Bakeoven Solar Project: Draft Proposed Order on Request for Site Certificate Amendment 1

To:	Oregon Energy Facility Siting Council
From:	Kellen Tardaewether, Senior Siting Analyst
Date:	September 27, 2021
Re:	Draft Proposed Order on Request for Site Certificate Amendment 1

Certificate Holder:	Bakeoven Solar, LLC (certificate holder), a wholly-owned subsidiary of Avangrid Renewables, LLC (certificate holder owner, parent company)
Approved Facility (Under Construction):	Approved 303 megawatt (MW) solar photovoltaic (PV) energy generation facility, on up to 2,717 acres (4.2 sq. miles). Construction of approved facility components commenced in 2021, including substation and laydown areas.
Proposed Amendment:	Allocate and share, in part, approved facility components across an amended and two original site certificates, and two new certificate holders owned by the existing certificate holder owner/parent company, Avangrid Renewables, LLC, as follows: • Bakeoven Solar Project (Phase I), 60 MW, existing certificate holder – Bakeoven Solar, LLC • Daybreak Solar Project (Phase II), 140 MW, new certificate holder – Daybreak Solar, LLC • Sunset Solar Project (Phase III), 103 MW, new certificate holder – Sunset Solar, LLC
Amendment Process:	Type B Review
Approved Location:	Wasco County
Staff Recommendation:	Approval of Request for Site Certificate Amendment 1

Summary
To issue an amended site certificate, the Energy Facility Siting Council (EFSC or the Council) must find that a request for amendment to the site certificate demonstrates that the facility, with proposed changes, satisfies, or with conditions can satisfy, each of the applicable EFSC Siting Standards set forth in Oregon Administrative Rule (OAR) 345, Divisions 22 through 24, as well as all other Oregon statutes and administrative rules applicable to the amendment request.

As staff to EFSC, the Oregon Department of Energy (Department) reviewed Request for Amendment 1 (RFA1 or amendment request) to the Bakeoven Solar Project Site Certificate, in consultation with select reviewing agencies, including state and local governments. In RFA1, the certificate holder seeks approval to allocate approved facility components into an amended and two original site certificates, to be owned by the existing and two new certificate holders, all of which are owned by the existing certificate holder owner Avangrid Renewables, LLC. The certificate holder seeks to clarify that some previously approved related or supporting facilities would be shared within the three site certificates. To support and clarify the shared related or supporting facilities, the certificate holder proposes new Condition GEN-GS-07 and an amendment to existing Condition PRE-RT-02 to reflect updated decommissioning costs based on number of facility components allocated across the proposed amended and two original certificates, and for inflation to current dollar value (2nd Qtr 2021). Based upon review of the amendment request, the Department recommends the Council issue an amended and two original site certificates, subject to the existing and recommended amended site certificate conditions set forth in the following draft proposed order. The analysis and recommendations contained in this draft proposed order are not a final determination.

This amendment request is being processed under Type B Review, based on determination by the Department that the certificate holder adequately justified that the changes proposed in RFA1 warranted the Type B review process. A 30-day public comment period is now open on the draft proposed order and complete amendment request. The public comment period extends through **October 27, 2021 at 5:00 p.m.**, Pacific. Written comments must be received by the Department by the close of the comment period. Section II.B, *Amendment Review Process*, of the draft proposed order contains additional information regarding the site certificate amendment review process. The public notice associated with the release of this draft proposed order contains additional information regarding the comment period.

BEFORE THE
ENERGY FACILITY SITING COUNCIL
OF THE STATE OF OREGON

In the Matter of Request for Amendment 1 for the Bakeoven Solar Project Site Certificate	))))	DRAFT PROPOSED ORDER ON REQUEST FOR AMENDMENT 1 TO THE SITE CERTIFICATE

September 27, 2021

Table of Contents

I. INTRODUCTION 4
I.A. Certificate Holder and Certificate Holder Owner 4
I.B. New Certificate Holder and Certificate Holder Owner in RFA1 5
I.C Description of Approved Facility, Phasing, and Facility Construction 6
I.D. Description of Approved Facility Location, Site Boundary and Micrositing Corridor 9
I.E. Site Certificate Procedural History 13
II. AMENDMENT PROCESS 13
II.A. Requested Amendment 13
II.B. Amendment Review Process 25
II.C. Council Review Process 26
II.D. Applicable Division 27 Rule Requirements 27
III. REVIEW OF THE REQUESTED AMENDMENT 27
III.A. Standards Potentially Impacted by Request for Amendment 1 28
III.A.1 General Standard of Review: OAR 345-022-0000 29
III.A.2 Organizational Expertise: OAR 345-022-0010 38
III.A.3 Land Use: OAR 345-022-0030 40
III.A.4 Retirement and Financial Assurance: OAR 345-022-0050 47
III.A.5 Fish and Wildlife Habitat: OAR 345-022-0060 58
III.B. Standards Not Likely to Be Impacted by Request for Amendment 1 60
III.B.1 Structural Standard: OAR 345-022-0020 60
III.B.2 Soil Protection: OAR 345-022-0022 61
III.B.3 Protected Areas: OAR 345-022-0040 61
III.B.4 Threatened and Endangered Species: OAR 345-022-0070 63
III.B.5 Scenic Resources: OAR 345-022-0080 63
III.B.6 Historic, Cultural, and Archaeological Resources: OAR 345-022-0090 64
III.B.7 Recreation: OAR 345-022-0100 64
III.B.8 Waste Minimization: OAR 345-022-0120 64
III.A.9 Public Services: OAR 345-022-0110 65
III.B.10 Division 23 Standards 65
III.B.11 Division 24 Standards 65
III.B.12 Other Applicable Regulatory Requirements Under Council Jurisdiction 66
V. PROPOSED CONCLUSIONS AND ORDER 69

Tables

Table 1: Approved Facility Phasing Schedule 6
Table 2: Proposed Descriptions of Shared Facility Components 31
Table 3: Site Certificate Conditions with Proposed Language Modification 36
Table 4: Wasco County Applicable Substantive Criteria 42
Table 5: Proposed Amended Facility Decommissioning Cost Estimate and Unit Costs 50

Figures

Figure 1: Regional Location of Approved Facility Site Boundary 11
Figure 2: Approved Facility Layout 12
Figure 3: Bakeoven Solar Project – Site Boundary and Micrositing Area 14
Figure 4: Daybreak Solar – Site Boundary and Micrositing Area 18
Figure 5: Sunset Solar – Site Boundary and Micrositing Area 22

ATTACHMENTS

Attachment A-1: Draft Amended Bakeoven Solar Project Site Certificate
Attachment A-2: Draft Daybreak Solar Project Site Certificate
Attachment A-3: Draft Sunset Solar Project Site Certificate
Attachment B-1: pRFA1 Reviewing Agency Comments
Attachment B-2: [Reserved for Draft Proposed Order Comments]
Attachment C-1: Draft Amended Revegetation Plan (Bakeoven Solar Project)
Attachment C-2: Draft Revegetation Plan (Daybreak Solar Project)
Attachment C-3: Draft Revegetation Plan (Sunset Solar Project)
Attachment D-1: Draft Amended Habitat Mitigation Plan (Bakeoven Solar Project)
Attachment D-2: Draft Habitat Mitigation Plan (Daybreak Solar Project)
Attachment D-3: Draft Habitat Mitigation Plan (Sunset Solar Project)
Attachment E-1: Draft Amended Noxious Weed Control Plan (Bakeoven Solar Project)
Attachment E-2: Draft Noxious Weed Control Plan (Daybreak Solar Project)
Attachment E-3: Draft Noxious Weed Control Plan (Sunset Solar Project)
Attachment F: Draft Amended Wildlife Monitoring Plan (Bakeoven Solar Project)
Attachment G-1: Draft ESCP Drawings and BMPs (Bakeoven Solar Project)
Attachment G-2: Draft ESCP Drawings and BMPs (Daybreak Solar Project)
Attachment G-3: Draft ESCP Drawings and BMPs (Sunset Solar Project)
Attachment H-1: Draft Amended Inadvertent Discovery Plan (Bakeoven Solar Project)
Attachment H-2: Draft Inadvertent Discovery Plan (Daybreak Solar Project)
Attachment H-3: Draft Inadvertent Discovery Plan (Sunset Solar Project)
Attachment I-1: Draft Amended Construction Traffic Management BMPs (Bakeoven Solar Project)
Attachment I-2: Draft Construction Traffic Management BMPs (Daybreak Solar Project)

Attachment I-3: Draft Construction Traffic Management BMPs (Sunset Solar Project)
Attachment J-1: Draft Amended Operational Fire Protection and Emergency Response Plan (Bakeoven Solar Project)
Attachment J-2: Draft Operational Fire Protection and Emergency Response Plan (Daybreak Solar Project)
Attachment J-3: Draft Operational Fire Protection and Emergency Response Plan (Sunset Solar Project)

I. INTRODUCTION

The Oregon Department of Energy (Department) issues this draft proposed order, in accordance with Oregon Revised Statute (ORS) 469.405(1) and Oregon Administrative Rule (OAR) 345-027-0365, based on its review of Request for Amendment 1 (amendment request or RFA1) to the Bakeoven Solar Project site certificate, as well as comments and recommendations received by reviewing agencies, including local, state and Tribal Governments during review of the preliminary request for amendment (pRFA). The certificate holder is Bakeoven Solar, LLC a wholly-owned subsidiary of Avangrid Renewables, LLC (certificate holder owner, parent company).

The certificate holder requests that the Energy Facility Siting Council (EFSC or Council) approve changes to the site certificate that would split the previously approved site certificate, including 303 megawatts (MW) of solar photovoltaic energy generation equipment and related or supporting facilities, into an amended and two original site certificates but does not propose any physical changes to the approved facility or an expansion to the site boundary. Each of the three facilities would have separate certificate holders, under the existing certificate holder owner, Avangrid Renewables, LLC. The certificate holder proposes to split the allocation and use of previously approved facility components, within previously approved micrositing area and site boundary, across an amended and two new site certificates.

Based upon review of this amendment request, in conjunction with comments and recommendations received by reviewing agencies, the Department recommends that the Council issue an amended and two original site certificates for the Bakeoven Solar Project, and facilities to be named Daybreak Solar Project and Sunset Solar Project, subject to the existing and recommended amended conditions set forth in this draft proposed order.

I.A. Certificate Holder and Certificate Holder Owner

For the Bakeoven Solar Project, the certificate holder and certificate holder owner are as follows:

Bakeoven Solar, LLC
1125 NW Couch St., Suite 700
Portland, OR 97209

Certificate Holder Owner:

Avangrid Renewables, LLC
1125 NW Couch St., Suite 700
Portland, Oregon 97209

I.B. New Certificate Holder and Certificate Holder Owner in RFA1

For the amended 60 MW, 1,270 acre (1.9 sq. mile) Bakeoven Solar Project, the existing certificate holder and certificate holder owner would be maintained, as follows:

Bakeoven Solar, LLC
1125 NW Couch St., Suite 700
Portland, OR 97209

Certificate Holder Owner:

Avangrid Renewables, LLC
1125 NW Couch St., Suite 700
Portland, Oregon 97209

For the proposed 140 MW, 1,818 acre (2.8 sq. mile) Daybreak Solar Project, the proposed certificate holder and certificate holder owner are as follows:

Daybreak Solar, LLC
1125 NW Couch St., Suite 700
Portland, OR 97209

Certificate Holder Owner:

Avangrid Renewables, LLC
1125 NW Couch St., Suite 700
Portland, Oregon 97209

For the proposed 103 MW, 2,196 acre (3.4 sq. mile) Sunset Solar Project, the proposed certificate holder and certificate holder owner are as follows:

Sunset Solar, LLC
1125 NW Couch St., Suite 700
Portland, OR 97209

Certificate Holder Owner:

Avangrid Renewables, LLC
1125 NW Couch St., Suite 700
Portland, Oregon 97209

I.C Description of Approved Facility, Phasing, and Facility Construction

The approved energy facility includes 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)[1]. Other related electrical equipment includes approximately 23 miles of aboveground and 4.2 miles of belowground 34.5 kV collection system. The aboveground collector lines will be placed on single or double circuit monopole structures, approximately 75 feet high. 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.

The solar array includes 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 draft Operational Fire Protection and Emergency Response Plan, to reduce fire-related fuels.

The facility is approved to be developed in a single build-out or in multiple phases, depending on customer demands or market conditions. The approved facility may be constructed based on the following phases and generation capacity:

Table 1: Approved Facility Phasing Schedule

Phase	Project size	Operational date
Phase 1	60 MW	2021
Phase 2	140 MW	2022
Phase 3	103 MW	2023/2024

Facility Construction

Of the previously approved related or supporting facilities, the certificate commenced construction in April 2021 of temporary laydown areas and substation, associated with Phase I and II as presented in Table 1 above.

Related or Supporting Facilities

Related or supporting facilities, as further described below, 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

[1] In RFA1, the certificate holder represents that the maximum number of inverter/transformer stations would be reduced from 153 to 118, as reflected throughout this order and attachments.

- Site Access, Service Roads, Perimeter Fencing, and Gates
- Temporary Staging Areas
- Battery Storage System, including 10,000-gallon water tank

230 kV Transmission Line

The 230 kV transmission line is approved to extend approximately 11 miles from the facility 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 230 kV transmission line route extends northwest from the facility 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 approved 230 kV transmission line structures include two galvanized steel or wood pole H-frame 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).

Collector Substation and O&M Building

The facility collector substation would combine and step up the voltage of energy generated by the energy facility to the desired transmission voltage. The facility collector substation would likely include two non-polychlorinated biphenyl oil-containing transformers (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 approved facility collector substation site is an approximately 3 acre fenced, graveled area, within the fenced solar array area, near the transmission line corridor, at the southern end of the site boundary (see ASC Exhibit C, Figure C-2). The facility 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 facility. All electrical equipment will meet National Electrical Code and Institute of Electrical and Electronics Engineers standards.[2]

The approved 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 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 would be graveled, with no

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

vegetation present. 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.

Communication and Supervisory Control and Data Acquisition System

A 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 facility from the O&M building and the certificate holder'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.

Site Access, Service Roads, Perimeter Fencing, and Gates

The 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 facility. Within the site boundary, approximately 24 miles of service roads 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 would 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 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.[3] 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).

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 approved micrositing corridor. 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 will be observed.

Battery Storage System

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

The 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.

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.

I.D. Description of Approved Facility Location, Site Boundary and Micrositing Corridor

The approved facility site is located within southeastern Wasco County, approximately 5 miles east of the City of Maupin and U.S. Highway 197; and, 5 miles south of State Highway 216. The facility may occupy up to approximately 2,717 acres, within an approximately 10,640 acre site boundary, entirely within private property. “Site boundary” means the perimeter of the site of an energy facility and its related or supporting facilities, all temporary laydown and staging areas and all corridors proposed by the applicant.[4]

[4] OAR 345-001-0010(55).

Within the site boundary, the certificate holder has an approved approximately 4,160 acre (6.5 sq. mile) micrositing corridor, which allows 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 certificate holder's methodology, where surveys and analysis encompassed the entirety of the micrositing corridor to inform the evaluation of impacts under each Council standard, the Council evaluated the permanent occupation of, and potential impacts from, the facility anywhere within the approximately 4,160 acre (6.5 sq. mile) micrositing corridor and therefore approves the micrositing corridor.

The regional location of the approved facility site boundary and micrositing corridor are presented in Figure 1, *Regional Location of Approved Facility Site Boundary*. The location of facility components is presented in Figure 2, *Approved Facility Layout.*

1 **Figure 1: Regional Location of Approved Facility Site Boundary**

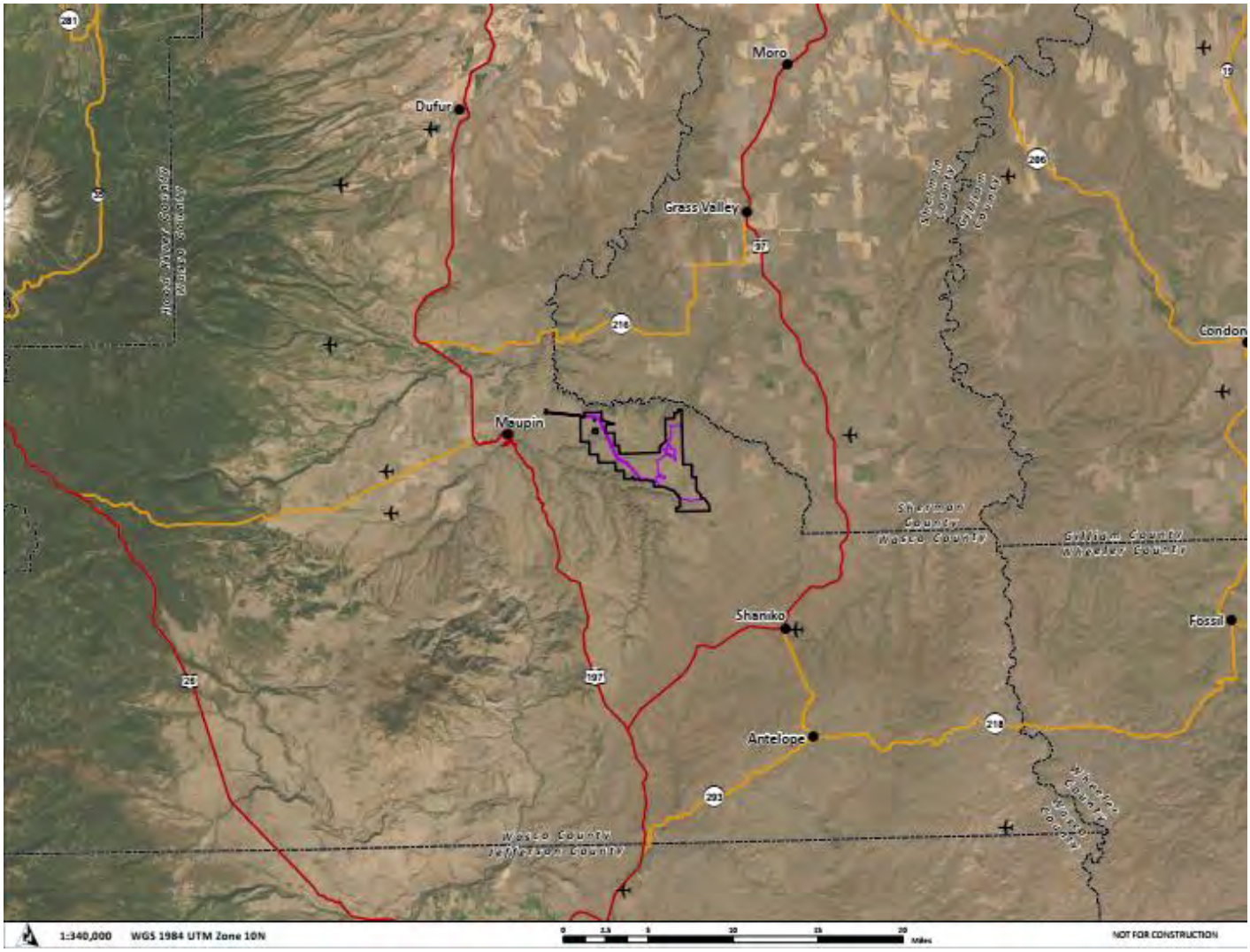
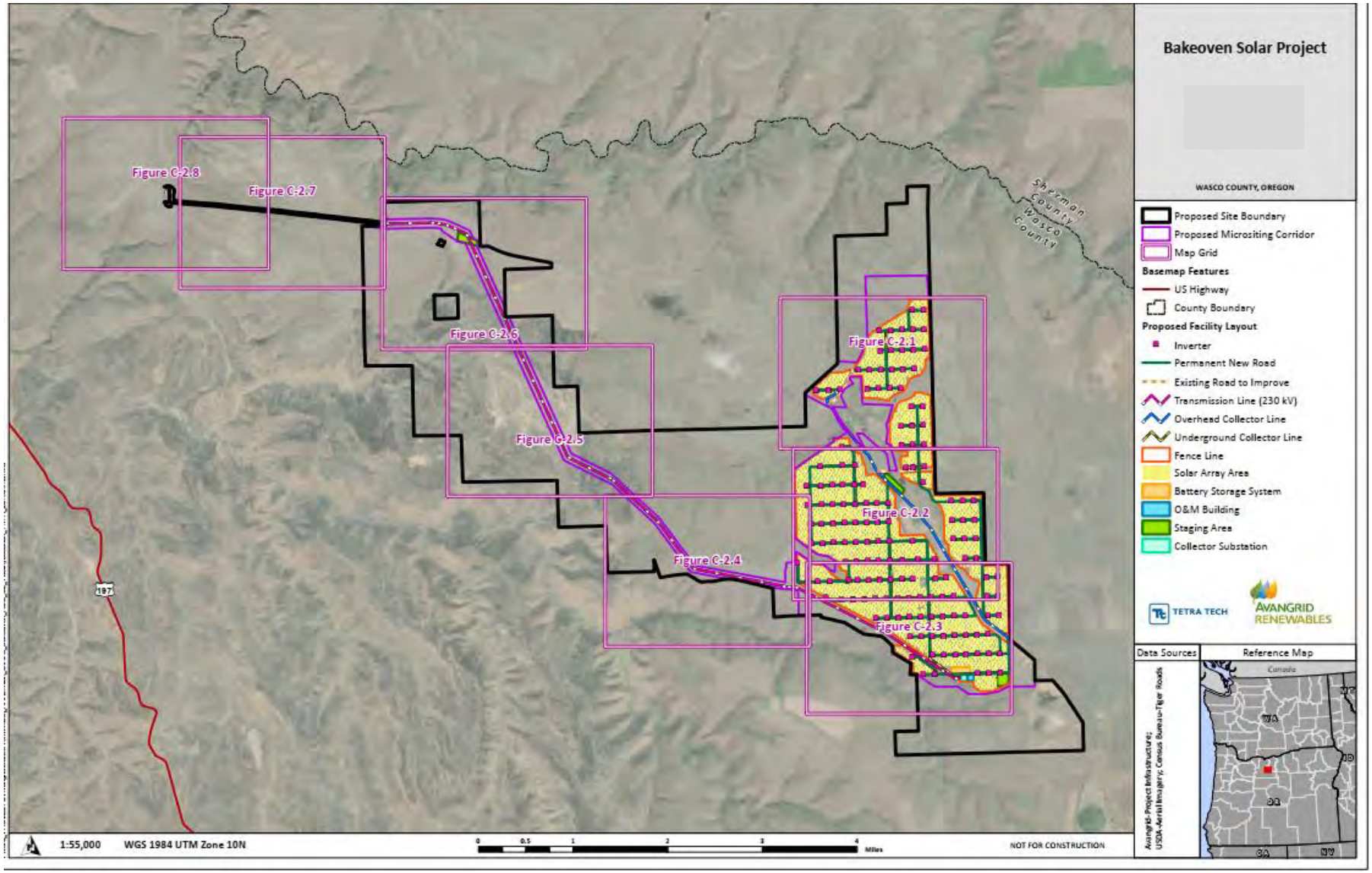


Figure 2: Approved Facility Layout



I.E. Site Certificate Procedural History

The Bakeoven Solar Project Site Certificate was issued on April 4, 2020, through the Council's approval of the Final Order on the Application for Site Certificate (ASC).

II. AMENDMENT PROCESS

II.A. Requested Amendment

In Request for Amendment 1 (RFA1), the certificate holder seeks Council approval to split the previously approved site certificate, including 303 megawatts (MW) of solar photovoltaic energy generation equipment and related or supporting facilities, into an amended and two original site certificates, but does not propose any physical changes to the approved facility or an expansion to the site boundary. Each of the three facilities would have separate certificate holders, under the existing certificate holder owner, Avangrid Renewables, LLC. Below, the Department provides descriptions and figures to demonstrate the proposed allocation and sharing of previously approved facility components, within previously approved micrositing area and site boundary, across an amended and two original site certificates.

The certificate holder proposes changes to the following conditions, which are discussed further in Section III., *Review of Requested Amendment* in this order:[5]

- Condition PRE-RT-02 is proposed to be amended to reflect the updated decommissioning costs for the three phases/facilities as well as update the dollar value for inflation based on Q2 2021.
- New Condition GEN-GS-07 is proposed to clarify the shared related or supporting facilitates and decommissioning requirements associated with each facility/site certificate.
- All direct references to phases of the approved facility will be updated to allow flexibility in reference to the "facility, facility component or phase."

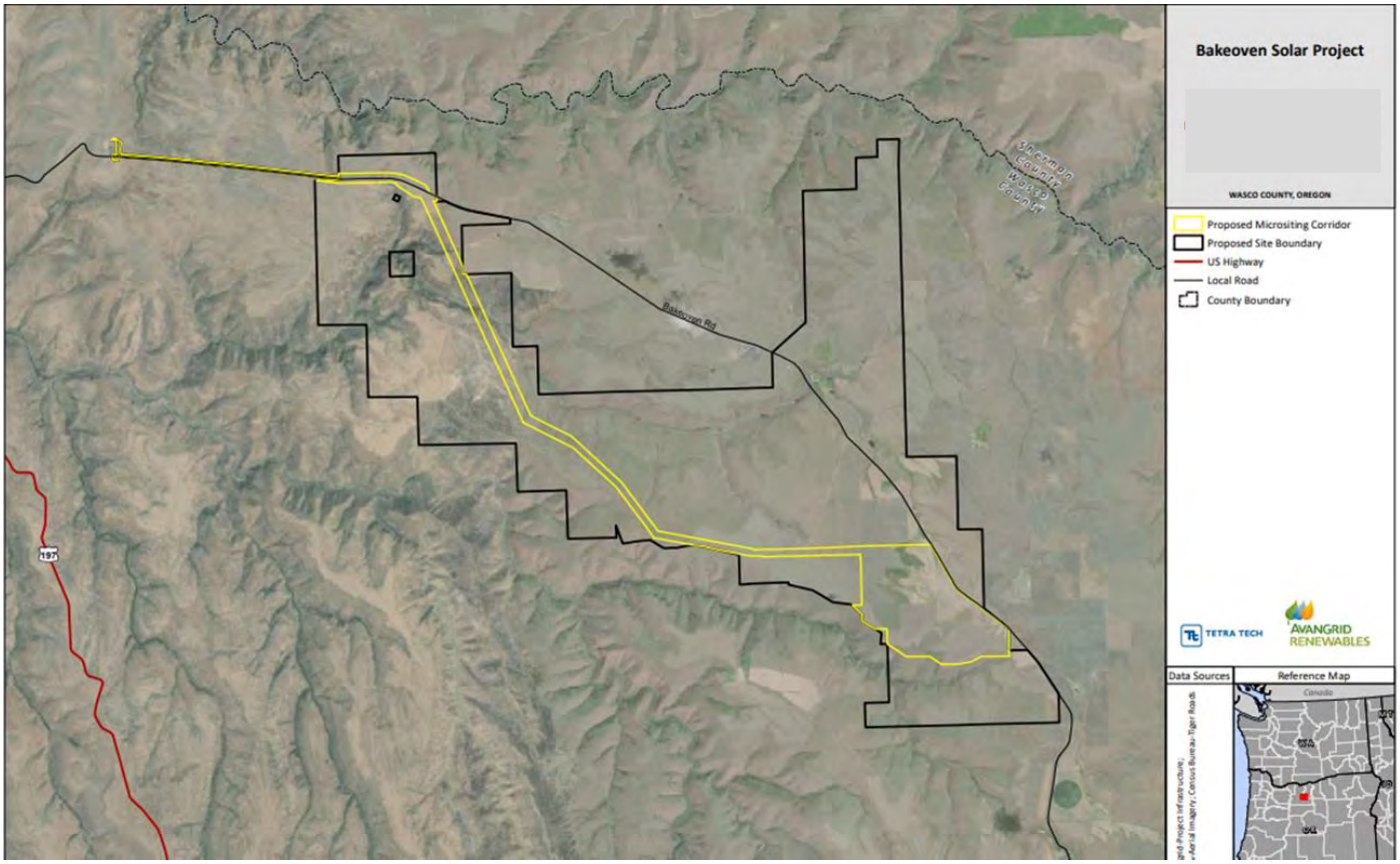
See Table 2*: Proposed Descriptions of Shared Facility Components* in Section III.A.1 *General Standard of Review,* for a comparison of the facility components that would be shared as proposed in RFA1. The allocation of previously approved facility components into three site certificates is described below.

Bakeoven Solar Project:

As proposed to be amended: 60 MW solar photovoltaic energy generation facility within 1,270 acres (1.9 sq. miles) of previously approved micrositing area (yellow outline in Figure 3 below), located within the previously approved site boundary (black outline in Figure 3 below). The existing certificate holder, Bakeoven Solar, LLC, would be maintained.

[5] OAR 345-027-0360(1)(d) requires that the certificate holder provide the specific language for changes in the site certificate, including affected conditions.

Figure 3: Bakeoven Solar Project – Site Boundary and Micrositing Area



The energy facility includes solar modules (mono- or poly-crystalline cells), tracker systems, posts (approx. 29,760 posts, steel or pile-type, assumed concrete foundations), and related electrical equipment (cabling; approx. 30 inverter/transformer stations; and, approx. 4.27 miles of belowground 34.5 kV collection system). The solar array will be enclosed with a chain-link perimeter fence, up to 8 feet in height, with two 16-foot-widegates and one pedestrian, 4-foot-wide gate.[6] The solar array includes shielded electrical cabling, as required by applicable code, to preventelectrical fires.

Related or supporting facilities as further described below, include:

- 230 kV Transmission Line
- Collector Substation and Operations and Maintenance (O&M) Building/Onsite Sewage Disposal System
- Communication and SCADA System
- Site Access, Service Roads, Perimeter Fencing, and Gates
- Temporary Staging Areas

[6] BSPAMD1Doc2 Bakeoven Solar Complete RFA1 2021-09-22, Attachment 6. Bakeoven Solar Project (Phase I) Red-lined Site Certificate.

- Battery Storage System, including 10,000-gallon water tank

230 kV Transmission Line

The 230 kV transmission line is approved to extend approximately 11 miles from the facility 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 230 kV transmission line route extends northwest from the facility 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 approved 230 kV transmission line structures include two galvanized steel or wood pole H-frame 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).

Collector Substation and O&M Building

The facility collector substation operates to combine and step up the voltage of energy generated by the energy facility to the desired transmission voltage. The facility collector substation likely includes two non-polychlorinated biphenyl oil-containing transformers (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 facility collector substation site is an approximately 3 acre fenced, graveled area, within the fenced solar array area, within the transmission line corridor, at the northern end of the site boundary.[7] The facility 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 facility. All electrical equipment will meet National Electrical Code and Institute of Electrical and Electronics Engineers standards.[8]

The O&M building includes a single-story building, approximately 20 feet in height, within an approximately 5,000 square foot area, and includes office space, storage, bathroom, and breakroom facilities. Water is supplied via an existing or newly constructed on-site permit exempt groundwater well (see ASC Exhibit O). The O&M building has 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 is provided via local service providers. A gravel parking and storage area is located adjacent to the building. The O&M building is located near the solar array, within the solar array perimeter fence. To reduce any risks of fire, the fenced areas around the O&M building is graveled, with no vegetation present. The O&M building has basic firefighting equipment for use on site during

[7] BSPAMD1Doc2 Bakeoven Solar Complete RFA1 2021-09-22, Attachment 6. Bakeoven Solar Project (Phase I) Red-lined Site Certificate.
[8] *Id*.

maintenance activities, such as shovels, beaters, portable water for hand sprayers, fire extinguishers, and other equipment.

Communication and Supervisory Control and Data Acquisition System

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

Site Access, Service Roads, Perimeter Fencing, and Gates

The facility is accessed from Bakeoven Road east of Maupin, Oregon. Within the site boundary, there are approximately 5.0 miles of service roads for access and maintenance purposes. New service roads within the site boundary are up to 20 feet wide with an internal turning radius sufficiently sized for emergency vehicle access. Facility roads are 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 are 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. Chain-link perimeter fencing, up to 8 feet in height, encloses the solar array. The perimeter fencing has vehicle and pedestrian access gates, including two 16-foot-wide gates and one 4-foot-wide gate.

Temporary Staging Areas

Two temporary staging areas used for equipment and supply storage, including one or more temporary concrete batch plant staging areas, may be needed during construction. One temporary staging area will be shared with the Daybreak Solar Project and Sunset Solar Project (Phase II and III). All temporary staging areas are located with the approved micrositing corridor. Employees are 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.

Battery Storage System

The battery storage system is comprised of either lithium-ion (Li-ion) or flow batteries and 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.

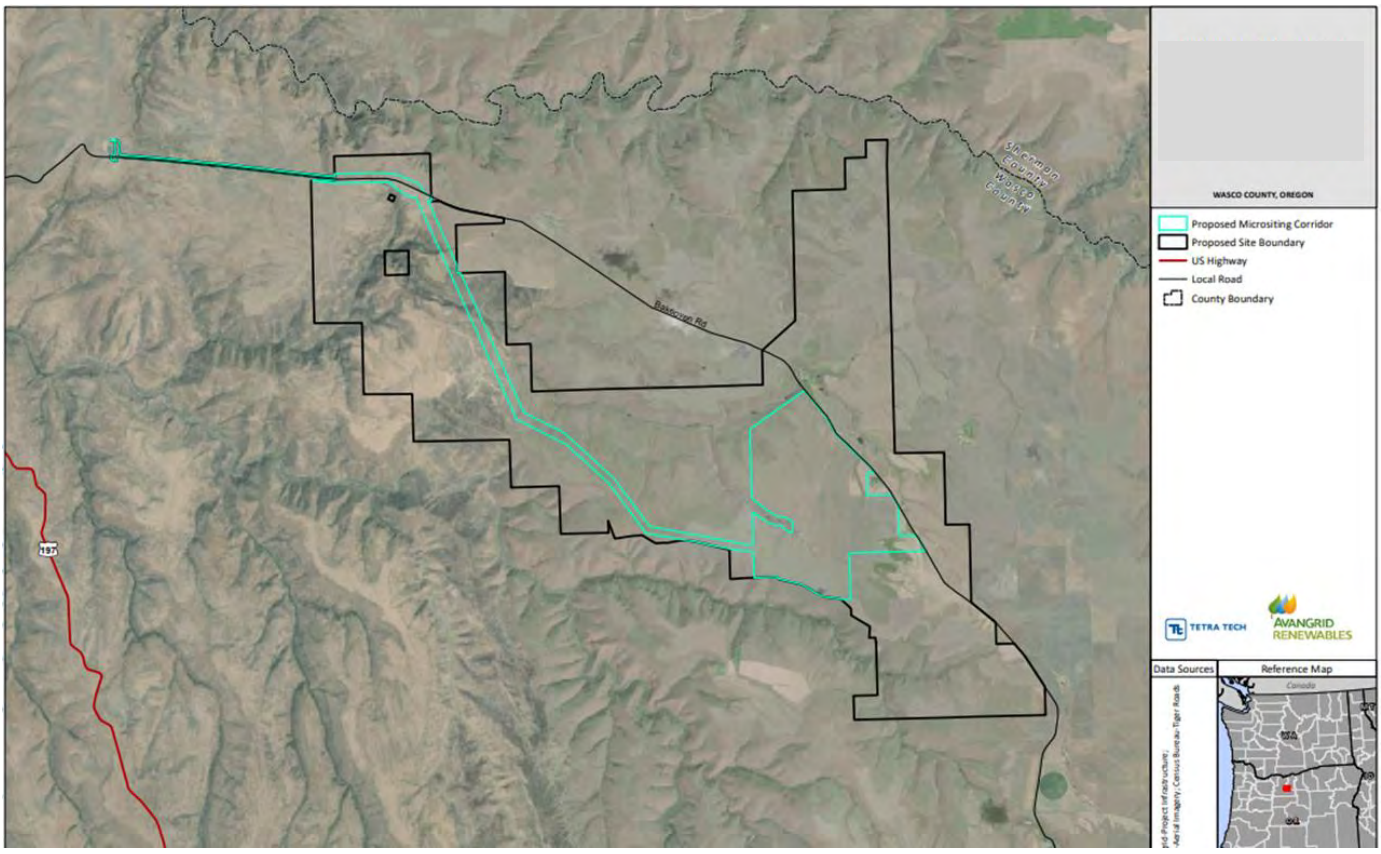
- Cooling system (more advanced systems required for Li-ion), which may include a separate chiller plant located outside the battery racks with chillers, pumps, and heat exchangers.
- High-voltage (HV) equipment, including a step-up transformer, HV circuit breaker, HV current transformers and voltage 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.

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.

Daybreak Solar Project:

As proposed, new original site certificate: 140 MW of solar photovoltaic energy generation equipment within 1,818 acres (2.8 sq. miles) of previously approved micrositing area (blue outline in Figure 4 below), located within the previously approved site boundary (black outline in Figure 4 below). A new certificate holder is proposed – Daybreak Solar, LLC, owned by the existing certificate holder owner, Avangrid Renewables, LLC.

Figure 4: Daybreak Solar – Site Boundary and Micrositing Area



The energy facility includes solar modules (mono- or poly-crystalline cells), tracker systems, posts (approx. 69,438 posts, steel or pile-type, assumed concrete foundations), and related electrical equipment (cabling; approx. 71 inverter/transformer stations; and, approx. 9.42 miles of belowground 34.5 kV collection system). The solar array will be enclosed with a chain-link perimeter fence, up to 8 feet in height, with two 16-foot-widegates and one pedestrian, 4-foot-wide gate.[9] The solar array includes shielded electrical cabling, as required by applicable code, to prevent electrical fires.

Related or supporting facilities, as further described below, include:

- 230 kV Transmission Line
- Collector Substation and Operations and Maintenance (O&M) Building/Onsite SewageDisposal System
- Communication and SCADA System
- Site Access, Service Roads, Perimeter Fencing, and Gates
- Temporary Staging Areas

[9] BSPAMD1Doc2 Bakeoven Solar Complete RFA1 2021-09-22, Attachment 7. Daybreak Solar Project (Phase II) Red-lined Site Certificate.

- Battery Storage System, including 10,000-gallon water tank

230 kV Transmission Line

The 230 kV transmission line is approved to extend approximately 11 miles from the facility 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 230 kV transmission line route extends northwest from the facility 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 approved 230 kV transmission line structures include two galvanized steel or wood pole H-frame or galvanized steel or wood monopole structures ranging from 80 to 100 feet in height, spaced approximately 700 feet apart.[10]

Collector Substation and O&M Building

The facility collector substation operates to combine and step up the voltage of energy generated by the energy facility to the desired transmission voltage. The facility collector substation likely includes two non-polychlorinated biphenyl oil-containing transformers (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 facility collector substation site is an approximately 3 acre fenced, graveled area, within the fenced solar array area, within the transmission line corridor, at the southeast end of the site boundary (see ASC Exhibit C, Figure C-2). The facility 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 facility. All electrical equipment will meet National Electrical Code and Institute of Electrical and Electronics Engineers standards.[11]

The O&M building includes a single-story building, approximately 20 feet in height, within an approximately 5,000 square foot area, and includes office space, storage, bathroom, and breakroom facilities. Water is supplied via an existing or newly constructed on-site permit exempt groundwater well (see ASC Exhibit O). The O&M building has 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 is provided via local service providers. A gravel parking and storage area is located adjacent to the building. The O&M building is located near the solar array, within the solar array perimeter fence. To reduce any risks of fire, the fenced areas around the O&M building is graveled, with no vegetation present. The O&M building has basic firefighting equipment for use on site duringmaintenance

[10] BSPAMD1Doc2 Bakeoven Solar Complete RFA1 2021-09-22, Attachment 7. Daybreak Solar Project (Phase II) Red-lined Site Certificate.
[11] *Id.*

activities, such as shovels, beaters, portable water for hand sprayers, fire extinguishers, and other equipment.

Communication and Supervisory Control and Data Acquisition System

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

Site Access, Service Roads, Perimeter Fencing, and Gates

The facility is accessed from Bakeoven Road east of Maupin, Oregon. Within the site boundary, there are approximately 9.0 miles of service roads for access and maintenance purposes. New service roads within the site boundary are up to 20 feet wide with an internal turning radius sufficiently sized for emergency vehicle access. Facility roads are 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 are 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. Chain-link perimeter fencing, up to 8 feet in height, encloses the solar array. The perimeter fencing has vehicle and pedestrian access gates, including two 16-foot-wide gates and one 4-foot-wide gate.[12]

Temporary Staging Areas

One temporary staging area used for equipment and supply storage, including one temporary concrete batch plant staging area, may be needed during construction. The temporary staging area will be shared with the Daybreak Solar Project and Sunset Solar Project (Phase I and III). The temporary staging area~~s~~ is located with the approved micrositing corridor. Employees are 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.

Battery Storage System

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

[12] BSPAMD1Doc2 Bakeoven Solar Complete RFA1 2021-09-22, Attachment 7. Daybreak Solar Project (Phase II) Red-lined Site Certificate.

Battery storage equipment, including batteries and racks or containers, inverters,isolation transformers, and switchboards.

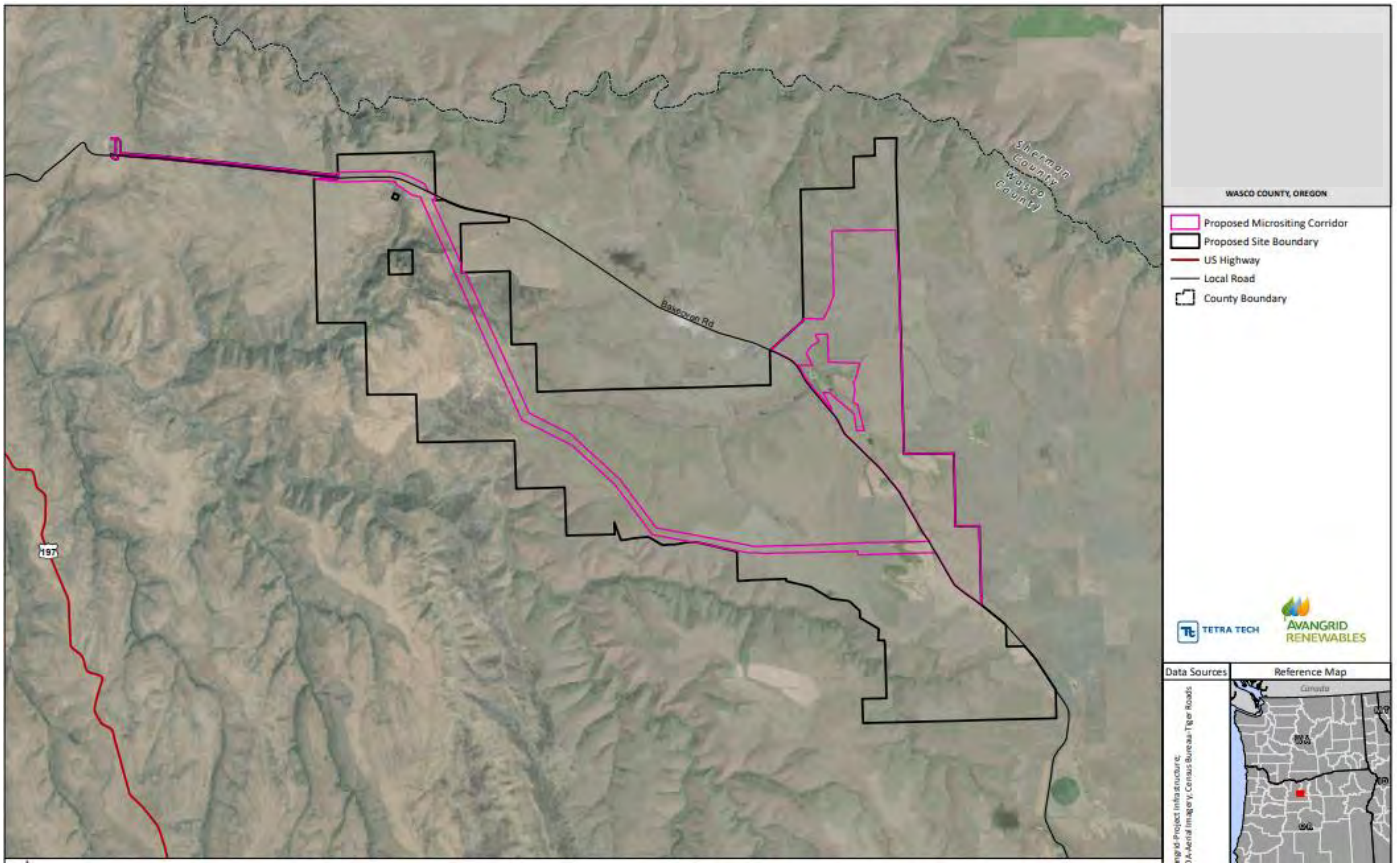
- Balance of plant equipment (more advanced systems required for Li-ion), which may include a warehouse-type building, medium-voltage and low-voltage electrical systems,fire suppression, heating, ventilation, and air-conditioning systems, building auxiliary electrical systems, and network/SCADA systems.
- 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.

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.

Sunset Solar Project:

As proposed, new original site certificate: 103 MW of solar photovoltaic energy generation equipment within 2,196 acres (3.4 sq miles) of previously approved micrositing area (pink outline in Figure 5 below), located within the previously approved site boundary (black outline in Figure 5 below). A new certificate holder is proposed – Sunset Solar, LLC., owned by the existing certificate holder owner, Avangrid Renewables, LLC.

Figure 5: Sunset Solar – Site Boundary and Micrositing Area



The energy facility includes solar modules (mono- or poly-crystalline cells), tracker systems, posts (approx. 51,102 posts, steel or pile-type, assumed concrete foundations), and related electrical equipment (cabling; approx. 52 inverter/transformer stations; and, approx. 3.30 miles of above- and 8.60 miles of belowground 34.5 kV collection system - aboveground collector lines to be placed on single or double circuit monopole 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-widegates and one pedestrian, 4-foot-wide gate.[13] The solar array includes shielded electrical cabling, as required by applicable code, to preventelectrical fires.

Related or supporting facilities, as further described below, include:

- 230 kV Transmission Line
- Collector Substation and Operations and Maintenance (O&M) Building/Onsite SewageDisposal System
- Communication and SCADA System

[13] BSPAMD1Doc2 Bakeoven Solar Complete RFA1 2021-09-22, Attachment 8. Sunset Solar Project (Phase III) Red-lined Site Certificate.

- Site Access, Service Roads, Perimeter Fencing, and Gates
- Temporary Staging Areas
- Battery Storage System, including 10,000-gallon water tank

230 kV Transmission Line

The 230 kV transmission line is approved to extend approximately 11 miles from the facility 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 230 kV transmission line route extends northwest from the facility 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 approved 230 kV transmission line structures include two galvanized steel or wood pole H-frame or galvanized steel or wood monopole structures ranging from 80 to 100 feet in height, spaced approximately 700 feet apart.[14]

Collector Substation and O&M Building

The facility collector substation operates to combine and step up the voltage of energy generated by the energy facility to the desired transmission voltage. The facility collector substation likely includes two non-polychlorinated biphenyl oil-containing transformers (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 facility collector substation site is an approximately 3 acre fenced, graveled area, within the fenced solar array area, within the transmission line corridor, at the southeast end of the site boundary (see ASC Exhibit C, Figure C-2). The facility 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 facility. All electrical equipment will meet National Electrical Code and Institute of Electrical and Electronics Engineers standards.[15]

The O&M building includes a single-story building, approximately 20 feet in height, within an approximately 5,000 square foot area, and includes office space, storage, bathroom, and breakroom facilities. Water is supplied via an existing or newly constructed on-site permit exempt groundwater well (see ASC Exhibit O). The O&M building has 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 is provided via local service providers. A gravel parking and storage area is located adjacent to the building. The O&M building is located near the solar array, within the solar array perimeter fence. To reduce any risks of fire, the fenced areas around the O&M building is graveled, with no

[14] BSPAMD1Doc2 Bakeoven Solar Complete RFA1 2021-09-22, Attachment 8. Sunset Solar Project (Phase III) Red-lined Site Certificate.
[15] *Id.*

vegetation present. The O&M building has basic firefighting equipment for use on site during maintenance activities, such as shovels, beaters, portable water for hand sprayers, fire extinguishers, and other equipment.

Communication and Supervisory Control and Data Acquisition System

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

Site Access, Service Roads, Perimeter Fencing, and Gates

The facility is accessed from Bakeoven Road east of Maupin, Oregon. Within the site boundary, there are approximately 10.0 miles of service roads for access and maintenance purposes. New service roads within the site boundary are up to 20 feet wide with an internal turning radius sufficiently sized for emergency vehicle access. Facility roads are 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 are 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. Chain-link perimeter fencing, up to 8 feet in height, encloses the solar array. The perimeter fencing has vehicle and pedestrian access gates, including two 16-foot-wide gates and one 4-foot-wide gate.

Temporary Staging Areas

Two temporary staging areas used for equipment and supply storage, including one or more temporary concrete batch plant staging areas, may be needed during construction. One temporary staging area will be shared with the Bakeoven Solar Project and the Daybreak Solar Project (Phase I and II). All temporary staging areas are located with the approved micrositing corridor. Employees are 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.

Battery Storage System

The battery storage system is comprised of either lithium-ion (Li-ion) or flow batteries and 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.

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.

II.B. Amendment Review Process

Council rules describe the differences in review processes for the Type A and Type B review paths at OAR 345-027-0351. The Type A review is the standard or "default" amendment review process for changes that require an amendment. A key procedural difference between the Type A and Type B review process is that the Type A review requires a public hearing on the draft proposed order, and provides an opportunity to request a contested case proceeding on the Department's proposed order. Another difference between the Type A and Type B review process relates to the time afforded to the Department in its determination of completeness of the amendment and issuance of the draft proposed order. It is important to note that Council rules authorize the Department to adjust the timelines for these specific procedural requirements, if necessary.

A certificate holder may submit an amendment determination request to the Department for a written determination of whether a request for amendment justifies review under the Type B review process. The certificate holder has the burden of justifying the appropriateness of the Type B review process as described in OAR 345-027-0351(3). The Department may consider, but is not limited to, the factors identified in OAR 345-027-0357(8) when determining whether to process an amendment request under Type B review.

The Department received pRFA1, inclusive of a Type B Review Amendment Determination Request (Type B Review ADR), on June 11, 2021. The Type B Review ADR requested that the Department review and determine whether, based on evaluation of the factors contained

within OAR 345-027-0357(8), the amendment request should be reviewed under the Type B review process. On September 27, 2021, the Department issued its Type B Review ADR Determination concurring with the certificate holder's analysis, which was posted to the Department's project webpage for the facility. The Department also provided a courtesy notification through its email distribution list via ClickDimensions.

On July 6, 2021, the Department determined pRFA1 to be incomplete and requested additional information to complete its evaluation of pRFA1 and prepare the draft proposed order, in accordance with OAR 345-027-0363(2)(A) and (B). The Department requested that the certificate holder provide supplemental information by July 23, 2021, unless additional time was necessary to prepare responses. Certificate holder responses to the Department's information request were received on August 4, September 10 and 14, 2021.

After reviewing the responses to its information request, the Department determined the RFA to be complete on September 17, 2021. Under OAR 345-027-0063(5), an RFA is complete when the Department determines that a certificate holder has submitted information adequate for the Council to make findings or impose conditions for all applicable laws and Council standards. On September 27, 2021, the Department posted an announcement on its project website notifying the public that the complete RFA had been received. The Department issued its draft proposed order on RFA1, under the Type B process, on September 27, 2021, and opened a 30-day public comment period that closes on October 27, 2021. All written comments must be submitted to the Department prior to the close of the comment period.

Reviewing Agency Comments on Preliminary Request for Amendment 1

As presented in Attachment B-1 of the draft proposed order, the Department received comments on pRFA1 from the following reviewing agencies:

- Oregon Department of Fish and Wildlife
- Wasco County Planning Department

These comments were provided to the certificate holder, for their consideration, between the pRFA to complete RFA phases, and have been considered and incorporated into the analysis included in this order, to the extent applicable to the amendment request.

II.C. Council Review Process

The Department issued the draft proposed order, and a notice of a comment period on RFA1 and the draft proposed order (notice) on September 27, 2021, under the Type B review process. The notice was distributed to all persons on the Council's general mailing list, to the special mailing list established for the facility (i.e. individuals that have signed up to receive electronic notices from the Department for the Bakeoven Solar Project or all EFSC energy facilities), to an

updated list of property owners supplied by the certificate holder[16], and to a list of reviewing agencies as defined in OAR 345-001-0010(52). The comment period extends from September 27, 2021 through October 27, 2021.

To raise an issue on the record of the draft proposed order, a person must raise the issue in a written comment submitted on or after the date of the notice of the draft proposed order, received by the Department before the written comment deadline. The Council will not accept or consider public comments on RFA1 or on the draft proposed order after the written comment deadline, listed above, that closes the record on the draft proposed order. After the Department considers all comments received before the comment deadline for the draft proposed order, but not more than 21 days after the comment deadline, the Department will issue a proposed order. The proposed order shall recommend approval, modification, or denial of RFA1. Upon issuance of the proposed order, the Department will issue a notice of the proposed order.

The Council, may adopt, modify or reject the proposed order based on the considerations described in OAR 345-027-0375. If the proposed order is adopted or adopted, with modifications, the Council shall issue a written final order granting issuance of an amended and two original site certificates. If the proposed order is denied, the Council shall issue a written final order denying issuance of the amended and two original site certificates. In making a decision to grant or deny issuance of the amended and two original site certificates, the Council shall apply the applicable laws and Council standards required under OAR 345-027-0375 and in effect on the dates described in OAR 345-027-0375(3). The Council's final order is subject to judicial review by the Oregon Supreme Court as provided in ORS 469.403.

II.D. Applicable Division 27 Rule Requirements

A site certificate amendment is necessary under OAR 345-027-0350(4) because the certificate holder requests to design, construct, and operate the facility in a manner different from the description in the site certificate and would require modification to existing conditions in the site certificate.

The Type B amendment review process (consisting of rules 345-027-0359, -0360, -0363, -0365, -0368, -0372, and -0375) shall apply to the Council's review of a request for amendment that the Department or the Council approves for Type B review under 345-027-0357(2), (3), and (4).

III. REVIEW OF THE REQUESTED AMENDMENT

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

[16] Request for Amendment 1, Attachment 19 Figure 1 (Index Taxlots) indicates that property owner data was obtained from Wasco County on September 1, 2021. BSPAMD1Doc2 Bakeoven Solar Complete RFA1 2021-09-22.

the amended 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."[17] The Council implements this statutory framework by adopting findings of fact, conclusions of law, and conditions of approval concerning the ability of the certificate holder and facility to continue to demonstrate compliance with EFSC standards set forth in Council's Standards for Siting Facilities at OAR 345, Divisions 22, 24 and 26, as well as all other applicable statutes, rules and standards (including those of other state or local agencies).

The type B review process, consisting of OAR 345-027-0359, 345-027-0360, 345-027-0363, 345-027-0365, 345-027-0368, 345-027-0372, and 345-027-0375, applies to the Council's review of a request for amendment that the Department or the Council approves for type B review under OAR 345-027-0357.

This draft proposed order includes the Department's initial analysis of whether the certificate holder, based on the approval facility and site certificate requirements allocated across an amended and two original site certificates, would continue to meet each applicable Council Standard (with mitigation and subject to compliance with existing and recommended amended conditions, as applicable), based on the information in the record. Following the comment period on RFA1 and draft proposed order, the Department will issue its proposed order, which will include the Department's consideration of the comments and any additional evidence received on the record of the draft proposed order.

III.A. Standards Potentially Impacted by Request for Amendment 1

Under OAR 345-027-0375, in making a decision to grant or deny issuance of an amended site certificate, the Council must apply the applicable laws and Council standards to determine that the preponderance of evidence on the record supports that the facility, with the proposed change, complies with the applicable laws or Council standards in effect on the dates described in section OAR 345-027-0375(3), that protect a resource or interest that could be affected by the proposed change. Based on the Department's review of RFA1, the Department recommends the following Council standards be evaluated as potentially impacted by the proposed amendment:

General Standard of Review: OAR 345-022-0000
Organizational Expertise: OAR 345-022-0010
Land Use: OAR 345-022-0030
Retirement and Financial Assurance: OAR 345-022-0050
Fish and Wildlife Habitat: OAR 345-022-0060

[17] ORS 469.401(2).

III.A.1 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.

** * **

(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

As noted above, under OAR 345-027-0375 and OAR 345-022-0000, to issue an amended site certificate, the Council must determine that the preponderance of evidence on the record supports the conclusion that the facility, with the proposed change, complies with the applicable laws or Council standards that protect a resource or interest that could be affected by the proposed change. Further, under OAR 345-027-0375(2)(d), for all requests for amendment, Council must find that the amount of the bond or letter of credit required under OAR 345-022-0050 is adequate, which is discussed further in Section III.A.4, *Retirement and Financial Assurance*, of this order.

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 the proposed changes would comply with the requirements of EFSC statutes and the siting

standards adopted by the Council and that the proposed changes would comply with all other Oregon statutes and administrative rules applicable to the issuance of proposed two new site certificates.

OAR 345-022-0000(2) and (3) apply to RFAs where a certificate holder has shown that the proposed facility modifications 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. In RFA1, the certificate holder has not represented that the proposed amendments cannot meet an applicable Council standard. Therefore, OAR 345-022-0000(2) and (3) would not apply to this review.

As discussed in Section I.C, *Description of Approved Facility, Facility Development, and Phasing*, the facility is approved to be developed in a single build-out or in multiple phases. Based on this approved phasing, RFA1 proposes to share related or supporting facilities between the Bakeoven Solar Project (Phase I), Daybreak Solar Project (Phase II) and Sunset Solar Project (Phase III), including the collector substation, 230 kV transmission line, O&M building, battery storage system, collection system, temporary laydown areas, access roads, fencing and gates.[18] A more detailed description between shared and overlapping facility components is provided below in Table 2: *Proposed Descriptions of Shared Facility Components*. The shared related or supporting facilities would be included in each site certificate for each facility, where compliance with site certificate conditions which apply to the shared related or supporting facilities would be shared between site certificates and certificate holders.

[18] BSPAMD1Doc2 Bakeoven Solar Complete RFA1 2021-09-22, Attachment 6, 7, and 8, Section 4.3.

Table 2: Proposed Descriptions of Shared Facility Components

Infrastructure Type	Approved Site Certificate Description	Phase I (Bakeoven) Description	Phase II (Daybreak) Description	Phase III (Sunset) Description
Total Generating Capacity	The Facility includes solar energy generation components, each with related or supporting facilities. Theenergy generation capacity of the Facility, with solar components, at full build out by the specified construction completion deadlinesis 303 MW.	The facility includes solar energy generation components with related or supporting facilities. The total generating capacity of PhaseI will not exceed 60 MW of solar energy.	The facility includes solar energy generation components with related or supporting facilities. The total generating capacity of PhaseII will not exceed 140 MW of solar energy.	The facility includes solar energy generation components with related or supporting facilities. The total generating capacity of PhaseIII will not exceed 103 MW of solar energy.
Battery Storage	The Facility will include a 100 MWbattery storage system and interconnection facilities.	Phase I, II and III will share the battery storagesystem and interconnection facilities.	Phase I, II and III will share the battery storagesystem and interconnection facilities.	Phase I, II and III will share the battery storagesystem and interconnection facilities.
Collection System	The electrical collection system willinclude up to 23 miles of underground 34.5-kilovolt (kV) collector lines and up to 4.2 miles ofoverhead collector lines.	Electrical collection system includes up to 4.5miles of underground 34.5-kV collector lines.	Electrical collection system includes up to 9.5miles of underground 34.5-kV collector lines.	Electrical collection system includes up to 9 miles of underground 34.5-kV collector lines and up to 4.2 miles of overhead collector lines,as needed.
Collector Substation	The Facility includes up to onesubstation.	Phase I, II and III will share the substation.	Phase I, II and III will share the substation.	Phase I, II and III will share the substation.
Transmission Line	The Facility will include one overhead 230 kV transmission line extending 11 miles in length.	Phase I, II and III will share the transmissionline.	Phase I, II and III will share the transmissionline.	Phase I, II and III will share the transmissionline.

Table 2: Proposed Descriptions of Shared Facility Components

Infrastructure Type	Approved Site Certificate Description	Phase I (Bakeoven) Description	Phase II (Daybreak) Description	Phase III (Sunset) Description
Communications and Supervisory Control and Data Acquisition (SCADA) System	The Facility will include a communication system and a Communication and SCADA System to be located within the operations and maintenance (O&M) building.	Phase I, II and III will share the O&M building and thus will share the Communication and SCADA system.	Phase I, II and III will share the O&M building and thus will share the Communication and SCADA system.	Phase I, II and III will share the O&M building and thus will share the Communication and SCADA system.
O&M Building	The Facility will include one O&M Building.	Phase I, II and III will share the O&M building.	Phase I, II and III will share the O&M building.	Phase I, II and III will share the O&M building.
Access Roads, Gates, and Fencing	Twenty-four miles of access roads, approximately 20 feet wide, will be located around the perimeter of the solar array and within the micrositing corridors. Eight-foot, chain-link perimeter fencing will have vehicle and pedestrian access gates, including two 16-foot wide fates and one 4-foot wide gate.	Phase I includes approximately 5.0 miles of new or improved access roads. Some roads, fencing and gates will be shared with Phase II and III.	Phase II includes approximately 9.0 miles of new or improved access roads. Some roads, fencing and gates will be shared with Phase I and III.	Phase III includes approximately 10.0 miles of new or improved access roads. Some roads, fencing and gates will be shared with Phase I and II.
Temporary Construction Areas	The Facility includes up to three temporary construction yards, including one or more temporary concrete batch plants.	Phase I includes two temporary construction areas with one that is shared with Phase II and III.	Phase II includes one temporary construction area, to be shared with Phase I and III.	Phase III includes two temporary construction areas.
Reference: BSPAMD1Doc2 Bakeoven Solar Complete RFA1 2021-09-22, Table 1.				

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In RFA1, the certificate holder states that splitting the approved facility would be an administrative change and that the facility is and will be constructed and operated essentially in the same manner as previously approved by the Council, which imposed conditions, as necessary, that take into consideration micrositing needs and public and reviewing agency comments. However, the certificate holder proposes General Standard of Review Condition 7 (GEN-GS-07) to ensure that the certificate holders maintain compliance with site certificate conditions and Council standards that apply to the shared related or supporting facilities. In accordance with proposed General Standard of Review Condition 7, if any certificate holder substantially modifies a shared related or supporting facility or ceases facility operation, each certificate holder would be obligated to submit an amendment determination request or request for amendment to the Department to determine the appropriate process for evaluating the change and ensuring full regulatory coverage under each site certificate, or remaining site certificate if either is terminated, in the future.

As discussed in Section III.A.4 *Retirement and Financial Assurance,* recommended amended Retirement and Financial Assurance Condition 5 would be imposed in the amended and two original site certificates and would reflect the retirement cost estimate for each facility based on the proposed facility component allocation. The retirement cost estimate for shared related or supporting facilities including the O&M building, substation and 230 kV transmission line are represented entirely for Bakeoven Solar Project; the retirement cost estimate for the shared battery storage system is represented entirely for Sunset Solar Project. While the certificate holder represents the full decommissioning cost estimate for these shared related or supporting facilities within individual site certificates, the certificate holder proposes assurance of shared financial and compliance responsibility through submission to the Department of executed shared use agreements from each certificate holder. The Department recommends that the shared use agreements referenced below in proposed General Standard of Review Condition 7 sufficiently address decommissioning of shared facility components. Therefore, to confirm that facilities continues to comply with the requirements of Council statutes and standards adopted by the Council, the Department recommends Council impose the following condition GEN-GS-07:

> **Recommended General Standard of Review Condition 7 (Bakeoven Solar Project):** The site certificate authorizes shared use of related or supporting facilities of the Daybreak Solar Project (Phase II) and Sunset Solar Project (Phase III) including the battery storage system, collector substation, operations and maintenance building, Supervisory, Control and Data Acquisition system, 230 kV transmission line, collection system, access roads, fencing, gates, and temporary staging areas.
>
> a. Within 90 days of shared use, the certificate holder must provide evidence to the Department that the certificate holders have an executed agreement for shared use of facilities.
> b. If any of the certificate holders of the Bakeoven Solar Project (Phase I), Daybreak Solar Project (Phase II), or the Sunset Solar Project (Phase III) propose to substantially modify a shared facility listed in sub(a) of this condition, then each certificate holder shall submit an amendment determination request or request for

site certificate amendment to obtain a determination from the Department on whether a site certificate amendment is required or to process an amendment for both site certificates. If certificate holders opt to submit an amendment determination request, the requirement may be satisfied through submittal of a single amendment determination request with authorization (or signature) provided from all three certificate holders.

c. Prior to facility decommissioning or if facility operations cease, each certificate holder shall submit an amendment determination request or request for site certificate amendment to document continued ownership and full responsibility, including coverage of full decommissioning amount of the shared facilities in the bond or letter of credit pursuant to Condition PRE-RT-02, for the operational facility, if facilities are decommissioned at different times.
[GEN-GS-07, AMD1 (2021)]

Recommended General Standard of Review Condition 7 (Daybreak Solar Project): The site certificate authorizes shared use of related or supporting facilities of the Bakeoven Solar Project (Phase I) and Sunset Solar Project (Phase III) including the battery storage system, collector substation, operations and maintenance building, Supervisory, Control and Data Acquisition system, 230 kV transmission line, collection system, access roads, fencing, gates, and temporary staging areas.

d. Within 90 days of shared use, the certificate holder must provide evidence to the Department that the certificate holders have an executed agreement for shared use of facilities.

e. If any of the certificate holders of the Bakeoven Solar Project (Phase I), Daybreak Solar Project (Phase II), or the Sunset Solar Project (Phase III) propose to substantially modify a shared facility listed in sub(a) of this condition, then each certificate holder shall submit an amendment determination request or request for site certificate amendment to obtain a determination from the Department on whether a site certificate amendment is required or to process an amendment for both site certificates. If certificate holders opt to submit an amendment determination request, the requirement may be satisfied through submittal of a single amendment determination request with authorization (or signature) provided from all three certificate holders.

f. Prior to facility decommissioning or if facility operations cease, each certificate holder shall submit an amendment determination request or request for site certificate amendment to document continued ownership and full responsibility, including coverage of full decommissioning amount of the shared facilities in the bond or letter of credit pursuant to Condition PRE-RT-02, for the operational facility, if facilities are decommissioned at different times.
[GEN-GS-07, AMD1 (2021)]

Recommended General Standard of Review Condition 7 (Sunset Solar Project): The site certificate authorizes shared use of related or supporting facilities of the Bakeoven Solar Project (Phase I) and the Daybreak Solar Project (Phase II) including the battery storage

system, collector substation, operations and maintenance building, Supervisory, Control and Data Acquisition system, 230 kV transmission line, collection system, access roads, fencing, gates, and temporary staging areas.

g. Within 90 days of shared use, the certificate holder must provide evidence to the Department that the certificate holders have an executed agreement for shared use of facilities.
h. If any of the certificate holders of the Bakeoven Solar Project (Phase I), Daybreak Solar Project (Phase II), or the Sunset Solar Project (Phase III) propose to substantially modify a shared facility listed in sub(a) of this condition, then each certificate holder shall submit an amendment determination request or request for site certificate amendment to obtain a determination from the Department on whether a site certificate amendment is required or to process an amendment for both site certificates. If certificate holders opt to submit an amendment determination request, the requirement may be satisfied through submittal of a single amendment determination request with authorization (or signature) provided from all three certificate holders.
i. Prior to facility decommissioning or if facility operations cease, each certificate holder shall submit an amendment determination request or request for site certificate amendment to document continued ownership and full responsibility, including coverage of full decommissioning amount of the shared facilities in the bond or letter of credit pursuant to Condition PRE-RT-02, for the operational facility, if facilities are decommissioned at different times.
[GEN-GS-07, AMD1 (2021)]

In RFA1, the certificate holder also proposes administrative modifications to several site certificate conditions that would apply to all three site certificates. The proposed condition language modification would replace all direct references to "phase" of the originally approved facility which reads, "or any phase of the facility," with "facility component or phase."[19] The Department concurs with the proposed administrative changes to condition language which allows flexibility in the timing of when the condition must be satisfied, depending on construction and commissioning schedule.

The certificate holder's proposed changes to condition language, providing flexibility in the timing of when the requirement must be satisfied, applies to the conditions listed below in Table 3*: Site Certificate Conditions with Proposed Language Modification*. These revisions are also represented in the applicable conditions in the attached draft site certificates, Attachments A-1, A-2, and A-3.

[19] BSPAMD1Doc2 Bakeoven Solar Complete RFA1 2021-09-22, Attachment 6: Bakeoven Solar Project (Phase I) Red-lined Site Certificate, Attachment 7: Daybreak Solar Project (Phase II) Red-lined Site Certificate, and Attachment 8. Sunset Solar Project (Phase III) Red-lined Site Certificate.

Table 3: Site Certificate Conditions with Proposed Language Modification

General Conditions: Design, Construction and Operation		
GEN-GS-01	GEN-SP-01	GEN-FW-04
GEN-GS-02	GEN-LU-01	GEN-FW-05
GEN-GS-03	GEN-LU-02	GEN-SR-01
GEN-GS-04	GEN-LU-03	GEN-HC-01
GEN-OE-01	GEN-FW-01	GEN-PS-01
GEN-OE-02	GEN-FW-02	GEN-WM-01
GEN-OE-05	GEN-FW-03	
Pre-Construction Conditions		
PRE-GS-02	PRE-LU-04	PRE-RT-01
PRE-OE-01	PRE-LU-05	PRE-RT-02
PRE-SS-01	PRE-FW-01	PRE-PS-01
PRE-LU-01	PRE-FW-02	PRE-NC-01
PRE-LU-02	PRE-FW-03	PRE-RT-01
PRE-LU-03	PRE-TE-01	
Construction Conditions		
CON-PS-01		
Pre-Operational Conditions		
PRO-SP-01		
PRO-ST-01		
Operational Conditions		
OPR-GS-01		
OPR-GS-02		
OPR-LU-01		
OPR-LU-02		

The proposed changes in RFA1 would result in an amended and two original site certificates. To administratively track the attachments and plans that are imposed by certain site certificate conditions, the Department attaches applicable plans that would apply to all three facilities to this order. The Department recommends updating the reference to plans in each site certificate from the Final Order on ASC (Bakeoven) to the attachment name provided in this order. Below are the conditions which would have an updated attachment reference:

Fish and Wildlife Habitat Condition 1 (GEN-FW-01): Revegetation Plan
Attachment C-1: Draft Amended Revegetation Plan (Bakeoven Solar Project)
Attachment C-2: Draft Revegetation Plan (Daybreak Solar Project)
Attachment C-3: Draft Revegetation Plan (Sunset Solar Project)

Fish and Wildlife Habitat Condition 3 (GEN-FW-03): Habitat Mitigation Plan
Attachment D-1: Draft Amended Habitat Mitigation Plan (Bakeoven Solar Project)

Attachment D-2: Draft Amended Habitat Mitigation Plan (Daybreak Solar Project)
Attachment D-3: Draft Amended Habitat Mitigation Plan (Sunset Solar Project)

Fish and Wildlife Habitat Condition 2(GEN-FW-02): Noxious Weed Control Plan
Attachment E-1: Draft Amended Noxious Weed Control Plan (Bakeoven Solar Project)
Attachment E-2: Draft Noxious Weed Control Plan (Daybreak Solar Project)
Attachment E-3: Draft Noxious Weed Control Plan (Sunset Solar Project)

Fish and Wildlife Habitat Condition 9 (GEN-FW-05): Wildlife Monitoring Plan (WMP)
Attachment F: Draft Amended Wildlife Monitoring Plan (Bakeoven Solar Project)

Soil Protection Condition 1(GEN-SP-01): NPDES 1200-C permit, including final Erosion Sediment Control Plan and associated drawings
Attachment G-1: Draft ESCP Drawings and BMPs (Bakeoven Solar Project)
Attachment G-2: Draft ESCP Drawings and BMPs (Daybreak Solar Project)
Attachment G-3: Draft ESCP Drawings and BMPs (Sunset Solar Project)

Historic, Cultural and Archeological Condition 1 (GEN-HC-01): draft Inadvertent Discovery Plan
Attachment H-1: Draft Inadvertent Discovery Plan (Bakeoven Solar Project)
Attachment H-2: Draft Inadvertent Discovery Plan (Daybreak Solar Project)
Attachment H-3: Draft Inadvertent Discovery Plan (Sunset Solar Project)

Public Services Condition 3 (GEN-PS-01) Management a Construction Traffic Management Plan that includes best management practices
Attachment I-1: Draft Amended Construction Traffic Management BMPs (Bakeoven Solar Project)
Attachment I-2: Draft Construction Traffic Management BMPs (Daybreak Solar Project)
Attachment I-3: Draft Construction Traffic Management BMPs (Sunset Solar Project)

Land Use Condition 7 (GEN-LU-02): Operational Fire Prevention and Emergency Response Plan
Attachment J-1: Draft Operational Fire Protection and Emergency Response Plan (Bakeoven Solar Project)
Attachment J-2: Draft Operational Fire Protection and Emergency Response Plan (Daybreak Solar Project)
Attachment J-3: Draft Operational Fire Protection and Emergency Response Plan (Sunset Solar Project)

The Department notes that if Council approves the shared/split facilities that Compliance Plan requirements stipulated in General Standard Condition 10 (PRE-GS-02) and under OAR 345-026-0048 would apply to all three facilities. Further, while any of the facilities; Bakeoven (Phase I), Daybreak (Phase II), and Sunset (Phase III), are under construction, semi-annual reporting requirements designated under OAR 345-026-0080 apply. Finally, once operational, the

certificate holders each must then submit the annual reports also designated under OAR 345-026-0080.

Conclusions of Law

Based on the foregoing recommended findings of fact and conclusions of law, and subject to compliance with the recommended new and amended conditions for the amended Bakeoven Solar site certificate and original Daybreak Solar and Sunset Solar site certificates, the Department recommends that the Council find that the certificate holders would continue to satisfy the requirements of OAR 345-022-0000.

III.A.2 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 (certificate holder) demonstrate its ability to design, construct operate and retire the facility with proposed changes 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 certificate holder'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.

As described throughout this order, the proposed amended Bakeoven Solar site certificate and original Daybreak Solar and Sunset Solar facilities and site certificates would share related or supporting facilities including a collector substation, battery storage system, O&M building, access roads and temporary laydown areas. The certificate holder owner for Bakeoven Solar, Daybreak Solar, and Sunset Solar would remain Avangrid Renewables, LLC, an entity relied upon by the certificate holder, and determined by Council to, satisfy the Organizational Expertise standard (April 2020 Final Order on ASC). The Department recommends Council continue to rely on its previous findings that the organizational expertise of the certificate holder owner would satisfy the standard for the amended Bakeoven Solar (Phase I) site certificate and two original site certificates for Daybreak Solar (Phase II) and Sunset Solar (Phase III). However, the Department also provides an updated evaluation based on the certificate holder's representations in RFA1.

Avangrid, the certificate holder owner for all three facilities is headquartered in Portland, Oregon, owns and operates more than 6,000 MW of utility-scale renewable energy production in the United States, including more than 1,483 MW of utility scale wind and solar generation in the Oregon.[20] Avangrid currently operates 126 MW of solar generation facilities, including the largest solar project in Oregon (Gala Solar Project). Avangrid is currently in the permitting phase for four battery storage projects within the United States and considers the design and notes that its experience as an independent Balancing Authority in the Pacific Northwest and as a North American Electric Reliability Corporation compliance operator demonstrates that it has the expertise to operate battery storage at the facilities.[21] Avangrid regularly carries out power supply transactions with more than 50 counterparties in the Western Electricity Coordinating Council region, including public utility districts, investor-owned utilities, electric cooperatives, and federal power-marketing administrations. In RFA1, the certificate holder explains that in one of these transactions Avangrid plans to enter into a 15-year agreement with Portland General Electric and their Green Future Impact program to provide emission-free energy from

[20] BSPAMD1Doc2 Bakeoven Solar Complete RFA1 2021-09-22, Section 4.6.
[21] *Id.*

Phase II of the approved facility. Avangrid 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 Wind Farm, and Klamath Cogeneration Project, some of which are operational, were recently constructed (2016-2019) and have commenced construction (2020-2021). The certificate holder continues by explaining that there are no recorded formal citations, nor North American Energy Reliability Corporation violations for these projects.

To further demonstrate that the new certificate holders have the financial capability and the organizational expertise to construct, operate and retire the proposed facility, the certificate holder provides RFA1 Attachments 4 and 5 which contain letters from Avangrid's legal counsel, indicating that Daybreak Solar, LLC and Sunset Solar, LLC have the legal authority to construct and operate Phase II and Phase III without violating its articles of incorporation or similar agreements. The legal opinion letters note that, subject to the certificate holders meeting all applicable federal, state and local laws (including all rules and regulations promulgated thereunder), the certificate holders have the legal authority to construct and operate the up to 140-MW (Daybreak) and 103 MW (Sunset) and associated infrastructure located in Wasco County, Oregon without violating articles of organization covenants or similar agreements.[22]

For the above reasons, the Department recommends the Council continue to find that the certificate holder owner and new certificate holders have the organizational expertise to construct, operate and retire the proposed facility in compliance with Council standards and conditions of the site certificate, 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.

Conclusions of Law

Based on the evidence in the record, and subject to compliance with the existing conditions, the Department recommends Council finds that the certificate holders would continue to satisfy the requirements of the Council's Organizational Expertise standard.

III.A.3 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 applicant 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

[22] BSPAMD1Doc2 Bakeoven Solar Complete RFA1 2021-09-22, Section 4.7 and Attachments 4 and 5.

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).

*****

Findings of Fact

The Land Use standard requires the Council to find that the facility, with proposed changes, 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 or facility, with proposed changes, "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…" For an amendment, this refers to the date the pRFA was received, which occurred on June 7, 2021. The affected local government is Wasco County. The governing body within Wasco County is Wasco County Board of Commissioners, which was appointed by Council as the Special Advisory Group (SAG) for all EFSC proceedings related to this facility on November 16, 2018.[23]

Based on review of RFA1 and of Wasco County Planning Department's website, the acknowledged comprehensive plan and land use regulations are the Wasco County 2040 Comprehensive Plan and Wasco County Land Use and Development Ordinance (WCLUDO), as amended March 2021, both of which represent updated versions from the comprehensive plan and zoning ordinance evaluated in the Council's previous 2020 Final Order on the ASC.

[23] BSPNOI. SAG Appointment. 2018-11-16.

However, neither update resulted in substantive changes to the applicable substantive criteria previously identified and evaluated for this facility.

The analysis area for potential land use impacts, as defined in the project order, is the area within and extending ½-mile from the site boundary. RFA1 does not include proposed changes to the site boundary; therefore, the analysis area is the same as previously evaluated by Council in the 2020 Final Order on the ASC.

IV.A.3.a 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 pRFA is submitted. Applicable substantive criteria previously evaluated by Council for this facility are presented in Table 4: *Wasco County Applicable Substantive Criteria*.

Table 4: 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	

Table 4: Wasco County Applicable Substantive Criteria

Section 20.040	Site Plan Approval Standards
Section 20.050	Off Street Parking
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 (WCCP)	
Chapter 5 Community Facilities and Services – J. Parks and Recreation and Scenic Areas – Subpart 3 Chapter 15 Goals and Policies Goal 3 Agricultural Lands – Policy I Goal 5 – Open Spaces, Scenic and Historic Areas and Natural Resources – Policies 5, 9, and 10 Goal 6 – Air, Water and Land Resources Quality – Policies 1 and 4 Goal 9 – Economy of the State – Policies 1, 2 and 3 Goal 11 – Public Facilities and Services – Policies 1 and 3 Goal 12 – Energy Conservation – Policies 1, 2 and 6	
Notes: WCLUDO Section 20.030 (Contents of the Site Plan) was identified in ASC Exhibit K, but is considered to contain procedural review criteria rather than applicable substantive criteria and therefore are not included in this order for Council to make findings of fact and conclusions of law.	

As described in Section II.A. *Requested Amendment*, RFA1 seeks Council approval to split the previously approved site certificate, including 303 MW of solar photovoltaic energy generation equipment and related or supporting facilities, into an amended and two original site certificates. Each of the three facilities would have separate certificate holders, under the existing certificate holder owner, Avangrid Renewables, LLC. RFA1 does not seek approval for any physical changes to the approved facility or site boundary. Therefore, the scope of Council's review under the Land Use standard is limited to the applicability of WCLUDO zone provisions and WCCP goals and policies to the administrative split of the 2020 Bakeoven Solar Project Site Certificate and new certificate holders. Based on review of the applicable substantive criteria presented in Table 4, the Department recommends Council find that the provisions identified below (WCLUDO 19.030(C)(18) and (19)) may be applicable to the changes proposed in RFA1 and therefore require findings of fact and conclusions of law in this order.

<u>WCLUDO Section 19.030(C)(18)</u>

> *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. In RFA1, the certificate holder represents that all previously imposed conditions would apply to the proposed amended and two new site certificates. Because the Bakeoven Solar Project is currently under construction, preconstruction condition requirements have been satisfied. However, the Bakeoven Solar Project represents 60 MWs of previously approved solar facility components. Therefore, the Department recommends Council find that all pre-construction conditions must be satisfied for not yet constructed facility components which are to be included in separate site certificates.

Previously identified applicable federal, state and local permits required for facility construction include: 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. In addition, local permits could include a building permit, utility crossing permit, access approach permit, and road use agreement from the County.[24]

Consistent with WCLUDO Section 19.030(C)(18), Council previously imposed the following condition to ensure that the certificate holder obtained and provided evidence to the Department and Wasco County that all necessary permits have been obtained prior to construction.

> **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 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. Proof that Applicant has filed the conditional use permit and site plan applications and filing fees pursuant to ORS 469.401(3).
> [PRE-LU-06]

Based upon compliance with the previously approved condition, the Department recommends Council finds that the existing certificate holder for the Bakeoven Solar Project site certificate and two new certificate holders for Daybreak and Sunset Solar Projects would satisfy WCLUDO

[24] BSPAMD1Doc4 pRFA1 Reviewing Agency Comments Wasco County 2021-07-07. Wasco County Interim Planning Director provided comments on pRFA1 affirming that the county would require a final determination on the Type III Administrative Review/CUP for the proposed new site certificates.

Section 19.030(C)(18).

WCLUDO Section 19.030(C)(19)

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 allow EFSC-jurisdictional facilities to comply with these provisions through compliance with the Council's Retirement and Financial Assurance standard. As presented in Section IV.A.4 *Retirement and Financial Assurance* of this order, based on the split of previously approved facility components across three site certificates, the decommissioning estimate has correspondingly been split three ways based on allocation of facility components, accordingly. The Department recommends Council impose amended conditions to reflect the updated decommissioning

estimates, based on the facility component allocation, to then be reflected in the bond or letter of credit to be submitted to the Department. Based upon compliance with recommended amended conditions presented in Section IV.A.4 *Retirement and Financial Assurance* of this order, the Department recommends Council find that the existing and proposed certificate holders would satisfy the requirements of the Council's standard and therefore, based upon this conclusion, the Department recommends Council find that the existing and proposed certificate holders would also satisfy the requirements of WCLUDO Section 19.030(C)(19).

Conclusions of Law

Based on the foregoing recommended findings and the evidence in the record, and subject to compliance with existing site certificate conditions, the Department recommends the Council find that the facility, with proposed changes, would continue to comply with the Land Use standard.

III.A.4 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.*
>
> *(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 facility site can be restored to a useful, non-hazardous condition at the end of the facility's useful life, should either the certificate holder stop construction or should the facility cease to operate.[25] In addition, it requires a demonstration that the certificate holder 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. Similarly, under OAR 345-027-0375(2)(d), for all requests for amendment to issue an amended site certificate, the Council must determine that the preponderance of evidence on the record supports that the amount of the bond or letter of credit required under OAR 345-022-0050 is adequate.

Council previously found that the certificate holder demonstrated compliance with the Retirement and Financial Assurance standard. The changes proposed in RFA1 would not result

[25] OAR 345-022-0050(1).

in changes in tasks or actions previously approved by Council as reasonable for facility decommissioning. Similarly, the changes proposed in RFA1 would not result in changes to the unit costs, as previously approved by Council, for decommissioning of the tasks and actions identified to restore the facility site to a useful, nonhazardous condition.

The changes proposed in RFA1 would result in allocation of previously approved facility components into three site certificates, including sharing of several facility components and related or supporting facilities between the amended and two new site certificates. Consistent with the proposed sharing of previously approved facility components, as represented in Table 2*: Proposed Descriptions of Shared Facility Components* under Section III.A.1., *General Standard of Review* in this order, the certificate holder submits updated retirement cost estimates for Bakeoven Solar, Daybreak Solar, and Sunset Solar in RFA1 Attachments 9, 10, and 11.

Previously approved unit costs and general costs were established in Q1 2019 dollars, with approved contingencies for Performance and Payment Bond at 1%, Department Project Management at 10%, and Future Development for battery storage components at 20% and 10% for the remaining facility components and tasks, respectively. In RFA1 Attachments 9, 10, and 11, the certificate holder applies these values to the previously approved facility components, splitting the components and tasks between the three facilities. These quantities are reflected below in Table 5: *Proposed Amended Facility Decommissioning Cost Estimate and Unit Costs*.

The decommissioning costs of previously approved facility components such as the solar arrays are split or allocated between the three facilities; the full decommissioning cost of the substation and transmission line are allocated to the Bakeoven Solar Project; and, the full decommissioning cost of the battery storage components are allocated to the Sunset Solar Project. As discussed in Section III.A.1, *General Standard of Review*, the certificate holder proposes and the Department recommends new General Standard Condition 7 (GEN-GS-07) be imposed in each site certificate which addresses shared use agreements and how facilities would be shared, including retirement. Under these recommended conditions, site certificates would authorize the shared use of related or supporting facilities of the Bakeoven Solar Project, Day Break Solar Project and Sunset Solar Project including the battery storage system, collector substation, operations and maintenance building, Supervisory, Control and Data Acquisition system, 230 kV transmission line, collection system, access roads, fencing, gates, and temporary staging areas.

Prior to facility decommissioning or if facility operations cease at different times, each certificate holder would have to submit an amendment determination request or request for site certificate amendment to document continued ownership and full responsibility, including coverage of full decommissioning amount of the shared facilities in the bond or letter of credit pursuant to Mandatory Condition Retirement and Financial Assurance Condition 4; (PRE-RT-02), for the operational facilities. The Department recommends Council find that the allocation of retirement bond estimates for individual facility components and shared related or supporting facilities is appropriate and does not impede the certificate holder's ability to demonstrate that the facility sites can be restored to a useful, non-hazardous condition at the

end of the facilities' useful life, should any of the certificate holders stop construction or should the facilities cease to operate.

The Department synthesized the unit costs, represented quantities, subtotal estimates, and contingencies for each facility and provides this information below in Table 5: *Proposed Amended Facility Decommissioning Cost Estimate and Unit Costs*. As noted above and in RFA1, the subtotal estimates for each facility were generated in Q1 2019 dollars (based on the Final Order on ASC April 2020). The certificate holder and Department then adjusted the subtotals for each task 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" (consistent with Retirement and Financial Assurance Condition 5) for the totals to be adjusted to Q2 2021 dollars.[26] After the totals were adjusted, the previously approved contingencies were applied for the new totals for each facility. The previous bond or letter of credit amount for the approved facility was $23,036,000 million dollars (Q1 2019 dollars). The split, shared, and adjusted totals for each facility are $6,850,000 million dollars for Bakeoven, $10,729,000 million dollars for Daybreak, and $8,640,000 million dollars for Sunset Q2 2021 dollars. For comparison to the previously approved $23,036,000 million dollars, the new total for the three facilities combined and adjusted is $26,219,000.

[26] The Department calculated the GDP deflator by dividing nominal GDP by real GDP and multiplying by 100.

1

Table 5: Proposed Amended Facility Decommissioning Cost Estimate and Unit Costs

Task or Action	Unit Cost($)[1]	Unit	Bakeoven Solar		Daybreak Solar		Sunset Solar	
			Quantity[3]	Estimate ($)[2]	Quantity[3]	Estimate ($)[2]	Quantity[3]	Estimate ($)[2]
Equipment Mobilization/Demobilization								
Equipment Mobilization	61,200	Total	1	61,200	1	61,200	1	61,200
Site Facilities	2,200	Total	1	2,200	1	2,200	1	2,200
Crew Mobilization and Site Setup	12,065	Day	3	36,195	3	36,195	3	36,195
Crew Demobilization and Site Cleanup	12,065	Day	2	24,130	2	24,130	2	24,130
Home Office (5%)/Contractor Overhead and Fee (13%)	--	% of Cost	1	22,271	1	22,271	1	22,271
Subtotal (Q1 2019) =				145,996		145,996		145,996
Substation, O&M Building and Transmission Line								
Task or Action	**Unit Cost ($)[1]**	**Unit**	**Bakeoven Solar**		**Daybreak Solar**		**Sunset Solar**	
			Quantity[3]	**Estimate ($)[2]**	**Quantity[3]**	**Estimate ($)[2]**	**Quantity[3]**	**Estimate ($)[2]**
Fence Removal	1,202	Day	1	1,202	0	--	0	--
Transformer/Oil Removal	94,339	Equip.	2	188,678	0	--	0	--
Remove Control Building	2,432	Equip.	1	2,432	0	--	0	--
Remove O&M Building	150,000	Each	1	150,000				
Underground Utility and Ground Removal	1,202	Day	2	2,404	0	--	0	--
Remove Foundations to Subgrade	27	Cu. Yd.	500	13,500	0	--	0	--
Misc. Materials Disposal	1,675	Day	1	1,675	0	--	0	--
Restore Yard	15,650	Acres	4	62,600	0	--	0	--
Conductor Removal	33,955	Mile	11	373,505	0	--	0	--
Structure Removal	4,467	Each	83	370,761	0	--	0	--
Remove Foundations to Subgrade	4,620	Each	83	383,460	0	--	0	--
Home Office (5%)/Contractor Overhead and Fee (13%)	--	% of Cost	1	279,039	0	--	0	--

Table 5: Proposed Amended Facility Decommissioning Cost Estimate and Unit Costs

Task or Action	Unit Cost($)[1]	Unit	Bakeoven Solar		Daybreak Solar		Sunset Solar	
			Quantity[3]	Estimate ($)[2]	Quantity[3]	Estimate ($)[2]	Quantity[3]	Estimate ($)[2]
Subtotal (Q1 2019) =				1,829,256		0		0
Solar Array								
Task or Action	**Unit Cost ($)[1]**	**Unit**	**Bakeoven Solar**		**Daybreak Solar**		**Sunset Solar**	
			Quantity[3]	**Estimate ($)[2]**	**Quantity[3]**	**Estimate ($)[2]**	**Quantity[3]**	**Estimate ($)[2]**
Site Facilities	71	MW	60	4,260	140	9,940	103	7,313
Field Management	2,884	MW	60	173,040	140	403,760	103	297,052
Fence Removal	238	MW	60	14,280	140	33,320	103	24,514
Inverter/Transformer Removal	5,089	Each	18	91,602	44	223,916	56	284,984
Inverter/Transformer Disposal	30	Ton	18	540	44	1,320	56	1,680
Remove Foundations to Subgrade	27	Cu. Yd.	3,456	93,312	8,448	228,096	10,752	290,304
Solar Panel Removal	2.78	Each	181,608	504,870	429,968	1,195,311	276,548	768,803
Solar Panel Trucking	1,375	Each	161	221,375	382	525,250	246	338,250
Solar Panel Disposal	30	Ton	3,632	108,960	8,599	257,970	5,531	165,930
Solar Rack and Post Removal	242	Each	4,779	1,156,518	11,315	2,738,230	7,278	1,761,276
Solar Rack and Post Trucking	1,375	Each	85	116,875	201	276,375	129	177,375
Solar Rack and Post Disposal	30	Ton	1,912	57,360	4,526	135,780	2,911	87,330
Home Office (5%)/Contractor Overhead and Fee (13%)	--	% of Cost	1	457,739	1	1,085,268	1	756,866
Subtotal (Q1 2019) =				3,000,731		7,114,536		4,961,677
Site Restoration								
Decompact Roads	2.68	Linear Feet	20,150	54,002	42,780	114,650	116,851	313,161
Spot Grade Disturbed Areas	536	Acres	142	76,112	398	213,060	329	176,344
Re-seeding	500	Acres	427	213,500	1,325	662,500	1098	549,000
Home Office (5%)/Contractor Overhead and Fee (13%)	--	% of Cost	1	61,851	1	178,238	1	186,931
Subtotal (Q1 2019) =				405,465		1,168,448		1,225,436

Table 5: Proposed Amended Facility Decommissioning Cost Estimate and Unit Costs

Task or Action	Unit Cost($)[1]	Unit	Bakeoven Solar		Daybreak Solar		Sunset Solar	
			Quantity[3]	Estimate ($)[2]	Quantity[3]	Estimate ($)[2]	Quantity[3]	Estimate ($)[2]
Battery Storage System								
Task or Action	**Unit Cost ($)[1]**	**Unit**	**Bakeoven Solar**		**Daybreak Solar**		**Sunset Solar**	
			Quantity[3]	**Estimate ($)[2]**	**Quantity[3]**	**Estimate ($)[2]**	**Quantity[3]**	**Estimate ($)[2]**
Remove Batteries	1,737	Day	0	--	0	--	66	114,642
Transport Batteries	1,480	Day	0	--	0	--	33	48,840
Battery Disposal and Fee	200	Ton	0	--	0	--	432	86,400
Structure Demolition	111	Ton	0	--	0	--	429	47,619
Structural Trucking	1,375	Each	0	--	0	--	33	45,375
Structure Disposal	30	Ton	0	--	0	--	429	12,870
Home Office (5%)/Contractor Overhead and Fee (13%)	--	% of Cost	0	--	0	--	1	64,034
Subtotal (Q1 2019) =			0		0		419,780	
All Tasks, Subtotal (Q1 2019) =			5,381,447		8,428,980		6,752,889	
Update for Q2 2021 dollars								
GDP Deflator Q1 2019 111.4970 GDP Deflator Q2 2021 117.337 Percent increase due to inflation 0.052							All Task Minus Battery	6,333,109
							Adj. No Battery	Adj. Only Battery
Increase due to inflation (Subtotal*Rate)			279,835		438,307		329,322	21,829
Subtotal in Q2 2021 dollar			5,661,282		8,867,287		6,662,430	441,609
Council Applied Contingencies								
Performance and Payment Bond (1%)			56,613		88,673		71,040	NA
Department Project Management (10%)			566,128		886,729		710,404	NA
Future Development (10%/20%)[4]			566128		886,729		666,243	88,322
Proposed Facility Decommissioning Cost (Q2 2021 Dollars)			6,850,151		10,729,417		8,640,048	
Rounded to Nearest 1,000=			6,850,000		10,729,000		8,640,000	

Table 5: Proposed Amended Facility Decommissioning Cost Estimate and Unit Costs

Task or Action	Unit Cost($)[1]	Unit	Bakeoven Solar		Daybreak Solar		Sunset Solar	
			Quantity[3]	Estimate ($)[2]	Quantity[3]	Estimate ($)[2]	Quantity[3]	Estimate ($)[2]

Notes:

1. Unit costs in Q1 2019 Dollars (Final Order on ASC April 2020).
2. Estimate and subtotal values vary from Final Order on ASC due to calculation corrections, rounding, and typos.
3. Quantities for each facility and facility decommissioning allotment identified in BSPAMD1Doc2 Bakeoven Solar Complete RFA1 2021-09-22 Attachments 9, 10, and 11.
4. 20% future development contingency applied to battery storage system.

Based on the requested facility component sharing, retirement cost allocation, and analysis presented above, the Department recommends Council amend previously imposed Retirement and Financial Assurance Condition 5 in the Bakeoven, Daybreak, and Sunset Solar Site Certificates to reflect the updated decommissioning amount for each facility, to be provided as a bond or letter of credit prior to construction, which demonstrate that the site can be restored adequately to a useful, non-hazardous condition following permanent cessation of construction or operation of the facilities. The Department notes that the condition language modification addressing phasing is discussed and recommended in Section III.A.1 *General Standard of Review* and Table 3*: Site Certificate Conditions with Proposed Language Modification,* however represented in the below condition as well. The Department also recommends that the amended Retirement and Financial Assurance Condition 5 be updated to refer to Table 5*: Proposed Amended Facility Decommissioning Cost Estimate and Unit Costs* provided in this Order rather than tables in Final Order on the ASC to address calculation errors and consolidating general costs, unit costs, and contingencies into one table reference.

Recommended Amended Retirement and Financial Assurance Condition 5 (Bakeoven Solar): Before beginning construction of the facility, facility component or phase ~~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 $6,850,000 ~~23,036,000~~ million dollars (Q~~2~~1 2021~~19~~ 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, facility component or phase ~~or any phase of the facility~~, by applying the unit costs, ~~and~~ general costs, and contingencies illustrated in Table 5 of the Final Order on RFA1 for the Bakeoven Solar Project ~~the ASC, and the contingencies illustrated in Table 6 of the Final Order on the ASC~~. The certificate holder may provide a bond or letter of credit for ~~any phase of~~ the facility, facility component or phase, based on the unit costs and general costs illustrated in Table 5 of the Final Order RFA1 for the Bakeoven Solar Project ~~on the ASC, and the contingencies illustrated in Table 6 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). Any modification to the unit costs presented in Table 5 of the Final Order RFA1 for the Bakeoven Solar Project ~~on the ASC~~ are subject to review and approval by the Council.

b. The certificate holder shall adjust the amount of the bond or letter of credit using the following calculation:

    1. Adjust the amount of the bond or letter of credit (expressed in Q~~2~~1 2021~~19~~ 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 second ~~first~~ quarter 2021~~19~~ 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 second ~~first~~ quarter 20212~~19~~ dollars to present value.

2. 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-RT-02, Final Order on ASC (2020), AMD1 (2021)]

Recommended Amended Retirement and Financial Assurance Condition 5 (Daybreak Solar Project): Before beginning construction of the facility, facility component or phase ~~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 $10,729,000~~23,036,000~~ million dollars (Q~~1~~ 20212~~19~~ 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:

e. The certificate holder may adjust the amount of the bond or letter of credit based on the design configuration of the facility, facility component or phase ~~or any phase of the facility~~, by applying the unit costs, ~~and~~ general costs, and contingencies illustrated in Table 5 of the Final Order on RFA1 for the Bakeoven Solar Project ~~the ASC, and the contingencies illustrated in Table 6 of the Final Order on the ASC~~. The certificate holder may provide a bond or letter of credit for ~~any phase of~~ the facility, facility component or phase, based on the unit costs and general costs illustrated in Table 5 of the Final Order RFA1 for the Bakeoven Solar Project ~~on the ASC, and the contingencies illustrated in Table 6 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). Any modification to the unit costs presented in Table 5 of the Final Order RFA1 for the Bakeoven Solar Project ~~on the ASC~~ are subject to review and approval by the Council.

f. The certificate holder shall adjust the amount of the bond or letter of credit using the following calculation:

3. Adjust the amount of the bond or letter of credit (expressed in Q~~1~~ 20212~~19~~ 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 second ~~first~~ quarter 20212~~19~~ 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 second ~~first~~ quarter 2021~~19~~ dollars to present value.

4. Round the result total to the nearest $1,000 to determine the financial assurance amount.

g. 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.

h. 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-RT-02, AMD1 (2021)]

Recommended Amended Retirement and Financial Assurance Condition 5 (Sunset Solar Project): Before beginning construction of the facility, facility component or phase ~~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 $8,640,000~~23,036,000~~ million dollars (Q~~1~~ 2021~~19~~ 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:

i. The certificate holder may adjust the amount of the bond or letter of credit based on the design configuration of the facility, facility component or phase ~~or any phase of the facility~~, by applying the unit costs, ~~and~~ general costs, and contingencies illustrated in Table 5 of the Final Order on RFA1 for the Bakeoven Solar Project ~~the ASC, and the contingencies illustrated in Table 6 of the Final Order on the ASC~~. The certificate holder may provide a bond or letter of credit for ~~any phase of~~ the facility, facility component or phase, based on the unit costs and general costs illustrated in Table 5 of the Final Order RFA1 for the Bakeoven Solar Project ~~on the ASC, and the contingencies illustrated in Table 6 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). Any modification to the unit costs presented in Table 5 of the Final Order RFA1 for the Bakeoven Solar Project ~~on the ASC~~ are subject to review and approval by the Council.

j. The certificate holder shall adjust the amount of the bond or letter of credit using the following calculation:

5. Adjust the amount of the bond or letter of credit (expressed in Q~~1~~ 2021~~19~~ 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 second ~~first~~ quarter 2021~~19~~ 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

second ~~first~~ quarter 2021~~19~~ dollars to present value.

6. Round the result total to the nearest $1,000 to determine the financial assurance amount.

k. 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.

l. 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-RT-02, Final Order on ASC (2020), AMD1 (2021)]

OAR 345-022-0050(2) requires the Council to find that applicants/certificate holders have a reasonable likelihood of obtaining a bond or letter of credit in a form and amount satisfactory to Council to restore the facility sites to a useful non-hazardous condition. The certificate holder provides Articles of Incorporation/Proof of Registration to Do Business in Oregon for both Daybreak and Sunset Solar as RFA1 Attachments 1 and 2.[27] RFA1 Attachments 4 and 5 are letters from Avangrid's legal counsel, indicating that Daybreak Solar, LLC and Sunset Solar, LLC have the legal authority to construct and operate Phase II and Phase III without violating its articles of incorporation or similar agreements which provide evidence of the certificate holder's financial capability and support the likelihood of obtaining a bond or letter of credit in a form and amount satisfactory to Council.[28]

A bond or letter of credit provides a site restoration remedy to protect the state of Oregon and its citizens if the certificate holders fail to perform its obligation to restore the sites. Council previously found that the certificate holder for the Bakeoven Solar Project and parent company, Avangrid, had a reasonable likelihood of obtaining a bond or letter of credit in a form and amount of $23,036,000 million dollars (Q1 2019 dollars). In compliance with Retirement and Financial Assurance Condition 4 and 5, prior to construction of the approved Phases I and II of the facility, the certificate holder provided and the Department approved bonds in an amount equal to the net costs of the previously approved facility retirement. The certificate holder provides copies of the approved bonds as RFA1 Attachment 12. The bonds are provided by Liberty Mutual Insurance Company as Surety and lists the certificate holder as Principal that are bound to the State of Oregon through the Council. Liberty Mutual is on the list of financial institutions approved as an acceptable form under the Retirement and Financial Assurance standard that Council reviewed and approved in January 2021. The bonds also include a signed and executed Power of Attorney which identities several signatories of the Surety who are authorized to execute and deliver the bonds and its terms. Further, in RFA1, the certificate holder includes Attachment 13 which is a July 22, 2021 letter from Liberty Mutual Surety confirming that the certificate holder's parent company, Avangrid Renewables, LLC, has the qualifications necessary for the financial institution to issue a bond or letter of credit up to $150

[27] OAR 345-021-0010(1)(m).

[28] BSPAMD1Doc2 Bakeoven Solar Complete RFA1 2021-09-22, Attachments 4 and 5.

million dollars.[29] Because the certificate holder provided bonds to the Department for Phase I and II, the Department recommends that the executed bonds approved by the Department for Phase I and II (totaling $23,036,000 million dollars) demonstrate that the certificate holder for Bakeoven, Daybreak, and Sunset Solar have a reasonable likelihood of obtaining a bond or letter of credit in the amounts of $6,625,000 million dollars for Bakeoven, $10,729,000 million dollars for Daybreak, and $8,640,000 million dollars for Sunset Q2 2021 dollars. Further, the Liberty Mutual letter from July 2021 qualifying the certificate holder owner for up to $150 million dollar bond also demonstrates that the certificate holders have a reasonable likelihood of obtaining a bond or letter of credit in a form and amount satisfactory to Council to restore the facility sites (Bakeoven, Daybreak and for Sunset Solar) to a useful non-hazardous condition.

Conclusions of Law

Based on the foregoing recommended findings of fact, and subject to compliance with the existing and recommended amended Retirement and Financial Assurance conditions, the Department recommends that the Council find that the facilities, with proposed changes, would continue to comply with the Council's Retirement and Financial Assurance standard and that under OAR 345-027-0375(2)(d), for the request for amendment, Council finds that the amount of the bond or letter of credit required under OAR 345-022-0050 is adequate.

III.A.5 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 proposed facility, or facility with proposed changes, is consistent with the Oregon Department of Fish and Wildlife's (ODFW) habitat mitigation policy, goals, and standards, as set forth in OAR 635-415-0025. The ODFW Habitat Mitigation Policy and EFSC Fish and Wildlife Habitat standard create 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 policy also establishes a habitat classification system based on value the habitat would provide to a species or group of species.

[29] BSPAMD1Doc2 Bakeoven Solar Complete RFA1 2021-09-22, Attachments 13.

There are six habitat categories; Category 1 being the most valuable and Category 6 the least valuable.

Council previously found that the certificate holder demonstrated compliance with the Fish and Wildlife Habitat standard. Because there are no physical changes and no new geographic area proposed in RFA1, the proposed changes would not impact Council's previous findings of compliance. As proposed in RFA1, the proposed change includes the shared use of previously approved facility components and related or supporting facilities into an amended and two original site certificates, and mirrors previously imposed conditions and mitigation plan requirements. To ensure that all previously approved mitigation plans are maintained, as applicable, based on the amended Bakeoven Solar and original Daybreak Solar and Sunset Solar site certificates, the Department provides the following analysis.

As noted in this order, the proposed changes in RFA1 would not result in any impacts to Fish and Wildlife habitat that have not previously been addressed by the Council. However, in the 2020 Final Order on the ASC, Council reviewed and approved a draft Habitat Mitigation Plan (HMP), Noxious Weed Control Plan, Revegetation Plan and Wildlife Monitoring Plan (WMP) to address temporary and permanent habitat impacts, wildlife impacts and noxious weeds. These plans are required to be finalized, prior to construction. The existing and proposed new certificate holders would be required to comply with the requirements of the previously approved plans, to be finalized in accordance with the existing condition requirements.

Existing Fish and Wildlife Habitat Condition 1 (GEN-FW-01) requires finalization and implementation of a Revegetation Plan. The draft amended Revegetation Plan for Bakeoven and draft Revegetation Plans for Daybreak and Sunset Solar Projects are included as Attachment C-1, C-2, and C-3 of this order, where the amendments are limited to changes in the name and description of the facility/facility components for which the plan would apply. Fish and Wildlife Habitat Condition 2 (GEN-FW-02) requires finalization of a draft Noxious Weed Control Plan. The draft amended Noxious Weed Control Plan for Bakeoven Solar Project and draft Noxious Weed Control Plans for Daybreak and Sunset Solar Projects are included as Attachments E-1, E-2 and E-3 to this order, where the amendments are limited to changes in the name and description of the facility/facility components for which the plan would apply.

Fish and Wildlife Habitat Condition 9 (GEN-FW-05) requires implementation of the WMP, which requires implementation of a 1-2 year post construction fatality monitoring program. In RFA1, the certificate holder proposes to remove the WMP from the proposed two original site certificates for Daybreak and Sunset Solar Projects, while maintaining the WMP and condition requirement in the amended Bakeoven Solar Project site certificate. The certificate holder describes that the monitoring area originally proposed for the 303 MW facility is equal to the proposed micrositing area for the amended Bakeoven Solar Project site certificate, therefore, once completed for Bakeoven, even with the split/sharing, the total survey area would be the same as originally proposed. Based on consultation with ODFW, the Department recommends that Council find that imposing Condition GEN-FW-05 solely in the amended Bakeoven Solar

Project site certificate provides the same level of analysis of potential avian impacts as previously evaluated by Council in the 2020 Final Order on the ASC. [30]

Conclusions of Law

Based on the foregoing recommended findings of fact and conclusions, and subject to compliance with existing site certificate conditions, the Department recommends the Council find that the facilities, with proposed changes, would continue to comply with the Council's Fish and Wildlife Habitat standard.

III.B. Standards Not Likely to Be Impacted by Request for Amendment 1

RFA1, as described throughout this order, solely requests authorization to split, and share some, previously approved facility components within previously approved site boundary and micrositing corridors, but redefined based on specific facility components covered in an amended and two original site certificates. Based on the administrative scope of the amendment request, with the exception of substantive changes evaluated in Section III.A. *Standards Potentially Impacted by Request for Amendment 1* of this Order, the Department recommends Council find that the standards listed below are not likely to be impacted by RFA1.

Sections III.B.1 through III.B.12 present the language of the identified standards and other applicable laws and regulations not likely to be impacted by RFA1, for reference purposes only.

III.B.1 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:*
>
> *(1) The applicant, through appropriate site-specific study, has adequately characterized the seismic hazard risk of the site;*
>
> *(2) 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);*
>
> *(3) 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*
>
> *(4) The applicant can design, engineer and construct the facility to avoid dangers to human safety and the environment presented by the hazards identified in*

[30] BSPAMD1Doc4-1 pRFA1 Reviewing Agency Comments ODFW_ Thompson 2021-08-16.

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.

(3) The Council may not impose the Structural Standard in section (1) to deny an application for a special criteria facility under OAR 345-015-0310. 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.

III.B.2 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.

III.B.3 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.

*****

III.B.4 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.

III.B.5 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.

III.B.6 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.
*****

III.B.7 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.
*****

III.B.8 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.

*****

III.A.9 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.

*****

III.B.10 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 facility, with proposed changes, would not be a nongenerating facility as defined in statute and therefore Division 23 is inapplicable to the facility, with proposed changes..

III.B.11 Division 24 Standards

The Council's Division 24 standards include specific standards for the siting of wind project, which is further evaluated below.

III.B.11.1 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.

III.B.12 Other Applicable Regulatory Requirements Under Council Jurisdiction

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 the Oregon Department of State Lands' Removal Fill Law and Oregon Department of Water Resources' Water Rights Law.

III.B.12.1 Noise Control Regulations: OAR 340-035-0035

(1) Standards and Regulations:

*****

(b) New Noise Sources:

(B) New Sources Located on Previously Unused Site:

(i) 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).

(ii) 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.

(iii) For noise levels generated or caused by a wind energy facility:

(I) The increase in ambient statistical noise levels is based on an assumed background L50 ambient noise level of 26 dBA or the actual ambient background level. The person owning the wind energy facility may

conduct measurements to determine the actual ambient L10 and L50 background level.

(ii) The "actual ambient background level" is the measured noise level at the appropriate measurement point as specified in subsection (3)(b) of this rule using generally accepted noise engineering measurement practices. Background noise measurements shall be obtained at the appropriate measurement point, synchronized with windspeed measurements of hub height conditions at the nearest wind turbine location. "Actual ambient background level" does not include noise generated or caused by the wind energy facility.

(iii) The noise levels from a wind energy facility may increase the ambient statistical noise levels L10 and L50 by more than 10 dBA (but not above the limits specified in Table 8), if the person who owns the noise sensitive property executes a legally effective easement or real covenant that benefits the property on which the wind energy facility is located. The easement or covenant must authorize the wind energy facility to increase the ambient statistical noise levels, L10 or L50 on the sensitive property by more than 10 dBA at the appropriate measurement point.

(iv) For purposes of determining whether a proposed wind energy facility would satisfy the ambient noise standard where a landowner has not waived the standard, noise levels at the appropriate measurement point are predicted assuming that all of the proposed wind facility's turbines are operating between cut-in speed and the wind speed corresponding to the maximum sound power level established by IEC 61400-11 (version 2002-12). These predictions must be compared to the highest of either the assumed ambient noise level of 26 dBA or to the actual ambient background L10 and L50 noise level, if measured. The facility complies with the noise ambient background standard if this comparison shows that the increase in noise is not more than 10 dBA over this entire range of wind speeds.

(v) For purposes of determining whether an operating wind energy facility complies with the ambient noise standard where a landowner has not waived the standard, noise levels at the appropriate measurement point are measured when the facility's nearest wind turbine is operating over the entire range of wind speeds between cut-in speed and the windspeed corresponding to the maximum sound power level and no turbine that could contribute to the noise level is disabled. The facility complies with the noise ambient background standard if the increase in noise over either the assumed ambient noise level of 26 dBA or to the actual ambient background L10 and L50 noise level, if measured, is not more than 10 dBA over this entire range of wind speeds.

(vi) For purposes of determining whether a proposed wind energy facility would satisfy the Table 8 standards, noise levels at the appropriate measurement point are predicted by using the turbine's maximum sound power level following procedures established by IEC 61400-11 (version 2002-12), and assuming that all of the proposed wind facility's turbines are operating at the maximum sound power level.

(vii) For purposes of determining whether an operating wind energy facility satisfies the Table 8 standards, noise generated by the energy facility is measured at the appropriate measurement point when the facility's nearest wind turbine is operating at the windspeed corresponding to the maximum sound power level and no turbine that could contribute to the noise level is disabled.

***

III.B.12.2 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."[31] The Council, in consultation with DSL, must determine whether a removal-fill permit is needed and if so, whether a removal-fill permit should be issued.

III.B.12.3 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 facility would comply with these statutes and administrative rules. OAR 345-021-0010(1)(o)(F) requires that if a facility needs a groundwater permit, surface water permit, or water right transfer, that a decision on authorizing such a permit rests with the Council.

[31] ORS 196.800(15) defines "Waters of this state." The term includes wetlands and certain other waterbodies.

V. PROPOSED CONCLUSIONS AND ORDER

Based on the recommended findings and conclusions included in this order, the Department recommends that Council make the following findings:

1. The proposed changes included in Request for Amendment 1 of the Bakeoven Solar Project site certificate, including allocation and sharing of previously approved facility components in an amended Bakeoven Solar Project Site Certificate and two original site certificates for facilities to be named Sunset Solar Project and Daybreak Solar Project, comply with the requirements of the Oregon Energy Facility Siting Statutes, ORS 469.300 to 469.520.

2. The proposed changes included in Request for Amendment 1 of the Bakeoven Solar Project site certificate, including allocation and sharing of previously approved facility components in an amended Bakeoven Solar Project Site Certificate and two original site certificates for facilities to be named Sunset Solar Project and Daybreak Solar Project, comply with the standards adopted by the Council pursuant to ORS 469.501.

3. The proposed changes included in Request for Amendment 1 of the Bakeoven Solar Project site certificate, including allocation and sharing of previously approved facility components in an amended Bakeoven Solar Project Site Certificate and two original site certificates for facilities to be named Sunset Solar Project and Daybreak Solar Project, comply with all other Oregon statutes and administrative rules identified in the project order as applicable to the issuance of a site certificate for the facility.

Accordingly, the Department recommends that the Council find that the proposed changes included in Request for Amendment 1 of the Bakeoven Solar Project site certificate complies with the General Standard of Review (OAR 345-022-0000). The Department recommends that the Council find, based on a preponderance of the evidence on the record, that an amended and two original site certificates may be issued, as requested.

Draft Proposed Order

The Department recommends that the Council approve Amendment 1 of the Bakeoven Solar Project site certificate and issue and amended and two original site certificates for Sunset Solar Project and Daybreak Solar Project.

Issued this 27th day of September 2021

The OREGON DEPARTMENT OF ENERGY



By: _____

Todd Cornett, Assistant Director
Oregon Department of Energy, Energy Facility Siting Division

ATTACHMENTS

Attachment A-1: Draft Amended Bakeoven Solar Project Site Certificate
Attachment A-2: Draft Daybreak Solar Project Site Certificate
Attachment A-3: Draft Sunset Solar Project Site Certificate
Attachment B-1: pRFA1 Reviewing Agency Comments
Attachment B-2: [Reserved for Draft Proposed Order Comments]
Attachment C-1: Draft Amended Revegetation Plan (Bakeoven Solar Project)
Attachment C-2: Draft Revegetation Plan (Daybreak Solar Project)
Attachment C-3: Draft Revegetation Plan (Sunset Solar Project)
Attachment D-1: Draft Amended Habitat Mitigation Plan (Bakeoven Solar Project)
Attachment D-2: Draft Habitat Mitigation Plan (Daybreak Solar Project)
Attachment D-3: Draft Habitat Mitigation Plan (Sunset Solar Project)
Attachment E-1: Draft Amended Noxious Weed Control Plan (Bakeoven Solar Project)
Attachment E-2: Draft Noxious Weed Control Plan (Daybreak Solar Project)
Attachment E-3: Draft Noxious Weed Control Plan (Sunset Solar Project)
Attachment F: Draft Amended Wildlife Monitoring Plan (Bakeoven Solar Project)
Attachment G-1: Draft ESCP Drawings and BMPs (Bakeoven Solar Project)
Attachment G-2: Draft ESCP Drawings and BMPs (Daybreak Solar Project)
Attachment G-3: Draft ESCP Drawings and BMPs (Sunset Solar Project)
Attachment H-1: Draft Amended Inadvertent Discovery Plan (Bakeoven Solar Project)
Attachment H-2: Draft Inadvertent Discovery Plan (Daybreak Solar Project)
Attachment H-3: Draft Inadvertent Discovery Plan (Sunset Solar Project)
Attachment I-1: Draft Amended Construction Traffic Management BMPs (Bakeoven Solar Project)
Attachment I-2: Draft Construction Traffic Management BMPs (Daybreak Solar Project)
Attachment I-3: Draft Construction Traffic Management BMPs (Sunset Solar Project)
Attachment J-1: Draft Amended Operational Fire Protection and Emergency Response Plan (Bakeoven Solar Project)
Attachment J-2: Draft Operational Fire Protection and Emergency Response Plan (Daybreak Solar Project)
Attachment J-3: Draft Operational Fire Protection and Emergency Response Plan (Sunset Solar Project)

Attachment A: Draft Amended and Original Site Certificates

Attachment A-1: Draft Amended Site Certificate (Bakeoven Solar Project)

ENERGY FACILITY SITING COUNCIL

OF THE

STATE OF OREGON

Amended Site Certificate for the Bakeoven Solar Project

ISSUE~~E~~ANCE DATES

Site Certificate	April 24, 2021
First Amended Site Certificate	DATE TBD
~~**April 24, 2020**~~	

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Table of Contents

1.0 Introduction and Site Certification 1

2.0 Facility Location, Site Boundary and Micrositing Corridor 3

3.0 Facility Development Phases 4

3.1 Construction 4

3.2 Operations and Maintenance 5

4.0 Facility Description 5

4.1 Energy Facility 6

4.2 Related or Supporting Facilities 6

4.3 Shared Related or Supporting Facilities 9

5.0 Site Certificate Conditions 10

5.1 Condition Format 10

5.2 General Conditions (GEN): Design, Construction and Operations 11

5.3 Pre-Construction (PRE) Conditions 20

5.4 Construction (CON) Conditions 27

5.5 Pre-Operational (PRO) Conditions 28

5.6 Operational (OPR) Conditions 28

5.7 Retirement Conditions (RET) 30

6.0 Successors and Assigns 31

7.0 Severability and Construction 31

8.0 Execution 31

Attachments

Attachment A	Facility Site Boundary and Micrositing Corridor

Acronyms and Abbreviations

ASC	Application for Site Certificate
BPA	Bonneville Power Administration
Certificate Holder	Bakeoven Solar, LLC
Council	Oregon Energy Facility Siting
Department	Oregon Department of Energy
DOGAMI	Oregon Department of Geology and Mineral Industries
Facility	Bakeoven Solar Project
HMP	Habitat Mitigation Plan
HV	High voltage
Li-ion	Lithium Ion
MWac	Megawatt alternating current
NPDES	National Pollutant Discharge Elimination System
O&M	Operations and Maintenance
OAR	Oregon Administrative Rule
ODFW	Oregon Department of Fish and Wildlife
ORS	Oregon Revised Statute
Parent Company	Avangrid Renewables, LLC
RFA	Request for Amendment
SCADA	Supervisory Control and Data Acquisition
State	State of Oregon

1.0 Introduction and Site Certification

This site certificate is a binding agreement between the State of Oregon (State), acting through the Energy Facility Siting Council (Council) and Bakeoven Solar, LLC (certificate holder), a subsidiary of Avangrid Renewables, LLC (certificate holder owner). As authorized under Oregon Revised Statute (ORS) Chapter 469, the Council issues this site certificate authorizing the certificate holder to construct, operate and retire the Bakeoven Solar Project (facility) at the below described site within Wasco County, subject to the conditions set forth herein.

Both the State and certificate holder must abide by local ordinances, state law and the rules of the Council in effect on the date this site certificate is executed. However, upon a clear showing 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 (ORS 469.401(2)).

The findings of fact, reasoning and conclusions of law underlying the terms and conditions of this site certificate are set forth in the following documents, incorporated herein by this reference: (a) the *Final Order on Request for Amendment 1 of the Bakeoven Solar Project* issued on [DATE] (b) the *Final Order on the Application for Site Certificate for the Bakeoven Solar Project* issued on April 24, 2020 (hereafter, *Final Order on the Application*). Any ambiguity will be clarified by reference to the following, in order of priority: (1) the *Final Order on Request for Amendment 1 of the Bakeoven Solar Project* (2) the *Final Order on the Application*, and (2) the record of the proceedings that led to the above referenced orders ~~*Final Order on the Application*~~.

As authorized in *Final Order on Amendment 1*, the Bakeoven Solar Project certificate holder obtained approval to split the Bakeoven Solar Project site certificate into three site certificates – Bakeoven Solar Project, Daybreak Solar Project and Sunset Solar Project. Each of these certificate holders is a wholly owned subsidiary and LLC created by Avangrid Renewables, LLC resulting in each certificate holder owned by the same parent company. In addition, these facilities share facility components and are interconnected for the duration of long-term operation.

Because the findings of fact, reasoning and conclusions of law underlying the terms and conditions of the site certificate as set forth in the *Final Order on the Application* are incorporated by reference into the site certificate, these underlying findings, including any findings establishing the predevelopment condition of the site and impacts of approved facility components continue to have bearing on the analysis and findings required to approve any future changes to the site certificates for the successor facilities. In other words, compliance with Council standards requiring an environmental impact analysis should be based on 2020 predevelopment conditions. This clarification is intended to establish that, with the splitting of facility components under three site certificates, baseline conditions (2020) and subsequent environmental impacts of the facilities, based on final design, shall not be adjusted in a way that results in greater overall impacts than the level of impacts that would be authorized under one site certificate. Future requests to amend the Bakeoven Solar Project site certificate shall evaluate compliance with Council standard requirements based on overall impacts from the

operational components as approved in the *Final Order on the Application,* and as represented in the *Final Order on Amendment 1 of the Bakeoven Solar Project*.

This site certificate binds the State and all counties, cities and political subdivisions in Oregon as to the approval of the site and the construction, operation, and retirement of the facility as to matters that are addressed in and governed by this site certificate (ORS 469.401(3)). This site certificate does not address, and is not binding with respect to, matters that are not included in and governed by this site certificate, and such matters include, but are not limited to: employee health and safety; building code compliance; wage and hour or other labor regulations; local government fees and charges; other design or operational issues that do not relate to siting the facility (ORS 469.401(4)); and permits issued under statutes and rules for which the decision on compliance has been delegated by the federal government to a state agency other than the Council (ORS 469.503(3)).

Each affected state agency, county, city, and political subdivision in Oregon with authority to issue a permit, license, or other approval addressed in or governed by this site certificate, shall upon submission of the proper application and payment of the proper fees, but without hearings or other proceedings, issue such permit, license or other approval subject only to conditions set forth in this site certificate. In addition, each state agency or local government agency that issues a permit, license or other approval for this facility shall continue to exercise enforcement authority over such permit, license or other approval (ORS 469.401(3)). For those permits, licenses, or other approvals addressed in and governed by this site certificate, the certificate holder shall comply with applicable state and federal laws adopted in the future to the extent that such compliance is required under the respective state agency statutes and rules (ORS 469.401(2)).

The certificate holder must construct, operate and retire the facility in accordance with all applicable rules as provided for in Oregon Administrative Rule (OAR) Chapter 345, Division 26. After issuance of this site certificate, the Council shall have continuing authority over the site and may inspect, or direct the Oregon Department of Energy (Department) 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 this site certificate (ORS 469.430).

The obligation of the certificate holder to report information to the Department or the Council under the conditions listed in this site certificate is subject to the provisions of ORS 192.502 *et seq.* and ORS 469.560. To the extent permitted by law, the Department and the Council will not publicly disclose information that may be exempt from public disclosure if the certificate holder has clearly labeled such information and stated the basis for the exemption at the time of submitting the information to the Department or the Council. If the Council or the Department receives a request for the disclosure of the information, the Council or the Department, as appropriate, will make a reasonable attempt to notify the certificate holder and will refer the matter to the Attorney General for a determination of whether the exemption is applicable, pursuant to ORS 192.450.

The Council recognizes that many specific tasks related to the design, construction, operation and retirement of the facility will be undertaken by the certificate holder's agents or contractors. Nevertheless, the certificate holder is responsible for ensuring compliance with all provisions of the site certificate.

The duration of this site certificate shall be the life of the facility, subject to termination pursuant to OAR 345-027-0313 or the rules in effect on the date that termination is sought, or revocation under ORS 469.440 and OAR 345-029-0100 or the statutes and rules in effect on the date that revocation is ordered. The Council shall not change the conditions of this site certificate except as provided for in OAR Chapter 345, Division 27.

The definitions in ORS 469.300 and OAR 345-001-0010 apply to the terms used in this site certificate, except where otherwise stated, or where the context clearly indicates otherwise. In accordance with ORS 469.300(6), preconstruction conditions may be satisfied for the applicable facility, facility component or phase, as applicable, based on final design and configuration.

2.0 Facility Location, Site Boundary and Micrositing Corridor

The facility site is 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 "site boundary" includes approximately 10,640 acres entirely within private property. A "site boundary" means the perimeter of the site of an energy facility and its related or supporting facilities, all temporary laydown and staging areas and all corridors proposed by the applicant.[1] The approved site boundary encompasses some or all of the townships, ranges and section identified in Table 1 below.

Table 1: Township, Range and Section within the Facility Site Boundary

Township	Range	Sections
4S	14E	25, 26, 27, 36
4S	15E	25, 29, 30, 31, 32, 36
4S	16E	30
5S	15E	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 23, 24, 25
5S	16E	7, 18, 19, 20, 29, 30

The approved micrositing corridor includes approximately 1,270 ~~4,160~~ acres within the site boundary. 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,

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

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 the *Final Order on the Application* Section IV. *Evaluation of Council Standards* of this order, based on the certificate holder's methodology, where surveys and analysis encompassed the entirety of a micrositing corridor to inform the evaluation of impacts under each Council standard, the Council evaluated the permanent occupation of, and potential impacts from, the facility anywhere within an approximately 1,270 ~~4,160~~ acre micrositing corridor within the site boundary. Based on this evaluation, Council approved the micrositing corridor.

The facility site boundary and micrositing corridor are presented in Attachment 1 of this site certificate.

3.0 Facility Development Phases

~~The facility may be developed in a single build-out or in multiple phases, depending on customer demands or market conditions, and could result in, when there is a change in certificate holder owner (parent company) future site certificate transfers to another certificate holder; or, site certificate amendment request. If developed in phases, the phases would likely share related or supporting facilities like the 230 kV transmission line, access roads, the Operations and Maintenance (O&M) building (including septic and possible groundwater wells), support infrastructure like the Supervisory Control and Data Acquisition (SCADA) system, the collector substation, and possibly other related or supporting facilities.~~

~~For reference to potential construction phasing, the facility may be constructed based on the following phases and generation capacity:~~

~~Table 2: Proposed Facility Phasing Schedule~~

~~Phase~~	~~Project size~~	~~Operational date~~
~~Phase 1~~	~~60 MW~~	~~2021~~
~~Phase 2~~	~~140 MW~~	~~2022~~
~~Phase 3~~	~~103 MW~~	~~2023/2024~~

3.1 Construction

~~As described above, the facility may be constructed in one phases or in multiple phases.~~ Construction of solar photovoltaic energy components generally includes: preparation of the site and staging areas, including grading and access road construction; installation of array foundations, conductors, the operations and maintenance building, and the control enclosure; assembly of solar panels and electrical connection components; construction of the inverter pad, substation, cabling, terminations, and transmission lines; and commissioning of the array

and interconnection, revegetation, and waste removal and recycling facilities. Construction of the transmission line generally includes site preparation and access road construction; structure foundation installation; erection of support structures; and, stringing of conductors, shield wire and fire optic ground wire.

The estimated construction workforce includes 250 (average) to 400 (peak) workers. Interstate Highway 84 (I-84), U.S. Highway (US) 197 near The Dalles, and Bakeoven Road are the primary transportation routes. Additional transportation routes 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.

Construction-related water is obtained from City of Maupin and/or new on existing onsite well.

3.2 Operations and Maintenance

Routine operations and maintenance (O&M) activity would potentially include solar panel washing (approximately 1 million gallons of water per year); infrequent repair and replacement of solar arrays and associated electrical equipment; battery replacement every 7 years; and, replacement of electrolyte solution every 20 years at a rate of 7,000 gallons per 1 megawatt (MW) of electrolyte solution, if flow battery storage systems are selected in final design.

The vegetation in the area under and around each solar module installation would be mowed annually and maintained sufficiently low, in accordance with the certificate holder's Operational Fire Protection and Emergency Response Plan, to reduce fire-related fuels. Vegetation along the transmission line will be managed as needed to reduce fuels for wildfire. Operational-related water is obtained from a new or existing onsite well.

The estimated operational workforce is 5 to 10 workers.

4.0 Facility Description

A 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.[2] The facility includes solar photovoltaic power generation equipment and related or supporting facilities, with a nominal and average generating capacity of approximately 60 ~~303~~ megawatt alternating current (MWac). The certificate holder has flexibility in final facility layout, number of equipment, and technology type selected because the ~~ASC and final order~~ *Final Order on the Application* analyzed maximum impacts within a designated micrositing corridor.

[2] OAR 345-001-0010(21) and – (50)

4.1 Energy Facility

The energy facility includes solar modules (mono- or poly-crystalline cells), tracker systems, posts (approx. 29,760 ~~150,300~~ posts, steel or pile-type, assumed concrete foundations), and related electrical equipment (cabling; approx. 18 ~~153~~ inverter/transformer stations; and, approx. ~~23 miles of above- and~~ 4.27 miles of belowground 34.5 kV collection system ~~- aboveground collector lines to be placed on single or double circuit monopole 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.[3]

The solar array includes shielded electrical cabling, as required by applicable code, to prevent electrical fires.

4.2 Related or Supporting Facilities

Related or supporting facilities, as further described below, include:

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

230 kV Transmission Line

The 230 kV transmission line is approved to extend approximately 11 miles from the facility 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 230 kV transmission line route extends northwest from the facility 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 approved 230 kV transmission line structures include two galvanized steel or wood pole H-frame 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).

Collector Substation and O&M Building

The facility collector substation operates to combine and step up the voltage of energy generated by the energy facility to the desired transmission voltage. The facility collector substation likely includes two non-polychlorinated biphenyl oil-containing transformers (49,385

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

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 facility collector substation site is an approximately 3 acre fenced, graveled area, within the fenced solar array area, within ~~near~~ the transmission line corridor, at the northern ~~southern~~ end of the site boundary (see ASC Exhibit C, Figure C-2). The facility 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 facility. All electrical equipment will meet National Electrical Code and Institute of Electrical and Electronics Engineers standards.[4]

The O&M building includes a single-story building, approximately 20 feet in height, within an approximately 5,000 square foot area, and includes office space, storage, bathroom, and breakroom facilities. Water is supplied via an existing or newly constructed on-site permit exempt groundwater well (see ASC Exhibit O). The O&M building has 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 is provided via local service providers. A gravel parking and storage area is located adjacent to the building. The O&M building is located near the solar array, within the solar array perimeter fence. To reduce any risks of fire, the fenced areas around the O&M building is graveled, with no vegetation present. The O&M building has basic firefighting equipment for use on site during maintenance activities, such as shovels, beaters, portable water for hand sprayers, fire extinguishers, and other equipment.

Communication and Supervisory Control and Data Acquisition System

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

Site Access, Service Roads, Perimeter Fencing, and Gates

The facility is accessed from Bakeoven Road east of Maupin, Oregon. Within the site boundary, there are approximately 5.0 ~~24~~ miles of service roads for access and maintenance purposes. New service roads within the site boundary are up to 20 feet wide with an internal turning radius sufficiently sized for emergency vehicle access. Facility roads are 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 are 16 to 20 feet wide with an internal turning radius of 28 feet and less than 10 percent grade to provide access to

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

emergency vehicles.[5] Chain-link perimeter fencing, up to 8 feet in height, encloses the solar array. The perimeter fencing has vehicle and pedestrian access gates, including two 16-foot-wide gates and one 4-foot-wide gate (see ASC Exhibit C, Figure C-2).

Temporary Staging Areas

Two ~~Three~~ temporary staging areas used for equipment and supply storage, including ~~and~~ one or more temporary concrete batch plant staging areas, may be needed during construction. One temporary staging area will be shared with Phase II and III. All temporary staging areas are located with the approved micrositing corridor. Employees are 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.

Battery Storage System

The battery storage system is comprised of either lithium-ion (Li-ion) or flow batteries and 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.

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.

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

4.3 Shared Related or Supporting Facilities

The site certificates for the Bakeoven Solar Project (Phase I), Day Break Solar Project (Phase II) and Sunset Solar Project (Phase III) were originally approved as one site certificate for the Bakeoven Solar Project (April 2020). In April 2021, facility components were split or allocated into three separate site certificates, but identified that certain related or supporting facilities would be shared or used by each facility. Sharing of facility components, or use by multiple facilities, is allowable in the EFSC process when the compliance obligation and applicable regulatory requirements for the shared facilities is adequately covered under each site certificate, including under normal operational circumstances, ceasing/termination of operation, emergencies and compliance issues or violations.

The certificate holder is authorized to share related or supporting facilities between the Bakeoven Solar Project (Phase I), Day Break Solar Project (Phase II) and Sunset Solar Project (Phase III), including the collector substation, 230 kV transmission line, O&M building, battery storage system, collection system, temporary laydown areas, access roads, fencing and gates. These related or supporting facilities are included in each site certificate. Compliance responsibility with site certificate conditions and EFSC standards which apply to these shared related or supporting facilities are shared between site certificates and certificate holders. In accordance with Condition GEN-GS-07, if any certificate holder substantially modifies a shared related or supporting facility or ceases facility operation, each certificate holder would be obligated to submit an amendment determination request or request for amendment to the Department to determine the appropriate process for evaluating the change and ensuring full regulatory coverage under each site certificate, or remaining site certificate if either is terminated, in the future. Additionally, each certificate holder is obligated to demonstrate to the Department that a share use agreement has been executed between certificate holders to ensure approval and agreement of access to the shared resources has been obtained prior to operation of shared facilities.

5.0 Site Certificate Conditions

5.1 Condition Format

The conditions in Sections 5.2 through 5.7 of this Site Certificate are organized and coded to indicate the phase of implementation, the standard the condition is required to satisfy, and an identification number (1, 2, 3, etc.).[6] The table below presents a "key" for phase of implementation:

Key	Type of Conditions/Phase of Implementation
GEN	General Conditions: Design, Construction and Operation
PRE	Pre-Construction Conditions
CON	Construction Conditions
PRO	Pre-Operational Conditions
OPR	Operational Conditions
RET	Retirement Conditions

Some conditions are coded for more than one phase of implementation.

The standards are presented using an acronym; for example, the General Standard of Review is represented in the condition numbering as "GS"; the Soil Protection standard is represented in the condition numbering as "SP" and so forth.

For example, the coding of Condition GEN-GS-01 represents that the condition is a general condition (GEN) to be implemented during design, construction and operation of the facility, is required to satisfy the Council's General Standard of Review, and is condition number 1. The condition language also includes in brackets [ ] the name of the condition and the Council order for which it was ~~as~~ imposed or amended ~~in the Final Order on the Application~~ (i.e. General Standard of Review Condition 1, Final Order on ASC (2020)).

[6] The identification number is not representative of an order that conditions must be implemented; it is intended only to represent a numerical value for identifying the condition.

5.2 General Conditions (GEN): Design, Construction and Operations

Condition Number	General (GEN) Conditions
STANDARD: GENERAL STANDARD OF REVIEW (GS) [OAR 345-022-0000]	
GEN-GS-01	The certificate holder shall begin and complete construction of the facility, facility component or phase ~~or any phase of the facility~~ by the dates specified in the site certificate. a. Construction of the facility, facility component or phase ~~or any phase of the facility~~ shall commence on or before April 24, 2023, three years after the date of Council action. 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, facility component or phase ~~if constructed in phases~~, shall commence on or before April 24, 2025, five years after the date of Council action. 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 on or before April 24, 2026, six years after the date of Council action. Within 7 days of construction completion, the certificate holder shall provide the Department written verification that it has met the construction completion deadline. [General Standard Condition 1, Final Order on ASC (2020), AMD1 (2021); Mandatory Condition OAR 345-025-0006(4)]
GEN-GS-02	The certificate holder shall design, construct, operate, and retire the facility, facility component or phase ~~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. [General Standard Condition 3, Final Order on ASC (2020), AMD1 (2021); Mandatory Condition OAR 345-025-0006(3)]
GEN-GS-03	If the certificate holder becomes aware of a significant environmental change or impact attributable to the facility, facility component or phase ~~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. [General Standard Condition 5, Final Order on ASC (2020), AMD1 (2021); Mandatory Condition OAR 345-025-0006(6)]

GEN-GS-04	Before any transfer of ownership of the facility, facility component or phase ~~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 345-027-0400 apply to any transfer of ownership that requires a transfer of the site certificate. [General Standard Condition 7, Final Order on ASC (2020), AMD1 (2021); Mandatory Condition OAR 345-025-0006(15)]
GEN-GS-05	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. [General Standard Condition 8, Final Order on ASC (2020); Site Specific Condition OAR 345-025-0010(4)]
GEN-GS-06	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. [General Standard Condition 9, Final Order on ASC (2020); Site Specific Condition OAR 345-025-0010(5)]
GEN-GS-07	The site certificate authorizes shared use of related or supporting facilities of the Day Break Solar Project (Phase II) and Sunset Solar Project (Phase III) including the battery storage system, collector substation, operations and maintenance building, Supervisory, Control and Data Acquisition system, 230 kV transmission line, collection system, access roads, fencing, gates, and temporary staging areas. a. Within 90 days of shared use, the certificate holder must provide evidence to the Department that the certificate holders have an executed agreement for shared use of facilities. b. If any of the certificate holders of the Bakeoven Solar Project (Phase I), Day Break Solar Project (Phase II), or the Sunset Solar Project (Phase III) propose to substantially modify a shared facility listed in sub(a) of this condition, then each certificate holder shall submit an amendment determination request or request for site certificate amendment to obtain a determination from the Department on whether a site certificate amendment is required or to process an amendment for both site certificates. If certificate holders opt to submit an amendment determination request, the requirement may be

	satisfied through submittal of a single amendment determination request with authorization (or signature) provided from all three certificate holders. c. Prior to facility decommissioning or if facility operations cease, each certificate holder shall submit an amendment determination request or request for site certificate amendment to document continued ownership and full responsibility, including coverage of full decommissioning amount of the shared facilities in the bond or letter of credit pursuant to Condition PRE-RT-02, for the operational facility, if facilities are decommissioned at different times. [General Standard of Review Condition 7, AMD1 (2021)]
STANDARD: ORGANIZATIONAL EXPERTISE (OE) [OAR 345-022-0010]	
GEN-OE-01	During construction and operation of the facility, facility component or phase ~~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, such as changes within the Board of Directors, President or Chief Executive Officer, where the certificate holder considers such change to impact the certificate holder's access to the financial resources or expertise of Avangrid Renewables, LLC, as relied upon in the ASC. [Organizational Expertise Condition 1, Final Order on ASC (2020), AMD1 (2021)]
GEN-OE-02	During design, construction, operation, and retirement of the facility, facility component or phase ~~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. [Organizational Expertise Condition 3, Final Order on ASC (2020), AMD1 (2021)]
GEN-OE-03	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. [Organizational Expertise Condition 4, Final Order on ASC (2020)]
GEN-OE-04	In addition to the requirements of OAR 345-026-0170, within 72 hours after discovery of incidents or circumstances that violate the terms or conditions of the site certificate, the certificate holder must report the conditions or circumstances to the Department. [Organizational Expertise Condition 5, Final Order on ASC (2020)]
GEN-OE-05	During construction and operation of the facility, facility component or phase ~~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. [Organizational Expertise Condition 6, Final Order on ASC (2020), AMD1 (2021)]

STANDARD: STRUCTURAL STANDARD (SS) [OAR 345-022-0020]	
GEN-SS-01	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. [Structural Standard Condition 2, Final Order on ASC (2020); Mandatory Condition OAR 345-025-0006(12)]
GEN-SS-02	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. [Structural Standard Condition 3, Final Order on ASC (2020); Mandatory Condition OAR 345-025-0006(13)]
GEN-SS-03	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. [Structural Standard Condition 4, Final Order on ASC (2020); Mandatory Condition OAR 345-025-0006(14)]
STANDARD: SOIL PROTECTION (SP) [OAR 345-022-0022]	
GEN-SP-01	a. Prior to construction of the facility, facility component or phase ~~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 H-1 ~~D~~ of the Final Order on Request for Amendment 1 of the Bakeoven Site Certificate ~~the ASC~~). b. During construction of the facility, facility component or phase ~~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. [Soil Protection Condition 1, Final Order on ASC (2020); AMD1 (2021)]
STANDARD: LAND USE (LU) [OAR 345-022-0030]	
GEN-LU-01	The certificate holder shall:

	a. Prior to construction of the facility, facility component or phase ~~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, facility component or phase ~~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. [Land Use Condition 5, Final Order on ASC (2020); AMD1 (2021)]
GEN-LU-02	a. Prior to construction of the facility, facility component or phase ~~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, facility component or phase ~~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 J-1 ~~N~~ of the Final Order on Request for Amendment 1 of the Bakeoven Solar Project ~~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: 1. 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. 2. 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. 3. 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. [Land Use Condition 7, Final Order on ASC (2020); AMD1 (2021)]]
GEN-LU-03	During construction and operation of the facility, facility component or phase ~~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. [Land Use Condition 8, Final Order on ASC (2020), AMD1 (2021)]
STANDARD: RETIREMENT AND FINANCIAL ASSURANCE (RT) [OAR 345-022-0050]	
GEN-RT-01	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. [Retirement and Financial Assurance Condition 1, Final Order on ASC (2020); Mandatory Condition OAR 345-025-0006(7)]
STANDARD: FISH AND WILDLIFE HABITAT [OAR 345-022-0060]	
GEN-FW-01	The certificate holder shall: a. Prior to construction of the facility, facility component or phase ~~or any phase of the facility~~, the certificate holder shall finalize and submit a Revegetation Plan, based upon the draft plan provided in Attachment C-1 ~~I~~ of the Final Order on ~~the ASC~~ Request for Amendment 1 of the Bakeoven Solar Project, 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, facility component or phase ~~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. [Fish and Wildlife Habitat Condition 1, Final Order on ASC (2020); AMD1 (2021)]
GEN-FW-02	The certificate holder shall: a. Prior to construction of the facility, facility component or phase ~~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 E-1 ~~K~~ of the Final Order on ~~the ASC~~ Request for Amendment 1 of the Bakeoven Solar Project, 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 noxious weed species within areas to be impacted. 2. Reporting format including report content and supporting materials to be included to demonstrate completion of noxious weed control activities. b. During construction and operation of the facility, facility component or phase ~~or any phase of the facility~~, the certificate holder shall implement the requirements of the plan. [Fish and Wildlife Habitat Condition 2, Final Order on ASC (2020); AMD1 (2021)]
GEN-FW-03	The certificate holder shall: a. Prior to construction of the facility, facility component or phase ~~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 D-1 ~~H~~ of the Final Order Request for Amendment 1 of the Bakeoven Solar Project, 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. b. During construction and operation of the facility, facility component or phase ~~or any phase of the facility~~, the certificate holder shall implement the requirements of the plan. [Fish and Wildlife Habitat Condition 3 Final Order on ASC (2020); AMD1 (2021)]
GEN-FW-04	During design of the facility, facility component or phase ~~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. [Fish and Wildlife Habitat Condition 4, Final Order on ASC (2020); AMD1 (2021)]
GEN-FW-05	The certificate holder shall: a. Prior to construction of the facility, facility component or phase ~~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 F ~~J~~ of the Final Order on ~~the ASC~~ Request for Amendment 1 of the Bakeoven Solar Project, for review and approval by the Department, in consultation with ODFW. b. During operation of the facility, facility component or phase ~~or the first phase of the facility~~, the certificate holder shall implement and comply with the requirements of the WMMP, as finalized under (a) of this condition. [Fish and Wildlife Habitat Condition 9, Final Order on ASC (2020); AMD1 (2021)]
STANDARD: SCENIC RESOURCES (SR) [OAR 345-022-0080]	
GEN-SR-01	During design of the facility, facility component or phase ~~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. [Scenic Resources Condition 1, Final Order on ASC (2020); AMD1 (2021)]
STANDARD: HISTORIC, CULTURAL, AND ARCHEOLOGICAL RESOURCES (HC) [OAR 345-022-0090]	
GEN-HC-01	The certificate holder shall: a. Prior to construction of the facility, facility component or phase ~~or any phase of the facility~~, finalize the draft Inadvertent Discovery Plan, as provided in Attachment H-1 ~~L~~ of the Final Order on ~~ASC~~ Request for Amendment 1 of the Bakeoven Solar Project, 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, facility component or phase ~~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, facility component or phase ~~or any phase of the facility~~, ensure its contractors utilize constraint maps to avoid direct impacts from facility components to 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 beyond 20-meters, and shall preclude placement of facility components or disturbance impacts unless appropriate field surveys are conducted.

	d. During construction and operation of the facility, facility component or phase ~~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. [Historic, Cultural and Archeological Condition 1, Final Order on ASC (2020); AMD1 (2021)]
STANDARD: PUBLIC SERVICES (PS) [OAR 345-022-0100]	
GEN-PS-01	a. Prior to construction of the facility, facility component or phase ~~or any phase of the facility~~, the certificate holder shall: 1. 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. 2. 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. 3. 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. 4. 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 J-1 ~~M~~ of the Final Order on the ASC. b. During construction ~~of any phase~~ of the facility, facility component or phase, the certificate holder shall implement the Construction Traffic Management Plan, as approved by the Department under sub(a)(iv) of this condition. [Public Services Condition 3, Final Order on ASC (2020); AMD1 (2021)]]
STANDARD: WASTE MINIMIZATION (WM) [OAR 345-022-0120]	
GEN-WM-01	During construction, operation and decommissioning of the facility, facility component or phase ~~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: a. Recycling steel and other metal scrap b. Recycling wood waste c. Recycling packaging wastes such as paper and cardboard d. Collecting non-recyclable waste for transport to a local landfill by a licensed waste hauler e. 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. [Waste Minimization Condition 1, Final Order on ASC (2020); AMD1 (2021)]

5.3 Pre-Construction (PRE) Conditions

Condition Number	General (GEN) Conditions
STANDARD: GENERAL STANDARD OF REVIEW (GS) [OAR 345-022-0000]	
PRE-GS-01	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. [General Standard Condition 4, Final Order on ASC (2020); Mandatory Condition OAR 345-025-0006(5)]
PRE-GS-02	At least 90 days prior to beginning construction of the facility, facility component or phase ~~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. [General Standard Condition 10, Final Order on ASC (2020); AMD1 (2021)]; OAR 345-026-0048]
STANDARD: ORGANIZATIONAL EXPERTISE (OE) [OAR 345-022-0010]	
PRE-OE-01	Before beginning construction of the facility, facility component or phase ~~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. [Organizational Expertise Condition 2, Final Order on ASC (2020); AMD1 (2021)]
STANDARD: STRUCTURAL STANDARD (SS) [OAR 345-022-0020]	
PRE-SS-01	At least 60-days prior to the commencement of construction of the facility, facility component or phase ~~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. [Structural Standard Condition 1, Final Order on ASC (2020); AMD1 (2021)]
STANDARD: LAND USE (LU) [OAR 345-022-0030]	
PRE-LU-01	Prior to construction of the facility, facility component or phase ~~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, facility component or phase 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 10 unnamed ephemeral or intermittent streams. 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. [Land Use Condition 1, Final Order on ASC (2020); AMD1 (2021)]]

PRE-LU-02	Prior to construction of the facility, facility component or phase ~~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. [Land Use Condition 2, Final Order on ASC (2020); AMD1 (2021)]
PRE-LU-03	Prior to construction of the facility, facility component or phase ~~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. [Land Use Condition 3, Final Order on ASC (2020); AMD1 (2021)]
PRE-LU-04	Prior to construction of the facility, facility component or phase ~~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. [Land Use Condition 4, Final Order on ASC (2020); AMD1 (2021)]
PRE-LU-05	Prior to construction of the facility, facility component or phase ~~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. [Land Use Condition 6, Final Order on ASC (2020); AMD1 (2021)]
PRE-LU-06	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 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. Proof that certificate holder has filed the conditional use permit and site plan applications and filing fees pursuant to ORS 469.401(3). [Land Use Condition 9, Final Order on ASC (2020)]
PRE-LU-07	Unless a written waiver of the condition is received by the Department, in

	consultation with the Oregon Department of Land Conservation and Development and Wasco County Planning Department, a. Prior to the construction of the facility, the certificate holder shall submit a Goal Exception Application form 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. [Land Use Condition 12 Final Order on ASC (2020)]
STANDARD: FISH AND WILDLIFE HABITAT (FW) [OAR 345-022-0060]	
PRE-FW-01	Prior to construction of the facility, facility component or phase ~~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. [Fish and Wildlife Habitat Condition 5, Final Order on ASC (2020); AMD1 (2021)]
PRE-FW-02	Prior to and during construction of the facility, facility component or phase ~~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. 1. 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. [Fish and Wildlife Habitat Condition 7, Final Order on ASC (2020); AMD1 (2021)]
PRE-FW-03	Prior to and during construction of the facility, facility component or phase ~~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). [Fish and Wildlife Habitat Condition 8, Final Order on ASC (2020); AMD1 (2021)]
STANDARD: THREATENED AND ENDANGERED SPECIES (TE) [OAR 345-022-0070]	
PRE-TE-01	Prior to construction or operation of the facility, facility component or phase ~~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. [Threatened and Endangered Species Condition 1, Final Order on ASC (2020); AMD1 (2021)]
STANDARD: RETIREMENT AND FINANCIAL ASSURANCE (RT) [OAR 345-022-0050]	

PRE-RT-01	Before beginning construction of the facility, facility component or phase ~~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. [Retirement and Financial Assurance Condition 4, Final Order on ASC (2020); AMD1 (2021); Mandatory Condition OAR 345-025-0006(8)]
PRE-RT-02	Before beginning construction of the facility, facility component or phase ~~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~~ 6,850,000 million dollars (Q2~~1~~ 2021~~19~~ 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, facility component or phase ~~or any phase of the facility~~, by applying the unit costs ~~and~~ general costs and contingencies illustrated in Table 5 of the Final Order on ~~the ASC~~Request for Amendment 1 of the Bakeoven Solar Project~~, and the contingencies illustrated in Table 6 of the Final Order on the ASC~~. The certificate holder may provide a bond or letter of credit for ~~any phase of~~ the facility, facility component or phase based on the unit costs and general costs illustrated in Table 5 of the Final Order on Request for Amendment 1 of the Bakeoven Solar Project~~, the ASC, and the contingencies illustrated in Table 6 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). Any modification to the unit costs presented in Table 5 of the Final Order on ~~the ASC~~ Request for Amendment 1 of the Bakeoven Solar Project, are subject to review and approval by the Council.. b. The certificate holder shall adjust the amount of the bond or letter of credit using the following calculation: 1. Adjust the amount of the bond or letter of credit (expressed in Q2~~1~~ 2021~~19~~ 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 2021~~19~~ 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~~ second quarter 2021~~19~~ dollars to present value.

	2. 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. [Retirement and Financial Assurance Condition 5, Final Order on ASC (2020); AMD1 (2021)]
STANDARD: PUBLIC SERVICES (PS) [OAR 345-022-0100]	
PRE-PS-01	Prior to construction of the facility, facility component or phase ~~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 applicable Oregon Fire Code requirements for facility components (e.g. emergency access roads, substation, battery storage). 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. [Public Services Condition 5, Final Order on ASC (2020); AMD1 (2021)]
NOISE CONTROL REGULATIONS (NC) [OAR 340-035-0035]	
PRE-NC-01	Prior to construction of the facility, facility component or phase ~~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. [Noise Control Regulations, Final Order on ASC (2020); AMD1 (2021)]

5.4 Construction (CON) Conditions

<table>
<tr><th>Condition Number</th><th>General (GEN) Conditions</th></tr>
<tr><td colspan="2">STANDARD: FISH AND WILDLIFE HABITAT (FW) [OAR 345-022-0060]</td></tr>
<tr><td>CON-FW-01</td><td>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.
<table>
<tr><th colspan="4">ODFW Raptor Nest Buffers and Seasonal Restrictions</th></tr>
<tr><th>Species</th><th>Spatial Buffer</th><th>Seasonal Restriction</th><th>Release Date if Unoccupied</th></tr>
<tr><td>Western Burrowing Owl</td><td>0.25 mile</td><td>April 1 to August 15</td><td>May 31</td></tr>
<tr><td>Golden eagle</td><td>0.5 mile</td><td>Feb 1- Aug 15</td><td>May 15</td></tr>
<tr><td>Red-tailed hawk</td><td>100-500 feet</td><td>Mar 1 – Aug 15</td><td>May 31</td></tr>
<tr><td>Ferruginous hawk</td><td>0.25 mile</td><td>Mar 15 – Aug 15</td><td>May 31</td></tr>
<tr><td>Swainson’s hawk</td><td>0.25 mile</td><td>Apr 1 – Aug 15</td><td>May 31</td></tr>
<tr><td>Prairie falcon</td><td>0.25 mile</td><td>Mar 15 – Jul 1</td><td>May 15</td></tr>
<tr><td>Peregrine falcon</td><td>0.25 mile</td><td>Jan 1 – Jul 1</td><td>May 15</td></tr>
<tr><td>American kestral</td><td>0.25 mile</td><td>Mar 1 – Jul 31</td><td>May 15</td></tr>
</table>
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.
[Fish and Wildlife Habitat Condition 6, Final Order on ASC (2020)]</td></tr>
<tr><td colspan="2">STANDARD: PUBLIC SERVICES (PS) [OAR 345-022-0100]</td></tr>
<tr><td>CON-PS-01</td><td>During construction of the facility, facility component or phase ~~or any phase of the facility~~, the certificate holder shall:
a. Provide onsite security and maintain good communication between onsite security personnel and the Wasco County Sherriff Office.
b. Coordinate with Maupin Ambulance Service and South Wasco County Ambulance Service Area to determine whether a service agreement between certificate holder and service provider is needed. The certificate holder shall notify Wasco County Planning Department and the Department on the outcome of the agreement (WCLUDO Section 5.020(C)).
c. Notify Wasco County 911 Operations Manager of construction commencement and provide facility location and access information (maps,</td></tr>
</table>

	site address, onsite safety contact information). [Public Services Condition 4, Final Order on ASC (2020); AMD1 (2021)]

5.5 Pre-Operational (PRO) Conditions

Condition Number	General (GEN) Conditions
STANDARD: SOIL PROTECTION (SP) [OAR 345-022-0022]	
PRO-SP-01	Prior to operation of the facility, facility component or phase ~~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. [Soil Protection Condition 2, Final Order on ASC (2020); AMD1 (2021)]
STANDARD: SITING STANDARDS FOR TRANSMISSION LINES (ST) [OAR 345-024-0090]	
PRO-ST-01	Prior to operation of the facility, facility component or phase ~~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. [Siting Standards for Transmission Lines Condition 1, Final Order on ASC (2020); AMD1 (2021)]

5.6 Operational (OPR) Conditions

Condition Number	General (GEN) Conditions
STANDARD: GENERAL STANDARD OF REVIEW (GS) [OAR 345-022-0000]	
OPR-GS-01	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, facility component or phase ~~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. [General Standard Condition 2, Final Order on ASC (2020); AMD1 (2021); Mandatory Condition OAR 345-025-0006(2)]
OPR-GS-02	Upon completion of construction of the facility, facility component or phase ~~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. [General Standard Condition 6, Final Order on ASC (2020); AMD1 (2021); Mandatory Condition OAR 345-025-0006(11)]
STANDARD: LAND USE (LU) [OAR 345-022-0030]	
OPR-LU-01	Within 90-days of commercial operation of the facility, facility component or phase ~~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. [Land Use Condition 10, Final Order on ASC (2020); AMD1 (2021)]
OPR-LU-02	During operation of the facility, facility component or phase ~~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. [Land Use Condition 11, Final Order on ASC (2020); AMD1 (2021)]
STANDARD: PUBLIC SERVICES (PS) [OAR 345-022-0100]	
OPR-PS-01	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. [Public Services Condition 1, Final Order on ASC (2020)]
OPR-PS-02	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 follow the recording requirements under OAR 690-190-0100. The certificate holder shall not use more than 5,000 gallons of water per day from the onsite well. [Public Services Condition 2, Final Order on ASC (2020)]

5.7 Retirement Conditions (RET)

Condition Number	General (GEN) Conditions
STANDARD: RETIREMENT AND FINANCIAL ASSURANCE (RT) [OAR 345-022-0050]	
RET-RT-01	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. [Retirement and Financial Assurance Condition 2, Final Order on ASC (2020); Mandatory Condition OAR 345-025-0006(9)]
RET-RT-02	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. [Retirement and Financial Assurance Condition 3, Final Order on ASC (2020); Mandatory Condition OAR 345-025-0006(16)]

6.0 Successors and Assigns

To transfer this site certificate or any portion thereof or to assign or dispose of it in any other manner, directly or indirectly, the certificate holder shall comply with OAR 345-027-0400.

7.0 Severability and Construction

If any provision of this agreement and certificate is declared by a court to be illegal or in conflict with any law, the validity of the remaining terms and conditions shall not be affected, and the rights and obligations of the parties shall be construed and enforced as if the agreement and certificate did not contain the particular provision held to be invalid.

8.0 Execution

This site certificate may be executed in counterparts and will become effective upon signature by the Chair of the Energy Facility Siting Council and the authorized representative of the certificate holder.

IN WITNESS THEREOF, this site certificate has been executed by the State of Oregon, acting by and through the Energy Facility Siting Council and Bakeoven Solar, LLC (certificate holder), a subsidiary of Avangrid Renewables, LLC (certificate holder owner).

ENERGY FACILITY SITING COUNCIL

By: _____

Marcia L. Grail ~~Hanley Jenkins, II,~~
Chair

Date: _____

Bakeoven Solar, LLC

By: _____

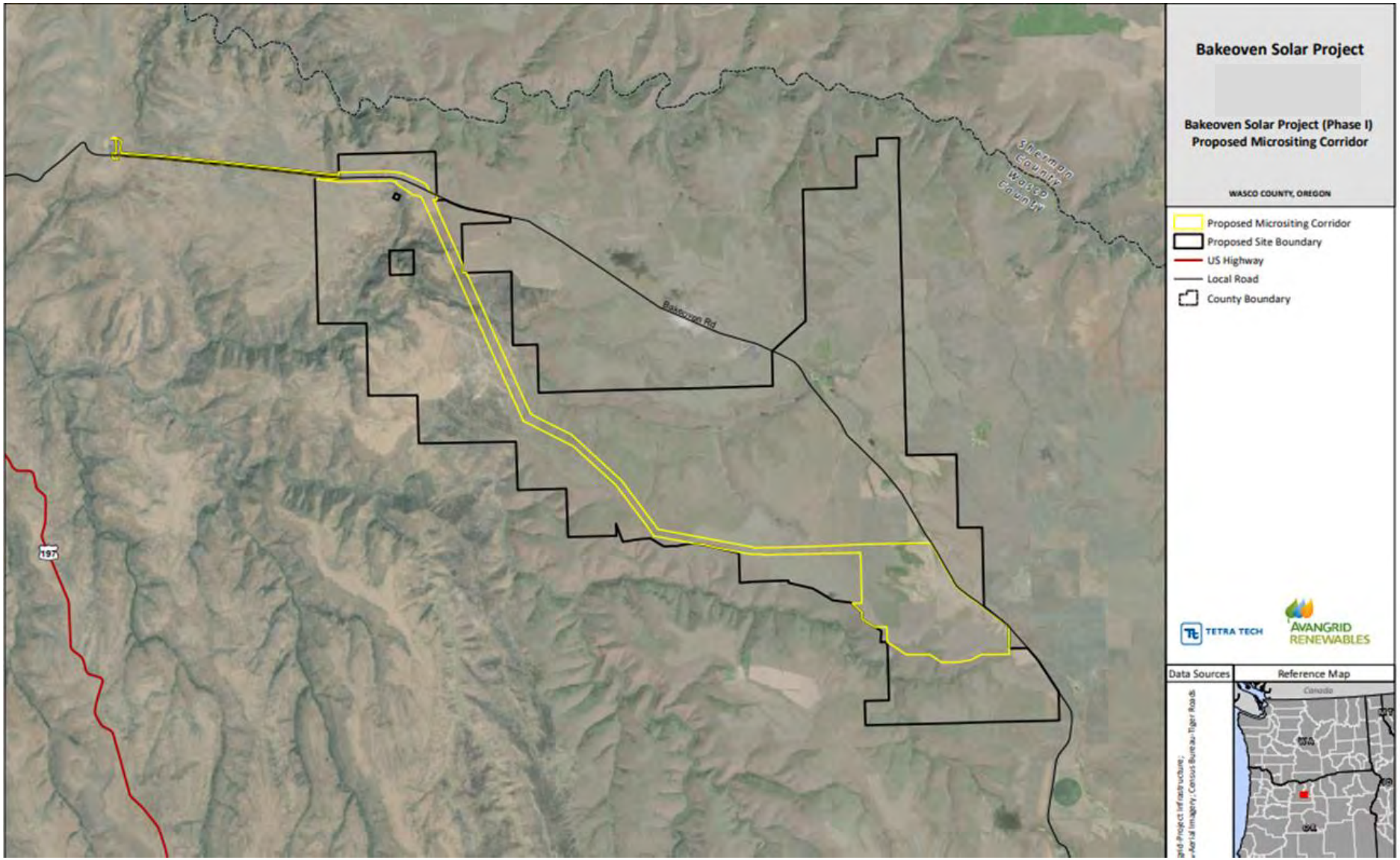
Sara Parsons, Authorized Representative

Date:_____

By: _____

Date:_____

Attachment 1: Facility Site Boundary and Micrositing Corridor


Bakeoven Solar Project
Bakeoven Solar Project (Phase I)
Proposed Micrositing Corridor
WASCO COUNTY, OREGON
Proposed Micrositing Corridor
Proposed Site Boundary
US Highway
Local Road
County Boundary
Bakeoven Rd
Sherman County
Wasco County
197
TETRA TECH
AVANGRID RENEWABLES
Data Sources
Reference Map

Attachment A-2: Draft Site Certificate (Daybreak Solar Project)

ENERGY FACILITY SITING COUNCIL

OF THE

STATE OF OREGON

Site Certificate for the

~~Bakeoven~~ Daybreak Solar Project

ISSUE~~E~~ANCE DATES

Site Certificate (Bakeoven Solar Project)	April 24, 2021
Site Certificate (Daybreak Solar Project	DATE TBD

~~**April 24, 2020**~~

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Table of Contents

1.0 Introduction and Site Certification 1

2.0 Facility Location, Site Boundary and Micrositing Corridor 3

3.0 Facility Development Phases 4

3.1 Construction 4

3.2 Operations and Maintenance 5

4.0 Facility Description 5

4.1 Energy Facility 6

4.2 Related or Supporting Facilities 6

4.3 Shared Related or Supporting Facilities 9

5.0 Site Certificate Conditions 10

5.1 Condition Format 10

5.2 General Conditions (GEN): Design, Construction and Operations 11

5.3 Pre-Construction (PRE) Conditions 20

5.4 Construction (CON) Conditions 27

5.5 Pre-Operational (PRO) Conditions 28

5.6 Operational (OPR) Conditions 28

5.7 Retirement Conditions (RET) 30

6.0 Successors and Assigns 31

7.0 Severability and Construction 31

8.0 Execution 31

Attachments

Attachment A	Facility Site Boundary and Micrositing Corridor

Acronyms and Abbreviations

ASC	Application for Site Certificate
BPA	Bonneville Power Administration
Certificate Holder	~~Bakeoven~~ Daybreak Solar, LLC
Council	Oregon Energy Facility Siting
Department	Oregon Department of Energy
DOGAMI	Oregon Department of Geology and Mineral Industries
Facility	~~Bakeoven~~ Daybreak Solar Project
HMP	Habitat Mitigation Plan
HV	High voltage
Li-ion	Lithium Ion
MWac	Megawatt alternating current
NPDES	National Pollutant Discharge Elimination System
O&M	Operations and Maintenance
OAR	Oregon Administrative Rule
ODFW	Oregon Department of Fish and Wildlife
ORS	Oregon Revised Statute
Parent Company	Avangrid Renewables, LLC
RFA	Request for Amendment
SCADA	Supervisory Control and Data Acquisition
State	State of Oregon

1.0 Introduction and Site Certification

This site certificate is a binding agreement between the State of Oregon (State), acting through the Energy Facility Siting Council (Council) and ~~Bakeoven~~ Daybreak Solar, LLC (certificate holder), a subsidiary of Avangrid Renewables, LLC (certificate holder owner). As authorized under Oregon Revised Statute (ORS) Chapter 469, the Council issues this site certificate authorizing the certificate holder to construct, operate and retire the ~~Bakeoven~~ Daybreak Solar Project (facility) at the below described site within Wasco County, subject to the conditions set forth herein.

Both the State and certificate holder must abide by local ordinances, state law and the rules of the Council in effect on the date this site certificate is executed. However, upon a clear showing 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 (ORS 469.401(2)).

The findings of fact, reasoning and conclusions of law underlying the terms and conditions of this site certificate are set forth in the following documents, incorporated herein by this reference: (a) the *Final Order on Request for Amendment 1 of the Bakeoven Solar Project* issued on [DATE] (b) the *Final Order on the Application for Site Certificate for the Bakeoven Solar Project* issued on April 24, 2020 (hereafter, *Final Order on the Application*). Any ambiguity will be clarified by reference to the following, in order of priority: (1) the *Final Order on Request for Amendment 1 of the Bakeoven Solar Project* (2) the *Final Order on the Application*, and (2) the record of the proceedings that led to the above referenced orders ~~*Final Order on the Application*~~.

As authorized in *Final Order on Amendment 1*, the Bakeoven Solar Project certificate holder obtained approval to split the Bakeoven Solar Project site certificate into three site certificates – Bakeoven Solar Project, Daybreak Solar Project and Sunset Solar Project. Each of these certificate holders is a wholly owned subsidiary and LLC created by Avangrid Renewables, LLC resulting in each certificate holder owned by the same parent company. In addition, these facilities share facility components and are interconnected for the duration of long-term operation.

Because the findings of fact, reasoning and conclusions of law underlying the terms and conditions of the site certificate as set forth in the *Final Order on the Application* are incorporated by reference into the site certificate, these underlying findings, including any findings establishing the predevelopment condition of the site and impacts of approved facility components continue to have bearing on the analysis and findings required to approve any future changes to the site certificates for the successor facilities. In other words, compliance with Council standards requiring an environmental impact analysis should be based on 2020 predevelopment conditions. This clarification is intended to establish that, with the splitting of facility components under three site certificates, baseline conditions (2020) and subsequent environmental impacts of the facilities, based on final design, shall not be adjusted in a way that results in greater overall impacts than the level of impacts that would be authorized under one site certificate. Future requests to amend the Bakeoven Solar Project site certificate shall

evaluate compliance with Council standard requirements based on overall impacts from the operational components as approved in the *Final Order on the Application,* and as represented in the *Final Order on Amendment 1 of the Bakeoven Solar Project*.

This site certificate binds the State and all counties, cities and political subdivisions in Oregon as to the approval of the site and the construction, operation, and retirement of the facility as to matters that are addressed in and governed by this site certificate (ORS 469.401(3)). This site certificate does not address, and is not binding with respect to, matters that are not included in and governed by this site certificate, and such matters include, but are not limited to: employee health and safety; building code compliance; wage and hour or other labor regulations; local government fees and charges; other design or operational issues that do not relate to siting the facility (ORS 469.401(4)); and permits issued under statutes and rules for which the decision on compliance has been delegated by the federal government to a state agency other than the Council (ORS 469.503(3)).

Each affected state agency, county, city, and political subdivision in Oregon with authority to issue a permit, license, or other approval addressed in or governed by this site certificate, shall upon submission of the proper application and payment of the proper fees, but without hearings or other proceedings, issue such permit, license or other approval subject only to conditions set forth in this site certificate. In addition, each state agency or local government agency that issues a permit, license or other approval for this facility shall continue to exercise enforcement authority over such permit, license or other approval (ORS 469.401(3)). For those permits, licenses, or other approvals addressed in and governed by this site certificate, the certificate holder shall comply with applicable state and federal laws adopted in the future to the extent that such compliance is required under the respective state agency statutes and rules (ORS 469.401(2)).

The certificate holder must construct, operate and retire the facility in accordance with all applicable rules as provided for in Oregon Administrative Rule (OAR) Chapter 345, Division 26. After issuance of this site certificate, the Council shall have continuing authority over the site and may inspect, or direct the Oregon Department of Energy (Department) 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 this site certificate (ORS 469.430).

The obligation of the certificate holder to report information to the Department or the Council under the conditions listed in this site certificate is subject to the provisions of ORS 192.502 *et seq.* and ORS 469.560. To the extent permitted by law, the Department and the Council will not publicly disclose information that may be exempt from public disclosure if the certificate holder has clearly labeled such information and stated the basis for the exemption at the time of submitting the information to the Department or the Council. If the Council or the Department receives a request for the disclosure of the information, the Council or the Department, as appropriate, will make a reasonable attempt to notify the certificate holder and will refer the

matter to the Attorney General for a determination of whether the exemption is applicable, pursuant to ORS 192.450.

The Council recognizes that many specific tasks related to the design, construction, operation and retirement of the facility will be undertaken by the certificate holder's agents or contractors. Nevertheless, the certificate holder is responsible for ensuring compliance with all provisions of the site certificate.

The duration of this site certificate shall be the life of the facility, subject to termination pursuant to OAR 345-027-0313 or the rules in effect on the date that termination is sought, or revocation under ORS 469.440 and OAR 345-029-0100 or the statutes and rules in effect on the date that revocation is ordered. The Council shall not change the conditions of this site certificate except as provided for in OAR Chapter 345, Division 27.

The definitions in ORS 469.300 and OAR 345-001-0010 apply to the terms used in this site certificate, except where otherwise stated, or where the context clearly indicates otherwise. In accordance with ORS 469.300(6), preconstruction conditions may be satisfied for the applicable facility, facility component or phase, as applicable, based on final design and configuration.

2.0 Facility Location, Site Boundary and Micrositing Corridor

The facility site is 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 "site boundary" includes approximately 10,640 acres entirely within private property. A "site boundary" means the perimeter of the site of an energy facility and its related or supporting facilities, all temporary laydown and staging areas and all corridors proposed by the applicant.[1] The approved site boundary encompasses some or all of the townships, ranges and section identified in Table 1 below.

Table 1: Township, Range and Section within the Facility Site Boundary

Township	Range	Sections
4S	14E	25, 26, 27, 36
4S	15E	25, 29, 30, 31, 32, 36
4S	16E	30
5S	15E	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 23, 24, 25
5S	16E	7, 18, 19, 20, 29, 30

The approved micrositing corridor includes approximately 1,817 ~~4,160~~ acres within the site boundary. 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

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

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 the *Final Order on the Application* Section IV. *Evaluation of Council Standards* of this order, based on the certificate holder's methodology, where surveys and analysis encompassed the entirety of a micrositing corridor to inform the evaluation of impacts under each Council standard, the Council evaluated the permanent occupation of, and potential impacts from, the facility anywhere within an approximately 1,817 ~~4,160~~ acre micrositing corridor within the site boundary. Based on this evaluation, Council approved the micrositing corridor.

The facility site boundary and micrositing corridor are presented in Attachment 1 of this site certificate.

3.0 Facility Development Phases

~~The facility may be developed in a single build-out or in multiple phases, depending on customer demands or market conditions, and could result in, when there is a change in certificate holder owner (parent company) future site certificate transfers to another certificate holder; or, site certificate amendment request. If developed in phases, the phases would likely share related or supporting facilities like the 230 kV transmission line, access roads, the Operations and Maintenance (O&M) building (including septic and possible groundwater wells), support infrastructure like the Supervisory Control and Data Acquisition (SCADA) system, the collector substation, and possibly other related or supporting facilities.~~

~~For reference to potential construction phasing, the facility may be constructed based on the following phases and generation capacity:~~

~~Table 2: Proposed Facility Phasing Schedule~~

~~Phase~~	~~Project size~~	~~Operational date~~
~~Phase 1~~	~~60 MW~~	~~2021~~
~~Phase 2~~	~~140 MW~~	~~2022~~
~~Phase 3~~	~~103 MW~~	~~2023/2024~~

3.1 Construction

~~As described above, the facility may be constructed in one phases or in multiple phases.~~ Construction of solar photovoltaic energy components generally includes: preparation of the site and staging areas, including grading and access road construction; installation of array foundations, conductors, the operations and maintenance building, and the control enclosure;

assembly of solar panels and electrical connection components; construction of the inverter pad, substation, cabling, terminations, and transmission lines; and commissioning of the array and interconnection, revegetation, and waste removal and recycling facilities. Construction of the transmission line generally includes site preparation and access road construction; structure foundation installation; erection of support structures; and, stringing of conductors, shield wire and fire optic ground wire.

The estimated construction workforce includes 250 (average) to 400 (peak) workers. Interstate Highway 84 (I-84), U.S. Highway (US) 197 near The Dalles, and Bakeoven Road are the primary transportation routes. Additional transportation routes 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.

Construction-related water is obtained from City of Maupin and/or new on existing onsite well.

3.2 Operations and Maintenance

Routine operations and maintenance (O&M) activity would potentially include solar panel washing (approximately 1 million gallons of water per year); infrequent repair and replacement of solar arrays and associated electrical equipment; battery replacement every 7 years; and, replacement of electrolyte solution every 20 years at a rate of 7,000 gallons per 1 megawatt (MW) of electrolyte solution, if flow battery storage systems are selected in final design.

The vegetation in the area under and around each solar module installation would be mowed annually and maintained sufficiently low, in accordance with the certificate holder's Operational Fire Protection and Emergency Response Plan, to reduce fire-related fuels. Vegetation along the transmission line will be managed as needed to reduce fuels for wildfire. Operational-related water is obtained from a new or existing onsite well.

The estimated operational workforce is 5 to 10 workers.

4.0 Facility Description

A 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.[2] The facility includes solar photovoltaic power generation equipment and related or supporting facilities, with a nominal and average generating capacity of approximately 140 ~~303~~ megawatt alternating current (MWac). The certificate holder has flexibility in final facility layout, number of equipment, and technology type selected because the ~~ASC and final order~~ *Final Order on the Application* analyzed maximum impacts within a designated micrositing corridor.

[2] OAR 345-001-0010(21) and – (50)

4.1 Energy Facility

The energy facility includes solar modules (mono- or poly-crystalline cells), tracker systems, posts (approx. 69,438 ~~150,300~~ posts, steel or pile-type, assumed concrete foundations), and related electrical equipment (cabling; approx. 71 ~~153~~ inverter/transformer stations; and, approx. ~~23 miles of above- and 4.2~~ 9.42 miles of belowground 34.5 kV collection system ~~– aboveground collector lines to be placed on single or double circuit monopole 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.[3]

The solar array includes shielded electrical cabling, as required by applicable code, to prevent electrical fires.

4.2 Related or Supporting Facilities

Related or supporting facilities, as further described below, include:

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

230 kV Transmission Line

The 230 kV transmission line is approved to extend approximately 11 miles from the facility 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 230 kV transmission line route extends northwest from the facility 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 approved 230 kV transmission line structures include two galvanized steel or wood pole H-frame 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).

Collector Substation and O&M Building

The facility collector substation operates to combine and step up the voltage of energy generated by the energy facility to the desired transmission voltage. The facility collector substation likely includes two non-polychlorinated biphenyl oil-containing transformers (49,385

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

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 facility collector substation site is an approximately 3 acre fenced, graveled area, within the fenced solar array area, within ~~near~~ the transmission line corridor, at the south~~ern~~eastern end of the site boundary (see ASC Exhibit C, Figure C-2). The facility 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 facility. All electrical equipment will meet National Electrical Code and Institute of Electrical and Electronics Engineers standards.[4]

The O&M building includes a single-story building, approximately 20 feet in height, within an approximately 5,000 square foot area, and includes office space, storage, bathroom, and breakroom facilities. Water is supplied via an existing or newly constructed on-site permit exempt groundwater well (see ASC Exhibit O). The O&M building has 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 is provided via local service providers. A gravel parking and storage area is located adjacent to the building. The O&M building is located near the solar array, within the solar array perimeter fence. To reduce any risks of fire, the fenced areas around the O&M building is graveled, with no vegetation present. The O&M building has basic firefighting equipment for use on site during maintenance activities, such as shovels, beaters, portable water for hand sprayers, fire extinguishers, and other equipment.

Communication and Supervisory Control and Data Acquisition System

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

Site Access, Service Roads, Perimeter Fencing, and Gates

The facility is accessed from Bakeoven Road east of Maupin, Oregon. Within the site boundary, there are approximately 9.02 ~~24~~ miles of service roads for access and maintenance purposes. New service roads within the site boundary are up to 20 feet wide with an internal turning radius sufficiently sized for emergency vehicle access. Facility roads are 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 are 16 to 20 feet wide with an internal turning radius of 28 feet and less than 10 percent grade to provide access to

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

emergency vehicles.[5] Chain-link perimeter fencing, up to 8 feet in height, encloses the solar array. The perimeter fencing has vehicle and pedestrian access gates, including two 16-foot-wide gates and one 4-foot-wide gate (see ASC Exhibit C, Figure C-2).

Temporary Staging Areas

~~Three~~ Temporary staging areas used for equipment and supply storage, including ~~and~~ one or more temporary concrete batch plant staging area~~s~~, may be needed during construction. The temporary staging area will be shared with Phase I and III. ~~All~~ The temporary staging areas are located with the approved micrositing corridor. Employees are 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.

Battery Storage System

The battery storage system is comprised of either lithium-ion (Li-ion) or flow batteries and 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.

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.

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

4.3 Shared Related or Supporting Facilities

The site certificates for the Bakeoven Solar Project (Phase I), Day Break Solar Project (Phase II) and Sunset Solar Project (Phase III) were originally approved as one site certificate for the Bakeoven Solar Project (April 2020). In April 2021, facility components were split or allocated into three separate site certificates, but identified that certain related or supporting facilities would be shared or used by each facility. Sharing of facility components, or use by multiple facilities, is allowable in the EFSC process when the compliance obligation and applicable regulatory requirements for the shared facilities is adequately covered under each site certificate, including under normal operational circumstances, ceasing/termination of operation, emergencies and compliance issues or violations.

The certificate holder is authorized to share related or supporting facilities between the Bakeoven Solar Project (Phase I), Day Break Solar Project (Phase II) and Sunset Solar Project (Phase III), including the collector substation, 230 kV transmission line, O&M building, battery storage system, collection system, temporary laydown areas, access roads, fencing and gates. These related or supporting facilities are included in each site certificate. Compliance responsibility with site certificate conditions and EFSC standards which apply to these shared related or supporting facilities are shared between site certificates and certificate holders. In accordance with Condition GEN-GS-07, if any certificate holder substantially modifies a shared related or supporting facility or ceases facility operation, each certificate holder would be obligated to submit an amendment determination request or request for amendment to the Department to determine the appropriate process for evaluating the change and ensuring full regulatory coverage under each site certificate, or remaining site certificate if either is terminated, in the future. Additionally, each certificate holder is obligated to demonstrate to the Department that a share use agreement has been executed between certificate holders to ensure approval and agreement of access to the shared resources has been obtained prior to operation of shared facilities.

5.0 Site Certificate Conditions

5.1 Condition Format

The conditions in Sections 5.2 through 5.7 of this Site Certificate are organized and coded to indicate the phase of implementation, the standard the condition is required to satisfy, and an identification number (1, 2, 3, etc.).[6] The table below presents a "key" for phase of implementation:

Key	Type of Conditions/Phase of Implementation
GEN	General Conditions: Design, Construction and Operation
PRE	Pre-Construction Conditions
CON	Construction Conditions
PRO	Pre-Operational Conditions
OPR	Operational Conditions
RET	Retirement Conditions

Some conditions are coded for more than one phase of implementation.

The standards are presented using an acronym; for example, the General Standard of Review is represented in the condition numbering as "GS"; the Soil Protection standard is represented in the condition numbering as "SP" and so forth.

For example, the coding of Condition GEN-GS-01 represents that the condition is a general condition (GEN) to be implemented during design, construction and operation of the facility, is required to satisfy the Council's General Standard of Review, and is condition number 1. The condition language also includes in brackets [ ] the name of the condition and the Council order for which it was ~~as~~ imposed or amended ~~in the Final Order on the Application~~ (i.e. General Standard of Review Condition 1, Final Order on ASC (2020)).

[6] The identification number is not representative of an order that conditions must be implemented; it is intended only to represent a numerical value for identifying the condition.

5.2 General Conditions (GEN): Design, Construction and Operations

Condition Number	General (GEN) Conditions
STANDARD: GENERAL STANDARD OF REVIEW (GS) [OAR 345-022-0000]	
GEN-GS-01	The certificate holder shall begin and complete construction of the facility, facility component or phase ~~or any phase of the facility~~ by the dates specified in the site certificate. a. Construction of the facility, facility component or phase ~~or any phase of the facility~~ shall commence on or before April 24, 2023, three years after the date of Council action. 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, facility component or phase ~~if constructed in phases~~, shall commence on or before April 24, 2025, five years after the date of Council action. 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 on or before April 24, 2026, six years after the date of Council action. Within 7 days of construction completion, the certificate holder shall provide the Department written verification that it has met the construction completion deadline. [General Standard Condition 1, Final Order on ASC (2020), AMD1 (2021); Mandatory Condition OAR 345-025-0006(4)]
GEN-GS-02	The certificate holder shall design, construct, operate, and retire the facility, facility component or phase ~~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. [General Standard Condition 3, Final Order on ASC (2020), AMD1 (2021); Mandatory Condition OAR 345-025-0006(3)]
GEN-GS-03	If the certificate holder becomes aware of a significant environmental change or impact attributable to the facility, facility component or phase ~~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. [General Standard Condition 5, Final Order on ASC (2020), AMD1 (2021); Mandatory Condition OAR 345-025-0006(6)]

GEN-GS-04	Before any transfer of ownership of the facility, facility component or phase ~~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 345-027-0400 apply to any transfer of ownership that requires a transfer of the site certificate. [General Standard Condition 7, Final Order on ASC (2020), AMD1 (2021); Mandatory Condition OAR 345-025-0006(15)]
GEN-GS-05	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. [General Standard Condition 8, Final Order on ASC (2020); Site Specific Condition OAR 345-025-0010(4)]
GEN-GS-06	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. [General Standard Condition 9, Final Order on ASC (2020); Site Specific Condition OAR 345-025-0010(5)]
GEN-GS-07	The site certificate authorizes shared use of related or supporting facilities of the Bakeoven Solar Project (Phase I) and Sunset Solar Project (Phase III) including the battery storage system, collector substation, operations and maintenance building, Supervisory, Control and Data Acquisition system, 230 kV transmission line, collection system, access roads, fencing, gates, and temporary staging areas. a. Within 90 days of shared use, the certificate holder must provide evidence to the Department that the certificate holders have an executed agreement for shared use of facilities. b. If any of the certificate holders of the Bakeoven Solar Project (Phase I), Daybreak Solar Project (Phase II), or the Sunset Solar Project (Phase III) propose to substantially modify a shared facility listed in sub(a) of this condition, then each certificate holder shall submit an amendment determination request or request for site certificate amendment to obtain a determination from the Department on whether a site certificate amendment is required or to process an amendment for both site certificates. If certificate holders opt to submit an amendment determination request, the requirement may be satisfied through

	submittal of a single amendment determination request with authorization (or signature) provided from all three certificate holders. c. Prior to facility decommissioning or if facility operations cease, each certificate holder shall submit an amendment determination request or request for site certificate amendment to document continued ownership and full responsibility, including coverage of full decommissioning amount of the shared facilities in the bond or letter of credit pursuant to Condition PRE-RT-02, for the operational facility, if facilities are decommissioned at different times. [General Standard of Review Condition 7, AMD1 (2021)]
STANDARD: ORGANIZATIONAL EXPERTISE (OE) [OAR 345-022-0010]	
GEN-OE-01	During construction and operation of the facility, facility component or phase ~~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, such as changes within the Board of Directors, President or Chief Executive Officer, where the certificate holder considers such change to impact the certificate holder's access to the financial resources or expertise of Avangrid Renewables, LLC, as relied upon in the ASC. [Organizational Expertise Condition 1, Final Order on ASC (2020), AMD1 (2021)]
GEN-OE-02	During design, construction, operation, and retirement of the facility, facility component or phase ~~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. [Organizational Expertise Condition 3, Final Order on ASC (2020), AMD1 (2021)]
GEN-OE-03	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. [Organizational Expertise Condition 4, Final Order on ASC (2020)]
GEN-OE-04	In addition to the requirements of OAR 345-026-0170, within 72 hours after discovery of incidents or circumstances that violate the terms or conditions of the site certificate, the certificate holder must report the conditions or circumstances to the Department. [Organizational Expertise Condition 5, Final Order on ASC (2020)]
GEN-OE-05	During construction and operation of the facility, facility component or phase ~~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. [Organizational Expertise Condition 6, Final Order on ASC (2020), AMD1 (2021)]
STANDARD: STRUCTURAL STANDARD (SS) [OAR 345-022-0020]	

GEN-SS-01	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. [Structural Standard Condition 2, Final Order on ASC (2020); Mandatory Condition OAR 345-025-0006(12)]
GEN-SS-02	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. [Structural Standard Condition 3, Final Order on ASC (2020); Mandatory Condition OAR 345-025-0006(13)]
GEN-SS-03	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. [Structural Standard Condition 4, Final Order on ASC (2020); Mandatory Condition OAR 345-025-0006(14)]
STANDARD: SOIL PROTECTION (SP) [OAR 345-022-0022]	
GEN-SP-01	a. Prior to construction of the facility, facility component or phase ~~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 H-2 ~~D~~ of the Final Order on Request for Amendment 1 of the Bakeoven Site Certificate ~~the ASC~~). b. During construction of the facility, facility component or phase ~~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. [Soil Protection Condition 1, Final Order on ASC (2020); AMD1 (2021)]
STANDARD: LAND USE (LU) [OAR 345-022-0030]	
GEN-LU-01	The certificate holder shall: a. Prior to construction of the facility, facility component or phase ~~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, facility component or phase ~~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. [Land Use Condition 5, Final Order on ASC (2020); AMD1 (2021)]
GEN-LU-02	a. Prior to construction of the facility, facility component or phase ~~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, facility component or phase ~~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 J-2 ~~N~~ of the Final Order on Request for Amendment 1 of the Bakeoven Solar Project ~~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: 1. 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. 2. 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. 3. 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. [Land Use Condition 7, Final Order on ASC (2020); AMD1 (2021)]]

GEN-LU-03	During construction and operation of the facility, facility component or phase ~~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. [Land Use Condition 8, Final Order on ASC (2020), AMD1 (2021)]
STANDARD: RETIREMENT AND FINANCIAL ASSURANCE (RT) [OAR 345-022-0050]	
GEN-RT-01	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. [Retirement and Financial Assurance Condition 1, Final Order on ASC (2020); Mandatory Condition OAR 345-025-0006(7)]
STANDARD: FISH AND WILDLIFE HABITAT [OAR 345-022-0060]	
GEN-FW-01	The certificate holder shall: a. Prior to construction of the facility, facility component or phase ~~or any phase of the facility~~, the certificate holder shall finalize and submit a Revegetation Plan, based upon the draft plan provided in Attachment C-2 ~~I~~ of the Final Order on ~~the ASC~~ Request for Amendment 1 of the Bakeoven Solar Project, 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, facility component or phase ~~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. [Fish and Wildlife Habitat Condition 1, Final Order on ASC (2020); AMD1 (2021)]
GEN-FW-02	The certificate holder shall: a. Prior to construction of the facility, facility component or phase ~~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 E-2 ~~K~~ of the Final Order on ~~the ASC~~ Request for Amendment 1 of the Bakeoven Solar Project, 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 noxious weed species within areas to be impacted. 2. Reporting format including report content and supporting materials to be included to demonstrate completion of noxious weed control activities. b. During construction and operation of the facility, facility component or phase ~~or any phase of the facility~~, the certificate holder shall implement the requirements of the plan. [Fish and Wildlife Habitat Condition 2, Final Order on ASC (2020); AMD1 (2021)]
GEN-FW-03	The certificate holder shall: a. Prior to construction of the facility, facility component or phase ~~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 D-2 ~~H~~ of the Final Order Request for Amendment 1 of the Bakeoven Solar Project, 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. b. During construction and operation of the facility, facility component or phase ~~or any phase of the facility~~, the certificate holder shall implement the requirements of the plan. [Fish and Wildlife Habitat Condition 3 Final Order on ASC (2020); AMD1 (2021)]
GEN-FW-04	During design of the facility, facility component or phase ~~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. [Fish and Wildlife Habitat Condition 4, Final Order on ASC (2020); AMD1 (2021)]
~~GEN-FW-05~~	~~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 the first phase of the facility, the certificate holder shall implement and comply with the requirements of the WMMP, as finalized under (a) of this condition~~. [Fish and Wildlife Habitat Condition 9, Final Order on ASC (2020); AMD1 (2021)]
STANDARD: SCENIC RESOURCES (SR) [OAR 345-022-0080]	
GEN-SR-01	During design of the facility, facility component or phase ~~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. [Scenic Resources Condition 1, Final Order on ASC (2020); AMD1 (2021)]
STANDARD: HISTORIC, CULTURAL, AND ARCHEOLOGICAL RESOURCES (HC) [OAR 345-022-0090]	
GEN-HC-01	The certificate holder shall: a. Prior to construction of the facility, facility component or phase ~~or any phase of the facility~~, finalize the draft Inadvertent Discovery Plan, as provided in Attachment H-2 ~~L~~of the Final Order on ~~ASC~~ Request for Amendment 1 of the Bakeoven Solar Project, 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, facility component or phase ~~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, facility component or phase ~~or any phase of the facility~~, ensure its contractors utilize constraint maps to avoid direct impacts from facility components to 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 beyond 20-meters, and shall preclude placement of facility components or disturbance impacts unless appropriate field surveys are conducted.

	d. During construction and operation of the facility, facility component or phase ~~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. [Historic, Cultural and Archeological Condition 1, Final Order on ASC (2020); AMD1 (2021)]
STANDARD: PUBLIC SERVICES (PS) [OAR 345-022-0100]	
GEN-PS-01	a. Prior to construction of the facility, facility component or phase ~~or any phase of the facility~~, the certificate holder shall: 1. 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. 2. 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. 3. 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. 4. 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 J-2 ~~M~~ of the Final Order on the ASC. b. During construction ~~of any phase~~ of the facility, facility component or phase, the certificate holder shall implement the Construction Traffic Management Plan, as approved by the Department under sub(a)(iv) of this condition. [Public Services Condition 3, Final Order on ASC (2020); AMD1 (2021)]]
STANDARD: WASTE MINIMIZATION (WM) [OAR 345-022-0120]	
GEN-WM-01	During construction, operation and decommissioning of the facility, facility component or phase ~~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: a. Recycling steel and other metal scrap b. Recycling wood waste c. Recycling packaging wastes such as paper and cardboard d. Collecting non-recyclable waste for transport to a local landfill by a licensed waste hauler e. 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. [Waste Minimization Condition 1, Final Order on ASC (2020); AMD1 (2021)]

5.3 Pre-Construction (PRE) Conditions

Condition Number	General (GEN) Conditions
STANDARD: GENERAL STANDARD OF REVIEW (GS) [OAR 345-022-0000]	
PRE-GS-01	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. [General Standard Condition 4, Final Order on ASC (2020); Mandatory Condition OAR 345-025-0006(5)]
PRE-GS-02	At least 90 days prior to beginning construction of the facility, facility component or phase ~~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. [General Standard Condition 10, Final Order on ASC (2020); AMD1 (2021)]; OAR 345-026-0048]
STANDARD: ORGANIZATIONAL EXPERTISE (OE) [OAR 345-022-0010]	
PRE-OE-01	Before beginning construction of the facility, facility component or phase ~~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. [Organizational Expertise Condition 2, Final Order on ASC (2020); AMD1 (2021)]
STANDARD: STRUCTURAL STANDARD (SS) [OAR 345-022-0020]	
PRE-SS-01	At least 60-days prior to the commencement of construction of the facility, facility component or phase ~~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. [Structural Standard Condition 1, Final Order on ASC (2020); AMD1 (2021)]
STANDARD: LAND USE (LU) [OAR 345-022-0030]	
PRE-LU-01	Prior to construction of the facility, facility component or phase ~~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, facility component or phase 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 10 unnamed ephemeral or intermittent streams. 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. [Land Use Condition 1, Final Order on ASC (2020); AMD1 (2021)]]

PRE-LU-02	Prior to construction of the facility, facility component or phase ~~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. [Land Use Condition 2, Final Order on ASC (2020); AMD1 (2021)]
PRE-LU-03	Prior to construction of the facility, facility component or phase ~~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. [Land Use Condition 3, Final Order on ASC (2020); AMD1 (2021)]
PRE-LU-04	Prior to construction of the facility, facility component or phase ~~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. [Land Use Condition 4, Final Order on ASC (2020); AMD1 (2021)]
PRE-LU-05	Prior to construction of the facility, facility component or phase ~~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. [Land Use Condition 6, Final Order on ASC (2020); AMD1 (2021)]
PRE-LU-06	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 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. Proof that certificate holder has filed the conditional use permit and site plan applications and filing fees pursuant to ORS 469.401(3). [Land Use Condition 9, Final Order on ASC (2020)]
PRE-LU-07	Unless a written waiver of the condition is received by the Department, in

	consultation with the Oregon Department of Land Conservation and Development and Wasco County Planning Department, a. Prior to the construction of the facility, the certificate holder shall submit a Goal Exception Application form 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. [Land Use Condition 12 Final Order on ASC (2020)]
STANDARD: FISH AND WILDLIFE HABITAT (FW) [OAR 345-022-0060]	
PRE-FW-01	Prior to construction of the facility, facility component or phase ~~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. [Fish and Wildlife Habitat Condition 5, Final Order on ASC (2020); AMD1 (2021)]
PRE-FW-02	Prior to and during construction of the facility, facility component or phase ~~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. 1. 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. [Fish and Wildlife Habitat Condition 7, Final Order on ASC (2020); AMD1 (2021)]
PRE-FW-03	Prior to and during construction of the facility, facility component or phase ~~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). [Fish and Wildlife Habitat Condition 8, Final Order on ASC (2020); AMD1 (2021)]
STANDARD: THREATENED AND ENDANGERED SPECIES (TE) [OAR 345-022-0070]	
PRE-TE-01	Prior to construction or operation of the facility, facility component or phase ~~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. [Threatened and Endangered Species Condition 1, Final Order on ASC (2020); AMD1 (2021)]
STANDARD: RETIREMENT AND FINANCIAL ASSURANCE (RT) [OAR 345-022-0050]	

PRE-RT-01	Before beginning construction of the facility, facility component or phase ~~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. [Retirement and Financial Assurance Condition 4, Final Order on ASC (2020); AMD1 (2021); Mandatory Condition OAR 345-025-0006(8)]
PRE-RT-02	Before beginning construction of the facility, facility component or phase ~~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~~ 10,729,000 million dollars (Q2~~1~~ 2021~~19~~ 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, facility component or phase ~~or any phase of the facility~~, by applying the unit costs ~~and~~ general costs and contingencies illustrated in Table 5 of the Final Order on ~~the ASC~~Request for Amendment 1 of the Bakeoven Solar Project~~, and the contingencies illustrated in Table 6 of the Final Order on the ASC~~. The certificate holder may provide a bond or letter of credit for ~~any phase of~~ the facility, facility component or phase based on the unit costs and general costs illustrated in Table 5 of the Final Order on Request for Amendment 1 of the Bakeoven Solar Project~~, the ASC, and the contingencies illustrated in Table 6 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). Any modification to the unit costs presented in Table 5 of the Final Order on ~~the ASC~~ Request for Amendment 1 of the Bakeoven Solar Project, are subject to review and approval by the Council.. b. The certificate holder shall adjust the amount of the bond or letter of credit using the following calculation: 1. Adjust the amount of the bond or letter of credit (expressed in Q2~~1~~ 2021~~19~~ 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 2021~~19~~ 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~~ second quarter 2021~~19~~ dollars to present value.

	2. 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. [Retirement and Financial Assurance Condition 5, Final Order on ASC (2020); AMD1 (2021)]
STANDARD: PUBLIC SERVICES (PS) [OAR 345-022-0100]	
PRE-PS-01	Prior to construction of the facility, facility component or phase ~~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 applicable Oregon Fire Code requirements for facility components (e.g. emergency access roads, substation, battery storage). 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. [Public Services Condition 5, Final Order on ASC (2020); AMD1 (2021)]
NOISE CONTROL REGULATIONS (NC) [OAR 340-035-0035]	
PRE-NC-01	Prior to construction of the facility, facility component or phase ~~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. [Noise Control Regulations, Final Order on ASC (2020); AMD1 (2021)]

5.4 Construction (CON) Conditions

<table>
<tr><th>Condition Number</th><th>General (GEN) Conditions</th></tr>
<tr><td colspan="2">STANDARD: FISH AND WILDLIFE HABITAT (FW) [OAR 345-022-0060]</td></tr>
<tr><td>CON-FW-01</td><td>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.
<table>
<tr><th colspan="4">ODFW Raptor Nest Buffers and Seasonal Restrictions</th></tr>
<tr><th>Species</th><th>Spatial Buffer</th><th>Seasonal Restriction</th><th>Release Date if Unoccupied</th></tr>
<tr><td>Western Burrowing Owl</td><td>0.25 mile</td><td>April 1 to August 15</td><td>May 31</td></tr>
<tr><td>Golden eagle</td><td>0.5 mile</td><td>Feb 1- Aug 15</td><td>May 15</td></tr>
<tr><td>Red-tailed hawk</td><td>100-500 feet</td><td>Mar 1 – Aug 15</td><td>May 31</td></tr>
<tr><td>Ferruginous hawk</td><td>0.25 mile</td><td>Mar 15 – Aug 15</td><td>May 31</td></tr>
<tr><td>Swainson’s hawk</td><td>0.25 mile</td><td>Apr 1 – Aug 15</td><td>May 31</td></tr>
<tr><td>Prairie falcon</td><td>0.25 mile</td><td>Mar 15 – Jul 1</td><td>May 15</td></tr>
<tr><td>Peregrine falcon</td><td>0.25 mile</td><td>Jan 1 – Jul 1</td><td>May 15</td></tr>
<tr><td>American kestral</td><td>0.25 mile</td><td>Mar 1 – Jul 31</td><td>May 15</td></tr>
</table>
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.
[Fish and Wildlife Habitat Condition 6, Final Order on ASC (2020)]</td></tr>
<tr><td colspan="2">STANDARD: PUBLIC SERVICES (PS) [OAR 345-022-0100]</td></tr>
<tr><td>CON-PS-01</td><td>During construction of the facility, facility component or phase ~~or any phase of the facility~~, the certificate holder shall:
a. Provide onsite security and maintain good communication between onsite security personnel and the Wasco County Sherriff Office.
b. Coordinate with Maupin Ambulance Service and South Wasco County Ambulance Service Area to determine whether a service agreement between certificate holder and service provider is needed. The certificate holder shall notify Wasco County Planning Department and the Department on the outcome of the agreement (WCLUDO Section 5.020(C)).
c. Notify Wasco County 911 Operations Manager of construction commencement and provide facility location and access information (maps,</td></tr>
</table>

	site address, onsite safety contact information). [Public Services Condition 4, Final Order on ASC (2020); AMD1 (2021)]

5.5 Pre-Operational (PRO) Conditions

Condition Number	General (GEN) Conditions
STANDARD: SOIL PROTECTION (SP) [OAR 345-022-0022]	
PRO-SP-01	Prior to operation of the facility, facility component or phase ~~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. [Soil Protection Condition 2, Final Order on ASC (2020); AMD1 (2021)]
STANDARD: SITING STANDARDS FOR TRANSMISSION LINES (ST) [OAR 345-024-0090]	
PRO-ST-01	Prior to operation of the facility, facility component or phase ~~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. [Siting Standards for Transmission Lines Condition 1, Final Order on ASC (2020); AMD1 (2021)]

5.6 Operational (OPR) Conditions

Condition Number	General (GEN) Conditions
STANDARD: GENERAL STANDARD OF REVIEW (GS) [OAR 345-022-0000]	
OPR-GS-01	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, facility component or phase ~~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. [General Standard Condition 2, Final Order on ASC (2020); AMD1 (2021); Mandatory Condition OAR 345-025-0006(2)]
OPR-GS-02	Upon completion of construction of the facility, facility component or phase ~~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. [General Standard Condition 6, Final Order on ASC (2020); AMD1 (2021); Mandatory Condition OAR 345-025-0006(11)]
STANDARD: LAND USE (LU) [OAR 345-022-0030]	
OPR-LU-01	Within 90-days of commercial operation of the facility, facility component or phase ~~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. [Land Use Condition 10, Final Order on ASC (2020); AMD1 (2021)]
OPR-LU-02	During operation of the facility, facility component or phase ~~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. [Land Use Condition 11, Final Order on ASC (2020); AMD1 (2021)]
STANDARD: PUBLIC SERVICES (PS) [OAR 345-022-0100]	
OPR-PS-01	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. [Public Services Condition 1, Final Order on ASC (2020)]
OPR-PS-02	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 follow the recording requirements under OAR 690-190-0100. The certificate holder shall not use more than 5,000 gallons of water per day from the onsite well. [Public Services Condition 2, Final Order on ASC (2020)]

5.7 Retirement Conditions (RET)

Condition Number	General (GEN) Conditions
STANDARD: RETIREMENT AND FINANCIAL ASSURANCE (RT) [OAR 345-022-0050]	
RET-RT-01	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. [Retirement and Financial Assurance Condition 2, Final Order on ASC (2020); Mandatory Condition OAR 345-025-0006(9)]
RET-RT-02	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. [Retirement and Financial Assurance Condition 3, Final Order on ASC (2020); Mandatory Condition OAR 345-025-0006(16)]

6.0 Successors and Assigns

To transfer this site certificate or any portion thereof or to assign or dispose of it in any other manner, directly or indirectly, the certificate holder shall comply with OAR 345-027-0400.

7.0 Severability and Construction

If any provision of this agreement and certificate is declared by a court to be illegal or in conflict with any law, the validity of the remaining terms and conditions shall not be affected, and the rights and obligations of the parties shall be construed and enforced as if the agreement and certificate did not contain the particular provision held to be invalid.

8.0 Execution

This site certificate may be executed in counterparts and will become effective upon signature by the Chair of the Energy Facility Siting Council and the authorized representative of the certificate holder.

IN WITNESS THEREOF, this site certificate has been executed by the State of Oregon, acting by and through the Energy Facility Siting Council and ~~Bakeoven~~ Daybreak Solar, LLC (certificate holder), a subsidiary of Avangrid Renewables, LLC (certificate holder owner).

ENERGY FACILITY SITING COUNCIL

By: _____

Marcia L. Grail ~~Hanley Jenkins, II,~~
Chair

Date: _____

~~Bakeoven~~ Daybreak Solar, LLC

By: _____

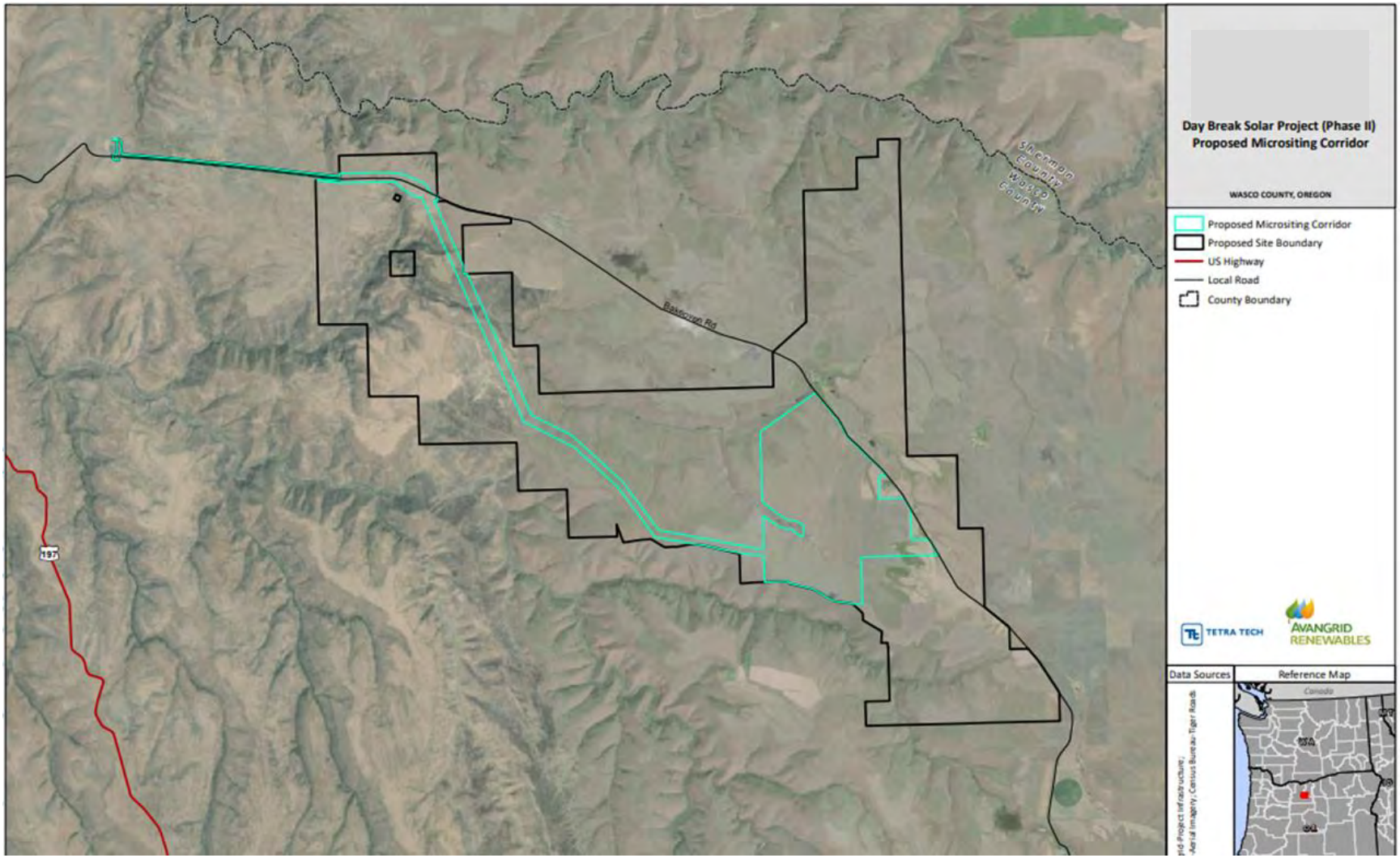
Sara Parsons, Authorized Representative

Date:_____

By: _____

Date:_____

Attachment 1: Facility Site Boundary and Micrositing Corridor



~~Bakeoven~~ Daybreak Solar Project Site Certificate
DATE ~~April~~ 2021~~0~~

Attachment A-3: Draft Site Certificate (Sunset Solar Project)

ENERGY FACILITY SITING COUNCIL

OF THE

STATE OF OREGON

Site Certificate for the

~~Bakeoven~~ Sunset Solar Project

ISSUE~~E~~ANCE DATES

Site Certificate (Bakeoven Solar Project)	April 24, 2021
Site Certificate (Sunset Solar Project	DATE TBD

~~**April 24, 2020**~~

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Table of Contents

1.0 Introduction and Site Certification 1

2.0 Facility Location, Site Boundary and Micrositing Corridor 3

3.0 Facility Development Phases 4

3.1 Construction 4

3.2 Operations and Maintenance 5

4.0 Facility Description 5

4.1 Energy Facility 6

4.2 Related or Supporting Facilities 6

4.3 Shared Related or Supporting Facilities 9

5.0 Site Certificate Conditions 10

5.1 Condition Format 10

5.2 General Conditions (GEN): Design, Construction and Operations 11

5.3 Pre-Construction (PRE) Conditions 20

5.4 Construction (CON) Conditions 27

5.5 Pre-Operational (PRO) Conditions 28

5.6 Operational (OPR) Conditions 28

5.7 Retirement Conditions (RET) 30

6.0 Successors and Assigns 31

7.0 Severability and Construction 31

8.0 Execution 31

~~BAKEOVEN~~ SUNSET SOLAR PROJECT SITE CERTIFICATE

Attachments

Attachment A	Facility Site Boundary and Micrositing Corridor

Acronyms and Abbreviations

ASC	Application for Site Certificate
BPA	Bonneville Power Administration
Certificate Holder	~~Bakeoven~~ Sunset Solar, LLC
Council	Oregon Energy Facility Siting
Department	Oregon Department of Energy
DOGAMI	Oregon Department of Geology and Mineral Industries
Facility	~~Bakeoven~~ Sunset Solar Project
HMP	Habitat Mitigation Plan
HV	High voltage
Li-ion	Lithium Ion
MWac	Megawatt alternating current
NPDES	National Pollutant Discharge Elimination System
O&M	Operations and Maintenance
OAR	Oregon Administrative Rule
ODFW	Oregon Department of Fish and Wildlife
ORS	Oregon Revised Statute
Parent Company	Avangrid Renewables, LLC
RFA	Request for Amendment
SCADA	Supervisory Control and Data Acquisition
State	State of Oregon

1.0 Introduction and Site Certification

This site certificate is a binding agreement between the State of Oregon (State), acting through the Energy Facility Siting Council (Council) and ~~Bakeoven~~ Sunset Solar, LLC (certificate holder), a subsidiary of Avangrid Renewables, LLC (certificate holder owner). As authorized under Oregon Revised Statute (ORS) Chapter 469, the Council issues this site certificate authorizing the certificate holder to construct, operate and retire the ~~Bakeoven~~ Sunset Solar Project (facility) at the below described site within Wasco County, subject to the conditions set forth herein.

Both the State and certificate holder must abide by local ordinances, state law and the rules of the Council in effect on the date this site certificate is executed. However, upon a clear showing 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 (ORS 469.401(2)).

The findings of fact, reasoning and conclusions of law underlying the terms and conditions of this site certificate are set forth in the following documents, incorporated herein by this reference: (a) the *Final Order on Request for Amendment 1 of the Bakeoven Solar Project* issued on [DATE] (b) the *Final Order on the Application for Site Certificate for the Bakeoven Solar Project* issued on April 24, 2020 (hereafter, *Final Order on the Application*). Any ambiguity will be clarified by reference to the following, in order of priority: (1) the *Final Order on Request for Amendment 1 of the Bakeoven Solar Project* (2) the *Final Order on the Application*, and (2) the record of the proceedings that led to the above referenced orders ~~*Final Order on the Application*~~.

As authorized in *Final Order on Amendment 1*, the Bakeoven Solar Project certificate holder obtained approval to split the Bakeoven Solar Project site certificate into three site certificates – Bakeoven Solar Project, Daybreak Solar Project and Sunset Solar Project. Each of these certificate holders is a wholly owned subsidiary and LLC created by Avangrid Renewables, LLC resulting in each certificate holder owned by the same parent company. In addition, these facilities share facility components and are interconnected for the duration of long-term operation.

Because the findings of fact, reasoning and conclusions of law underlying the terms and conditions of the site certificate as set forth in the *Final Order on the Application* are incorporated by reference into the site certificate, these underlying findings, including any findings establishing the predevelopment condition of the site and impacts of approved facility components continue to have bearing on the analysis and findings required to approve any future changes to the site certificates for the successor facilities. In other words, compliance with Council standards requiring an environmental impact analysis should be based on 2020 predevelopment conditions. This clarification is intended to establish that, with the splitting of facility components under three site certificates, baseline conditions (2020) and subsequent environmental impacts of the facilities, based on final design, shall not be adjusted in a way that results in greater overall impacts than the level of impacts that would be authorized under one site certificate. Future requests to amend the Bakeoven Solar Project site certificate shall evaluate compliance with Council standard requirements based on overall impacts from the

operational components as approved in the *Final Order on the Application,* and as represented in the *Final Order on Amendment 1 of the Bakeoven Solar Project*.

This site certificate binds the State and all counties, cities and political subdivisions in Oregon as to the approval of the site and the construction, operation, and retirement of the facility as to matters that are addressed in and governed by this site certificate (ORS 469.401(3)). This site certificate does not address, and is not binding with respect to, matters that are not included in and governed by this site certificate, and such matters include, but are not limited to: employee health and safety; building code compliance; wage and hour or other labor regulations; local government fees and charges; other design or operational issues that do not relate to siting the facility (ORS 469.401(4)); and permits issued under statutes and rules for which the decision on compliance has been delegated by the federal government to a state agency other than the Council (ORS 469.503(3)).

Each affected state agency, county, city, and political subdivision in Oregon with authority to issue a permit, license, or other approval addressed in or governed by this site certificate, shall upon submission of the proper application and payment of the proper fees, but without hearings or other proceedings, issue such permit, license or other approval subject only to conditions set forth in this site certificate. In addition, each state agency or local government agency that issues a permit, license or other approval for this facility shall continue to exercise enforcement authority over such permit, license or other approval (ORS 469.401(3)). For those permits, licenses, or other approvals addressed in and governed by this site certificate, the certificate holder shall comply with applicable state and federal laws adopted in the future to the extent that such compliance is required under the respective state agency statutes and rules (ORS 469.401(2)).

The certificate holder must construct, operate and retire the facility in accordance with all applicable rules as provided for in Oregon Administrative Rule (OAR) Chapter 345, Division 26. After issuance of this site certificate, the Council shall have continuing authority over the site and may inspect, or direct the Oregon Department of Energy (Department) 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 this site certificate (ORS 469.430).

The obligation of the certificate holder to report information to the Department or the Council under the conditions listed in this site certificate is subject to the provisions of ORS 192.502 *et seq.* and ORS 469.560. To the extent permitted by law, the Department and the Council will not publicly disclose information that may be exempt from public disclosure if the certificate holder has clearly labeled such information and stated the basis for the exemption at the time of submitting the information to the Department or the Council. If the Council or the Department receives a request for the disclosure of the information, the Council or the Department, as appropriate, will make a reasonable attempt to notify the certificate holder and will refer the matter to the Attorney General for a determination of whether the exemption is applicable, pursuant to ORS 192.450.

The Council recognizes that many specific tasks related to the design, construction, operation and retirement of the facility will be undertaken by the certificate holder's agents or contractors. Nevertheless, the certificate holder is responsible for ensuring compliance with all provisions of the site certificate.

The duration of this site certificate shall be the life of the facility, subject to termination pursuant to OAR 345-027-0313 or the rules in effect on the date that termination is sought, or revocation under ORS 469.440 and OAR 345-029-0100 or the statutes and rules in effect on the date that revocation is ordered. The Council shall not change the conditions of this site certificate except as provided for in OAR Chapter 345, Division 27.

The definitions in ORS 469.300 and OAR 345-001-0010 apply to the terms used in this site certificate, except where otherwise stated, or where the context clearly indicates otherwise. In accordance with ORS 469.300(6), preconstruction conditions may be satisfied for the applicable facility, facility component or phase, as applicable, based on final design and configuration.

2.0 Facility Location, Site Boundary and Micrositing Corridor

The facility site is 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 "site boundary" includes approximately 10,640 acres entirely within private property. A "site boundary" means the perimeter of the site of an energy facility and its related or supporting facilities, all temporary laydown and staging areas and all corridors proposed by the applicant.[1] The approved site boundary encompasses some or all of the townships, ranges and section identified in Table 1 below.

Table 1: Township, Range and Section within the Facility Site Boundary

Township	Range	Sections
4S	14E	25, 26, 27, 36
4S	15E	25, 29, 30, 31, 32, 36
4S	16E	30
5S	15E	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 23, 24, 25
5S	16E	7, 18, 19, 20, 29, 30

The approved micrositing corridor includes approximately 2,196~~4,160~~ acres within the site boundary. 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,

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

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 the *Final Order on the Application* Section IV. *Evaluation of Council Standards* of this order, based on the certificate holder's methodology, where surveys and analysis encompassed the entirety of a micrositing corridor to inform the evaluation of impacts under each Council standard, the Council evaluated the permanent occupation of, and potential impacts from, the facility anywhere within an approximately 2,196 ~~4,160~~ acre micrositing corridor within the site boundary. Based on this evaluation, Council approved the micrositing corridor.

The facility site boundary and micrositing corridor are presented in Attachment 1 of this site certificate.

3.0 Facility Development Phases

~~The facility may be developed in a single build-out or in multiple phases, depending on customer demands or market conditions, and could result in, when there is a change in certificate holder owner (parent company) future site certificate transfers to another certificate holder; or, site certificate amendment request. If developed in phases, the phases would likely share related or supporting facilities like the 230 kV transmission line, access roads, the Operations and Maintenance (O&M) building (including septic and possible groundwater wells), support infrastructure like the Supervisory Control and Data Acquisition (SCADA) system, the collector substation, and possibly other related or supporting facilities.~~

~~For reference to potential construction phasing, the facility may be constructed based on the following phases and generation capacity:~~

~~Table 2: Proposed Facility Phasing Schedule~~

~~Phase~~	~~Project size~~	~~Operational date~~
~~Phase 1~~	~~60 MW~~	~~2021~~
~~Phase 2~~	~~140 MW~~	~~2022~~
~~Phase 3~~	~~103 MW~~	~~2023/2024~~

3.1 Construction

~~As described above, the facility may be constructed in one phases or in multiple phases.~~ Construction of solar photovoltaic energy components generally includes: preparation of the site and staging areas, including grading and access road construction; installation of array foundations, conductors, the operations and maintenance building, and the control enclosure; assembly of solar panels and electrical connection components; construction of the inverter pad, substation, cabling, terminations, and transmission lines; and commissioning of the array

and interconnection, revegetation, and waste removal and recycling facilities. Construction of the transmission line generally includes site preparation and access road construction; structure foundation installation; erection of support structures; and, stringing of conductors, shield wire and fire optic ground wire.

The estimated construction workforce includes 250 (average) to 400 (peak) workers. Interstate Highway 84 (I-84), U.S. Highway (US) 197 near The Dalles, and Bakeoven Road are the primary transportation routes. Additional transportation routes 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.

Construction-related water is obtained from City of Maupin and/or new on existing onsite well.

3.2 Operations and Maintenance

Routine operations and maintenance (O&M) activity would potentially include solar panel washing (approximately 1 million gallons of water per year); infrequent repair and replacement of solar arrays and associated electrical equipment; battery replacement every 7 years; and, replacement of electrolyte solution every 20 years at a rate of 7,000 gallons per 1 megawatt (MW) of electrolyte solution, if flow battery storage systems are selected in final design.

The vegetation in the area under and around each solar module installation would be mowed annually and maintained sufficiently low, in accordance with the certificate holder's Operational Fire Protection and Emergency Response Plan, to reduce fire-related fuels. Vegetation along the transmission line will be managed as needed to reduce fuels for wildfire. Operational-related water is obtained from a new or existing onsite well.

The estimated operational workforce is 5 to 10 workers.

4.0 Facility Description

A 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.[2] The facility includes solar photovoltaic power generation equipment and related or supporting facilities, with a nominal and average generating capacity of approximately 140 ~~303~~ megawatt alternating current (MWac). The certificate holder has flexibility in final facility layout, number of equipment, and technology type selected because the ~~ASC and final order~~ *Final Order on the Application* analyzed maximum impacts within a designated micrositing corridor.

[2] OAR 345-001-0010(21) and – (50)

4.1 Energy Facility

The energy facility includes solar modules (mono- or poly-crystalline cells), tracker systems, posts (approx. 51,102 ~~150,300~~ posts, steel or pile-type, assumed concrete foundations), and related electrical equipment (cabling; approx. 56 ~~153~~ inverter/transformer stations; and, approx. 3.30 ~~23~~ miles of above- and ~~4.2~~ 8.60 miles of belowground 34.5 kV collection system ~~- aboveground collector lines to be placed on single or double circuit monopole 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.[3]

The solar array includes shielded electrical cabling, as required by applicable code, to prevent electrical fires.

4.2 Related or Supporting Facilities

Related or supporting facilities, as further described below, include:

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

230 kV Transmission Line

The 230 kV transmission line is approved to extend approximately 11 miles from the facility 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 230 kV transmission line route extends northwest from the facility 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 approved 230 kV transmission line structures include two galvanized steel or wood pole H-frame 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).

Collector Substation and O&M Building

The facility collector substation operates to combine and step up the voltage of energy generated by the energy facility to the desired transmission voltage. The facility collector substation likely includes two non-polychlorinated biphenyl oil-containing transformers (49,385

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

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 facility collector substation site is an approximately 3 acre fenced, graveled area, within the fenced solar array area, within ~~near~~ the transmission line corridor, at the south~~ern~~eastern end of the site boundary (see ASC Exhibit C, Figure C-2). The facility 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 facility. All electrical equipment will meet National Electrical Code and Institute of Electrical and Electronics Engineers standards.[4]

The O&M building includes a single-story building, approximately 20 feet in height, within an approximately 5,000 square foot area, and includes office space, storage, bathroom, and breakroom facilities. Water is supplied via an existing or newly constructed on-site permit exempt groundwater well (see ASC Exhibit O). The O&M building has 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 is provided via local service providers. A gravel parking and storage area is located adjacent to the building. The O&M building is located near the solar array, within the solar array perimeter fence. To reduce any risks of fire, the fenced areas around the O&M building is graveled, with no vegetation present. The O&M building has basic firefighting equipment for use on site during maintenance activities, such as shovels, beaters, portable water for hand sprayers, fire extinguishers, and other equipment.

Communication and Supervisory Control and Data Acquisition System

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

Site Access, Service Roads, Perimeter Fencing, and Gates

The facility is accessed from Bakeoven Road east of Maupin, Oregon. Within the site boundary, there are approximately 10.0 ~~24~~ miles of service roads for access and maintenance purposes. New service roads within the site boundary are up to 20 feet wide with an internal turning radius sufficiently sized for emergency vehicle access. Facility roads are 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 are 16 to 20 feet wide with an internal turning radius of 28 feet and less than 10 percent grade to provide access to

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

emergency vehicles.[5] Chain-link perimeter fencing, up to 8 feet in height, encloses the solar array. The perimeter fencing has vehicle and pedestrian access gates, including two 16-foot-wide gates and one 4-foot-wide gate (see ASC Exhibit C, Figure C-2).

Temporary Staging Areas

~~Three~~ Two temporary staging areas used for equipment and supply storage, including ~~and~~ one or more temporary concrete batch plant staging area~~s~~, may be needed during construction. One temporary staging area will be shared with Phase I and II. ~~All~~ The temporary staging areas are located with the approved micrositing corridor. Employees are 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.

Battery Storage System

The battery storage system is comprised of either lithium-ion (Li-ion) or flow batteries and 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.

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.

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

4.3 Shared Related or Supporting Facilities

The site certificates for the Bakeoven Solar Project (Phase I), Day Break Solar Project (Phase II) and Sunset Solar Project (Phase III) were originally approved as one site certificate for the Bakeoven Solar Project (April 2020). In April 2021, facility components were split or allocated into three separate site certificates, but identified that certain related or supporting facilities would be shared or used by each facility. Sharing of facility components, or use by multiple facilities, is allowable in the EFSC process when the compliance obligation and applicable regulatory requirements for the shared facilities is adequately covered under each site certificate, including under normal operational circumstances, ceasing/termination of operation, emergencies and compliance issues or violations.

The certificate holder is authorized to share related or supporting facilities between the Bakeoven Solar Project (Phase I), Day Break Solar Project (Phase II) and Sunset Solar Project (Phase III), including the collector substation, 230 kV transmission line, O&M building, battery storage system, collection system, temporary laydown areas, access roads, fencing and gates. These related or supporting facilities are included in each site certificate. Compliance responsibility with site certificate conditions and EFSC standards which apply to these shared related or supporting facilities are shared between site certificates and certificate holders. In accordance with Condition GEN-GS-07, if any certificate holder substantially modifies a shared related or supporting facility or ceases facility operation, each certificate holder would be obligated to submit an amendment determination request or request for amendment to the Department to determine the appropriate process for evaluating the change and ensuring full regulatory coverage under each site certificate, or remaining site certificate if either is terminated, in the future. Additionally, each certificate holder is obligated to demonstrate to the Department that a share use agreement has been executed between certificate holders to ensure approval and agreement of access to the shared resources has been obtained prior to operation of shared facilities.

5.0 Site Certificate Conditions

5.1 Condition Format

The conditions in Sections 5.2 through 5.7 of this Site Certificate are organized and coded to indicate the phase of implementation, the standard the condition is required to satisfy, and an identification number (1, 2, 3, etc.).[6] The table below presents a "key" for phase of implementation:

Key	Type of Conditions/Phase of Implementation
GEN	General Conditions: Design, Construction and Operation
PRE	Pre-Construction Conditions
CON	Construction Conditions
PRO	Pre-Operational Conditions
OPR	Operational Conditions
RET	Retirement Conditions

Some conditions are coded for more than one phase of implementation.

The standards are presented using an acronym; for example, the General Standard of Review is represented in the condition numbering as "GS"; the Soil Protection standard is represented in the condition numbering as "SP" and so forth.

For example, the coding of Condition GEN-GS-01 represents that the condition is a general condition (GEN) to be implemented during design, construction and operation of the facility, is required to satisfy the Council's General Standard of Review, and is condition number 1. The condition language also includes in brackets [ ] the name of the condition and the Council order for which it was ~~as~~ imposed or amended ~~in the Final Order on the Application~~ (i.e. General Standard of Review Condition 1, Final Order on ASC (2020)).

[6] The identification number is not representative of an order that conditions must be implemented; it is intended only to represent a numerical value for identifying the condition.

5.2 General Conditions (GEN): Design, Construction and Operations

Condition Number	General (GEN) Conditions
STANDARD: GENERAL STANDARD OF REVIEW (GS) [OAR 345-022-0000]	
GEN-GS-01	The certificate holder shall begin and complete construction of the facility, facility component or phase ~~or any phase of the facility~~ by the dates specified in the site certificate. a. Construction of the facility, facility component or phase ~~or any phase of the facility~~ shall commence on or before April 24, 2023, three years after the date of Council action. 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, facility component or phase ~~if constructed in phases~~, shall commence on or before April 24, 2025, five years after the date of Council action. 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 on or before April 24, 2026, six years after the date of Council action. Within 7 days of construction completion, the certificate holder shall provide the Department written verification that it has met the construction completion deadline. [General Standard Condition 1, Final Order on ASC (2020), AMD1 (2021); Mandatory Condition OAR 345-025-0006(4)]
GEN-GS-02	The certificate holder shall design, construct, operate, and retire the facility, facility component or phase ~~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. [General Standard Condition 3, Final Order on ASC (2020), AMD1 (2021); Mandatory Condition OAR 345-025-0006(3)]
GEN-GS-03	If the certificate holder becomes aware of a significant environmental change or impact attributable to the facility, facility component or phase ~~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. [General Standard Condition 5, Final Order on ASC (2020), AMD1 (2021); Mandatory Condition OAR 345-025-0006(6)]

GEN-GS-04	Before any transfer of ownership of the facility, facility component or phase ~~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 345-027-0400 apply to any transfer of ownership that requires a transfer of the site certificate. [General Standard Condition 7, Final Order on ASC (2020), AMD1 (2021); Mandatory Condition OAR 345-025-0006(15)]
GEN-GS-05	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. [General Standard Condition 8, Final Order on ASC (2020); Site Specific Condition OAR 345-025-0010(4)]
GEN-GS-06	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. [General Standard Condition 9, Final Order on ASC (2020); Site Specific Condition OAR 345-025-0010(5)]
GEN-GS-07	The site certificate authorizes shared use of related or supporting facilities of the Day Break Solar Project (Phase II) and Sunset Solar Project (Phase III) including the battery storage system, collector substation, operations and maintenance building, Supervisory, Control and Data Acquisition system, 230 kV transmission line, collection system, access roads, fencing, gates, and temporary staging areas. a. Within 90 days of shared use, the certificate holder must provide evidence to the Department that the certificate holders have an executed agreement for shared use of facilities. b. If any of the certificate holders of the Bakeoven Solar Project (Phase I), Day Break Solar Project (Phase II), or the Sunset Solar Project (Phase III) propose to substantially modify a shared facility listed in sub(a) of this condition, then each certificate holder shall submit an amendment determination request or request for site certificate amendment to obtain a determination from the Department on whether a site certificate amendment is required or to process an amendment for both site certificates. If certificate holders opt to submit an amendment determination request, the requirement may be

	satisfied through submittal of a single amendment determination request with authorization (or signature) provided from all three certificate holders. c. Prior to facility decommissioning or if facility operations cease, each certificate holder shall submit an amendment determination request or request for site certificate amendment to document continued ownership and full responsibility, including coverage of full decommissioning amount of the shared facilities in the bond or letter of credit pursuant to Condition PRE-RT-02, for the operational facility, if facilities are decommissioned at different times. [General Standard of Review Condition 7, AMD1 (2021)]
STANDARD: ORGANIZATIONAL EXPERTISE (OE) [OAR 345-022-0010]	
GEN-OE-01	During construction and operation of the facility, facility component or phase ~~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, such as changes within the Board of Directors, President or Chief Executive Officer, where the certificate holder considers such change to impact the certificate holder's access to the financial resources or expertise of Avangrid Renewables, LLC, as relied upon in the ASC. [Organizational Expertise Condition 1, Final Order on ASC (2020), AMD1 (2021)]
GEN-OE-02	During design, construction, operation, and retirement of the facility, facility component or phase ~~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. [Organizational Expertise Condition 3, Final Order on ASC (2020), AMD1 (2021)]
GEN-OE-03	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. [Organizational Expertise Condition 4, Final Order on ASC (2020)]
GEN-OE-04	In addition to the requirements of OAR 345-026-0170, within 72 hours after discovery of incidents or circumstances that violate the terms or conditions of the site certificate, the certificate holder must report the conditions or circumstances to the Department. [Organizational Expertise Condition 5, Final Order on ASC (2020)]
GEN-OE-05	During construction and operation of the facility, facility component or phase ~~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. [Organizational Expertise Condition 6, Final Order on ASC (2020), AMD1 (2021)]

STANDARD: STRUCTURAL STANDARD (SS) [OAR 345-022-0020]	
GEN-SS-01	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. [Structural Standard Condition 2, Final Order on ASC (2020); Mandatory Condition OAR 345-025-0006(12)]
GEN-SS-02	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. [Structural Standard Condition 3, Final Order on ASC (2020); Mandatory Condition OAR 345-025-0006(13)]
GEN-SS-03	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. [Structural Standard Condition 4, Final Order on ASC (2020); Mandatory Condition OAR 345-025-0006(14)]
STANDARD: SOIL PROTECTION (SP) [OAR 345-022-0022]	
GEN-SP-01	a. Prior to construction of the facility, facility component or phase ~~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 H-3 ~~D~~ of the Final Order on Request for Amendment 1 of the Bakeoven Site Certificate ~~the ASC~~). b. During construction of the facility, facility component or phase ~~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. [Soil Protection Condition 1, Final Order on ASC (2020); AMD1 (2021)]
STANDARD: LAND USE (LU) [OAR 345-022-0030]	
GEN-LU-01	The certificate holder shall:

	a. Prior to construction of the facility, facility component or phase ~~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, facility component or phase ~~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. [Land Use Condition 5, Final Order on ASC (2020); AMD1 (2021)]
GEN-LU-02	a. Prior to construction of the facility, facility component or phase ~~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, facility component or phase ~~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 J-3 ~~N~~ of the Final Order on Request for Amendment 1 of the Bakeoven Solar Project ~~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: 1. 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. 2. 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. 3. 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. [Land Use Condition 7, Final Order on ASC (2020); AMD1 (2021)]]
GEN-LU-03	During construction and operation of the facility, facility component or phase ~~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. [Land Use Condition 8, Final Order on ASC (2020), AMD1 (2021)]
STANDARD: RETIREMENT AND FINANCIAL ASSURANCE (RT) [OAR 345-022-0050]	
GEN-RT-01	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. [Retirement and Financial Assurance Condition 1, Final Order on ASC (2020); Mandatory Condition OAR 345-025-0006(7)]
STANDARD: FISH AND WILDLIFE HABITAT [OAR 345-022-0060]	
GEN-FW-01	The certificate holder shall: a. Prior to construction of the facility, facility component or phase ~~or any phase of the facility~~, the certificate holder shall finalize and submit a Revegetation Plan, based upon the draft plan provided in Attachment C-3 ~~I~~ of the Final Order on ~~the ASC~~ Request for Amendment 1 of the Bakeoven Solar Project, 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, facility component or phase ~~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. [Fish and Wildlife Habitat Condition 1, Final Order on ASC (2020); AMD1 (2021)]
GEN-FW-02	The certificate holder shall: a. Prior to construction of the facility, facility component or phase ~~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 E-3 ~~K~~ of the Final Order on ~~the ASC~~ Request for Amendment 1 of the Bakeoven Solar Project, 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 noxious weed species within areas to be impacted. 2. Reporting format including report content and supporting materials to be included to demonstrate completion of noxious weed control activities. b. During construction and operation of the facility, facility component or phase ~~or any phase of the facility~~, the certificate holder shall implement the requirements of the plan. [Fish and Wildlife Habitat Condition 2, Final Order on ASC (2020); AMD1 (2021)]
GEN-FW-03	The certificate holder shall: a. Prior to construction of the facility, facility component or phase ~~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 D-3 ~~H~~ of the Final Order Request for Amendment 1 of the Bakeoven Solar Project, 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. b. During construction and operation of the facility, facility component or phase ~~or any phase of the facility~~, the certificate holder shall implement the requirements of the plan. [Fish and Wildlife Habitat Condition 3 Final Order on ASC (2020); AMD1 (2021)]
GEN-FW-04	During design of the facility, facility component or phase ~~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. [Fish and Wildlife Habitat Condition 4, Final Order on ASC (2020); AMD1 (2021)]
~~GEN-FW-05~~	~~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 the first phase of the facility, the certificate holder shall implement and comply with the requirements of the WMMP, as finalized under (a) of this condition~~. [Fish and Wildlife Habitat Condition 9, Final Order on ASC (2020); AMD1 (2021)]
STANDARD: SCENIC RESOURCES (SR) [OAR 345-022-0080]	
GEN-SR-01	During design of the facility, facility component or phase ~~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. [Scenic Resources Condition 1, Final Order on ASC (2020); AMD1 (2021)]
STANDARD: HISTORIC, CULTURAL, AND ARCHEOLOGICAL RESOURCES (HC) [OAR 345-022-0090]	
GEN-HC-01	The certificate holder shall: a. Prior to construction of the facility, facility component or phase ~~or any phase of the facility~~, finalize the draft Inadvertent Discovery Plan, as provided in Attachment H-3 ~~L~~of the Final Order on ~~ASC~~ Request for Amendment 1 of the Bakeoven Solar Project, 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, facility component or phase ~~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, facility component or phase ~~or any phase of the facility~~, ensure its contractors utilize constraint maps to avoid direct impacts from facility components to 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 beyond 20-meters, and shall preclude placement of facility components or disturbance impacts unless appropriate field surveys are conducted.

	d. During construction and operation of the facility, facility component or phase ~~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. [Historic, Cultural and Archeological Condition 1, Final Order on ASC (2020); AMD1 (2021)]
STANDARD: PUBLIC SERVICES (PS) [OAR 345-022-0100]	
GEN-PS-01	a. Prior to construction of the facility, facility component or phase ~~or any phase of the facility~~, the certificate holder shall: 1. 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. 2. 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. 3. 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. 4. 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 J-3 ~~M~~ of the Final Order on the ASC. b. During construction ~~of any phase~~ of the facility, facility component or phase, the certificate holder shall implement the Construction Traffic Management Plan, as approved by the Department under sub(a)(iv) of this condition. [Public Services Condition 3, Final Order on ASC (2020); AMD1 (2021)]]
STANDARD: WASTE MINIMIZATION (WM) [OAR 345-022-0120]	
GEN-WM-01	During construction, operation and decommissioning of the facility, facility component or phase ~~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: a. Recycling steel and other metal scrap b. Recycling wood waste c. Recycling packaging wastes such as paper and cardboard d. Collecting non-recyclable waste for transport to a local landfill by a licensed waste hauler e. 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. [Waste Minimization Condition 1, Final Order on ASC (2020); AMD1 (2021)]

5.3 Pre-Construction (PRE) Conditions

Condition Number	General (GEN) Conditions
STANDARD: GENERAL STANDARD OF REVIEW (GS) [OAR 345-022-0000]	
PRE-GS-01	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. [General Standard Condition 4, Final Order on ASC (2020); Mandatory Condition OAR 345-025-0006(5)]
PRE-GS-02	At least 90 days prior to beginning construction of the facility, facility component or phase ~~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. [General Standard Condition 10, Final Order on ASC (2020); AMD1 (2021)]; OAR 345-026-0048]
STANDARD: ORGANIZATIONAL EXPERTISE (OE) [OAR 345-022-0010]	
PRE-OE-01	Before beginning construction of the facility, facility component or phase ~~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. [Organizational Expertise Condition 2, Final Order on ASC (2020); AMD1 (2021)]
STANDARD: STRUCTURAL STANDARD (SS) [OAR 345-022-0020]	
PRE-SS-01	At least 60-days prior to the commencement of construction of the facility, facility component or phase ~~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. [Structural Standard Condition 1, Final Order on ASC (2020); AMD1 (2021)]
STANDARD: LAND USE (LU) [OAR 345-022-0030]	
PRE-LU-01	Prior to construction of the facility, facility component or phase ~~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, facility component or phase 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 10 unnamed ephemeral or intermittent streams. 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. [Land Use Condition 1, Final Order on ASC (2020); AMD1 (2021)]]

PRE-LU-02	Prior to construction of the facility, facility component or phase ~~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. [Land Use Condition 2, Final Order on ASC (2020); AMD1 (2021)]
PRE-LU-03	Prior to construction of the facility, facility component or phase ~~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. [Land Use Condition 3, Final Order on ASC (2020); AMD1 (2021)]
PRE-LU-04	Prior to construction of the facility, facility component or phase ~~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. [Land Use Condition 4, Final Order on ASC (2020); AMD1 (2021)]
PRE-LU-05	Prior to construction of the facility, facility component or phase ~~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. [Land Use Condition 6, Final Order on ASC (2020); AMD1 (2021)]
PRE-LU-06	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 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. Proof that certificate holder has filed the conditional use permit and site plan applications and filing fees pursuant to ORS 469.401(3). [Land Use Condition 9, Final Order on ASC (2020)]
PRE-LU-07	Unless a written waiver of the condition is received by the Department, in

	consultation with the Oregon Department of Land Conservation and Development and Wasco County Planning Department, a. Prior to the construction of the facility, the certificate holder shall submit a Goal Exception Application form 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. [Land Use Condition 12 Final Order on ASC (2020)]
STANDARD: FISH AND WILDLIFE HABITAT (FW) [OAR 345-022-0060]	
PRE-FW-01	Prior to construction of the facility, facility component or phase ~~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. [Fish and Wildlife Habitat Condition 5, Final Order on ASC (2020); AMD1 (2021)]
PRE-FW-02	Prior to and during construction of the facility, facility component or phase ~~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. 1. 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. [Fish and Wildlife Habitat Condition 7, Final Order on ASC (2020); AMD1 (2021)]
PRE-FW-03	Prior to and during construction of the facility, facility component or phase ~~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). [Fish and Wildlife Habitat Condition 8, Final Order on ASC (2020); AMD1 (2021)]
STANDARD: THREATENED AND ENDANGERED SPECIES (TE) [OAR 345-022-0070]	
PRE-TE-01	Prior to construction or operation of the facility, facility component or phase ~~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. [Threatened and Endangered Species Condition 1, Final Order on ASC (2020); AMD1 (2021)]
STANDARD: RETIREMENT AND FINANCIAL ASSURANCE (RT) [OAR 345-022-0050]	

PRE-RT-01	Before beginning construction of the facility, facility component or phase ~~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. [Retirement and Financial Assurance Condition 4, Final Order on ASC (2020); AMD1 (2021); Mandatory Condition OAR 345-025-0006(8)]
PRE-RT-02	Before beginning construction of the facility, facility component or phase ~~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~~ 8,640,000 million dollars (Q2~~1~~ 20212~~19~~ 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, facility component or phase ~~or any phase of the facility~~, by applying the unit costs ~~and~~ general costs and contingencies illustrated in Table 5 of the Final Order on ~~the ASC~~Request for Amendment 1 of the Bakeoven Solar Project~~, and the contingencies illustrated in Table 6 of the Final Order on the ASC~~. The certificate holder may provide a bond or letter of credit for ~~any phase of~~ the facility, facility component or phase based on the unit costs and general costs illustrated in Table 5 of the Final Order on Request for Amendment 1 of the Bakeoven Solar Project~~, the ASC, and the contingencies illustrated in Table 6 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). Any modification to the unit costs presented in Table 5 of the Final Order on ~~the ASC~~ Request for Amendment 1 of the Bakeoven Solar Project, are subject to review and approval by the Council.. b. The certificate holder shall adjust the amount of the bond or letter of credit using the following calculation: 1. Adjust the amount of the bond or letter of credit (expressed in Q2~~1~~ 20212~~19~~ 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 20212~~19~~ 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~~ second quarter 20212~~19~~ dollars to present value.

	2. 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. [Retirement and Financial Assurance Condition 5, Final Order on ASC (2020); AMD1 (2021)]
STANDARD: PUBLIC SERVICES (PS) [OAR 345-022-0100]	
PRE-PS-01	Prior to construction of the facility, facility component or phase ~~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 applicable Oregon Fire Code requirements for facility components (e.g. emergency access roads, substation, battery storage). 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. [Public Services Condition 5, Final Order on ASC (2020); AMD1 (2021)]
NOISE CONTROL REGULATIONS (NC) [OAR 340-035-0035]	
PRE-NC-01	Prior to construction of the facility, facility component or phase ~~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. [Noise Control Regulations, Final Order on ASC (2020); AMD1 (2021)]

5.4 Construction (CON) Conditions

<table>
<tr><th>Condition Number</th><th>General (GEN) Conditions</th></tr>
<tr><td colspan="2">STANDARD: FISH AND WILDLIFE HABITAT (FW) [OAR 345-022-0060]</td></tr>
<tr><td>CON-FW-01</td><td>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.
<table>
<tr><th colspan="4">ODFW Raptor Nest Buffers and Seasonal Restrictions</th></tr>
<tr><th>Species</th><th>Spatial Buffer</th><th>Seasonal Restriction</th><th>Release Date if Unoccupied</th></tr>
<tr><td>Western Burrowing Owl</td><td>0.25 mile</td><td>April 1 to August 15</td><td>May 31</td></tr>
<tr><td>Golden eagle</td><td>0.5 mile</td><td>Feb 1- Aug 15</td><td>May 15</td></tr>
<tr><td>Red-tailed hawk</td><td>100-500 feet</td><td>Mar 1 – Aug 15</td><td>May 31</td></tr>
<tr><td>Ferruginous hawk</td><td>0.25 mile</td><td>Mar 15 – Aug 15</td><td>May 31</td></tr>
<tr><td>Swainson’s hawk</td><td>0.25 mile</td><td>Apr 1 – Aug 15</td><td>May 31</td></tr>
<tr><td>Prairie falcon</td><td>0.25 mile</td><td>Mar 15 – Jul 1</td><td>May 15</td></tr>
<tr><td>Peregrine falcon</td><td>0.25 mile</td><td>Jan 1 – Jul 1</td><td>May 15</td></tr>
<tr><td>American kestral</td><td>0.25 mile</td><td>Mar 1 – Jul 31</td><td>May 15</td></tr>
</table>
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.
[Fish and Wildlife Habitat Condition 6, Final Order on ASC (2020)]</td></tr>
<tr><td colspan="2">STANDARD: PUBLIC SERVICES (PS) [OAR 345-022-0100]</td></tr>
<tr><td>CON-PS-01</td><td>During construction of the facility, facility component or phase ~~or any phase of the facility~~, the certificate holder shall:
a. Provide onsite security and maintain good communication between onsite security personnel and the Wasco County Sherriff Office.
b. Coordinate with Maupin Ambulance Service and South Wasco County Ambulance Service Area to determine whether a service agreement between certificate holder and service provider is needed. The certificate holder shall notify Wasco County Planning Department and the Department on the outcome of the agreement (WCLUDO Section 5.020(C)).
c. Notify Wasco County 911 Operations Manager of construction commencement and provide facility location and access information (maps,</td></tr>
</table>

	site address, onsite safety contact information). [Public Services Condition 4, Final Order on ASC (2020); AMD1 (2021)]

5.5 Pre-Operational (PRO) Conditions

Condition Number	General (GEN) Conditions
STANDARD: SOIL PROTECTION (SP) [OAR 345-022-0022]	
PRO-SP-01	Prior to operation of the facility, facility component or phase ~~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. [Soil Protection Condition 2, Final Order on ASC (2020); AMD1 (2021)]
STANDARD: SITING STANDARDS FOR TRANSMISSION LINES (ST) [OAR 345-024-0090]	
PRO-ST-01	Prior to operation of the facility, facility component or phase ~~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. [Siting Standards for Transmission Lines Condition 1, Final Order on ASC (2020); AMD1 (2021)]

5.6 Operational (OPR) Conditions

Condition Number	General (GEN) Conditions
STANDARD: GENERAL STANDARD OF REVIEW (GS) [OAR 345-022-0000]	
OPR-GS-01	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, facility component or phase ~~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. [General Standard Condition 2, Final Order on ASC (2020); AMD1 (2021); Mandatory Condition OAR 345-025-0006(2)]
OPR-GS-02	Upon completion of construction of the facility, facility component or phase ~~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. [General Standard Condition 6, Final Order on ASC (2020); AMD1 (2021); Mandatory Condition OAR 345-025-0006(11)]
STANDARD: LAND USE (LU) [OAR 345-022-0030]	
OPR-LU-01	Within 90-days of commercial operation of the facility, facility component or phase ~~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. [Land Use Condition 10, Final Order on ASC (2020); AMD1 (2021)]
OPR-LU-02	During operation of the facility, facility component or phase ~~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. [Land Use Condition 11, Final Order on ASC (2020); AMD1 (2021)]
STANDARD: PUBLIC SERVICES (PS) [OAR 345-022-0100]	
OPR-PS-01	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. [Public Services Condition 1, Final Order on ASC (2020)]
OPR-PS-02	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 follow the recording requirements under OAR 690-190-0100. The certificate holder shall not use more than 5,000 gallons of water per day from the onsite well. [Public Services Condition 2, Final Order on ASC (2020)]

5.7 Retirement Conditions (RET)

Condition Number	General (GEN) Conditions
STANDARD: RETIREMENT AND FINANCIAL ASSURANCE (RT) [OAR 345-022-0050]	
RET-RT-01	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. [Retirement and Financial Assurance Condition 2, Final Order on ASC (2020); Mandatory Condition OAR 345-025-0006(9)]
RET-RT-02	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. [Retirement and Financial Assurance Condition 3, Final Order on ASC (2020); Mandatory Condition OAR 345-025-0006(16)]

6.0 Successors and Assigns

To transfer this site certificate or any portion thereof or to assign or dispose of it in any other manner, directly or indirectly, the certificate holder shall comply with OAR 345-027-0400.

7.0 Severability and Construction

If any provision of this agreement and certificate is declared by a court to be illegal or in conflict with any law, the validity of the remaining terms and conditions shall not be affected, and the rights and obligations of the parties shall be construed and enforced as if the agreement and certificate did not contain the particular provision held to be invalid.

8.0 Execution

This site certificate may be executed in counterparts and will become effective upon signature by the Chair of the Energy Facility Siting Council and the authorized representative of the certificate holder.

IN WITNESS THEREOF, this site certificate has been executed by the State of Oregon, acting by and through the Energy Facility Siting Council and ~~Bakeoven~~ Sunset Solar, LLC (certificate holder), a subsidiary of Avangrid Renewables, LLC (certificate holder owner).

ENERGY FACILITY SITING COUNCIL

By: _____

Marcia L. Grail ~~Hanley Jenkins, II,~~
Chair

Date: _____

~~Bakeoven~~ Sunset Solar, LLC

By: _____

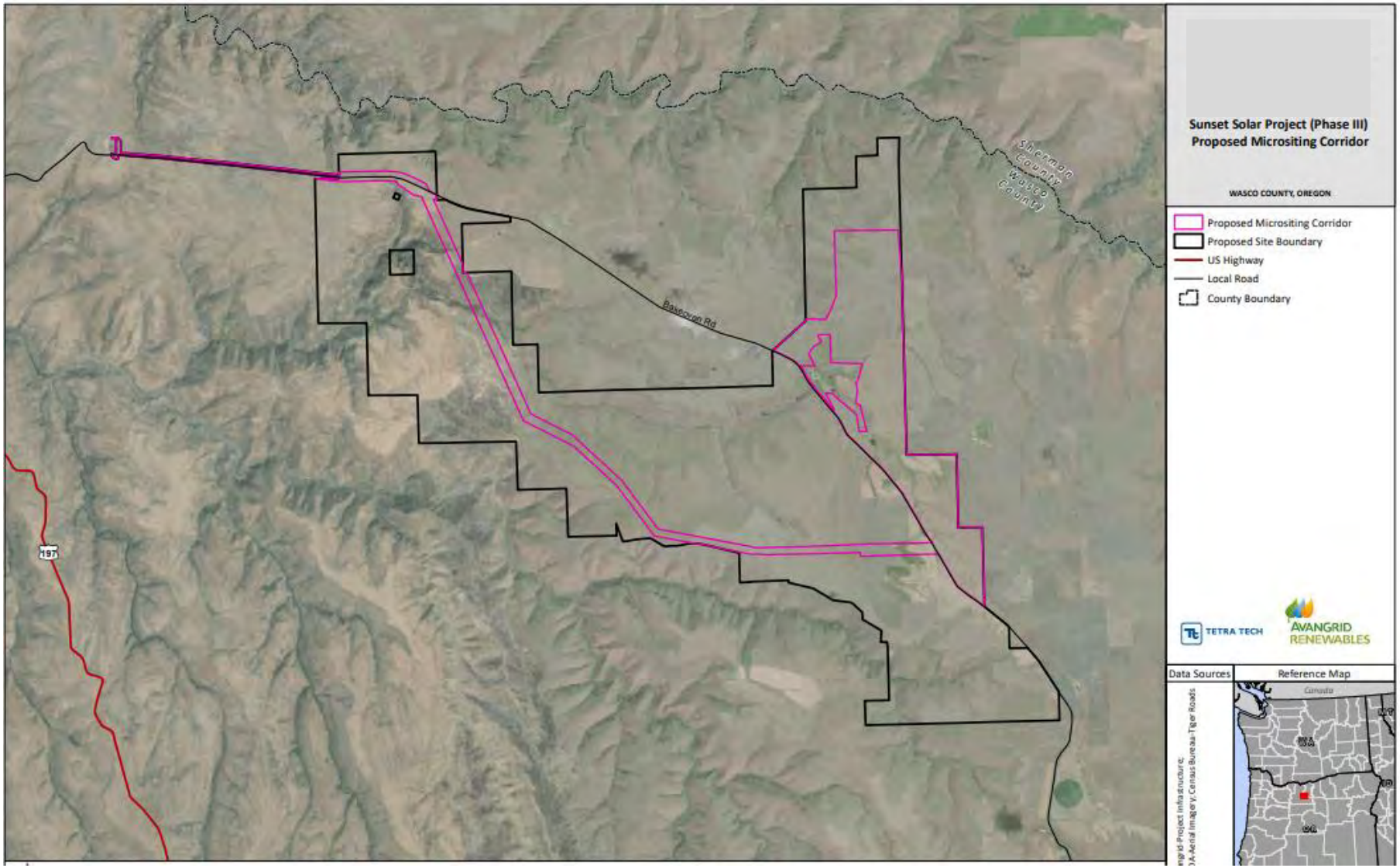
Sara Parsons, Authorized Representative

Date:_____

By: _____

Date:_____

Attachment 1: Facility Site Boundary and Micrositing Corridor



~~Bakeoven~~ Sunset Solar Project Site Certificate
DATE ~~April~~ 2021~~0~~

Attachment B-1: pRFA1 Reviewing Agency Comments

Attachment B-1: pRFA1 Reviewing Agency Comments - Index

Commenter Name	Entity/Organization	Date Received
Kelly Howsley-Grover	Interim Planning Director, Wasco County Planning Department	7/7/2021
Jeremy Thompson	District Biologist, Oregon Department of Fish and Wildlife	8/16/2021

PLANNING DEPARTMENT

2705 East Second Street • The Dalles, OR 97058
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Pioneering pathways to prosperity.

July 7, 2021

Attn: Sarah Esterson
Oregon Department of Energy
Sarah.Esterson@oregon.gov

Dear Ms. Esterson;

Wasco County Planning Department has reviewed the request for the Bakeoven Solar Project Amendment to split the approved facility components and micrositing area into three facilities with their own respective site certificate and has the following comments.

For the conditional use permit, Wasco County will require a final determination and make a note to the file. No other action is required to document the administrative change.

Wasco County has no concerns about the change of ownership and the introduction of additional LLCs.

The final matter you have requested input on pertains to Wildlife Monitoring Plans (WMP). The applicant proposes to only conduct WMP for one of the facilities, eliminating WMP requirement from Day Break and Sunset Solar. Wasco County defers to the expertise of our partners at Oregon Department of Fish and Wildlife if this would suffice to meet the requirements as listed in the final order.

We would also like to state for the record that work has commenced on this project without the required fire plan and emergency services in place, including the required contractual agreement with Juniper Flat Rural Fire Protection District. This has caused considerable distress among property owners, particularly considering several weeks of above average temperatures and a Governor declared drought. As you may know, fire season was initiated in our area earlier than it has been in forty years, resulting from extremely dry conditions. Already this year, two conflagrations have been declared in Wasco County.

As one of the conditions of the site certificate, Wasco County asks that the fire plan and emergency services be put in place prior to the issuance of additional site certificates.

Sincerely,

Kelly Howsley Glover
Wasco County Interim Planning Director

ESTERSON Sarah * ODOE

Subject: Bakeoven Solar Project Site Certificate, Request for Amendment 1 - ODOE Request for ODFW Review and Comment

From: THOMPSON Jeremy L * ODFW <Jeremy.L.THOMPSON@odfw.oregon.gov>
Sent: Monday, August 16, 2021 10:44 AM
To: REIF Sarah J * ODFW <Sarah.J.REIF@odfw.oregon.gov>; ESTERSON Sarah * ODOE <Sarah.ESTERSON@energy.oregon.gov>
Cc: TARDAEWETHER Kellen * ODOE <Kellen.TARDAEWETHER@energy.oregon.gov>
Subject: RE: Bakeoven Solar Project Site Certificate, Request for Amendment 1 - ODOE Request for ODFW Review and Comment

Quick question on the WMMP, is there anyway that Avangrid could skip developing phase 1, and move straight to phase 2? I do not think that is the intent, but with this project essentially being split into separate projects one could make the case that no monitoring would occur if phase 2 is built but not phase 1.

Outside of that potential, I have no other concerns with the plans as provided.

Jeremy

Attachment C-1: Draft Amended Revegetation Plan (Bakeoven Solar Project)

~~IAttachment P-3.~~

Revegetation Plan

Bakeoven Solar Project (Phase I)
~~November 2019~~July 2021

Prepared for

Avangrid Renewables, LLC

Prepared by

Tetra Tech, Inc.

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Table of Contents

1.0 Introduction 1
2.0 Description of Temporary Facility Impacts 2
3.0 Agency Consultation 3
4.0 Roles and Responsibilities 3
5.0 Revegetation Methods 3
5.1 Soil Preparation 4
5.2 Seeding Methods 5
5.2.1 Broadcast Seeding 5
5.2.2 Drill Seeding 6
5.2.3 Hydroseeding 6
5.3 Seed Mix and Shrub Plantings 6
6.0 Noxious Weed Prevention and Control 8
7.0 Revegetation Documentation 8
8.0 Monitoring 8
8.1 Reference and Monitoring Sites 8
8.1.1 Reference Sites 9
8.1.2 Monitoring Sites 9
8.2 Monitoring Procedures 10
8.3 Reporting 11
8.4 Success Criteria 12
8.5 Remedial Action 13
9.0 Amendment of the Plan 14
10.0 References 14

List of Tables

Table 1. Summary of Temporary Disturbance 2
Table 2. Grass and Forb Seed Mix 7
Table 3. Shrub-Steppe Shrub Planting and Seeding Rates 7
Table 4. Juniper Woodland Shrub Planting and Seeding Rates 8
Table 5. Number of Monitoring Sites to be Established within each Temporarily Disturbed Habitat Subtype 10

List of Figures

Figure 1. Revegetation Areas

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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 (Phase I) (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.

This Plan was updated in July 2021 in compliance with Site Certificate Condition GEN-FW-01, which states:

> *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.*

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~~2021. Details on habitat types, subtypes, and categories can be found in Exhibit P of the originally-permitted ~~F~~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.

[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.

2.0 Description of Temporary Facility Impacts

Construction of the Facility, including the associated transmission line and substation, would result in approximately ~~178.4~~80.1 acres of temporary impacts (Table 1). 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; the Facility components specifically addressed in this Plan (i.e., Bakeoven Solar Project [Phase 1] including the transmission line and substation) are further described in Request for Amendment 1.

Table 1. Summary of Temporary Disturbances

Habitat Subtype[1]	Acres of Temporary Disturbance by Preliminary Habitat Category[2,3]				
	3	4	5	6	Subtotal[4]
Wildlife Habitat					
Cliffs, Caves, and Talus	0.4	--	--	--	**0.4**
Eastside Grasslands	6.5	2.1	2.1	--	**10.8**
Planted Grasslands	4.8	7.6	0.2	--	**12.6**
Shrub-steppe	28.4	--	19.0	--	**47.4**
Western Juniper and Mountain Mahogany Woodland	--	--	2.5	--	**2.5**
Agricultural and Developed Land					
Orchards, Vineyards, Wheat Fields, Other Row Crops	--	--	--	3.3	**3.3**
Urban and Mixed Environs	--	--	--	3.1	**3.1**
GRAND TOTAL[4]	**40.1**	**9.7**	**23.9**	**6.4**	**80.1**

1. Habitat subtypes with impacts of less than 0.008 acres are not included in this table.
2. Categories displayed in Table represent the field-categorized habitat categories based on vegetation condition, prior to overlaying Mule Deer Winter Range, which modified all non-agricultural and developed areas to Category 2 habitat (ODOE 2020). Using the field-based habitat categories based on vegetation conditions is more appropriate for measuring revegetation success.
3. Impacts based on layout dated 7/15/2021.
4. Totals may not appear to sum correctly due to rounding.

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 Certificate Holder ~~Applicant~~ intends to manage low-height ~~native~~ vegetation, as described in ASC Exhibit B.

3.0 Agency Consultation

~~The Applicant~~ Certificate Holder ~~will consult with ODFW, ODOE, and/or the Wasco County Weed and Pest Division prior to construction~~ operation ~~to discuss the areas to be revegetated, habitat category and habitat subtype conditions, number of reference sites~~ location and conditions, topsoil restoration and revegetation methods, erosion and sediment control measures, and ~~implementation schedule.~~ Three months prior to commercial operation of ~~each~~ the Facility ~~phase~~[2], the Certificate Holder ~~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 Roles and Responsibilities

The construction contractor will be responsible for implementing the erosion, sediment, and revegetation criteria in the National Pollutant Discharge Elimination System (NPDES) 1200-C permit (per condition GEN-SP-01), as well as the revegetation activities discussed herein during and immediately after construction. A qualified botanist or revegetation specialist will be responsible for monitoring and reporting on revegetation success~~.~~. The Certificate Holder will be responsible for ensuring that all contractors perform work in accordance with permit requirements and all agreed upon methods for revegetation.

~~4.0~~5.0 Revegetation Methods

Revegetation will begin as soon as feasible following completion of construction. The ~~Applicant~~ Certificate Holder will restore temporarily disturbed areas by preparing the soil, followed by seeding ~~using common application methods~~and planting. The ~~Applicant~~ Certificate Holder will ~~seed~~ revegetate ~~all~~ temporarily impacted grassland, shrub-steppe, and other Preliminary Category 3, 4, and 5 wildlife habitat ~~type~~ subtype areas (as detailed in ~~Exhibit P of the ASC~~Table 1) that are not cropland or other developed lands. Agricultural lands will be restored at the landowner's direction

[2] The Certificate Holder ~~Applicant proposes to begin~~began construction of the substation and substation access road in April 2021. Construction of the transmission line and solar components of the Facility is anticipated to begin in late summer 2021 with an anticipated completion date of fall 2022.~~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.~~

(i.e., the construction contractor will perform decompaction measures as needed and the landowner will revegetate cropland areas as desired).

During and following construction, the construction contractor will ~~prevent~~minimize soil compaction in temporarily disturbed areas and implement site stabilization measures in accordance with the Certificate Holder's NPDES 1200-C permit, including the following:

> *In areas of the site where final vegetative stabilization will occur or where post-construction infiltration practices will be installed the registrant must:*
>
> > *a. Preserve native topsoil by stockpiling or transferring to other locations, unless infeasible;*
> >
> > *b. Restrict vehicle and equipment use in these locations to avoid soil compaction; and seeding or planting areas of exposed soil that have been compacted, use techniques that rehabilitate and condition the soils as necessary to support vegetative growth.*

~~4.1~~5.1 Soil Preparation

Prior to seeding and planting of revegetation areas, soils will be prepared to facilitate revegetation success. Soil preparation will involve standard, commonly used methods (e.g., perpendicular tracking for sloped areas, decompaction, and tilling), and will take into account relevant site-specific factors, including slope, size of area, and erosion potential. The following measures will be implemented where appropriate:

- 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.
- In areas where soils have been deeply compacted during construction, soils shall be decompacted as appropriate to support revegetation and/or cultivation by ripping or scarifying to a depth of 8 to 12 inches (except where bedrock prohibits achieving this depth).
- Where possible, topsoil and other soils from noxious weed infested areas will not be moved outside of the infested areas and will be returned to its previous location during reclamation activities.
- Soils from weed-infested areas may be treated with a pre-emergent herbicide prior to initiation of revegetation efforts, depending on site-specific conditions.
- In general, the soil will be prepared into a firm, fine-textured seedbed that is relatively free of debris before seeding or planting. Shallow tilling with a disc, followed by a harrow or drag if necessary, can typically achieve this. If replaced soil is too soft, then seeds may be buried too deeply to properly germinate; a roller or culti-packer may be used to pack down the soil.

- In non-cropland areas, site complexity will be considered during soil preparation. For instance, it may be desirable to purposely create an uneven, patchy site that allows for depressions and other micro-conditions that result in small variations in aspect and moisture to promote complexity.
- The Certificate Holder ~~Applicant~~ will use mulching and other appropriate practices, as required by the NPDES 1200-C permit, to control erosion and sediment during revegetation work.

~~4.2~~5.2 Seeding Methods

Following preparation of the soil, a seed mix will be applied. The seed mix described in Section 5.3 was ~~The Applicant will select the seed mix to apply to each area~~ selected based on the pre-construction ~~land use~~habitat subtype 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 (Oregon Administrative Rule 603-056).

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 and weather conditions to facilitate seed germination. The Certificate Holder~~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~~ Three common seed application methods that may be used are described below.

~~4.2.1~~5.2.1 *Broadcast~~ing~~ Seeding*

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~~a rate of 20 to 26 pounds per acre or as recommended by the seed supplier ~~and ODFW~~. 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. If certified weed-free straw is unavailable, the construction contractor will identify a local source of straw. ~~The local source of the straw will be approved by the Wasco County Weed and Pest Division and ODFW prior to purchase.~~ 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~~5.2.2 Drill~~ing~~ Seeding

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 at the rates and depths ~~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.

5.2.3 Hydroseeding

Hydroseeding is most applicable for areas not accessible by drill or broadcast seeding machinery; this usually includes steeper sloped or narrow terrain. Soil bed preparation is also crucial for growth success and frequently includes tracking perpendicular to the slope to create micro-conditions for seed. Flat grading and compaction are not recommended. Seeding rates may need to be increased by 30 to 50 percent of broadcast seeding rates when this method is used.

5.3 Seed Mix and Shrub Plantings

All temporarily disturbed wildlife habitat (Figure 1) will be revegetated with one of the following: 1) a mix of native grasses and forbs; 2) a mix of native grasses, forbs, and shrubs; or 3) a mix designed by the Natural Resources Conservation Service (NRCS) for areas enrolled in the Conservation Reserve Program (CRP), as appropriate. If areas with low intensity disturbance (e.g., where mowing but no ground disturbance or trampling occurred) are identified following construction as areas that would not benefit from seeding or planting (i.e., because vegetation is resprouting naturally), these areas may be removed from the proposed seeding/planting areas. The proposed Grass and Forb Seed Mix presented in Table 2 will be used for revegetation of all temporarily disturbed areas, except for areas enrolled in the CRP that have specific seeding requirements, if present at the time of revegetation. Those areas, if applicable, will be seeded with a seed mix that meets the requirements of the CRP contract and be paired with an appropriate reference site (see Section 8.1). The Certificate Holder assumes that reasonable substitutions can be made to the seed mix included in Table 2, with approval from ODOE and in consultation with ODFW, based on seed availability at the time of procurement. The seed mix will be planted in late fall to early winter, unless an alternate timing is approved in consultation with ODOE.

Table 2. Grass and Forb Seed Mix

Scientific Name	Common Name	Type	Percent Composition
Festuca idahoensis	Idaho fescue	Grass	20
Pseudoroegneria spicata	Bluebunch wheatgrass	Grass	20
Achnatherum hymenoides	Ricegrass	Grass	15
Elymus elymoides	Squirreltail	Grass	15
Poa secunda	Sandberg bluegrass	Grass	15
Achillea millefolium	Common yarrow	Forb	5
Eriogonum heracleoides	Parsnipflower buckwheat; Wyeth buckwheat	Forb	5
Linum lewisii var. *lewisii*	Wild blue flax	Forb	5
Note: Application rates are described in Section 5.2 and vary based on the seeding methods.			

After application of the Grass and Forb Seed Mix per the seeding rates described in Section 5.2, container or bare root shrubs will be planted in temporarily disturbed areas of shrub-steppe and western juniper woodland habitat (Figure 1). Tables 3 and 4 provide the shrub planting mix and rates for revegetation of shrub-steppe and western juniper woodland habitats, respectively. Seedlings per acre presented in Tables 3 and 4 are based on approximately 12 and 16-foot spacing, respectively. However, shrubs can be planted "in random patterns or in clusters or islands, using mixtures of species to create natural-appearing stands" (Shaw et al. 2015). Tables 3 and 4 also include seeding rates if planting shrub seedlings is not feasible (e.g., due to availability of plant stock). The Certificate Holder will notify ODOE prior to this substitution and shrub seeds would be added to the grass and forb seed mix (see Table 2) at the seeding rates noted in Tables 3 and 4.

Table 3. Shrub-Steppe Shrub Planting and Seeding Rates

Scientific Name	Common Name	Percent Composition	Seedlings per Acre[1]	Seeding Rate (Minimum Pounds per Acre PLS[2])
Artemisia tridentata ssp. *tridentata*	Basin big sagebrush	80	240	0.1
Chrysothamnus viscidiflorus	Green rabbitbrush	10	30	0.025[3]
Ericameria nauseosa	Rubber rabbitbrush, gray rabbitbrush	10	30	0.025[3]
Sources: Meyer and Warren 2015~~,~~, Scheinost et al. 2010~~,~~ Shaw et al. 2015~~,~~, Tilley and St. John 2012~~.~~ 1. Seedlings per acre based on approximately 12-foot center spacing, or 300 seedlings per acre. 2. PLS = Pure live seed. 3. Rate based on drill seeding; rates should be doubled if seed is broadcast.				

Table 4. Juniper Woodland Shrub Planting and Seeding Rates

Scientific Name	Common Name	Percent Composition	Seedlings per Acre[1]	Seeding Rate (Minimum Pounds per Acre PLS[2])
Artemisia tridentata ssp. *tridentata*	Basin big sagebrush	80	152	0.1
Chrysothamnus viscidiflorus	Green rabbitbrush	10	19	0.025[3]
Ericameria nauseosa	Rubber rabbitbrush, gray rabbitbrush	10	19	0.025[3]

Sources: Meyer and Warren 2015, Scheinost et al. 2010, Shaw et al. 2015, Tilley and St. John 2012.
1. Seedlings per acre based on approximate 16-foot center spacing, or 190 seedlings per acre.
2. PLS = Pure live seed.
3. Rate based on drill seeding; rates should be doubled if seed is broadcast.

~~5.0~~6.0 Noxious Weed Prevention and Control

The Certificate Holder ~~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~~ODOE 2020).

~~6.0~~7.0 Revegetation Documentation

The ~~Applicant~~ Certificate Holder 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 Certificate Holder~~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~~8.0 Monitoring

~~7.1~~8.1 Reference and Monitoring Sites

To determine if the revegetation efforts are meeting the success criteria outlined in Section 8.4, paired monitoring and reference sites will be established. Monitoring and r~~R~~eference sites will be chosen to represent each of the ~~ODFW~~ Preliminary Category 3, 4, and 5 habitat subtypes (excluding cliffs, caves, and talus and habitat subtypes where temporary impacts will be equal to or less than 0.2 acres~~, and caves and open water~~) temporarily disturbed by construction of the Facility (Table 1). Reference sites are intended to represent target conditions for the revegetation effort.

Vegetation within monitoring plots in revegetation areas will be compared with those in the associated reference sites to measure success of the required revegetation activities.

8.1.1 Reference Sites

~~Prior to operation, nt~~The Certificate Holder will select ~~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 Certificate Holder and approved by the ODOE and ODFW, the reference sites shall remain in the same location unless approval for use of a different reference site is obtained by the ODOE and ODFW.~~

~~Once the reference sites are approved by the ODOE and ODFW, the Applicant will employ a qualified investigator (botanist or revegetation specialist) to monitor those sites to establish baseline conditions as they relate to the success criteria for revegetation efforts.~~ Nnineeight reference sites, ~~with each will be identified, one to~~intended to represent each Category 3, 4, and 5 habitat subtype temporarily disturbed during construction (excluding cliffs, caves, and talus and habitat subtypes where temporary impacts would be equal to or less than 0.2 acre [i.e., Category 5 Planted Grasslands]; Table 1). Final selection of proposed reference sites will include a site visit conducted at the appropriate time of year to evaluate baseline conditions (i.e., mid-May through mid-June). This site visit will document the following:

- Vascular plant species present;
- Native/non-native status of species present;
- Approximate percent cover of dominant species;
- Approximate percent cover of state and county-listed noxious weeds; and
- Evidence of ongoing, recent, or past disturbance.

~~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 or annual monitoring 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~~.

8.1.2 Monitoring Sites

Sixteen monitoring sites will be located within habitats where temporary disturbances occurred during construction for comparison to the reference sites. One monitoring site will be selected for habitat subtypes ~~be~~ less than 10 acres in size, and five monitoring sites will be selected for habitat

subtypes greater than 10 acres. No monitoring sites will be selected where areas of temporary impacts are equal to or less than 0.2 acre in size (i.e., Category 5 Planted Grasslands). Table 5 presents the number of monitoring sites that will be established within each habitat subtype and category of temporary disturbance. If during revegetation it is determined that areas of temporarily disturbed planted grasslands are enrolled in the CRP and have specific seeding requirements (See Section 5.3), an appropriate monitoring site within CRP-enrolled planted grasslands will be chosen.

Table 5. Number of Monitoring Sites to be Established within each Temporarily Disturbed Habitat Subtype

Preliminary Habitat Category	Habitat Subtype	Acres of Temporary Disturbance[1]	Number of Monitoring Sites
3	Eastside Grasslands	6.5	1
	Planted Grasslands	4.8	1
	Shrub-steppe	28.4	5
~~4~~	Eastside Grasslands	2.1	1
	Planted Grasslands	7.6	1
5	Eastside Grasslands	2.1	1
	Planted Grasslands	0.2	~~1~~0
	Shrub-steppe	19.0	5
	Western Juniper and Mountain Mahogany Woodland	2.5	1
TOTAL		**73.1~~3~~[2]**	**~~17~~16**

1. Impacts based on layout dated 7/15/2021.
2. Total may not appear to sum correctly due to rounding.

Monitoring sites within each habitat subtype will be selected using a stratified randomization process utilizing existing habitat mapping (Tetra Tech 2018, Tetra Tech 2021). Data collected during the first year of monitoring will serve as pilot data to determine if the chosen number of monitoring sites will provide results that are statistically robust.~~-~~ If statistical analysis of the first year's data indicates that the number of monitoring plots may not be capturing the range of revegetation success across the temporarily impacted areas (e.g., data collected within monitoring plots are highly variable), then additional monitoring plots may be added.

~~7.2~~8.2 Monitoring Procedures

Following implementation of revegetation efforts, the Certificate Holder~~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~~8.4.

During the first monitoring period, one permanent, 150-foot--long transect will be established within each of the selected reference and monitoring sites. Each end of the transect line will be recorded using a global positioning system unit with submeter accuracy. During each monitoring period, photographs will be taken at each end of the transect line facing toward the other end of the transect line (e.g., the photograph at the start of the transect line will be taken facing down the line toward the end of the transect).

To determine percent cover of native forbs and native and desirable (i.e., species included in seed mixes used for revegetation) grass species, quadrats will be utilized (Elzinga et al. 1998~~;~~, NRCS and BLM 1996~~;~~, USFS 2006). Using this method, the percent cover of each native forb and native or desirable grass species will be documented within 1.5-foot by 3-foot quadrats placed at 10-foot intervals along the transects. Within each quadrat, the percent cover, based on Daubenmire cover classes (NRCS and BLM 1996) of each native forb and native or desirable grass species will be recorded.

To determine shrub density and percent cover of noxious weeds, the belt transect method will be used (Herrick et al. 2005, USFS 2006). Using this method, a 6-foot-wide belt transect will be established, 3 feet on each side of the transect line. The number of shrubs occurring within these 6-foot-wide belt transects will be recorded by species and the percent cover of noxious weeds within th~~is~~e 6-foot-~~-~~wide belt transects will be estimated using Daubenmire cover classes (NRCS and BLM 1996). In addition, all plant species observed within the 6-foot wide belt transects, as well as an estimated degree of erosion (none, low, medium, or high), will be recorded.

~~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.~~

8.3 Reporting

Following annual monitoring, a monitoring report will be prepared ~~and~~ that will include the following:

- The monitoring methods and results of data collection;

- 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, if applicable, as recommended by ODOE, ODFW and the Wasco County Weed and Pest Division; and
- Recommendations of remedial actions, if any.

The Certificate Holder~~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~~as part of its annual report.

~~7.3~~8.4 Success Criteria

In each monitoring report, the Certificate Holder~~Applicant~~ will provide an assessment of revegetation success for revegetation areas in comparison to reference sites with the same habitat type. 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~~meets the success criteria listed below:

- **Native Forbs:** The average percent cover of desirable forbs (typically native, with some site-specific exceptions) should be a minimum of 75 percent of the reference site within 5 years. Diversity of forbs on a reclaimed site should be at least 75 percent of the diversity measured on the reference site within 5 years (applicable to all revegetation areas).
- **Native Shrubs:** The average density of the shrub component should be at least 50 percent of the reference site within 5 years. At least 15 percent of the shrub density should be the dominant species found on the reference site. The diversity of shrub species within the revegetated areas should be at least 85 percent of ~~equal~~ the shrub species diversity measured on the reference site (only applicable to shrub-steppe and western juniper and mountain mahogany woodland revegetation areas).
- **Native and Desirable Grasses:** Revegetated sites should maintain grass species diversity and ~~density~~percent cover that is at least ~~8~~75 percent similar to reference sites. Native bunchgrasses should be given preference. Native and/or desirable grasses are to be planted at rates sufficient to achieve abundance and diversity characteristics of the grass component at the reference site (applicable to all revegetation areas).
- **Noxious Weeds:**. Revegetation sites should not contain a higher percentage of noxious weed cover than the reference site (applicable to all revegetation areas).
- ~~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.~~

The Certificate Holder will provide revegetation monitoring reports as part of its annual report filing per OAR 345-026-0080 (Reporting Requirements for Energy Facilities)~~[INSERT PERMIT CONDITION]~~, and may conclude monitoring after 5 years. The final report (Year 5) will document the Certificate Holder's determination on the success criteria for the monitoring plots. If the monitoring plots do not reach the success criteria, then the Certificate Holder will recommend remedial actions and additional monitoring developed in consultation with ODOE and ODFW. ~~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 Certificate HolderApplicant has met its restoration obligations for that area. If ODOE or ODFW finds~~ Monitoring reports will also document if ~~that~~ the landowner has converted a wildlife habitat area to a use that is inconsistent with these success criteria for which ~~, ODOE and ODFW will conclude that~~ the Certificate Holder~~Applicant~~ has no further obligation to restore the area.

~~7.4~~8.5 Remedial Action

If the monitoring plots have not reached the success criteria after year 5 of monitoring, then the Certificate Holder will recommend remedial actions for deficit areas, such as reseeding, weed control, grazing restrictions, offsite habitat mitigation, or additional monitoring. Remedial actions will be developed in coordination with ~~After each monitoring visit, the Certificate Holder's~~Applicant's qualified investigator ~~will report to the Certificate Holder Applicant regarding the revegetation progress of each revegetation area. The investigator, in consultation with~~ ODOE and ~~,~~ ODFW, and will be documented in ongoing annual reports to ODOE. ~~, the Wasco County Weed and Pest Division, and the revegetation contractor, will make recommendations to the Certificate Holder 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~~ Certificate Holder will work to restore the damaged area. The ~~Applicant~~ Certificate Holder will continue to report on revegetation progress during the remainder of the 5-year period. The ~~Applicant~~ Certificate Holder will report to ODOE and ODFW the area impacted by the fire (with a map or figure).

~~8.0~~9.0 Amendment of the Plan

This Revegetation Plan may be amended from time to time by agreement of the Certificate Holder~~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~~10.0 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.~~

Elzinga, C. L., D.W. Salzer, and J.W. Willoughby. 1998. Measuring and Monitoring Plant Populations. Bureau of Land Management, National Business Center. Denver, CO.

Herrick, J. E., J. W. Van Zee, K. M. Havstad, L. M. Burkett, and W. G. Whitford. 2005. Monitoring Manual for Grassland, Shrubland, and Savanna Ecosystems, Second Edition. Volume I: Quick Start. U.S. Department of Agriculture – ARS Jornada Experimental Range. Las Cruces, New Mexico.

Meyer, S.E., and T.W. Warren. 2015. Seeding Big Sagebrush Successfully on Intermountain Rangelands. USDA Forest Service, Rocky Mountain Research Station and Bureau of Land Management. https://www.fs.fed.us/rm/pubs_journals/2015/rmrs_2015_meyer_s003.pdf. Accessed March 2021.

NRCS and BLM (Natural Resources Conservation Service and Bureau of Land Management). 1996. Revised in 1997 and 1999. Sampling Vegetation Attributes. Interagency Technical Reference 1734-4. Denver, CO.

ODOE (Oregon Department of Energy). 2020. Final Order on Application for Site Certificate, Bakeoven Solar Project. April 24, 2020.

Scheinost, P.L., J. Scianna, and D.G. Ogle. 2010. Plant Fact Sheet for Rubber Rabbitbrush (*Ericameria nauseosa*). USDA-Natural Resources Conservation Service, Pullman Plant Materials Center, Pullman, WA. https://www.blogs.nrcs.usda.gov/Internet/FSE_PLANTMATERIALS/publications/wapmcfs9822.pdf~~https://plants.usda.gov/factsheet/pdf/fs_erna10.pdf~~. Accessed March 2021.

Shaw, N., A. Halford, and J.K. McAdoo. 2015. Great Basin Factsheet Series: Information and tools to conserve and restore Great Basin ecosystems. Sage Grouse Initiative, USDA-Natural Resources Conservation Service. http://www.sagegrouseinitiative.com/wp-content/uploads/2015/07/8_GBFS_transplanting-seedlings.pdf. Accessed March 2021.

Tetra Tech (Tetra Tech, Inc). 2018. Special-Status Wildlife and Habitat Survey Report. Bakeoven Energy Project. Prepared for Avangrid Renewables. September.

Tetra Tech. 2021. Bakeoven Solar Project (Phase I) Pre-construction Habitat Survey Report. Prepared for Bakeoven Solar, LLC. July.

Tilley, D., and L. St. John. 2012. Plant Guide for Yellow Rabbitbrush (*Chrysothamnus viscidiflorus*). USDA-Natural Resources Conservation Service, Aberdeen Plant Materials Center. Aberdeen, ID. https://www.nrcs.usda.gov/Internet/FSE_PLANTMATERIALS/publications/idpmcpg11104.pdf~~https://plants.usda.gov/plantguide/pdf/pg_chvi8.pdf.~~ Accessed March 2021.

USFS (U.S. Forest Service). 2006. FIREMON: Fire Effects Monitoring and Inventory System. General Technical Report RMRS-GTR-164-CD. U.S Forest Service, Rocky Mountain Research Station.

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Figures

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Attachment C-2: Draft Revegetation Plan (Daybreak Solar Project)

~~Attachment P-3.~~

Revegetation Plan

~~Bakeoven~~ Daybreak Solar Project (Phase II)
~~November 2019~~July 2021

Prepared for



Avangrid Renewables, LLC

Prepared by



Tetra Tech, Inc.

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Table of Contents

1.0 Introduction 1
2.0 Description of Temporary Facility Impacts 2
3.0 Agency Consultation 3
4.0 Roles and Responsibilities 3
5.0 Revegetation Methods 3
5.1 Soil Preparation 4
5.2 Seeding Methods 5
5.2.1 Broadcast Seeding 5
5.2.2 Drill Seeding 6
5.2.3 Hydroseeding 6
5.3 Seed Mix and Shrub Plantings 6
6.0 Noxious Weed Prevention and Control 7
7.0 Revegetation Documentation 8
8.0 Monitoring 8
8.1 Reference and Monitoring Sites 8
8.1.1 Reference Sites 8
8.1.2 Monitoring Sites 9
8.2 Monitoring Procedures 10
8.3 Reporting 11
8.4 Success Criteria 11
8.5 Remedial Action 12
9.0 Amendment of the Plan 13
10.0 References 13

List of Tables

Table 1. Summary of Temporary Disturbance 2
Table 2. Grass and Forb Seed Mix 6
Table 3. Shrub-Steppe Shrub Planting and Seeding Rates 7
Table 4. Number of Monitoring Sites to be Established within each Temporarily Disturbed Habitat Subtype 9

List of Figures

Figure 1. Revegetation Areas

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 Day Break~~Daybreak Solar Project (Phase II) (Facility), excluding the transmission line and substation that are addressed in the Revegetation Plan for the Bakeoven Solar Project (Phase I). 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.

This Plan was updated in July 2021 in compliance with Site Certificate Condition GEN-FW-01, which states:

> *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.*

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~~2021. Details on habitat types, subtypes, and categories can be found in Exhibit P of the originally-permitted f~~F~~acility's Application for Site Certificate (ASC), especially Attachment P-1. Details on potential impacts to habitat and special-status species from construction and operation

[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.

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 9.9 acres of temporary impacts (Table 1). 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; the Facility components specifically addressed in this Plan (i.e., ~~Day Break~~Daybreak Solar Project [Phase II]) are further described in Request for Amendment 1.

Table 1. Summary of Temporary Disturbances

Habitat Subtype[1]	Acres of Temporary Disturbance by Preliminary Habitat Category[2,3]				
	3	4	5	6	Subtotal[4]
Wildlife Habitat					
Cliffs, Caves, and Talus	0.1	--	--	--	**0.1**
Eastside Grasslands	3.3	2.1	1.0	--	**6.4**
Planted Grasslands	0.7	0.4	0.03	--	**1.1**
Shrub-steppe	0.5	--	0.2	--	**~~0.7~~9**
Agricultural~~e~~ and Developed Land					
Orchards, Vineyards, Wheat Fields, Other Row Crops	--	--	--	1.5	**1.5**
Urban and Mixed Environs	--	--	--	0.05	**0.05**
GRAND TOTAL~~3~~4/	**4.6**	**2.5**	**1.2**	**1.5**	**9.9**

1. Habitat subtypes with impacts of less than 0.005 acres are not included in the table.
2. Categories displayed in Table represent the field-categorized habitat categories based on vegetation condition, prior to overlaying Mule Deer Winter Range, which modified all non-agricultural and developed areas to Category 2 habitat (ODOE 2020). Using the field-based habitat categories based on vegetation conditions is more appropriate for measuring revegetation success.
3. Impacts based on layout dated 7/15/2021.
4. Totals may not appear to sum correctly due to rounding.

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 Certificate Holder ~~Applicant~~ intends to manage low-height native vegetation, as described in ASC Exhibit B.

3.0 Agency Consultation

~~The Applicant~~ Certificate Holder ~~will consult with ODFW, ODOE, and/or the Wasco County Weed and Pest Division prior to construction~~ operation ~~to discuss the areas to be revegetated, habitat category and habitat subtype conditions,~~ number of ~~reference site~~s location and conditions, topsoil ~~restoration and revegetation methods, erosion and sediment control measures, and implementation schedule.~~ Three months prior to commercial operation of ~~each~~ the Facility ~~phase~~[2], the Certificate Holder~~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 Roles and Responsibilities

The construction contractor will be responsible for implementing the erosion, sediment, and revegetation criteria in the National Pollutant Discharge Elimination System (NPDES) 1200-C permit (per condition GEN-SP-01), as well as the revegetation activities discussed herein during and immediately after construction. A qualified botanist or revegetation specialist will be responsible for monitoring and reporting on revegetation success. ~~Remedial revegetation actions, if needed during the operation phase, will be performed by a qualified contractor.~~ The Certificate Holder will be responsible for ensuring that all contractors perform work in accordance with permit requirements and all agreed upon methods for revegetation.

~~4.0~~5.0 Revegetation Methods

Revegetation will begin as soon as feasible following completion of construction. The ~~Applicant~~ Certificate Holder will restore temporarily disturbed areas by preparing the soil, followed by seeding ~~using common application methods~~ and planting. The ~~Applicant~~ Certificate Holder will ~~seed~~ revegetate~~all~~ temporarily impacted grassland, shrub-steppe, and other Preliminary Category 3, 4, and 5 wildlife habitat ~~type~~ subtype areas (as detailed in ~~Exhibit P of the ASC~~Table 1) that are not cropland or other developed lands. Agricultural lands will be restored at the landowner's direction

[2] Construction of the solar components of the Facility is anticipated to begin in late summer 2021 with an anticipated completion date of spring 2023.~~The Applicant proposes to begin constructionas 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.~~

(i.e., the construction contractor will perform decompaction measures as needed and the landowner will revegetate cropland areas as desired).

During and following construction, the construction contractor will ~~prevent~~minimize soil compaction in temporarily disturbed areas and implement site stabilization measures in accordance with the Certificate Holder's NPDES 1200-C permit, including the following:

> *In areas of the site where final vegetative stabilization will occur or where post-construction infiltration practices will be installed the registrant must:*
>
> > *a. Preserve native topsoil by stockpiling or transferring to other locations, unless infeasible;*
> >
> > *b. Restrict vehicle and equipment use in these locations to avoid soil compaction; and seeding or planting areas of exposed soil that have been compacted, use techniques that rehabilitate and condition the soils as necessary to support vegetative growth.*

~~4.1~~5.1 Soil Preparation

Prior to seeding and planting of revegetation areas, soils will be prepared to facilitate revegetation success. Soil preparation will involve standard, commonly- used methods (e.g., perpendicular tracking for sloped areas, decompaction, and tilling), and will take into account relevant site-specific factors, including slope, size of area, and erosion potential. The following measures will be ~~taken~~implemented where appropriate:

- 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.
- In areas where soils have been deeply compacted during construction, soils shall be decompacted as appropriate to support revegetation and/or cultivation by ripping or scarifying to a depth of 8 to 12 inches (except where bedrock prohibits achieving this depth).
- Where possible, topsoil and other soils from noxious weed infested areas will not be moved outside of the infested areas and will be returned to its previous location during reclamation activities.
- Soils from weed infested areas may be treated with a pre-emergent herbicide prior to initiation of revegetation efforts, depending on site-specific conditions.
- In general, the soil will be prepared into a firm, fine-textured seedbed that is relatively free of debris before seeding or planting. Shallow tilling with a disc, followed by a harrow or drag if necessary, can typically achieve this. If replaced soil is too soft, then seeds may be buried too deeply to properly germinate; a roller or culti-packer may be used to pack down the soil.

- In non-cropland areas, site complexity will be considered during soil preparation. For instance, it may be desirable to purposely create an uneven, patchy site that allows for depressions and other micro-conditions that result in small variations in aspect and moisture to promote complexity.
- The Certificate Holder ~~Applicant~~ will use mulching and other appropriate practices, as required by the NPDES 1200-C permit, to control erosion and sediment during revegetation work.

~~4.2~~5.2 Seeding Methods

Following preparation of the soil, a seed mix will be applied. The seed mix described in Section 5.3 was ~~The Applicant will select the seed mix to apply to each area~~ selected based on the pre-construction ~~land use~~habitat subtype 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 (Oregon Administrative Rule 603-056).

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 and weather conditions to facilitate seed germination. The Certificate Holder~~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~~ Three common seed application methods that may be used are described below.

~~4.2.1~~5.2.1 *Broadcast~~ing~~ Seeding*

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~~a rate of 20 to 26 pounds per acre or as recommended by the seed supplier ~~and ODFW~~. 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. If certified weed-free straw is unavailable, the construction contractor will identify a local source of straw. ~~The local source of the straw will be approved by the Wasco County Weed and Pest Division and ODFW prior to purchase.~~ 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~~5.2.2 Drill~~ing~~ Seeding

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 at the rates and depths ~~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.

5.2.3 Hydroseeding

Hydroseeding is most applicable for areas not accessible by drill or broadcast seeding machinery; this usually includes steeper sloped or narrow terrain. Soil bed preparation is also crucial for growth success and frequently includes tracking perpendicular to the slope to create micro-conditions for seed. Flat grading and compaction are not recommended. Seeding rates may need to be increased by 30 to 50 percent of broadcast seeding rates when this method is used.

5.3 Seed Mix and Shrub Plantings

All temporarily disturbed wildlife habitat (Figure 1) will be revegetated with one of the following: 1) a mix of native grasses and forbs; 2) a mix of native grasses, forbs, and shrubs; or 3) a mix designed by the Natural Resources Conservation Service (NRCS) for areas enrolled in the Conservation Reserve Program (CRP), as appropriate. The proposed Grass and Forb Seed Mix presented in Table 2 will be used for revegetation of all temporarily disturbed areas, except for areas enrolled in the CRP that have specific seeding requirements, if present at the time of revegetation. Those areas, if applicable, will be seeded with a seed mix that meets the requirements of the CRP contract and be paired with an appropriate reference site (see Section 8.1). The Certificate Holder assumes that reasonable substitutions can be made to the seed mix included in Table 2, with approval from ODOE and in consultation with ODFW, based on seed availability at the time of procurement. The seed mix will be planted in late fall to early winter, unless an alternate timing is approved in consultation with ODOE.

Table 2. Grass and Forb Seed Mix

Scientific Name	Common Name	Type	Percent Composition
Festuca idahoensis	Idaho fescue	Grass	20
Pseudoroegneria spicata	Bluebunch wheatgrass	Grass	20
Achnatherum hymenoides	Ricegrass	Grass	15

Scientific Name	Common Name	Type	Percent Composition
Elymus elymoides	Squirreltail	Grass	15
Poa secunda	Sandberg bluegrass	Grass	15
Achillea millefolium	Common yarrow	Forb	5
Eriogonum heracleoides	Parsnipflower buckwheat; Wyeth buckwheat	Forb	5
Linum lewisii var. *lewisii*	Wild blue flax	Forb	5
Note: Application rates are described in Section 5.2 and vary based on the seeding methods.			

After application of the Grass and Forb Seed Mix per the seeding rates described in Section 5.2, container or bare root shrubs will be planted in temporarily disturbed areas of shrub-steppe habitat (Figure 1). Table 3 provides the shrub planting mix and rates for revegetation of shrub-steppe habitat. Seedlings per acre presented in Table 3 are based on approximately 12-foot spacing. However, shrubs can be planted "in random patterns or in clusters or islands, using mixtures of species to create natural-appearing stands" (Shaw et al. 2015). Table 3 also includes seeding rates if planting shrub seedlings is not feasible (e.g., due to availability of plant stock). The Certificate Holder will notify ODOE prior to this substitution and shrub seeds would be added to the g~~G~~rass and f~~F~~orb s~~S~~eed m~~M~~ix (see Table 2) at the seeding rates noted in Table 3.

Table 3. Shrub-Steppe Shrub Planting and Seeding Rates

Scientific Name	Common Name	Percent Composition	Seedlings per Acre[1]	Seeding Rate (Minimum Pounds per Acre PLS[2])
Artemisia tridentata ssp. *tridentata*	Basin big sagebrush	80	240	0.1
Chrysothamnus viscidiflorus	Green rabbitbrush	10	30	0.025
Ericameria nauseosa	Rubber rabbitbrush, gray rabbitbrush	10	30	0.025
Sources: Meyer and Warren 2015; Scheinost et al. 2010; Shaw et al. 2015; Tilley and St. John 2012. 1. Seedlings per acre based on approximately 12-foot center spacing, or 300 seedlings per acre. 2. PLS = Pure live seed. Rate based on drill seeding; rates should be doubled if seed is broadcast.				

~~5.0~~6.0 Noxious Weed Prevention and Control

The Certificate Holder ~~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~~ODOE 2020).

~~6.0~~7.0 Revegetation Documentation

The ~~Applicant~~ Certificate Holder 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 Certificate Holder~~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~~8.0 Monitoring

~~7.1~~8.1 Reference and Monitoring Sites

To determine if the revegetation efforts are meeting the success criteria outlined in Section 8.4, paired monitoring and reference sites will be established. Monitoring and r~~R~~eference sites will be chosen to represent each of the ~~ODFW~~ Preliminary Category 3, 4, and 5 habitat subtypes (excluding cliffs, caves, and talus and habitat subtypes where temporary impacts ~~would be~~will be equal to or less than 0.2 acres~~; Table 1, and caves and open water~~) temporarily disturbed by construction of the Facility (Table 1). Reference sites are intended to represent target conditions for the revegetation effort. Vegetation within monitoring plots in revegetation areas will be compared with those in the associated reference sites to measure success of the required revegetation activities.

8.1.1 Reference Sites

~~Prior to operation, n~~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~~Certificate Holder~~ and approved by the ODOE and ODFW, the reference site~~s~~ 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.~~ The Certificate Holder will select ~~seven~~six reference sites, ~~with each will be identified, one to~~intended to represent each Category 3, 4, and 5 habitat subtype temporarily disturbed during construction (excluding cliffs, caves, and talus, and habitat subtypes where temporary impacts w~~ould~~ ill be equal to or less

than 0.2 acre [i.e., Category 5 Planted Grasslands and Category 5 Shrub-steppe]; Table 1). Final selection of proposed reference sites will include a site visit conducted at the appropriate time of year to evaluate baseline conditions (i.e., mid-May through mid-June). This site visit will document the following:

- Vascular plant species present;
- Native/non-native status of species present;
- Approximate percent cover of dominant species;
- Approximate percent cover of state and county-listed noxious weeds; and
- Evidence of ongoing, recent, or past disturbance.

~~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 or annual monitoring 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~~.

8.1.2 Monitoring Sites

Six monitoring sites will be located within habitats where temporary disturbances occurred during construction for comparison to the reference sites. One monitoring site will be selected for each habitat subtype with greater than 0.2 acres temporarily disturbed during construction. No monitoring sites will be selected where areas of temporary impacts are equal to or less than 0.2 acre in size (i.e., Category 5 Planted Grasslands and Category 5 Shrub-steppe). Table 4 presents the number of monitoring sites that will be established within each habitat subtype and category of temporary disturbance. If during revegetation it is determined that areas of temporarily disturbed planted grasslands are enrolled in the CRP and have specific seeding requirements (See Section 5.3), an appropriate monitoring site within CRP-enrolled planted grassland will be chosen.

Monitoring sites within each habitat subtype will be selected using a stratified randomization process utilizing existing habitat mapping (Tetra Tech 2018, Tetra Tech 2021). Data collected during the first year of monitoring will serve as pilot data to determine if the chosen number of monitoring sites will provide results that are statistically robust. If statistical analysis of the first year's data indicates that the number of monitoring plots may not be capturing the range of revegetation success across the temporarily impacted areas (e.g., data collected within monitoring plots are highly variable), then additional monitoring plots may be added.

Table 4. Number of Monitoring Sites to be Established within each Temporarily Disturbed Habitat Subtype

Preliminary Habitat Category	Habitat Subtype	Acres of Temporary Disturbance[1]	Number of Monitoring Sites
3	Eastside Grasslands	3.3	1
	Planted Grasslands	0.7	1
	Shrub-steppe	0.5	1
4	Eastside Grasslands	2.1	1
	Planted Grasslands~~Shrub-steppe~~	0.4	1
5	Eastside Grasslands	1.1	1
	Planted Grasslands	0.03	0
	Shrub-steppe	0.2	~~1~~0
TOTAL~~1~~[2]		**8.3**	~~6~~7
1. Impacts based on layout dated 7/15/2021.			
2. Total may not appear to sum correctly due to rounding.			

~~7.2~~8.2 Monitoring Procedures

Following implementation of revegetation efforts, the Certificate Holder~~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~~8.4.

During the first monitoring period, one permanent 150-foot-long transect will be established within each of the selected reference and monitoring sites. Each end of the transect line will be recorded using a global positioning system unit with submeter accuracy. During each monitoring period, photographs will be taken at each end of the transect line facing toward the other end of the transect line (e.g., the photograph at the start of the transect line will be taken facing down the line toward the end of the transect).

To determine percent cover of native forbs and native and desirable (i.e., species included in seed mixes used for revegetation) grass species, quadrats will be utilized (Elzinga et al. 1998; NRCS and BLM 1996; USFS 2006). Using this method, the percent cover of each native forb and native or desirable grass species will be documented within 1.5-foot by 3-foot quadrats placed at 10-foot intervals along the transects. Within each quadrat, the percent cover, based on Daubenmire cover classes (NRCS and BLM 1996), of each native forb and native or desirable grass species will be recorded.

To determine shrub density and percent cover of noxious weeds, the belt transect method will be used (Herrick et al. 2005, USFS 2006). Using this method, a 6-foot-wide belt transect will be established, 3 feet on each side of the transect line. The number of shrubs occurring within these 6-foot-wide belt transects will be recorded by species and the percent cover of noxious weeds within the 6-foot-wide belt transects will be estimated using Daubenmire cover classes (NRCS and BLM 1996). In addition, all plant species observed within the 6-foot-wide belt transects, as well as an estimated degree of erosion (none, low, medium or high), will be recorded.

~~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.~~

8.3 Reporting

Following annual monitoring, a monitoring report will be prepared ~~and~~that will include the following:

- The monitoring methods and results of data collection;
- 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, if applicable, as recommended by ODOE, ODFW and the Wasco County Weed and Pest Division; and
- Recommendations of remedial actions, if any.

The Certificate Holder~~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~~as part of its annual report.

~~7.3~~8.4 Success Criteria

In each monitoring report, the Certificate Holder~~Applicant~~ will provide an assessment of revegetation success for revegetation areas in comparison to reference sites with the same habitat type. 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~~meets the success criteria listed below:

- **Native Forbs:** The average percent cover of desirable forbs (typically native, with some site-specific exceptions) should be a minimum of 75 percent of the reference site within 5 years. Diversity of forbs on a reclaimed site should be at least 75 percent of the diversity measured on the reference site within 5 years (applicable to all revegetation areas).
- **Native Shrubs:** The average density ~~or frequency~~ of the shrub component should be at least 50 percent of the reference site within 5 years. At least 15 percent of the shrub density ~~or frequency~~ should be the dominant species found on the reference site. The diversity of shrub species within the revegetated areas should be at least 85 percent of the shrub species diversity measured on the reference site (only applicable to shrub-steppe revegetation areas).
- **Native and Desirable Grasses:** Revegetated sites should maintain grass species diversity and ~~density~~percent cover that is at least 75 percent similar to reference sites. Native bunchgrasses should be given preference. Native and/or desirable grasses are to be planted at rates sufficient to achieve abundance and diversity characteristics of the grass component at the reference site (applicable to all revegetation areas).
- ~~**Non-Native**~~**Noxious Weeds:** Revegetation sites should not contain a higher percentage of noxious weed cover than the reference site(applicable to all revegetation areas).
- ~~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.~~

The Certificate Holder will provide revegetation monitoring reports as part of its annual report filing per OAR 345-026-0080 (Reporting Requirements for Energy Facilities), and may conclude monitoring after 5 years. The final report (Year 5) will document the Certificate Holder's determination on the success criteria for the monitoring plots. If the monitoring plots do not reach the success criteria, then the Certificate Holder will recommend remedial actions and additional monitoring developed in consultation with ODOE and ODFW. ~~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~~ Monitoring reports will also document if ~~that~~ the landowner has converted a wildlife habitat area to a use that is inconsistent with these success criteria for which ~~, ODOE and ODFW will conclude that~~ the Certificate Holder~~Applicant~~ has no further obligation to restore the area.

~~7.4~~8.5 Remedial Action

If the monitoring plots have not reached the success criteria after year 5 of monitoring, then the Certificate Holder will recommend remedial actions for deficit areas, such as reseeding, weed

control, grazing restrictions, offsite habitat mitigation, or additional monitoring. Remedial actions will be developed in coordination with ~~After each monitoring visit, the Certificate Holder's~~Applicant's qualified investigator ~~will report to the Certificate Holder~~ Applicant regarding ~~the revegetation progress of each revegetation area. The investigator, in consultation with~~ ODOE and ~~,~~ ODFW, and will be documented in ongoing annual reports to ODOE. ~~, the Wasco County Weed and Pest Division, and the revegetation contractor, will make recommendations to the Certificate Holder 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~~ Certificate Holder will work to restore the damaged area. The ~~Applicant~~ Certificate Holder will continue to report on revegetation progress during the remainder of the 5-year period. The ~~Applicant~~ Certificate Holder will report to ODOE and ODFW the area impacted by the fire (with a map or figure).

~~8.0~~9.0 Amendment of the Plan

This Revegetation Plan may be amended from time to time by agreement of the Certificate Holder~~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~~10.0 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.~~

Elzinga, C. L., D.W. Salzer, and J.W. Willoughby. 1998. Measuring and Monitoring Plant Populations. Bureau of Land Management, National Business Center. Denver, CO.

Herrick, J. E., J. W. Van Zee, K. M. Havstad, L. M. Burkett, and W. G. Whitford. 2005. Monitoring Manual for Grassland, Shrubland, and Savanna Ecosystems, Second Edition. Volume I: Quick Start. U.S. Department of Agriculture – ARS Jornada Experimental Range. Las Cruces, New Mexico.

Meyer, S.E. and T.W. Warren. 2015. Seeding Big Sagebrush Successfully on Intermountain Rangelands. USDA Forest Service, Rocky Mountain Research Station and Bureau of Land

Management. ~~Available online at:~~ https://www.fs.fed.us/rm/pubs_journals/2015/rmrs_2015_meyer_s003.pdf. Accessed March 2021.

NRCS and BLM (Natural Resources Conservation Service and Bureau of Land Management). 1996. Revised in 1997 and 1999. Sampling Vegetation Attributes. Interagency Technical Reference 1734-4. Denver, CO.

ODOE (Oregon Department of Energy). 2020. Final Order on Application for Site Certificate, Bakeoven Solar Project. April 24, 2020.

Scheinost, P.L., J. Scianna, and D.G. Ogle. 2010. Plant Fact Sheet for Rubber Rabbitbrush (*Ericameria nauseosa*). USDA-Natural Resources Conservation Service, Pullman Plant Materials Center, Pullman, WA. https://www.blogs.nrcs.usda.gov/Internet/FSE_PLANTMATERIALS/publications/wapmcfs9822.pdf~~https://plants.usda.gov/factsheet/pdf/fs_erna10.pdf.~~ Accessed March 2021.

Shaw, N., A. Halford, and J.K. McAdoo. 2015. Great Basin Factsheet Series: Information and tools to conserve and restore Great Basin ecosystems. Sage Grouse Initiative, USDA-Natural Resources Conservation Service. http://www.sagegrouseinitiative.com/wp-content/uploads/2015/07/8_GBFS_transplanting-seedlings.pdf. Accessed March 2021.

Tetra Tech (Tetra Tech, Inc). 2018. Special-Status Wildlife and Habitat Survey Report. Bakeoven Energy Project. Prepared for Avangrid Renewables. September.

Tetra Tech. 2021. Bakeoven Solar Project (Phase I) Pre-construction Habitat Survey Report. Prepared for Bakeoven Solar, LLC. July.

Tilley, D., and L. St. John. 2012. Plant Guide for Yellow Rabbitbrush (*Chrysothamnus viscidiflorus*). USDA-Natural Resources Conservation Service, Aberdeen Plant Materials Center. Aberdeen, ID. https://www.nrcs.usda.gov/Internet/FSE_PLANTMATERIALS/publications/idpmcpg11104.pdf~~https://plants.usda.gov/plantguide/pdf/pg_chvi8.pdf.~~ Accessed March 2021.

USFS (U.S. Forest Service). 2006. FIREMON: Fire Effects Monitoring and Inventory System. General Technical Report RMRS-GTR-164-CD. U.S Forest Service, Rocky Mountain Research Station.

Figures

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Attachment C-3: Draft Revegetation Plan (Sunset Solar Project)

Draft Revegetation Plan

~~Daybreak~~ Sunset Solar Project (Phase III)
~~July~~ September 2021

Prepared for



Avangrid Renewables, LLC

Prepared by



Tetra Tech, Inc.

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Table of Contents

1.0 Introduction 3
2.0 Description of Temporary Facility Impacts 4
3.0 Agency Consultation 5
4.0 Roles and Responsibilities 5
5.0 Revegetation Methods 5
5.1 Soil Preparation 6
5.2 Seeding Methods ..... 7~~6~~
5.2.1 Broadcast Seeding 7
5.2.2 Drill Seeding 7
5.2.3 Hydroseeding ..... 8~~7~~
5.3 Seed Mix and Shrub Plantings 8
6.0 Noxious Weed Prevention and Control 10
7.0 Revegetation Documentation 10
8.0 Monitoring 10
8.1 Reference and Monitoring Sites 10
8.1.1 Reference Sites ..... 11~~10~~
8.1.2 Monitoring Sites 11
8.2 Monitoring Procedures 12
8.3 Reporting ..... 13~~12~~
8.4 Success Criteria 13
8.5 Remedial Action 14
9.0 Amendment of the Plan 14
10.0 References ..... 15~~14~~

List of Tables

Table 1. Preliminary Summary of Temporary Disturbance 4
Table 2. Grass and Forb Seed Mix 8
Table 3. Eastside (Interior) Riparian Seed Mix 9
Table 4. Shrub-Steppe Shrub Planting and Seeding Rates 9
Table 5. Preliminary Number of Monitoring Sites to be Established within each Temporarily Disturbed Habitat Subtype 11

~~List of Figures~~

~~Figure 1. Revegetation Areas~~

1.0 Introduction

This Draft 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 ~~Daybreak~~ Sunset Solar Project (Phase IIII) (Facility), excluding the transmission line and substation that are addressed in the Revegetation Plan for the Bakeoven Solar Project (Phase I). 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 and ~~.~~

~~This Plan was updated in July 2021~~ in compliance with Site Certificate Condition GEN-FW-01, which states:

> *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.*

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 2021. Details on habitat types, subtypes, and categories can be found in Exhibit P of the originally-permitted 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

[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.

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

Based on the initial design, c~~C~~onstruction of the Facility would result in approximately ~~9.9~~58.9 acres of temporary impacts (Table 1). 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 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; the Facility components specifically addressed in this Plan (i.e., ~~Daybreak~~ Sunset Solar Project [Phase II~~I~~]) are further described in Request for Amendment 1.

Table 1. Preliminary Summary of Temporary Disturbance

Habitat Subtype[1]	Acres of Temporary Disturbance by Preliminary Habitat Category[2,3]				
	3	4	5	6	Subtotal[4]
Wildlife Habitat					
~~Cliffs, Caves, and Talus~~Eastside (Interior) Riparian	~~0.1~~1.3	--	--	--	**~~0.1~~1.3**
Eastside Grasslands	3.~~4~~3	~~2.1~~15.6	~~1.0~~17.0	--	**~~6.4~~36.1**
Planted Grasslands	~~0.7~~6.1	~~0.4~~0.3	~~--~~0.03	--	**~~1.1~~6.4**
Shrub-steppe	~~0.5~~3.9	~~–~~0.5	~~--~~0.2	--	**~~0.7~~4.4**
Agricultural and Developed Land					
Orchards, Vineyards, Wheat Fields, Other Row Crops	--	--	--	~~1.5~~2.1	**~~1.5~~2.1**
Urban and Mixed Environs	--	--	--	~~0.05~~8.6	**~~0.05~~8.6**
GRAND TOTAL[4]	**~~4.6~~14.7**	**~~2.5~~16.5**	**~~1.2~~17.0**	**~~1.5~~10.7**	**~~9.9~~58.9**

1. Habitat subtypes with impacts of less than 0.0~~6~~5 acres are not included in the table.
2. Categories displayed in Table represent the field-categorized habitat categories based on vegetation condition, prior to overlaying Mule Deer Winter Range, which modified all non-agricultural and developed areas to Category 2 habitat (ODOE 2020). Using the field-based habitat categories based on vegetation conditions is more appropriate for measuring revegetation success,
3. Impacts based on layout dated 9/12/2019~~7/15/2021~~. Acreages will be revised following completion of final Facility design.
4. Totals may not appear to sum correctly due to rounding.

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 Certificate Holder intends to manage low-height native vegetation, as described in ASC Exhibit B.

3.0 Agency Consultation

Three months prior to commercial operation of the Facility[2], the Certificate Holder 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 Roles and Responsibilities

The construction contractor will be responsible for implementing the erosion, sediment, and revegetation criteria in the National Pollutant Discharge Elimination System (NPDES) 1200-C permit (per condition GEN-SP-01), as well as the revegetation activities discussed herein during and immediately after construction. A qualified botanist or revegetation specialist will be responsible for monitoring and reporting on revegetation success. The Certificate Holder will be responsible for ensuring that all contractors perform work in accordance with permit requirements and all agreed upon methods for revegetation.

5.0 Revegetation Methods

Revegetation will begin as soon as feasible following completion of construction. The Certificate Holder will restore temporarily disturbed areas by preparing the soil, followed by seeding and planting. The Certificate Holder will revegetate temporarily impacted grassland, shrub-steppe, and other Preliminary Category 3, 4, and 5 wildlife habitat subtype areas (as detailed in Table 1) that are not cropland or other developed lands. Agricultural lands will be restored at the landowner's direction (i.e., the construction contractor will perform decompaction measures as needed and the landowner will revegetate cropland areas as desired).

During and following construction, the construction contractor will minimize soil compaction in temporarily disturbed areas and implement site stabilization measures in accordance with the Certificate Holder's NPDES 1200-C permit, including the following:

> *In areas of the site where final vegetative stabilization will occur or where post-construction infiltration practices will be installed the registrant must:*

[2] ~~Construction of the solar components of the Facility is anticipated to begin in late summer 2021 with an anticipated completion date of spring 2023.~~

a. Preserve native topsoil by stockpiling or transferring to other locations, unless infeasible;

b. Restrict vehicle and equipment use in these locations to avoid soil compaction; and seeding or planting areas of exposed soil that have been compacted, use techniques that rehabilitate and condition the soils as necessary to support vegetative growth.

5.1 Soil Preparation

Prior to seeding and planting of revegetation areas, soils will be prepared to facilitate revegetation success. Soil preparation will involve standard, commonly used methods (e.g., perpendicular tracking for sloped areas, decompaction, and tilling), and will take into account relevant site-specific factors, including slope, size of area, and erosion potential. The following measures will be implemented where appropriate:

- 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.
- In areas where soils have been deeply compacted during construction, soils shall be decompacted as appropriate to support revegetation and/or cultivation by ripping or scarifying to a depth of 8 to 12 inches (except where bedrock prohibits achieving this depth).
- Where possible, topsoil and other soils from noxious weed infested areas will not be moved outside of the infested areas and will be returned to its previous location during reclamation activities.
- Soils from weed infested areas may be treated with a pre-emergent herbicide prior to initiation of revegetation efforts, depending on site-specific conditions.
- In general, the soil will be prepared into a firm, fine-textured seedbed that is relatively free of debris before seeding or planting. Shallow tilling with a disc, followed by a harrow or drag if necessary, can typically achieve this. If replaced soil is too soft, then seeds may be buried too deeply to properly germinate; a roller or culti-packer may be used to pack down the soil.
- In non-cropland areas, site complexity will be considered during soil preparation. For instance, it may be desirable to purposely create an uneven, patchy site that allows for depressions and other micro-conditions that result in small variations in aspect and moisture to promote complexity.

The Certificate Holder will use mulching and other appropriate practices, as required by the NPDES 1200-C permit, to control erosion and sediment during revegetation work.

5.2 Seeding Methods

Following preparation of the soil, a seed mix will be applied. The seed mix described in Section 5.3 was selected based on the pre-construction habitat subtype 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 (Oregon Administrative Rule 603-056).

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 and weather conditions to facilitate seed germination. The Certificate Holder will choose seeding methods based on site-specific factors such as slope, erosion potential, and the size of the area in need of revegetation. Three common seed application methods that may be used are described below.

5.2.1 Broadcast Seeding

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 a rate of 20 to 26 pounds per acre 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 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. If certified weed-free straw is unavailable, the construction contractor will identify a local source of straw. 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.

5.2.2 Drill Seeding

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 at the rates and depths recommended by the seed supplier. 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.

5.2.3 Hydroseeding

Hydroseeding is most applicable for areas not accessible by drill or broadcast seeding machinery; this usually includes steeper sloped or narrow terrain. Soil bed preparation is also crucial for growth success and frequently includes tracking perpendicular to the slope to create micro-conditions for seed. Flat grading and compaction are not recommended. Seeding rates may need to be increased by 30 to 50 percent of broadcast seeding rates when this method is used.

5.3 Seed Mix and Shrub Plantings

All temporarily disturbed wildlife habitat ~~(Figure 1)~~ will be revegetated with one of the following: 1) a mix of native grasses and forbs; 2) a mix of native grasses, rushes, and forbs; 3) a mix of native grasses, forbs, and shrubs; or 4~~3~~) a mix designed by the Natural Resources Conservation Service (NRCS) for areas enrolled in the Conservation Reserve Program (CRP), as appropriate. The proposed Grass and Forb Seed Mix presented in Table 2 will be used for revegetation of all temporarily disturbed areas, except for temporarily disturbed eastside (interior) riparian habitat and areas enrolled in the CRP that have specific seeding requirements, if present at the time of revegetation. Temporarily disturbed eastside (interior) riparian habitat will be seeded with the Eastside (Interior) Riparian Seed Mix presented in Table 3. ~~Those a~~Areas enrolled in the CRP, if applicable, will be seeded with a seed mix that meets the requirements of the CRP contract~~, and be paired with an appropriate reference site (see Section 8.1)~~. The Certificate Holder assumes that reasonable substitutions can be made to the seed mixes included in Tables 2 and 3, with approval from ODOE and in consultation with ODFW, based on seed availability at the time of procurement. The seed mix will be planted in late fall to early winter, unless an alternate timing is approved in consultation with ODOE.

Table 2. Grass and Forb Seed Mix

Scientific Name	Common Name	Type	Percent Composition
Festuca idahoensis	Idaho fescue	Grass	20
Pseudoroegneria spicata	Bluebunch wheatgrass	Grass	20
Achnatherum hymenoides	Ricegrass	Grass	15
Elymus elymoides	Squirreltail	Grass	15
Poa secunda	Sandberg bluegrass	Grass	15
Achillea millefolium	Common yarrow	Forb	5
Eriogonum heracleoides	Parsnipflower buckwheat; Wyeth buckwheat	Forb	5
Linum lewisii var. *lewisii*	Wild blue flax	Forb	5
Note: Application rates are described in Section 5.2 and vary based on the seeding methods.			

Table 3. Eastside (Interior) Riparian Seed Mix

Scientific Name	Common Name	Type	Percent Composition
Leymus cinereus	Great Basin wildrye	Grass	40
Deschampsia caespitosa	Tufted hairgrass	Grass	20
Juncus balticus [1]	Baltic rush	Rush	15
Poa secunda ssp. juncifolia	Big bluegrass	Grass	15
Achillea millefolium	Common yarrow	Forb	5
Artemisia ludoviciana	White sage	Forb	5

Note: Application rates are described in Section 5.2 and vary based on the seeding methods.
1. Soft rush (*Juncus effusus*) may be used as an alternate if Baltic rush is not available.

After application of the Grass and Forb Seed Mix (Table 2) per the seeding rates described in Section 5.2, container or bare root shrubs will be planted in temporarily disturbed areas of shrub-steppe habitat ~~(Figure 1)~~. Table ~~3~~ 4 provides the shrub planting mix and rates for revegetation of shrub-steppe habitat. Seedlings per acre presented in Table ~~3~~ 4 are based on approximately 12-foot spacing. However, shrubs can be planted "in random patterns or in clusters or islands, using mixtures of species to create natural-appearing stands" (Shaw et al. 2015). Table 3 also includes seeding rates if planting shrub seedlings is not feasible (e.g., due to availability of plant stock). The Certificate Holder will notify ODOE prior to this substitution and shrub seeds would be added to the ~~g~~Grass and ~~f~~Forb ~~s~~Seed ~~m~~Mix (see Table 2) at the seeding rates noted in Table 3.

Table 4. Shrub-Steppe Shrub Planting and Seeding Rates

Scientific Name	Common Name	Percent Composition	Seedlings per Acre[1]	Seeding Rate (Minimum Pounds per Acre PLS[2])
Artemisia tridentata ssp. *tridentata*	Basin big sagebrush	80	240	0.1
Purshia tridentata	Bitterbrush[3]	20	60	0.5-2[4]

Sources: Dyer et al. 2014; Meyer and Warren 2015; Shaw et al. 2015.
1. Seedlings per acre based on approximately 12-foot center spacing, or 300 seedlings per acre.
2. PLS = Pure live seed.
3. Planting or seeding of bitterbrush included per consultation with ODFW (J. Thompson, personal communication, August 23, 2021).
4. Rate based on drill seeding; rates should be doubled if seed is broadcast. If seed is broadcast, seeds need to be covered in order for germination to occur.

~~**Table 3. Shrub-Steppe Shrub Planting and Seeding Rates**~~

~~Scientific Name~~	~~Common Name~~	~~Percent Composition~~	~~Seedlings per Acre[1]~~	~~Seeding Rate (Minimum Pounds per Acre PLS[2])~~
~~*Artemisia tridentata ssp. tridentata*~~	~~Basin big sagebrush~~	~~80~~	~~240~~	~~0.1~~

Chrysothamnus viscidiflorus	Green rabbitbrush	10	30	0.025
Ericameria nauseosa	Rubber rabbitbrush, gray rabbitbrush	10	30	0.025
Sources: Meyer and Warren 2015; Scheinost et al. 2010; Shaw et al. 2015; Tilley and St. John 2012 1. Seedlings per acre based on approximately 12-foot center spacing, or 300 seedlings per acre. 2. PLS = Pure live seed. Rate based on drill seeding; rates should be doubled if seed is broadcast.				

6.0 Noxious Weed Prevention and Control

The Certificate Holder 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 (ODOE 2020).

7.0 Revegetation Documentation

The Certificate Holder 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 Certificate Holder 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).

8.0 Monitoring

8.1 Reference and Monitoring Sites

To determine if the revegetation efforts are meeting the success criteria outlined in Section 8.4, paired monitoring and reference sites will be established. Monitoring and reference sites will be chosen to represent each of the Preliminary Category 3, 4, and 5 habitat subtypes (excluding cliffs, caves, and talus and habitat subtypes where temporary impacts will be equal to or less than 0.2 acres) temporarily disturbed by construction of the Facility (Table 1). Reference sites are intended to represent target conditions for the revegetation effort. Vegetation within monitoring plots in revegetation areas will be compared with those in the associated reference sites to measure success of the required revegetation activities.

8.1.1 Reference Sites

Based on the final Facility layout, tThe Certificate Holder will select six one reference sites, intended to represent each Category 3, 4, and 5 habitat subtype temporarily disturbed during construction (excluding cliffs, caves, and talus, and habitat subtypes where temporary impacts will be equal to or less than 0.2 acre [i.e., Category 5 Planted Grasslands and Category 5 Shrub-steppe]; Table 1). The number of reference sites will be based on the final Facility design. Final selection of proposed reference sites will include a site visit conducted at the appropriate time of year to evaluate baseline conditions (i.e., mid-May through mid-June). This site visit will document the following:

- Vascular plant species present;
- Native/non-native status of species present;
- Approximate percent cover of dominant species;
- Approximate percent cover of state and county-listed noxious weeds; and
- Evidence of ongoing, recent, or past disturbance.

If land use changes or disturbances occur between the time of selection and monitoring of baseline conditions or annual monitoring 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 the annual compliance report.

8.1.2 Monitoring Sites

Six mMonitoring sites will be selected following construction of the Facility and will be located within habitats where temporary disturbances occurred during construction for comparison to the reference sites. One monitoring site will be selected for habitat subtypes less than 10 acres in size, and five monitoring sites will be selected for habitat subtypes greater than 10 acres.One monitoring site will be selected for each habitat subtype with greater than 0.2 acres temporarily disturbed during construction. No monitoring sites will be selected where areas of temporary impacts are equal to or less than 0.2 acre in size (i.e., Category 5 Planted Grasslands and Category 5 Shrub-steppe). Table 54 presents the preliminary number of monitoring sites that will be established within each habitat subtype and category of temporary disturbance. The number of monitoring sites will be revised, as applicable, following completion of the final design for the Facility. If during revegetation it is determined that areas of temporarily disturbed planted grasslands are enrolled in the CRP and have specific seeding requirements (See Section 5.3), an appropriate monitoring site and paired reference site within CRP-enrolled planted grassland will be chosen.

Table 54. Preliminary Number of Monitoring Sites to be Established within each Temporarily Disturbed Habitat Subtype

Preliminary Habitat Category	Habitat Subtype	Preliminary Acres of Temporary Disturbance[1]	Preliminary Number of Monitoring Sites
3	Eastside Grasslands	~~3.3~~3.4	1
	Eastside (Interior) Riparian	1.3	1
	Planted Grasslands	~~0.7~~6.1	1
	Shrub-steppe	~~0.5~~3.9	1
4	Eastside Grasslands	~~2.1~~15.6	~~1~~5
	Planted Grasslands	~~0.4~~0.3	1
	Shrub-steppe	0.5	1
5	Eastside Grasslands	~~1.1~~17.0	~~1~~5
	~~Planted Grasslands~~	~~0.03~~	~~0~~
	~~Shrub-steppe~~	~~0.2~~	~~0~~
TOTAL[2]		**~~8.3~~48.2**	**16**

1. Impacts based on layout dated ~~7/15/2021~~9/12/2019. Acres of temporary disturbance and number of monitoring sites will be revised following completion of the final design for the Facility.
2. Total may not appear to sum correctly due to rounding.

Monitoring sites within each habitat subtype will be selected using a stratified randomization process utilizing existing habitat mapping (Tetra Tech 2018, Tetra Tech 2021). Data collected during the first year of monitoring will serve as pilot data to determine if the chosen number of monitoring sites will provide results that are statistically robust. If statistical analysis of the first year's data indicates that the number of monitoring plots may not be capturing the range of revegetation success across the temporarily impacted areas (e.g., data collected within monitoring plots are highly variable), then additional monitoring plots may be added.

8.2 Monitoring Procedures

Following implementation of revegetation efforts, the Certificate Holder 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. 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 8.4.

During the first monitoring period, one permanent 150-foot-long transect will be established within each of the selected reference and monitoring sites. Each end of the transect line will be recorded using a global positioning system unit with submeter accuracy. During each monitoring period, photographs will be taken at each end of the transect line facing toward the other end of the transect line (e.g., the photograph at the start of the transect line will be taken facing down the line toward the end of the transect).

To determine percent cover of native forbs and native and desirable (i.e., species included in seed mixes used for revegetation) grass species, quadrats will be utilized (Elzinga et al. 1998; NRCS and BLM 1996; USFS 2006). Using this method, the percent cover of each native forb and native or desirable grass species will be documented within 1.5-foot by 3-foot quadrats placed at 10-foot intervals along the transects. Within each quadrat, the percent cover, based on Daubenmire cover classes (NRCS and BLM 1996), of each native forb and native or desirable grass species will be recorded.

To determine shrub density and percent cover of noxious weeds, the belt transect method will be used (Herrick et al. 2005, USFS 2006). Using this method, a 6-foot-wide belt transect will be established, 3 feet on each side of the transect line. The number of shrubs occurring within these 6-foot-wide belt transects will be recorded by species and the percent cover of noxious weeds within the 6-foot-wide belt transects will be estimated using Daubenmire cover classes (NRCS and BLM 1996). In addition, all plant species observed within the 6-foot-wide belt transects, as well as an estimated degree of erosion (none, low, medium or high), will be recorded.

8.3 Reporting

Following annual monitoring, a monitoring report will be prepared that will include the following:

- The monitoring methods and results of data collection;
- 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, if applicable, as recommended by ODOE, ODFW and the Wasco County Weed and Pest Division; and
- Recommendations of remedial actions, if any.

The Certificate Holder will report the investigator's findings and recommendations regarding wildlife habitat recovery and revegetation success as part of its annual report.

8.4 Success Criteria

In each monitoring report, the Certificate Holder will provide an assessment of revegetation success for revegetation areas in comparison to reference sites with the same habitat type. An area will be deemed successfully revegetated when its habitat quality meets the success criteria listed below:

- **Native Forbs:** The average percent cover of desirable forbs (typically native, with some site-specific exceptions) should be a minimum of 75 percent of the reference site within 5 years. Diversity of forbs on a reclaimed site should be at least 75 percent of the diversity measured on the reference site within 5 years (applicable to all revegetation areas).
- **Native Shrubs:** The average density of the shrub component should be at least 50 percent of the reference site within 5 years. At least 15 percent of the shrub density should be the

dominant species found on the reference site. The diversity of shrub species within the revegetated areas should be at least 85 percent of the shrub species diversity measured on the reference site (only applicable to shrub-steppe revegetation areas).

- **Native and Desirable Grasses:** Revegetated sites should maintain grass species diversity and percent cover that is at least 75 percent similar to reference sites. Native bunchgrasses should be given preference. Native and/or desirable grasses are to be planted at rates sufficient to achieve abundance and diversity characteristics of the grass component at the reference site (applicable to all revegetation areas).
- **Noxious Weeds:** Revegetation sites should not contain a higher percentage of noxious weed cover than the reference site(applicable to all revegetation areas).

The Certificate Holder will provide revegetation monitoring reports as part of its annual report filing per OAR 345-026-0080 (Reporting Requirements for Energy Facilities), and may conclude monitoring after 5 years. The final report (Year 5) will document the Certificate Holder's determination on the success criteria for the monitoring plots. If the monitoring plots do not reach the success criteria, then the Certificate Holder will recommend remedial actions and additional monitoring developed in consultation with ODOE and ODFW. Monitoring reports will also document if the landowner has converted a wildlife habitat area to a use that is inconsistent with these success criteria for which the Certificate Holder has no further obligation to restore the area.

8.5 Remedial Action

If the monitoring plots have not reached the success criteria after year 5 of monitoring, then the Certificate Holder will recommend remedial actions for deficit areas, such as reseeding, weed control, grazing restrictions, offsite habitat mitigation, or additional monitoring. Remedial actions will be developed in coordination with ODOE and ODFW, and will be documented in ongoing annual reports to ODOE.

If a revegetation area is damaged by wildfire during the first 5 years following initial seeding, the Certificate Holder will work to restore the damaged area. The Certificate Holder will continue to report on revegetation progress during the remainder of the 5-year period. The Certificate Holder will report to ODOE and ODFW the area impacted by the fire (with a map or figure).

9.0 Amendment of the Plan

This Revegetation Plan will be revised once the Facility layout has been finalized. In addition, t~~T~~his Revegetation Plan may be amended from time to time by agreement of the Certificate Holder 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.

10.0 References

Dyer, D., R. O'Beck, and G. L. Noller. 2014. Antelope Bitterbrush (*Purshia tridentata*) Plant Guide. USDA Natural Resources Conservation Service. Available online at: https://plants.sc.egov.usda.gov/DocumentLibrary/plantguide/pdf/pg_putr2.pdf

Elzinga, C. L., D.W. Salzer, and J.W. Willoughby. 1998. Measuring and Monitoring Plant Populations. Bureau of Land Management, National Business Center. Denver, CO.

Herrick, J. E., J. W. Van Zee, K. M. Havstad, L. M. Burkett, and W. G. Whitford. 2005. Monitoring Manual for Grassland, Shrubland, and Savanna Ecosystems, Second Edition. Volume I: Quick Start. U.S. Department of Agriculture – ARS Jornada Experimental Range. Las Cruces, New Mexico.

Meyer, S.E. and T.W. Warren. 2015. Seeding Big Sagebrush Successfully on Intermountain Rangelands. USDA Forest Service, Rocky Mountain Research Station and Bureau of Land Management. https://www.fs.fed.us/rm/pubs_journals/2015/rmrs_2015_meyer_s003.pdf. Accessed March 2021.

NRCS and BLM (Natural Resources Conservation Service and Bureau of Land Management). 1996. Revised in 1997 and 1999. Sampling Vegetation Attributes. Interagency Technical Reference 1734-4. Denver, CO.

ODOE (Oregon Department of Energy). 2020. Final Order on Application for Site Certificate, Bakeoven Solar Project. April 24, 2020.

~~Scheinost, P.L., J. Scianna, and D.G. Ogle. 2010. Plant Fact Sheet for Rubber Rabbitbrush (*Ericameria nauseosa*). USDA-Natural Resources Conservation Service, Pullman Plant Materials Center, Pullman, WA. https://www.blogs.nrcs.usda.gov/Internet/FSE_PLANTMATERIALS/publications/wapmcfs9822.pdf. Accessed March 2021.~~

Shaw, N., A. Halford, and J.K. McAdoo. 2015. Great Basin Factsheet Series: Information and tools to conserve and restore Great Basin ecosystems. Sage Grouse Initiative, USDA-Natural Resources Conservation Service. http://www.sagegrouseinitiative.com/wp-content/uploads/2015/07/8_GBFS_transplanting-seedlings.pdf. Accessed March 2021.

Tetra Tech (Tetra Tech, Inc). 2018. Special-Status Wildlife and Habitat Survey Report. Bakeoven Energy Project. Prepared for Avangrid Renewables. September.

Tetra Tech. 2021. Bakeoven Solar Project (Phase I) Pre-construction Habitat Survey Report. Prepared for Bakeoven Solar, LLC. July.

~~Tilley, D., and L. St. John. 2012. Plant Guide for Yellow Rabbitbrush (*Chrysothamnus viscidiflorus*). USDA-Natural Resources Conservation Service, Aberdeen Plant Materials Center. Aberdeen, ID.~~

~~https://www.nrcs.usda.gov/Internet/FSE_PLANTMATERIALS/publications/idpmcpg11104.pdf. Accessed March 2021.~~

USFS (U.S. Forest Service). 2006. FIREMON: Fire Effects Monitoring and Inventory System. General Technical Report RMRS-GTR-164-CD. U.S Forest Service, Rocky Mountain Research Station.

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Attachment D-1: Draft Amended Habitat Mitigation Plan (Bakeoven Solar Project)

Attachment D-1~~H~~

Draft Amended Habitat Mitigation Plan

Bakeoven Solar Project

~~December 2019~~September 2021

*As amended by the Oregon Department of Energy ~~in March 2020 in response to comments received on the record of the Draft Proposed Order~~

~~(BSPAPP DPO Reviewing Agency Comments_ODFW 2020-01-17)~~

Prepared for

Avangrid Renewables, LLC

Prepared by

Tetra Tech, Inc.

Table of Contents

1.0 Introduction 1
2.0 Description of the Impacts Addressed by the HMP 1
3.0 Methods for Calculating the Size of the Mitigation Area 4
4.0 Mitigation Options 5
4.1 Option 1: ODFW Payment-to-Provide 6
4.2 Option 2: Third-Party Payment-to-Provide 6
4.2.1 Option 2a. Western Rivers Conservancy 8
4.2.2 Option 2b. Deschutes Land Trust 9
4.3 Option 3: Conservation Easement Lands Adjacent to the Facility 10
4.3.1 Habitat Enhancement Actions 11
4.3.2 Monitoring 15
5.0 Success Criteria ..... 16~~15~~
6.0 Pre-Construction Reporting 16
7.0 Amendment of the HMP ..... 17~~16~~
8.0 References ..... 17~~16~~

List of Tables

Table 1.Acres of Impact to Habitat Categories and Types within the Proposed Micrositing Corridor 2
Table 2. Example Construction Schedule 4
Table 3. Compensatory Mitigation Ratios 5
Table 4. Estimated Restoration Cost Per Unit and Benefit to Mule Deer Winter Range 13

List of Figures

Figure 1. Potential Mitigation Areas

1.0 Introduction

This Habitat Mitigation Plan (HMP) describes how Bakeoven Solar, LLC (Certificate holder) will mitigate for the unavoidable wildlife habitat impacts of the Bakeoven Solar Project (Facility). Specifically, this HMP[1] outlines how the Certificate holder 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 Certificate holder 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 Certificate holder 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 Certificate holder-developed mitigation site; this plan specifies habitat enhancement actions and monitoring procedures to evaluate the success of those actions, as applicable. The Certificate holder 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, Daybreak, and Sunset Solar Projects 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 Certificate holder 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 Certificate holder 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 Certificate holder 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 Certificate holder 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 and that a "net benefit" in habitat quantity is provided. The obligation to achieve "no net loss" in habitat quality and a "net benefit" in either habitat quality or quantity will be achieved through an evaluation of structure and function of the facility site compared to the mitigation site(s) and enhancement actions and success criteria appropriate for monitoring and achieving the habitat mitigation goal for Category 2 habitat, for which the entirety of the facility site is located. All mitigation options described below include a habitat enhancement component through either payment to third-party or restoration actions performed by the Certificate holder. 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 Certificate holder 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 Certificate holder 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 Certificate holder 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 Certificate holder 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 Certificate holder 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 Certificate holder 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 Certificate holder 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 Certificate holder would partner with a land trust on a larger mitigation project. The Certificate holder 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 Certificate holder 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

[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.

- *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
- *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 Certificate holder would provide ODOE with a Memorandum of Understanding (MOU) between the Certificate holder 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 Certificate holder will request that the management plan acknowledge that the monitoring reports be available for ODOE review; and will provide copies of the monitoring reports in its annual report to the Department.

The Certificate holder 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.

If Option 2 (2a or 2b) is selected, the certificate holder shall provide a habitat assessment and copy of the executed MOU with the land management entity demonstrating acquisition of lands to satisfy ODFW's Category 2 habitat mitigation goal (no net loss – quantity, quality; net benefit in quantity or quality; and in-kind (similar habitat structure and function as facility site), in-proximity location); confirms applicability of mitigation equation as presented in this HMP, and includes a copy of the management plan with enhancement actions, for which the third-party land management entity agrees to adhere. The certificate holder shall ensure that the MOU includes provisions limiting the ability of the land management entity to provide compensatory mitigation for more area than is available within the managed area based on the mitigation obligation for individual projects.

The certificate holder shall also 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.

4.2.1 Option 2a. Western Rivers Conservancy

Under Option 2a, the Certificate holder 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 Certificate holder'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 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 Certificate holder 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

[3] https://www.blm.gov/or/districts/prineville/plans/files/pdo_rodrrmp_John_Day_Basin_ROD-RMP_06102015.pdf

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 Certificate holder. 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.

If Option 2a is selected, the certificate holder must demonstrate to the Department and ODFW that the BLM, through formal agreement, would acquire the property without mineral rights, impose grazing restrictions beyond normal BLM range management policies and that the BLM is able to protect the conservation values either through LWCF funding restrictions or through a Wild and Scenic designation.

4.2.2 Option 2b. Deschutes Land Trust

Under Option 2b, the Certificate holder 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 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).

[4] See http://www.westernrivers.org/projectatlas/stewardship/

4.3 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 Certificate holder and Deschutes Land Trust will specific that the updated management plans be provided to ODOE when available (i.e., every 5 years). Option 3: Conservation Easement Lands Adjacent to the Facility

Under this option, the Certificate holder would establish conservation easements adjacent to the Facility. In consultation with participating landowners, the Certificate holder 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 Certificate holder 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 Certificate holder has performed a desktop analysis of the remainder of the approximately 40,322-acre area. Using pre-fire imagery via Google Earth, the Certificate holder 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 Certificate holder 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 Certificate holder will provide an updated desktop analysis to confirm the habitat subtype within the mitigation parcel(s).

If Option 3 is selected, prior to construction of the facility or any phase of the facility, the certificate holder shall acquire the legal right to create, enhance, maintain and protect the 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. Prior to construction of the facility or any phase of the facility, the certificate holder shall 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.

4.3.1 Habitat Enhancement Actions

If Option 3 is selected, the Certificate holder 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 Certificate holder 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 Certificate holder 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 Certificate holder 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 Certificate holder 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 Certificate holder 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 Certificate holder 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 Certificate holder 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 Certificate holder would implement a weed control program. Under the weed control program, the Certificate holder would conduct a pre-management weed assessment to identify the type and percentage of non-native species within the mitigation area. The Certificate holder would then monitor the mitigation area to locate weed infestations. The Certificate holder would continue weed control monitoring, as needed, for the life of the Facility. As needed, the Certificate holder 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 Certificate holder 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 Certificate holder 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 Certificate holder 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 Certificate holder would complete

the initial seeding within 1 year after the beginning of construction of the Facility, or a particular phase of the Facility. The Certificate holder would record and mark the seeded areas at the time of seeding for later monitoring purposes.

4. Fire Control. The Certificate holder would implement a fire control plan for wildfire minimization when Facility staff are working within the mitigation area. The Certificate holder would provide a copy of the fire control plan to ODOE before starting habitat enhancement actions. The Certificate holder 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 Certificate holder would assess the extent of the damage and implement appropriate actions to restore habitat quality in the damaged area.
5. Riparian Planting. The Certificate holder 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 Certificate holder 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 Certificate holder 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 Certificate holder 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).
	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

Type	Action	Cost per Unit	Units	Benefit
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).				

Prior to construction of the facility or any phase of the facility, if Option 3 is selected, the certificate holder shall propose quantitative success criteria for the enhancement actions selected for implementation at the mitigation site(s), based on the enhancement actions listed above, as concurred by the Department in consultation with ODFW.

4.3.2 Monitoring

For Option 3 (Conservation Easement), the Certificate holder 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 Certificate holder 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 Certificate holder 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 Certificate holder'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 Certificate holder 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 Certificate holder 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 Certificate holder 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.

ODFW. 2011. Oregon Mule Deer Initiative. January 7, 2011. Available online at: https://www.dfw.state.or.us/resources/hunting/big_game/mule_deer/docs/Mule_Deer_Mgmt_Plan_Final.pdf. Accessed February 2019.

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.

ODFW. 2016. Oregon Conservation Strategy. Oregon Department of Fish and Wildlife, Salem, Oregon.

Attachment D-2: Draft Habitat Mitigation Plan (Daybreak Solar Project)

Attachment D-2~~H~~

Draft Habitat Mitigation Plan

~~Bakeoven~~ Daybreak Solar Project

~~December 2019~~September 2021

*As amended by the Oregon Department of Energy ~~in March 2020 in response to comments received on the record of the Draft Proposed Order~~

~~(BSPAPP DPO Reviewing Agency Comments_ODFW 2020-01-17)~~

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Table of Contents

1.0 Introduction 1
2.0 Description of the Impacts Addressed by the HMP 1
3.0 Methods for Calculating the Size of the Mitigation Area 4
4.0 Mitigation Options 5
4.1 Option 1: ODFW Payment-to-Provide 6
4.2 Option 2: Third-Party Payment-to-Provide 6
4.2.1 Option 2a. Western Rivers Conservancy 8
4.2.2 Option 2b. Deschutes Land Trust 9
4.3 Option 3: Conservation Easement Lands Adjacent to the Facility 10
4.3.1 Habitat Enhancement Actions 11
4.3.2 Monitoring 15
5.0 Success Criteria ..... 16~~16~~~~15~~
6.0 Pre-Construction Reporting 16
7.0 Amendment of the HMP ..... 17~~17~~~~16~~
8.0 References ..... 17~~17~~~~16~~

List of Tables

Table 1.Acres of Impact to Habitat Categories and Types within the Proposed Micrositing Corridor 2
Table 2. Example Construction Schedule 4
Table 3. Compensatory Mitigation Ratios 5
Table 4. Estimated Restoration Cost Per Unit and Benefit to Mule Deer Winter Range 13

List of Figures

Figure 1. Potential Mitigation Areas

1.0 Introduction

This Habitat Mitigation Plan (HMP) describes how ~~Bakeoven~~ Daybreak Solar, LLC (Certificate holder) will mitigate for the unavoidable wildlife habitat impacts of the ~~Bakeoven~~ Daybreak Solar Project (Facility). Specifically, this HMP[1] outlines how the Certificate holder 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 Certificate holder 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 Certificate holder 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 Certificate holder-developed mitigation site; this plan specifies habitat enhancement actions and monitoring procedures to evaluate the success of those actions, as applicable. The Certificate holder 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, Daybreak, and Sunset Solar Projects 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 Certificate holder 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 Certificate holder 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 Certificate holder 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 Certificate holder 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 and that a "net benefit" in habitat quantity is provided. The obligation to achieve "no net loss" in habitat quality and a "net benefit" in either habitat quality or quantity will be achieved through an evaluation of structure and function of the facility site compared to the mitigation site(s) and enhancement actions and success criteria appropriate for monitoring and achieving the habitat mitigation goal for Category 2 habitat, for which the entirety of the facility site is located. All mitigation options described below include a habitat enhancement component through either payment to third-party or restoration actions performed by the Certificate holder. 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 Certificate holder 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 Certificate holder 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 Certificate holder 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 Certificate holder 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 Certificate holder 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 Certificate holder 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 Certificate holder 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 Certificate holder would partner with a land trust on a larger mitigation project. The Certificate holder 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 Certificate holder 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

[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.

- *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
- *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 Certificate holder would provide ODOE with a Memorandum of Understanding (MOU) between the Certificate holder 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 Certificate holder will request that the management plan acknowledge that the monitoring reports be available for ODOE review; and will provide copies of the monitoring reports in its annual report to the Department.

The Certificate holder 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.

If Option 2 (2a or 2b) is selected, the certificate holder shall provide a habitat assessment and copy of the executed MOU with the land management entity demonstrating acquisition of lands to satisfy ODFW's Category 2 habitat mitigation goal (no net loss – quantity, quality; net benefit in quantity or quality; and in-kind (similar habitat structure and function as facility site), in-proximity location); confirms applicability of mitigation equation as presented in this HMP, and includes a copy of the management plan with enhancement actions, for which the third-party land management entity agrees to adhere. The certificate holder shall ensure that the MOU includes provisions limiting the ability of the land management entity to provide compensatory mitigation for more area than is available within the managed area based on the mitigation obligation for individual projects.

The certificate holder shall also 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.

4.2.1 Option 2a. Western Rivers Conservancy

Under Option 2a, the Certificate holder 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 Certificate holder'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 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 Certificate holder 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

[3] https://www.blm.gov/or/districts/prineville/plans/files/pdo_rodrrmp_John_Day_Basin_ROD-RMP_06102015.pdf

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 Certificate holder. 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.

If Option 2a is selected, the certificate holder must demonstrate to the Department and ODFW that the BLM, through formal agreement, would acquire the property without mineral rights, impose grazing restrictions beyond normal BLM range management policies and that the BLM is able to protect the conservation values either through LWCF funding restrictions or through a Wild and Scenic designation.

4.2.2 Option 2b. Deschutes Land Trust

Under Option 2b, the Certificate holder 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 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).

[4] See http://www.westernrivers.org/projectatlas/stewardship/

4.3 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 Certificate holder and Deschutes Land Trust will specific that the updated management plans be provided to ODOE when available (i.e., every 5 years). Option 3: Conservation Easement Lands Adjacent to the Facility

Under this option, the Certificate holder would establish conservation easements adjacent to the Facility. In consultation with participating landowners, the Certificate holder 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 Certificate holder 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 Certificate holder has performed a desktop analysis of the remainder of the approximately 40,322-acre area. Using pre-fire imagery via Google Earth, the Certificate holder 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 Certificate holder 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 Certificate holder will provide an updated desktop analysis to confirm the habitat subtype within the mitigation parcel(s).

If Option 3 is selected, prior to construction of the facility or any phase of the facility, the certificate holder shall acquire the legal right to create, enhance, maintain and protect the 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. Prior to construction of the facility or any phase of the facility, the certificate holder shall 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.

4.3.1 Habitat Enhancement Actions

If Option 3 is selected, the Certificate holder 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 Certificate holder 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 Certificate holder 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 Certificate holder 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 Certificate holder 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 Certificate holder 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 Certificate holder 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 Certificate holder 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 Certificate holder would implement a weed control program. Under the weed control program, the Certificate holder would conduct a pre-management weed assessment to identify the type and percentage of non-native species within the mitigation area. The Certificate holder would then monitor the mitigation area to locate weed infestations. The Certificate holder would continue weed control monitoring, as needed, for the life of the Facility. As needed, the Certificate holder 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 Certificate holder 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 Certificate holder 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 Certificate holder 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 Certificate holder would complete

the initial seeding within 1 year after the beginning of construction of the Facility, or a particular phase of the Facility. The Certificate holder would record and mark the seeded areas at the time of seeding for later monitoring purposes.

4. Fire Control. The Certificate holder would implement a fire control plan for wildfire minimization when Facility staff are working within the mitigation area. The Certificate holder would provide a copy of the fire control plan to ODOE before starting habitat enhancement actions. The Certificate holder 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 Certificate holder would assess the extent of the damage and implement appropriate actions to restore habitat quality in the damaged area.
5. Riparian Planting. The Certificate holder 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 Certificate holder 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 Certificate holder 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 Certificate holder 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).
	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

Type	Action	Cost per Unit	Units	Benefit
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).				

Prior to construction of the facility or any phase of the facility, if Option 3 is selected, the certificate holder shall propose quantitative success criteria for the enhancement actions selected for implementation at the mitigation site(s), based on the enhancement actions listed above, as concurred by the Department in consultation with ODFW.

4.3.2 Monitoring

For Option 3 (Conservation Easement), the Certificate holder 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 Certificate holder 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 Certificate holder 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 Certificate holder'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 Certificate holder 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 Certificate holder 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 Certificate holder 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.

ODFW. 2011. Oregon Mule Deer Initiative. January 7, 2011. Available online at: https://www.dfw.state.or.us/resources/hunting/big_game/mule_deer/docs/Mule_Deer_Mgmt_Plan_Final.pdf. Accessed February 2019.

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.

ODFW. 2016. Oregon Conservation Strategy. Oregon Department of Fish and Wildlife, Salem, Oregon.

Attachment D-3: Draft Habitat Mitigation Plan (Sunset Solar Project)

Attachment D-3~~H~~

Draft Habitat Mitigation Plan

~~Bakeoven~~ Sunset Solar Project

~~December 2019~~September 2021

*As amended by the Oregon Department of Energy ~~in March 2020 in response to comments received on the record of the Draft Proposed Order~~

~~(BSPAPP DPO Reviewing Agency Comments_ODFW 2020-01-17)~~

Prepared for

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Table of Contents

1.0 Introduction 1
2.0 Description of the Impacts Addressed by the HMP 1
3.0 Methods for Calculating the Size of the Mitigation Area 4
4.0 Mitigation Options 5
4.1 Option 1: ODFW Payment-to-Provide 6
4.2 Option 2: Third-Party Payment-to-Provide 6
4.2.1 Option 2a. Western Rivers Conservancy 8
4.2.2 Option 2b. Deschutes Land Trust 9
4.3 Option 3: Conservation Easement Lands Adjacent to the Facility 10
4.3.1 Habitat Enhancement Actions 11
4.3.2 Monitoring 15
5.0 Success Criteria 16161615
6.0 Pre-Construction Reporting 16
7.0 Amendment of the HMP 17171716
8.0 References 17171716

List of Tables

Table 1.Acres of Impact to Habitat Categories and Types within the Proposed Micrositing Corridor 2
Table 2. Example Construction Schedule 4
Table 3. Compensatory Mitigation Ratios 5
Table 4. Estimated Restoration Cost Per Unit and Benefit to Mule Deer Winter Range 13

List of Figures

Figure 1. Potential Mitigation Areas

1.0 Introduction

This Habitat Mitigation Plan (HMP) describes how ~~Bakeoven~~ Sunset Solar, LLC (Certificate holder) will mitigate for the unavoidable wildlife habitat impacts of the ~~Bakeoven~~ Sunset Solar Project (Facility). Specifically, this HMP[1] outlines how the Certificate holder 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 Certificate holder 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 Certificate holder 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 Certificate holder-developed mitigation site; this plan specifies habitat enhancement actions and monitoring procedures to evaluate the success of those actions, as applicable. The Certificate holder 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, Daybreak, and Sunset Solar Projects 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 Certificate holder 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 Certificate holder 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 Certificate holder 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 Certificate holder 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 and that a "net benefit" in habitat quantity is provided. The obligation to achieve "no net loss" in habitat quality and a "net benefit" in either habitat quality or quantity will be achieved through an evaluation of structure and function of the facility site compared to the mitigation site(s) and enhancement actions and success criteria appropriate for monitoring and achieving the habitat mitigation goal for Category 2 habitat, for which the entirety of the facility site is located. All mitigation options described below include a habitat enhancement component through either payment to third-party or restoration actions performed by the Certificate holder. 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 Certificate holder 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 Certificate holder 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 Certificate holder 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 Certificate holder 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 Certificate holder 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 Certificate holder 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 Certificate holder 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 Certificate holder would partner with a land trust on a larger mitigation project. The Certificate holder 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 Certificate holder 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

[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.

- *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
- *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 Certificate holder would provide ODOE with a Memorandum of Understanding (MOU) between the Certificate holder 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 Certificate holder will request that the management plan acknowledge that the monitoring reports be available for ODOE review; and will provide copies of the monitoring reports in its annual report to the Department.

The Certificate holder 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.

If Option 2 (2a or 2b) is selected, the certificate holder shall provide a habitat assessment and copy of the executed MOU with the land management entity demonstrating acquisition of lands to satisfy ODFW's Category 2 habitat mitigation goal (no net loss – quantity, quality; net benefit in quantity or quality; and in-kind (similar habitat structure and function as facility site), in-proximity location); confirms applicability of mitigation equation as presented in this HMP, and includes a copy of the management plan with enhancement actions, for which the third-party land management entity agrees to adhere. The certificate holder shall ensure that the MOU includes provisions limiting the ability of the land management entity to provide compensatory mitigation for more area than is available within the managed area based on the mitigation obligation for individual projects.

The certificate holder shall also 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.

4.2.1 Option 2a. Western Rivers Conservancy

Under Option 2a, the Certificate holder 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 Certificate holder'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 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 Certificate holder 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

[3] https://www.blm.gov/or/districts/prineville/plans/files/pdo_rodrrmp_John_Day_Basin_ROD-RMP_06102015.pdf

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 Certificate holder. 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.

If Option 2a is selected, the certificate holder must demonstrate to the Department and ODFW that the BLM, through formal agreement, would acquire the property without mineral rights, impose grazing restrictions beyond normal BLM range management policies and that the BLM is able to protect the conservation values either through LWCF funding restrictions or through a Wild and Scenic designation.

4.2.2 Option 2b. Deschutes Land Trust

Under Option 2b, the Certificate holder 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 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).

[4] See http://www.westernrivers.org/projectatlas/stewardship/

4.3 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 Certificate holder and Deschutes Land Trust will specific that the updated management plans be provided to ODOE when available (i.e., every 5 years). Option 3: Conservation Easement Lands Adjacent to the Facility

Under this option, the Certificate holder would establish conservation easements adjacent to the Facility. In consultation with participating landowners, the Certificate holder 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 Certificate holder 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 Certificate holder has performed a desktop analysis of the remainder of the approximately 40,322-acre area. Using pre-fire imagery via Google Earth, the Certificate holder 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 Certificate holder 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 Certificate holder will provide an updated desktop analysis to confirm the habitat subtype within the mitigation parcel(s).

If Option 3 is selected, prior to construction of the facility or any phase of the facility, the certificate holder shall acquire the legal right to create, enhance, maintain and protect the 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. Prior to construction of the facility or any phase of the facility, the certificate holder shall 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.

4.3.1 Habitat Enhancement Actions

If Option 3 is selected, the Certificate holder 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 Certificate holder 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 Certificate holder 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 Certificate holder 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 Certificate holder 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 Certificate holder 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 Certificate holder 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 Certificate holder 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 Certificate holder would implement a weed control program. Under the weed control program, the Certificate holder would conduct a pre-management weed assessment to identify the type and percentage of non-native species within the mitigation area. The Certificate holder would then monitor the mitigation area to locate weed infestations. The Certificate holder would continue weed control monitoring, as needed, for the life of the Facility. As needed, the Certificate holder 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 Certificate holder 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 Certificate holder 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 Certificate holder 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 Certificate holder would complete

the initial seeding within 1 year after the beginning of construction of the Facility, or a particular phase of the Facility. The Certificate holder would record and mark the seeded areas at the time of seeding for later monitoring purposes.

4. Fire Control. The Certificate holder would implement a fire control plan for wildfire minimization when Facility staff are working within the mitigation area. The Certificate holder would provide a copy of the fire control plan to ODOE before starting habitat enhancement actions. The Certificate holder 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 Certificate holder would assess the extent of the damage and implement appropriate actions to restore habitat quality in the damaged area.
5. Riparian Planting. The Certificate holder 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 Certificate holder 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 Certificate holder 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 Certificate holder 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).
	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

Type	Action	Cost per Unit	Units	Benefit
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).				

Prior to construction of the facility or any phase of the facility, if Option 3 is selected, the certificate holder shall propose quantitative success criteria for the enhancement actions selected for implementation at the mitigation site(s), based on the enhancement actions listed above, as concurred by the Department in consultation with ODFW.

4.3.2 Monitoring

For Option 3 (Conservation Easement), the Certificate holder 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 Certificate holder 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 Certificate holder 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 Certificate holder'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 Certificate holder 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 Certificate holder 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 Certificate holder 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.

ODFW. 2011. Oregon Mule Deer Initiative. January 7, 2011. Available online at: https://www.dfw.state.or.us/resources/hunting/big_game/mule_deer/docs/Mule_Deer_Mgmt_Plan_Final.pdf. Accessed February 2019.

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.

ODFW. 2016. Oregon Conservation Strategy. Oregon Department of Fish and Wildlife, Salem, Oregon.

Attachment E-1: Draft Amended Noxious Weed Control Plan (Bakeoven Solar Project)

Noxious Weed Control Plan

Bakeoven Solar Project (Phase I)
July 2021

Prepared for

Avangrid Renewables, LLC

Prepared by

Tetra Tech, Inc.

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Table of Contents

1.0 Introduction 1
1.1 Background 1
1.2 Pre-construction Noxious Weed Surveys 2
1.3 Target Noxious Weed Species 2
2.0 Noxious Weed Control 3
2.1 Preventative Methods 4
2.2 Treatment Methods 4
2.2.1 Herbicide Treatment 4
2.2.2 Mechanical Treatment 5
3.0 Monitoring 5
4.0 Weed Department Supervisor Review 6
5.0 References 7

List of Tables

Table 1. Target Noxious Weeds Located within the Facility Impact Area 3
Table 2. Recommended Treatment for Target Noxious Weed Species 5

List of Figures

Figure 1. Survey Area

Figure 2. Target Noxious Weed Locations

List of Appendices

Appendix A. Noxious Weed Monitoring Reporting Format

Appendix B. 2008 Wasco County Noxious Weed List

Appendix C. 2020 Oregon Department of Agriculture Noxious Weed List

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1.0 Introduction

This 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 Bakeoven Solar Project (Phase I; Facility). Noxious weed control practices for the Facility described in this Plan have been developed in coordination with the Wasco County Weed Department Supervisor.

This Plan was updated in July 2021 in compliance with Site Certificate Condition GEN-FW-02, which states:

> *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 noxious weed species within areas to be impacted.*
> > >
> > > *2. Reporting format including report content and supporting materials to be included to demonstrate completion of noxious 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.*
>
> *[Fish and Wildlife Habitat Condition 2]*

Accordingly, this Plan describes the pre-disturbance surveys conducted in 2021 to identify noxious weed species within areas to be impacted (Section 1.2), and provides a reporting format that will be used to demonstrate completion of noxious weed control activities (Appendix A).

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 that will be disturbed during construction activities, but that will not become permanent parts of the Facility. Temporary disturbance will occur in association with the improvement of existing roads, as well as construction of collector and transmission lines, new roads, staging areas, and fences. These areas, cumulatively referred to as treatment areas hereafter, are primarily located within and adjacent to the Facility fence line, along new Facility roads, and along the transmission line. If it is determined that noxious weeds have invaded areas adjacent to the treatment areas as a result of construction, the Certificate Holder 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 B). "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 47 Class A noxious weed species and 94 Class B noxious weed species (ODA 2020; Appendix C). "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 Pre-construction Noxious Weed Surveys

Pre-construction noxious weed surveys were conducted by a trained botanist in May 2021. The survey area consisted of all areas of currently proposed permanent and temporary disturbance (Figure 1). During the survey, the botanist followed meandering transects, effectively zigzagging back and forth through non-cultivated habitat within the disturbance areas. When an ODA- or County-listed noxious weed was encountered, the locations were recorded. In addition to location information, the approximate size (<0.1 acres, 0.1 – 1.0 acre, 1.0 – 5.0 acres) and density (sparse, common, high cover) of each infestation was recorded.

1.3 Target Noxious Weed Species

For the purposes of this Plan, target noxious weeds include County-listed "A", "B", and "C" noxious weed species and ODA-listed "A" and "T" noxious weed species (see Appendices B and C). Based on pre-construction noxious weed surveys, four target noxious weed species were observed within the survey area (Table 1; Figure 2). Although these four species will specifically be targeted for control,

if other ODA-listed "A" or "T" noxious weeds or County-listed "A", "B", or "C" noxious weeds are observed in the treatment areas, they will also be treated.

Table 1. Target Noxious Weeds Located within the Facility Impact Area

Scientific Name	Common Name	ODA Status	County Status
Aegilops cylindrica	Jointed goatgrass	B	C
Centaurea diffusa	Diffuse knapweed	B	B 1/
Chondrilla juncea	Rush skeletonweed	B, T	B
Convolvulus arvensis	Field bindweed	B	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.

2.0 Noxious Weed Control

The Certificate Holder'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 jointed goatgrass (*Aegilops cylindrica*), diffuse knapweed (*Centaurea diffusa*), rush skeletonweed (*Chondrilla juncea*), and field bindweed (*Convolvulus arvensis*) will be prevented from growing in size and density at the locations they were documented during surveys, and will be prevented from spreading to new sites.

Long-term weed control outside of the fenced area will be accomplished through the seeding of native perennial grasses, such as bluebunch wheatgrass (*Pseudoroegneria spicata*), Idaho fescue (*Festuca idahoensis*), and Sandberg bluegrass (*Poa secunda*). The Certificate Holder 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[1]).

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.

[1] Oregon Department of Transportation. Oregon Standard Specification for Construction 2018. Section 01030.43(b).

2.1 Preventative Methods

The Certificate Holder 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); 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 four target noxious weeds identified within the Facility impact area, are summarized in Table 2.

Table 2. Recommended Treatment for Target Noxious Weed Species

Scientific Name	Common Name	Recommended Treatment	Treatment Timing
Aegilops cylindrica	Jointed goatgrass	Spot application of herbicide known to effectively control jointed goatgrass.	Pre-emergence in fall or in fall or late winter before jointed goatgrass is 3 inches tall.
Centaurea diffusa	Diffuse knapweed	Spot application of post-emergent herbicide known to effectively control diffuse knapweed.	Once per year in the spring when plants are actively growing.
Chondrilla juncea	Rush skeletonweed	Spot application of post-emergent, herbicide known to effectively control rush skeletonweed.	Once per year in the spring when plants are actively growing. Some herbicides may be applied to rosettes in the fall.
Convolvulus arvensis	Field bindweed	Spot application of post-emergent, herbicide known to effectively control field bindweed.	Once per year when plants are flowering (typically late spring through early fall)

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 phase 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 following completion of construction and 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. The noxious weed monitoring reporting format is provided in Appendix A.

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 Certificate Holder 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 Certificate Holder will maintain ongoing communication with individual landowners and the County regarding noxious weeds within the Facility impact area. Landowners may also contact the Certificate Holder to report the presence of noxious weeds. The Certificate Holder 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 initial development of this Plan in 2019. Mr. Keys will be provided with a copy of this updated Plan for review in July 2021. This Plan will be updated, as necessary, based on comments from Mr. Keys.

Merle Keys, Weed Department Supervisor
Wasco County Public Works Building
2705 E. 2nd Street
The Dalles, OR 97058
(541) 506-2653
merlek@co.wasco.or.us

5.0 References

ODA (Oregon Department of Agriculture). 2020. Noxious Weed Policy and Classification System. Noxious Weed Control Program. Salem, OR. Accessed June 2021: https://www.oregon.gov/ODA/shared/Documents/Publications/Weeds/NoxiousWeedPolicyClassification.pdf.

Tetra Tech (Tetra Tech, Inc.). 2021. Rare Plant Survey Report Bakeoven Solar Project (Phase I). Prepared for Avangrid Renewables. July 2021.

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.

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Figures

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Bakeoven Solar Project (Phase I)

Figure 1
Survey Area

WASCO COUNTY, OREGON

Sherman County
Wasco County

197

- Site Boundary
- Micrositing Corridor
- Phase I-Proposed Disturbance Areas
- Secondary Highway
- Secondary Road
- County Boundary

TETRA TECH

AVANGRID RENEWABLES

Data Sources	Reference Map
Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads	

1:50,000 WGS 1984 UTM Zone 10N

0 0.5 1 2 3 4 Miles

NOT FOR CONSTRUCTION

P:\GIS_PROJECTS\Avangrid\BakeOvenMXDs\RarePlants_HabCat\RarePlants_Spring2021_ReportAVG_Bakeoven_RarePlantsReport_Phase1_Fig1_11i17i_20210630.mxd

Bakeoven Solar Project (Phase I)

Figure 2
Target Noxious Weed Locations

WASCO COUNTY, OREGON

Sherman County
Wasco County
197

- Site Boundary
- Micrositing Corridor
- Phase I-Proposed Disturbance Areas
- Secondary Highway
- Secondary Road
- County Boundary

Infestation Size

Aegilops cylindrica (jointed goatgrass)
- < 0.1 acre
- 0.1-1 acre

Centaurea diffusa (diffuse knapweed)
- < 0.1 acre
- 0.1-1 acre
- 1-5 acres

Chondrilla juncea (rush skeletonweed)
- 0.1-1 acre

Convolvulus arvensis (field bindweed)
- 0.1-1 acre

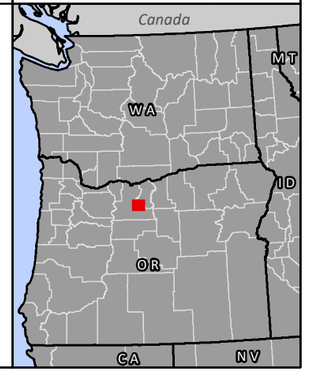
TETRA TECH

AVANGRID RENEWABLES

Data Sources

Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads

Reference Map



1:50,000 WGS 1984 UTM Zone 10N

0 0.5 1 2 3 4 Miles

NOT FOR CONSTRUCTION

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Appendix A. Noxious Weed Monitoring Reporting Format

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Bakeoven Solar Project (Phase I) Noxious Weed Control Plan: Monitoring Report Format

1.0 Introduction

- Facility background

1.1 Background

- Reference to Noxious Weed Control Plan prepared for the Facility and regulatory requirements for control of noxious weeds.
- Discussion that noxious weed treatments are focused on areas to be reclaimed/revegetated and not areas associated with permanent project facilities (e.g., substation).
    - Example text: "Treatment of target noxious weeds was specifically focused on areas that were disturbed during construction activities, but which did not become permanent parts of the Facility. Temporary disturbance occurred in association with the improvement of existing roads, as well as construction of collector and transmission lines, new roads, staging areas, and fences. These areas, cumulatively referred to as treatment areas hereafter, are primarily located within and adjacent to the Facility fence line, along new Facility roads, and along the transmission line (i.e., treatment areas)"
- Identify the monitoring report's timeframe and reference to previous monitoring reports, as applicable.

1.2 Target Noxious Weeds

- Identification of target noxious weeds for control, i.e., Wasco County-listed "A", "B", and "C" noxious weeds and Oregon Department of Agriculture (ODA)-listed "A" and "T" noxious weed species.
- Table of "Target Noxious Weeds" that documents target noxious weeds observed during pre-construction surveys within disturbance (i.e., impact) areas.
    - If applicable, table will be updated to include any new target noxious weed species identified during the current year's monitoring.
- The following table from the Noxious Weed Control Plan will be used as a template:

Table 1. Target Noxious Weeds Located within the Impact Area

Scientific Name	Common Name	ODA Status	County Status
Aegilops cylindrica	Jointed goatgrass	B	C
Centaurea diffusa	Diffuse knapweed	B	B 1/
Chondrilla juncea	Rush skeletonweed	B, T	B
Convolvulus arvensis	Field bindweed	B	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.

2.0 Noxious Weed Control Actions Implemented

- Discussion of noxious weed control actions performed during the report's monitoring timeframe.
- Figure identifying each noxious weed infestation (including a unique number associated with each infestation) and displaying where treatment actions were implemented.
- Table summarizing control treatments implemented during the previous year and date(s) treatments were implemented. See example table below.
    - Depending on size of table, this may be included as an Appendix (i.e., Appendix A – Noxious Weed Control Treatment Log).

Table 2. Noxious Weed Control Treatments Implemented

Noxious Weed Species		Treatment Implemented	Treatment Date
Scientific Name	**Common Name**		
Aegilops cylindrica	Jointed goatgrass	*Spot application of XXXX (**insert specific herbicide used and rate of application**) to XX infestations (XX total acres).*	Note date(s) of treatment(s).
Centaurea diffusa	Diffuse knapweed	*Spot application of XXXX (**insert specific herbicide used and rate of application**) to XX infestations (XX total acres).*	Note date(s) of treatment(s).
		Hand pulling of XX infestations (XX total acres)	Note date(s) of treatment(s).
Chondrilla juncea	Rush skeletonweed	*Spot application of XXXX (**insert specific herbicide used and rate of application**) to XX infestations (XX total acres).*	Note date(s) of treatment(s).
		Hand pulling of XX infestations (XX total acres)	Note date(s) of treatment(s).
Convolvulus arvensis	Field bindweed	*Spot application of XXXX (**insert specific herbicide used and rate of application**) to XX infestations (XX total acres).*	Note date(s) of treatment(s).

3.0 Monitoring

- Discussion of monitoring methods
    - Monitoring will include a site survey of treatment areas to document noxious weed species that have established within and adjacent to treatment areas
    - Documenting, via GPS points, locations of noxious weed species observed and estimate of extent of infestations
    - Assessing success of noxious weed treatments
    - Photo point monitoring of treated areas

4.0 Results

- Discussion of the results of monitoring, including:
    - Dates monitoring was conducted.
    - Summary of noxious weed species observed, extent of current infestations, comparison to previous number and size of infestations, and assessment of success of noxious weed treatment efforts.
    - Results section will include a summary table (see example table below).
    - Reference back to figure noted in the Noxious Weed Control Treatment section.

Table 3. Summary of Noxious Weed Infestations and Treatment Outcome

Noxious Weed Species Observed		**Infestation Number and Approximate Size of Infestation (*Include Monitoring Month and Year, e.g., June 2023*)**	**Infestation Number and Approximate Size of Infestation (*Include previous years monitoring month and ear, e.g., June 2022*)**	**Treatment Efficacy (*e.g. June 2023*)**
Scientific Name	**Common Name**			
Aegilops cylindrica	Jointed goatgrass	Infestation 1 – XXX acres	Infestation 1 – XXX acres	Treatment not successful, plants vigorous and show no signs of herbicide application.
Centaurea diffusa	Diffuse knapweed	Infestation 1 – XXX acres ***(acres will be replaced with another metric, e.g., # of plants if more appropriate)***	Infestation 1 – XXX acres	Treatment partially successful, many plants dead or dying; however, many plants still healthy.

Noxious Weed Species Observed		Infestation Number and Approximate Size of Infestation (*Include Monitoring Month and Year, e.g., June 2023*)	Infestation Number and Approximate Size of Infestation (*Include previous years monitoring month and ear, e.g., June 2022*)	Treatment Efficacy (*e.g. June 2023*)
Scientific Name	**Common Name**			
		Infestation 2 – XXX acres ***(or other appropriate metric)***	Infestation 2 – XXX acres	Treatment successful, all individuals dead or dying.
Chondrilla juncea	Rush skeletonweed	Infestation 1 – XXX acres ***(or other appropriate metric)***	Infestation 1 – XXX acres	Treatment successful, all individuals dead or dying.
Convolvulus arvensis	Field bindweed	Infestation 1 – XXX acres ***(or other appropriate metric)***	Infestation 1 – XXX acres	Treatment not successful, plants vigorous and show no signs of herbicide application.

5.0 Recommendations

- Recommendations for remedial actions to be implemented, if applicable.

Appendix A. Noxious Weed Control Treatment Log *(if applicable)*

Appendix B. Photo Point Monitoring

Appendix B. 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 C. 2020 Oregon Department of Agriculture Noxious Weed List

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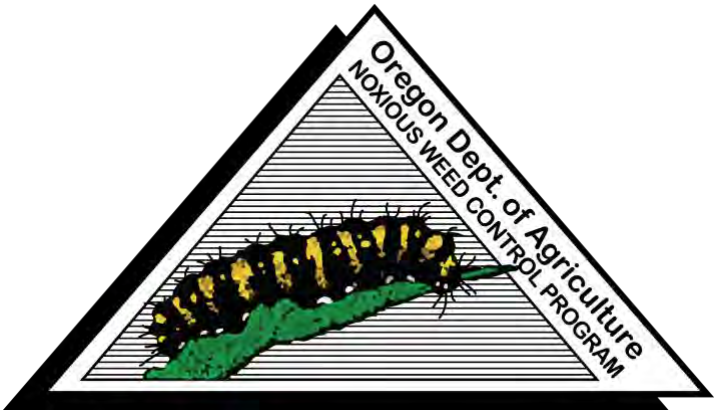
Oregon Department of Agriculture

Noxious Weed Policy and Classification System 2020



Noxious Weed Control Program

Address: 635 Capitol Street NE, Salem, Oregon 97301
Phone: (503) 986-4621 **Fax:** (503) 986-4786
www.oregon.gov/ODA/programs/Weeds/Pages/AboutWeeds.aspx

Mission Statement

To protect Oregon's natural resources and agricultural economy from the invasion and proliferation of invasive noxious weeds.

Program Overview

The Oregon Department of Agriculture (ODA) Noxious Weed Control Program provides statewide leadership for coordination and management of state listed noxious weeds. The state program focuses on noxious weed control efforts by implementing early detection and rapid response projects for new invasive noxious weeds, implementing biological control, implementing statewide inventory and survey, assisting the public and cooperators through technology transfer and noxious weed education, maintaining noxious weed data and maps for priority listed noxious weeds, and assisting land managers and cooperators with integrated weed management projects. The Noxious Weed Control Program also supports the Oregon State Weed Board (OSWB) with administration of the OSWB Grant Program, developing statewide management objectives, developing weed risk assessments, and maintaining the state noxious weed list.

Tim Butler
Program Manager
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(503) 986-4621

Table of Contents

Policy and Classification System…….....1

Criteria……3

Classification Definitions…….....4

Weed Biological Control…….. 4

A Listed Weeds…….....5

B Listed Weeds……...7

Noxious Weed Control Policy and Classification System

Definition

"Noxious weed" means a terrestrial, aquatic or marine plant designated by the Oregon State Weed Board under ORS 569.615 as among those representing the greatest public menace and as a top priority for action by weed control programs.

Noxious weeds have become so thoroughly established and are spreading so rapidly on private, state, county, and federally owned lands, that they have been declared by ORS 569.350 to be a menace to public welfare. Steps leading to eradication, where possible, and intensive control are necessary. It is further recognized that the responsibility for eradication and intensive control rests not only on the private landowner and operator, but also on the county, state, and federal governments.

Weed Control Policy

Therefore, it shall be the policy of ODA to:

1. Assess non-native plants through risk assessment processes and make recommendations to the Oregon State Weed Board for potential listing.
2. Rate and classify weeds at the state level.
3. Prevent the establishment and spread of listed noxious weeds.
4. Encourage and implement the control or containment of infestations of listed noxious weed species and, if possible, eradicate them.
5. Develop and manage a biological weed control program.
6. Increase awareness of potential economic losses and other undesirable effects of existing and newly invading noxious weeds, and to act as a resource center for the dissemination of information.
7. Encourage and assist in the organization and operation of noxious weed control programs with government agencies and other weed management entities.
8. Develop partnerships with county weed control districts, universities, and other cooperators in the development of control methods.
9. Conduct statewide noxious weed surveys and weed control efficacy studies.

Weed Classification System

The purpose of this Classification System is[1] to:

1. Act as the ODA's official guideline for prioritizing and implementing noxious weed control projects.
2. Assist the ODA in the distribution of available funds through the Oregon State Weed Board to assist county weed programs, cooperative weed management groups, private landowners, and other weed management entities.
3. Serve as a model for private and public sectors in developing noxious weed classification systems that aid in setting effective noxious weed control strategies.

Criteria for Determining Economic and Environmental Significance

2

Detrimental Effects

1. A plant species that causes or has the potential to cause severe negative impacts to Oregon's agricultural economy and natural resources.
2. A plant species that has the potential to or does endanger native flora and fauna by its encroachment into forest, range, aquatic and conservation areas.
3. A plant species that has the potential or does hamper the full utilization and enjoyment of recreational areas.
4. A plant species that is poisonous, injurious, or otherwise harmful to humans and/or animals.

Plant Reproduction

1. A plant that reproduces by seed capable of being dispersed over wide areas or that is long-lived, or produced in large numbers.
2. A plant species that reproduces and spreads by tubers, creeping roots, stolons, rhizomes, or other natural vegetative means.

Distribution

1. A weed of known economic importance which occurs in Oregon in small enough infestations to make eradication/containment possible; or not known to occur, but its presence in neighboring states makes future occurrence seem imminent.
2. A weed of economic or ecological importance and of limited distribution in Oregon.
3. A weed that has not infested the full extent of its potential habitat in Oregon.

Difficulty of Control

A plant species that is not easily controlled with current management practices such as chemical, cultural, biological, and physical methods.

Noxious Weed Control Classification Definitions

3

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*
Turkish (T)	*Carduus cinereus*
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*
English hawthorn	*Crataegus monogyna*
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*
Giant reed (T)	*Arundo donax*
Gorse* (T)	*Ulex europaeus*

Halogeton	*Halogeton glomeratus*
Houndstongue	*Cynoglossum officinale*
Indigo bush	*Amorpha fruticosa*

* Biocontrol (See page 4)

(T) T-Designated Weed (See page 4)

(Continued) Table II: B Listed Weeds

Common Name	Scientific Name
Ivy	
Atlantic	*Hedera hibernica*
English	*Hedera helix*
Johnsongrass	*Sorghum halepense*
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*

*Biocontrol (See page 4) (T) T-Designated Weed (See page 4)

(Continued) Table II: B Listed Weeds

Common Name	Scientific Name
Small broomrape	*Orabanche minor*
South American waterweed	*Egeria densa (Elodea)*
Spanish heath	*Erica lusitanica*
Spikeweed	*Hemizonia pungens*
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*

*Biocontrol (See page 4) (T) T-Designated Weed (See page 4)

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)

4/2020



Oregon
Department
of Agriculture

Attachment E-2: Draft Noxious Weed Control Plan (Daybreak Solar Project)

Noxious Weed Control Plan

Daybreak Solar Project (Phase II)
July 2021

Prepared for

Avangrid Renewables, LLC

Prepared by

Tetra Tech, Inc.

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Table of Contents

1.0 Introduction 1
1.1 Background 1
1.2 Pre-construction Noxious Weed Surveys 2
1.3 Target Noxious Weed Species 2
2.0 Noxious Weed Control 3
2.1 Preventative Methods 3
2.2 Treatment Methods 4
2.2.1 Herbicide Treatment 4
2.2.2 Mechanical Treatment 5
3.0 Monitoring 5
4.0 Weed Department Supervisor Review 6
5.0 References 6

List of Tables

Table 1. Target Noxious Weeds Located within the Facility Impact Area 3
Table 2. Recommended Treatment for Target Noxious Weed Species 4

List of Figures

Figure 1. Survey Area

Figure 2. Target Noxious Weed Locations

List of Appendices

Appendix A. Noxious Weed Monitoring Reporting Format

Appendix B. 2008 Wasco County Noxious Weed List

Appendix C. 2020 Oregon Department of Agriculture Noxious Weed List

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1.0 Introduction

This 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 Daybreak Solar Project (Phase II; Facility), excluding the transmission line and substation that are addressed in the Noxious Weed Control Plan for the Bakeoven Solar Project (Phase I). Noxious weed control practices for the Facility described in this Plan have been developed in coordination with the Wasco County Weed Department Supervisor.

This Plan was updated in July 2021 in compliance with Site Certificate Condition GEN-FW-02, which states:

> *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 noxious weed species within areas to be impacted.*
> > >
> > > *2. Reporting format including report content and supporting materials to be included to demonstrate completion of noxious 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.*
>
> *[Fish and Wildlife Habitat Condition 2]*

Accordingly, this Plan describes the pre-disturbance surveys conducted in 2021 to identify noxious weed species within areas to be impacted (Section 1.2), and provides a reporting format that will be used to demonstrate completion of noxious weed control activities (Appendix A).

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 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 construction of collector and transmission lines, new roads, staging areas, and fences. These areas, cumulatively referred to as treatment areas hereafter, are primarily located within and adjacent to the Facility fence line and along new Facility roads. If it is determined that noxious weeds have invaded areas adjacent to the treatment areas as a result of construction, the Certificate Holder 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 B). "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 47 Class A noxious weed species and 94 Class B noxious weed species (ODA 2020; Appendix C). "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 Pre-construction Noxious Weed Surveys

Pre-construction noxious weed surveys were conducted by a trained botanist in May 2021. The survey area consisted of all areas of currently proposed permanent and temporary disturbance (Figure 1). During the survey, the botanist followed meandering transects, effectively zigzagging back and forth through non-cultivated habitat within the disturbance areas. When an ODA- or County-listed noxious weed was encountered, the locations were recorded. In addition to location information, the approximate size (<0.1 acre, 0.1 – 1.0 acre, 1.0 – 5.0 acres) and density (sparse, common, high cover) of each infestation was recorded.

1.3 Target Noxious Weed Species

For the purposes of this Plan, target noxious weeds include County-listed "A", "B", and "C" noxious weed species and ODA-listed "A" and "T" noxious weed species (see Appendices B and C). Based on pre-construction noxious weed surveys, two target noxious weed species were observed within the survey area (Table 1; Figure 2). Although these two species will specifically be targeted for control,

if other ODA-listed "A" or "T" noxious weeds or County-listed "A", "B", or "C" noxious weeds are observed in the treatment areas, they will also be treated.

Table 1. Target Noxious Weeds Located within the Facility Impact Area

Scientific Name	Common Name	ODA Status	County Status
Aegilops cylindrica	Jointed goatgrass	B	C
Centaurea diffusa	Diffuse knapweed	B	B 1/

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.

2.0 Noxious Weed Control

The Certificate Holder'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 jointed goatgrass (*Aegilops cylindrica*) and diffuse knapweed (*Centaurea diffusa*)will be prevented from growing in size and density at the one to two locations they were documented during surveys, and will be prevented from spreading to new sites.

Long-term weed control outside the fenced area will be accomplished through the seeding of native perennial grasses, such as bluebunch wheatgrass (*Pseudoroegneria spicata*), Idaho fescue (*Festuca idahoensis*), and Sandberg bluegrass (*Poa secunda*). The Certificate Holder 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[1]).

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 Certificate Holder 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:

[1] Oregon Department of Transportation. Oregon Standard Specification for Construction 2018. Section 01030.43(b)

- 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); 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 two target noxious weeds identified within the Facility impact area, are summarized in Table 2.

Table 2. Recommended Treatment for Target Noxious Weed Species

Scientific Name	Common Name	Recommended Treatment	Treatment Timing
Aegilops cylindrica	Jointed goatgrass	Spot application of herbicide known to effectively control jointed goatgrass.	Pre-emergence in fall or in fall or late winter before jointed goatgrass is 3 inches tall.
Centaurea diffusa	Diffuse knapweed	Spot application of post-emergent herbicide known to effectively control diffuse knapweed.	Once per year in the spring when plants are actively growing.

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 phase 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 following completion of construction and 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. The noxious weed monitoring reporting format is provided in Appendix A.

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 Certificate Holder 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 Certificate Holder will maintain ongoing communication with individual landowners and the County regarding noxious weeds within the Facility impact area. Landowners may also contact the Certificate Holder to report the presence of noxious weeds. The Certificate Holder 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 initial development of this Plan in 2019. Mr. Keys will be provided with a copy of this Plan for review in July 2021. This Plan will be updated, as necessary, based on comments from Mr. Keys.

Merle Keys, Weed Department Supervisor

Wasco County Public Works Building

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.

Tetra Tech (Tetra Tech, Inc.). 2018. Botanical Survey Report Bakeoven Energy Project. Prepared for Avangrid Renewables. July 2018.

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.

Figures

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Daybreak Solar Project (Phase II)

Figure 1
Survey Area

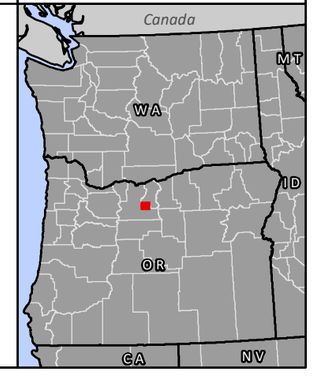
WASCO COUNTY, OREGON

- Site Boundary
- Micrositing Corridor
- Phase II-Proposed Disturbance Areas[1]
- Secondary Road

[1]Phase II Proposed Disturbance Areas outside the Phase II Micrositing Corridor depicted here either fall within the Micrositing Corridor associated with the substation and transmission line, which is depicted in the Phase I Noxious Weeds Control Plan only, or will be revised during final design to avoid areas outside the Phase II Micrositing Corridor.

TETRA TECH

AVANGRID RENEWABLES

Data Sources	Reference Map
Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads	

1:20,000 WGS 1984 UTM Zone 10N

0 0.125 0.25 0.5 0.75 1 Miles

NOT FOR CONSTRUCTION

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Daybreak Solar Project (Phase II)

Figure 2
Target Noxious Weed Locations

WASCO COUNTY, OREGON

- Site Boundary
- Micrositing Corridor
- Phase II-Proposed Disturbance Areas[1]
- Secondary Road

Infestation Size

Aegilops cylindrica (jointed goatgrass)

- < 0.1 acre

Centaurea diffusa (diffuse knapweed)

- 0.1-1 acre

[1]Phase II Proposed Disturbance Areas outside the Phase II Micrositing Corridor depicted here either fall within the Micrositing Corridor associated with the substation and transmission line, which is depicted in the Phase I Noxious Weed Control Plan only, or will be revised during final design to avoid areas outside the Phase II Micrositing Corridor.

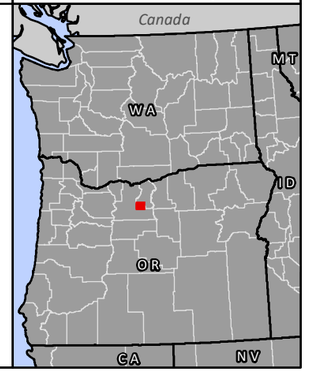
TETRA TECH

AVANGRID RENEWABLES

Data Sources

Avangrid-Project Infrastructure; USDA-Aerial Imagery; ESRI-Roads

Reference Map



1:20,000 WGS 1984 UTM Zone 10N

0 0.125 0.25 0.5 0.75 1 Miles

NOT FOR CONSTRUCTION

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Appendix A. Noxious Weed Monitoring Reporting Format

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Daybreak Solar Project (Phase II) Noxious Weed Control Plan Supplement: Monitoring Report Format

1.0 Introduction

- Facility background

1.1 Background

- Reference to Noxious Weed Control Plan prepared for the Facility and regulatory requirements for control of noxious weeds.
- Discussion that noxious weed treatments are focused on areas to be reclaimed/revegetated and not areas associated with permanent project facilities.
    - Example text: "Treatment of target noxious weeds was specifically focused on areas that were disturbed during construction activities, but which did not become permanent parts of the Facility. Temporary disturbance occurred in association with the improvement of existing roads, as well as construction of collector and transmission lines, new roads, staging areas, and fences. These areas, cumulatively referred to as treatment areas hereafter, are primarily located within and adjacent to the Facility fence line and along new Facility roads (i.e., treatment areas)"
- Identify the monitoring report's timeframe and reference to previous monitoring reports, as applicable.

1.2 Target Noxious Weeds

- Identification of target noxious weeds for control, i.e., Wasco County-listed "A", "B", and "C) noxious weeds and Oregon Department of Agriculture (ODA)-listed "A" and "T" noxious weed species.
- Table of "Target Noxious Weeds" that documents target noxious weeds observed during pre-construction surveys within disturbance (i.e., impact) areas.
    - If applicable, table will be updated to include any new target noxious weed species identified during the current year's monitoring.
- The following table from the Noxious Weed Control Plan will be used as a template:

Table 1. Target Noxious Weeds Located within the Impact Area

Scientific Name	Common Name	ODA Status	County Status
Aegilops cylindrica	Jointed goatgrass	B	C
Centaurea diffusa	Diffuse knapweed	B	B 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.			

2.0 Noxious Weed Control Actions Implemented

- Discussion of noxious weed control actions performed during the report's monitoring timeframe.
- Figure identifying each noxious weed infestation (including a unique number associated with each infestation) and displaying where treatment actions were implemented.
- Table summarizing control treatments implemented during the previous year and date(s) treatments were implemented. See example table below.
    - Depending on size of table, this may be included as an Appendix (i.e., Appendix A – Noxious Weed Control Treatment Log).

Table 2. Noxious Weed Control Treatments Implemented

Noxious Weed Species		Treatment Implemented	Treatment Date
Scientific Name	**Common Name**		
Aegilops cylindrica	Jointed goatgrass	*Spot application of XXXX (**insert specific herbicide used and rate of application**) to XX infestations (XX total acres).*	Note date(s) of treatment(s).
Centaurea diffusa	Diffuse knapweed	*Spot application of XXXX (**insert specific herbicide used and rate of application**) to XX infestations (XX total acres).*	Note date(s) of treatment(s).
		Hand pulling of XX infestations (XX total acres)	Note date(s) of treatment(s).

3.0 Monitoring

- Discussion of monitoring methods
    - Monitoring will include a site survey of treatment areas to document noxious weed species that have established within and adjacent to treatment areas
    - Documenting, via GPS points, locations of noxious weed species observed and estimate of extent of infestations
    - Assessing success of noxious weed treatments

- Photo point monitoring of treated areas

4.0 Results

- Discussion of the results of monitoring, including:
  - Dates monitoring was conducted.
  - Summary of noxious weed species observed, extent of current infestations, comparison to previous number and size of infestations, and assessment of success of noxious weed treatment efforts.
  - Results section will include a summary table (see example table below).
  - Reference back to figure noted in the Noxious Weed Control Treatment section.

Table 3. Summary of Noxious Weed Infestations and Treatment Outcome

Noxious Weed Species Observed		**Infestation Number and Approximate Size of Infestation (*Include Monitoring Month and Year, e.g., June 2024*)**	**Infestation Number and Approximate Size of Infestation (*Include previous years monitoring month and ear, e.g., June 2023*)**	**Treatment Efficacy *(e.g., June 2024)***
Scientific Name	**Common Name**			
Aegilops cylindrica	Jointed goatgrass	Infestation 1 – XXX acres	Infestation 1 – XXX acres	Treatment not successful, plants vigorous and show no signs of herbicide application.
Centaurea diffusa	Diffuse knapweed	Infestation 1 – XXX acres ***(acres will be replaced with another metric, e.g., # of plants if more appropriate)***	Infestation 1 – XXX acres	Treatment partially successful, many plants dead or dying; however, many plants still healthy.
		Infestation 2 – XXX acres ***(or other appropriate metric)***	Infestation 2 – XXX acres	Treatment successful, all individuals dead or dying.

5.0 Recommendations

- Recommendations for remedial actions to be implemented, if applicable.

Appendix A. Noxious Weed Control Treatment Log *(if applicable)*

Appendix B. Photo Point Monitoring

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Appendix B. 2008 Wasco County Noxious Weed List

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MERLE A. KEYS, Superintendent
2705 E. 2nd Street
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(541)506-2650
Fax (541)506-2651

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 C. 2020 Oregon Department of Agriculture Noxious Weed List

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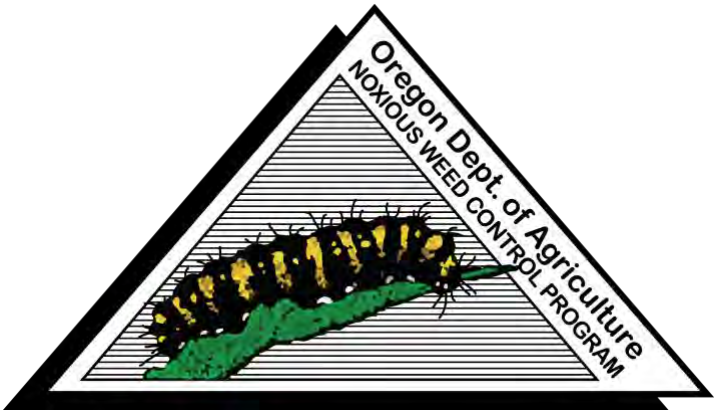
Oregon Department of Agriculture

Noxious Weed Policy and Classification System 2020



Noxious Weed Control Program

Address: 635 Capitol Street NE, Salem, Oregon 97301
Phone: (503) 986-4621 **Fax:** (503) 986-4786
www.oregon.gov/ODA/programs/Weeds/Pages/AboutWeeds.aspx

Mission Statement

To protect Oregon's natural resources and agricultural economy from the invasion and proliferation of invasive noxious weeds.

Program Overview

The Oregon Department of Agriculture (ODA) Noxious Weed Control Program provides statewide leadership for coordination and management of state listed noxious weeds. The state program focuses on noxious weed control efforts by implementing early detection and rapid response projects for new invasive noxious weeds, implementing biological control, implementing statewide inventory and survey, assisting the public and cooperators through technology transfer and noxious weed education, maintaining noxious weed data and maps for priority listed noxious weeds, and assisting land managers and cooperators with integrated weed management projects. The Noxious Weed Control Program also supports the Oregon State Weed Board (OSWB) with administration of the OSWB Grant Program, developing statewide management objectives, developing weed risk assessments, and maintaining the state noxious weed list.

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Table of Contents

Policy and Classification System…….....1

Criteria……3

Classification Definitions…….....4

Weed Biological Control…….. 4

A Listed Weeds…….....5

B Listed Weeds……...7

Noxious Weed Control Policy and Classification System

Definition

"Noxious weed" means a terrestrial, aquatic or marine plant designated by the Oregon State Weed Board under ORS 569.615 as among those representing the greatest public menace and as a top priority for action by weed control programs.

Noxious weeds have become so thoroughly established and are spreading so rapidly on private, state, county, and federally owned lands, that they have been declared by ORS 569.350 to be a menace to public welfare. Steps leading to eradication, where possible, and intensive control are necessary. It is further recognized that the responsibility for eradication and intensive control rests not only on the private landowner and operator, but also on the county, state, and federal governments.

Weed Control Policy

Therefore, it shall be the policy of ODA to:

1. Assess non-native plants through risk assessment processes and make recommendations to the Oregon State Weed Board for potential listing.
2. Rate and classify weeds at the state level.
3. Prevent the establishment and spread of listed noxious weeds.
4. Encourage and implement the control or containment of infestations of listed noxious weed species and, if possible, eradicate them.
5. Develop and manage a biological weed control program.
6. Increase awareness of potential economic losses and other undesirable effects of existing and newly invading noxious weeds, and to act as a resource center for the dissemination of information.
7. Encourage and assist in the organization and operation of noxious weed control programs with government agencies and other weed management entities.
8. Develop partnerships with county weed control districts, universities, and other cooperators in the development of control methods.
9. Conduct statewide noxious weed surveys and weed control efficacy studies.

Weed Classification System

The purpose of this Classification System is[1] to:

1. Act as the ODA's official guideline for prioritizing and implementing noxious weed control projects.
2. Assist the ODA in the distribution of available funds through the Oregon State Weed Board to assist county weed programs, cooperative weed management groups, private landowners, and other weed management entities.
3. Serve as a model for private and public sectors in developing noxious weed classification systems that aid in setting effective noxious weed control strategies.

Criteria for Determining Economic and Environmental Significance

2

Detrimental Effects

1. A plant species that causes or has the potential to cause severe negative impacts to Oregon's agricultural economy and natural resources.
2. A plant species that has the potential to or does endanger native flora and fauna by its encroachment into forest, range, aquatic and conservation areas.
3. A plant species that has the potential or does hamper the full utilization and enjoyment of recreational areas.
4. A plant species that is poisonous, injurious, or otherwise harmful to humans and/or animals.

Plant Reproduction

1. A plant that reproduces by seed capable of being dispersed over wide areas or that is long-lived, or produced in large numbers.
2. A plant species that reproduces and spreads by tubers, creeping roots, stolons, rhizomes, or other natural vegetative means.

Distribution

1. A weed of known economic importance which occurs in Oregon in small enough infestations to make eradication/containment possible; or not known to occur, but its presence in neighboring states makes future occurrence seem imminent.
2. A weed of economic or ecological importance and of limited distribution in Oregon.
3. A weed that has not infested the full extent of its potential habitat in Oregon.

Difficulty of Control

A plant species that is not easily controlled with current management practices such as chemical, cultural, biological, and physical methods.

Noxious Weed Control Classification Definitions

3

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*
Turkish (T)	*Carduus cinereus*
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*
English hawthorn	*Crataegus monogyna*
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*
Giant reed (T)	*Arundo donax*
Gorse* (T)	*Ulex europaeus*

Halogeton	*Halogeton glomeratus*
Houndstongue	*Cynoglossum officinale*
Indigo bush	*Amorpha fruticosa*

* Biocontrol (See page 4)

(T) T-Designated Weed (See page 4)

(Continued) Table II: B Listed Weeds

Common Name	Scientific Name
Ivy	
Atlantic	*Hedera hibernica*
English	*Hedera helix*
Johnsongrass	*Sorghum halepense*
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*

*Biocontrol (See page 4) (T) T-Designated Weed (See page 4)

(Continued) Table II: B Listed Weeds

Common Name	Scientific Name
Small broomrape	*Orabanche minor*
South American waterweed	*Egeria densa (Elodea)*
Spanish heath	*Erica lusitanica*
Spikeweed	*Hemizonia pungens*
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*

*Biocontrol (See page 4) (T) T-Designated Weed (See page 4)

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)

4/2020



Oregon
Department
of Agriculture

Attachment E-3: Draft Noxious Weed Control Plan (Sunset Solar Project)

Draft Noxious Weed Control Plan

~~Daybreak~~ Sunset Solar Project (Phase II~~I~~)
~~July~~ September 2021

Prepared for

Avangrid Renewables, LLC

Prepared by

Tetra Tech, Inc.

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Table of Contents

1.0 Introduction 1
1.1 Background 1
1.2 Pre-construction Noxious Weed Surveys 2
2.0 Noxious Weed Control ..... 3~~2~~
2.1 Preventative Methods ..... 4~~3~~
2.2 Treatment Methods 4
2.2.1 Herbicide Treatment ..... 5~~4~~
2.2.2 Mechanical Treatment ..... 5~~4~~
3.0 Monitoring ..... 5~~4~~
4.0 Weed Department Supervisor Review ..... 6~~5~~
5.0 References ..... 7~~5~~
~~1.0 Introduction ..... Error! Bookmark not defined. Error! Bookmark not defined.~~ 1
~~1.1 Background ..... Error! Bookmark not defined. Error! Bookmark not defined.~~ 1
~~1.2 Pre-construction Noxious Weed Surveys ..... Error! Bookmark not defined. Error! Bookmark not defined.~~ 2
~~1.3 Target Noxious Weed Species ..... Error! Bookmark not defined. Error! Bookmark not defined.~~ 2
~~2.0 Noxious Weed Control ..... Error! Bookmark not defined. Error! Bookmark not defined.~~ 3
~~2.1 Preventative Methods ..... Error! Bookmark not defined. Error! Bookmark not defined.~~ 3
~~2.2 Treatment Methods ..... Error! Bookmark not defined. Error! Bookmark not defined.~~ 4
~~2.2.1 Herbicide Treatment ..... Error! Bookmark not defined. Error! Bookmark not defined.~~ 4
~~2.2.2 Mechanical Treatment ..... Error! Bookmark not defined. Error! Bookmark not defined.~~ 5
~~3.0 Monitoring ..... Error! Bookmark not defined. Error! Bookmark not defined.~~ 5
~~4.0 Weed Department Supervisor Review Error! Bookmark not defined. Error! Bookmark not defined.~~ 6
~~5.0 References ..... Error! Bookmark not defined. Error! Bookmark not defined.~~ 6

~~List of Tables~~

~~Table 1. Target Noxious Weeds Located within the Facility Impact Area ..... 3~~

~~Table 2. Recommended Treatment for Target Noxious Weed Species ..... 4~~

~~List of Figures~~

~~Figure 1. Survey Area~~

~~Figure 2. Target Noxious Weed Locations~~

List of Appendices

Appendix A. Noxious Weed Monitoring Reporting Format

Appendix B. 2008 Wasco County Noxious Weed List

Appendix C. 2020 Oregon Department of Agriculture Noxious Weed List

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1.0 Introduction

This Draft Noxious Weed Control Plan (Plan) was prepared to comply with Oregon Administrative Rules (OAR) 660-033-0130 (38)(h)(D) and describes the noxious weed control measures that will be implemented during construction and operation of the ~~Daybreak~~ Sunset Solar Project (Phase III; Facility), excluding the transmission line and substation that are addressed in the Noxious Weed Control Plan for the Bakeoven Solar Project (Phase I). Noxious weed control practices for the Facility described in this Plan have been developed in coordination with the Wasco County Weed Department Supervisor and this Plan has been prepared ~~.~~

~~This Plan was updated in July 2021~~ in compliance with Site Certificate Condition GEN-FW-02, which states:

> *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 noxious weed species within areas to be impacted.*
> > >
> > > *2. Reporting format including report content and supporting materials to be included to demonstrate completion of noxious 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.*
>
> *[Fish and Wildlife Habitat Condition 2]*

Accordingly, this Plan describes the pre-disturbance surveys that will be conducted ~~in 2021~~ prior to construction to identify noxious weed species within areas to be impacted (Section 1.2)~~,~~ and provides a reporting format that will be used to demonstrate completion of noxious weed control activities (Appendix A).

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 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 construction of collector ~~and transmission~~ lines, new roads, staging areas, and fences. These areas, cumulatively referred to as treatment areas hereafter, ~~are~~ will primarily be located within and

adjacent to the Facility fence line and along new Facility roads. If it is determined that noxious weeds have invaded areas adjacent to the treatment areas as a result of construction, the Certificate Holder 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 B). "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 47 Class A noxious weed species and 94 Class B noxious weed species (ODA 2020; Appendix C). "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 Pre-construction Noxious Weed Surveys

Pre-construction noxious weed surveys for the Facility will be conducted prior to construction. Surveys for target noxious weeds will be conducted within all areas that will be impacted by construction of the Facility. For the purposes of this Plan, target noxious weeds include County-listed "A", "B", and "C" noxious weed species and ODA-listed "A" and "T" noxious weed species (see Appendices B and C).—

~~Pre-construction noxious weed surveys were conducted for the Bakeoven Solar Project (Phase I) and the Daybreak Solar Project (Phase II) in spring 2021; pre-construction noxious weed surveys for Sunset Solar (Phase III) will be conducted prior to construction of the Facility.For the purposes of this Plan, target noxious weeds include County-listed "A", "B", and "C" noxious weed species and ODA-listed "A" and "T" noxious weed species (see Appendices B and C).~~

~~were conducted by a trained botanist in May 2021. The survey area consisted of all areas of currently proposed permanent and temporary disturbance (Figure 1). During the survey, the botanist followed meandering transects, effectively zigzagging back and forth through non-cultivated habitat within the disturbance areas. When an ODA- or County-listed noxious weed was encountered, the locations were recorded. In addition to location information, the approximate size (<0.1 acre, 0.1 – 1.0 acre, 1.0 – 5.0 acres) and density (sparse, common, high cover) of each infestation was recorded.~~

~~1.2 Target Noxious Weed Species~~

~~For the purposes of this Plan, target noxious weeds include County-listed "A", "B", and "C" noxious weed species and ODA-listed "A" and "T" noxious weed species (see Appendices B and C).~~ ~~Based on pre-construction noxious weed surveys~~ at Phase II (Daybreak Solar), ~~two target noxious weed species were observed within the survey area (Table 1; Figure 2). Although these two species will specifically be targeted for control, if other ODA-listed "A" or "T" noxious weeds or County-listed "A", "B", or "C" noxious weeds are observed in the treatment areas, they will also be treated.~~

~~Table 1. Target Noxious Weeds Located within the~~ Phase II (Daybreak Solar)~~[1]~~ ~~Facility Impact Area~~

~~Scientific Name~~	~~Common Name~~	~~ODA Status~~	~~County Status~~
~~*Aegilops cylindrica*~~	~~Jointed goatgrass~~	~~B~~	~~C~~
~~*Centaurea diffusa*~~	~~Diffuse knapweed~~	~~B~~	~~B~~ ~~2/~~

~~1/~~ ~~The target noxious weeds located within the Phase II (Daybreak Solar) impact area are used as reference for Phase III (Sunset Solar). Pre-construction noxious weed surveys will be conducted prior to construction of Phase III and this list will be updated accordingly.~~

~~2/~~ ~~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.~~

2.0 Noxious Weed Control

The Certificate Holder'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 observed within the treatment areas during pre-construction surveys, existing populations of ~~jointed goatgrass (*Aegilops cylindrica*) and diffuse knapweed (*Centaurea diffusa*)~~target noxious weeds will be prevented from growing in size and density at the ~~one to two~~ locations they ~~were~~ are documented during surveys, and will be prevented from spreading to new sites.

Long-term weed control outside the fenced area will be accomplished through the seeding of native perennial grasses, such as bluebunch wheatgrass (*Pseudoroegneria spicata*), Idaho fescue (*Festuca idahoensis*), and Sandberg bluegrass (*Poa secunda*). The Certificate Holder 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[1]).

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 Certificate Holder 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); 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.

[1] Oregon Department of Transportation. Oregon Standard Specification for Construction 2018. Section 01030.43(b)

2.2.1 Herbicide Treatment

The specific herbicide used, the amount, 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). 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).

~~Recommended treatment methods, as well as the recommended timing of treatments for the two target noxious weeds identified within the Facility impact area, are summarized in Table 2.~~

~~Table 2. Recommended Treatment for Target Noxious Weed Species~~

~~Scientific Name~~	~~Common Name~~	~~Recommended Treatment~~	~~Treatment Timing~~
~~*Aegilops cylindrica*~~	~~Jointed goatgrass~~	~~Spot application of herbicide known to effectively control jointed goatgrass.~~	~~Pre-emergence in fall or in fall or late winter before jointed goatgrass is 3 inches tall.~~
~~*Centaurea diffusa*~~	~~Diffuse knapweed~~	~~Spot application of post-emergent herbicide known to effectively control diffuse knapweed.~~	~~Once per year in the spring when plants are actively growing.~~

~~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 phase 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 following completion of construction and 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. The noxious weed monitoring reporting format is provided in Appendix A.

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 Certificate Holder 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 Certificate Holder will maintain ongoing communication with individual landowners and the County regarding noxious weeds within the Facility impact area. Landowners may also contact the Certificate Holder to report the presence of noxious weeds. The Certificate Holder 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 initial development of this Plan in 2019. Mr. Keys will be provided with a copy of this Plan ~~for review in July 2021~~prior to construction. This Plan will be updated, as necessary, based on comments from Mr. Keys.

Merle Keys, Weed Department Supervisor

Wasco County Public Works Building

2705 E. 2nd Street

The Dalles, OR 97058

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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.

~~Tetra Tech (Tetra Tech, Inc.). 2018. Botanical Survey Report Bakeoven Energy Project. Prepared for Avangrid Renewables. July 2018.~~

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.

~~Figures~~

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Appendix A. Noxious Weed Monitoring Reporting Format

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Appendix B. 2008 Wasco County Noxious Weed List

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Appendix C. 2020 Oregon Department of Agriculture Noxious Weed List

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Appendix A. Noxious Weed Monitoring Reporting Format

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Sunset Solar Project (Phase III)
Noxious Weed Control Plan Supplement: Monitoring Report Format

1.0 Introduction

- Facility background

1.1 Background

- Reference to Noxious Weed Control Plan prepared for the Facility and regulatory requirements for control of noxious weeds.
- Discussion that noxious weed treatments are focused on areas to be reclaimed/revegetated and not areas associated with permanent project facilities.
    - Example text: “Treatment of target noxious weeds was specifically focused on areas that were disturbed during construction activities, but which did not become permanent parts of the Facility. Temporary disturbance occurred in association with the improvement of existing roads, as well as construction of collector lines, new roads, staging areas, and fences. These areas, cumulatively referred to as treatment areas hereafter, are primarily located within and adjacent to the Facility fence line and along new Facility roads (i.e., treatment areas)”
- Identify the monitoring report’s timeframe and reference to previous monitoring reports, as applicable.

1.2 Target Noxious Weeds

- Identification of target noxious weeds for control, i.e., Wasco County-listed “A”, “B”, and “C" noxious weeds and Oregon Department of Agriculture (ODA)-listed “A” and “T” noxious weed species.
- Table of “Target Noxious Weeds” that documents target noxious weeds observed during pre-construction surveys within disturbance (i.e., impact) areas.
    - If applicable, table will be updated to include any new target noxious weed species identified during the current year’s monitoring.
- The following is an example table that will be used as a template for the table of "Target Noxious Weeds":

Table 1. Target Noxious Weeds Located within the Impact Area

Scientific Name	Common Name	ODA Status	County Status
Aegilops cylindrica	Jointed goatgrass	B	C
Centaurea diffusa	Diffuse knapweed	B	B 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.			

2.0 Noxious Weed Control Actions Implemented

- Discussion of noxious weed control actions performed during the report's monitoring timeframe.
- Figure identifying each noxious weed infestation (including a unique number associated with each infestation) and displaying where treatment actions were implemented.
- Table summarizing control treatments implemented during the previous year and date(s) treatments were implemented. See example table below.
    - Depending on size of table, this may be included as an Appendix (i.e., Appendix A – Noxious Weed Control Treatment Log).

Table 2. Noxious Weed Control Treatments Implemented

Noxious Weed Species		Treatment Implemented	Treatment Date
Scientific Name	**Common Name**		
Aegilops cylindrica	Jointed goatgrass	*Spot application of XXXX (**insert specific herbicide used and rate of application**) to XX infestations (XX total acres).*	Note date(s) of treatment(s).
Centaurea diffusa	Diffuse knapweed	*Spot application of XXXX (**insert specific herbicide used and rate of application**) to XX infestations (XX total acres).*	Note date(s) of treatment(s).
		Hand pulling of XX infestations (XX total acres)	Note date(s) of treatment(s).

3.0 Monitoring

- Discussion of monitoring methods
    - Monitoring will include a site survey of treatment areas to document noxious weed species that have established within and adjacent to treatment areas
    - Documenting, via GPS points, locations of noxious weed species observed and estimate of extent of infestations
    - Assessing success of noxious weed treatments

- Photo point monitoring of treated areas

4.0 Results

- Discussion of the results of monitoring, including:
  - Dates monitoring was conducted.
  - Summary of noxious weed species observed, extent of current infestations, comparison to previous number and size of infestations, and assessment of success of noxious weed treatment efforts.
  - Results section will include a summary table (see example table below).
  - Reference back to figure noted in the Noxious Weed Control Treatment section.

Table 3. Summary of Noxious Weed Infestations and Treatment Outcome

Noxious Weed Species Observed		**Infestation Number and Approximate Size of Infestation (*Include Monitoring Month and Year, e.g., June 2024*)**	**Infestation Number and Approximate Size of Infestation (*Include previous years monitoring month and ear, e.g., June 2023*)**	**Treatment Efficacy *(e.g., June 2024)***
Scientific Name	**Common Name**			
Aegilops cylindrica	Jointed goatgrass	Infestation 1 – XXX acres	Infestation 1 – XXX acres	Treatment not successful, plants vigorous and show no signs of herbicide application.
Centaurea diffusa	Diffuse knapweed	Infestation 1 – XXX acres ***(acres will be replaced with another metric, e.g., # of plants if more appropriate)***	Infestation 1 – XXX acres	Treatment partially successful, many plants dead or dying; however, many plants still healthy.
		Infestation 2 – XXX acres ***(or other appropriate metric)***	Infestation 2 – XXX acres	Treatment successful, all individuals dead or dying.

5.0 Recommendations

- Recommendations for remedial actions to be implemented, if applicable.

Appendix A. Noxious Weed Control Treatment Log *(if applicable)*

Appendix B. Photo Point Monitoring

Appendix B. 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 C. 2020 Oregon Department of Agriculture Noxious Weed List

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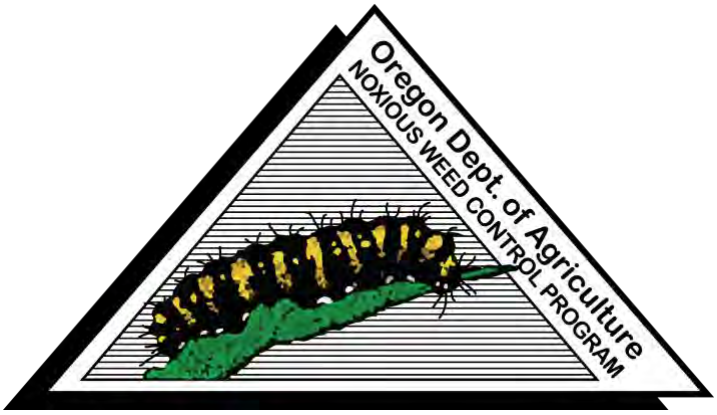
Oregon Department of Agriculture

Noxious Weed Policy and Classification System 2020



Noxious Weed Control Program

Address: 635 Capitol Street NE, Salem, Oregon 97301
Phone: (503) 986-4621 **Fax:** (503) 986-4786
www.oregon.gov/ODA/programs/Weeds/Pages/AboutWeeds.aspx

Mission Statement

To protect Oregon's natural resources and agricultural economy from the invasion and proliferation of invasive noxious weeds.

Program Overview

The Oregon Department of Agriculture (ODA) Noxious Weed Control Program provides statewide leadership for coordination and management of state listed noxious weeds. The state program focuses on noxious weed control efforts by implementing early detection and rapid response projects for new invasive noxious weeds, implementing biological control, implementing statewide inventory and survey, assisting the public and cooperators through technology transfer and noxious weed education, maintaining noxious weed data and maps for priority listed noxious weeds, and assisting land managers and cooperators with integrated weed management projects. The Noxious Weed Control Program also supports the Oregon State Weed Board (OSWB) with administration of the OSWB Grant Program, developing statewide management objectives, developing weed risk assessments, and maintaining the state noxious weed list.

Tim Butler
Program Manager
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(503) 986-4621

Table of Contents

Policy and Classification System…….....1

Criteria……3

Classification Definitions…….....4

Weed Biological Control…….. 4

A Listed Weeds…….....5

B Listed Weeds……...7

Noxious Weed Control Policy and Classification System

Definition

"Noxious weed" means a terrestrial, aquatic or marine plant designated by the Oregon State Weed Board under ORS 569.615 as among those representing the greatest public menace and as a top priority for action by weed control programs.

Noxious weeds have become so thoroughly established and are spreading so rapidly on private, state, county, and federally owned lands, that they have been declared by ORS 569.350 to be a menace to public welfare. Steps leading to eradication, where possible, and intensive control are necessary. It is further recognized that the responsibility for eradication and intensive control rests not only on the private landowner and operator, but also on the county, state, and federal governments.

Weed Control Policy

Therefore, it shall be the policy of ODA to:

1. Assess non-native plants through risk assessment processes and make recommendations to the Oregon State Weed Board for potential listing.
2. Rate and classify weeds at the state level.
3. Prevent the establishment and spread of listed noxious weeds.
4. Encourage and implement the control or containment of infestations of listed noxious weed species and, if possible, eradicate them.
5. Develop and manage a biological weed control program.
6. Increase awareness of potential economic losses and other undesirable effects of existing and newly invading noxious weeds, and to act as a resource center for the dissemination of information.
7. Encourage and assist in the organization and operation of noxious weed control programs with government agencies and other weed management entities.
8. Develop partnerships with county weed control districts, universities, and other cooperators in the development of control methods.
9. Conduct statewide noxious weed surveys and weed control efficacy studies.

Weed Classification System

The purpose of this Classification System is[1] to:

1. Act as the ODA's official guideline for prioritizing and implementing noxious weed control projects.
2. Assist the ODA in the distribution of available funds through the Oregon State Weed Board to assist county weed programs, cooperative weed management groups, private landowners, and other weed management entities.
3. Serve as a model for private and public sectors in developing noxious weed classification systems that aid in setting effective noxious weed control strategies.

Criteria for Determining Economic and Environmental Significance

2

Detrimental Effects

1. A plant species that causes or has the potential to cause severe negative impacts to Oregon's agricultural economy and natural resources.
2. A plant species that has the potential to or does endanger native flora and fauna by its encroachment into forest, range, aquatic and conservation areas.
3. A plant species that has the potential or does hamper the full utilization and enjoyment of recreational areas.
4. A plant species that is poisonous, injurious, or otherwise harmful to humans and/or animals.

Plant Reproduction

1. A plant that reproduces by seed capable of being dispersed over wide areas or that is long-lived, or produced in large numbers.
2. A plant species that reproduces and spreads by tubers, creeping roots, stolons, rhizomes, or other natural vegetative means.

Distribution

1. A weed of known economic importance which occurs in Oregon in small enough infestations to make eradication/containment possible; or not known to occur, but its presence in neighboring states makes future occurrence seem imminent.
2. A weed of economic or ecological importance and of limited distribution in Oregon.
3. A weed that has not infested the full extent of its potential habitat in Oregon.

Difficulty of Control

A plant species that is not easily controlled with current management practices such as chemical, cultural, biological, and physical methods.

Noxious Weed Control Classification Definitions

3

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*
Turkish (T)	*Carduus cinereus*
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*
English hawthorn	*Crataegus monogyna*
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*
Giant reed (T)	*Arundo donax*
Gorse* (T)	*Ulex europaeus*

Halogeton	*Halogeton glomeratus*
Houndstongue	*Cynoglossum officinale*
Indigo bush	*Amorpha fruticosa*

* Biocontrol (See page 4)

(T) T-Designated Weed (See page 4)

(Continued) Table II: B Listed Weeds

Common Name	Scientific Name
Ivy	
Atlantic	*Hedera hibernica*
English	*Hedera helix*
Johnsongrass	*Sorghum halepense*
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*

*Biocontrol (See page 4) (T) T-Designated Weed (See page 4)

(Continued) Table II: B Listed Weeds

Common Name	Scientific Name
Small broomrape	*Orabanche minor*
South American waterweed	*Egeria densa (Elodea)*
Spanish heath	*Erica lusitanica*
Spikeweed	*Hemizonia pungens*
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*

*Biocontrol (See page 4) (T) T-Designated Weed (See page 4)

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)

4/2020



Oregon
Department
of Agriculture

~~Attachment P-4.~~

~~Draft~~ Wildlife Monitoring Plan

Bakeoven Solar Project

~~November 2019~~June~~May~~ 2021

Prepared for



Avangrid Renewables, LLC

Prepared by



Tetra Tech, Inc.

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Table of Contents

1.0 Introduction 1
2.0 Post-construction Fatality Monitoring 1
2.1 Purpose and Overview 1
2.1.1 Technical Approach 2
2.1.2 Standardized Carcass Searches 2
2.1.2.1 Sampling Duration and Frequency 2
2.1.2.2 Spatial Sampling and Approach 3
2.1.2.3 Fatality Detection Criteria 6
Standard Fatality Detections 6
Feather Spots 6
Incidental Fatality Detections 6
2.1.2.4 Fatality Documentation 7
2.1.3 Bias Correction 7
2.1.3.1 Searcher Efficiency 8
2.1.3.2 Carcass Persistence 9
2.1.3.3 Carcass Distribution 10
2.1.4 Data Analysis and Fatality Estimation 10
2.2 Reporting 11
3.0 Amendment of the WMP 11
4.0 References 12

List of Tables

Table 1. Viewshed Complexity and Approximate Visible Distances of Fatalities 3

List of Figures

Figure 1. Example of Transect Sampling 4
Figure 2. Example of Within-Array Transect Sampling 5

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1.0 Introduction

~~Bakeoven Solar, LLC (Applicant) has prepared T~~this Wildlife Monitoring Plan (WMP) has been prepared for the Bakeoven Solar Project (Facility; Phase I), a 60 megawatt (MW) solar energy facility in Wasco County, Oregon. Bakeoven Solar, LLC (Certificate Holder) holds the site certificate for the Facility, which has areas of overlapping Site Boundary and shares~~d and~~ related and supporting facilities with the Day Break Solar Project (Phase II) and the Sunset Solar Project (Phase III). ~~Phase I~~

The three facilities were originally permitted as one facility, the Bakeoven Solar Project, and was granted approval of a site certificate by the Oregon Department of Energy's (ODOE) Energy Facility Siting Council (EFSC) on April 24, 2020 (EFSC 2020). The Certificate Holder is applying to amend the site certificate to split the approved Bakeoven Solar Project components and Site Boundary into three facilities, each with their own site certificate. Phase I and II~~The Facility~~ began construction in April 2021.

~~'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 Large birds: up to 140	Along-array[1]
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 Large birds: 50–120	Within-array[2]

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 Large birds: 20–50	Within-array[2]
1. See Figure 1a. Not applicable to this Facility based on anticipated viewshed complexity, but presented for comparison. 2. See Figure 1b.			

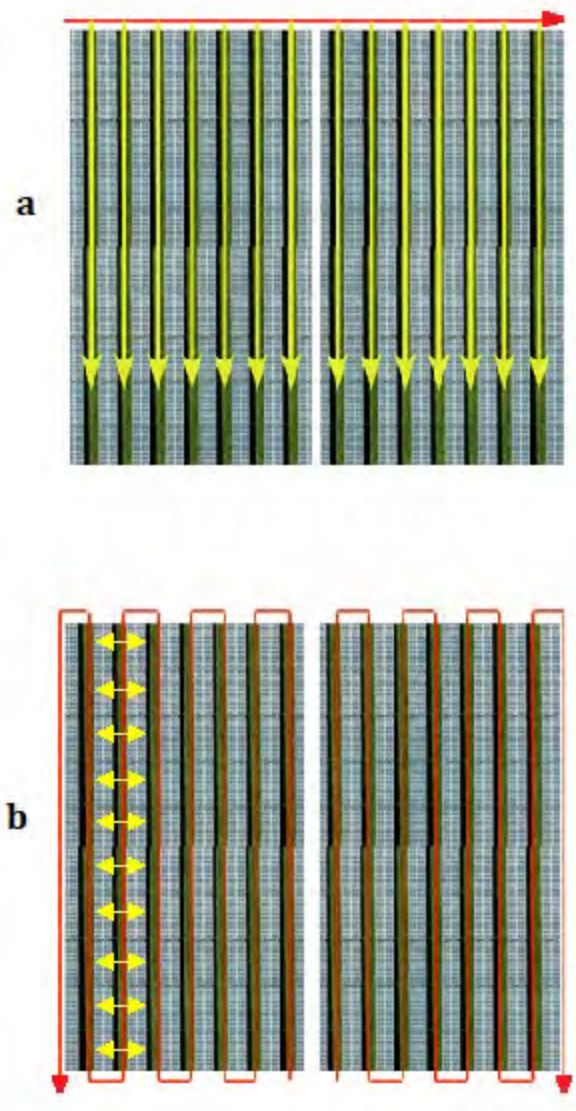

Figure 1. Example of Transect Sampling

(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.

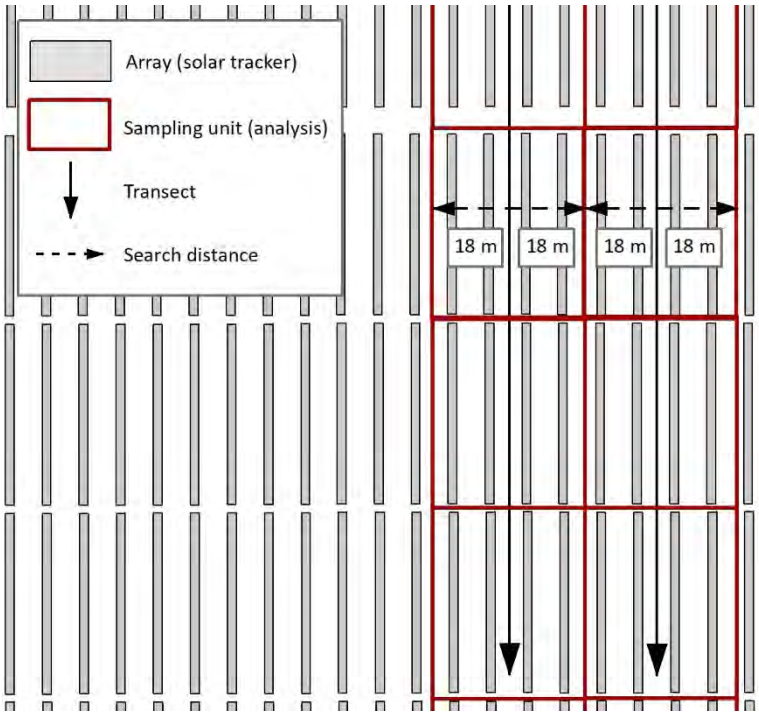

Figure 2. Example of Within-Array Transect Sampling

(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.

Dalthorp, D.H., J. Simonis, L. Madsen, M.M. Huso, P. Rabie, J.M. Mintz, R. Wolpert, J. Studyvin, and F. Korner-Nievergelt. 2018. Generalized Mortality Estimator (GenEst) - R code & GUI: U.S. Geological Survey Software Release. Available online at: https://doi.org/10.5066/P9O9BATL

EFSC (Energy Facility Siting Council). 2020. Site Certificate for the Bakeoven Solar Project. Issued April 24, 2020.

Huso, M., T. Dietsch, and C. Nicolai. 2016a. Mortality Monitoring Design for Utility-Scale Solar Power Facilities. US Geological Survey (USGS) Open-File Report 2016-1087. 44 pp. http://dx.doi.org/10.3133/ofr20161087

Huso, M., D. H. Dalthorp, T. Miller, and D. Bruns. 2016b. Wind Energy Development- Methods for Assessing Post-Construction Bird and Bat Mortality. Human-Wildlife Interactions 10(1): 62-70.

Korner-Nievergelt, F., P. Korner-Nievergelt, O. Behr, I. Niermann, R. Brinkmann, and B. Hellriegel. 2011. A New Method to Determine Bird and Bat Fatality at Wind Energy Turbines from Carcass Searches. Wildlife Biology 17: 350-363.

Smallwood, K. S. 2007. Estimating Wind Turbine-Caused Bird Mortality. Journal of Wildlife Management 71: 2781-2791.

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 G-1: Draft ESCP Drawings and BMPs (Bakeoven Solar Project)

AVANGRID RENEWABLES
BAKEOVEN SOLAR PROJECT
EROSION AND SEDIMENT CONTROL PLAN (ESCP) DRAWINGS

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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.ii(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		
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

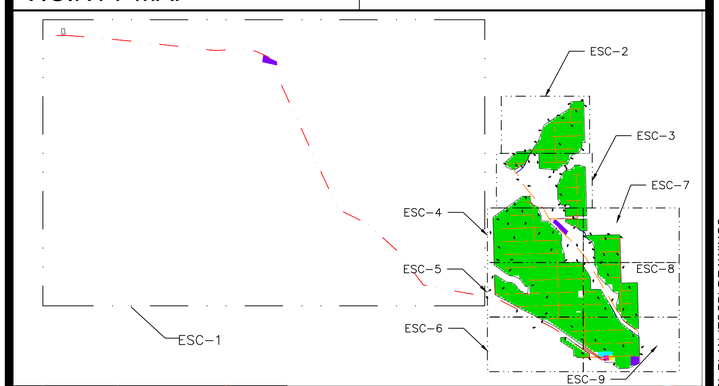
PROJECT DESCRIPTION / NOTES:

AVANGRID RENEWABLES TO CONSTRUCTION AN XXX MEGAWATT SOLAR FACILITY AND ACCOMPANYING SUBSTATIONS AND TRANSMISSION LINE.

ISSUED:

ISSUED FOR EDQ REVIEW

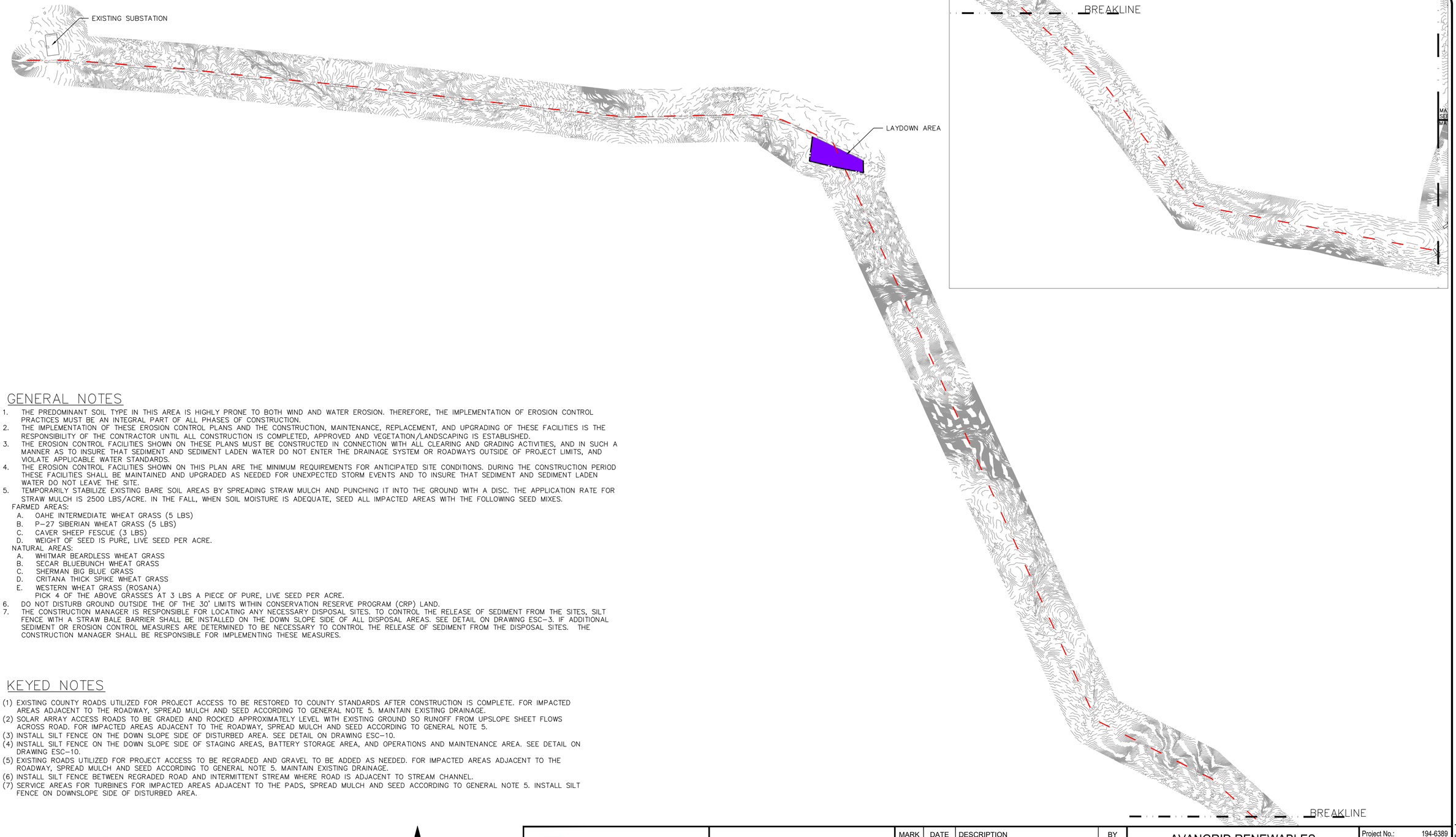
VICINTY MAP



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

EROSION AND SEDIMENT CONTROL PLAN (ESCP) DRAWINGS



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

0 500' 1000' 2000'
SCALE: 1" = 1000'

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MARK	DATE	DESCRIPTION	BY
A	4/7/19	DRAFT	AML

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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Bar Measures 1 inch

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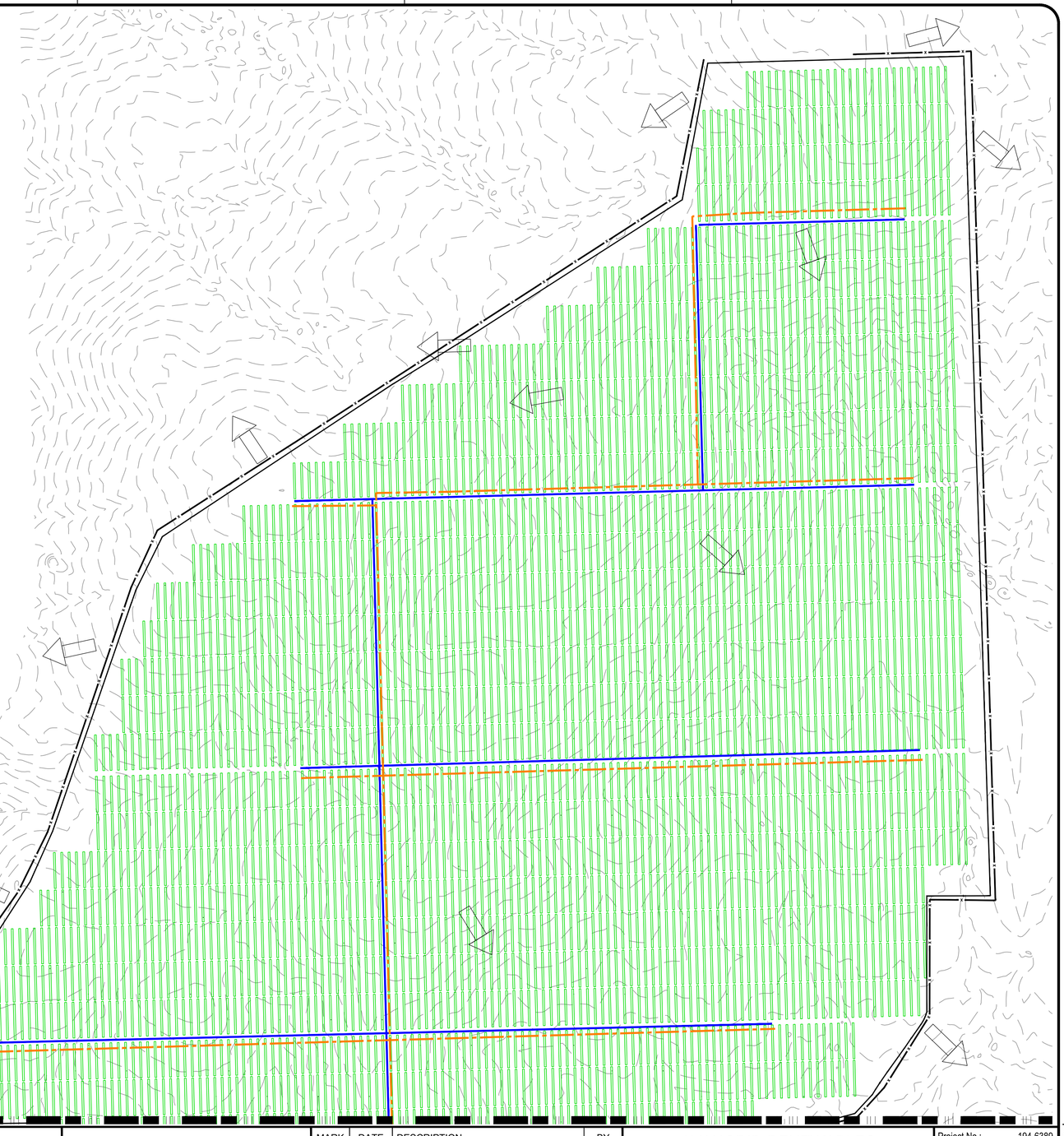
1 2 3 4 5 6

E D C B A

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



MATCHLINE SEE ESC–03

N

0 125' 250' 500'
SCALE: 1" = 250'

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AVANGRID RENEWABLES

BAKEOVEN SOLAR PROJECT

EROSION AND SEDIMENT CONTROL PLAN
AREA 2

Project No.:	194-6389
Designed By:	ENM
Drawn By:	ENM
Checked By:	JPP

ESC-2

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E D C B A

MATCHLINE SEE ESC-02

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

MATCHLINE SEE ESC-04

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

Project No.:	194-6389
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Drawn By:	ENM
Checked By:	JPP

ESC-3

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1 2 3 4 5 6

E D C B A

MATCHLINE SEE ESC-03

MATCHLINE SEE ESC-07

MATCHLINE SEE ESC-05

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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AVANGRID RENEWABLES

BAKEOVEN SOLAR PROJECT

EROSION AND SEDIMENT CONTROL PLAN
AREA 4

Project No.:	194-6389
Designed By:	ENM
Drawn By:	ENM
Checked By:	JPP

ESC-4

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1 2 3 4 5 6

E D C B A

MATCHLINE SEE ESC-04

MATCHLINE SEE ESC-06

MATCHLINE SEE ESC-08

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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AVANGRID RENEWABLES

BAKEOVEN SOLAR PROJECT

EROSION AND SEDIMENT CONTROL PLAN
AREA 5

Project No.:	194-6389
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Checked By:	JPP

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1 2 3 4 5 6

E D C B A

MATCHLINE SEE ESC-05

MATCHLINE SEE ESC-09

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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AVANGRID RENEWABLES

BAKEOVEN SOLAR PROJECT

EROSION AND SEDIMENT CONTROL PLAN
AREA 6

Project No.:	194-6389
Designed By:	ENM
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Checked By:	JPP

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1 2 3 4 5 6

E

D

C

B

A

MATCHLINE SEE ESC-03

MATCHLINE SEE ESC-04

MATCHLINE SEE ESC-08

LEGEND

0 125' 250' 500'

SCALE: 1" = 250'

LEGEND:

- PROJECT BOUNDARY/FENCE
- SILT FENCE
- FLOW DIRECTION
- SOLAR ARRAY
- UNDERGROUND COLLECTION LINE
- ABOVEGROUND COLLECTION LINE
- 230-KV TRANSMISSION LINE
- ACCESS ROAD
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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 PLAN
AREA 7

Project No.:	194-6389
Designed By:	ENM
Drawn By:	ENM
Checked By:	JPP

ESC-7

Copyright: Tetra Tech

Bar Measures 1 inch

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1 2 3 4 5 6

E D C B A

MATCHLINE SEE ESC-07

MATCHLINE SEE ESC-05

MATCHLINE SEE ESC-09

LEGEND

N

0 125' 250' 500'

SCALE: 1" = 250'

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

TETRA TECH
www.tetratech.com
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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 PLAN
AREA 8

Project No.:	194-6389
Designed By:	ENM
Drawn By:	ENM
Checked By:	JPP

ESC-8

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LEGEND

0 125' 250' 500'
SCALE: 1" = 250'

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PHONE: (503) 221-8636 FAX: (503) 267-1287

MARK	DATE	DESCRIPTION	BY
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AVANGRID RENEWABLES

BAKEOVEN SOLAR PROJECT

EROSION AND SEDIMENT CONTROL PLAN
AREA 9

Project No.:	194-6389
Designed By:	ENM
Drawn By:	ENM
Checked By:	JPP

ESC-9

Bar Measures 1 inch

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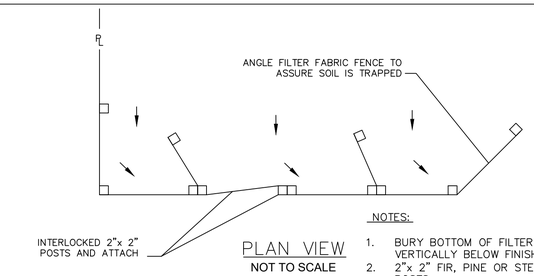
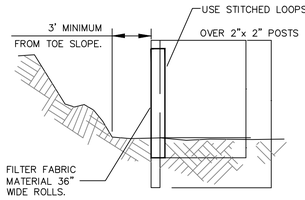


PLAN VIEW
NOT TO SCALE



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

CleanWater 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:

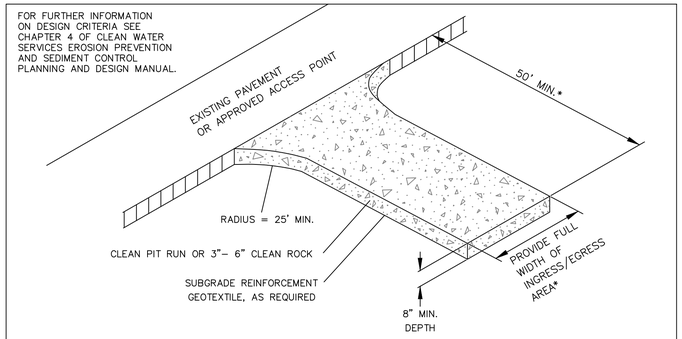
1. FOR MORE INFORMATION REGARDING THESE TABLES SEE CHAPTER 4 TABLES 4-3 AND 4-7 OF CLEAN WATER SERVICES EROSION PREVENTION AND SEDIMENT CONTROL DESIGN MANUAL.

SPACING TABLES

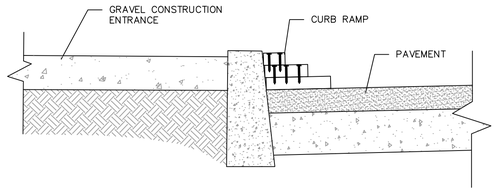
DRAWING NO. 940

CleanWater 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

CleanWater Services

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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

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Bar Measures 1 inch

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Attachment G-2: Draft ESCP Drawings and BMPs (Daybreak Solar Project)

AVANGRID RENEWABLES
DAYBREAK SOLAR PROJECT
EROSION AND SEDIMENT CONTROL PLAN (ESCP) DRAWINGS

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PHONE: (503) 221-8636 FAX: (503) 227-1287
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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.ii(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		
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

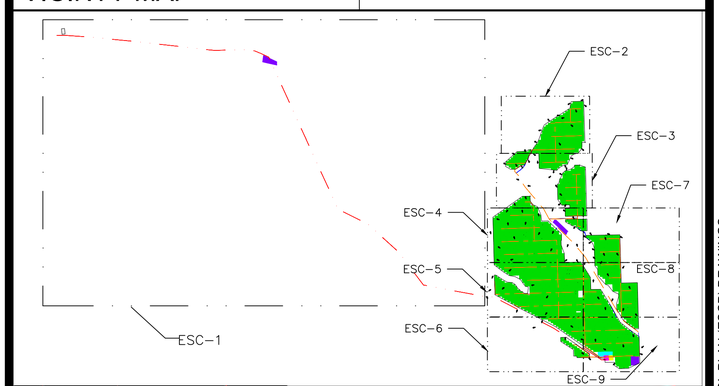
PROJECT DESCRIPTION / NOTES:

AVANGRID RENEWABLES TO CONSTRUCTION AN XXX MEGAWATT SOLAR FACILITY AND ACCOMPANYING SUBSTATIONS AND TRANSMISSION LINE.

ISSUED:

ISSUED FOR EDQ REVIEW

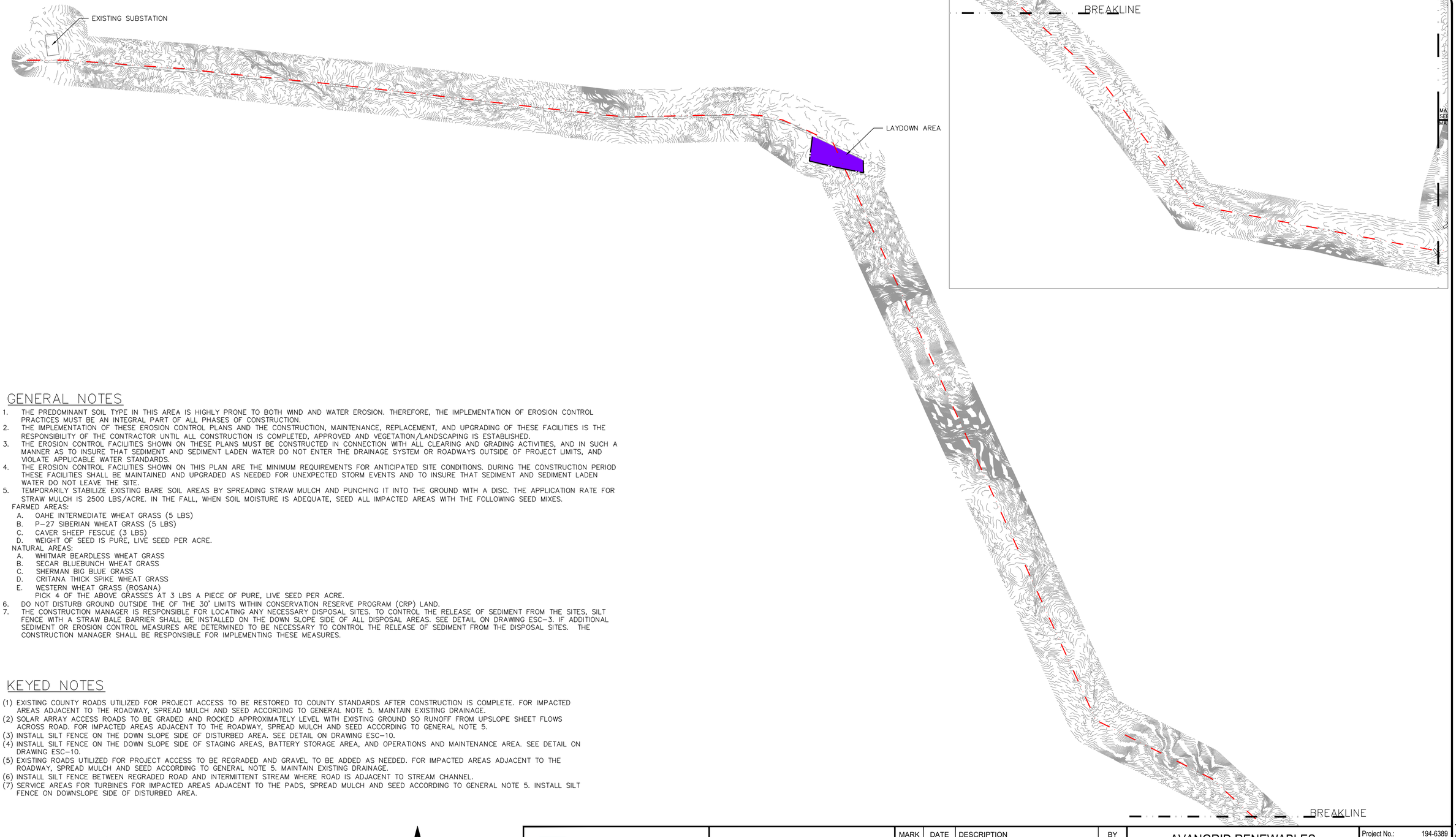
VICINTY MAP



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

EROSION AND SEDIMENT CONTROL PLAN (ESCP) DRAWINGS



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

0 500' 1000' 2000'
SCALE: 1" = 1000'

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MARK	DATE	DESCRIPTION	BY
A	4/7/19	DRAFT	AML

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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Bar Measures 1 inch

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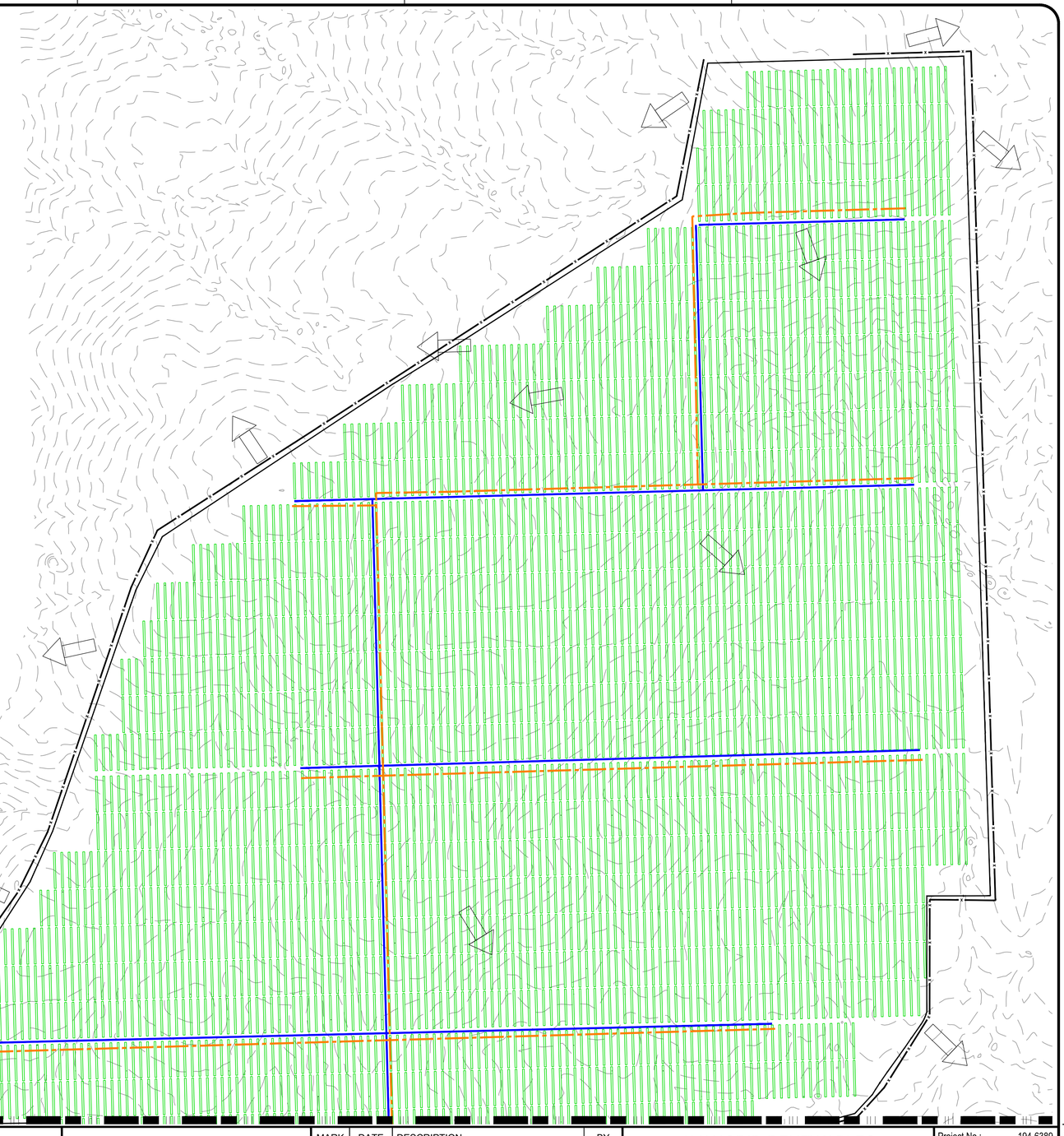
1 2 3 4 5 6

E D C B A

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



MATCHLINE SEE ESC–03

N

0 125' 250' 500'
SCALE: 1" = 250'

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AVANGRID RENEWABLES

BAKEOVEN SOLAR PROJECT

EROSION AND SEDIMENT CONTROL PLAN
AREA 2

Project No.:	194-6389
Designed By:	ENM
Drawn By:	ENM
Checked By:	JPP

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1 2 3 4 5 6

E D C B A

MATCHLINE SEE ESC-02

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

MATCHLINE SEE ESC-04

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

Project No.:	194-6389
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Drawn By:	ENM
Checked By:	JPP

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1 2 3 4 5 6

E D C B A

MATCHLINE SEE ESC-03

MATCHLINE SEE ESC-07

MATCHLINE SEE ESC-05

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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AVANGRID RENEWABLES

BAKEOVEN SOLAR PROJECT

EROSION AND SEDIMENT CONTROL PLAN
AREA 4

Project No.:	194-6389
Designed By:	ENM
Drawn By:	ENM
Checked By:	JPP

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1 2 3 4 5 6

E D C B A

MATCHLINE SEE ESC-04

MATCHLINE SEE ESC-06

MATCHLINE SEE ESC-08

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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AVANGRID RENEWABLES

BAKEOVEN SOLAR PROJECT

EROSION AND SEDIMENT CONTROL PLAN
AREA 5

Project No.:	194-6389
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1 2 3 4 5 6

E D C B A

MATCHLINE SEE ESC-05

MATCHLINE SEE ESC-09

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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BAKEOVEN SOLAR PROJECT

EROSION AND SEDIMENT CONTROL PLAN
AREA 6

Project No.:	194-6389
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1 2 3 4 5 6

E

D

C

B

A

MATCHLINE SEE ESC-03

MATCHLINE SEE ESC-04

MATCHLINE SEE ESC-08

LEGEND

0 125' 250' 500'

SCALE: 1" = 250'

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

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BAKEOVEN SOLAR PROJECT

EROSION AND SEDIMENT CONTROL PLAN
AREA 7

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1 2 3 4 5 6

E D C B A

MATCHLINE SEE ESC-07

MATCHLINE SEE ESC-05

MATCHLINE SEE ESC-09

LEGEND

N

0 125' 250' 500'

SCALE: 1" = 250'

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

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AVANGRID RENEWABLES

BAKEOVEN SOLAR PROJECT

EROSION AND SEDIMENT CONTROL PLAN
AREA 8

Project No.:	194-6389
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LEGEND

0 125' 250' 500'
SCALE: 1" = 250'

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AVANGRID RENEWABLES

BAKEOVEN SOLAR PROJECT

EROSION AND SEDIMENT CONTROL PLAN
AREA 9

Project No.:	194-6389
Designed By:	ENM
Drawn By:	ENM
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ESC-9

Bar Measures 1 inch

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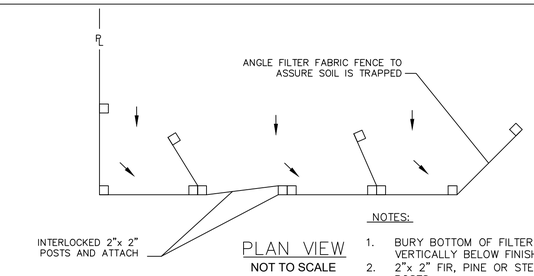
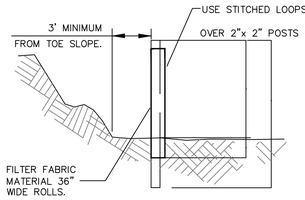


PLAN VIEW
NOT TO SCALE



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

CleanWater 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:

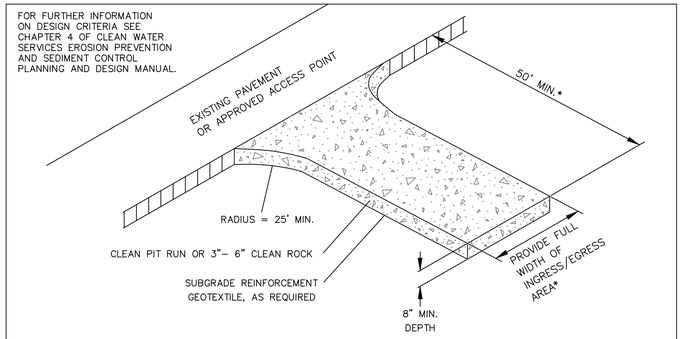
1. FOR MORE INFORMATION REGARDING THESE TABLES SEE CHAPTER 4 TABLES 4-3 AND 4-7 OF CLEAN WATER SERVICES EROSION PREVENTION AND SEDIMENT CONTROL DESIGN MANUAL.

SPACING TABLES

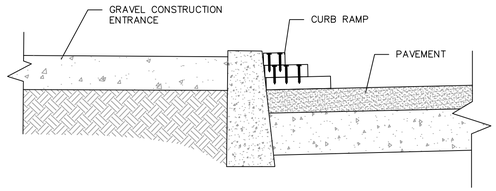
DRAWING NO. 940

CleanWater 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

CleanWater Services

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MARK	DATE	DESCRIPTION	BY
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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

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Attachment G-3: Draft ESCP Drawings and BMPs (Sunset Solar Project)

AVANGRID RENEWABLES
SUNSET SOLAR PROJECT
EROSION AND SEDIMENT CONTROL PLAN (ESCP) DRAWINGS

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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.ii(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		
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

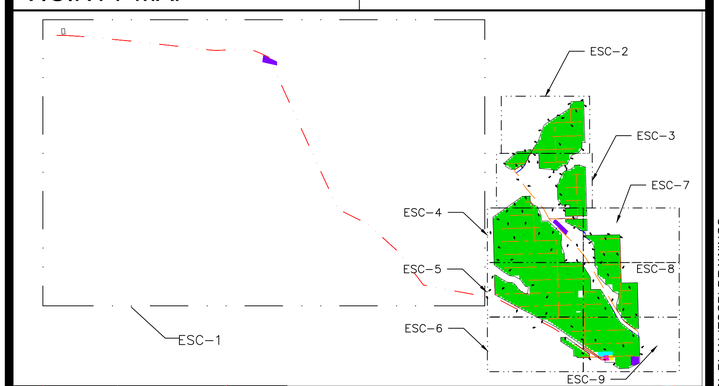
PROJECT DESCRIPTION / NOTES:

AVANGRID RENEWABLES TO CONSTRUCTION AN XXX MEGAWATT SOLAR FACILITY AND ACCOMPANYING SUBSTATIONS AND TRANSMISSION LINE.

ISSUED:

ISSUED FOR EDQ REVIEW

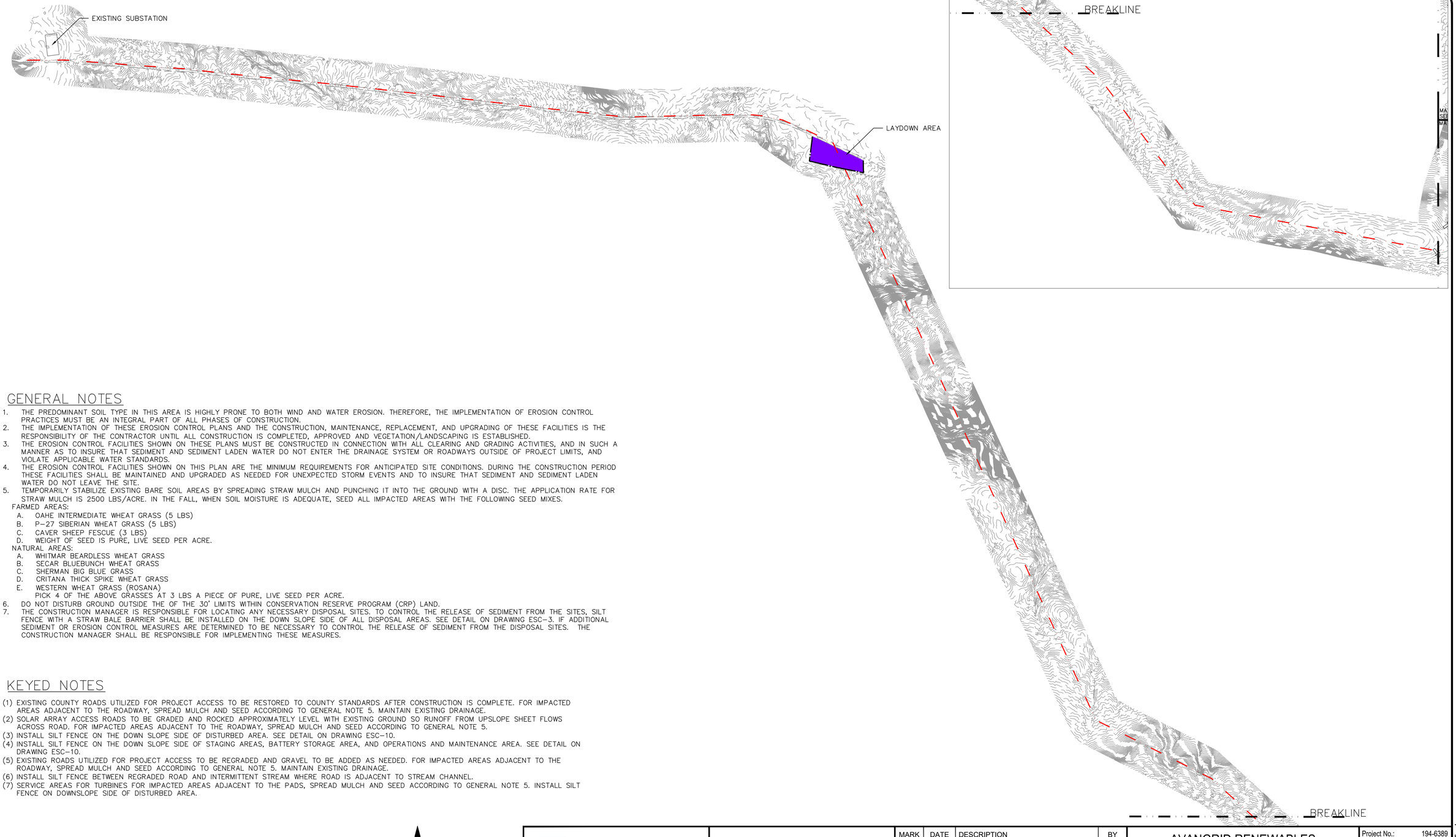
VICINTY MAP



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

EROSION AND SEDIMENT CONTROL PLAN (ESCP) DRAWINGS



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

0 500' 1000' 2000'
SCALE: 1" = 1000'

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www.tetratech.com
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PORTLAND, OREGON, 97201
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MARK	DATE	DESCRIPTION	BY
A	4/7/19	DRAFT	AML

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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Bar Measures 1 inch

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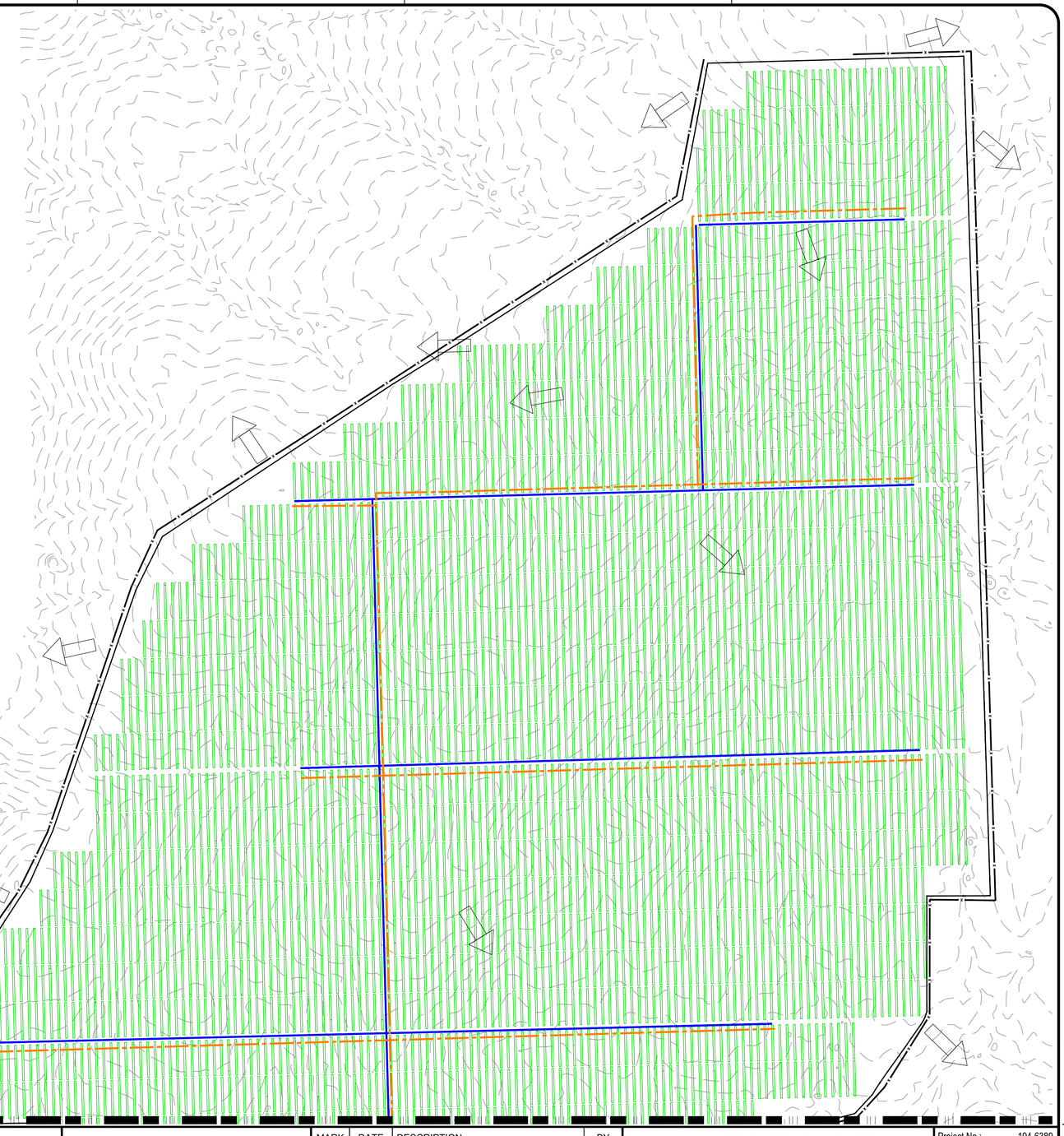
1 2 3 4 5 6

E D C B A

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



MATCHLINE SEE ESC–03

N

0 125' 250' 500'
SCALE: 1" = 250'

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AVANGRID RENEWABLES

BAKEOVEN SOLAR PROJECT

EROSION AND SEDIMENT CONTROL PLAN
AREA 2

Project No.:	194-6389
Designed By:	ENM
Drawn By:	ENM
Checked By:	JPP

ESC-2

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1 2 3 4 5 6

E D C B A

MATCHLINE SEE ESC-02

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

MATCHLINE SEE ESC-04

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

Project No.:	194-6389
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Drawn By:	ENM
Checked By:	JPP

ESC-3

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E D C B A

MATCHLINE SEE ESC-03

MATCHLINE SEE ESC-07

MATCHLINE SEE ESC-05

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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A	4/7/19	DRAFT	AML

AVANGRID RENEWABLES

BAKEOVEN SOLAR PROJECT

EROSION AND SEDIMENT CONTROL PLAN
AREA 4

Project No.:	194-6389
Designed By:	ENM
Drawn By:	ENM
Checked By:	JPP

ESC-4

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1 2 3 4 5 6

E D C B A

MATCHLINE SEE ESC-04

MATCHLINE SEE ESC-06

MATCHLINE SEE ESC-08

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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AVANGRID RENEWABLES

BAKEOVEN SOLAR PROJECT

EROSION AND SEDIMENT CONTROL PLAN
AREA 5

Project No.:	194-6389
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Checked By:	JPP

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1 2 3 4 5 6

E D C B A

MATCHLINE SEE ESC-05

MATCHLINE SEE ESC-09

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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PHONE: (503) 221-8636 FAX: (503) 267-1287

MARK	DATE	DESCRIPTION	BY
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AVANGRID RENEWABLES

BAKEOVEN SOLAR PROJECT

EROSION AND SEDIMENT CONTROL PLAN
AREA 6

Project No.:	194-6389
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Drawn By:	ENM
Checked By:	JPP

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1 2 3 4 5 6

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D

C

B

A

MATCHLINE SEE ESC-03

MATCHLINE SEE ESC-04

MATCHLINE SEE ESC-08

LEGEND

0 125' 250' 500'

SCALE: 1" = 250'

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

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 PLAN
AREA 7

Project No.:	194-6389
Designed By:	ENM
Drawn By:	ENM
Checked By:	JPP

ESC-7

Copyright: Tetra Tech

Bar Measures 1 inch

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1 2 3 4 5 6

E D C B A

MATCHLINE SEE ESC-07

MATCHLINE SEE ESC-05

MATCHLINE SEE ESC-09

LEGEND

N

0 125' 250' 500'

SCALE: 1" = 250'

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

TETRA TECH
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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 PLAN
AREA 8

Project No.:	194-6389
Designed By:	ENM
Drawn By:	ENM
Checked By:	JPP

ESC-8

Copyright: Tetra Tech

Bar Measures 1 inch

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LEGEND

0 125' 250' 500'
SCALE: 1" = 250'

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 PLAN
AREA 9

Project No.:	194-6389
Designed By:	ENM
Drawn By:	ENM
Checked By:	JPP

ESC-9

Bar Measures 1 inch

Copyright: Tetra Tech

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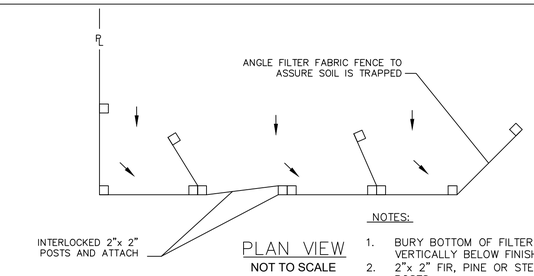
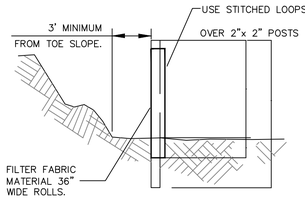


PLAN VIEW
NOT TO SCALE



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

CleanWater 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:

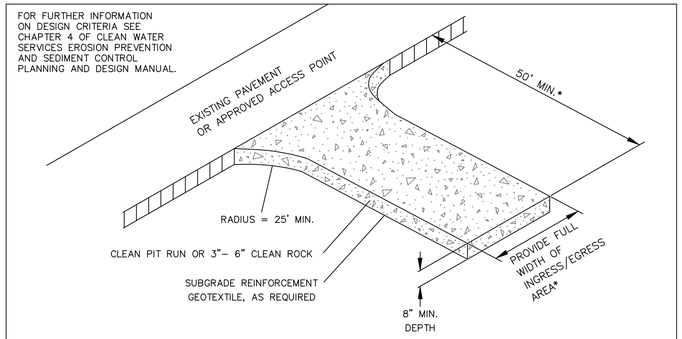
1. FOR MORE INFORMATION REGARDING THESE TABLES SEE CHAPTER 4 TABLES 4-3 AND 4-7 OF CLEAN WATER SERVICES EROSION PREVENTION AND SEDIMENT CONTROL DESIGN MANUAL.

SPACING TABLES

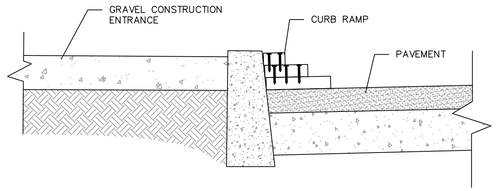
DRAWING NO. 940

CleanWater 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

CleanWater Services

TETRA TECH
www.tetratech.com
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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

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Bar Measures 1 inch

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Attachment H-1 Draft Amended Inadvertent Discovery Plan (Bakeoven Solar Project)

Draft Amended Inadvertent Discovery Plan for Cultural Resources

Bakeoven Energy Project, Wasco County, Oregon

Bakeoven Wind, LLC (~~Applicant~~Certificate Holder), a subsidiary of Avangrid Renewables, LLC (Avangrid), is constructing the Bakeoven ~~Energy~~Solar Project (Project) in southern Wasco County, near Shaniko, Oregon. The Project will be a solar energy generation facility, with a maximum generating capacity of ~~103~~ 60 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 Project received a site certificate from the Oregon Energy Facility Siting ~~Commission~~Council on April 24, 2020.

This 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:

1. 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. For archaeological sites, a 30-meter buffer should be placed around the discovery; a 5-meter buffer around isolated finds, and a 60-meter buffer around human remains. Buffers may be marked with pin flags, wooden stakes with flagging tape, or other available markers. Work may proceed outside of this buffered area unless additional cultural materials are encountered.
2. The area will be secured and protected.
3. The Applicant's project manager or consultant for the Applicant will be notified. The project manager will notify the State Historic Preservation Office (SHPO) and Oregon Department of Energy (ODOE). If possible human remains are encountered, the Oregon State Police, the Oregon Legislative Commission on Indian Services (LCIS), SHPO, and, if determined to be Native American, appropriate Tribes will also be notified.

Role	Name	Contact Information
Construction Manager	Ian Eppley, Avangrid Renewables	Phone: (864) 630-1650 Email: Ian.Eppley@avangrid.com
Project Archaeologist	Brady Berger, Tetra Tech	Phone: (971) 322-7897 Email: Brady.Berger@tetratech.com
Project Managers	Mark Croissant, Avangrid Renewables	Phone: (503) 964-1713 Email: Mark.Croissant@avangrid.com
	Stephen Tenn, Atwell (SCS)	Phone: (720) 626-1895 Email: stenn@scsbuild.com
	Scott Anderson, White Constructions	Phone: (312) 813-6168

Role	Name	Contact Information
Confederated Tribes of the Warm Springs Reservation of Oregon (CTWSRO)	Roberta Kirk, Assistant THPO Christian Nauer, Archaeologist	Phone: (541) 553-3555 Email: Roberta.kirk@ctwsbnr.org Phone: (541) 553-2026 Email: christian.nauer@ctwsbnr.org
Oregon State Police Contact	Chris Allori	Phone: (503) 731-4717 Cell: (503) 708-6461 Dispatch: (503) 731-3030
Oregon Legislative Commission on Indian Services	Danny Santos, Interim Director	Phone: (503) 986-1067 Email: LCIS@oregonlegislature.gov
SHPO	John Pouley, State Archaeologist	Phone: (503) 480-9164 Email: john.pouley@oregon.gov
ODOE	Sarah Esterson, Senior Policy Advisor	Phone: (503) 373-7945 Email: sarah.esterson@oregon.gov

4. No work may resume until consultation with the SHPO, ODOE, and, for Native American-related resources, Tribes has occurred and a professional archaeologist is able to assess the discovery.
5. 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.
6. A professional archaeologist may be needed to assess the discovery and, for archaeological sites, they will consult with SHPO, ODOE, and, for Native American-related resources, appropriate Tribal Governments to determine an appropriate course of action.
7. 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, ODOE, and, for Native American-related sites, 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, ODOE, and, for Native American-related sites, Tribes.
    - When confirmed isolated finds are discovered and there is no potential for additional archaeological materials to be present, as determined by the professional archaeologist, construction may recommence once SHPO and ODOE have been notified *and* the find is documented on an isolate form and submitted to SHPO. Isolated finds are defined as 9 artifacts or fewer with no more than 30 meters between each artifact.
    - When archaeological sites are discovered, as determined by the professional archaeologist, construction may only recommence following consultations under Step 6 above with SHPO, ODOE, and, for Native American-related sites, Tribes, and any treatments have been completed. Archaeological sites are defined as 10 artifacts or more with no more than 30 meters between each artifact, or a single feature.
- 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 consulted agencies and Tribes, as appropriate, the Project Manager will verify these identified areas and be sure that the areas are clearly demarcated in the field, as needed.

Attachment H-2 Draft Inadvertent Discovery Plan (Daybreak Solar Project)

Draft Inadvertent Discovery Plan for Cultural Resources

~~Bakeoven Energy Project~~ Daybreak Solar Project, Wasco County, Oregon

~~Bakeoven Wind~~ Daybreak Solar, LLC (Applicant), a subsidiary of Avangrid Renewables, LLC (Avangrid), is constructing the ~~Bakeoven Energy~~ Daybreak Solar Project (Project) in southern Wasco County, near Shaniko, Oregon. The Project will be a solar energy generation facility, with a maximum generating capacity of ~~103~~ 140 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 Project received a site certificate from the Oregon Energy Facility Siting Commissionon April 24, 2020.~~

This 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:

1. 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. For archaeological sites, a 30-meter buffer should be placed around the discovery; a 5-meter buffer around isolated finds, and a 60-meter buffer around human remains. Buffers may be marked with pin flags, wooden stakes with flagging tape, or other available markers. Work may proceed outside of this buffered area unless additional cultural materials are encountered.
2. The area will be secured and protected.
3. The Applicant's project manager or consultant for the Applicant will be notified. The project manager will notify the State Historic Preservation Office (SHPO) and Oregon Department of Energy (ODOE). If possible human remains are encountered, the Oregon State Police, the Oregon Legislative Commission on Indian Services (LCIS), SHPO, and, if determined to be Native American, appropriate Tribes will also be notified.

Role	Name	Contact Information
Construction Manager	Ian Eppley, Avangrid Renewables	Phone: (864) 630-1650 Email: Ian.Eppley@avangrid.com
Project Archaeologist	Brady Berger, Tetra Tech	Phone: (971) 322-7897 Email: Brady.Berger@tetratech.com
Project Managers	Mark Croissant, Avangrid Renewables	Phone: (503) 964-1713 Email: Mark.Croissant@avangrid.com
	Stephen Tenn, Atwell (SCS)	Phone: (720) 626-1895 Email: stenn@scsbuild.com
	Scott Anderson, White Constructions	Phone: (312) 813-6168

Role	Name	Contact Information
Confederated Tribes of the Warm Springs Reservation of Oregon (CTWSRO)	Roberta Kirk, Assistant THPO Christian Nauer, Archaeologist	Phone: (541) 553-3555 Email: Roberta.kirk@ctwsbnr.org Phone: (541) 553-2026 Email: christian.nauer@ctwsbnr.org
Oregon State Police Contact	Chris Allori	Phone: (503) 731-4717 Cell: (503) 708-6461 Dispatch: (503) 731-3030
Oregon Legislative Commission on Indian Services	Danny Santos, Interim Director	Phone: (503) 986-1067 Email: LCIS@oregonlegislature.gov
SHPO	John Pouley, State Archaeologist	Phone: (503) 480-9164 Email: john.pouley@oregon.gov
ODOE	Sarah Esterson, Senior Policy Advisor	Phone: (503) 373-7945 Email: sarah.esterson@oregon.gov

4. No work may resume until consultation with the SHPO, ODOE, and, for Native American-related resources, Tribes has occurred and a professional archaeologist is able to assess the discovery.
5. 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.
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Native American artifacts may include (but are not limited to):

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- 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.);
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Draft Inadvertent Discovery Plan for Cultural Resources

~~Bakeoven Energy Project~~ Daybreak Solar Project, Wasco County, Oregon

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	Scott Anderson, White Constructions	Phone: (312) 813-6168

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- 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);
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- Construction can proceed only after the proper archaeological inspections have occurred and environmental clearances are obtained. This requires close coordination with SHPO, ODOE, and, for Native American-related sites, Tribes.
    - When confirmed isolated finds are discovered and there is no potential for additional archaeological materials to be present, as determined by the professional archaeologist, construction may recommence once SHPO and ODOE have been notified *and* the find is documented on an isolate form and submitted to SHPO. Isolated finds are defined as 9 artifacts or fewer with no more than 30 meters between each artifact.
    - When archaeological sites are discovered, as determined by the professional archaeologist, construction may only recommence following consultations under Step 6 above with SHPO, ODOE, and, for Native American-related sites, Tribes, and any treatments have been completed. Archaeological sites are defined as 10 artifacts or more with no more than 30 meters between each artifact, or a single feature.
- 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 consulted agencies and Tribes, as appropriate, the Project Manager will verify these identified areas and be sure that the areas are clearly demarcated in the field, as needed.

Attachment H-3 Draft Inadvertent Discovery Plan (Sunset Solar Project)

Inadvertent Discovery Plan for Cultural Resources

~~Bakeoven Energy Project~~ Sunset Solar Project, Wasco County, Oregon

~~Bakeoven Wind~~ Sunset Solar, LLC (Applicant), a subsidiary of Avangrid Renewables, LLC (Avangrid), is constructing the ~~Bakeoven Energy~~ Sunset Solar Project (Project) in southern Wasco County, near Shaniko, Oregon. The Project will be a solar 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 Project received a site certificate from the Oregon Energy Facility Siting Commission on April 24, 2020.~~

This 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:

1. 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. For archaeological sites, a 30-meter buffer should be placed around the discovery; a 5-meter buffer around isolated finds, and a 60-meter buffer around human remains. Buffers may be marked with pin flags, wooden stakes with flagging tape, or other available markers. Work may proceed outside of this buffered area unless additional cultural materials are encountered.
2. The area will be secured and protected.
3. The Applicant's project manager or consultant for the Applicant will be notified. The project manager will notify the State Historic Preservation Office (SHPO) and Oregon Department of Energy (ODOE). If possible human remains are encountered, the Oregon State Police, the Oregon Legislative Commission on Indian Services (LCIS), SHPO, and, if determined to be Native American, appropriate Tribes will also be notified.

Role	Name	Contact Information
Construction Manager	Ian Eppley, Avangrid Renewables	Phone: (864) 630-1650 Email: Ian.Eppley@avangrid.com
Project Archaeologist	Brady Berger, Tetra Tech	Phone: (971) 322-7897 Email: Brady.Berger@tetratech.com
Project Managers	Mark Croissant, Avangrid Renewables	Phone: (503) 964-1713 Email: Mark.Croissant@avangrid.com
	Stephen Tenn, Atwell (SCS)	Phone: (720) 626-1895 Email: stenn@scsbuild.com
	Scott Anderson, White Constructions	Phone: (312) 813-6168

Role	Name	Contact Information
Confederated Tribes of the Warm Springs Reservation of Oregon (CTWSRO)	Roberta Kirk, Assistant THPO Christian Nauer, Archaeologist	Phone: (541) 553-3555 Email: Roberta.kirk@ctwsbnr.org Phone: (541) 553-2026 Email: christian.nauer@ctwsbnr.org
Oregon State Police Contact	Chris Allori	Phone: (503) 731-4717 Cell: (503) 708-6461 Dispatch: (503) 731-3030
Oregon Legislative Commission on Indian Services	Danny Santos, Interim Director	Phone: (503) 986-1067 Email: LCIS@oregonlegislature.gov
SHPO	John Pouley, State Archaeologist	Phone: (503) 480-9164 Email: john.pouley@oregon.gov
ODOE	Sarah Esterson, Senior Policy Advisor	Phone: (503) 373-7945 Email: sarah.esterson@oregon.gov

4. No work may resume until consultation with the SHPO, ODOE, and, for Native American-related resources, Tribes has occurred and a professional archaeologist is able to assess the discovery.
5. 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.
6. A professional archaeologist may be needed to assess the discovery and, for archaeological sites, they will consult with SHPO, ODOE, and, for Native American-related resources, appropriate Tribal Governments to determine an appropriate course of action.
7. 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, ODOE, and, for Native American-related sites, 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, ODOE, and, for Native American-related sites, Tribes.
    - When confirmed isolated finds are discovered and there is no potential for additional archaeological materials to be present, as determined by the professional archaeologist, construction may recommence once SHPO and ODOE have been notified *and* the find is documented on an isolate form and submitted to SHPO. Isolated finds are defined as 9 artifacts or fewer with no more than 30 meters between each artifact.
    - When archaeological sites are discovered, as determined by the professional archaeologist, construction may only recommence following consultations under Step 6 above with SHPO, ODOE, and, for Native American-related sites, Tribes, and any treatments have been completed. Archaeological sites are defined as 10 artifacts or more with no more than 30 meters between each artifact, or a single feature.
- 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 consulted agencies and Tribes, as appropriate, the Project Manager will verify these identified areas and be sure that the areas are clearly demarcated in the field, as needed.

Attachment I-1: Draft Amended Construction Traffic Management BMPs (Bakeoven Solar Project)

Attachment ~~MI~~-1: Draft Amended Construction Traffic Management ~~Best Management Practices (~~BMPs~~)~~ (Bakeoven Solar Project)

*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 I-2: Draft Construction Traffic Management BMPs (Daybreak Solar Project)

Attachment ~~M~~I-2: Draft Construction Traffic Management Best Management Practices (BMPs) (Daybreak Solar Project)

*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 I-3: Draft Construction Traffic Management BMPs (Sunset Solar Project)

Attachment ~~M~~I-3: Draft Construction Traffic Management Best Management Practices (BMPs) (Sunset Solar Project)

*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 J-1: Draft Amended Operational Fire Protection and Emergency Response Plan (Bakeoven Solar Project)

Draft Amended 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~~ September 202~~0~~1

Contents

1.0 Fire Safety and Prevention Management Objectives 1

2.0 Responsibilities 1

3.0 Inspections 2

4.0 Trainings 2

5.0 Facility Design and Fire Prevention and Response Equipment 2

6.0 Vegetation Management 4

7.0 Coordination with Local Fire Protection Districts 4

8.0 Wasco County Fire Safety Standards Compliance 4

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 Bake~~voo~~ven Solar Project, a ~~303~~60 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

Attachment J-2: Draft Operational Fire Protection and Emergency Response Plan (Daybreak Solar Project)

Draft Operational Fire Protection and Emergency Response Plan (~~Bakeoven~~Daybreak Solar Project)

Prepared by the Oregon Department of Energy based on information provided in the Bakeoven Solar Project ASC

~~January~~ September 202~~0~~1

Contents

1.0 Fire Safety and Prevention Management Objectives 1

2.0 Responsibilities 1

3.0 Inspections 2

4.0 Trainings 2

5.0 Facility Design and Fire Prevention and Response Equipment 2

6.0 Vegetation Management 4

7.0 Coordination with Local Fire Protection Districts 4

8.0 Wasco County Fire Safety Standards Compliance 4

6.0 References 6

1.0 Fire Safety and Prevention Management Objectives

~~Bakeoven~~ Daybreak Solar, LLC (~~certificate holder~~ applicant), a subsidiary of Avangrid Renewables, LLC (Avangrid), ~~obtained~~ requests approval for the construction and operation of the ~~Bakevoen~~Daybreak Solar Project, a ~~303~~140 megawatt solar photovoltaic energy generation facility (facility) in southern Wasco County, near the City of Maupin, Oregon. The facility ~~is~~would be located on private agriculturally zoned lands in aportion 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~~would be located in a high fire hazard area of Wasco County due to the hot and dry climaticconditions 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 riskfactors 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

Attachment J-3: Draft Operational Fire Protection and Emergency Response Plan (Sunset Solar Project)

Draft Operational Fire Protection and Emergency Response Plan
~~Bakeoven~~Sunset Solar Project

Prepared by the Oregon Department of Energy based on information provided in the

Bakeoven Solar Project ASC

~~January~~ September 202~~0~~1

Contents

1.0 Fire Safety and Prevention Management Objectives 1

2.0 Responsibilities 1

3.0 Inspections 2

4.0 Trainings 2

5.0 Facility Design and Fire Prevention and Response Equipment 2

6.0 Vegetation Management 4

7.0 Coordination with Local Fire Protection Districts 4

8.0 Wasco County Fire Safety Standards Compliance 4

6.0 References 6

1.0 Fire Safety and Prevention Management Objectives

~~Bakeoven~~Sunset Solar, LLC (~~certificate holder~~applicant), a subsidiary of Avangrid Renewables, LLC (Avangrid), ~~obtained~~requests approval for the construction and operation of the ~~Bakeoven~~Sunset Solar Project, a ~~3~~103 megawatt solar photovoltaic energy generation facility (facility) in southern Wasco County, near the City of Maupin, Oregon. The facility ~~is~~would be located on private agriculturally zoned lands in aportion 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~~would be located in a high fire hazard area of Wasco County due to the hot and dry climaticconditions 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 riskfactors 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.

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