

## NARRATIVE DESCRIPTIONS

### PROJECT LOCATION

EIGHT MILES EAST OF MAUPIN
WASCO COUNTY, OREGON
LATITUDE= 45°07'03" N LONGITUDE= 120°51'52" W

### EXISTING SITE CONDITIONS

– UNDEVELOPED

CONDITIONS WILL BE CHANGED TO ACTIVE SOLAR FACILITY WITH XXX PANEL A SUBSTAION OPERATIONS AND MAINTENANCE BUILDING AND TRANSMISSION LINE..

### PROPERTY DESCRIPTION

SOUTH OF WASCO–SHERMAN COUNTY LINE THAT FOLLOWS BUCK CREEK.

### SITE SOIL CLASSIFICATION:

BaC – BAKEOVEN VERY COBBLY LOAM, 2 TO 20 PERCENT SLOPES
BcC – BAKEOVEN–CONDON COMPLEX, 2 to 20 PERCENT SLOPES
CnC – CONDON SILT LOAM, 2 TO 12 PERCENT SLOPES
CoC – CONDON–BAKEOVEN COMPLEX, 2 TO 7 PERCENT SLOPES
LcE – LICKSKILLET VERY STONY LOAM, 15 TO 40 PERCENT SLOPES
LeF – LICKSKILLET EXTREMELY STONY LOAM, 12 TO 25 PERCENT SLOPES
Pa – PLAYAS
Rh – RIVERWASH
WrF – WRENTHAM–ROCK OUTCROP COMPLEX, 35 TO 70 PERCENT SLOPES

### RECEIVING WATER BODIES:

WATERBODIES IN THE PROJECT AREA INCLUDE SALT CREEK TRIBUTARY STREAMS TO BAKEOVEN CREEK AND BUCK HOLLOW CREEK, AND NUMEROUS INTERMITTENT/EPHEMERAL EROSIONAL FEATURES.

### NATURE OF CONSTRUCTION ACTIVITY AND ESTIMATED TIME TABLE

AVANGRID RENEWABLES TO CONSTRUCT THE BAKEOVEN SOLAR PROJECT TO CONSIST OF:

- THE OVERALL PROJECT WILL CONSIST OF 951,900 MODULES AND 320 WATTS EACH TOTALING A 303 MEGAWATT FACILITY
- EACH PHASE OF THE PROJECT WILL BE DETERMINED BASED ON DEMAND SO NO SET NUMBER OF MODULES WILL BE CONSTRUCTED IN EACH OF THE PHASES
- ACCESS ROADS, OPERATIONS AND MAINTENANCE BUILDING, TRANSMISSION LINE, STAGING AREAS, AND BATTERY STORAGE

FINAL ENGINEERING AND BEGING CONSTRUCTION (DATES, FROM: JAN 2020 TO: DEC 2025)
PHASE I CONSTRUCTION AND OPERATIONS (DATES, FROM: JUN 2020 TO: DEC 2021)
PHASE II CONSTRUCTION AND OPERATIONS (DATES, FROM: JAN 2022 TO: DEC 2022)
PHASE III CONSTRUCTION AND OPERATIONS (DATES, FROM: JAN 2023 TO: DEC 2024)
COMPLETION DEADLINE FOR ALL PHASES (DEC 2025)

TOTAL SITE AREA: APPROX. 10,615 ACRES
POTENTIAL MAX DISTURBED AREA: APPROX. 4,138 ACRES

THE PERMITTEE IS REQUIRED TO MEET ALL THE CONDITIONS OF THE 1200C PERMIT. THIS ESCP AND GENERAL CONDITIONS HAVE BEEN DEVELOPED TO FACILITATE COMPLIANCE WITH THE 1200C PERMIT REQUIREMENTS. IN CASES OF DISCREPANCIES OR OMISSIONS, THE 1200C PERMIT REQUIREMENTS SUPERCEDE REQUIREMENTS OF THIS PLAN.

### DEVELOPER

DEVELOPER/COMPANY: AVANGRID RENEWABLES
CONTACT: TBD
ADDRESS: TBD
PHONE: TBD
EMAIL: TBD

### PLANNING/ENGINEERING/ SURVEYING FIRM

COMPANY: TETRA TECH
CONTACT: SUZY CAVANAGH
ADDRESS: 1750 SW HARBOR WAY, SUITE 400
PORTLAND, OR 97201
PHONE: (208) 489–2868
EMAIL: SUZY.CAVANAGH@TETRATECH.COM

### PERMITTEE'S SITE INSPECTOR

INSPECTOR: TBD
COMPANY/AGENCY: TBD
PHONE: TBD
EMAIL: TBD
DESCRIPTION OF EXPERIENCE: TBD

INSPECTION FREQUENCY: TBD

| SITE CONDITION | MINIMUM FREQUENCY |
|---|---|
| 1. ACTIVE PERIOD | DAILY WHEN STORMWATER RUNOFF, INCLUDIGN RUNOFF FROM SNOWMELT, IS OCCURING. |
| 2. PRIOR TO THE SITE BECOMING INACTIVE OR IN ANTICIPATION OF SITE INACCESSIBILITY. | ONCE TO ENSURE THAT EROSION AND SEDIMENT CONTROL MEASURES ARE IN WORKING ORDER. ANY NECESARRY MAINTENANCE AND REPAIR MUST BE MADE PRIOR TO LEAVING THE SITE. |
| 3. INACTIVE PERIODS GREATER THAN FOURTEEN CONSECTUTIVE CALENDAR DAYS. | ONCE EVERY TWO WEEKS. |
| 4. PERIODS DURING WHICH THE SITE IS INACCESSIBLE DUE TO INCLEMENT WEATHER. | IF PRACTICAL, INSPECTIONS MUST OCCUR DAILY AT A RELEVANT AND ACCESSIBLE DISCHARGE POINT OR DOWNSTREAM LOCATION. |

- HOLD A PRE–CON MEETING OF PROJECT CONSTRUCTION PERSONNEL THAT INCLUDES THE EC INSPECTOR.
- ALL INSPECTIONS MUST BE MADE IN ACCORDANCE WITH DEQ 1200–C PERMIT REQUIREMENTS.
- INSPECTION LOGS MUST BE KEPT IN ACCORDANCE WITH DEQ 1200–C PERMIT REQUIREMENTS.
- REVSIONS TO THE APPROVED ESC PLAN MUST BE SUBMITTED TO DEQ OR AGENT IN ACCORDANCE WITH CURRENT 1200–C PERMIT

## LOCAL AGENCY–SPECIFIC EROSION CONTROL NOTES:

1. OWNER OR DESIGNATED PERSON SHALL BE RESPONSIBLE FOR PROPER INSTALLATION AND MAINTENANCE OF AL EROSION AND SEDIMENT CONTROL MEASURES, IN ACCORDANCE WITH LOCAL, STATE, AND FEDERAL REGULATIONS.
2. PRIOR TO ANY LAND DISTURBING ACTIVITIES, THE BOUNDARIES OF THE CLEARING LIMITS, VEGETATED BUFFERS, AND ANY SENSITIVE AREAS SHOWN ON THIS PLAN SHALL BE CLEARLY DELINEATED IN THE FIELD. DURING THE CONSTRUCTION PERIOD, NO DISTURBANCE IS PERMITTED BEYOND THE CLEARING LIMITS. THE OWNER/PERMITTEE MUST MAINTAIN THE DELINEATION FOR THE DURATION OF THE PROJECT. NOTE: VEGETATED CORRIDORS TO BE DELINEATED WITH ORANGE CONSTRUCTION FENCE OR APPROVED EQUAL.
3. PRIOR TO ANY LAND DISTURBING ACTIVITIES, THE BMP'S THAT MUST BE INSTALLED ARE A GRAVEL CONSTRUCTION ENTRANCE, PERIMETER SEDIMENT CONTROL, AND INLET PROTECTION. THESE BMP'S MUST BE MAINTAINED FOR THE DURATION OF THE PROJECT.
4. IF VEGETATIVE SEED MIXES ARE SPECIFIED, SEEDING MUST TAKE THE PLACE NO LATER THAN SEPTEMBER 1; THE TYPE AND PERCENTAGES OF SEED IN THE MIX MUST BE IDENTIFIED ON THE PLANS.
5. ALL PUMPING OF SEDIMENT LADEN WATER SHALL BE DISCHARGED OVER AN UNDISTURBED, PREFERABLY VEGETATED AREA, AND THROUGH A SEDIMENT CONTROL BMP I.E. (FILTER BAG).
6. THE ESC PLAN MUST E KEPT ON SITE. ALL MEASURES SHOWN ON THE PLAN MUST BE INSTALLED PROPERLY TO ENSURE THAT SEDIMENT R SEDIMENT LADEN WATER DOES NOT ENTER A SURFACE SYSTEM, ROADWAY, OR OTHER PROPERTIES.
7. THE ESC MEASURES SHOWN ON THIS PAN ARE MINIMUM REQUIREMENTS FOR ANTICIPATED SITE CONDITIONS. DURING THE CONSTRUCTION PERIOD THESE MEASURES SHALL BE UPGRADED AS NEEDED TO COMPLY WITH ALL APPLICABLE LOCAL, STATE AND FEDERAL EROSION CONTROL REGULATIONS CHANGES TO THE APPROVED ESC PLAN MUST BE SUBMITTED IN THE FORM OF AN ACTION PLAN TO DEQ PER THE 1200 C PERMIT.
8. IN AREAS SUBJECT TO WIND EROSION, APPROPRIATE BMP'S MUST BE USED WHICH MAY INCLUDE THE APPLICATION OF FINE WATER SPRAYING, PLASTIC SHEETING, MULCHING OR OTHER APPROVED MEASURES.
9. ALL EXPOSED SOILS MUST BE COVERED DURING THE WET WEATHER PERIOD.

## BMP MATRIX FOR CONSTRUCTION PHASES

REFER TO DEQ GUIDANCE MANUAL FOR A COMPREHENSIVE LIST OF AVAILABLE BMP'S

| | 2019 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| BMPS | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
| Pipe Slope Drains | | | | | | | | | | | | |
| Energy Dissipaters | | | | | | | | | | | | |
| Temporary Diversion Dikes | | | | | | | | | | | | |
| Check Dams | | | | | | | | | | | | |
| Temporary Seeding and Planting | | | | | | | | | | | X | X |
| Permanent Seeding and Planting | | | | | | | | | | | | |
| Mycornhizae/Biofertilizers | | | | | | | | | | | | |
| Mulches (type) | | | | | | | X | X | X | X | X | |
| Construction Entrance | | | | X | | | | | | | | |
| Compost Blankets | | | | | | | | | | | | |
| Compost Socks | | | | | | | | | | | | |
| Compost Berm | | | | | | | | | | | | |
| Soil Trackifiers | | | | | | | | | | | X | X |
| Sodding Vegetative Buffer Strips | | | | | | | | | | | | |
| Sediments Fencing | | X | X | X | X | X | X | X | X | X | X | |
| Erosion Control Blankets & Mts | | | | | | | | | | | | |
| Earth Dikes | | | | | | | | | | | | |
| Drainage Swales | | | | | | | | | | | | |
| Rock Outlet Protection | | | | | | | | | | | | |
| Sediments Trap | | | | | | | | | | | | |
| Straw Wattles | | | | | | | | | | | | |
| Storm Drain Inlet Protection | | | | | | | | | | | | |
| Temporary or Permanent Sedimentation Basins | | | | | | | | | | | | |
| Unpaved Roads Graveled or other BMP on Road | | | | | | | | | | | | |
| Dewatering | | | | | | | | | | | | |
| Paving Operations Controls | | | | | | | | | | | | |
| Concrete Truck Washout | | | | | | | | | | | | |

## RATIONALE STATEMENT

A COMPREHENSIVE LIST OF AVAILABLE BEST MANAGEMENT PRACTICES (BMP) OPTIONS BASED ON DEQ'S GUIDANCE MANUAL HAS BEEN REVIEWED TO COMPLETE THIS EROSION AND SEDIMENT CONTROL PLAN. SOME OF THE ABOVE LISTED BMP'S WERE NOT CHOSEN BECAUSE THEY WERE DETERMINED TO NOT EFFECTIVELY MANAGE EROSION PREVENTION AND SEDIMENT CONTROL FOR THIS PROJECT BASED ON SPECIFIC SITE CONDITIONS, INCLUDING SOIL CONDITIONS TOPOGRAPHIC CONSTRAINTS ACCESSIBILITY TO THE SITE, AND OTHER RELATED CONDITIONS, AS THE PROJECT PROGRESSES AND THERE IS A NEED TO REVISE THE ESC PLAN, AN ACTION PLAN WILL BE SUBMITTED.

_____
INITIAL

## PROJECT LOCATION:

WASCO COUNTY, OREGON

## CLIENT INFORMATION:

AVANGRID RENEWABLES
180 MARSH HILL ROAD
ORANGE, CT, 06477

## Tt PROJECT No.:

194-6211

## CLIENT PROJECT No.:

BAKEOVEN SOLAR PROJECT

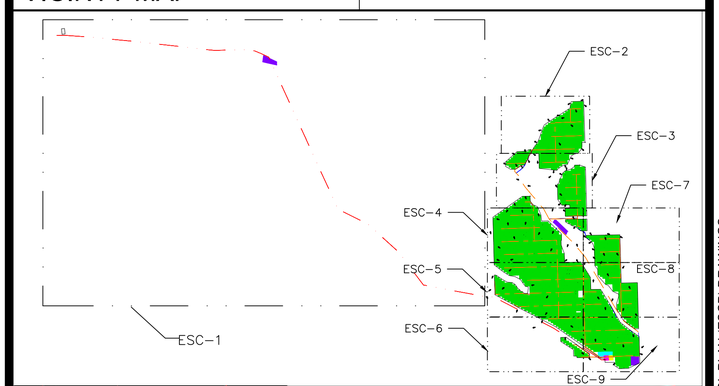
## PROJECT DESCRIPTION / NOTES:

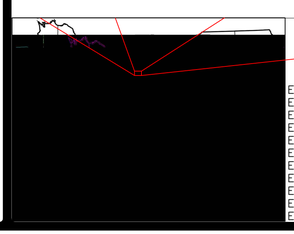
AVANGRID RENEWABLES TO CONSTRUCTION AN XXX MEGAWATT SOLAR FACILITY AND ACCOMPANYING SUBSTATIONS AND TRANSMISSION LINE.

## ISSUED:

ISSUED FOR EDQ REVIEW

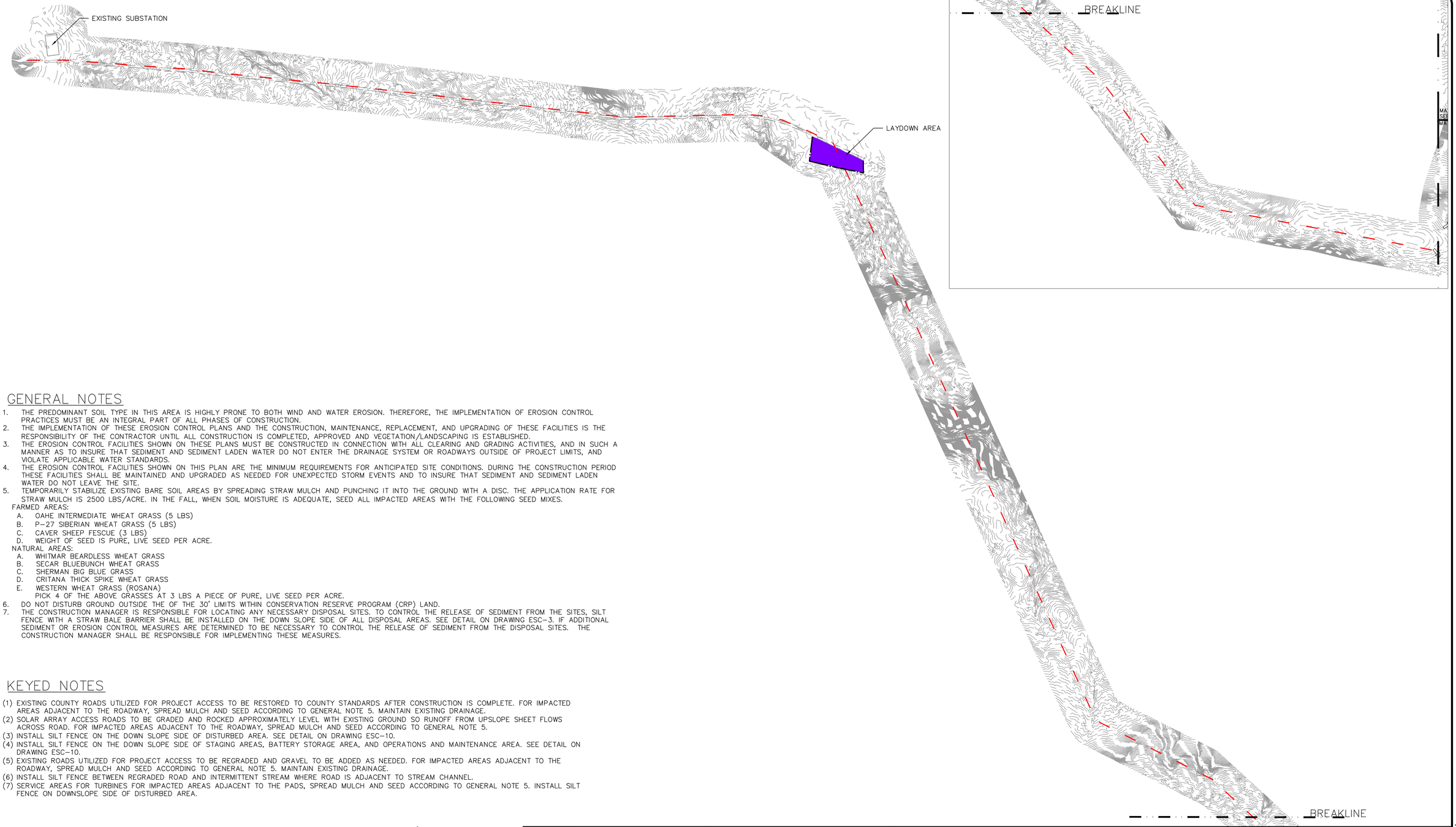
## VICINTY MAP



## SHEET INDEX

ESC–0 EROSION AND SEDIMENT CONTROL COVER SHEET
ESC–1 EROSION AND SEDIMENT CONTROL PLAN AREA 1
ESC–2 EROSION AND SEDIMENT CONTROL PLAN AREA 2
ESC–3 EROSION AND SEDIMENT CONTROL PLAN AREA 3
ESC–4 EROSION AND SEDIMENT CONTROL PLAN AREA 4
ESC–5 EROSION AND SEDIMENT CONTROL PLAN AREA 5
ESC–6 EROSION AND SEDIMENT CONTROL PLAN AREA 6
ESC–7 EROSION AND SEDIMENT CONTROL PLAN AREA 7
ESC–8 EROSION AND SEDIMENT CONTROL PLAN AREA 8
ESC–9 EROSION AND SEDIMENT CONTROL PLAN AREA 9
ESC–10 EROSION AND SEDIMENT CONTROL DETAILS




## GENERAL NOTES

1. THE PREDOMINANT SOIL TYPE IN THIS AREA IS HIGHLY PRONE TO BOTH WIND AND WATER EROSION. THEREFORE, THE IMPLEMENTATION OF EROSION CONTROL PRACTICES MUST BE AN INTEGRAL PART OF ALL PHASES OF CONSTRUCTION.
2. THE IMPLEMENTATION OF THESE EROSION CONTROL PLANS AND THE CONSTRUCTION, MAINTENANCE, REPLACEMENT, AND UPGRADING OF THESE FACILITIES IS THE RESPONSIBILITY OF THE CONTRACTOR UNTIL ALL CONSTRUCTION IS COMPLETED, APPROVED AND VEGETATION/LANDSCAPING IS ESTABLISHED.
3. THE EROSION CONTROL FACILITIES SHOWN ON THESE PLANS MUST BE CONSTRUCTED IN CONNECTION WITH ALL CLEARING AND GRADING ACTIVITIES, AND IN SUCH A MANNER AS TO INSURE THAT SEDIMENT AND SEDIMENT LADEN WATER DO NOT ENTER THE DRAINAGE SYSTEM OR ROADWAYS OUTSIDE OF PROJECT LIMITS, AND VIOLATE APPLICABLE WATER STANDARDS.
4. THE EROSION CONTROL FACILITIES SHOWN ON THIS PLAN ARE THE MINIMUM REQUIREMENTS FOR ANTICIPATED SITE CONDITIONS. DURING THE CONSTRUCTION PERIOD THESE FACILITIES SHALL BE MAINTAINED AND UPGRADED AS NEEDED FOR UNEXPECTED STORM EVENTS AND TO INSURE THAT SEDIMENT AND SEDIMENT LADEN WATER DO NOT LEAVE THE SITE.
5. TEMPORARILY STABILIZE EXISTING BARE SOIL AREAS BY SPREADING STRAW MULCH AND PUNCHING IT INTO THE GROUND WITH A DISC. THE APPLICATION RATE FOR STRAW MULCH IS 2500 LBS/ACRE. IN THE FALL, WHEN SOIL MOISTURE IS ADEQUATE, SEED ALL IMPACTED AREAS WITH THE FOLLOWING SEED MIXES.

   FARMED AREAS:
   - A. OAHE INTERMEDIATE WHEAT GRASS (5 LBS)
   - B. P-27 SIBERIAN WHEAT GRASS (5 LBS)
   - C. CAVER SHEEP FESCUE (3 LBS)
   - D. WEIGHT OF SEED IS PURE, LIVE SEED PER ACRE.

   NATURAL AREAS:
   - A. WHITMAR BEARDLESS WHEAT GRASS
   - B. SECAR BLUEBUNCH WHEAT GRASS
   - C. SHERMAN BIG BLUE GRASS
   - D. CRITANA THICK SPIKE WHEAT GRASS
   - E. WESTERN WHEAT GRASS (ROSANA)

   PICK 4 OF THE ABOVE GRASSES AT 3 LBS A PIECE OF PURE, LIVE SEED PER ACRE.
6. DO NOT DISTURB GROUND OUTSIDE THE OF THE 30' LIMITS WITHIN CONSERVATION RESERVE PROGRAM (CRP) LAND.
7. THE CONSTRUCTION MANAGER IS RESPONSIBLE FOR LOCATING ANY NECESSARY DISPOSAL SITES. TO CONTROL THE RELEASE OF SEDIMENT FROM THE SITES, SILT FENCE WITH A STRAW BALE BARRIER SHALL BE INSTALLED ON THE DOWN SLOPE SIDE OF ALL DISPOSAL AREAS. SEE DETAIL ON DRAWING ESC-3. IF ADDITIONAL SEDIMENT OR EROSION CONTROL MEASURES ARE DETERMINED TO BE NECESSARY TO CONTROL THE RELEASE OF SEDIMENT FROM THE DISPOSAL SITES. THE CONSTRUCTION MANAGER SHALL BE RESPONSIBLE FOR IMPLEMENTING THESE MEASURES.

## KEYED NOTES

(1) EXISTING COUNTY ROADS UTILIZED FOR PROJECT ACCESS TO BE RESTORED TO COUNTY STANDARDS AFTER CONSTRUCTION IS COMPLETE. FOR IMPACTED AREAS ADJACENT TO THE ROADWAY, SPREAD MULCH AND SEED ACCORDING TO GENERAL NOTE 5. MAINTAIN EXISTING DRAINAGE.
(2) SOLAR ARRAY ACCESS ROADS TO BE GRADED AND ROCKED APPROXIMATELY LEVEL WITH EXISTING GROUND SO RUNOFF FROM UPSLOPE SHEET FLOWS ACROSS ROAD. FOR IMPACTED AREAS ADJACENT TO THE ROADWAY, SPREAD MULCH AND SEED ACCORDING TO GENERAL NOTE 5.
(3) INSTALL SILT FENCE ON THE DOWN SLOPE SIDE OF DISTURBED AREA. SEE DETAIL ON DRAWING ESC-10.
(4) INSTALL SILT FENCE ON THE DOWN SLOPE SIDE OF STAGING AREAS, BATTERY STORAGE AREA, AND OPERATIONS AND MAINTENANCE AREA. SEE DETAIL ON DRAWING ESC-10.
(5) EXISTING ROADS UTILIZED FOR PROJECT ACCESS TO BE REGRADED AND GRAVEL TO BE ADDED AS NEEDED. FOR IMPACTED AREAS ADJACENT TO THE ROADWAY, SPREAD MULCH AND SEED ACCORDING TO GENERAL NOTE 5. MAINTAIN EXISTING DRAINAGE.
(6) INSTALL SILT FENCE BETWEEN REGRADED ROAD AND INTERMITTENT STREAM WHERE ROAD IS ADJACENT TO STREAM CHANNEL.
(7) SERVICE AREAS FOR TURBINES FOR IMPACTED AREAS ADJACENT TO THE PADS, SPREAD MULCH AND SEED ACCORDING TO GENERAL NOTE 5. INSTALL SILT FENCE ON DOWNSLOPE SIDE OF DISTURBED AREA.

## LEGEND

N

0 500' 1000' 2000'
SCALE: 1" = 1000'

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AVANGRID RENEWABLES

BAKEOVEN SOLAR PROJECT

EROSION AND SEDIMENT CONTROL PLAN
AREA 1

| | |
|---|---|
| Project No.: | 194-6389 |
| Designed By: | ENM |
| Drawn By: | ENM |
| Checked By: | JPP |

ESC-1

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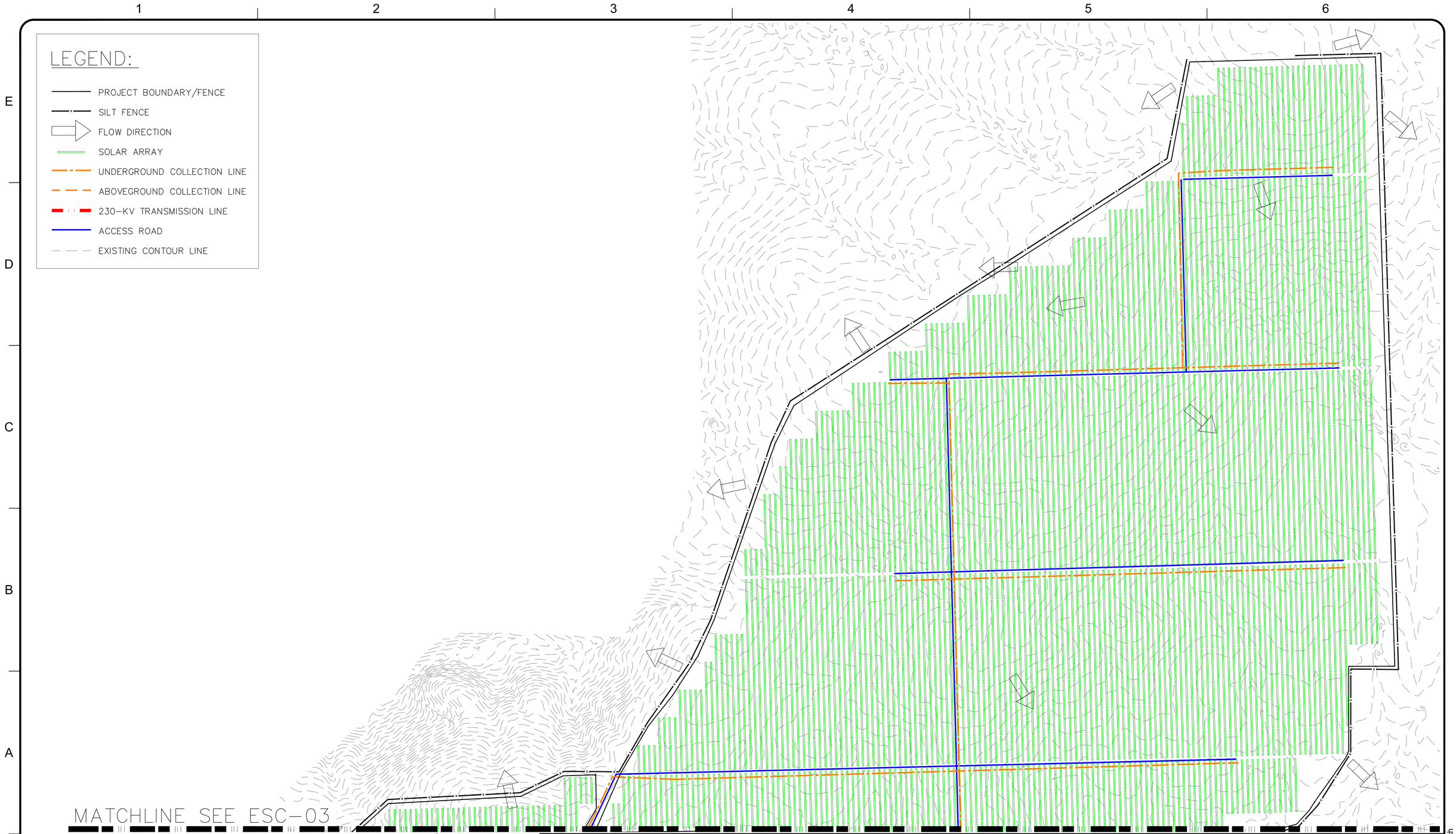


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AVANGRID RENEWABLES

BAKEOVEN SOLAR PROJECT

EROSION AND SEDIMENT CONTROL PLAN
AREA 2

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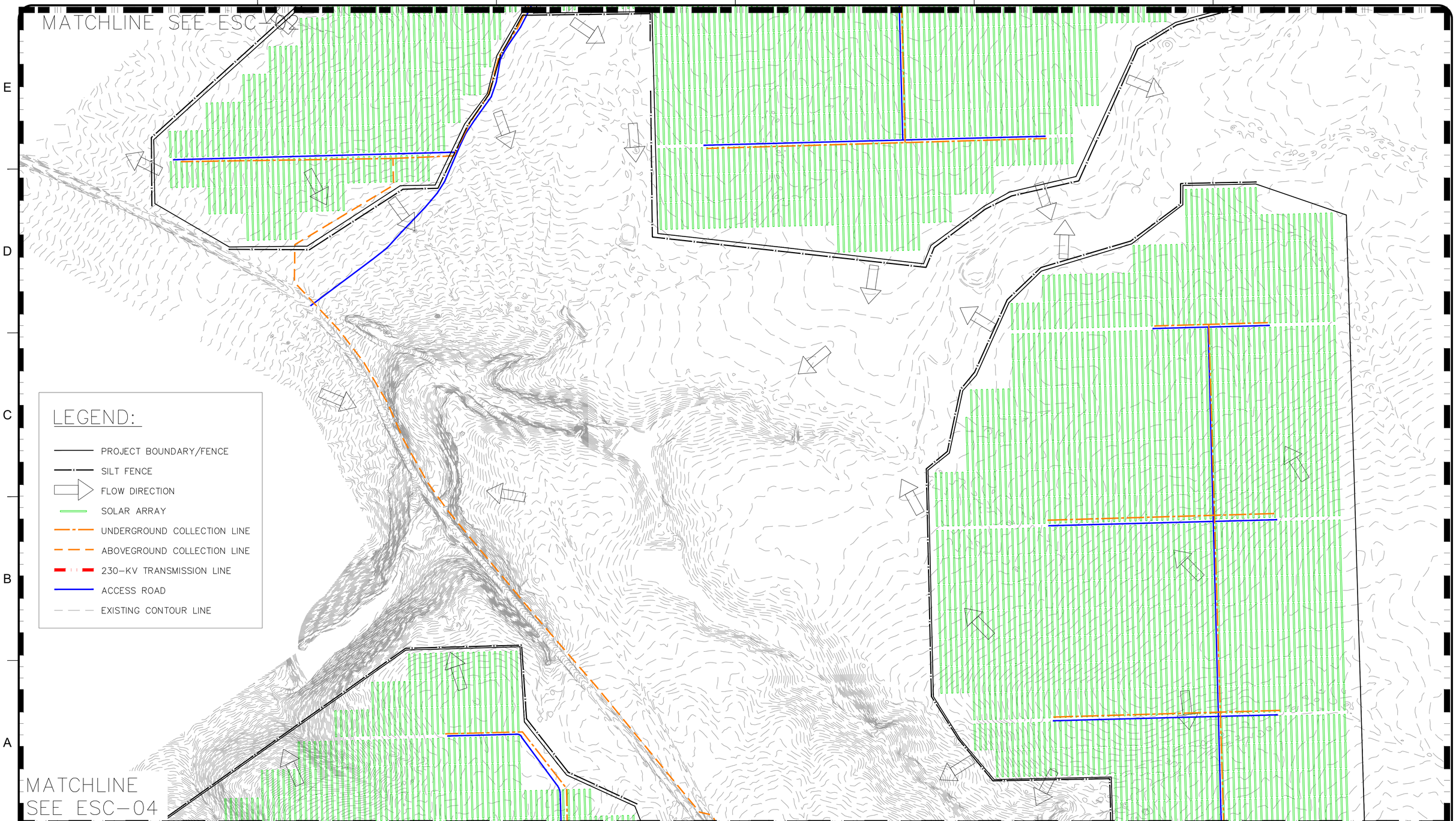


LEGEND

KEYED NOTES (SEE ESC-1)
ACCESS ROAD
TRANSMISSION LINE
OVERHEAD COLLECTION
UNDERGROUND COLLECTION
SURFACE FLOW DIRECTION

EXISTING 2' CONTOUR
SOLAR ARRAY
SUBSTATION
LAYDOWN YARD
BATTERY STORAGE
OPERATIONS AND MAINTENANCE
SILT FENCE
FENCELINE

N

0 125' 250' 500'
SCALE: 1" = 250'

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NEXTERA ENERGY

VANSYCLE II WIND ENERGY PROJECT

EROSION AND SEDIMENT CONTROL PLAN
AREA 3

| | |
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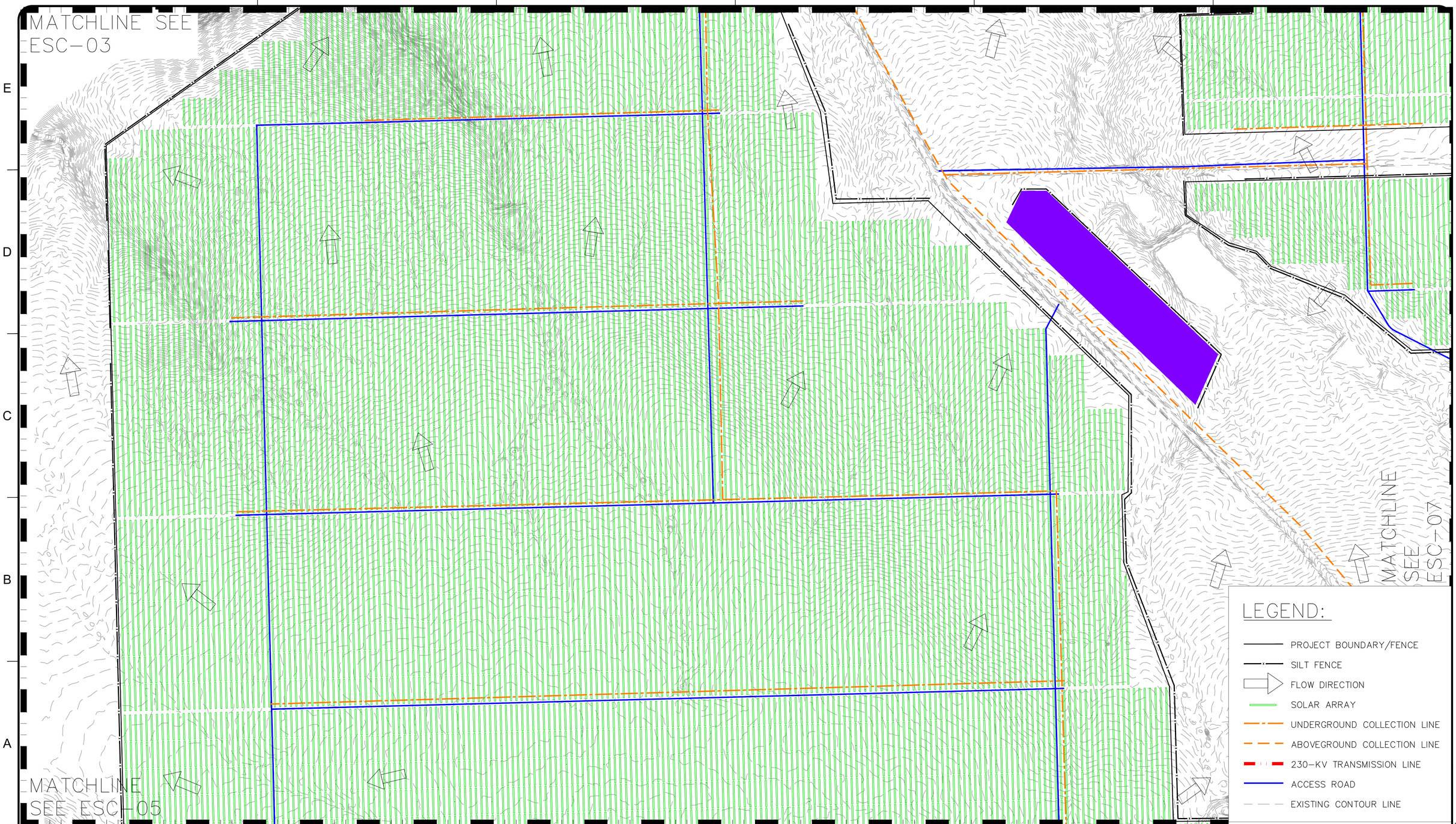


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SCALE: 1" = 250'

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AVANGRID RENEWABLES

BAKEOVEN SOLAR PROJECT

EROSION AND SEDIMENT CONTROL PLAN
AREA 4

| | |
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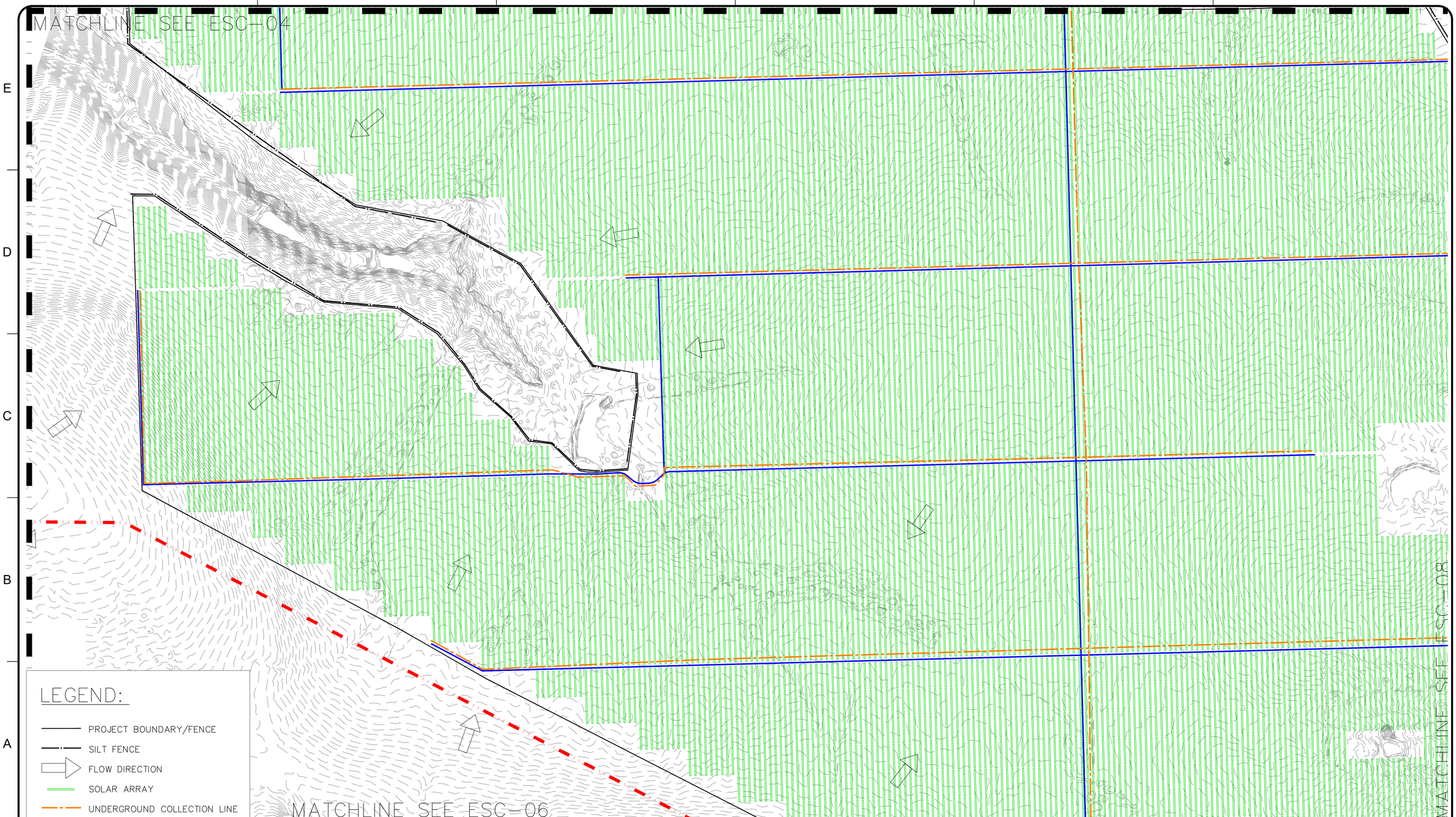


## LEGEND:

- PROJECT BOUNDARY/FENCE
- SILT FENCE
- FLOW DIRECTION
- SOLAR ARRAY
- UNDERGROUND COLLECTION LINE
- ABOVEGROUND COLLECTION LINE
- 230-KV TRANSMISSION LINE
- ACCESS ROAD
- EXISTING CONTOUR LINE

N

0 125' 250' 500'
SCALE: 1" = 250'

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EROSION AND SEDIMENT CONTROL PLAN
AREA 5

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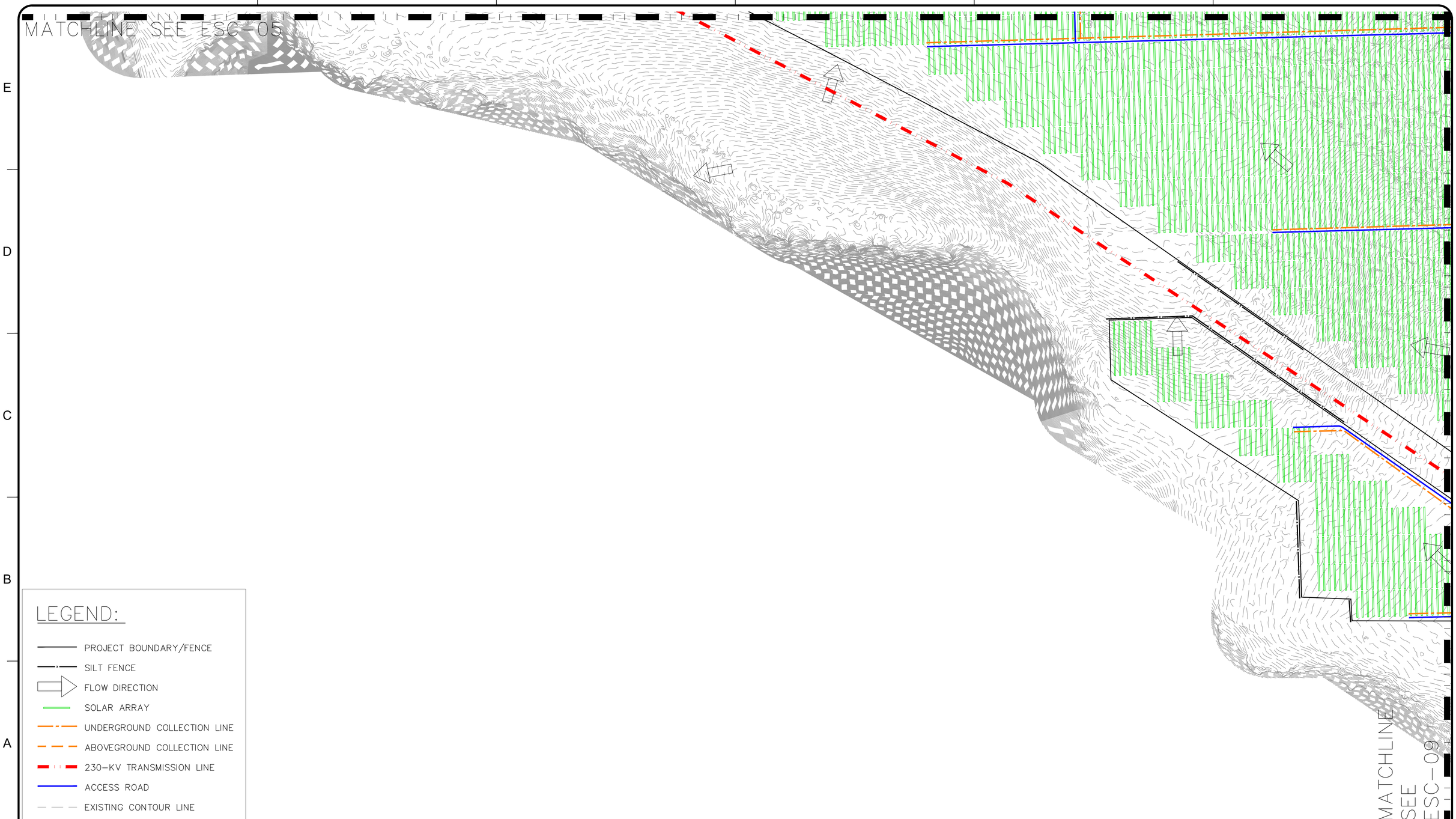


## LEGEND:

- PROJECT BOUNDARY/FENCE
- SILT FENCE
- FLOW DIRECTION
- SOLAR ARRAY
- UNDERGROUND COLLECTION LINE
- ABOVEGROUND COLLECTION LINE
- 230-KV TRANSMISSION LINE
- ACCESS ROAD
- EXISTING CONTOUR LINE

N

0 125' 250' 500'
SCALE: 1" = 250'

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AREA 6

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LEGEND

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AREA 7

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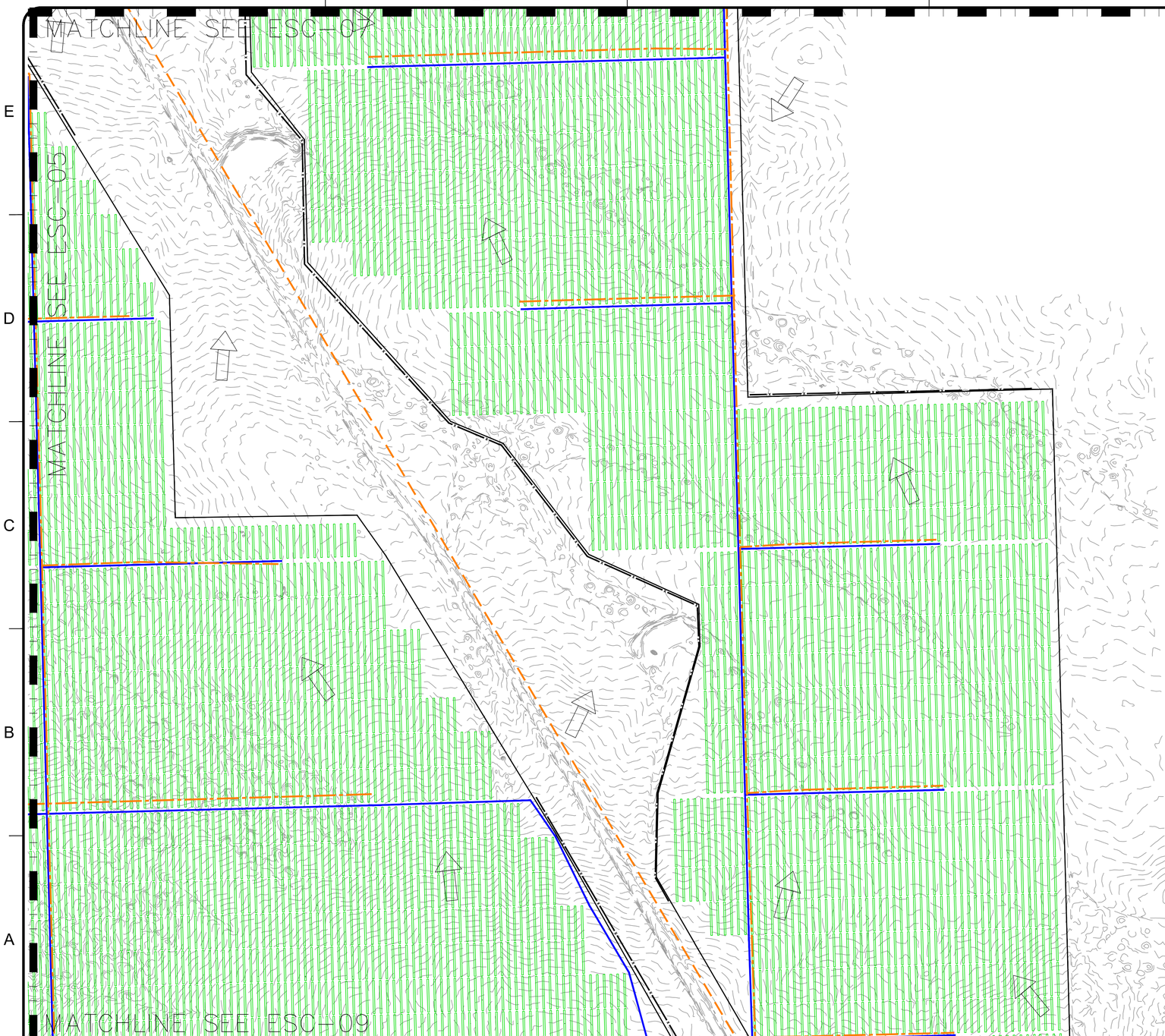


## LEGEND:

- PROJECT BOUNDARY/FENCE
- SILT FENCE
- FLOW DIRECTION
- SOLAR ARRAY
- UNDERGROUND COLLECTION LINE
- ABOVEGROUND COLLECTION LINE
- 230-KV TRANSMISSION LINE
- ACCESS ROAD
- EXISTING CONTOUR LINE

LEGEND

N

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SCALE: 1" = 250'

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AREA 8

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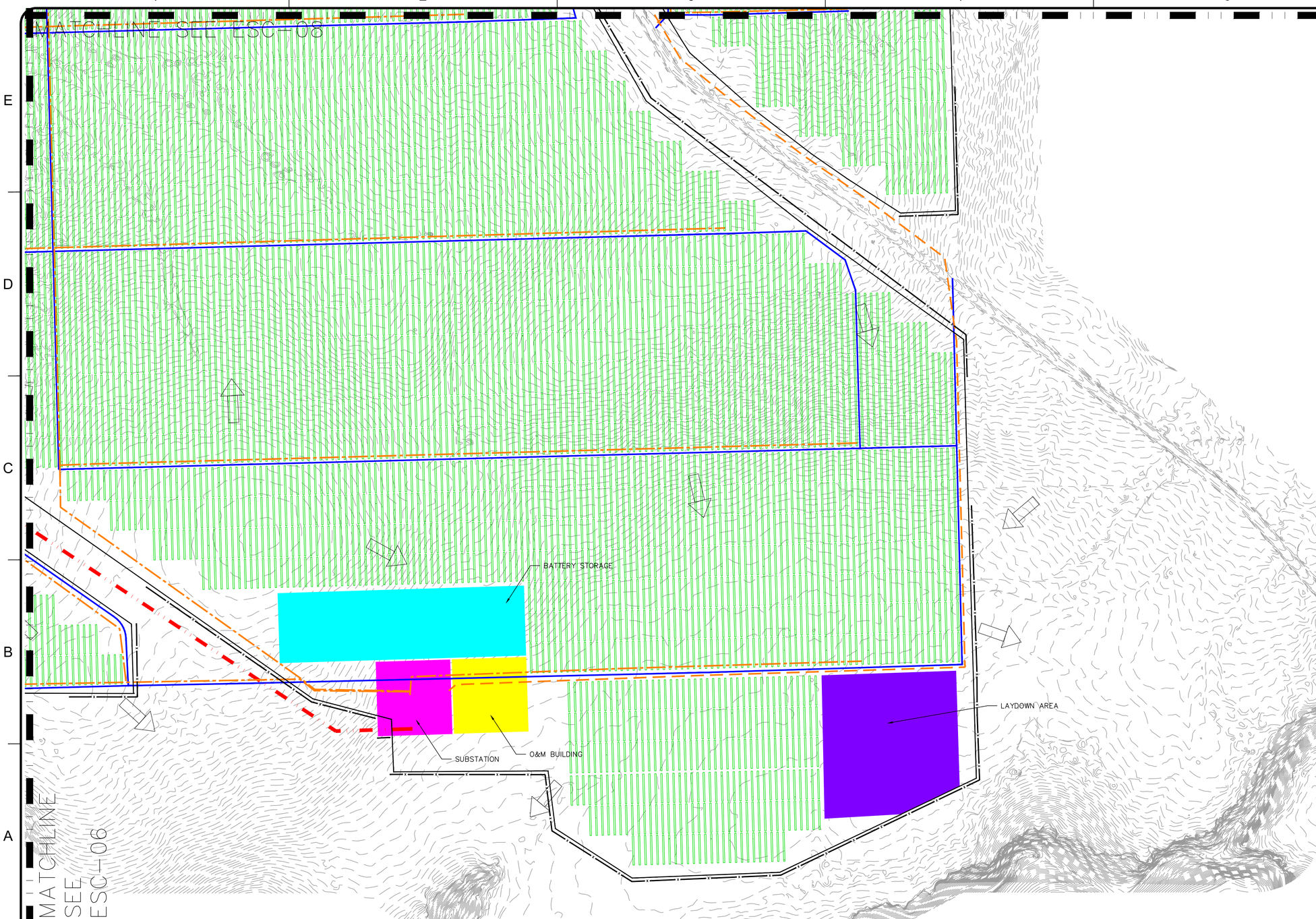


## LEGEND:

- PROJECT BOUNDARY/FENCE
- SILT FENCE
- FLOW DIRECTION
- SOLAR ARRAY
- UNDERGROUND COLLECTION LINE
- ABOVEGROUND COLLECTION LINE
- 230-KV TRANSMISSION LINE
- ACCESS ROAD
- EXISTING CONTOUR LINE

LEGEND

N

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SCALE: 1" = 250'

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AVANGRID RENEWABLES

BAKEOVEN SOLAR PROJECT

EROSION AND SEDIMENT CONTROL PLAN
AREA 9

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ESC-9

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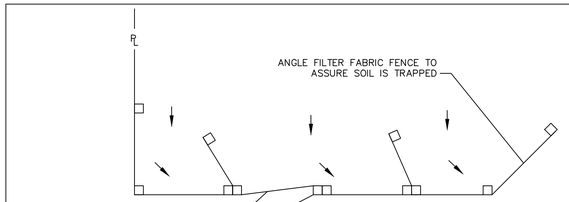
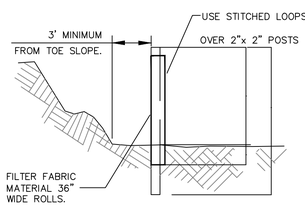


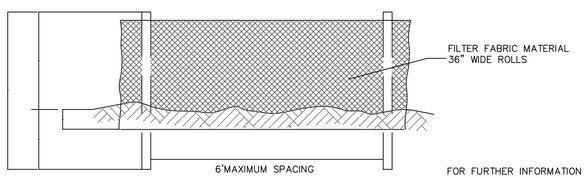

PLAN VIEW
NOT TO SCALE




PROFILE
NOT TO SCALE

NOTES:

1. BURY BOTTOM OF FILTER FABRIC 6" VERTICALLY BELOW FINISHED GRADE.
2. 2"x 2" FIR, PINE OR STEEL FENCE POSTS.
3. POSTS AND STITCHED POCKETS TO BE INSTALLED ON UPHILL SIDE OF SLOPE.
4. COMPACT BOTH SIDES OF FILTER FABRIC TRENCH.
5. PANELS MUST BE PLACED ACCORDING TO SPACING ON DETAIL NO.940
6. INSPECT AND REPAIR FENCE AFTER EACH STORM EVENT AND REMOVE SEDIMENT WHEN NECESSARY.
7. REMOVED SEDIMENT SHALL BE DEPOSITED TO AN AREA THAT WILL NOT CONTRIBUTE SEDIMENT OFF-SITE AND CAN BE PERMANENTLY STABILIZED.
8. SEDIMENT FENCE SHALL BE PLACED ON SLOPE CONTOURS TO MAXIMIZE PONDING EFFICIENCY.




FRONT VIEW
NOT TO SCALE

FOR FURTHER INFORMATION ON DESIGN CRITERIA SEE CHAPTER 4 OF CLEAN WATER SERVICES EROSION PREVENTION AND SEDIMENT CONTROL PLANNING AND DESIGN MANUAL.

SEDIMENT FENCE

DRAWING NO. 875

Clean Water Services

FOR FURTHER INFORMATION ON DESIGN CRITERIA SEE CHAPTER 4 OF CLEAN WATER SERVICES EROSION PREVENTION AND SEDIMENT CONTROL PLANNING AND DESIGN MANUAL.

## SPACING FOR CHECK DAMS

| DITCH GRADE | 6 INCH | 12 INCH | 18 INCH |
|---|---|---|---|
| 6% | NOT ALLOWED | 16 FT O.C. | 26 FT O.C. |
| 5% | NOT ALLOWED | 20 FT | 30 FT |
| 4% | NOT ALLOWED | 26 FT | 40 FT |
| 3% | 15 FT | 33 FT | 50 FT |
| 2% | 25 FT | 50 FT | 80 FT |

## BARRIER SPACING FOR GENERAL APPLICATION

INSTALL PARALLEL ALONG CONTOURS AS FOLLOWS

| % SLOPE | SLOPE | MAXIMUM SPACING ON SLOPE |
|---|---|---|
| 10% OR FLATTER | 10:1 OR FLATTER | 300 FT |
| >10% OR <15% | >10:1 OR <7.5:1 | 150 FT |
| >15% OR <20% | >7.5:1 OR <5:1 | 100 FT |
| >20% OR <30% | >5:1 OR <3.5:1 | 50 FT |
| >30% OR <50% | >3.5:1 OR <2:1 | 25 FT |

NOTES:

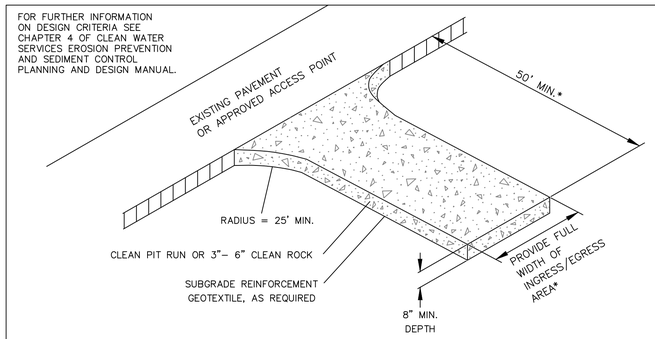
1. FOR MORE INFORMATION REGARDING THESE TABLES SEE CHAPTER 4 TABLES 4-3 AND 4-7 OF CLEAN WATER SERVICES EROSION PREVENTION AND SEDIMENT CONTROL DESIGN MANUAL.

SPACING TABLES

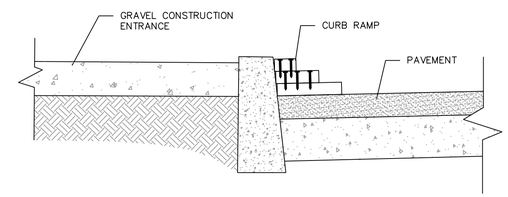
DRAWING NO. 940

Clean Water Services

FOR FURTHER INFORMATION ON DESIGN CRITERIA SEE CHAPTER 4 OF CLEAN WATER SERVICES EROSION PREVENTION AND SEDIMENT CONTROL PLANNING AND DESIGN MANUAL.




*20' MIN. FOR SINGLE FAMILY AND DUPLEX RESIDENTIAL




NOTES:

1. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHT-OF-WAYS. THIS MAY REQUIRE TOP DRESSING, REPAIR AND/OR CLEAN OUT OF ANY MEASURES USED TO TRAP SEDIMENT.
2. WHEN NECESSARY, WHEELS SHALL BE CLEANED PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF- WAY.
3. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN.
4. WHERE RUNOFF CONTAINING SEDIMENT LADEN WATER IS LEAVING THE SITE VIA THE CONSTRUCTION ENTRANCE, OTHER MEASURES SHALL BE IMPLEMENTED TO DIVERT RUNOFF THROUGH AN APPROVED FILTERING SYSTEM.
5. DIMENSIONS
   SINGLE FAMILY
   20' LONG BY 20' WIDE 8" DEEP OF ¾" MINUS CLEAN ROCK.
   COMMERCIAL
   50' LONG BY 20' WIDE 3-6" CLEAN ROCK, GOVERNING AUTHORITY MAY REQUIRE GEOTEXTILE FABRIC TO PREVENT SUB-SOIL PUMPING.

CONSTRUCTION ENTRANCE

DRAWING NO. 855

Clean Water Services

TETRA TECH
www.tetratech.com
1750 SW HARBOR WAY SUITE 400
PORTLAND, OREGON, 97201
PHONE: (503) 221-8636 FAX: (503) 267-1287

| MARK | DATE | DESCRIPTION | BY |
|---|---|---|---|
| A | 4/7/19 | DRAFT | AML |

AVANGRID RENEWABLES

BAKEOVEN SOLAR PROJECT

EROSION AND SEDIMENT CONTROL DETAILS

| | |
|---|---|
| Project No.: | 194-6211 |
| Designed By: | ENM |
| Drawn By: | ENM |
| Checked By: | JPP |

ESC-10

Bar Measures 1 inch

Copyright: Tetra Tech

4/7/2019 2:21:33 PM - P:\DENVER OFFICE\ENGINEERING\BAKEOVEN SOLAR\CAD\ESCP DRAFT SET\2019\0403.DWG - LINTZ, ANDREW

**Attachment E: Owner Legal Parcel Status**

**Attachment E: Owner and Legal Parcel Status within Site Boundary**

**Table 1: Legal Status of Parcels within Site Boundary**

| Township, Range, Section, Tax Lot | Acct # | Acres within Site Boundary | Parcel Crosses Micrositing Corridor? | Legal Parcel Status | Landowner |
|---|---|---|---|---|---|
| 4S 14E 0 2700 | 15676 | 28.0 | Yes | Partition# PAR-92-132; filed 3/21/1995 | WAKERLIG, LLC |
| 4S 15E 0 1500 | 12335 | 750.6 | Yes | Pre-1974 Deed #67-1797, dated 6/28/1963; Current Deed#: 2008-004940, filed Nov 24, 2008 | ASHLEY L STEVEN ET AL, |
| 5S 15E 0 1900 | 12514 | 13.9 | Yes | Doc num. PRONO 3308; Current Deed#: 2008-004940, filed Nov 24, 2008 | |
| 5S 15E 0 100 | 12511 | 4239.01 | Yes | Pre-1974 Deed# 83-2012, recorded 10/25/1966: Current Deed#: 2008-004940, filed Nov 24, 2008 | |
| 4S 15E 0 800 | 12337 | 1374.7 | Yes | Pre-1974 Deed# 67-0132 dated 3/22/67; Current Deed# 2018-002595, filed 7/12/18 | TOWNSEND ROBERT |
| 5S 15E 0 500 | 12516 | 1529.5 | Yes | Deed# 76-3327; Current Deed# 2018-002595, filed 7/12/18 | |
| 5S 15E 0 600 | 12517 | 236.6 | No | Deed 76-3327; Current Deed# 2018-002595, filed 7/12/18 | |
| 5S 15E 0 1000 | 12520 | 39.3 | No | Deed 74-2167; Current Deed# 2018-002595, | |

**Table 1: Legal Status of Parcels within Site Boundary**

| Township, Range, Section, Tax Lot | Acct # | Acres within Site Boundary | Parcel Crosses Micrositing Corridor? | Legal Parcel Status | Landowner |
|---|---|---|---|---|---|
| | | | | filed 7/12/18 | |
| 5S 15E 0 1100 | 12512 | 410.2 | Yes | Partition # REP-07-106, Filed 5/24/2007; Current Deed# 2011-001253, filed 04/05/2011 | ASHLEY LARRY C & VICKI |
| 5S 16E 0 1201 | 17123 | 269.7 | Yes | Partition# 05-105, filed 2/8/2006; Current Deed# 2011-001253, filed 04/05/2011 | |
| 5S 15E 0 1800 | 13313 | 277.6 | Yes | Memo of sale #84-3078; Current Deed# 2011-001253, filed 04/05/2011 | |
| 5S 16E 0 2200 | 13316 | 870.9 | Yes | Partition# PAR-98-101, filed 5/7/1998; Current Deed# 2011- 001253, filed 04/05/2011 | |
| 5S 16E 0 1200 | 12535 | 548.3 | Yes | Partition# PAR-05-105, filed 2/8/2006; Current Deed# 2011- 001253, filed 04/05/2011 | A & K RANCHES |
| Note: All parcels are zoned A-1 (160). | | | | | |

## ESTERSON Sarah * ODOE

**Subject:** FW: Bakeoven Solar Project - Legal Parcel Status Review

**From:** Daniel Dougherty <danield@co.wasco.or.us>
**Sent:** Thursday, January 9, 2020 2:54 PM
**To:** ESTERSON Sarah * ODOE <Sarah.Esterson@oregon.gov>
**Subject:** Re: Bakeoven Solar Project - Legal Parcel Status Review

Ms. Esterson,

We checked out the properties. They look good. Brent Byee, the Associate Planner who worked our locally reviewed wind application had already confirmed all of these properties earlier, so it did not take as long as I envisioned.

Respectfully,

Daniel Dougherty

**Daniel Dougherty** | ***Associate Planner***
**PLANNING DEPARTMENT**

**danield@co.wasco.or.us** | **http://www.co.wasco.or.usdepartments/planning/index.php**

541-506-2560 | Fax 541-506-2561
2705 E Second Street | The Dalles, OR 97058

On Wed, Jan 8, 2020 at 11:56 AM Daniel Dougherty <danield@co.wasco.or.us> wrote:

> Ms. Esterson,
>
> It's good the list provides deeds or partitions. I will give them a review to be sure, and get back to you before next Tuesday.
>
> Respectfully,
>
> Daniel Dougherty
>
> On Wed, Jan 8, 2020 at 11:19 AM ESTERSON Sarah * ODOE <Sarah.Esterson@oregon.gov> wrote:
>
>> Hi Daniel,
>>
>> It was really nice talking with you – please find the attached table presenting Avangrid's review of legal parcel status within the proposed site boundary of the Bakeoven Solar Project.
>>
>> Please let me know if you identify any issues or concerns, or don't have time to complete the review.
>>
>> Thanks again,
>>
>> Sarah

**Sarah T. Esterson**
Senior Siting Analyst
550 Capitol St. NE | Salem, OR 97301
P: 503-373-7945

C: 503-385-6128
P (In Oregon): 800-221-8035

Stay connected!

**Attachment F: Forest-Farm Management Easement**

# ATTACHMENT F - FOREST-FARM MANAGEMENT EASEMENT

**Owner Name:** _____ _____
_____ _____

**Mailing Address:** _____ _____
_____ _____

Owner(s), _____,
herein called the Grantor(s), is/are the owner(s)s of real property described as follows:

Township ____, Range_____, W.M., Section____, Tax Lot_____, Account_____

---

In accordance with the conditions set forth in the decision of Wasco County Planning Staff, dated {Month, Day, Year}, approving a Conditional Use Permit (File #XXX-XX-XXXXXX-XXXX) to include the above described property in the site boundary of a wind energy generation facility, Grantor hereby grants tothe Owners of all property adjacent to the above described property, a perpetual nonexclusive easement as follows:

**1.** The Grantors, their heirs, successors, and assigns hereby acknowledge by granting of this easement that the above described property is situated in an Exclusive Farm Use/ Forest/Forest-Farm zone in Wasco County, Oregon, and may be subjected to conditions resulting from farm or forest operations on adjacent lands. Farm operations include, but are not limited to, the raising, harvesting and selling of crops or the feeding, breeding, management and sale of livestock or poultry, application of chemicals, road construction and maintenance, and other accepted and customary farm management activities conducted in accordance with Federal and State laws. Forest operations include, but are not limited to reforestation of forest land, road construction and

**After recording, please return original to: Wasco County Planning Department.**

maintenance, harvesting of forest tree species, application of chemicals and disposal of slash, and other accepted and customary forest management activities conducted in accordance with Federal and State laws. Said farm or forest management activities ordinarily and necessarily produce noise, dust, odor, and other conditions, which may conflict with Grantors' use of Grantors' property for residential purposes. Grantors hereby waive all common law rights to object to normal and necessary farm or forest management activities legally conducted on adjacent lands which may conflict with grantors' use of grantors' property for residential purposes and grantors hereby give an easement to adjacent property owners for such activities.

**2.** Grantors shall comply with all restrictions and conditions for maintaining residences in the Exclusive Farm Use/Forest/Forest-Farm zone that may be required by State and local land use laws and regulations.

This easement is appurtenant to all property adjacent to the above described property and shall bind to the heirs, successors and assigns of Grantors and shall endure for the benefit of the adjoining landowners, their heirs, successors and assigns.

IN WITNESS WHEREOF, the Grantors have executed this easement on _____, 201___.

_____
Titleholder Signature

STATE OF OREGON )
COUNTY OF WASCO)

Personally appeared the above named _____ and _____, and acknowledged the above easement to be their voluntary act and deed.

_____
Notary Public for Oregon

**Attachment G: Mediation Ordinance**

# ATTACHMENT G – MEDIATION ORDINANCE

IN THE COUNTY COURT OF THE STATE OF OREGON

IN AND FOR THE COUNTY OF WASCO

FILED
WASCO COUNTY
2003 SEP 12 P 3:15
KAREN LEBRETON COATS
COUNTY CLERK

| | | |
|---|---|---|
| IN THE MATTER OF THE ADOPTION OF AN AMENDED ORDINANCE PROVIDING PROTECTION FOR GENERALLY ACCEPTED FARMING AND FORESTRY PRACTICES AND ESTABLISHING A COMPLAINT MEDIATION PROCESS. | ) | AMENDED ORDINANCE |

RECEIVED
SEP
By

THE WASCO COUNTY COURT ORDAINS AS FOLLOWS:

Section 1. SHORT TITLE. This Ordinance may be cited as the Wasco County Farming and Forestry Practices Protection and Complaint Mediation Ordinance.

RECEIVED
SEP 23 2003
By

Section 2. PURPOSE.

(1) Wasco County recognizes that complaints about farming and forestry practices will sometimes occur because these practices create odors, smoke, dust and noise and there is a close proximity of agricultural and forest lands to expanding urban and rural residential development.

(2) Wasco County recognizes that all resource use complaints have the potential of requiring immediate shutdowns or interruptions of farming and forestry practices which could result in significant economic consequences for resource users.

(3) The purpose of this Ordinance is therefore to provide a rapid complaint response and mediation process for resource use complaints by Wasco County residents in order to protect farming and forestry operations to the greatest extent possible from immediate shutdowns or interruptions.

1 – AMENDED ORDINANCE

Section 3.__ DEFINITIONS. As used in this Ordinance:

(1) "FACILITY" means any real or personal property, including appurtenances thereto and fixtures thereon, associated with a given use.

(2) "FARMING PRACTICE" means the cultivation, growing, harvesting, processing or selling of plants or animals of any kind, which lawfully may be grown, possessed and sold, including but not limited to fish, livestock, poultry, grapes, cherries, apples, pears, wheat, barley, Christmas trees and nursery stock.

(3) "FORESTRY PRACTICE" means any operation conducted on or pertaining to forest land, including but not limited to:

(a) Reforestation of forest land;

(b) Road construction and maintenance;

(c) Harvesting of forest tree species;

(d) Application of chemicals; and

(e) Disposal of slash.

(4) "NONRESOURCE USE" means any facility, activity or other use of land which does not constitute a resource use, including but not limited to residential use.

(5) "RESOURCE USE" means any current or future generally accepted farming or forestry practice or facility conducted in compliance with applicable Wasco County Ordinances and Federal and State laws.

(6) "RESOURCE USE NUISANCE" means any current or future generally accepted farming or forestry practice or facility conducted in

2 - AMENDED ORDINANCE

compliance with applicable Wasco County Ordinances and Federal and State laws, which may be considered offensive, annoying, or interferes with or otherwise affects the urban and rural residents of Wasco County.

(7) "RESOURCE USE" does not include:

(a) Any unlawful act;

(b) The willful growing of infested, infected or diseased plants or animals;

(c) Trespass which involves actual physical intrusion onto the property of another by a person or by a person's animals;

(8) "DESIGNEE" means a Case Developer, appointed by the Six Rivers Community Mediation Services Director.

(9) "COMPLAINT MEDIATION PROCESS"

(a) Means a procedure established by the Wasco County Court to provide a forum for the mediation of Wasco County residents complaints regarding farming or forestry practices or facilities, including, but not limited to: odors from domestic livestock operations; blowing smoke from heaters, smokers and slash burning; noise from machines, including those devices producing sounds designed for agricultural purposes in order to frighten predacious birds or animals away from agricultural crops; drift or contamination from chemical and fertilizer applications; hours of operation; and littering of County roads; and

(b) Shall consist of at least two (2) mediators, working cooperatively in a co-mediation role. Both mediators shall maintain a neutrality and confidentiality throughout and beyond the process. The Six Rivers Community Mediation Services Director or Designee shall serve as a consultant to the Complaint Mediation Process. Consultation may come prior to, during or after the actual mediation, as appropriate.

(10) "PEER REVIEW BOARD" is a Board appointed, as needed, by the Wasco County Court to advise the Six Rivers Community Mediation Services on whether a disputed resource use activity is a generally accepted farming or forest practice or facility. The Board shall consist of 5 persons who regularly are involved in a resource use within the County, at least 3 of whom are regularly involved in the same type of disputed resource use being heard through the Complaint Mediation Process.

Section 4. ___PROTECTING RESOURCE USES.

(1) Wasco County shall not support a resource use nuisance complaint or claim for relief by nonresource uses or any persons or property associated therewith unless the resource use complaint response and mediation procedure of Section 5 of this Ordinance has been utilized.

(2) This Section applies regardless of:

(a) The location of the purportedly affected nonresource use;

(b) Whether the nonresource use purportedly affected existed before or after the occurrence of the resource use;

4 - AMENDED ORDINANCE

(c) Whether the resource use or nonresource use has undergone any change or interruption; and

(d) Whether the resource use is inside or outside an urban growth boundary to the extent permissible under State law.

Section 5. RESOURCE USE COMPLAINT RESPONSE AND MEDIATION PROCEDURE.

(1) Initial resource use complaints involving farming or forestry practices or facilities shall:

(a) Be referred to the Six Rivers Community Mediation Services during regular operating hours or the Wasco County Sheriff's Office after hours and on weekends; and

(b) Be responded to as soon as possible.

(2) The responding Six Rivers Community Mediation Services Agent or Designee shall:

(a) Use Six Rivers Community Mediation Services' procedures to respond to a complaint;

(b) Notify the Wasco County Court about the documented complaint as soon as possible and report on the effort and/or success in resolving the complaint.

(3) If the initial contact is through the Wasco County Sheriff's Department, or any other law enforcement agency, the responding officer should:

5 - AMENDED ORDINANCE

(a) Contact the complainant and document the complaint; and

(b) Encourage the complainant to call or meet with the resource user and attempt a one-on-one resolution of the complaint; and

(c) Provide both complainant and resource user with written documentation of the complaint, including, but not limited to the name and address of complainant, the name and address of the resource user, and a description of the nature of the complaint; and

(d) Inform both parties that the complaint will be referred to Six Rivers Community Mediation Services and that they will be contacted by that agency; and

(e) Deliver a copy of the complaint to the Six Rivers Community Mediation Services as soon as possible.

(4) If the complainant and resource user that are principles in a documented resource use complaint within Wasco County request assistance beyond that provided by the Case Developer, the Case Developer shall implement the Complaint Mediation Process.

(5) The Complaint Mediation Process shall:

(a) Set a date to hear the complaint from both complainant and resource user within a reasonable amount of time; and

Work with both complainant and resource user in an attempt to resolve the complaint.

(6) The Complaint Mediation Process may:

(a) Request the Wasco County Court to set up a Peer Review Board for assistance in determining whether an activity or facility is a generally accepted farming or forestry practice or facility;

(b) Suggest recommendations for Peer Review Board members to the Wasco County Court; and

(c) Meet with the complainant and resource user any number of times if the Mediators determine that progress is being made toward a resolution of the complaint.

(7) If the Complaint Mediation Process is unable to resolve the complaint, the complainant and resource user shall be advised by the Six Rivers Community Mediation Services of their additional options including, but not limited to, seeking advice from private counsel.

Section 6. __ LAND USE DECISIONS. The fact that Wasco County's Comprehensive Plan, Zoning Ordinances and land use decisions allow the siting, development or support of any particular use does not negate the provisions of this Ordinance intended to protect a resource use.

Section 7. __ EFFECT ON OTHER REMEDIES. The provisions of this Ordinance shall not impair the right of any Wasco County resident to pursue any remedy authorized by applicable Wasco County Ordinances or Federal and State laws that:

7 - AMENDED ORDINANCE

(1) Concerns matters other than a resource use nuisance;

(2) Does not expressly purport to prohibit or regulate a farming or forestry practice as a resource use nuisance; or

(3) Prohibits or regulates the use or physical condition of resource use activities or facilities that adversely affect public health or safety.

Section 8. SEVERABILITY CLAUSE. If any portion of this Ordinance is held invalid by a Court of competent jurisdiction, such decision shall apply only with respect to the specific portion held invalid by the decision. It is the intent of Wasco County that the remaining portions of this Ordinance continue in full force and effect.

Section 9. ___ EMERGENCY CLAUSE. This Ordinance being immediately necessary for the preservation of the public well being, an emergency is declared to exist and this Ordinance shall take effect immediately upon adoption.

Regularly passed and adopted by the unanimous vote of all members of the County Court of the County of Wasco, State of Oregon, present on this day.

*IIIII*

*IIIII /// IIIII*

*////*

8 - AMENDED ORDINANCE

DONE AND DATED this 3rd day of September, 2003

WASCO COUNTY COURT

Dan Ericksen, County Judge

Scott McKay, County Commissioner

Sherry Holliday, County Commissioner

APPROVED AS TO FORM:

Eric J. Nisley
Wasco County District Attorney

9 – AMENDED ORDINANCE

**Attachment H: Draft Habitat Mitigation Plan**

**(ASC Exhibit P Attachment P-2)**

# Attachment P-2.

# Draft Habitat Mitigation Plan

**Bakeoven Solar Project**
**December 2019**

**Prepared for**

**Avangrid Renewables, LLC**

**Prepared by**

**Tetra Tech, Inc.**

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Figure 1. Potential Mitigation Areas

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# 1.0 Introduction

This Habitat Mitigation Plan (HMP) describes how Bakeoven Solar, LLC (Applicant) will mitigate for the unavoidable wildlife habitat impacts of the Bakeoven Solar Project (Facility). Specifically, this HMP[1] outlines how the Applicant will construct and operate the Facility consistent with the Oregon Department of Fish and Wildlife (ODFW) Habitat Mitigation Policy. This plan addresses mitigation for both the permanent impacts of Facility components (permanent impacts) and the temporal impacts associated with the Facility construction (temporary impacts with a longer [5+ years] restoration timeframe). The Applicant proposes three mitigation options, including 1) mitigation banking with ODFW; 2) payment to provide option with Western Rivers Conservancy or Deschutes Land Trust; and 3) acquisition of a conservation easement to protect and enhance a compensatory mitigation area. As presented in the HMP, 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. For Option 2, this Plan specifies the cost of property acquisition, restoration actions, and stewardship costs for long-term protection and management of a mitigation site. Option 3 is an Applicant-developed mitigation site; this plan specifies habitat enhancement actions and monitoring procedures to evaluate the success of those actions, as applicable. The Applicant anticipates that the Facility will be built in phases; therefore, the mitigation options may be used in combination or used in variation per phase (e.g., Option 3 for Phase 1, Option 2 for Phase 2, Option 1 and 2 for Phase 3, etc.).

# 2.0 Description of the Impacts Addressed by the HMP

The Facility is located entirely within the ODFW Designated Mule Deer Winter Range. ODFW (2013) describes Mule Deer Winter Range in eastern Oregon as limited and essential habitat for big game; therefore, should be considered as Category 2 under ODFW's Habitat Mitigation Policy. It is not possible to site the Facility outside of the designated winter range because the Facility is location-dependent on its interconnection point at Bonneville Power Administration's Maupin Substation, which is also in Mule Deer Winter Range. Therefore, impacts to Category 2 are unavoidable due to the Facility's interconnection location and the overlapping Mule Deer Winter Range.

Notwithstanding the overarching habitat categorization, the area within the micrositing corridor is primarily composed of eastside grassland (habitat types Upland Grassland, Shrub-Steppe and Shrubland; subtype Eastside Grassland) and planted grasslands, with smaller areas of shrub-steppe habitat (habitat types Upland Grassland, Shrub-Steppe and Shrubland; subtype Shrub-Steppe) that may be used by various species (Exhibit P, Tables P-2 and P-3). Essential habitat values for quality big game winter range, such as thermal cover, security from predation and harassment, quality forage, and limited disturbance are generally lacking from the micrositing corridor because it is

[1] This HMP will be incorporated by reference in the site certificate for the Bakeoven Solar Project and must be understood in that context. It is not a "stand-alone" document.

mostly composed of planted grassland and highly disturbed native grassland (Exhibit P, Section 8.1.1).

As presented in Exhibit P, no areas of native eastside grassland or shrub-steppe habitat were field-characterized in 2018 as Category 2 habitat. Planted grasslands ranging from Categories 3-5 account for 948.4 acres (22.8 percent) of the micrositing corridor. Areas of eastside grassland and shrub-steppe habitat dominated by non-native plant species (Categories 4 and 5) comprise 1762.1 acres (42.3 percent) of the micrositing corridor (see Exhibit P, Tables P-3 and P-4). The remaining areas of eastside grassland and shrub-steppe have a higher native species composition (Category 3), and comprise 997.2 (23.9 percent) acres of the micrositing corridor.

Permanent impact areas are those that would be converted from the existing condition to a different condition for the life of the Facility. Solar array areas will be fenced, and all areas inside the fence are considered permanently disturbed. In addition to the solar array, fencing will occur at the collector substation, the operations and maintenance (O&M) building, and the battery storage area, as required by electrical code or security needs (see Application for Site Certificate [ASC] Exhibits B and C). Temporary impacts will be fully mitigated through successful implementation of the Revegetation Plan (Attachment P-3 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 (2,473.0 acres) and select areas of temporarily impacted shrub-steppe habitat (shrub-steppe subtype: 32.0 acres) that results in a temporal loss of habitat quality (Table 1).

The Facility will not have any impacts on Category 1 habitat. In accordance with ODFW's Habitat Mitigation Policy, impacts to Category 6 habitat do not require mitigation. All remaining Category 3, 4, and 5 habitat has been re-categorized as Category 2 habitat because the Facility is within ODFW's Designated Mule Deer Winter Range, which overlaps the areas of temporary and permanent impact (ODFW 2013). Based on this definition, Table 1 presents anticipated acres of impact for Category 2 habitat present at the Facility, in addition to the preliminary habitat categorization of these areas before the application of this overlay.

**Table 1.Acres of Impact to Habitat Categories and Types within the Proposed Micrositing Corridor**

| Final Habitat Category[1] | Preliminary Habitat Category | Habitat Type-Subtype[2] | Permanent Impact | Temporary Impact |
|---|---|---|---|---|
| 2 | 3 | Riparian Forest and Natural Shrubland Complexes – Eastside Riparian | 0.6 | 1.3 |
| | | Upland Grassland, Shrub-Steppe and Shrubland – Eastside Grassland | 579.1 | 14.4 |
| | | Upland Grassland, Shrub-Steppe and Shrubland – Shrub-Steppe | 103.4 | 32.0[3] |

| Final Habitat Category[1] | Preliminary Habitat Category | Habitat Type-Subtype[2] | Permanent Impact | Temporary Impact |
|---|---|---|---|---|
| | | Agriculture, Pasture, Mixed Environs – Planted Grassland | 423.4 | 16.2 |
| | | Cliffs, Caves, and Talus | 0.0 | 0.4 |
| | 4 | Open Water - Lakes Rivers Streams – Seasonal Pond | 0.7 | 0.1 |
| | | Open Water - Lakes Rivers Streams – Intermittent or Ephemeral Streams | 0.0 | <0.1 |
| | | Upland Grassland, Shrub-Steppe and Shrubland – Eastside Grassland | 792.3 | 17.0 |
| | | Upland Grassland, Shrub-Steppe and Shrubland – Shrub-Steppe | 1.8 | 0.6 |
| | | Agriculture, Pasture, Mixed Environs – Planted Grassland | 177.1 | 7.3 |
| | 5 | Upland Grassland, Shrub-Steppe and Shrubland – Eastside Grassland | 303.4 | 17.4 |
| | | Upland Grassland, Shrub-Steppe and Shrubland – Shrub-Steppe | 91.1 | 47.6 |
| | | Upland Forests and Woodlands – Juniper Woodland | 0.0 | 2.6 |
| | | Agriculture, Pasture, Mixed Environs – Planted Grassland | 0.1 | 0.7 |
| **Category 2 Final Total** | | | **2,473.0** | **157.6** |
| 6 | 6 | Agriculture, Pasture, Mixed Environs – Orchards, Vineyards, Wheat Crops and Other Row Crops | 240.4 | 4.3 |
| | | Urban and Mixed Environs | 3.6 | 14.7 |
| **Category 6 Final Total** | | | **244.0** | **19.0** |
| **Grand Total** | | | **2,717.0** | **176.6** |

Note: Totals in this table may not be precise due to rounding.

1. Final Category following application of ODFW Designated Mule Deer Winter Range overlay.
2. Only impacted Habitat Types-Subtypes present within the proposed micrositing corridor are represented.
3. Temporarily impacted shrub-steppe habitat.

The Applicant proposes to begin construction as soon as June 2020, and to construct the Facility in phases. The size and construction schedule for each phase will be based on market demand, but the entire Facility, including all phases, will be completed by 2026 unless the Applicant seeks an amendment to extend the construction deadline. Table 2 provides an example phased construction schedule. The impact analysis presented in the ASC and mitigation outlined in this HMP represents the fully built-out scenario of 303 megawatts. Mitigation will be determined prior to the

construction of each phase. If phases are transferred to a new Certificate Holder, then any mitigation obligations will also be transferred. For example, if a mitigation site is established for Phase 1 (i.e., Option 3) then the real estate rights (e.g., conservation easement), monitoring requirements, and liability of obtaining success criteria would be transferred to the new Certificate Holder. If the original Certificate Holder satisfies the mitigation obligation using payment-to-provide mitigation (i.e., Options 1 or 2) then the mitigation obligation for any future owner would be complete. A Site Certificate transfer would require approval by EFSC, so there is ability to verify mitigation status during a transfer of ownership.

**Table 2. Example Construction Schedule**

| Year | Activity |
|---|---|
| 2020 | Issuance of Bakeoven Solar Project site certificate. |
| 2020 | Final engineering and begin construction. |
| 2021 | Phase 1 construction and operation. |
| 2022 | Phase 2 construction and operation. |
| 2023/2024 | Phase 3 construction and operation. |
| 2026 | Construction completion deadline for all phases. |

# 3.0 Methods for Calculating the Size of the Mitigation Area

The mitigation area will be determined for each phase of the Facility based on the final design for that phase and actual habitat impacts (i.e., Category 2 vs. Category 6 habitat). Before beginning construction of each phase of the Facility, the Applicant will provide the Oregon Department of Energy (ODOE) with a map showing the final design configuration for that phase of the Facility, and a table showing the estimated acres of permanent and temporary impacts by habitat category (Table 1). Mitigation calculations for each phase will be based on current habitat conditions that will be mapped and field verified by the Applicant no earlier than 2 years prior to construction of each phase.

Current habitat conditions will be used to calculate the size of the mitigation area using the mitigation ratios presented in Table 3. Use of the these mitigation ratios will ensure that the mitigation area is large enough to achieve “no net loss” of habitat quantity or quality and that a “net benefit” in habitat quantity or quality is provided. In addition, all mitigation options described below include a habitat enhancement component through either payment to third-party or restoration actions performed by the Applicant. Therefore, implementation of this HMP will result in habitat mitigation that is consistent with the ODFW Habitat Mitigation Policy.

**Table 3. Compensatory Mitigation Ratios**

| Final Habitat Categor[1] | Current Habitat Category[2] | Mitigation Ratio Permanent[3] | Mitigation Ratio Temporary[4] |
|---|---|---|---|
| 2 | 2 | 1.5:1 | 0.5: 1 for Shrub Steppe habitat |
| | 3 | 1.3: 1 | 0.5: 1 for Shrub Steppe habitat |
| | 4 | 1.2: 1 | None |
| | 5 | 1.1: 1 | None |
| 6 | 6 | None | None |

1. Final Category following application of ODFW Designated Mule Deer Winter Range overlay.
2. Current habitat condition and category as mapped by the Applicant prior to construction.
3. Permanent impact areas based on final design and includes the Facility's footprint. No mitigation offered for Category 6 habitat.
4. Compensatory mitigation for temporal habitat loss to current Category 2 or 3 Upland Grassland, Shrub-Steppe and Shrubland – Shrub-Steppe sub-habitat type (see Table 1). Other habitat types will be restored following the methods described in the Revegetation Plan.

For temporal impacts that require mitigation, the mitigation area will include up to 0.5 acres for every 1 acre of Upland Grassland, Shrub-Steppe and Shrubland – Shrub-Steppe sub-habitat type that is temporary affected by construction activities (but outside the Facility footprint). The size of this portion of the mitigation area assumes that restoration of disturbed eastside grassland and shrub-steppe habitat is successful, as determined under the Revegetation Plan (Attachment P-3 to Exhibit P). Additional mitigation may be needed if restoration efforts of other habitat types is unsuccessful.

Because the Facility will be constructed in phases, it is assumed that compensatory mitigation will be based on the new impacts of each phase, and there would be no double counting of impacts associated with shared facilities with prior phases (e.g., shared transmission line or substation).

# 4.0 Mitigation Options

The Applicant has identified three options for addressing the mitigation obligation where habitat protection and enhancement and/or commensurate funding are feasible and consistent with this HMP. Each option is located within the Columbia Plateau and "in proximity" to the Facility. The Applicant may use one option or a combination of options to mitigate for habitat impacts, and will determine the combination of the mitigation options that best correlate to the impacted areas in consultation with ODFW and the affected landowners, subject to ODOE's approval. As described above, Option 1 is not an available mitigation option at the time of ASC review and approval; but the Applicant preserved the right to use Option 1 should it be available in the future.

The final mitigation approach will offer enough suitable habitat to achieve the ODFW goal of no net loss of habitat quantity or quality, and provide a net benefit in habitat quantity. As the potential mitigation locations are within ODFW-mapped Mule Deer Winter Range, acquisition of these areas constitutes Category 2 habitat regardless of the habitat condition, and thus meets the ODFW goal of

no net loss of habitat quantity; any enhancement actions successfully performed would result in a net benefit in habitat quality. Prior to operation of the Facility, or a particular phase of the Facility, the Applicant will acquire the legal right to create, maintain, and protect the habitat mitigation area for the life of the Facility[2] 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 and Option 2 would be in perpetuity (i.e., permanent conservation of habitat), whereas the duration of Option 3 would be limited to the life of the Facility (i.e., a limited term).

## 4.1 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, at this time, this program is not yet available. Should such a program become available in the future, the Applicate could use a payment-to-provide mitigation option with the approval of ODOE and ODFW.

## 4.2 Option 2: Third-Party Payment-to-Provide

Under this option, the Applicant would partner with either Western Rivers Conservancy (Option 2a) or the Deschutes Land Trust (Option 2b) in land acquisition for the purpose of habitat protection and restoration. This mitigation option has the ability to achieve landscape-level habitat protection because the Applicant would partner with a land trust on a larger mitigation project. The Applicant believes this mitigation option offers substantial benefits mule deer because it enables more winter range to be protected than a traditional, stand-alone mitigation site (Option 3).

The Applicant would meet its mitigation obligation by providing a one-time payment to the third-party mitigation provider prior to commercial operation of the Facility, or phase of the Facility. The payment would take into consideration the cost of property acquisition for the mitigation area (i.e., Land Costs), habitat improvement actions (i.e., Restoration Action Costs or Habitat Enhancement Actions), maintenance and monitoring for long-term protection and management of the site (i.e., Stewardship Costs). The following formula would be used to determine the total mitigation payment:

$$\text{Mitigation cost per acre} = M * (R + L + V + S)$$

Where:

- *M* = Mitigation ratio as defined in Section 3
- *R* = Restoration costs per acre + contract administration costs to implement restoration
- *L* = Restoration maintenance costs per acre
- *V* = Land value per acre. Land costs of the mitigation site based on the appraised land value, actual costs, or a value determined by the third-party mitigation provider

[2] As used in this Plan, "life of the facility" means continuously until the Facility site is restored and the site certificate is terminated in accordance with Oregon Administrative Rules 345-027-0110.

- *S* = Stewardship endowment costs per acre, determined by the third-party mitigation provider

The two mitigation opportunities are considered "in-kind" mitigation, as both mitigation sites are within the ODFW-mapped Mule Deer Winter Range, and each site has grassland and shrub-steppe habitat types that are similar the Facility's micrositing corridor. Because the equation above assumes a proportional payment to the acquisition and maintenance of the third-party's mitigation site, no specific habitat assessment of the mitigation site will be provided.

Prior to the construction, the Applicant would provide ODOE with a Memorandum of Understanding (MOU) between the Applicant and the third party mitigation provider that that documents the transaction, confirms the applicability of the above mitigation equation, and includes a copy of the mitigation site's management plan. The management plan will be prepared by the third-party and would describes the long-term management goals and monitoring program for the mitigation site. The Applicant will request that the management plan acknowledge that the monitoring reports be available for ODOE review.

The Applicant has identified two partners, Western River Conservancy and Deschutes Land Trust, that both have near-term plans for large scale habitat conservation projects in Wasco County. This HMP assumes that either option (e.g., Option 2a, or Option 2b) could be executed prior the operation of any Facility phase; if the third-party has not closed on the purchase of the mitigation site prior to construction, then this option is not feasible.

### *4.2.1 Option 2a. Western Rivers Conservancy*

Under Option 2a, the Applicant would contribute funds to Western Rivers Conservancy that would be used to support the purchase of lands along the John Day River in Wasco County. The subject parcel is a former ranch located along the lower John Day River that includes about 30,000 acres and is at risk of being subdivided into smaller parcels because the landowner plans to sell the property. The Applicant's contributions would support Western River Conservancy's purchase for the entire property and maintain this large continuous area as a single tract. Western River Conservancy is currently negotiating the purchase terms with the landowner and the exact location of the mitigation site is not publicly available at this time.

The land would be eventually transferred to the Bureau of Land Management (BLM) and added to the John Day River Wild and Scenic Designation. BLM would manage the land under its John Day Basin Resources Management Plan[3], which includes management objectives to maintain or improve winter range for deer and elk (Objective W1) and special considerations for areas within Wild and Scenic River designations. Western Rivers Conservancy would transfer land to the BLM depending on the availability of Land and Water Conservation Funds allocated by the U.S. Congress. Western Rivers Conservancy will manage and maintain the lands until this transfer occurs. During this interim period, Western River Conservancy would implement an interim management plan that

[3] https://www.blm.gov/or/districts/prineville/plans/files/pdo_rodrrmp_John_Day_Basin_ROD-RMP_06102015.pdf

precludes cattle grazing, limits public access to foot access only, and potentially includes removing structures.

BLM's John Day Basin Resource Management Plan allows for mineral and energy extraction in the planning area but these activities are not allowed within land within Wild and Scenic River designation. The land acquisition deal is structured to preclude future mineral development. There are no executed mineral leases on the property, but Western Rivers Conservancy is aware of three outstanding mineral reservations. At part of its due diligence, Water River Conservancy will complete a third-party evaluation of mineral resources potential to assess the actual resources and feasibility for future mineral development. If this evaluation indicates a possibility of mineral development, then Western Rivers Conservancy will offer to purchase the mineral reservations or rights, and work with the BLM to expressly preclude mineral development in documents (e.g., National Environmental Policy Act documents) prepared for the land transfer. Based on this approach, the Applicant believes there is little chance of future mineral development that could affect the mitigation lands associated with the Facility. Additionally, by law, all property acquired by federal agencies utilizing a Land and Water Conservation Fund appropriation must be managed for conservation and may not be sold.

The Western Rivers Conservancy mitigation option would benefit wintering deer, as robust riparian vegetation with a high diversity of woody shrub species along streams is an important component of winter deer habitat (ODFW 2011). During severe winters, snow can cover annual grasses and native bunch grasses, so access to nutritious woody vegetation (i.e., shrubs) is essential to over-winter survival (ODFW 2011).

Western River Conservancy will monitor the mitigation site per the terms of its interim management plan, which will be provided to ODOE by the Applicant. Once transferred to BLM, then monitoring needs and objectives would follow BLM's resources management plan. But over time, Western Rivers Conservancy would revisit the mitigation site to verify that the goals of the original project have been met[4]. This assessment could include researching the background of the project, conducting field inspections, interviewing current land managers and other people with an interest in the property.

### *4.2.2 Option 2b. Deschutes Land Trust*

Under Option 2b, the Applicant would contribute funds to the Deschutes Land Trust for the acquisition and management of a 5,820-acre property in south Wasco County, known as the Trout Creek Preserve. The Deschutes Land Trust would own and maintain this site, with an overlapping conservation easement held by the Oregon Watershed Enhancement Board (OWEB). The Trout Creek Preserve is within the ODFW-defined winter range for mule deer and elk. Similar to the Western Rivers Conservancy mitigation option, the Deschutes Land Trust mitigation option would

[4] See http://www.westernrivers.org/projectatlas/stewardship/

benefit wintering deer as robust riparian vegetation with a high diversity of woody shrub species along streams is an important component of winter deer habitat (ODFW 2011).

The Deschutes Land Trust would develop a management plan for the Trout Creek Preserve with input from ODFW, and conservation objectives will focus on stream protection and rangeland improvements. Monitoring would consist of assessing habitat conditions, taking photos or acquiring aerial imagery to compare with previous/baseline photos, looking at the success of various treatments, and checking for misuse of or damage to the property. Deschutes Land Trust has a stewardship program respond to issues on the mitigation site on a regular basis, such as minor weed encroachments, fence repairs, or dealing with human trespass issues. Deschutes Land Trust would conduct annual monitoring for the entire Trout Creek Preserve, and would update its management plan every 5 years based on monitoring results and opportunities for adaptive management. The MOU between the Applicant and Deschutes Land Trust will specific that the updated management plans be provided to ODOE when available (i.e., every 5 years).

## 4.3 Option 3: Conservation Easement Lands Adjacent to the Facility

Under this option, the Applicant would establish conservation easements adjacent to the Facility. In consultation with participating landowners, the Applicant has identified two areas that could be used for mitigation sites. First, the A&K Ranch site includes multiple parcels totaling 2,428 acres (Figure 1). Second, the Maupin Opportunity Area is a larger area about 40,322 acres southwest of the Facility (Figure 1). Both areas are within the ODFW-defined Mule Deer Winter Range and have enhancement opportunities beneficial to big game and grassland birds.

Some of the parcels of the A&R Ranch site are along Bakeoven Creek and contiguous with land managed by the BLM, providing an opportunity for integrated enhancement over a larger area. As described above under Option 2, robust riparian vegetation with a high diversity of woody shrub species along streams is an important component of deer winter habitat. The Oregon Mule Deer Initiative (ODFW 2011) identified these types of habitats as highly impacted compared to historical conditions, noting that riparian areas have been degraded and often lack quantity and diversity of shrub species. Therefore, enhancement of riparian habitat along Buck Hollow Creek would benefit wintering mule deer.

The second mitigation area is known as the Maupin Opportunity Area and was recommended by ODFW for consideration by the Applicant in an August 2019 meeting (Figure 1). The property is proximate to the site boundary, provides ample potential acreage, and is composed of similar habitat types suitable for in-kind mitigation. A portion of the property is located immediately south of Bakeoven Road, near the westernmost section of the proposed transmission line. Habitat in this area was desktop delineated (as shown in Exhibit P Figure P-4) as primarily shrub-steppe and planted grassland habitat, with intermittent riparian, wetland, and developed areas. Much of the area shown in the figure was within the boundary of the 2018 Boxcar Fire. Areas to the north of Bakeoven Road were not impacted by this disturbance. Per ODFW (pers. comm., Jeremy Thompson, August 19, 2019), before the fire, the habitat with the Maupin Opportunity Area was similar to habitat within the site boundary; however, its condition following fire disturbance and a year of

recovery time is unknown. Per ODFW, this area likely offers opportunities for upland and grassland habitat restoration, to mitigate for permanent and temporary impacts to grassland habitats due to the construction and operation of the Facility (Table 1). Enhancement of grassland habitat in this area would potentially improve forage quality for wintering mule deer and offer improved conditions for grassland bird species as well.

Per ODFW request (pers. comm., Jeremy Thompson, August 19, 2019), the Applicant has performed a desktop analysis of the remainder of the approximately 40,322-acre area. Using pre-fire imagery via Google Earth, the Applicant confirmed that the property appears to be primarily a mix of upland grasslands (some appear to be planted), and a mosaic of shrublands and grasslands. Pre-fire, junipers were encroaching on these shrub-steppe habitats from lower-elevation draws and possible riparian areas, but the condition of these trees post-fire is unknown. If Option 3 is pursued, the Applicant will continue to work with ODFW to identify opportunities to protect and enhance habitats in this area, and to define the appropriate monitoring of mitigation parcels. Prior to construction, the Applicant will provide an updated desktop analysis to confirm the habitat subtype within the mitigation parcel(s).

### *4.3.1 Habitat Enhancement Actions*

If Option 3 is selected, the Applicant will develop a management plan for the selected mitigation site that includes habitat enhancement actions to improve the habitat conditions of the mitigation site. The objectives of habitat enhancement are to protect habitat within the mitigation area from degradation and to improve the habitat quality of the mitigation area. By achieving these objectives, the Applicant can address the permanent and temporal habitat impacts of the Facility and meet the ODFW goals of no net loss of habitat quantity or quality and a net benefit in habitat quantity or quality for impacts to Category 2 habitat. The Applicant may choose one or more of the following enhancement actions based on the needs of the selected habitat mitigation area to improved habitat conditions, as appropriate and feasible:

1. Shrub Planting. The Applicant would plant sagebrush or other native shrubs in locations within the habitat mitigation area where existing native shrubs are stressed, or where recent wildfires have occurred. The Applicant would determine the size (including number of shrubs and age of shrubs – seedlings or transplanted mature plants) 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. The size of the shrub-planting areas will depend on the size of the available mitigation area and opportunity for survival of planted shrubs. If appropriate, other native shrubs may include antelope bitterbrush (*Purshia tridentata*), golden currant (*Ribes aureum*), and winterfat (*Krascheninnikovia lanata*). The shrub survival rate at 4 years after planting is an indicator of successful enhancement of habitat quality to Category 2. The Applicant would complete the initial shrub planting within 1 year after the beginning of construction of the Facility, or a particular phase of the Facility. Supplementing existing, but disturbed, sagebrush areas with sagebrush seedlings or transplanted mature plants would assist the restoration of this valuable shrub-steppe

component. The Applicant would obtain shrubs from a qualified nursery, and would identify the area to be planted with sagebrush or other native shrubs after consultation with ODFW, subject to final approval by ODOE. The Applicant would mark the planted shrub clusters at the time of planting for later monitoring purposes, and would keep a record of the number of shrubs planted. Plantings would generally be considered successful if a 20 percent survival rate is achieved after 4 years.

2. Weed Control. The Applicant would implement a weed control program. Under the weed control program, the Applicant would conduct a pre-management weed assessment to identify the type and percentage of non-native species within the mitigation area. The Applicant would then monitor the mitigation area to locate weed infestations. The Applicant would continue weed control monitoring, as needed, for the life of the Facility. As needed, the Applicant would use appropriate methods to control weeds. Appropriate weed control methods shall include identification of noxious weeds within the mitigation area, timing, herbicides, and application mechanism and be based on consultation with the county weed control authority Weed control on the mitigation site will reduce the spread of noxious weeds within the habitat mitigation area and on any nearby grassland, Conservation Reserve Program 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 would notify the landowner 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.

3. Seeding. The Applicant would plant an ODFW-approved seed mix within the habitat mitigation area in areas that have been recently disturbed (e.g., recent wildlife or weed treatment). The method for seed application would be determined primarily based on the size of the area to be seeded. The size of the seeded area will depend on the amount of recently disturbed area within the mitigation area. The Applicant would complete the initial seeding within 1 year after the beginning of construction of the Facility, or a particular phase of the Facility. The Applicant would record and mark the seeded areas at the time of seeding for later monitoring purposes.

4. Fire Control. The Applicant would implement a fire control plan for wildfire minimization when Facility staff are working within the mitigation area. The Applicant would provide a copy of the fire control plan to ODOE before starting habitat enhancement actions. The Applicant would 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 is damaged by future wildfire, the Applicant would assess the extent of the damage and implement appropriate actions to restore habitat quality in the damaged area.

5. Riparian Planting. The Applicant would plant appropriate riparian species along streams to enhance these riparian areas, if present, for the benefit of fish and big game. Riparian plantings will improve access to nutritious woody vegetation for wintering deer, which is essential to over-winter survival during severe winters when annual grasses and native bunchgrasses are covered in snow. Riparian plantings will improve shading of streams, which will improve temperature conditions for fish at the location of plantings, as well as downstream. Riparian plantings will also provide cover for big game and help stabilize soil.
6. Fence Building. The Applicant would build fencing around the riparian plantings to reduce grazing pressure and allow riparian vegetation to grow. Fencing would be designed to exclude cattle but not deer. Woody vegetation is used by deer for foraging in the winter and provides cover for insulation and hiding.
7. Juniper Removal. Where appropriate, the Applicant would remove encroaching juniper to increase the amount of sunlight, moisture, and nutrients available for shrubs and forbs used by mule deer.
8. Habitat Protection. The Applicant would restrict uses of the mitigation area that are inconsistent with the goals of no net loss of habitat quantity or quality and a net benefit in Category 2 habitat quantity or quality.

Table 4 outlines the anticipated costs and benefits of various enhancement actions, as well as the anticipated cost of operations and maintenance.

**Table 4. Estimated Restoration Cost Per Unit and Benefit to Mule Deer Winter Range**

| Type | Action | Cost per Unit | Units | Benefit |
|---|---|---|---|---|
| Enhancement | Shrub Planting | $136.95 [1] | Per acre | Provide access to nutritious woody vegetation during winter, especially sever winters when snow covers grass forage, in order to improve over-winter survival. Deer on winter ranges without a shrub component often have high rates of over-winter mortality (ODFW 2011). |
| | Biological, Chemical, or Mechanical Weed treatment | $8.81 – $257.73 [1] | Per acre | Reduce competition with desirable forage species to improve or maintain mule deer forage quality and quantity[4]. Impacts of invasive species on Oregon's fish and wildlife resources are one of the seven most pressing conservation issues identified in the Oregon Conservation Strategy (ODFW 2016). |

| Type | Action | Cost per Unit | Units | Benefit |
|---|---|---|---|---|
| | Riparian Planting | $1,220.60 [1] | Per acre | Provide access to nutritious woody vegetation during winter, especially sever winters when snow covers grass forage, in order to improve over-winter survival. Robust riparian vegetation with a high diversity of woody shrub species along streams are an important component of deer winter habitat (ODFW 2011). |
| | Juniper Removal | $100 [2] | Per acre | Increase the amount of sunlight, moisture, and nutrients available for shrubs and forbs used by mule deer (ODFW 2014). Shrubs are important where snow is deep during winter (ODFW 2016). |
| | Rangeland Broadcast/Drill Seeding | $198.53 – $293.48 [1] | Per acre | Establish desirable forage species in areas that have been disturbed (e.g., following high intensity fire, juniper treatments, or repeated weed treatments) and provide competition for weeds [4]. Perennial grasslands and sagebrush steppe are important habitat features of key deer winter range areas (ODFW 2016). |
| | Hydroseeding (of Critical Areas) | $1,092.93 [1] | Per acre | |
| | Wildlife Exclusion Fence Building | $5.03 [1] | Per foot | Reduce grazing pressure on important shrubs by improving cattle distribution, and enhance riparian areas which could then be used by mule deer as fawning habitat[4]. Woody vegetation (e.g., bitterbrush, aspen, alder, willow, oak) are used by deer for foraging in the winter, and provide cover for insulation and for hiding (ODFW 2016). |
| Operations | Annual Operation and Maintenance | $33 [3] | Per acre | N/A |

1. Based on the Fiscal Year 2019 Oregon Natural Resources Conservation Service Environmental Quality Incentives Program Practice Payment Rate Schedule (NRCS 2019).
2. Based on Memorandum from ODFW to Avangrid Renewables dated December 14, 2016 describing ODFW Solar Development Mitigation Recommendations in Crook County (pers. comm. Greg Jackie, ODFW, December 14, 2016).
3. This O&M cost is an estimate of the cost per acre per year (not including acquisition/easement costs) based on the research presented in the Independent Economic Analysis Board's 2007 Investigation of Wildlife O&M Costs. The average cost per acre presented in that document was $24 in 2004 dollars, this has been adjusted to reflect 2019 dollars (IEAB 2007).

### *4.3.2 Monitoring*

For Option 3 (Conservation Easement), the Applicant will hire a qualified investigator (botanist, wildlife biologist, or revegetation specialist) to conduct a comprehensive monitoring program for the mitigation area, as appropriate. The purpose of this monitoring is to evaluate on an ongoing

basis the protection of the habitat quality and the results of enhancement actions, especially during the winter and wildlife breeding seasons.

The investigator will monitor the habitat mitigation area for the life of the Facility beginning in the year following the initial planting. Monitoring will occur annually during the first 10 years following initial planting, then will occur every 3 years thereafter. The Applicant will identify appropriate monitoring actions for the Conservation Easement and the habitat enhancement actions that are implemented in consultation with ODOE and ODFW. Depending upon specific habitat enhancement actions implemented, the investigator may carry out the following monitoring procedures:

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 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.

The investigator will visit identified monitoring points within planted areas. Plantings will generally be considered successful if a 20 percent survival rate is achieved after 4 years. 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

Mitigation of the permanent and temporal habitat impacts of the Facility may be considered successful if the Applicant protects and enhances sufficient habitat to meet the ODFW goals of no net loss of habitat quantity or quality and a net benefit in habitat quantity or quality for impacts to Category 2 habitat, or provides commensurate funding. For Option 1 or 2, mitigation shall be considered successful in meeting the Applicant's obligations at the time of payment to the third-party mitigation provider. For Option 3, 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 successful weed control. However, much of the Category 2 habitat impacted by the Project was preliminarily identified as Category 3, 4, and 5 habitat based on vegetative characteristics such as presence of non-native species and was only designated as Category 2 habitat based on its value to wintering mule deer. As a result, habitat within the mitigation area will only need to be enhanced to the extent that it provides net benefit over the quality of habitat impacted by the Facility as it falls within ODFW-designated Mule Deer Winter Range. If the Applicant cannot demonstrate that the habitat mitigation area is trending toward the habitat

quality goals described above within 5 years after the initial shrub planting, the Applicant would propose remedial action. ODOE may require supplemental planting or other corrective measures.

# 6.0 Pre-Construction Reporting

Prior to any phase of construction, the Certificate Holder shall provide to ODOE and ODFW a report identifying the mitigation option(s) selected to meet the Council's Fish and Wildlife Habitat standard for permanent and temporal habitat impacts. The report shall identify the mitigation ratio for permanent impacts, established within a range deemed acceptable of 1.1 to 1.5 acres per 1 acre impacted. The report shall confirm that temporal impacts would be mitigated at a ratio of 0.5 acres for every 1 acre temporarily impacted that is anticipated to take 5 or more years to recover.

The report shall specify the methodology for evaluating the habitat subtype/quality within the areas of permanent and temporal disturbance and within the mitigation sites for either or both Options 1 and 2, depending on final options selected for implementation.

The report shall identify the enhancement actions to be implemented at the mitigation site and shall provide the metrics necessary to evaluate enhancement action success.

# 7.0 Amendment of the HMP

This HMP may be amended from time to time by agreement of the Applicant and the Oregon Energy Facility Siting Council (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.

# 8.0 References

IEAB (Independent Economic Analysis Board). 2007. Investigation of Wildlife O&M Costs. Task Number 116. October 30, 2007. IEAB 2007-4.

NRCS (Natural Resources Conservation Service). 2019. Environmental Quality Incentives Program (EQIP) payment schedule for Oregon. https://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/programs/financial/?cid=nrcseprd1328259 Accessed January 2019.

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ODFW. 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

ODFW. 2014. Oregon Mule Deer Initiative 5 Year Summary 2010 – 2014. Available at: https://www.dfw.state.or.us/resources/hunting/big_game/mule_deer/docs/Mule_Deer_Initiative_5_Year_Summary.pdf.

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# Figure

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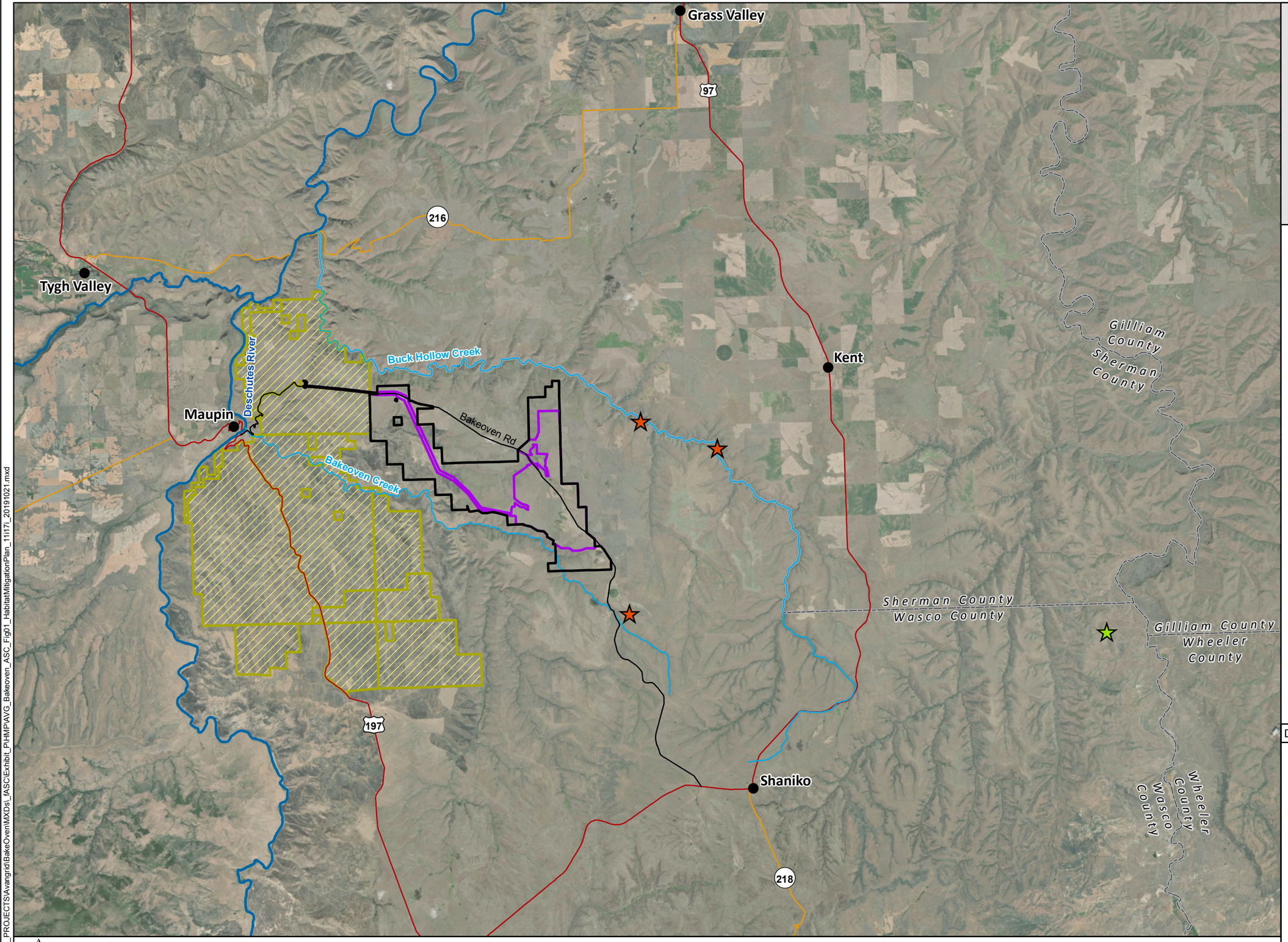
# Bakeoven Solar Project

## Figure 1
## Potential Mitigation Areas

WASCO COUNTY, OREGON




Proposed Site Boundary
Proposed Micrositing Corridor
Maupin Opportunity Area
A&K Ranches Mitigation Area*
Western Rivers Conservancy (John Day)*
River
Creek

**Basemap Features**

City/Town
US Highway
State Highway
Local Road
County Boundary

**Approximate locations. Exact locations to be determined.*

TETRA TECH
AVANGRID RENEWABLES

Data Sources

Avangrid-Project Infrastructure; USDA-Aerial Imagery; Census Bureau-Tiger Roads

Reference Map

1:185,000 WGS 1984 UTM Zone 10N

0 2 4 8 12 16 Miles

NOT FOR CONSTRUCTION

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**Attachment I: Draft Revegetation Plan**

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# 1.0 Introduction

This Revegetation Plan (Plan) describes methods, success criteria, and monitoring and reporting requirements for the restoration and revegetation of areas temporarily disturbed during the construction of the Bakeoven Solar Project (Facility). This Plan does not include areas occupied by permanent Facility components (i.e., the "footprint," including the fenced solar arrays).[1] The objective of revegetation is to restore temporarily disturbed areas to pre-disturbance conditions. This Plan was developed in consultation with the Oregon Department of Fish and Wildlife (ODFW), the Oregon Department of Energy (ODOE), and the Wasco County Weed and Pest Division.

The Facility is in Wasco County, Oregon and is located on private land, the vast majority of which is primarily used for rangeland/grazing, with some limited areas used for cultivation of agricultural crops. Habitat mapping and categorization of the site were conducted for the Facility between 2011 and 2019. Details on habitat types, subtypes, and categories can be found in Exhibit P of the Facility's Application for Site Certificate (ASC), especially Attachment P-1. Details on potential impacts to habitat and special-status species from construction and operation of the Facility, as well as avoidance and minimization measures, can be found in the ASC Exhibits P and Q.

# 2.0 Description of Temporary Facility Impacts

Construction of the Facility would result in approximately 178.4 acres of temporary impacts. Temporary impact areas are those areas that will be disturbed during construction activities, but which will not become permanent parts of the Facility. Temporary disturbance will occur in association with the improvement of existing roads, as well as during the construction of collector and transmission lines, new roads, staging areas, and fences. The intensity of the construction impact will vary: 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. The specific extent of each component's temporary impact is detailed in ASC Exhibit C, and is described in terms of a total, worst-case scenario impact for the full duration of phased construction.

All temporary impact areas are outside the fenced solar arrays. This Plan addresses revegetation of these areas of temporary impact outside the fenced area that will be restored following construction. Within the fenced area, the Applicant intends to manage low-height native vegetation, as described in ASC Exhibit B.

[1] This Plan will be incorporated by reference in the site certificate for the Facility and must be understood in that context. It is not a "stand-alone" document.

# 3.0 Agency Consultation

The Applicant will consult with ODFW, ODOE, and the Wasco County Weed and Pest Division prior to construction to discuss the areas to be revegetated, habitat category and habitat subtype conditions, reference site location and conditions, topsoil restoration and revegetation methods, erosion and sediment control measures, and implementation schedule. Three months prior to commercial operation of each Facility phase[2], the Applicant will meet with ODFW, ODOE, and the Wasco County Weed and Pest Division 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.

# 4.0 Revegetation Methods

Revegetation will begin as soon as feasible following completion of construction. The Applicant will restore temporarily disturbed areas by preparing the soil, followed by seeding using common application methods. The Applicant will seed all temporarily impacted grassland, shrub-steppe, and other Category 3, 4, and 5 wildlife habitat type-subtype areas (as detailed in Exhibit P of the ASC) that are not cropland or other developed lands. Agricultural lands will be restored at the landowner's direction.

## 4.1 Soil Preparation

Soil preparation will involve standard, commonly-used methods, and will take into account 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 the subsurface soils, where possible. The stockpiled topsoil will be put back in place prior to revegetation activities. The Applicant will use mulching and other appropriate practices to control erosion and sediment during revegetation work.

## 4.2 Seeding Methods

Following preparation of the soil, a seed mix will be applied. The Applicant will select the seed mix to apply to each area based on the pre-construction land use and in coordination with ODFW, ODOE, and Wasco County, as appropriate. Seed mixes will be obtained from a reputable supplier in compliance with the Oregon Department of Agriculture's Oregon Seed Laws. Seeding will be conducted based on ODFW and the Wasco County Weed and Pest Division recommendations, and in consultation with the seeding contractor. It will be implemented at the appropriate time of year to

[2] The Applicant proposes to begin construction as soon as June 2020, and to construct the Facility in phases. The size and construction schedule for each phase will be based on market demand, but the entire Facility, including all phases, will be completed by 2025 unless the Applicant seeks an amendment to extend the construction deadline.

facilitate seed germination. 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 described below.

### *4.2.1 Broadcasting*

Broadcast seeding is the application of seed directly on 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.

In this method, the 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 direction perpendicular to the first half. 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 may be applied using hydroseed equipment at a rate of 100 pounds per acre. Prior to mixing the tackifier, the tank would be visually inspected for cleanliness. If remnants from previous applications exist, the tank would be washed. Broadcasting should not be used if winds exceed 5 miles per hour.

### *4.2.2 Drilling*

Drill seeding would be used on areas of sufficient size with moderate or favorable terrain to accommodate mechanical equipment. This method, which is more successful in areas with deeper soils, 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, seeds would be sown at 70 percent of the recommended application rate to a depth of 0.25 inches; or as 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 direction perpendicular to first half. If mulch has been previously applied, seed may be drilled through the mulch provided the drill can penetrate the straw resulting in seed-to-soil contact conducive for germination.

## 5.0 Noxious Weed Prevention and Control

The Applicant will implement weed prevention and control measure during construction and revegetation efforts, as described in the Noxious Weed Control Plan developed in coordination with the Wasco County Weed Department Supervisor (Avangrid 2019).

# 6.0 Revegetation Documentation

The Applicant will maintain documentation of significant revegetation work conducted at the Facility. Documentation will include the date that construction was completed in the area to be revegetated, a description of the affected area, the date revegetation work began, a description of the work implemented within the revegetation area, and supporting figures representing the location, acres affected, and pre-disturbance condition of the revegetation area. The Applicant will report revegetation activities to ODOE for the first 5 years after the completion of Facility construction. After 5 years, any revegetation actions will be described in the annual report, per Oregon Administrative Rules 345-026-0080(e).

# 7.0 Monitoring

## 7.1 Reference Sites

Nearby reference sites, approximating preconstruction 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 ODFW Category 3, 4, and 5 habitat types (excluding cliffs, talus, and caves and open water). 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 site 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. 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 vegetation 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.

Revegetation areas will be monitored 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 Wasco County Weed and Pest Division; 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 inspector's investigation to ODOE and to ODFW.

## 7.3 Success Criteria

In each monitoring report, the Applicant will provide an assessment of revegetation success for revegetation areas. An area will be deemed successfully revegetated when its habitat quality is equal to or better than the habitat quality of the 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 finds 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 wildlife 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.

### 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 Wasco County Weed and Pest Division, 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. The investigator will provide a description of factors that may be contributing to the lack of revegetation success. The ODOE may require reseeding, weed control, or other remedial measures in those areas that are not trending towards meeting the success criteria by Year 5.

If a revegetation area is damaged by wildfire during the first 5 years following initial seeding, the 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 Amendment of the Plan

This Revegetation Plan may be amended from time to time by agreement of the Applicant and the Energy Facility Siting Council (Council). Such amendments may be made without 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 amendment of this plan agreed to by ODOE.

## 9.0 References

Avangrid (Avangrid Renewables, LLC). 2019. Draft Noxious Weed Control Plan. Attachment P-5 to the final Application for Site Certificate. Submitted to the Oregon Department of Energy. November 2019.

**Attachment J: Draft Wildlife Monitoring Plan (WMP)**

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# 1.0 Introduction

Bakeoven Solar, LLC (Applicant) has prepared this Wildlife Monitoring Plan (WMP) for the Bakeoven Solar Project's (Facility) Application for Site Certificate (ASC). This WMP describes the post-construction fatality monitoring (PCFM) at the Facility, as recommended by the Oregon Department of Fish and Wildlife (ODFW) and in compliance with the Wasco County Land Use & Development Ordinance, Chapter 19.

Specifically, the goals of this WMP are as follows:

1. Describe the PCFM protocol that was designed to determine the estimated bird fatality rates at Phase 1 of the Facility during the first year of operation (and account for bat fatalities should detections occur); and
2. Describe how these data will be provided to ODFW to fill data gaps on solar facility-related wildlife fatalities in Oregon, to assist with recommendations for future projects.

# 2.0 Post-construction Fatality Monitoring

## 2.1 Purpose and Overview

This WMP has been developed to estimate Facility-related impacts to birds through direct mortality. The fundamental components of a PCFM study for a solar facility include standardized carcass searches to determine a raw carcass count, measurement of detection bias, and an estimation of project-specific annual fatality rates for target species groups. The WMP utilizes current, scientifically validated methods to estimate the number of bird fatalities adjusted for searcher efficiency, carcass persistence, and spatial and temporal sampling intensity, and has been informed by study design guidance from the U.S. Geological Survey and U.S. Fish and Wildlife Service (Huso et al. 2016a). The methods presented herein are focused on understanding the Facility's impacts to birds; however, the study protocol will be adaptively managed to include a bat fatality estimate if bat fatalities meet the minimum sample size criteria for fatality modelling (see Section 2.1.4).

### *2.1.1 Technical Approach*

Solar facility-related fatality estimation derives from the number of carcasses found during searches conducted around the infrastructure of an operational solar facility. Because not all bird fatalities at a facility are found during carcass searches, the number of carcasses found is corrected by factors that account for carcasses that may have been missed during searches (sources of bias). Sources of bias include the imperfect ability of field technicians (searchers) to detect carcasses (searcher efficiency), the less than 100 percent probability that a carcass persists on site long

enough to be detected by field technicians (carcass persistence), and carcasses falling in areas that are unsearchable due to access, terrain, thick vegetation, or other factors (carcass distribution).

The WMP has been adapted to the specific characteristics of the Facility, as proposed in the ASC. The approach to PCFM presented here will be applied to Phase 1 of the Facility during the first year of operation. In order maximize the effectiveness and efficiency of the WMP, this approach may be modified in response to the refinement of Phase 1's final design.

### *2.1.2 Standardized Carcass Searches*

This section outlines the methods for conducting standardized carcass searches, which constitute the initial step in generating the fatality estimate. These data will be adjusted to account for detection bias (Section 2.1.4). Key metrics for standardized carcass searches are sampling duration, frequency, and spatial sampling.

#### *2.1.2.1 Sampling Duration and Frequency*

PCFM will be conducted at Phase 1 for 1 year starting at the beginning of the first season after the date of the Facility coming commercially online. Data will be collected on a seasonal basis to allow for assessment of potential seasonal patterns in bird fatality rates, scavenging activity, vegetation and light conditions, and other factors that may influence carcass persistence and searcher efficiency during the study. The monitoring period will be divided into the following seasons:

- Fall migration period (September 1 – October 31);
- Winter (November 1 – February 28/29);
- Spring migration period (March 1 – May 31); and
- Summer (June 1 – August 31).

Standardized carcass searches will be conducted biweekly (approximately once every 14 days) during the spring, summer, and fall to maximize, to the extent practicable, the likelihood that a carcass will be available to be found by field technicians. The frequency of carcass searches will decrease to once per month during winter.

#### *2.1.2.2 Spatial Sampling and Approach*

The percent coverage of the Facility and a representative random sample of the Facility's solar arrays (i.e., solar trackers) will influence the precision of the fatality estimate. To achieve a level of precision consistent with the goal of this study, which is generally consistent with the standard Tier 4 study described in the *Land-Based Wind Energy Guidelines* (USFWS 2012) and similar studies conducted at wind farms, the Applicant will randomly sample a percentage of Phase 1 according to the final MW output for Phase 1.

- 100 percent sampled if between 20 MW and 40 MW;
- 50 percent sampled if between 41 and 100 MW; and

- 35 percent sampled if greater than 100 MW.

Viewshed complexity (the ease or difficulty of locating a carcass based on the ground cover distribution and vegetation height) informs the sampling method used to locate carcasses around a facility. Based on the design of the solar arrays and the anticipated moderate complexity of the viewshed at the Facility, within-array transect sampling will be utilized for standardized carcass searches (Table 1). Examples of transect sampling methods are presented in Figure 1. Within-array sampling (Figure 1b) will be conducted within sample units. Sampling units are comprised of a group of four solar arrays for this study (Figure 2). The number and distribution of sample units included in the study will be determined by the finalized MWs of Phase 1 (see bullets above). Figure 2 represents an example sample unit only; neither the number nor distribution of sample units for the facility are depicted. The sample unit size will be modified as needed should solar array spacing, viewshed complexity, or other applicable factors change (Table 1). Because both the layout of the solar arrays and the landscape at a typical photovoltaic solar facility tend to be relatively homogenous, a simple random or systematic sampling design will be utilized.

**Table 1. Viewshed Complexity and Approximate Visible Distances of Fatalities**

| Viewshed Complexity | Habitat Characteristics | Visible Distance (Meters) | Sampling Method |
|---|---|---|---|
| Low | Bare or nearly bare ground, fine gravel cover. Greater than 90% bare ground with vegetation heights below 30 cm. | Small birds: 50–100 | Along-array[1] |
| | | Large birds: up to 140 | |
| Moderate | Moderate vegetation cover, moderate rock and cobble cover. Greater than 90% bare ground with vegetation heights 31 to over 46 cm, or 0 to 25% bare ground with vegetation height less than 15 cm. | Small birds: 15–50 | Within-array[2] |
| | | Large birds: 50–120 | |
| High | Dense vegetation cover, heavy rock and cobble cover. Less than 90% bare ground with vegetation heights greater than 16 cm. | Small birds: 5–15 | Within-array[2] |
| | | Large birds: 20–50 | |

1. See Figure 1a. Not applicable to this Facility based on anticipated viewshed complexity, but presented for comparison.
2. See Figure 1b.

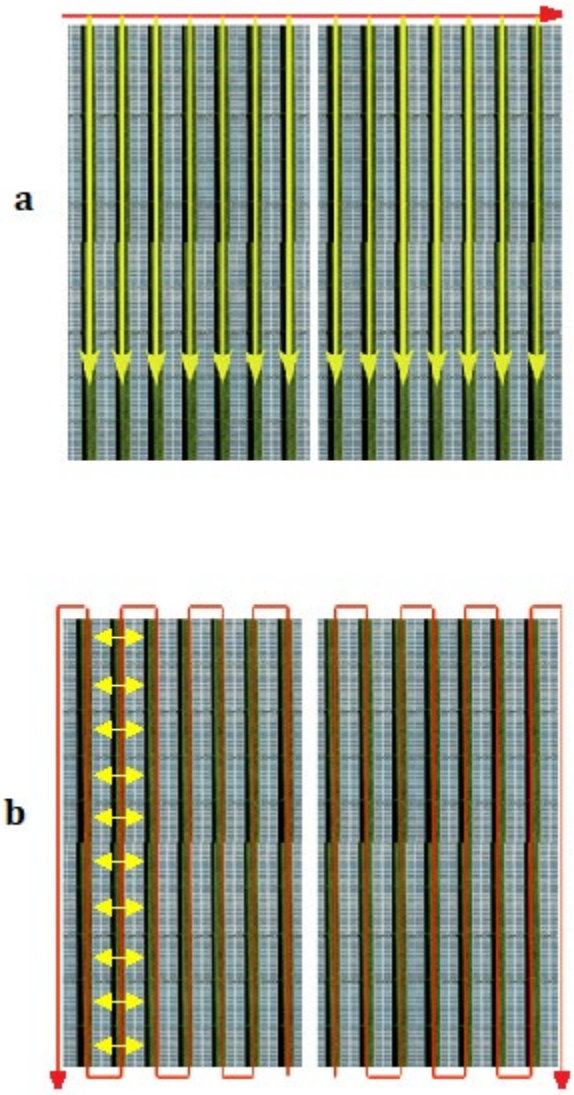


**Figure 1. Example of Transect Sampling**

(a) along array distance sampling; (b) within-array sampling. Red lines represent walking transect, yellow lines represent distance sampling viewshed. Not to scale for Facility.

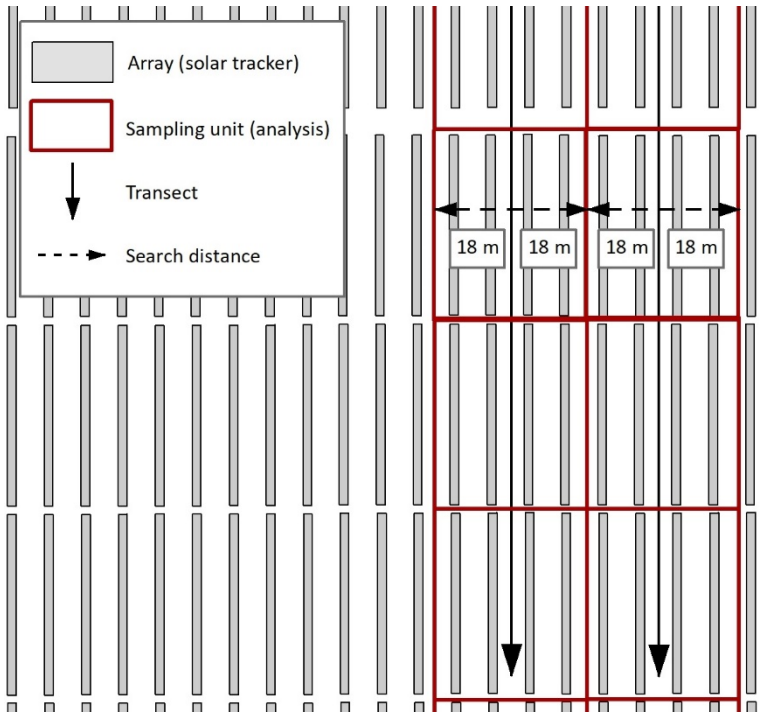


**Figure 2. Example of Within-Array Transect Sampling**

(Sample units, travel route, and search distance at the Facility)

The Applicant anticipates that the viewshed complexity at the Facility is moderate, and will conduct transect sampling within the solar array based on this assumption. Transects will be utilized for fatality monitoring within each sample unit, with the total distance of transects dependent upon the total MW of the Facility and the percent of solar arrays sampled. Searchers will walk down designated rows between tracker racks (arrays), scanning the area for fatalities directly ahead and underneath the panels to the immediate right and left of the searcher (Figure 1). While the actual number and final specification of arrays are subject to change during final design, the Applicant presents this example of transect travel routes, search distances, and sampling units according to the sample specifications presented in Exhibits B and C. Per these specifications, the distance from the transect line to the edge of the sampling unit, encompassing two tracker racks (arrays) and the space between these racks, is approximately 18 meters to the left and 18 meters to the right. In an area of moderate viewshed complexity, this visibility distance should allow for the location of small birds, per Table 1. Searchers will travel down each sampled row a single time during a survey to provide a uniform search effort throughout the sampled arrays. Final transect travel routes will be determined on final arrangement of solar array.

Standardized carcass searches will be performed by field technicians trained in the field methods and data collection protocols outlined in this WMP. A one-time clearance search will be conducted prior to the first scheduled search of sampled arrays. The purpose of the clearance search is to clear the survey area of any carcasses that may be present. The clearance survey is necessary to ensure that any carcasses detected after the clearance search represent fatalities that occurred during a

preceding interval of known length. The clearance survey will be scheduled to ensure that the interval between the clearance survey and the first standardize carcass search is the same for all sampling units. Carcasses detected during the clearance search will be documented (see Section 2.1.2.3); but will be considered incidental to the study and not included in the fatality estimate because the time interval in which they occurred will be unknown.

#### *2.1.2.3 Fatality Detection Criteria*

To develop a site-specific fatality estimate, the applicant will make the conservative assumption that all fatalities detected within the Facility were a result of the Facility unless the fatality was clearly attributable to a non-facility cause.

**Standard Fatality Detections**

Detections from standardized carcass searches will inform the fatality estimate for the Facility, thus it is important that they are recorded and evaluated properly (See Section 2.1.2.4). Any injured bird, bird carcass, partial bird carcass, or feather spot that is discovered during the course of standardized carcass searches is considered a detection. Thus, detections represent evidence of an avian fatality.

**Feather Spots**

In order for a feather spot to be considered a detection, it must consist of 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 (Smallwood 2007), without any bone, beak, or significant amounts of flesh or skin. A feather spot meeting these criteria is considered a detection, and assumed likely evidence of an avian fatality. A feather spot detection found during standardized carcass searches will be included in the fatality estimation process, assuming the detection meets all other criteria for inclusion in fatality estimation.

**Incidental Fatality Detections**

Once PCFM begins, all subsequent detections that occur incidentally to the standardized post-construction monitoring program will be classified as "incidental detections." Incidental detections will be documented using procedures similar to the ones used for specimens discovered during the standardized carcass searches, and the records will be integrated for summary reporting and evaluation purposes.

Incidental detections fall into two categories, which determine how they are treated in fatality estimation. Both are based on where they are found and the timing in which they are found:

- **Within Searched Areas:** Incidental detections that occur in areas sampled during standardized carcass searches, but found at a time when searches are not occurring (e.g., found during carcass persistence setup), can conservatively be included in analysis.

- **Outside of Searched Areas:** Incidental detections that occur in areas not sampled during standardized carcass searches are processed as other detections, but always excluded from analysis.

Because bat detections are expected to be rare at the Facility, should a bat fatality be detected, it will be recorded as an incidental detection regardless of timing or location. The Applicant anticipates that detections over the course of 1 year are unlikely to meet minimum sample size for a reliable fatality estimate (Section 2.1.4).

#### *2.1.2.4 Fatality Documentation*

Digital photographs will be taken to document all detections in situ. When possible, likely cause of death will be indicated on data sheets based on evidence from the carcass and proximity to Facility infrastructure. Detections in the form of feather spots will be classified as a "f"; searchers will make their best attempt to classify feather spots by bird size according to the sizes or identifying features of the feathers.

All detections will be assigned to a size class, a taxonomic family and an ecological guild, to the extent possible. Detections not identifiable to species (e.g., unidentified sparrow) will be recorded to the lowest taxonomic group possible. When possible, a detection will be identified to size even if it cannot be identified to a species or group (e.g., unidentified small bird).

To ensure accurate documentation of the detection locations, the searcher will record the unique identifier of the sample unit, GPS coordinates (in latitude/longitude) of the carcass location, and a measurement of the distance from the detection location to the end of the solar array where the carcass was detected.

### *2.1.3 Bias Correction*

The objective of the bias correction trials is to develop seasonal, Facility-specific measures of searcher efficiency and carcass persistence. Searcher efficiency trials estimate the probability that a searcher will detect a carcass, assuming it is available to be found. The ability of searchers to detect carcasses is influenced by several factors, including vegetation within the search area, characteristics of individual carcasses (e.g., body size, color, condition), and the skill of an individual searcher in finding the carcasses. Carcass persistence trials document the length of time carcasses persist in the search area, and thus are available to be found by field technicians. Carcasses may be removed from the search area due to scavenging or other means (e.g., due to forces such as wind and rain, agricultural activity, or decomposition beyond recognition), thereby rendering carcasses undetectable. To reduce the number of carcasses introduced on site, minimizing the risk of attracting potential scavengers, searcher efficiency and carcass persistence trials may be combined by utilizing the same carcass to measure both sources of bias in any given season.

#### *2.1.3.1 Searcher Efficiency*

Searcher efficiency trials will be conducted each season to help assess and adjust for potential temporal bias in the detection of fatalities among arrays (e.g., searcher experience, environmental conditions, etc.). If variable ground conditions exist, resulting in multiple viewshed complexity classes, trial carcasses will be placed in each viewshed complexity class to account for potential bias based on vegetation height. Searcher efficiency trials will be repeated seasonally (winter, spring, summer, and fall) and trials will be organized so that all search personnel are tested. Based on preliminary guidance for solar monitoring (Huso et. al 2016a), a minimum of 25 carcass samples per small size class, and 10 for large, will be used at the Facility per season. A bias trial coordinator will place the trial specimens in randomly generated locations within the sampling units. With direction from the bias coordinator, searchers will recover any specimens missed within the sampling unit upon completion of the search.

The carcasses that will be used for trials will be representative of the species likely to be encountered as fatalities in the area of the Facility to the extent possible. Trial species may include the house sparrow (*Passer domesticus*) and juvenile coturnix quail (*Coturnix coturnix*) for small birds; the hen mallard (*Anas platyrhynchos*), and ring-necked pheasant (*Phasianus colchicus*) to represent large birds; or other species obtainable form commercial sources that meet carcass requirements.

All trial specimens will be inconspicuously marked (e.g., with a piece of black electrical tape wrapped around one leg), in a manner that allows the surveyor to readily distinguish trial specimens from new fatalities, but without rendering the specimen unnaturally conspicuous (Smallwood 2007, USFWS 2012). To ensure a degree of "natural" placement, carcasses need to be represented by placing them between rows of panels, under panels, near I-beams supporting the panels, or in the open. Therefore, carcasses will be tossed towards the designated, randomly chosen placement spot from a distance of 2 to 4 meters. Documentation of each location will include GPS coordinates, notes about the substrate and carcass placement, and a digital photo of the placement location.

Searchers will have one opportunity to discover placed specimens. Once documentation of discovered/missed carcasses occurs, trial carcasses may be kept in place and used for carcass persistence trials (see below).

Data from the searcher efficiency trials will be used to derive estimates of searcher efficiency for each size class. Data will be modelled as the probability that a carcass is found during the first search after its arrival, adjusted by the opportunity for searcher efficiency change over time (Dalthorp et al. 2018). To determine the predictor variables (s) that may influence searcher efficiency (e.g., season), corrected Akaike Information Criterion (AICc) values will be used to determine model selection. Generally, the model with the lowest AICc value will be used to best explain the variance in searcher efficiency; searcher efficiency estimates generated from this model will be used in the calculation of fatality rates.

#### *2.1.3.2 Carcass Persistence*

Carcass persistence trials will be conducted each season to help assess and adjust for potential temporal bias in the degree that carcasses persist on the landscape. To quantify carcass persistence, a minimum of 15 small and 10 large carcasses will be placed each season (25 trials per season, 100 total per year). Carcasses will be randomly placed within the solar arrays, and monitored for 30 days, or until the carcass has deteriorated to a point where it would no longer qualify as a detection (i.e., the carcass is absent or has deteriorated into a feather spot that does not meet the detection criteria). A minimum of 25 percent of the carcasses in the solar arrays will be monitored using motion-triggered, digital game cameras, and carcasses without game cameras will be visited on days 1, 2, 3, 4, 5, 7, 14, 21, and 30. Periodic ground-based checking of carcasses with game cameras will occur to guard against misleading indicators of carcass removal, such as wind blowing the carcass out of the camera's field of view, or scavengers moving (but not removing) carcasses; trials with game cameras will be checked on a 7 to 10 day basis. Carcass-persistence specimens will be distributed across the entire Phase 1 Facility, not just in areas subject to standard surveys.

Trial specimens will be comprised legally obtained species such as house sparrows, rock pigeons, European starlings, ring-necked pheasants and/or chukars. To the extent possible, trial specimens will be selected to best represent the size and coloration of the range of species expected to be found based on available regional data. Trial specimens will include only intact, fresh (i.e., estimated to be no more than 1 or 2 days old and not noticeably desiccated) bird carcasses frozen immediately following death. Species composition of trial specimens will be similar to those used for searcher efficiency.

All trial carcasses will be handled with latex gloves, and handling time will be minimized. All trial specimens will be inconspicuously marked (e.g., with fingernail polish on the bill and legs) to distinguish them from both unmarked fatalities and searcher efficiency trial specimens. Trial placements will be spaced throughout each season so that trials are dropped on at least two distinct dates, separate by at least 2 weeks. Random trial locations will be selected prior to placements, each season. To simulate the random positioning of carcasses, trials will be tossed towards the designated, randomly chosen placement spot from approximately 2 to 4 meters. Documentation of each location will include GPS coordinates, notes about the substrate and carcass placement, and a digital photo of the placement location (if not a game camera trial).

For each on-foot trial check, it is necessary to record the date, time, disposition of the carcass, and any potential scavengers, if known. The carcass disposition will be classified into one of the following categories:

- **Intact:** Whole and un-scavenged other than by insects;
- **Scavenged/Depredated:** Carcass present, but incomplete, dismembered, or flesh removed;
- **Feather Spot:** Carcass scavenged and removed, but sufficient feathers remain to qualify as a fatality, as defined above; or

- **Removed:** Not enough remains to be considered a fatality during standard surveys, as defined above.

Trials using a game camera will have their photos examined at the end of the trial. Photo review will focus on identifying the date of scavenging events, the date at which the carcass was last available, and the date at which the carcass was first observed to be removed. Data from on foot checks and game camera photos will be used to estimate carcass persistence.

Data from the carcass persistence trials will be used to derive estimates of the probability that a carcass remains in the interval between searches (probability of persistence), and therefore available to be re-located by field technicians. Data will be modelled by size class using a survival analysis which will utilize censored exponential, Weibull, lognormal, or loglogistic survival models fit by maximum likelihood estimation. Model selection will be based on the corrected AICc. Carcass persistence results will be used to adjust carcasses detected for persistence bias, and a median point estimate of the length of time a carcass persists on site will be estimated for each size class.

#### *2.1.3.3 Carcass Distribution*

Because mortality at a PV facility is unlikely to be caused by a centralized feature in a particular location, and solar collectors and reflectors at PV facilities are typically uniform, the distribution of the carcasses is anticipated to be an isotropic random process (Huso et al. 2016a). Therefore, systematic sampling by transect is expected to adequately sample the anticipated carcass distribution. Carcasses may fall in areas that are unsearchable due to access, terrain, thick vegetation, or other factors. Any areas within the sampled arrays that qualify as unsearchable will be mapped and excluded from the proportion of the area sampled.

### *2.1.4 Data Analysis and Fatality Estimation*

The data collected during the monitoring period will be used to estimate annual fatality rates for birds. Fatality rate estimates will consider:

- The search interval;
- 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 Facility;
- Carcass persistence expressed as the probability that a carcass remains in the study area (persists) and is available for detection by the field technicians during persistence trials;
- Searcher efficiency expressed as the probability that a trial carcass is found by field technicians during searcher efficiency trials; and
- The proportion of the carcass distribution searched at the Facility.

There are a variety of statistical estimators that take into account these factors, each relying on different underlying assumptions. Both the study design and resulting data can affect whether the study adheres to these underlying assumptions, and fatality estimators become inherently unstable

if the number of detections in a stratum (e.g., avian size class, bats) are small (Korner-Nievergelt et al. 2011, Huso et al. 2016b). When few detections are found in a particular stratum, the estimate can suffer from bias, which makes results difficult to interpret. Thus, it is recommended that no estimate, regardless of estimator used, is provided for any stratum with fewer than five detections.

Publicly available data from facilities California (WEST 2014) suggest that bat fatalities are uncommonly detected during PCFM at PV solar facilities. Based on the relatively low use of the Facility by bats as documented in ABR (2011), and anticipated minimal impacts to bat species as discussed in Exhibit P of the ASC, bat fatalities at the Facility are also anticipated to be rare. However, should five or more detections of bat fatalities occur during the monitoring year, thereby meeting the minimum sample size criteria for fatality modelling, the estimation of fatality rates for the Facility will be adaptively managed for the inclusion of bats.

Adjusted annual fatality rates will be estimated and will be expressed as the fatality per unit area (i.e., acres and MW) per year, and overall per year with a 90 percent confidence interval calculated using a bootstrap method.

## 2.2 Reporting

The Applicant will document the results of PCFM in a summary report following the completion of the monitoring year. The summary report will include the following:

- Tabular and/or graphical summaries of fatalities by size class, season, and habitat/viewshed complexity class (if needed);
- A map showing the location of all fatalities encountered during the study;
- Summaries of searcher efficiency trials;
- Summaries of carcass persistence trials;
- A summary of the fatalities included in the analysis;
- Estimates of total fatalities annually and by season for each size class, all birds, and any taxa/species groups of interest and that meet minimum sample size criteria for fatality modelling; and
- Estimates of annual fatality rates per acre and per MW.

The Applicant will submit this report to ODFW and the Oregon Department of Energy to assist with recommendations for future projects.

# 3.0 Amendment of the WMP

This WMP may be amended from time to time by agreement of the Applicant and the Oregon Energy Facility Siting Council (Council). Such amendments may be made without amendment of the site certificate. The Council authorizes ODOE to agree to amendments to this WMP. ODOE shall

notify the Council of all amendments, and the Council retains the authority to approve, reject, or modify any amendment of this WMP agreed to by ODOE.

# 4.0 References


ABR Inc. (ABR, Inc. – Environmental Research & Services). 2011. An Acoustic Study of Bat Activity at the Proposed Bakeoven Wind Energy Project, Oregon, Fall 2010. Final Report. Prepared for Iberdrola Renewables. March 2011.

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USFWS (U.S. Fish and Wildlife Service). 2012. Land-Based Wind Energy Guidelines. March 23, 2012. 82 pp. Available online at: http://www.fws.gov/cno/pdf/Energy/2012_Wind_Energy_Guidelines final.pdf

WEST (Western EcoSystems Technology). 2014. Sources of Avian Mortality and Risk Factors Based on Empirical Data from Three Photovoltaic Solar Facilities. June 17, 2014.

**Attachment K: Draft Noxious Weed Control Plan**

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Appendix B. 2019 Oregon Department of Agriculture Noxious Weed List

# 1.0 Introduction

Bakeoven Solar, LLC (Applicant), a subsidiary of Avangrid Renewables, LLC, is seeking to construct and operate the Bakeoven Solar Project (Facility) in southern Wasco County, near Maupin, Oregon. Oregon Administrative Rule (OAR) 660-033-0130 (38)(h)(D) states, in regard to photovoltaic solar power generation facilities, that:

> "C*onstruction or maintenance activities will not result in the unabated introduction or spread of noxious weeds and other undesirable weed species. This provision may be satisfied by the submittal and county approval of a weed control plan prepared by an adequately qualified individual that includes a long-term maintenance agreement. The approved plan shall be attached to the decision as a condition of approval*."

This Draft Noxious Weed Control Plan (Plan) was prepared to comply with OAR 660-033-0130 (38)(h)(D) and describes the noxious weed control measures that will be implemented during construction and operation of the Facility. Noxious weed control practices for the Facility described in this plan have been developed in coordination with the Wasco County Weed Department Supervisor.

## 1.1 Background

The measures described in this Plan are designed to minimize the introduction of new noxious weed species and to control existing populations of target noxious weeds (as defined below). Treatment of target noxious weeds will specifically focus on areas within and adjacent to the Facility fence line, along new Facility roads, and along the transmission line (cumulatively referred to as treatment areas hereafter). If it is determined that noxious weeds have invaded areas adjacent to the treatment areas as a result of construction, the Applicant will contact the landowner and seek approval to treat those noxious weed populations. In addition, new noxious weeds detected during post-construction restoration will be considered a result of construction activities and shall be controlled and treated accordingly.

Designated noxious weeds are those invasive weed species that are of elevated economic or environmental concern to the State of Oregon or local jurisdictions, and receive priority during management planning and operations. In Wasco County (County), control of noxious weeds is overseen by the Wasco County Weed and Pest Department. Currently, the County lists 45 species of noxious weeds, which are designated as "A," "B," "C," or "Q" Pests (Wasco County Weed Department 2008; Appendix A). "A" listed noxious weeds occur in the County in small enough infestations to "make eradication practical"; "B" listed pests are "subject to intensive control or eradication, where feasible"; "C" listed pests are those that are more widely spread and "control of these weeds will be limited by conditions that warrant special attention"; and "Q" listed pests are weeds that "are to be monitored and subject to control if they begin to appear threatening" (Wasco County Weed Department 2008).

In addition to the County noxious weed list, the Wasco County Weed and Pest Department also defers to the state noxious weed list developed by the Oregon Department of Agriculture (ODA) (Wasco County Weed Department 2019). The ODA lists 45 Class A noxious weed species and 92 Class B noxious weed species (ODA 2019; Appendix B). "A" listed weeds are those which occur in the state in small enough infestations to make eradication or containment possible and eradication or intensive control of these species is recommended wherever they are found. "B" listed weeds are weeds of economic importance that are regionally abundant, but which may have limited distribution in some counties and intensive control at the state, county, or regional level as determined on a site-specific, case-by-case basis. The ODA also designates select weeds from either the "A" or "B" list as "T" designated weeds. "T" designated weeds are priority noxious weeds that the ODA has targeted for prevention and control.

## 1.2 Target Noxious Weed Species

For the purposes of this Plan, target noxious weeds include County-listed "A" and "B" noxious weed species and ODA-listed "A" and "T" noxious weed species (see Appendices A and B). Based on botanical surveys conducted in 2018 (Tetra Tech 2018), three target noxious weed species were observed within the Facility micrositing corridor[1] (Table 1). Although these three species will specifically be targeted for control, if other ODA-listed "A" or "T" noxious weeds or County-listed "A" and "B" noxious weeds are observed in the treatment areas, they will also be treated.

**Table 1. Target Noxious Weeds Located within the Facility Micrositing Corridor**

| Scientific Name | Common Name | ODA Status | County Status |
|---|---|---|---|
| *Centaurea diffusa* | Diffuse knapweed | B | B 1/ |
| *Cirsium arvense* | Canada thistle | B | B/C 2/ |
| *Lepidium latifolium* | Perennial pepperweed | B, T | C |

1/ Per the County Weed List, the Bakeoven/Maupin area is a knapweed control zone and control efforts are mandatory under ORS 569.355 and 569.360. The entire Facility lies within the knapweed control zone.

2/ Canada thistle is listed as "B" pest outside Forest and a "C" pest inside Forest. The Facility lies outside the forest; therefore, this species is considered a "B" listed weed within the Facility.

# 2.0 Noxious Weed Control

The Applicant's primary objective is to prevent the introduction of new noxious weed populations and the spread of existing target noxious weed populations. Early detection and management of small populations of noxious weeds before they can expand into larger populations is extremely important for successful control efforts. If within the treatment areas, existing populations of diffuse knapweed (*Centaurea diffusa*), Canada thistle (*Cirsium arvense*), and perennial pepperweed (*Lepidium latifolium*;) will be prevented from growing in size and density at the one to two

[1] The micrositing corridor is where solar arrays and all other related and supporting facilities may be located; see Exhibit P of the Facility's Application for Site Certificate.

locations they were documented during surveys, and will be prevented from spreading to new sites.

Long-term weed control will be accomplished through the seeding of perennial grasses known to compete well with noxious weeds, such as thickspike wheatgrass (*Elymus lanceolatus*) and Sherman big bluegrass (*Poa secunda*). The Applicant intends to manage low-height native vegetation inside the fenced area. Seeding will occur between October 1 and February 1 (the preferred seeding dates specified by the Oregon Department of Transportation for construction east of the Cascades[2]).

Short-term weed control will be through herbicide use (as discussed in Section 2.2.1) or mechanical methods (as discussed in Section 2.2.2). However, it will be important to ensure that short-term herbicide use does not affect establishment of the perennial grass cover that will provide the long-term control. Supplemental seeding may be needed on a case-by-case basis. Subsequent fertilizer application will be limited in areas treated for target noxious weeds, and the timing of the seeding will need to be coordinated with any herbicide applications.

## 2.1 Preventative Methods

The Applicant will implement best management practices during Facility construction and operation to help prevent the invasion and spread of noxious weeds onsite. These may include the following:

- Monitoring areas of temporary and permanent disturbance for noxious weeds after construction, during the normal course of revegetation maintenance of temporary work spaces, and implementing control measures appropriately (as described below);
- Providing information regarding target noxious weed species at the operations and maintenance building;
- Including noxious weed prevention and control measures, such as Facility inspection and documentation, in operations plans;
- Inspecting and documenting all temporary ground-disturbing operations in noxious weed–infested areas per the Facility Revegetation Plan (Attachment P-3 to Exhibit P);
- Cleaning vehicles and equipment before entry into revegetation areas to help minimize introduction of noxious weed seeds;
- Preventing conditions that favor noxious weed establishment by revegetating temporarily disturbed areas as soon as possible and appropriate following construction (as described above);

[2] Oregon Department of Transportation. Oregon Standard Specification for Construction 2018. Section 01030.43(b)

- Revegetating the site with appropriate, locally collected native seed or native plants; when these are not available, non-invasive and non-persistent non-native species may be used (as described above); and
- Inspecting and certifying that the seed and straw mulch used for site rehabilitation are free of weed seed and propagules.

## 2.2 Treatment Methods

Treatment of target noxious weeds will differ, depending on the disturbed area, the proximity to biologically sensitive areas, size of infestation, and the specific noxious weed being controlled. Control of noxious weeds will be either through the use of herbicides or mechanical methods.

### *2.2.1 Herbicide Treatment*

The specific herbicide used and the timing of application will be chosen based on the specific noxious weed being treated, as appropriate herbicides differ between species and types of plants (i.e., dicots versus monocots). Recommended treatment methods, as well as the recommended timing of treatments for the three target noxious weeds identified within the Facility micrositing corridor, are summarized in Table 2.

**Table 2. Recommended Treatment for Target Noxious Weed Species**

| Scientific Name | Common Name | Recommended Treatment | Treatment Timing |
|---|---|---|---|
| *Centaurea diffusa* | Diffuse knapweed | Spot application of post-emergent, species-specific herbicide. | Once per year in the spring. |
| *Cirsium arvense* | Canada thistle | Spot application of post-emergent, species-specific herbicide. | Once per year in the spring. |
| *Lepidium latifolium* | Perennial pepperweed | Spot application of post-emergent, species-specific herbicide. | Once in the fall in first year of treatment; then once per year in the spring. |

Only herbicides approved by the U.S. Environmental Protection Agency and ODA will be applied and appropriate best management practices will be implemented during application. Herbicides will be applied with a spreader sticker surfactant (e.g., Dynamic Green Concepts, Phase).

### *2.2.2 Mechanical Treatment*

Mechanical control methods rely on removal of plants, seed heads, and/or cutting roots with a shovel or other hand tools or equipment that can be used to remove, mow, or disc noxious weed populations. Hand removal of plants is also included under this treatment method. Mechanical methods are useful for smaller, isolated populations of noxious weeds or in areas of sensitive habitats. Additionally, hand removal of small infestations can minimize soil disturbance, allowing desirable species to remain and limiting conditions favorable for noxious weeds. Some rhizomatous plants can spread by discing or tillage; therefore, implementation of discing will be species specific.

If such a method is used in areas to be revegetated, subsequent seeding will be conducted to re-establish desirable vegetative cover that will stabilize the soils and slow the potential re-invasion of noxious weeds.

# 3.0 Monitoring

During the construction phases of the Facility, construction staff will conduct periodic monitoring of target noxious weeds within and adjacent to the treatment areas. Any signs of new target noxious weed growth, or of re-growth in treated areas, will be addressed promptly with further herbicide or mechanical treatments or other best management practices.

Following construction, monitoring for target noxious weeds will be conducted annually for the first 3 years to assess weed growth and to inform noxious weed control measures. Noxious weed monitoring will consist of a site survey, conducted during the growing season, to identify noxious weed species that have established within and adjacent to the treatment areas, as well as inspections of treated areas to assess the success of previous noxious weed treatments.

The initial monitoring survey will be scheduled slightly before herbicide application, as applicable, to identify any noxious weed species within the areas to be treated, with a focus on target noxious weed species observed prior to construction (Table 1), or other populations of target noxious weeds not previously observed in these areas.

The results of the site survey will be summarized in a monitoring report that details all noxious weed species observed, identifies treatment protocols for target noxious weed species, and describes the location of target noxious weed species identified. Subsequent monitoring will assess the success of noxious weed treatments and will document any new target noxious weed infestations observed. These results will be summarized in short memorandums that describe the treatment success or failure, make recommendations to improve treatment success (if necessary), and note any new target noxious weed species or emergence. If the Applicant contracts with the County Weed Department Supervisor to perform weed control at the Facility, then no monitoring report will be provided except for a statement that the County performed the work.

The Applicant will maintain ongoing communication with individual landowners and the County regarding noxious weeds within the Facility micrositing corridor. Landowners may also contact the Applicant to report the presence of noxious weeds. The Applicant will control the reported noxious weeds on a case-by-case basis, and will include a summary of actions taken for that incident in the memorandum.

# 4.0 Weed Department Supervisor Review

Merle Keys, Weed Department Supervisor, provided input during the development of this Plan. Mr. Keys will be provided with a copy of this Plan for review in November 2019. This Plan will be updated, as necessary, based on comments from Mr. Keys.

Merle Keys, Weed Department Supervisor
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2705 E. 2nd Street
The Dalles, OR 97058
(541) 506-2653
merlek@co.wasco.or.us

# 5.0 References


ODA (Oregon Department of Agriculture). 2019. Noxious Weed Policy and Classification System. Noxious Weed Control Program. Salem, OR. Accessed October 2019: https://www.oregon.gov/ODA/shared/Documents/Publications/Weeds/NoxiousWeedPolicyClassification.pdf.

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Wasco County Weed Department. 2008. Weed List and Classifications. Available online at: https://www.co.wasco.or.us/document_center/Public%20Works/wdlist08.pdf. Accessed October 2019.

Wasco County Weed Department. 2019. Personal communication between Tetra Tech, Inc. (on behalf of Avangrid Renewables, LLC) and Merle Keys, Wasco County Weed Department Supervisor. Via phone October 30, 2019.

# Appendix A. 2008 Wasco County Noxious Weed List

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# WEED LIST AND CLASSIFICATIONS

**A PESTS**

Dyers Woad
Houndstongue
Kudzu
Leafy Spurge
Meadow Knapweed
Mediterranean Sage
Musk Thistle
Purple Loosestrife
Spotted Knapweed
Tansy Ragwort
Western Water Hemlock
Yellow Flag Iris

**B PESTS**

Canada Thistle (outside Forest)
Dalmation Toadflax
Diffuse Knapweed*
Kochia
Russian Knapweed
Rush Skeletonweed
Scotch Broom
Whitetop
Yellow Starthistle (outside lower 15-Mile)

**C PESTS**

Buffalobur
California Spikeweed
Canada Thistle (inside Forest)
Dogbane
Field Bindweed
Goatgrass
Horned-head Buttercup
Horsetail Rush
Jimsonweed
Knapweed Complex
Perennial Pepperweed
Perennial Sowthistle
Poison Hemlock
Puncturevine
Quackgrass
Russian Thistle
St. Johnswort
Sandbur
Showy Milkweed
Spiney Cocklebur
Wild Oats
Yellow Starthistle (Inside 15-Mile)

**Q PESTS**

Common Mullein
Horseweed

*** Within Bakoeven / Maupin area is a knapweed control zone. Control efforts are mandatory under ORS 570.510 and 570.515.**

**A Pests**: A weed of known economic importance known to occur in the county in small enough infestations to make eradication practical.

***B Pests*:** A weed of known economic importance and of limited distribution within the county and is subject to intensive control or eradication, where feasible, at the county level.

***C Pests*:** A weed that also has economic importance but is more widely spread. Control of these weeds will be limited by conditions that warrant special attention.

***Q Pests*:** A weed that exists in the county, but is of little, no, or undetermined economic importance. However, they are to be monitored and subject to control if they begin to appear threatening.

# Appendix B. 2019 Oregon Department of Agriculture Noxious Weed List

## 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) | *Peganum harmala* |
| Camelthorn | *Alhagi pseudalhagi* |
| Cape-ivy (T) | *Delairea odorata* |
| Coltsfoot | *Tussilago farfara* |
| Common frogbit | *Hydrocharis morsus-ranae* |
| Cordgrass | |
| Common | *Spartina anglica* |
| Dense-flowered (T) | *Spartina densiflora* |
| Saltmeadow (T) | *Spartina patens* |
| Smooth (T) | *Spartina alterniflora* |
| Delta arrowhead (T) | *Sagittaria platyphyla* |
| European water chestnut | *Trapa natans* |
| Flowering rush (T) | *Butomus umbellatus* |
| Garden yellow loosestrife (T) | *Lysimachia vulgaris* |
| Giant hogweed (T) | *Heracleum mantegazzianum* |
| Goatgrass | |
| Barbed (T) | *Aegilops triuncialis* |
| Ovate | *Aegilops ovata* |
| Goatsrue (T) | *Galega officinalis* |
| Hawkweed | |
| King-devil | *Hieracium piloselloides* |
| Mouse-ear (T) | *Hieracium pilosella* |
| Orange (T) | *Hieracium aurantiacum* |
| Yellow (T) | *Hieracium floribundum* |
| Hoary alyssum (T) | *Berteroa incana* |
| Hydrilla | *Hydrilla verticillata* |
| Japanese dodder | *Cuscuta japonica* |
| Kudzu (T) | *Pueraria lobata* |
| Matgrass (T) | *Nardus stricta* |
| Oblong spurge (T) | *Euphorbia oblongata* |
| Paterson's curse (T) | *Echium plantagineum* |
| Purple nutsedge | *Cyperus rotundus* |
| Ravennagrass (T) | *Saccharum ravennae* |
| Silverleaf nightshade | *Solanum elaeagnifolium* |
| Squarrose knapweed (T) | *Centaurea virgata* |

(T) T-Designated Weed (See page 4)

(Continued) Table I: A Listed Weeds

| Common Name | Scientific Name |
|---|---|
| Starthistle | |
| Iberian (T) | *Centaurea iberica* |
| Purple (T) | *Centaurea calcitrapa* |
| Syrian bean-caper | *Zygophyllum fabago* |
| Thistle | |
| Plumeless (T) | *Carduus acanthoides* |
| Smooth distaff | *Carthamus baeticus* |
| Taurian (T) | *Onopordum tauricum* |
| Welted (curly plumeless) (T) | *Carduus crispus* |
| Woolly distaff (T) | *Carthamus lanatus* |
| Water soldiers | *Stratiotes aloides* |
| West Indian spongeplant | *Limnobium laevigatum* |
| White bryonia | *Bryonia alba* |
| Yellow floating heart (T) | *Nymphoides peltata* |
| Yellowtuft (T) | *Alyssum murale, A. corsicum* |

(T) T-Designated Weed (See page 4)

## Table II: B Listed Weeds

| Common Name | Scientific Name |
|---|---|
| Armenian (Himalayan) blackberry | *Rubus armeniacus (R. procerus, R. discolor)* |
| Biddy-biddy | *Acaena novae-zelandiae* |
| Broom | |
| French* | *Genista monspessulana* |
| Portuguese (T) | *Cytisus striatus* |
| Scotch* | *Cytisus scoparius* |
| Spanish | *Spartium junceum* |
| Buffalobur | *Solanum rostratum* |
| Butterfly bush | *Buddleja davidii (B. variabilis)* |
| Common bugloss (T) | *Anchusa officinalis* |
| Common crupina | *Crupina vulgaris* |
| Common reed | *Phragmities australis ssp. australis* |
| Creeping yellow cress | *Rorippa sylvestris* |
| Cutleaf teasel | *Dipsacus laciniatus* |
| Dodder | |
| Smoothseed alfalfa | *Cuscuta approximata* |
| Five-angled | *Cuscuta pentagona* |
| Bigseed | *Cuscuta indecora* |
| Dyer's woad | *Isatis tinctoria* |
| Eurasian watermilfoil | *Myriophyllum spicatum* |
| False brome | *Brachypodium sylvaticum* |
| Field bindweed* | *Convolvulus arvensis* |
| Garlic mustard (T) | *Alliaria petiolata* |
| Geranium | |
| Herb Robert | *Geranium robertianum* |
| Shiny leaf | *Geranium lucidum* |
| Gorse* (T) | *Ulex europaeus* |
| Halogeton | *Halogeton glomeratus* |
| Houndstongue | *Cynoglossum officinale* |
| Indigo bush | *Amorpha fruticosa* |
| Ivy | |
| Atlantic | *Hedera hibernica* |
| English | *Hedera helix* |
| Johnsongrass | *Sorghum halepense* |

* Biocontrol (See page 4) (T) T-Designated Weed (See page 4)

(Continued) Table II: B Listed Weeds

| Common Name | Scientific Name |
|---|---|
| Jointed goatgrass | *Aegilops cylindrica* |
| Jubata grass | *Cortaderia jubata* |
| Knapweed | |
| Diffuse* | *Centaurea diffusa* |
| Meadow* | *Centaurea pratensis* |
| Russian* | *Acroptilon repens* |
| Spotted* (T) | *Centaurea stoebe (C. maculosa)* |
| Knotweed | |
| Bohemian | *Fallopia x bohemica* |
| Giant | *Fallopia sachalinensis (Polygonum)* |
| Himalayan | *Polygonum polystachyum* |
| Japanese | *Fallopia japonica (Polygonum)* |
| Kochia | *Kochia scoparia* |
| Lesser celandine | *Ranunculus ficaria* |
| Meadow hawkweed (T) | *Pilosella caespitosum (Hieracium)* |
| Mediterranean sage* | *Salvia aethiopis* |
| Medusahead rye | *Taeniatherum caput-medusae* |
| Old man's beard | *Clematis vitalba* |
| Parrot feather | *Myriophyllum aquaticum* |
| Perennial peavine | *Lathyrus latifolius* |
| Perennial pepperweed (T) | *Lepidium latifolium* |
| Pheasant's eye | *Adonis aestivalis* |
| Poison hemlock* | *Conium maculatum* |
| Policeman's helmet | *Impatiens glandulifera* |
| Puncturevine* | *Tribulus terrestris* |
| Purple loosestrife* | *Lythrum salicaria* |
| Ragweed | *Ambrosia artemisiifolia* |
| Ribbongrass (T) | *Phalaris arundinacea var. Picta* |
| Rush skeletonweed* (T) | *Chondrilla juncea* |
| Saltcedar* (T) | *Tamarix ramosissima* |
| Small broomrape | *Orabanche minor* |
| South American waterweed | *Egeria densa (Elodea)* |
| Spanish heath | *Erica lusitanica* |
| Spikeweed | *Hemizonia pungens* |

*Biocontrol (See page 4) (T) T-Designated Weed (See page 4)

(Continued) Table II: B Listed Weeds

| Common Name | Scientific Name |
|---|---|
| Spiny cocklebur | *Xanthium spinosum* |
| Spurge laurel | *Daphne laureola* |
| Spurge | |
| Leafy* (T) | *Euphorbia esula* |
| Myrtle | *Euphorbia myrsinites* |
| St. Johnswort* | *Hypericum perforatum* |
| Sulfur cinquefoil | *Potentilla recta* |
| Swainsonpea | *Sphaerophysa salsula* |
| Tansy ragwort* (T) | *Senecio jacobaea (Jacobaea vulgaris)* |
| Thistle | |
| Bull* | *Cirsium vulgare* |
| Canada* | *Cirsium arvense* |
| Italian | *Carduus pycnocephalus* |
| Milk* | *Silybum marianum* |
| Musk* | *Carduus nutans* |
| Scotch | *Onopordum acanthium* |
| Slender-flowered* | *Carduus tenuiflorus* |
| Toadflax | |
| Dalmatian* (T) | *Linaria dalmatica* |
| Yellow* | *Linaria vulgaris* |
| Tree of heaven | *Ailanthus altissima* |
| Velvetleaf | *Abutilon theophrasti* |
| Ventenata grass | *Ventenata dubia* |
| Primrose Willow | |
| Large-flower (T) | *Ludwigia grandiflora* |
| Water primrose (T) | *Ludwigia hexapetala* |
| Floating (T) | *Ludwigia peploides* |
| Whitetop | |
| Hairy | *Lepidium pubescens* |
| Lens-podded | *Lepidium chalepensis* |
| Whitetop (hoary cress) | *Lepidium draba* |
| Yellow archangel | *Lamiastrum galeobdolon* |
| Yellow flag iris | *Iris pseudacorus* |
| Yellow nutsedge | *Cyperus esculentus* |
| Yellow starthistle* | *Centaurea solstitialis* |

*Biocontrol (See page 4) (T) T-Designated Weed (See page 4)

Oregon
Department
of Agriculture

2/2019

**Attachment L: Draft Inadvertent Discovery Plan**

# Inadvertent Discovery Plan for Cultural Resources

## Bakeoven Energy Project, Wasco County, Oregon

Bakeoven Wind, LLC (Applicant), a subsidiary of Avangrid Renewables, LLC (Avangrid), proposes to construct and operate the Bakeoven Energy Project (Project) in southern Wasco County, near Shaniko, Oregon. The Project will be a wind energy generation facility, with a maximum generating capacity of 103 megawatts (MW) and will interconnect to the existing Bonneville Power Administration (BPA) Big Eddy to Redmond 230-kilovolt (kV) transmission line at the existing Maupin Interconnection Substation (Maupin Substation). The Project will interconnect with the Maupin Substation via a proposed 17.1-mile, 230-kV transmission line, which will be constructed by the Applicant.

**The Inadvertent Discovery Plan (IDP) should be followed if cultural materials including human remains are encountered during construction.**

**Protocol for coordination in the event of inadvertent discovery:**

- ☐ In the event of an inadvertent discovery of possible cultural materials, including human remains, all work will stop immediately in the vicinity of the find. A 30-meter buffer should be placed around the discovery with work being able to proceed outside of this buffered area unless additional cultural materials are encountered.

- ☐ The area will be secured and protected.

- ☐ The Applicant's project manager or consultant for the Applicant will be notified. The project manager will notify the State Historic Preservation Office (SHPO). If possible human remains are encountered, the Oregon State Police, Commission on Indian Services (CIS), SHPO, and appropriate Tribes will also be notified.

  Oregon State Police: Chris Allori 503-731-4717
  CIS: Karen Quigley 503- 986-1067
  Appropriate Tribes: As designated by CIS
  SHPO: Dennis Griffin 503-986-0674, John Pouley 503-986-0675, or Matt Diederich 503-986-0577.

- ☐ No work may resume until consultation with the SHPO has occurred and a professional archaeologist is able to assess the discovery.

- ☐ If human remains are encountered, do not disturb them in any way. *Do not call 911*. Do not speak with the media. Secure the location. Do not take Photos. 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.

- ☐ A professional archaeologist may be needed to assess the discovery and they will consult with SHPO and appropriate Tribal Governments to determine an appropriate course of action.

- ☐ Archaeological excavations may be required. This is handled on a case by case basis by the professional archaeologist and project manager, in consultation with SHPO and appropriate Tribes.

**When to stop work:**

Construction work may uncover previously unidentified Native American or Euro-American artifacts. This may occur for a variety of reasons, but may be associated with deeply buried cultural material, access restrictions during project development, or if the area contains impervious surfaces throughout most of the project area which would have prevented standard archaeological site discovery methods.

Work must stop when the following types of artifacts and/or features are encountered:

***Native American artifacts may include (but are not limited to):***

- ☐ Flaked stone tools (arrowheads, 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 shell;
- ☐ Human remains;
- ☐ Structural remains- wooden beams, post holes, fish weirs.

***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);
- ☐ Remains of ships or sea-going vessels, marine hardware etc.;
- ☐ Old farm equipment may indicate historic resources in the area.

- Even what looks to be old garbage could very well be an important archaeological resource;

***When in doubt, call it in!***

**Proceeding with Construction**

- Construction can proceed only after the proper archaeological inspections have occurred and environmental clearances are obtained. This requires close coordination with SHPO and the Tribes.

- After an inadvertent discovery, some areas may be specified for close monitoring or 'no work zones. Any such areas will be identified by the professional archaeologist to the Project Manager, and appropriate Contractor personnel.

- In coordination with the SHPO, the Project Manager will verify these identified areas and be sure that the areas are clearly demarcated in the field, as needed.

**Attachment M: Draft Construction Traffic Management Best Management Practices (BMPs)**

**Attachment M: Draft Construction Traffic Management Best Management Practices (BMPs)**

*To be incorporated into applicant's Construction Transportation Plan, for each phase

- Complete consultation with landowners to minimize disruptions to ranching and farming operations due to construction activities such as equipment delivery
- Provide proper road signage and warnings of "Equipment on Road," "Truck Access," or "Road Crossings"
- Implement traffic-diversion equipment (such as advance signage and pilot cars) whenever possible when slow or oversize loads are being hauled;
- Employ flag persons to direct traffic when large equipment is exiting or entering public roads to minimize risk of accidents. Flag persons may facilitate two-way traffic on one lane by alternately restricting travel directions. This method would not require full lane closures, detours, or reroutes. Flag persons would also monitor through traffic on public roadways as necessary so that they are not in conflict with construction vehicles.
- Maintain at least one travel lane at all times so that roadways would not be closed to traffic due to construction vehicles entering or exiting public roads
- Avoid peak traffic times identified through consultation with Wasco County and the City of Maupin by adjusting scheduling of workforce shifts or other methods, such as requiring construction workers to check for congestion prior to leaving for the Facility to consider an alternate route.
- Conduct awareness training for all construction workforce drivers, including appropriate techniques for sharing roads with recreation users (especially cyclists and during peak tourist season mid-June through early September) and proper navigation of tight curves in and near Maupin

**Attachment N: Draft Operational Fire Protection and Emergency Response Plan**

# Draft Operational Fire Protection and Emergency Response Plan
# Bakeoven Solar Project

Prepared by the Oregon Department of Energy based on information provided in the ASC

January 2020

# Contents

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**6.0 Vegetation Management** ..... 4
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**6.0 References** ..... 6

## 1.0 Fire Safety and Prevention Management Objectives

Bakeoven Solar, LLC (certificate holder), a subsidiary of Avangrid Renewables, LLC (Avangrid), obtained approval for the construction and operation of the Bakevoen Solar Project, a 303 megawatt solar photovoltaic energy generation facility (facility) in southern Wasco County, near the City of Maupin, Oregon. The facility is located on private agriculturally zoned lands in a portion of Wasco County currently not covered by a rural fire district and therefore falls under the jurisdiction of the State Fire Marshal District 9.

The facility is located in a high fire hazard area of Wasco County due to the hot and dry climatic conditions during the fire season (Hulbert 2005). Fuels are generally light but the grass and brushy area can result in fast moving fires with erratic fire behavior (Hulbert 2005). Ignition risk factors in this portion of Wasco County typically include: transmission power lines, state and county road corridors, farm/ranching activities, off-road vehicle use, railroad use, recreation use in the Deschutes and John Day river corridors, hunting, and lightning (Hulbert 2005).
The objective of this draft Fire Protection and Prevention Plan (Plan) is to provide the information necessary for Avangrid Renewables personnel to maintain a safe workplace free from fire hazards, and to comply with the Wasco County Fire Safety Standards in the Wasco County Land Use and Development Ordinance (WCLUDO, Chapter 10). This plan applies to all Avangrid Renewables personnel, contracting employees, contractors, and any other personnel working at an Avangrid Renewables-owned facility.

## 2.0 Responsibilities

Facility site management personnel shall implement the following measures:

- Ensure that each employee has been properly trained in fire prevention;
- Provide the necessary equipment to fight incipient stage fires only. Incipient stage fires are fires that can be controlled/extinguished using portable fire extinguishers located within the O&M building and service vehicles. Fires beyond the incipient stage shall be managed using local fire response organizations;
- Ensure each employee is trained in the use of a fire extinguisher;
- Provide necessary safety equipment for handling and storing combustible and flammable material; and
- Ensure equipment is maintained to prevent and control sources of ignition.

Facility personnel shall implement the following measures:

- Perform inspections, remove and prevent the accumulation of combustible material;
- Store chemicals in appropriate containers;
- Store flammable chemicals in a Flammable Cabinet;
- Stop and/or contain all leaks;

- Ensure equipment is maintained to prevent and control sources of combustible material;
- Prohibit smoking or open flames in an area where combustible materials are located, and only allow smoking in authorized, designated areas; and
- Comply with the hot work procedures (e.g., welding).

**3.0 Inspections**

The following inspections will be performed to identify and reduce potential fire hazards:

- Fire protection equipment shall be tested in accordance with the manufacturer specifications and National Fire Protection Association (NFPA) requirements. Portable dry chemical fire extinguishers shall have a maintenance check annually and a hydrostatic test every 12 years. CO2 extinguishers shall have an annual maintenance check and a hydrostatic test every 5 years.
- Portable fire extinguishers shall be visually inspected monthly.
- A monthly housekeeping inspection shall be performed for maintaining a fire safe facility.
- The O&M building, substation and facility grounds shall be inspected monthly.

**4.0 Trainings**

The construction contractor would be trained in fire prevention awareness and have onsite fire extinguishers to respond to small fires.

All employees shall be trained on this Plan upon initial hire, then every 3 years thereafter. Training shall include location of fire hazards, types of fire hazards at the facility, and employee protection methods in the event of a fire. All employees shall be trained annually on sounding the emergency/fire alarm and evacuation of their work place (fire drill). All employees shall receive annual training on the proper use of fire extinguishers by local fire departments or a third party.

Employees would be required to keep vehicles on roads and off dry grassland during the dry months of the year, unless such activities are required for emergency purposes, in which case fire precautions would be observed.

In the rare event of an electrical fire in the solar module blocks or collector substation, it is likely that facility staff would monitor and contain the fire, but not try to extinguish it.

**5.0 Facility Design and Fire Prevention and Response Equipment**

The facility will be designed to minimize risk of fire-related hazards. In addition, the facility will be equipped with fire prevention and response equipment, as summarized below.

Design Features to Minimize Fire-related Hazards

- Solar arrays would have shielded electrical cabling, as required by applicable code, to prevent electrical fires.
- Electrical collection system and substation would have redundant surge arrestors to deactivate the proposed facility during events of unusual operational events that could start fires.
- Collector substation would have sufficient spacing between equipment to prevent the spread of fire.
- All electrical equipment would meet National Electrical Code and Institute of Electrical and Electronics Engineers standards.
- Facility roads would be sufficiently sized for emergency vehicle access in accordance with 2014 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.
- The batteries will be stored in completely contained, leak-proof modules.
- The Fire Protection and Prevention Plan (Fire Plan) will have response procedures specific to the battery storage system in the event of an emergency, such as a fire.
- Transportation of Li-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 will minimize any public hazard related to transport, use, or disposal of batteries.
- The following design practices would be adhered to:
    - Use of lithium iron phosphate (LFP) battery chemistry that does not release oxygen when it decomposes due to temperature;
    - Employment of an advanced and proven battery management systems;
    - Qualification testing of battery systems in accordance with UL 9540A (UL 2018);
    - Installation of fire sensors, alarms, and aerosol fire extinguishing systems in every battery container;
    - Installation of remote power disconnect switches;
    - Clear and visible signs to identify remote power disconnect switches;
- Training of local emergency response personnel in power disconnect and firefighting techniques.

Fire Detection and Response Equipment

- Smoke/fire detectors would be placed around the site that would be tied to the supervisory control and data acquisition (SCADA) system and would contact local firefighting services.

- The O&M building would have basic firefighting equipment for use on site during maintenance activities, such as shovels, beaters, portable water for hand sprayers, fire extinguishers, and other equipment.

**6.0 Vegetation Management**

Vegetation within the fence line, and along the transmission line corridor, would be managed as needed to reduce fuels for fire.

The fenced areas around the O&M building, collector substation, and battery storage system would be graveled, with no vegetation present.

General vegetation management within the solar array fence line would follow a protocol to keep native vegetation sufficiently low to ensure ease of access to facilities as well as reduce fuels for fire. If vegetation exceeds an acceptable height, then it will be mowed. The need for mowing will be determined by the site manager, but annual mowing is anticipated.

See Section 8.0 below for additional details related to vegetation management.

**7.0 Coordination with Local Fire Protection Districts**

The certificate holder shall enter into a contractual agreement with Juniper Flat Rural Fire Protection Department to ensure that 24-hour, 7-day per week emergency services can be provided to the site. At the beginning of facility operations, a copy of the site plan indicating the arrangement of facility structures and access points shall be provided to the Juniper Flat Rural Fire Protection District. On an annual basis, at a minimum, the certificate holder shall coordinate with Bakeoven-Shaniko Rangeland Fire Protection Association and the Oregon State Fire Marshall on facility layout, ongoing activities, and fire risk concerns.

**8.0 Wasco County Fire Safety Standards Compliance**

Chapter 10 of the Wasco County Land Use Development Ordinance (WCLUDO) provides fire safety standards applicable to all of Wasco County's rural zones (all zones outside of an Urban Growth Boundary) and to specific land uses, as specified in the table listed under WCLUDO Chapter 10.020.B.2. Fire Safety Standards would apply to the facility, as it is a commercial power generating facility located in the resource zone outside of an Urban Growth Boundary. The following subsections discuss each of the Fire Safety Standards applicable to the facility.

*Section 10.020 – Applicability of Fire Safety Standards*

Fire Safety Standards apply to the facility, as it is a commercial power generating facility located in the resource zone outside of an Urban Growth Boundary. The following subsections discuss each of the Fire Safety Standards applicable to the facility.

*Section 10.110 – Siting Standards – Locating Structure for Good Defensibility*

Under the WCLUDO, a "building" includes any structure built for the support, shelter, or enclosure of persons, animals, or property. A "structure," on the other hand, is anything that is constructed, erected, or air inflated, permanently or temporarily, which requires a location on the ground, including buildings, walls, and fences. The Fire Siting Standards are specific to "buildings," which the applicant interprets to include the O&M building, the battery storage system, and the substation.

WCLUDO Section 10.110 includes the following criteria:

A. *Does your building avoid slopes steeper than 40% (more than 40-foot elevation gain over 100 feet horizontal distance)?*

B. *Is your building set back from the top of slopes greater than 30% by at least 50 feet? Or, is your building set back from the top of slopes greater than 30% at least 30 feet? And, no structures or other extensions closer than 30 feet from top of slope?*

The location of the O&M building, battery storage system, and substation would be located on land flatter than a 40 percent slope. Also, all solar arrays would be located on land with a 5 percent or less grade.

The O&M building and collector substation would be set back at least 50 feet from any slopes greater than 30 percent.

*Section 10.120 – Defensible Space – Clearing and Maintaining a Fire Fuel Break*

A. *Is your building surrounded by a 50-foot wide fire fuel break?*
B. *Is dense unmanaged vegetation beyond 50 feet from the outer edges of your buildings, including any extensions such as decks or eaves, kept to a MINIMUM? If located on steeper ground, have you created and maintained some clearings beyond the 50 feet fire fuel break?*

A 50-foot fire fuel break will be cleared and maintained around the O&M building, battery storage system, and substation. The battery storage system would be located within an approximately 8.4-acre area, and fire prevention and control measures specific to the battery storage system would be implemented (see Section 2.4 of ASC Exhibit B). The fenced areas around the O&M building, collector substation, and battery storage system would be graveled, with no vegetation present. Unmanaged vegetation beyond the 50-foot fuel break located around the O&M building, battery storage system, and substation would be minimal, as these facilities are located in an area of low-growing shrubs and grass.

Vegetation in the transmission corridor, and particularly around related infrastructure (e.g., poles), would be maintained pursuant to the Minimum Vegetation Clearance Distances defined under North American Electric Reliability Corporation and National Electric Code standards.

*Section 10.130 – Construction Standards For Dwellings And Structures –Decreasing The Ignition Risks By Planning For A More Fire-Safe Structure*

*A. Is your building designed, built, and maintained to include the following features and materials necessary to make the structure more fire resistant?*

*1. Roof Materials: Do you or will you have fire resistant roofing installed to the manufacturers specification and rated by Underwriter's Laboratory as Class A, B, or its equivalent (includes but not limited to: slate, ceramic tile, composition shingles, and metal)? NOTE: To give your structure the best chance of surviving a wild fire, all structural projections such as balconies, decks and roof gables should be built with fire resistant materials equivalent to that specified in the uniform building code.*

Fire resistant roofing will be utilized at the O&M building. No decks or horizontal extensions are planned for the O&M building. No trees would be planted or maintained adjacent to the building. This standard does not apply to facility structures including the substation, battery storage system, and solar arrays.

**6.0 References**

Hulbert, James. 2005. Wasco County Oregon Community Wildlife Protection Plan. https://www.oregon.gov/ODF/Documents/Fire/CWPP/WascoCounty.pdf