Preliminary Application for Site Certificate for the Muddy Creek Energy Park

Exhibit D. Land Use

Submitted to the
Oregon Energy Facility Siting Council

Prepared for
Muddy Creek Energy Park, LLC

Prepared by

TETRA TECH

1750 S Harbor Way, Suite 400 | Portland, OR 97201

May 2026

Table of Contents

List of Tables

List of Figures

List of Attachments

Acronyms and Abbreviations

Acronym/Abbreviation	Definition
AFO	Agrivoltaics Farm Operator
AG	Agriculture-Resource designation
AO	Airport Overlay
Applicant	Muddy Creek Energy Park, LLC
ASC	Application for Site Certificate
AVA	American Viticultural Area
BESS	battery energy storage system
CFR	Code for Federal Regulations
EFSC	Oregon Energy Facility Siting Council
EFU	Exclusive Farm Use
ESCP	Erosion and Sediment Control Plan
F/F	Farm/Forest
Facility	Muddy Creek Energy Park
FEMA	Federal Emergency Management Agency
gen-tie	generation-tie
kV	kilovolt
LCC	Linn County Code
LCCP	Linn County Comprehensive Plan
MW	megawatt
NOI	Notice of Intent
NPDES	National Pollutant Discharge Elimination System
NWI	National Wetland Inventory
O&M	operations and maintenance
OAR	Oregon Administrative Rules
ODAV	Oregon Department of Aviation
ODEQ	Oregon Department of Environmental Quality
ODFW	Oregon Department of Fish and Wildlife
ODOE	Oregon Department of Energy
ORS	Oregon Revised Statutes
PV	photovoltaic
RR	Rural Residential
SAG	Special Advisory Group

1.0 Introduction

Muddy Creek Energy Park, LLC (Applicant) seeks to develop the Muddy Creek Energy Park (Facility), consisting of a 150-megawatt (MW) solar energy generation facility, a 150-MW battery energy storage system (BESS) project, and related or supporting facilities on private land in Linn County, Oregon. The Facility's Site Boundary contains 1,590 acres. This Application for Site Certificate (ASC) demonstrates that the proposed Facility will be designed, constructed, and operated consistent with the relevant Oregon Energy Facility Siting Council (EFSC) siting criteria and standards. In addition to meeting the minimum required EFSC criteria, the Applicant proposes to design, construct, and operate the Facility using agrivoltaics. Agrivoltaics co-locates the Facility with active farm operations to retain agricultural production and minimize agricultural impacts within the Facility Site Boundary.

The information contained herein supports the Facility's demonstration of compliance with the Land Use approval standard for Oregon Administrative Rules (OAR) 345-022-0030.

2.0 Description of Land Use

2.1 Analysis Area

In accordance with OAR 345-001-0010(35)(c), the analysis area typically includes the proposed Site Boundary plus the area within one-half mile from the Site Boundary. In the First Amended Project Order for the Facility,[1] the Oregon Department of Energy (ODOE) determined that there will be two analysis areas for land use:

1. The "Land Use Analysis Area" is within and extending 0.5 miles from the Site Boundary.
2. The "Surrounding Lands Analysis Area" uses I-5 as the western boundary, the northern boundary as Bond Butte Drive but not any further than Gap Road, and the eastern and southern boundaries as all lands within EFU-zoned land and extending 2 miles from the Site Boundary (Figure D-1), consistent with the Project Order. The Surrounding Lands Analysis Area will be used for the evaluation of land use impacts on surrounding lands, as described in OAR 660-033-0130(5).

Approximately 6,841 acres are located in the Land Use Analysis Area, while approximately 17,819 acres are located in the Surrounding Lands Analysis Area, which are both inclusive of the Facility Site Boundary. Figure D-2 shows the Linn County land use zones and Linn County Comprehensive Plan (LCCP) designations within the analysis areas. Land within the Site Boundary is zoned Exclusive Farm Use (EFU) and is designated as Agriculture-Resource (AG) in the LCCP (Linn County 2026, Linn County 2025).

[1] First Amended Project Order for Muddy Creek Energy Park, June 10, 2025. 2025-06-10-MCEPNOI-First-Amended-Project-Order.pdf

Land within the Land Use Analysis Area is zoned primarily EFU but small portions of land southwest of the proposed Facility are zoned Rural Residential (RR) and Agribusiness (AB). Land within the Land Use Analysis Area is designated AG, Farm/Forest (F/F), and Rural Residential (RR) in the LCCP (Linn County 2026, Linn County 2025).

Land within the Surrounding Lands Analysis Area is zoned primarily EFU, with a small portion of land in the northwest zoned as Limited Industrial (LI). Land within the Surrounding Lands Analysis Area is primarily designated AG, with portions in the F/F in the LCCP (Linn County 2026, Linn County 2025).

2.2 Facility Overview

The proposed Facility will be a photovoltaic (PV) solar energy generation facility with up to 150 MW of solar generation and 150 MW of BESS. The major components of the proposed Facility are solar modules, tracker systems, posts, and related electrical equipment (i.e., cabling and inverters/Power Conditioning Stations [PCS]). Related or supporting facilities consist of the BESS, collector substation, 34.5-kilovolt (kV) electrical collector lines, a 230-kV generation-tie (gen-tie) transmission line, temporary construction yards, access roads and security infrastructure, and a communication and Supervisory Control and Data Acquisition (SCADA) system. A full description of the Facility, including major components and related or supporting facilities, is provided in detail in the background information exhibit of this Application for Site Certificate (ASC).

As discussed in Section 2.9 of the Background Information Exhibit, the Applicant is requesting micrositing flexibility of the solar arrays and related or supporting facilities. Micrositing flexibility within the Facility Site Boundary provides the Applicant with development flexibility to meet varying market requirements.

The Facility will include an approximately 0.65-mile, 230-kV gen-tie line internal to the Site Boundary that will connect the Facility's substation to PacifiCorp's existing Diamond Hill Substation. The proposed 230-kV gen-tie line is not included in the definition of "photovoltaic solar power generation facility." Instead, it is considered an "associated transmission line" necessary for public service subject to the provisions under LCC 928.320(B)(5), which implements Oregon Revised Statutes (ORS) 215.274 and its implementing regulations under OAR 660-033-0130(16)(b). See Sections 5.3.3, 5.4.1, and 5.3.8 for more information on the Facility's compliance with these provisions.

For purposes of the Goal 3 exception analysis (see Section 4.7), the Applicant is requesting an exception from Goal 3 for up to 835 acres within the Site Boundary. This area includes the total area within the fenced solar arrays (827 acres) plus the permanent footprint of facilities located outside the solar array areas (i.e. the BESS, collector substation, and permanent access roads). Together these components meet the definition of a "photovoltaic solar power generation facility" per OAR 660-033-0130(38)(f). However, final configuration of Facility components within the Site Boundary may change during final design and siting. All temporary disturbance areas, including temporary construction disturbance, laydown yards, and disturbance during installation of underground collector lines, are not included in the Goal 3 exception request area. This layout represents the

maximum impact scenario for purposes of analyzing land use impacts (see Figure 2 in the Background Information Exhibit). More details can be found throughout Section 2.0 of the Background Information Exhibit.

2.3 Overview of Existing Land Uses

For purposes of analyzing the Facility's compliance with applicable substantive criteria and directly applicable state land use regulations, this section identifies the relevant zoning designations, underlying land uses, and soil classifications within the Facility Site Boundary and land use analysis area. Zoning is discussed in Section 4.0. Existing land uses are discussed in this section, while farmland characteristics—including water rights, soil classifications, high-value farmland, and agrivoltaics—are discussed in Section 2.4. There are nine tracts within the Facility Site Boundary. Per OAR 660-033-0020(14), "tract" means one or more contiguous lots or parcels under the same ownership. The nine tracts are mapped in Figure D-3. Compliance with applicable substantive criteria is discussed in Sections 4.2 and 4.3, and compliance with directly applicable state land use regulations is discussed in Section 4.5.

2.3.1 Land Uses

The entire Facility is located within the EFU zone. There are no homes within the Facility Site Boundary. The majority of the land within the Facility Site Boundary and Land Use Analysis Area is used for non-irrigated cultivated crops including grass seed, hay, or pasture crops. The primary agricultural activity within the Facility Site Boundary is grass seed production, specifically annual ryegrass seed and tall fescue seed. Sheep grazing also occurs within the Facility Site Boundary in seasonal rotation with the crop production. Seasonal sheep grazing during the winter is a common practice in and around the Facility Site Boundary. Some small portions of land within the Facility Site Boundary are woody wetlands and developed land. Small portions of land within the Land Use Analysis Area are wetlands, forest, shrub land, and developed land.

The land within the Land Use Analysis Area is privately owned and is zoned primarily EFU, but small portions of land southwest of the proposed Facility are zoned Rural Residential (RR) and Agribusiness (AB). Land within the Land Use Analysis Area is designated AG, Farm/Forest (F/F), and Rural Residential (RR) in the LCCP (Linn County 2026, Linn County 2025).

2.3.2 Cultivated Lands

Most of the land within the Facility Site Boundary and surrounding lands is comprised of cultivated land as can be seen in the aerial photo in Figure D-3. No portion of the Facility Site Boundary has irrigated crops or place-of-use irrigation water rights. Section 2.4.1 provides more information regarding water rights in the Land Use Analysis Area. Exhibit G provides more detail on the surveyed habitats and ground cover within the Facility Site Boundary.

2.3.3 Surrounding Energy Facilities

There are existing transmission lines ranging from under 100 kV to 230 kV that run through the Facility Site Boundary and the western portion of the Land Use Analysis Area (see Background Information Exhibit; Figure D-3). The Facility will connect to the 230-kV PacifiCorp Diamond Hill-McKenzie transmission line via PacifiCorp's existing Diamond Hill Substation. This existing 230-kV PacifiCorp Diamond Hill-McKenzie transmission line runs north-south through the Site Boundary and connects to the regional electrical grid. The two other existing transmission lines connect the substations west of I-5 to the Diamond Hill Substation. There is also an existing petroleum product pipeline that runs generally north-south through this area and slightly east of the existing 230-kV PacifiCorp Diamond Hill-McKenzie transmission line.

2.4 Farmland Characteristics

2.4.1 Existing Irrigation Water Rights

In a review of the Oregon Water Resources Department Water Rights Mapping Tool, no place-of-use water rights nor irrigation district boundaries are located within the Facility Site Boundary (Figure D-4; OWRD 2026). There are six irrigation place-of use-water rights that are outside the Site Boundary but completely or partially within the Land Use Analysis Area: Certificates 80360, 98240, 98239, 93955, 96196, and 56777 (Figure D-4; OWRD 2026). Neither the Facility Site Boundary nor the Land Use Analysis Area are located within a designated groundwater management area (SWVGWMA 2004).

2.4.2 Soil Classifications

Soil classifications are provided by the Natural Resources Conservation Service (NRCS) in collaboration with the U.S. Department of Agriculture (USDA). The Web Soil Survey is an online resource that provides soil data for the Facility Site Boundary and the Land Use Analysis Area (see Figure D-5; NRCS 2026).

The NRCS database includes the physical and chemical properties of the soils in the Land Use Analysis Area and the soil map unit distribution. The NRCS assigns land capability classifications to each soil unit to show, in a general way, the suitability of soils for most kinds of field crops. Soils are grouped according to their limitations for field crops, the risk of damage if they are used for crops, and the way they respond to management (NRCS 2026). Soil classifications can depend on whether the soils are irrigated; however, as described in Section 2.4.1 above, there are no place-of-use irrigation water rights within the Site Boundary (see Figure D-4).

The NRCS provides the following descriptions for each soil class associated with the soils in the analysis area (NRCS 2026):

- Class I soils have few limitations that restrict their use.

- Class II soils have moderate limitations that reduce the choice of plants or that require moderate conservation practices.
- Class III soils have severe limitations that reduce the choice of plants or that require special conservation practices, or both.
- Class IV soils have very severe limitations that reduce the choice of plants or that require very careful management, or both.
- Class VI soils have severe limitations that make them generally unsuitable for cultivation and that restrict their use mainly to pasture, rangeland, forestland, or wildlife habitat.
- Class VII soils have very severe limitations that make them unsuitable for cultivation and that restrict their use mainly to grazing, forestland, or wildlife habitat.

In addition to the irrigated and non-irrigated soil capability classifications, the NRCS assigns farmland classifications to map units as prime farmland, prime farmland if irrigated, farmland of statewide importance, farmland of local importance, or unique farmland. Farmland classifications identify the location and extent of the soils that are best suited to food, feed, fiber, forage, and oilseed crops (NRCS 2026). Soils in the Site Boundary are classified by the NRCS as either all areas are prime farmland, prime farmland if drained, farmland of statewide importance, or not prime farmland (see Table D-1).

Of the approximately 1,590 acres of the Facility Site Boundary, 317 acres (20 percent) are considered *prime farmland* (prime farmland consists of both non-irrigated Class I and Class II soils). There are also 63 acres of *prime farmland if drained* in the Site Boundary. However, there is no indication these soils have been drained within the Site Boundary and are therefore not considered prime farmland. These soil classifications are used to inform the High-Value Farmland and Arable Lands Analysis in Section 2.4.3 below.

Table D-1. Soil Classifications in Site Boundary

Soil Type ID/Soil Unit	NRCS Farmland Classification	Non-Irrigated Soil Capability Class	Non-Irrigated Soil Capability Sub Class[3]	Acres within Site Boundary
2205A / Conser silty clay loam, 0 to 3 percent slopes	Farmland of statewide importance	III	w	13
2212A / Awbrig silty clay loam, 0 to 2 percent slopes	Farmland of statewide importance	IV	w	66
22C / Chehulpum silt loam, 3 to 12 percent slopes	Not prime farmland	VI	e	40
26 / Coburg silty clay loam	All areas are prime farmland	II	w	269
33 / Dayton silt loam	Farmland of statewide importance	IV	w	354
43B / Hazelair silty clay loam, 2 to 7 percent slopes	Farmland of statewide importance	III	e	3
46 / Holcomb silt loam	Prime farmland if drained	III	w	16
63 / Malabon silty clay loam	All areas are prime farmland	I	(blank)	34
77A / Pengra silt loam, 1 to 4 percent slopes	Prime farmland if drained	III	w	48
8 / Bashaw silty clay	Farmland of statewide importance	IV	w	684
80 / Pits	Not prime farmland	VIII	(blank)	29
87 / Salem gravelly silt loam	All areas are prime farmland	II	s	13
98 / Waldo silty clay loam	Farmland of statewide importance	III	w	19
Totals			**Total acres in Site Boundary**	**1,590**
			Arable soils[1] (excluding High Value/Class I through IV soils per ORS 215.710(1) and (3))	**22**
			Non-arable soils[2] (Class V and higher)	**70**

1. Per OAR 660-033-0130(38)(b), "'arable soils' means soils that are suitable for cultivation as determined by the governing body or its designate based on substantial evidence in the record of a local land use application, but 'arable soils' does not include high-value farmland soils described at ORS 195.300(10) unless otherwise stated."

2. Per the USDA Soil Conservation Service, NRCS Class I through IV soils are considered suitable for cultivation or arable soils, while Class V and higher are considered non-arable soils (Helms 1992).

3. ORS 215.710(3) uses Soil Capability Subclassifications in addition to Soil Type and Soil Capability Class to identify specific soils that qualify as High-Value Farmland Soils.

2.4.3 High-Value Farmland and Arable Lands Analysis

2.4.3.1 High-Value Farmland

Certain lands within the EFU zone are considered high-value farmland if they meet the definitions under ORS 195.300(10). The applicable provisions of this statute are summarized below:

- ORS 195.300(10)(a) references the definition of high-value farmland provided by ORS 215.710, which for the Willamette Valley includes:
    - Tracts that are predominantly composed of irrigated and classified prime, unique, Class I or Class II, and that are not irrigated and classified prime, unique, Class I or Class II.
    - Tracts that are predominantly composed of certain soils (listed in ORS 215.710(3)(a) through (d)) in Class III or IV.
- ORS 195.300(10)(c) includes land that is in an EFU zone and is within the boundaries of a place-of-use irrigation water right, an irrigation district, or a diking district.
- ORS 195.300(10)(e) includes land that is in an EFU zone within the Willamette Valley American Viticultural Area (AVA) and that is at an elevation between 200 and 1,000 feet above mean sea level, with an aspect between 67.5 and 292.5 degrees and a slope between zero and 15 percent.

Portions of the Site Boundary qualify as high-value farmland under each of the three definitions cited above. Each definition is considered below.

ORS 195.300(10)(a)

In the Willamette Valley, Prime, Unique, Class I and II soils are considered high-value farmland whether or not they are irrigated. A predominance test per tract is provided in Table D-2 below. Based on the results of the predominance test, in each tract more than 50 percent of the total tract area has Class I, II, III, and IV, Prime, and Unique soils and therefore all nine tracts meet the definition of high-value farmland under ORS 195.300(10)(a) and ORS 215.710.

Table D-2. High-Value Farmland Predominance Per Tract

Tract	Owner	Total Tract Acreage	Acreage of High-Value Farmland Soils			Meets Definition of High-Value Farmland (Y/N)
			NRCS Soils Class I, II, Prime, or Unique (Per ORS 215.710(1))[1]	NRCS Soils Class III and IV (Per ORS 215.710(3))[1]	Percent of Tract Area	
1	MIDNIGHT SUN INC IV	241	0	169	70%	Y
2	GILBERT PEGGY A	202	22	180	100%	Y
3	LANGDON & SONS INC ET AL	517	9	471	93%	Y
4	LANGDON PROPERTY LLC	152	4	137	92%	Y
5	MIDNIGHT SUN INC IV	104	12	93	100%	Y
6	DC JONES ENTERPRISES LLC	233	72	161	100%	Y
7	MIDNIGHT SUN INC IV	522	217	257	91%	Y
8	CRABTREE REVOCABLE TRUST	301	66	207	91%	Y
9	PACIFIC POWER & LIGHT CO	8	4	3	93%	Y

1. ORS 215.710(1) and (3) are the same as OAR 660-033-0020(8)(a) and (c), respectively.

ORS 195.300(10)(c)

There are no irrigation district or diking district boundaries or place-of-use irrigation water rights within the Facility Site Boundary (see Figure D-4, OWRD 2026).

ORS 195.300(10)(e)

The entire site is located within the Willamette Valley AVA. Approximately 650 acres (41 percent) of land within the Site Boundary and 383 acres within the permanent impact area qualify as high-value farmland based on being in the Willamette Valley AVA and meeting the elevation, slope, and aspect criteria under ORS 195.300(10)(e).

Total High-Value Farmland in Site Boundary

As described above and as shown in Figure D-6, each tract is predominantly composed of high-value farmland as defined by ORS 195.300(10)(a) and ORS 215.710. Table D-3 provides a breakdown by acreage of the applicable ORS 195.300(10) classifications within the Facility Site Boundary and the permanent impact area.

Table D-3. High-Value Farmland in the Facility Site Boundary and Permanent Impact Area

Land Type	Facility Site Boundary		Permanent Impact Area[1]	
	Acres	Percent of Facility Site Boundary	Acres	Percent of Area
High-value farmland per ORS 195.300(10)(a) (i.e. Class I or II soils)	1,590	100%	835	100%
High-value farmland per ORS 195.300(10)(c)(A) (i.e. within place-of-use irrigation water right or irrigation district)	0	0%	0	0%
High-value farmland per ORS 195.300(10)(e) (i.e. within AVA and meets slope, elevation, aspect criteria)	650	41%	383	46%
Subtotal of ORS 195.300(10)(a), (c) and (f)				
High-value farmland (merged all 3 HVFs)[2]	**1,590**	**100%**	**835**	**100%**

1. The permanent impact area is considered permanently disturbed and includes all PV solar power generation facility components excluding temporary features such as laydown areas (see Section 2.2).

2. High-value farmland designations per ORS 195.300(10)(a), (c), and (e)

2.4.3.2 Arable Lands

Per OAR 660-033-0130(38)(a), "'arable land' means land in a tract that is predominantly cultivated or, if not currently cultivated, predominantly comprised of arable soils." "Arable soils" as defined by OAR 660-330-0130(38)(b) as "soils that are suitable for cultivation as determined by the governing body or its designate based on substantial evidence in the record of a local land use application, but 'arable soils' does not include high-value farmland soils described at ORS 195.300(10) unless otherwise stated." Per the USDA Soil Conservation Service, NRCS Class I through IV soils are considered suitable for cultivation or arable soils while Class V and higher are considered non-arable soils (Helms 1992). The definition of arable soils per OAR 660-033-0130(38)(b) excludes high-value farmland soils. Since each of the tracts involved in the Facility are composed of high-value farmland, the predominance test for arable lands relevant to solar facilities includes only NRCS Class III and IV soils not considered High Value Soils under ORS 215.710(3). Figure D-7 shows arable and non-arable soils within the Facility Site Boundary. Although none of the tracts in the Site Boundary have predominantly arable soils, all the tracts are predominantly cultivated. Therefore, all tracts in the Site Boundary meet the arable land definition based on the predominant cultivated lands.

2.4.3.3 Summary of High-Value Farmland and Arable Lands Analysis

The entirety of the Facility Site Boundary is comprised of high-value farmland per ORS 195.300(10)(a) and ORS 215.710 and also consists entirely of arable lands.

Per OAR 660-033-0130(38)(g), a photovoltaic solar power generation facility shall not use, occupy, or cover more than 12 acres of high-value farmland unless certain criteria under OAR 660-033-0130(38)(h) is met, or an exception is taken pursuant to ORS 194.732. As the Site Boundary includes more than 12 acres of high-value farmland as defined under ORS 195.300(10)(c) and (f), a Goal 3 exception is required for Facility development on high-value farmland. See Section 4.7 for a demonstration that a "Reasons" exception is appropriate for the Facility.

2.4.4 Landowner Farmland Characteristics

There are a total of nine tracts with agricultural uses within the Site Boundary that would be partially impacted by the Facility. Landowner farmland characteristics are discussed in Attachment D-1, Draft Agrivoltaics Plan.

2.4.5 Agrivoltaics

Agrivoltaics is the practice of combining solar panels with farming practices, such as growing of crops and sheep grazing. It can create new revenue streams for farmers, shepherds, and landowners; keep farming land in production and within existing farming families; improve crop yield and quality; improve soil quality; and generate renewable energy that helps reduce carbon emissions. Landowners or farmers lease their land to dual-use solar energy producers, who install and maintain solar arrays to generate renewable energy. As natural vegetation grows in the area,

sheep are brought in to graze the land, fertilizing and rejuvenating the soil and reducing the need for chemical spraying.

Historically, utility-scale solar development has occurred in Eastern Oregon, where agrivoltaics opportunities are limited due to the nature of dryland wheat farming and lower water availability for grazing livestock. Accordingly, there have been few opportunities to incorporate large-scale agrivoltaics into utility-scale solar project design. This Project will accomplish this. It has been specifically designed to facilitate agrivoltaics in multiple agricultural practices, from construction through operation and decommissioning.

2.4.5.1 Overview of Agrivoltaics

When looking at the future of food production and population growth, current production methods must adjust to feed the world's population within the confines of the finite land and water resources available (AL-agele et al. 2021a). Agriculture in Oregon, and particularly the Willamette Valley, is an essential industry both for the livelihoods it supports, and for the food and materials it produces. Due to the typically flat and open nature of agricultural lands and these features being ideal to support solar panel utilities as well, these two industries often compete for the same land. Oregon law has established that Oregon's large investor-owned utilities and electricity service suppliers must reduce greenhouse gas emissions associated with electricity sold in Oregon compared to a 2010 baseline incrementally until 100 percent of the energy is sourced from emission-free electrical sources by 2040 (Oregon House Bill 2021 (2021)). To meet this deadline, utilities must find thousands of acres of land to place emission-free electrical sources, such as solar panels. Land in both eastern and western Oregon are needed to reach the State's renewable energy goals.

Agrivoltaics operations have been shown to allow these industries to coexist and operate at the same or better level of productivity (AL-agele et al. 2021a; Andrew et al. 2021; Graham et al. 2021). In a study located in the Willamette Valley in Corvallis, Oregon, 24 miles northwest of the Facility, lamb growth and pasture production were compared between an agrivoltaic system and a traditional open pasture system over a 2-year period (Andrew et al. 2021). While the vegetation production underneath the panels was less than that in the open field, the vegetation contained more nutrients. This nutrient-dense vegetation supported lamb growth more than the open field vegetation. The lambs also drank less water due to spending most of the hot summer days underneath the solar panels. The study recommended using careful seed mix selection and rotating the grazing patterns to mitigate any loss in vegetation production (Andrew et al. 2021).

Vegetation underneath solar panels is also beneficial to pollinating insects and livestock. A 2021 study found that solar panels did not deter pollinators from visiting and that the presence of the solar panels increased the variety of pollinator habitat due to the mixture of full sun, partial sun and full shade conditions (Graham et al. 2021). Of particular benefit, the variety of shade conditions and resulting variety of pollen- and nectar-producing plants (flower) supported a wider variety of pollinators and provided a safe haven in agricultural areas that don't typically provide pollinator habitat. Increasing the pollinators in the area has the potential to benefit the wider agricultural area.

A further benefit to soil health and crop production is the reduction in water evaporation from soils underneath the solar panels. Solar panels have been found to delay evaporation of moisture from the soil underneath the panels, which allowed vegetation growth to occur later into the growing season (Hassanpour et al. 2018). This also allows crops to be grown with less water, which can expand crop options for properties that have no irrigation rights and are located in arid climates.

Studies have shown that agricultural dual use results in beneficial effects on both agricultural production and production of electricity. Crops grown under solar panels benefit from higher soil moisture levels and cooler temperatures and grow more efficiently with less water during the dry summer months (Adeh et al. 2018). Growing crops under solar panels also helps keep the panels cool, allowing them to work more efficiently and resulting in the generation of up to 10 percent more electricity than panels without crops beneath them (OSU 2026). Fields that are not used for grass crops are planted with forage seeds, and sheep are used to manage weeds and forage plants. Sheep have been shown to thrive under solar panels both through the higher quality forage provided by the deeper shade and the protection from the hot summer sun (Andrew et al. 2021). Based on the above factors, the Applicant has created a Draft Agrivoltaics Plan (Attachment D-1) detailing how agricultural activities will continue alongside the Facility components.

2.4.5.2 Agrivoltaics Applied to Facility and Farm Plan

As provided by the Draft Agrivoltaics Plan (Attachment D-1), the Facility's Operations Manager will work with an Agrivoltaics Farm Operator (AFO) to collaboratively operate the agrivoltaics system at the Facility. The Applicant anticipates that the farm activities will include a combination of growing annual ryegrass, tall fescue, clover, meadowfoam, and other crops, in addition to seasonal sheep grazing. These crops are currently grown in and around the Facility Site Boundary. Seasonal sheep grazing of these fields during the winter is also a common practice in and around the Facility Site Boundary. The AFO will work closely with Facility Operations on frequent communication and adherence to protocol and procedures to avoid conflicts between the dual uses. For planned farming practices and facility maintenance activities, the AFO and Facility Operations will provide a two-week notice to each other, to ensure conflicting actions do not occur. As discussed in Exhibit C, tilling, harrowing, and seeding would occur in the summer and fall, when precipitation is lowest, to reduce the loss of topsoil and seeds. The AFO would notify the Facility Operator when tilling and harrowing occurs. Tilling and harrowing would occur when wind levels are low to reduce the amount of dust in between the solar arrays.

The crops will be planted in strips between the strings of solar panels. The panel strings will be spaced sufficiently wide and the fencing placed sufficiently apart from the panel strings to allow farm equipment to plant, manage, and harvest the crops and turn around at the end of the panel strings. With this spacing, farm equipment is anticipated to be able to operate and maneuver in between and around solar arrays and fencing. Buried cables and underground collectors will be buried at a depth to ensure no contact with agricultural equipment used for ripping and/or discing and maintaining shallow surface drainage.

Within the fenced solar array area (827 acres), approximately 132 acres will be taken out of agricultural production. This area represents the footprint of the inverters and permanent access roads as well as an approximately 4-foot-wide area below each panel row (i.e. a 2-foot buffer on either side of the tracker posts centerline). In this manner, farming will continue throughout the Facility solar array areas. Outside the fenced solar array areas, there will be some permanent impact areas associated with the BESS, Substation, and permanent access roads that will also displace approximately 8.4 acres of grass seed production. In total, the Applicant anticipates a loss of 140.5 acres of cultivated land from the 835-acre Goal 3 exception area.

The benefit of creating an agrivoltaics system to these properties is multi-fold. The landowners receive supplemental income from the Applicant, while maintaining farmland in agricultural production and reducing economic losses to the agricultural economy. These factors increase the resiliency of farms in the face of changing economic conditions, varying weather patterns, and tight profit margins.

3.0 Compliance with Statewide Planning Goals – OAR 345-022-0030(7)(a)

(7) To assist the Council in determining whether the standard outlined in (1) through (6) has been met, the Applicant must submit:

(a) Information about the proposed facility's compliance with the statewide planning goals adopted by the Land Conservation and Development Commission, providing evidence to support a finding by the Council as required by OAR 345-022-0030.

The Applicant provides information about the Facility's compliance with Oregon's statewide planning goals in the findings to the applicable standards of the Linn County Code (LCC), Linn County Comprehensive Plan (LCCP), and directly applicable rules and statues. In situations where an exception to a statewide planning goal is required, the Applicant must do so pursuant to the requirements of ORS 469.504(2) and OAR 345-022-0030(4).

Based on the high-value farmland analysis described in Section 2.4.3, the Facility will permanently occupy more than 12 acres of high-value farmland. OAR 660-033-0130(38)(k) states that the footprint of a photovoltaic solar power generation facility may only exceed 12 acres if an exception is taken pursuant to ORS 197.732 and OAR Chapter 660, Division 4. As the Facility is located within the EFU zone, the "applicable statewide planning goal" is Goal 3, which is the State's Agricultural Lands goal. Thus, the Facility requires an exception to Statewide Planning Goal 3 pursuant to ORS 469.504(2) and OAR 345-022-0030(4). The justification for an exception to Statewide Planning Goal 3 is set forth in Section 4.7 below.

3.1 Land Use Process – OAR 345-022-0030(7)(b)

(b) The applicant must state whether the applicant elects to address the Council's land use standard by obtaining local land use approvals under ORS 469.504(1)(a) or by obtaining a

Council determination under ORS 469.504(1)(b). An applicant may elect different processes for an energy facility and a related or supporting facility but may not otherwise combine the two processes. Once the applicant has made an election, the applicant may not amend the application to make a different election. In this subsection, "affected local government" means a local government that has land use jurisdiction over any part of the proposed site of the facility. In the application, the applicant must:

3.1.1 Map of the Analysis Area – OAR 345-022-0030(7)(b)(A)

(A) Include a map showing the comprehensive plan designations and land use zones in the analysis area;

Figure D-2 shows comprehensive plan designations and land use zones in the Land Use Analysis Area and the Surrounding Lands Analysis Area.

3.1.2 Local Land Use Approvals – OAR 345-022-0030(7)(b)(B)

(B) If the applicant elects to obtain local land use approvals:

(i) Identify the affected local governments from which land use approvals will be sought;

(ii) Describe the land use approvals required in order to satisfy the Council's land use standard;

(iii) Describe the status of the applicant's application for each land use approval; and

(iv) Provide an estimate of time for issuance of local land use approvals.

The Applicant has elected to address EFSC's land use standards by obtaining a land use determination from EFSC pursuant to ORS 469.504(1)(b). Therefore, these standards do not apply.

4.0 EFSC Determination on Land Use – OAR 345-022-0030(7)(b)(C)

4.1 Identification of Applicable Substantive Criteria – OAR 345-022-0030(7)(b)(C)(i)&(ii)

(C) If the applicant elects to obtain a Council determination on land use:

(i) Identify the affected local governments;

(ii) Identify the 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 that are in effect on the date the application is submitted and describe how the proposed facility complies with those criteria;

The proposed Facility is located entirely within Linn County. Therefore, Linn County is the affected local government. The Facility Site Boundary is located entirely within the Linn County EFU zone and AG Comprehensive Plan designation. The applicable substantive criteria from the LCC and Linn LCCP are outlined below and addressed in Sections 4.2, 4.3, and 4.4, respectively.

The proposed Facility falls under the use category of "Photovoltaic solar power generation facilities as commercial utility facilities for the purpose of generating power for public use by sale, subject to OAR 660-033-013(38)" in the EFU zone per LCC 928.320(B)(18), which is a Type IIA conditional use review.

4.2 Compliance with Linn County Code

In a comment letter dated August 10, 2023 in response to the Facility's Notice of Intent[2], the County requested evidence of compliance with the following codes and plans:

- LCC Chapter 240 - Code Enforcement Code
- LCC Chapter 690 - Right-of-Way Regulation Code
- LCC Chapter 810 - Specialty Code
- LCC Chapter 870 - Floodplain Management Code
- Linn County Transportation System Plan
- Linn County Community Wildfire Protection Plan
- Linn County Multi-Jurisdictional Natural Hazard Mitigation Plan

Development in Linn County is regulated by the Linn County Land Development Code (see Section 4.3 below). The applicable criteria from LCC Chapters 690, 810, and 870 apply during the building permit submittal process and prior to construction. The standards of LCC Chapter 204 apply once development occurs. Compliance with the Linn County Transportation System Plan is discussed in Exhibit L. Compliance with the Linn County Community Wildfire Protection Plan is incorporated into Exhibit M.

4.2.1 Chapter 240 – Code Enforcement

4.2.1.1 LCC 240.210 Enforcement authority

(A) Generally. Any enforcement officer designated by the Board or by this Chapter acting in the course of official duties is hereby authorized to make such inspections and take such actions as may be required to enforce the Linn County Code or other applicable statute or regulation applicable under this Chapter.

[2] Linn County Planning and Building Department. Muddy Creek Energy Park Project – Response to Notice of Intent. August 10, 2023. Included as Attachment 3: Reviewing Agency, SAG, and Tribal Government Comments to the Muddy Creek Energy Park Project Order. October 6, 2023, p. 411. https://www.oregon.gov/energy/facilities/Facilities%20library/2023-10-06-MCEP-NOI-Project-Order.pdf

The Applicant understands Linn County has the right to make inspections and enforce the Linn County Code, as consistent with ORS Ch. 469. As demonstrated in the following sections, the proposed Facility complies with all applicable aspects of the Linn County Code. Therefore, this criterion is met.

(B) Inspections. Whenever necessary to make an inspection to enforce any of the provisions of the Linn County Code or other applicable statute or regulation or whenever an enforcement officer has cause to believe that there exists in any place any condition or violation which makes such place a safety or health hazard or danger, the enforcement officer may enter a place at all reasonable times to inspect the same or to perform any duty imposed upon the enforcement officer by any State statute or regulation, or any County ordinance or Code or regulation, relating to safety or health. However, if such place is occupied, the enforcement officer shall first present proper credentials and request entry. If such entry is refused, the enforcement officer may apply for an inspection warrant under this Chapter to obtain entry.

The Applicant understands the above inspection requirements may be enforced at any time , as consistent with ORS Ch. 469, and will comply if an inspection is found necessary for the Facility.

4.2.2 Chapter 690 – Right-of-Way Regulation Code

4.2.2.1 LCC 690.100 Regulations; prohibitions

(A) Except as provided otherwise in this Chapter, no person may work on any facility, thing, or appurtenance in the right-of-way of a county road or of a local access road without first applying for and obtaining a permit from the County approving that work.

(B) Before there is a change of use on property having an approach road that connects to or intersects a county road or local access road, the landowner must first apply for and obtain a permit from the County approving that change of use.

The Applicant will coordinate with the Linn County Road Department regarding the need for an application for a right-of-way encroachment permit prior to construction of the Facility. The Applicant is not proposing any work within the right-of-way of a county road. The Facility will take access from Priceboro Drive and Mt Tom Drive (public rights-of-ways). The Applicant will construct 10.68 miles of new access roads within the Site Boundary. These access roads will allow staff to navigate throughout the Facility during construction and operations.

(C) No person may perform any work in violation of a permit issued to that person.

(D) No person may violate any regulations adopted under this Chapter that have been imposed by a permit issued to that person.

As previously stated, the Applicant will coordinate with the Linn County Road Department prior to construction of the Facility. The Applicant will adhere to the provisions of a permit.

(E) No person may perform work in a right-of-way that is subject to this Chapter unless a permit has been first applied for and issued authorizing that work.

(F) No person may close any road that is subject to this Chapter unless a permit has been first applied for and issued authorizing that closure.

(G) No person may fail to maintain a key that opens any gate that has been installed across a road that is subject to this Chapter.

As described above, the Applicant will coordinate with the Linn County Road Department and, if required, obtain an application for a right-of-way encroachment permit prior to construction of the Facility.

4.2.2.2 LCC 690.110 Work in a right-of-way requiring an encroachment permit

(A) An application for work in a right-of-way shall be made on the form approved by the Roadmaster.

(B) Work authorized by an encroachment permit obtained under this Chapter includes but is not limited to the following:

(1) Constructing, grading or surfacing an access to a private driveway or approach road pursuant to LCC Chapter 935 (Access Improvement Standards Code).

(2) Placement of pipe lines, or conduits, or underground cables.

(3) Placement of overhead wires.

(4) Construction of under-crossings or over-crossings for animals, equipment or other purposes.

(5) Construction of retaining walls, fences, gates, or sidewalks.

(6) Planting of trees or other vegetation.

(7) Any excavation in, removal from, or alteration to any right-of-way of a county road or local access road.

(8) Construction of mail receptacles approved by the United States Postal Service and meeting the minimum break-away standards set by Oregon Department of Transportation in the Oregon State Standards Specification.

(9) Installing roadside plantings.

As described above, the Applicant will coordinate with the Linn County Road Department about a right-of- way permit prior to construction of the Facility. The Applicant does not anticipate any construction within public rights-of-way.

4.2.2.3 LCC 690.120 Work in a right-of-way requiring a road improvement permit

Work required to accommodate traffic on a new development access may not be conducted in a right-of-way without an application, plan review and issuance of a road improvement permit. [Adopted 99-058 §3 eff 3/3/99] 690.130 Use of a right-of-way requiring an special use permit

Parades, bike tours, walk-a-thons, foot racing, and other activities which is in the general public interest and which requires the use of a right-of-way may not be conducted in the right-of-way without application, a plan review, if required by the Roadmaster, and issuance of a special use permit.

As described above, the Applicant will coordinate with the Linn County Road Department to obtain a permit prior to construction of the Facility if needed. The Applicant does not anticipate any construction within public rights-of-way.

4.2.2.4 LCC 690.140 Work in a right-of-way requiring a road closure permit

(A) Work authorized by a closure permit obtained under this Chapter includes the construction of any wall, fence, or gate across the right-of-way that in any way restricts the movement of travelers on the road.

(B) The issuance of the closure permit is subject to LCC 690.200 and 690.250. (C) The issuance of a closure permit is not required when a right-of-way is temporarily closed by a public body if the purpose of the temporary closure is to perform maintenance on facilities owned by the public body.

The Applicant does not anticipate any road closures in the form of a wall, fence, or gate across the right-of-way.

4.2.2.5 LCC 690.150 Work in a right-of-way not requiring a permit

(A) Notwithstanding the requirement for a permit for the work described in LCC 690.110, a permit is not required for performing maintenance or minor improvement to existing facilities if the existing facilities were installed by the owner of the facilities. If the applicant for the work described in this subsection is different from the person or entity who installed the facilities, a permit is required for the work. For purposes of this subsection "performing maintenance or minor improvements" includes but is not limited to the utilization of existing facilities as intended when installed such as:

(1) Installing additional wires or service connections when new poles or cross arms are not required.

(2) Inserting cables in existing conduits or making service connections within a terminal structure.

(3) Utilization that is expressly acknowledged by prior permit provisions.

(4) Interpretations set forth in the regulations adopted to carry out this Chapter.

(B) An abutting property owner's development or care of the portion of the right-of-way from the property line to the curb or roadway shoulder where such development or care is in compliance with county regulations.

The Applicant acknowledges the above situations when a permit is not required for work in a right-of-way. The Applicant will work with the County to determine when or if permits are needed for any work in the right-of-way prior to construction of the Facility.

4.2.3 Chapter 810 – Specialty Code

810.125 Permit Required

Prior to conducting any work subject to this Chapter on a building, the owner thereof shall first apply for and obtain from the Building Official a permit authorizing that work.

The Applicant will apply for and obtain a building permit for any qualifying buildings from the Building Official prior to construction of the Facility. This criterion will be met.

4.2.4 Chapter 870 – Floodplain Management Code

4.2.4.1 LCC 870.110 Permits

(A) Development permit required. No development may begin within any area of special flood hazard unless a development permit is first applied for and obtained by the property owner or the owner's authorized agent. The permit shall be for all development.

Federal Emergency Management Agency (FEMA) National Flood Hazard data (FEMA 2026) were compared to the temporary and permanent disturbance areas in the Site Boundary to evaluate flood hazards. Most of the Site Boundary is mapped as Zone X – Area of minimal flood hazard, while portions are located within Zone A of the FEMA 100-year floodplain as provided by FEMA FIRM Panels 41043C1145G and 41043C1435G (Figure B-3 in Exhibit B; FEMA 2026). Permanent impacts to 100-year floodplains include 0.78 miles of access roads in the northwestern Site Boundary that would affect 1.81 acres. A very small corner of the development area (less than 0.01 acre) would also be impacted outside the solar fenceline in the southwestern development area. To the extent consistent with ORS Ch. 469, the Applicant will apply for and obtain a development permit prior to any construction activity within the FEMA-designated flood plain.

4.2.4.2 LCC 870.142 Specific construction requirements; nonresidential

(A) New construction and substantial improvement of any commercial, industrial, or other nonresidential structure shall either have the lowest horizontal structural member of the lowest floor (including basement): [only criteria for Zone A is included below]

(2) elevated no lower than 18 inches above the highest natural grade within the boundary of the area special flood hazard if located in Zone A; or

As stated in Section 4.2.4.1 above, portions of the Facility are within Zone A of the special flood hazard area. Zone A flood areas do not have base flood elevations determined. All structures within the proposed Site Boundary will be elevated no less than 18 inches above the highest natural grade.

(4) together with attendant utility and sanitary facilities, be completely flood proofed as follows:

(a) Zone A and Zone AE – be flood proofed so that below the depth number the structure is water tight with walls substantially impermeable to the passage of water.

(5) Have structural components capable of resisting hydrostatic and hydrodynamic loads and effects of buoyancy; and

(6) Be certified by a registered professional engineer or architect that the design and methods of construction are in accordance with accepted standards of practice for meeting provisions of this subsection based on their development and/or review of the structural design, specification, and plans and the Linn County Specialty Code. If this method is used, compliance shall be certified by a registered professional engineer or architect as in Section 870.142 (A) (2) (c).

(B) Applicants flood proofing nonresidential structures shall be notified that flood insurance premiums will be based on rates that are one foot below the flood proofed level.

The Applicant understands this standard and will design flood proofing of nonresidential structures to minimize flood insurance premiums. No attendant or sanitary facilities will be located in the floodplain.

(C) Adequate drainage paths around structures on slopes are required to guide floodwaters around and away from proposed structures.

Slopes within the Facility Site Boundary range from 0 to 13.7 percent, with an average slope of 0.4 percent. There are no structures proposed on slopes greater than 13.7 percent. Therefore, the Applicant is not proposing drainage paths around facility infrastructure.

(D) Nonresidential structures that are elevated, not flood proofed must meet the same standards for space below the lowest floor as described in 870.141 (A) (2), (3) and (4).

LCC 870.141(A)

(2) Fully enclosed areas below the lowest floor that are subjected to flooding are prohibited, or shall be designed, to automatically equalize hydrostatic flood forces on exterior walls by allowing for the entry and exit of floodwaters. Designs for meeting this requirement must be either certified by a registered professional engineer or architect or must meet or exceed the following minimum criteria:

(a) a minimum of two openings having a total new area of not less than one square inch for every square foot of enclosed area subject to flooding shall be provided.

(b) the bottom of all the openings shall be no higher than one foot above finished grade.

(c) openings may be equipped with screens, louvers, or other coverings or devices provided that they permit the automatic entry and exit of flood waters.

(3) The interior crawlspace grade shall be at or above the lowest adjacent exterior grade.

(4) The area below the elevated floor is non-habitable and is usable solely for parking of vehicles, building access or storage.

As stated in Section 4.2.4.1, portions of the Facility Site Boundary surrounding drainages and creeks are mapped within identified FEMA 100-year floodplains. Permanent impacts to 100-year floodplains include 0.78 miles of access roads in the northwestern Site Boundary that would affect 1.81 acres. A very small corner of the development area (less than 0.01 acre) would also be impacted outside the solar fenceline in the southwestern development area. Since the Applicant is proposing to construct nonresidential structures within a FEMA-designated flood area (Zone A), the proposed Facility is subject to the structure elevation standards of LCC 870.141(A)(2), (3) and (4). All nonresidential structures within Zone A will be designed to comply with these standards as applicable.

4.3 Compliance with Linn County Land Development Code

In Linn County, the proposed Facility falls under two use categories (1) *"Utility facilities necessary for public service…"* in the EFU zone per LLC 928.320(B)(5) and (2) *"Photovoltaic solar power generation facilities as commercial utility facilities for the purpose of generating power for public use by sale"* in the EFU zone per LCC 928.320(B)(18). The applicable criteria associated with these two use categories are addressed below.

4.3.1 Chapter 921 – Land Development Administration Code

4.3.1.1 LCC 921.080 Type II classes

(A) The Director shall classify an action set forth in subsections (B) and (C) of this section as a Type II application.

(B) Type IIA applications include but are not limited to:

(1) Conditional use permit for which the Director is authorized to make a decision, including,

(a) step-two review, as that term is described in LCC 921.082, of a conditional use permit application for a dwelling in an EFU or F/F zoning district, and

(b) Greenway conditional use permits.

As mentioned above, conditional uses are reviewed as Type IIA applications. The Applicant is proposing to construct a solar power generation facility, BESS, and associated components within the EFU zone in Linn County. Pursuant to ORS 469.300(11)(a)(D), since the Facility is located on more than 160 acres of high-value farmland as defined in ORS 195.300, the proposed Facility must be reviewed under EFSC. Therefore, the Facility will be subject to review by EFSC.

4.3.1.2 LCC 921.120 Type IIA Procedure

(A) A Type IIA application shall be reviewed and decided in compliance with the procedure provided in this section. A decision of a Type IIA application involves application of discretion and shall be made by the Director.

(B) The Director shall:

(1) provide initial application notice as may be required for Type IIA applications by LCC 921.300 to 921.370;

(2) make a decision on the application conforming to the requirements of LCC 921.140; and

(3) give notice of the decisions required by LCC 921.180.

(C) A Type IIA application may be reclassified, at the Director's discretion, as Type IIIB and referred to the Commission for a public hearing. If a Type II application is so referred by the Director to the Commission for its review, the Commission shall review the application under LCC 921.135 (Type IIIB).

(D) If the Director has not made a decision on a Type IIA application or has not referred it to the Commission within 14 calendar days of the date scheduled for decision, the applicant may request that the application be heard by the Commission under the procedure authorized in LCC 921.135 (Type IIIB, by the Commission).

As previously mentioned, pursuant to ORS 469.300(11)(a)(D) the Facility must be reviewed by EFSC. EFSC will review the application against the local land use criteria, applicable state statutes and rules, then conduct a public information meeting and a public hearing. Depending on issues raised at the public hearing, a contested case hearing may be required prior to issuance of the final order and site certificate. Therefore, the local review procedures are not applicable to this application.

4.3.2 Chapter 927 – Zoning District Establishment Code (Last revised October 8, 2019)

4.3.2.1 LCC 927.500 Overlays

(A) There is hereby established a class of land use areas referred to as overlays.

(B) The overlays are:

(1) Airport Overlay (AO),

(2) Aggregate Resource Overlay (ARO);

(3) Delayed Annexation Overlay (DAO),

(4) Historic Resource Overlay (HRO),

(5) Limited Use Overlay (LUO),

(6) Sensitive Bird Habitat Overlay (SBHO), and

(7) Willamette River Greenway Overlay (WRGO).

(C) The overlays are set forth in Appendix 1, Table 4, following this Chapter.

The proposed Facility is located within the Airport Overlay (AO) zone. Linn County staff confirmed on December 14, 2023, by email that the Facility is not located within any other overlay zone. The Applicant has addressed development in the AO zone in response to LCC Chapter 931.140 in Section 4.3.6.20 of this narrative.

4.3.3 Chapter 928 – Rural Resource Zone Code

4.3.3.1 Section II Exclusive Farm Use (EFU) Zoning District

LCC 928.320 Non-dwelling, non-soil-dependent uses permitted in the EFU zoning district through Type IIA conditional use review.

(B) Uses permitted conditionally.

(5) Utility facilities necessary for public service, including associated transmission lines as defined by ORS 469.300 and wetland waste treatment systems but not including commercial facilities for the purpose of generating power for public use by sale or transmission towers over 200 feet in height.

ORS 469.300 defines "associated transmission line" as "new transmission lines constructed to connect an energy facility to the first point of junction of such transmission line or lines with either a power distribution system or an interconnected primary transmission system or both or to the Northwest Power Grid" (OSL 2023). The Applicant is proposing a 230-kV gen-tie line that will extend approximately 0.5 miles from the Facility collector substation to the existing PacifiCorp Diamond Hill Substation (see Background Information Exhibit, Figure 2), which falls within the "utility facilities necessary for public service" use category and requires a Type IIA conditional use review pursuant to LCC 921.120. The proposed gen-tie line traverses private land through an easement authorized by the property owner. The proposed gen-tie line will be located directly adjacent to the existing 230-kV PacifiCorp Diamond Hill-McKenzie and the 138-kV Emerald People's Utility District Diamond Hill transmission lines. Energy collected by the proposed 230-kV gen-tie line will be collected at the Diamond Hill Substation and transmitted to the Northwest Power Grid by way of the existing 230-kV PacifiCorp Diamond Hill-McKenzie transmission line. The proposed 230-kV gen-tie line meets the definition of "associated transmission line" and is therefore considered a utility facility necessary for public service.

(a) The approval criterion for this use is limited to a finding that the utility is necessary for public service pursuant to LCC 933.330 and the approval is not subject to LCC 933.310.

The Applicant understands the associated transmission line is subject to the criteria listed in LCC 933.330. These criteria are addressed in Section 4.3.5.3 of this narrative.

(18) Photovoltaic solar power generation facilities as commercial utility facilities for the purpose of generating power for public use by sale, subject to OAR 660-033-0130(38).

OAR 660-033-0130(38)(f) "Photovoltaic solar power generation facility" includes, but is not limited to, an assembly of equipment that converts sunlight into electricity and then stores, transfers, or both, that electricity. This includes photovoltaic modules, mounting and solar tracking equipment, foundations, inverters, wiring, storage devices and other components. Photovoltaic solar power generation facilities also include electrical cable collection systems connecting the photovoltaic solar generation facility to a transmission line, all necessary grid integration equipment, new or expanded private roads constructed to serve the photovoltaic solar power generation facility, office, operation and maintenance buildings, staging areas and all other necessary appurtenances. For purposes of applying the acreage standards of this section, a photovoltaic solar power generation facility includes all existing and proposed facilities on a single tract, as well as any existing and proposed facilities determined to be under common ownership on lands with fewer than 1320 feet of separation from the tract on which the new facility is proposed to be sited. Projects connected to the same parent company or individuals shall be considered to be in common ownership, regardless of the operating business structure. A photovoltaic solar power generation facility does not include a net metering project established consistent with ORS 757.300 and OAR chapter 860, division 39 or a Feed-in-Tariff project established consistent with ORS 757.365 and OAR chapter 860, division 84.

The proposed Facility and all its components described in Section 2.0 of the Background Information Exhibit meet the definition of "photovoltaic solar power generation facility" as provided by OAR 660-033-0130(38)(f) and would require a Type IIA conditional use review pursuant to LCC 921.120. As required by LCC 928.320(B)(18), an application for a photovoltaic solar power generation facility must show compliance with the criteria of OAR 660-033-0130(38) in addition to the applicable criteria in the LCC. Compliance with the criteria of OAR 660-033-0130(38) are provided in Section 4.5.8 below.

Under ORS 469.401(3), following issuance of the site certificate, the County, upon the Applicant's submission of the proper application and fee, shall issue the conditional use and zoning permits addressed in the site certificate, subject only to the conditions set forth in the site certificate and without hearings or other proceedings.

4.3.4 Chapter 931 – Overlay Code

4.3.4.1 LCC 931.140 Airport Overlay (AO); property development standards

Development of all properties in the AO must comply with the development standards set forth in LCC Chapter 934 (Development Standards Code) and specifically 934.800, and also to any specific standards applicable to the underlying zoning district.

The Applicant has addressed the standards of LCC Chapter 934, including LCC 934.800 in Section 4.3.6 below and the applicable standards of the EFU zoning district in Section 4.3.3.1 above.

4.3.5 Chapter 933 – Conditions of Approval and Decision Criteria Code

4.3.5.1 LCC 933.100 Conditions, Generally

(A) Additional conditions. Any land development decision resulting from a review required by the Land Development Code, may be subject to the imposition of permit conditions. These permit conditions are those determined to be reasonably necessary to ensure compliance with the intent of the Land Development Code and the Comprehensive Plan and to aid in achieving compatibility with the applicable decision criteria. The permit conditions may include, but are not limited to:

(1) Limiting the manner in which the use is conducted, including restricting the time a certain activity may take place and restraints to minimize such environmental effects including, but not limited to noise, vibration, air pollution, glare and odor;

(2) Establishing a special yard or other open space or land area or dimension;

(3) Limiting the height, size or location of a building or other structure;

(4) Designating the size, number, location and nature of vehicle access points;

(5) Increasing the amount of road dedication, roadway width or improvements within the road right-of-way, including bonding for improvements;

(6) Designating the size, location, screening, drainage, surfacing or other improvements of a parking area, truck loading area and vehicle circulation area;

(7) Limiting or otherwise designating the number, size, location, height and lighting of signs;

(8) Limiting the location and intensity of outdoor lighting and requiring its shielding;

(9) Requiring diking, screening, landscaping or other improvement to protect adjacent or nearby property and designating standards for the installation and maintenance of the required improvement;

(10) Imposing the time period within which the proposed use shall be developed;

(11) Establishing the duration of uses permitted, except for uses permitted outright;

(12) Designating the size, height, location and materials for a fence;

(13) Protecting and preserving existing trees, vegetation, water resources, wildlife habitat, or other significant natural resources;

(14) Requiring that public facilities are adequate to serve the proposed use;

(15) Requiring the recording of deed covenants;

(16) Attaching applicable city development standards, including deed covenants for annexation, development to minimum site design standards and other requirements necessary to implement urbanization policies;

(17) Such other conditions as will make possible the development of the county in an orderly and efficient manner conforming with the intent and purposes set forth in this Land Development Code and the Comprehensive Plan.

(B) Permit conditions are final. Permit conditions established as part of any decision are final and binding.

As previously mentioned, the application requires an EFSC determination rather than Linn County approval. Therefore, the Facility will be subject to the conditions of approval set forth in the site certificate that will be issued by EFSC.

4.3.5.2 LCC 933.220 General Conditional Uses Decision Criteria

(C) Decision criteria.

(1) The use will be consistent with the affected zoning district's statement of purpose;

LCC 928.300 states the EFU zoning district's statement of purpose as:

"(1) to preserve land suitable for agricultural production, whether in large or small blocks, for agricultural use as declared in the Oregon Agricultural Land Use Policy (ORS 215.243);

(2) to provide for farm taxation consistent with provisions of ORS Chapter 308;

(3) to allow only those uses consistent with agricultural practices as provided in ORS Chapter 215; to allow for public and private outdoor recreational uses; and

(4) to provide for the protection of open space, fish and wildlife habitat, watersheds, scenic resources, and air, water and land resource quality"

The Facility is consistent with the EFU zoning district's purpose statement. No change is proposed to the size of the parcels within the Facility Site Boundary. Farming operations will continue within the Site Boundary in the form of agrivoltaics as described in the Draft Agrivoltaics Plan (Attachment D-1). Section 4.5.1 discusses how the Facility will be consistent with agricultural practices as provided in ORS Chapter 215. Buffers of at least 50 feet are provided between development associated with the Facility and natural features such as streams. Details on how the Facility will avoid, minimize, or mitigate impacts to recreation, open space, fish and wildlife habitat, watersheds, wetlands, scenic resources, and air, water, and land resource quality are discussed in the relevant exhibits of this Application (see Exhibits G, H and O-1). The farm taxation requirements of ORS Chapter 308 are not applicable to the proposed Facility.

(2) The location, size, design and operating characteristics of the proposed development will be made reasonably compatible with and have minimal impact on the livability and appropriate development of abutting properties and the surrounding neighborhood, with consideration given to:

(a) scale, bulk, coverage and density;

(b) availability of public facilities and utilities;

(c) traffic generation and the capacity of the surrounding road network; and

(d) other related impacts of the development.

The majority of the Facility components will be less than 20 feet tall. Those components that are more than 20 feet tall are utility poles and transmission lines. The tallest overhead transmission lines will be located adjacent to the existing 230-kV PacifiCorp Diamond Hill-McKenzie transmission line. As discussed further in Section 4.3.6.10 in response to LCC 934.525, the maximum lot coverage of Facility structures is 6 percent. This coverage is less than the maximum allowed property coverage of 20 percent, under LCC 934.525.

Public facilities and utilities serving the site include public roads and electrical utilities. Other utilities (gas and communications lines) are likely available due to the existence of dwellings within the neighborhood. However, the only facilities and utilities necessary for the Facility to operate are access and electricity. Due to the rural nature of the area and being located within the county rather than the city, water and sewer for homes and businesses in the area are likely provided on individual properties in the form of private wells and private septic systems.

The Facility will use existing local roads for access throughout the Facility site to the extent possible. The Facility will take access from Mt. Tom Drive and Priceboro Drive. The Applicant is not proposing any improvements to these existing local roads in this application. If improvements are required for the local roads, the Applicant will work with the County to ensure they are completed.

As discussed in Exhibit R, visual impacts of the Facility are primarily related to views of the solar arrays, aboveground gen-tie and collector lines, and, to a lesser degree (due to being collocated or dispersed amongst taller Facility infrastructure), other facilities such as the access roads, substation, battery energy storage system, fencing and gates, and temporary construction areas. The study of these visual impacts on scenic resources within 10 miles of the Facility Site Boundary determined that either there are no views of the Facility from the scenic resource or the views are minor to negligible due to the existing vegetation or existing buildings (see Exhibit R).

(3) The proposed development site has the physical characteristics needed to support the use such as, but not limited to the following:

(a) access;

(b) suitability for on-site, subsurface sewage treatment system;

(c) an adequate supply of potable water;

(d) location outside of a mapped geologic hazard area or of a 100-year flood plain unless it is demonstrated that the use can be designed and engineered to comply with accepted hazard-mitigation requirements; and

The proposed Facility site has the physical characteristics needed to support the use. The Facility will use existing public and private access roads to the extent practicable for the Facility. Access for

the Facility is addressed in Section 4.3.7 of this narrative under "access improvement standards." The Facility generally complies with the access standards for the EFU zoning district.

An in-depth analysis of waste is provided in Exhibit N of this ASC. The Applicant is proposing the use of portable toilets located throughout the Facility construction area. These toilets will be provided by a licensed subcontractor who will be responsible for servicing the toilets at regular intervals and disposing of wastewater in accordance with local jurisdictional regulations. The Applicant is not proposing an operations and maintenance (O&M) building for the Facility; therefore, no on-site septic system is proposed.

As discussed in Exhibit O-2, water used for construction and operation will be obtained from municipal water source with valid water rights. This water will be trucked in to the Facility for use. Activities during construction that require water include concrete mixing, road construction, dust control, and sanitation/drinking water. Water needs during operation of the Facility will be minimal.

The Facility is within a designated 100-year floodplain, Zone A, in Linn County. The floodplain management code has been addressed in Section 4.2.4 of this narrative. The Facility will be designed to comply with hazard mitigation requirements.

In conclusion, the Facility site generally has the physical characteristics needed to support the proposed use.

(4) The use will not have a significant adverse impact on sensitive fish or wildlife habitat

The Applicant conducted field surveys within the proposed Site Boundary in May, June, July, and August of 2023, March 2024, and December 2025. Based on the surveys and desktop analysis, 17 state sensitive species have the potential to occur within the analysis area (Exhibit G, Table G-5). The surveys did not identify any threatened or endangered plant or animal species within the Site Boundary (Exhibit H).

Of the 17 species, 8 are sensitive-critical species and 9 are sensitive species in the Willamette Valley Ecoregion (ODFW 2021; Table G-5). The 17 sensitive species identified include Columbian black-tailed deer (*Odocoileus virginianus*), Roosevelt elk (*Cervus canadensis roosevelti*), fringed myotis (*Myotis thysanodes*), bald eagle (*Haliaeetus leucocephalus*), golden eagle (*Aquila chrysaetos*), streaked horned lark (*Eremophila alpestris strigata*), grasshopper sparrow (*Ammodramus savannarum*), Oregon vesper sparrow (*Pooecetes gramineus affinis*), western meadowlark (*Sturnella neglecta*), purple martin (*Progne subis*), olive-sided flycatcher (*Contopus cooperi*), acorn woodpecker (*Melanerpes formicivorus*), chipping sparrow (*Spizella passerina*), Pacific lamprey (*Entosphenus tridentatus*), western brook lamprey (*Lampetra richardsoni*), steelhead trout (Upper Willamette River ESU, winter run) (*Onchorynchus mykiss*), Chinook salmon (Upper Willamette River ESU, spring run) (*Onchorynchus tshawytscha*), Oregon chub (*Oregonichthys crameri*), northwestern pond turtle (*Actinemys marmorata*), western painted turtle (*Chrysemys picta bellii*), northern red-legged frog (*Rana aurora*), Fender's blue butterfly (*Icaricia icarioides fenderi*), and monarch butterfly (*Danaus plexippus*). These species' habitats were given Oregon Department of Fish and

Wildlife (ODFW) habitat categories, which are based on the relative importance of these habitats to fish and wildlife species.

A description of potential impacts and mitigation measures are detailed in Exhibit G, which concluded that the Facility design was adjusted based on survey results in order to minimize impacts to Category 2 habitat (no Category 1 habitat was identified) to the extent possible. Unavoidable habitat impacts will be mitigated consistent with OAR 635-415-0025. Based on the information and mitigation measures provided in Exhibit G, the Facility will not have a significant adverse impact on sensitive fish or wildlife habitat.

4.3.5.3 LCC 933.330 RRZ conditional use for utility facility necessary for public service decision criteria

(A) Conditional uses permitted in LCC 928.320(B)(5), may be permitted in the Rural Resource Zone, provided the decision criteria in subsection (B), any additional criteria that may be specified in this section, and other requirements of law are met.

(1) A utility facility that is necessary for public service.

. . . [LCC 933.330(A)(1)(a)-(h) have been omitted as not applicable]

The proposed gen-tie line meets the definition for "associated transmission line." Therefore, the Applicant has addressed subsection (2) below.

(2) An associated transmission line is necessary for public service upon demonstration that the associated transmission line meets either the following requirements of Subsection (a) or Subsection (b) of this Subsection.

(a) An applicant demonstrates that the entire route of the associated transmission line meets at least one of the following requirements:

(i) The associated transmission line is not located on high-value farmland, as defined in ORS 195.300, or on arable land;

(ii) The associated transmission line is co-located with an existing transmission line;

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

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

. . . [LCC 933.330(A)(2)(b) has been omitted as not applicable]

As previously mentioned, the proposed gen-tie line meets the definition of an "associated transmission line." The proposed gen-tie line will run parallel to the existing PacifiCorp Diamond Hill-McKenzie 230-kV transmission line. The proposed line is 0.65 miles long and will connect the project substation to the existing Diamond Hill Substation. The Applicant is proposing the gen-tie line to be within an 80-foot-wide easement. The physical line will be approximately 73 feet away

from the existing transmission line. The Linn County Code or Oregon Revised Statutes do not specify a distance between parallel transmission lines that is the "minimum separation necessary for safety," and this distance is sufficient and poses no safety risks. Therefore, proposed gen-tie line meets the requirements of subsection (a)(iii) and, as a result, the requirements of subsection (b) are not applicable.

4.3.6 Chapter 934 – General Development Standards

4.3.6.1 LCC 934.215 RRZ Sign Standards for EFU, F/F, FCM, &2 NR, RR, UGA-UGM, and UGA-RR Zoning Districts

Signs permitted in the EFU, F/F, FCM, §2NR, RR, UGA–UGM, and UGA–RR zoning districts are subject to this section.

. . . [LCC 934.215(A) and (B) have been omitted as not applicable]

(C) In the EFU, F/F and FCM zoning districts, one sign not to exceed 64 square feet in display surface indicating the name of an enterprise, product produced or identifying uses other than a single family residence or pertaining to the sale or lease of property. Such signs shall not be illuminated nor shall they have moving parts or flashing lights.

(D) One sign not to exceed 16 square feet in display surface indicating the name and general direction to an enterprise or use other than a single-family residence.

The Applicant is not proposing signage that would be illuminated, have moving parts or have flashing lights. Signage for the Facility will not exceed 64 square feet and will be limited to the name of the Facility or safety or other language required by local, state or federal law. Other signage needed during construction will be temporary and will fall within one or more of the exempted signs listed under LCC 934.212.

4.3.6.2 LCC 934.220 Landscaping required

Landscaping materials shall be provided, as follows, for all uses described in LCC 934.225:

(A) All required landscaping materials shall be located in the required front yard area.

(B) A landscaping plan shall be submitted for review by the Director before building permits are issued for construction. The landscaping plan shall indicate the materials to be used, their location on the site and a schedule for planting.

(C) Development of the site shall adhere to the landscaping plan approved by the Director. Landscaping shall be planted in accordance with the schedule of planting.

(D) All uses requiring landscaping, whether presently undeveloped or partially developed, shall either provide landscaping materials in compliance with the standards in LCC 934.228 or submit to the Department an alternative based upon the native vegetation, existing landscaping or substitute plan. The Director shall determine whether the alternative complies with the purpose of this LCC 934.220 to 934.228.

The Applicant will submit a landscaping plan consistent with the requirements above to the Director before building permits are issued for construction. Much of the existing vegetation will remain and will be used to inform an alternative landscaping plan based upon the native vegetation.

4.3.6.3 LCC 934.225 Uses requiring landscaping

. . . [LCC 934.225(A) and (B) have been omitted as not applicable]

(C) The following uses shall provide the landscaping required in LCC 934.220 unless the Director determines that the site complies with the intent of LCC 934.220 to 934.228:

(1) Public utility facilities;

(2) Energy generating facilities;

. . . [LCC 934.225(C)(3)-(8) have been omitted as not applicable]

Pursuant to LCC 934.545, landscaping is required for development within the EFU zone. The Facility includes a gen-tie line (utility facility) and a solar facility (energy generating facility). As a result, the applicable criteria of LCC 934.220 to 934.228 have been addressed herein.

4.3.6.4 LCC 934.228 Landscaping standards

(A) A mixture of trees, shrubs and ground cover shall be provided in all landscaped areas and in the following quantities:

(1) At least one tree shall be provided for each 50 linear feet of frontage along a public road;

(2) At least five shrubs shall be provided for each 50 linear feet of frontage onto a public road; and

(3) Ground cover shall be either sodded lawn, hydromulch or seeded lawn or other living materials. The lawn or ground cover shall be planted in such a manner as to cover the landscaping area within one year.

(B) All required landscaping materials shall be not less than the following sizes:

(1) Trees. All trees planted to comply with the minimum landscaping standards shall be at least six feet in height;

(2) Shrubs. All shrubs planted to comply with the minimum landscaping standards shall be at least a five-gallon size;

(3) Ground cover. All ground cover species shall be evergreen perennials.

(C) The Director may approve substitutions for the landscaping material requirements to incorporate existing native and planted vegetation or other circumstances.

(D) Landscaped areas may also include decorative rock, sculpture, walkways, patios, fountains or similar features. These features shall not be used as replacements for the required trees and shrubs.

(E) Landscaping areas shall be maintained in a neat, orderly condition free of weeds and litter. Landscaping specimens shall be maintained in a healthy condition and replaced as necessary.

Much of the existing vegetation will remain along public roads after construction of the Facility and will be used to inform an alternative landscaping plan based upon the native vegetation consistent with LCC 934.220. The alternative landscaping plan will provide sufficient vegetation to meet the above requirements. The majority of this vegetation will be provided by existing vegetation, and new vegetation will be proposed where needed to comply with the required vegetation spacing and density listed above.

4.3.6.5 LCC 934.250 RRZ Parking, off-road required

(A) Off-road parking shall be provided on the development site in all zoning districts for all uses specified under LCC 934.252, 934.253 and 934.260.

(B) All required parking must be under the same ownership as the development site served, except through special covenant agreements which bind the parking to the development site as may be approved by the hearing authority or the Director.

The Facility is not proposing an O&M building, a public or private parking area, or a mix of uses that require parking. Table 1 in LCC Chapter 934 does not provide off-street parking requirements for utility facilities or solar facilities. LCC 934.252, 934.253 and 934.260 do not identify off-road parking requirements applicable to the Facility.

4.3.6.6 LCC 934.251 Parking area design

(A) All public or private parking areas or garages, except those required in conjunction with a single-family dwelling on a single authorized unit of land shall be designed and constructed in accordance with the provisions of LCC 934.250 to 934.260.

(B) All public or private parking areas and parking spaces, except those required in conjunction with a single-family dwelling shall be designed and constructed to conform to the minimum standards as set forth in this LCC 934.250 to 934.260 and to the applicable property development standards of the zoning district in which such parking area is located.(C) Groups of three or more parking spaces, except those in conjunction with single-family dwellings on a single authorized unit of land shall be served by a service drive so that no backward movement or other maneuvering of a vehicle within a public road other than an alley, will be required. Service drives shall be designed and constructed to facilitate the flow of traffic, provide maximum safety from traffic ingress and egress and maximum safety for pedestrians and vehicular traffic on the site. In no case shall two-way and one-way driveways be less than 30 feet and 16 feet, respectively.

As described above, no parking areas are proposed by the Applicant. If the Council determines that parking is required, the Applicant will provide parking areas and spaces consistent with the applicable parking area design requirements provided by LCC 934.251.

4.3.6.7 LCC 934.252 Parking requirements for uses not specified

The parking space requirements for buildings and uses not set forth shall be determined by the Director and shall be based upon the requirements for the most comparable building or use specified. The decision of the Director may be appealed in the manner provided under LCC Chapter 921 (Land Development Administration Code).

The Linn County Director has not provided parking space requirements for the Facility.

4.3.6.8 LCC 934.253 Parking, common facilities for mixed uses

(A) In the case of mixed uses, the total requirements for off-road parking spaces shall be the sum of the requirements for the various uses. Off-road parking facilities for one use shall not be considered as providing parking facilities for any other use except as provided below.

(B) Joint use of parking facilities. The Director may, upon application, authorize the joint use of parking facilities required by said uses and any other parking facility provided that:

(1) The applicant shows that there is no substantial conflict in the operating hours of the building or use for which the joint use of parking facilities is proposed;

(2) The parking facility for which joint use is proposed is no farther than 400 feet from the building or use required to provide parking; and

No off-road parking spaces or joint use parking facilities are proposed. The above criteria do not apply.

4.3.6.9 LCC 934.260 Parking spaces required

The number of off-road parking spaces required shall be no less than set forth in Table 1 at the end of this Chapter.

Table 1 in LCC Chapter 934 does not provide off-road parking requirements for utility facilities or solar facilities. As no O&M building is proposed, no on-site personnel are anticipated, except for maintenance or repair events.

4.3.6.10 LCC 934.525 RRZ Property Coverage Standards

In the EFU, F/F, and FCM zoning districts, the maximum coverage for the principle building and all accessory buildings and structures shall not exceed 20 percent of the total property area.

For purposes of compliance with this criterion, "principal building," means "*a building within which is conducted the principal use permitted on the property as provided by this Development Code"* per LCC 920.010(254). "[S]tructures means "*anything built or erected above or below ground*" per LCC 920.010(314). The Facility does not have a principal building and instead consists of decentralized features as described in the Background Information Exhibit.

Regarding coverage, *"'Coverage' (of property), in reference to a unit of land,*

(a) Means that portion of a unit of land which, when viewed directly from above, would be covered by buildings and other structures, excluding such structures as fences (see Appendix 1, Figure 1… [included as Attachment D-2 herein]*).*

(b) The factors to be considered in determining coverage include the adequacy of:

(i) setbacks;

(ii) storm water absorption;

(iii) approved septic system;

(iv) open space and neighborhood livability preservation;

(v) nonstructural amenities such as areas for parking, loading, traffic circulation and landscaping; and

(vi) productivity of resource land preservation." LCC 920.010(69).

The text of LCC 934.525's coverage ceiling does not apply in a straightforward manner to porous land uses like the Facility. As shown on Attachment D-2, buildings and structures that are fixed on the landscape with roofs (i.e. dwelling/office, carport, covered patio, and shed/accessory structure) constitute "coverage" of the property, while structures comprised primarily of posts and horizontal features (like fences) are excluded. Of the Facility components, the BESS and collector substation permanent impact areas are the most similar to fixed structures with roofs and count towards the coverage calculation, while the aboveground gen-tie line consisting of electrical cables held aloft by support pole structures is the most similar to a fence and is exempt from the coverage calculation. Additionally, based on the coverage factors in LCC 934.525(b), paved surfaces, such as sidewalks and driveways, are excluded.

The solar array infrastructure is mounted on racking and tilts throughout the day to maximize sunlight capture and often will be vertically tilted and thus minimally "*viewed directly from above.*" During Facility operation, the land between and around the solar array infrastructure will be returned to agricultural production. In this manner, the solar array infrastructure could be considered as similar to a fence that would be excluded from the coverage calculation. Even so, to provide a more conservative estimate of coverage related to the solar arrays, and consistent with the factors in subsection (b), the Applicant uses the total solar array area acreage minus the acreage that will remain in agricultural production (827 acres – 695 acres = 132 acres coverage) for the property coverage calculation (Table D-4).

Table D-4. Facility Component Property Coverage Structures

Facility Component Subject to Coverage Standard	Permanent Impacts
Solar Array Infrastructure	132 acres
Battery Energy Storage System	3.8 acres
Collector Substation	0.9 acres
Total	**136.7 acres**

Adding the permanent impacts areas from the solar array infrastructure, BESS, and collector substation together provides the maximum coverage. Therefore, in total, the Applicant calculates approximately 136.7 acres of coverage associated with the Facility.

With respect to the relevant "total property area" subject to LCC 920.525's coverage calculation, while the LCC defines "property" with respect to authorized units of land like properly recorded "lots" and "parcels, it does not provide a definition for the "total property area." Because the Facility has been strategically sited to avoid impacts to more sensitive resource areas, it would be located across portions of multiple lots and parcels. Accordingly, the "total property area" for the Facility, i.e., the sum of the properties on which the Facility Site Boundary would be located, consists of the map and tax lots listed in Table 2 of the Background Information Exhibit which total approximately 2,150 acres.

In summary, the total property area consists of approximately 2,150 acres and coverage by Facility structures (BESS, collector substation, and uncultivated portion of the solar array areas) consists of approximately 136.7 acres. As a result, the coverage of the total property area is approximately 6 percent (136.7 acres/2,150 acres), which does not exceed 20 percent of the total property area. The Facility thus complies with LCC 920.525.

4.3.6.11 LCC 934.530 RRZ structural setbacks

(A) The minimum structural and dwelling setbacks are:

Zoning district	Minimum structural set back in feet from		
		Protected Mineral or Aggregate Site*	FCM zoning district
EFU		100	200
F/F		100	200
FCM		100	n/a
*Applies to a residential dwelling in an EFU, F/F, and FCM zoning district			

No dwellings are proposed; therefore, the setback standard from a protected mineral or aggregate site does not apply. The Solar Facility Site Boundary is located over 0.5 miles from the closest FCM zoning district (see Figure D-2). Therefore, all structures associated with the Facility will be set back more than 200 feet from the closest FCM zoning district boundary, and the Facility complies with this setback requirement.

(B) The minimum yard setbacks for all structures are:

	Front yard	Side yard	Rear yard
EFU	30 or 60*	50	50
F/F	30 or 60*	50	50
FCM	30 or 60*	100	100
*30 feet from the front line, or 60 feet from the center of the road, whichever is greater.			

[Adopted 98-002 §3 eff 3/4/98; 99-156 §10 eff 6/30/99; amd 12-315 §8 eff 12/12/12]

The yard setbacks in the RRZ zone under LCC 934.530(B) do not clearly or squarely apply to the proposed Facility because it is unclear whether or how any such "yards" would be triggered on the lots comprising the Site Boundary. Relevant definitions are provided below.

> ***LCC 920.100(B)(141):*** *"Front Yard" means the unoccupied and unobstructed space extending the full width of the property between a building and the front property line, and measured perpendicular to the building line and the closest point of the front property line (see Appendix 1, Figure 6 following this chapter)."*
>
> ***LCC 920.100(B)(299):*** *"Side yard" means the unoccupied and unobstructed space (a) from the ground upward, except as otherwise permitted, (b) extending from the front yard to the rear yard between the building and the side property line measured perpendicular to the building line and the closest point of the side property line (see Appendix 1, Figure 6 following this chapter)."*
>
> ***LCC 920.100(B)(271):*** *"Rear yard" means the unoccupied and unobstructed space: (a) from the ground upward, except as otherwise provided, and (b) extending the full width of the property between a building and the rear property line, and measured perpendicular to the building line and the closest point of the rear property line (see Appendix 1, Figure 6 following this chapter).*
>
> ***LCC 920.100(B)(140):*** *"Front property line," in reference to a unit of land, (a) means: (i) A line that is the common boundary between the property and any abutting public road. A front property line does not include the line that is the common boundary between the property and any abutting alley. (ii) In reference to an interior property, the line of the interior property lying closest to and parallel with the road, other than an alley. A front property line does not include the line of the interior property lying closest to and parallel with any abutting alley. (b) The determination of how much of the property fronts on a road or roads is used to determine where to apply a front property line setback. If the road is curved, the front property line is based on the nature of that curvature as determined by the County (see Appendix 1, Figure 2 following this chapter)."*

Under these definitions, the relevant "yard" for setback purposes is defined with respect to a single "building" on a property and a "front," "side," or "rear" property line, which in turn hinges on the property's orientation to "abutting" roads. The yard provisions do not contemplate, or appear to

apply to, Facility components that comprise various types of site features interspersed across property lines without respect to a single building. Even if certain components of the Facility were considered "buildings" (i.e., BESS or inverters) for the purposes of determining the yards for each parcel in the Site Boundary, none of the proposed "buildings" associated with the Facility are oriented with reference to any abutting road such that they would support any relevant "yard" to trigger this setback. As such, it is unclear whether any "yards" exist for the Facility or, if so, where such yards are located. Accordingly, these yard setbacks do not apply.

To the extent that the existing dwelling on one of the lots within the Site Boundary (Parcel 15S03W2300100) imposes a "yard setback," all proposed Facility components (with the exception of the fenceline and access road/driveway) would comply with all yard setbacks (see Background Information Exhibit, Figure 2).

If any "yard" does exist on the subject properties within the Site Boundary with respect to the non-dwelling site features, the Applicant requests a variance from this requirement. LCC Chapter 938 Variance Procedure Code allows for variances from the Development Standards Code (LCC 934) as a means to alleviate impractical restrictions on development which would result from an overly strict or literal interpretation and enforcement of those standards. Under LCC 938.300 Decision Criteria (A), a variance may be granted from the standards regulating property development as set forth in LCC 934 when an applicant shows that all of the criteria in subsection (B) have been met. Under LCC 938.300 (B) Decision criteria include:

1. A variance from a development standard as set forth in LCC 934 (Development Standards Code) is needed because conditions or circumstances or both exist on the land or structure involved that renders development impractical or impossible;
2. Granting a variance from a development standard will not have a significant adverse affect on property, improvements, or public health or safety in the vicinity of the subject property; and
3. Approval of the variance is limited to the minimum necessary to permit otherwise normal development of the property for the proposed use.

Requiring major components of the proposed Facility including the solar modules, tracker systems, posts, and related electrical equipment (i.e., underground cabling and inverters/Power Conditioning Stations [PCS]) to be setback from all property boundaries within the Site Boundary is impractical. The Facility would be located across portions of multiple lots and parcels and the Facility is strategically sited to avoid impacts to more sensitive resource areas. Furthermore, the Facility site layout and current access routes are designed to support the agrivoltaics plan. For example, some of the solar array areas are sited within an existing grass seed field that crosses multiple property lines. The solar array area is sited to take into consideration the physical orientation of the field, to avoid forested areas and canals, and to minimize impacts to the surrounding farm uses. Setting back from property lines that cut across existing farm fields would not be practical and could increase the overall footprint of the Facility, thereby imposing unnecessary adverse effects on the surrounding farm uses on the subject properties.

Regarding the related or supporting facilities, the BESS and collector substation will be setback a minimum of 60 feet from all property lines; therefore, these two Facility components would meet all yard setbacks.

The overhead transmission line will cross through multiple parcels and over a public road right-of-way. It is particularly impractical to impose setbacks on this component given the nature of this linear infrastructure. It is not typical to require overhead transmission lines to meet yard setbacks.

Internal access roads and fences may cross property lines internal to the Site Boundary and may infringe on various yard setbacks if they were so applied. Fences and driveways are typically permitted intrusions in the yard setbacks in other zones in the LCC (see LCC 934.205).

Granting a variance from the yard setback standard for these Facility components will not have a significant adverse affect on property, improvements, or public health or safety in the vicinity of the subject property. As described in Exhibit L, the Facility will not have a significant adverse affect on property, improvements, or public health or safety in the vicinity of the subject property, and nothing about the configuration of the Facility or its proposed intrusions into yard setbacks, if applicable, affects those conclusions.

Finally, even if the yard setbacks were found to apply, and EFSC were to conclude that no variance is appropriate, the Council may determine that the yard setback provision under LCC 934.530(B) is not an "applicable substantive criteria" as defined in OAR 345-022-0030(3) because it is not a land use regulation required by statewide planning goals and does not implement any requirements of Statewide Goal 3 (Agriculture). See, e.g., EFSC, Final Order on the ASC for the Nolin Hills Wind Power Project (July 19, 2023), at p.78 (concluding that county rural residence setback was not required by Goal 3 and thus not an applicable substantive criterion.)

4.3.6.12 LCC 934.535 RRZ riparian habitat setback

The minimum setbacks from a riparian habitat are:

Zoning district	Minimum riparian habitat set back in feet from*		
	Structures	New road	Protected Mineral or Aggregate Site
EFU	50	50	50
F/F	50	50	50
FCM	50	50	50
*(1) from the top of a bank of a sensitive riparian habitat as described in the *Comprehensive Plan* and shown in Appendix 1, Figure 8 following LCC Chapter 920 (Development Code; General Provisions), or (2) from the top of a bank, or as otherwise shown for a lake or wetland identified in the *Comprehensive Plan* and shown in Appendix 1, Figure 8 following LCC Chapter 920 (Development Code; General Provisions). The setback does not apply to water-dependent uses.			

[Adopted 98-002 §3 eff 3/4/98; 99-156 §10 eff 6/30/99]

All structures are set back a distance of at least 50 feet from riparian habitat .

4.3.6.13 LCC 934.540 RRZ maximum heights

(A) For properties within the RRZ not having an Airport Overlay, there is no maximum height limitation.

(B) For properties within the RRZ having an Airport Overlay, the maximum height limitations are subject to LCC 931.030.

Zoning District	Maximum height limitation in feet	
	With an Airport Overlay	Without an Air-port Overlay
EFU	LCC 931.030	none
F/F	LCC 931.030	none
FCM	LCC 931.030	none

[Adopted 98-002 §3 eff 3/4/98; 99-156 §10 eff 6/30/99]

The Facility is located within an Airport Overlay. However, LCC 931.030 does not exist in the latest revision (April 21, 2020) of Chapter 931, therefore no currently applicable height standards are specified in this chapter.

4.3.6.14 LCC 934.545 RRZ landscaping standards

In the EFU, F/F, and FCM zoning districts, landscaping shall be provided for uses set forth in LCC 934.100 to 934.260 in accordance with LCC 934.500 to 934.590.

The Applicant has included findings of compliance with the applicable sections of LCC 934.100 to 934.260 in Section 4.3.6.1 through Section 4.3.6.18.

4.3.6.15 LCC 934.550 RRZ sign standards

(A) In the EFU, F/F, and FCM zoning districts, signs are subject to the development standards in LCC 934.215.

The Facility is within the EFU zone in Linn County. Therefore, the Facility is subject to the sign standards in LCC 934.215. These standards have been addressed above in Section 4.3.6.1.

4.3.6.16 LCC 934.555 RRZ off-road parking standards

(A) In the EFU, F/F, and FCM zoning districts, the minimum standards for off-road parking shall comply with LCC 934.250 to 934.260.

Off-road parking standards for the EFU zone have been addressed above in Sections 4.3.6.5 through 4.3.6.9. The Applicant will comply with the applicable parking standards for the Facility. Therefore, the criterion is satisfied.

4.3.6.17 LCC 934.565 RRZ big game habitat density standards

In the EFU, F/F, and FCM the big game habitat density standards are:

Habitat / Clustering	Major habitat	Peripheral habitat
with clustering	16 units/section	32 units/section
without clustering	8 units/section	16 units/section

[Adopted 98-002 §3 eff 3/4/98]

The habitat density standards above are specific to the number dwelling units located within a township section and a major or peripheral habitat. As no dwellings are proposed as part of the Facility, the big game habitat density standards do not apply.

4.3.6.18 LCC 934.570 RRZ access standards

In an EFU, F/F, or FCM zoning district, access shall be designed to cause a minimum interference with traffic and shall be subject to the review and approval of the County Engineer. Upon recommendation of the County Engineer or state highway department, the dedication of additional right-of-way and improvements constructed by the applicant may be required in order to facilitate adequate traffic circulation.

The Applicant understands that the final Facility design will be subject to review by the County Engineer or state highway department and that additional improvements may be required by the County or State to facilitate adequate traffic circulation.

4.3.6.19 LCC 934.800 Overlay standards generally

There are no development standards in the DAO, HRO or SBHO.

The Applicant understands there are no development standards for the DAO, HRO, or SBHO overlay zones.

4.3.6.20 LCC 934.810 AO development standards

(A) The applicant must comply with the standards set forth in this section for all development in an AO.

(B) Height Limitations.

(1) All structures or trees shall meet all applicable standards of the Oregon Aeronautics Division and the Federal Aviation Administration.

The proposed Facility is located within the Airport Overlay (AO) zone. The aeronautics division of Oregon is the Oregon Department of Aviation (ODAV). Through Oregon ORS 836.535 and OAR 738-070, Physical Hazards to Air Navigation, ODAV has the responsibility of determining whether specific objects or structures constitute a hazard to air navigation. In order to comply with applicable standards of ODAV and the Federal Aviation Administration (FAA), the Applicant will

submit a Notice of Proposed Construction or Alteration (Form 7460-1) and Supplemental Notice of Actual Construction or Alteration (Form 7460-2) under 14 CFR § 77 (See Exhibit A, Table A-1).

> *(2) No structure, mast, antenna or wire shall be erected or altered and no tree shall exceed or be allowed to exceed the height limit within each of the imaginary surfaces set forth in subsection (C) of this section.*
>
> *(C) Imaginary surfaces.*
>
> *(1) Clear Zone. The ground area under the approach surface which extends from the primary surface to a point where the approach surface is 50 feet above the runway elevation. Land within the clear zone should be left open wherever possible. Agricultural uses are compatible unless they include structures or attract birds. The clear zone shall be 250 feet wide at the end of the runway and 450 feet wide at the beginning of the approach zone. The length of the clear zone is 1,000 feet.*
>
> *(2) Approach Surface. The surface longitudinally centered on the extended runway centerline and extending upward and outward from each end of the runway. The slope of the height restriction in this surface is 20:1. For every 20 feet from each end of the runway, the height limitation is increased by one foot to a maximum distance of 5,000 feet.*
>
> *(3) Transitional Surface. The surface that extends upward and outward at right angles to the runway centerline. This surface extends at a slope of 7:1 from the sides of the primary and approach surfaces to where they intersect the horizontal surface.*
>
> *(4) Horizontal Surface. A horizontal plane which surrounds the airport 150 feet above the airport elevation.*
>
> *(5) Conical Surface. A surface extending outward and upward from the periphery of the horizontal surface at a slope of 20:1 for a horizontal distance of 4,000 feet.*

No structures will be built within the imaginary surfaces described in LCC 934.810(C).

> *(D) Roadways, parking areas and storage yards. Roadways, parking areas and storage yards shall be located in such a manner that vehicle lights shall not result in glare in the eyes of the pilots or in any other way impair visibility in the vicinity of the runway approach.*

Roadways and storage yards will be constructed so that vehicle lights will not cause glare and impair visibility in the vicinity of the runway approach. No parking areas are proposed at the Facility.

> *(E) Other Interference Prohibited. Notwithstanding any other provisions of the Land Development Code, no use may be made of land or water within any zoning district established by the Land Development Code in such a manner as to create electrical interference with navigational signals or radio communication between the airport and aircraft; make it difficult for pilots to distinguish between airport lights and other lights; result in glare in the eyes of pilots using the airport; impair visibility in the vicinity of the airport; create bird strike*

hazards; or otherwise in any way endanger or interfere with the landing, takeoff or maneuvering of aircraft intending to use the airport.

The Facility will not result in any electrical interference with navigational signals or radio communication, as discussed in Section 6.0 of the Background Information Exhibit. Antireflective coating will be used to reduce glare and the surface of the panels will have high transmittance to increase the amount of light reaching the photovoltaic cells. As provided by the Glint and Glare Analysis (Attachment I-2 of Exhibit I), due to these mitigation measures no glare is predicted to the surrounding area. The model assumes perfectly clear weather and no obstructions between the solar panels and the receptor unless modeled through the obstruction tool. As such, the predicted results are considered conservative and actual glare would be lower. Additionally, based on the results of the FAA Pre-Screening Tool, the Project does not exceed notice criteria; therefore, it is not required for the Project to be formally filed with the FAA Obstruction Evaluation Group.

(F) Noise Sensitive Limitations. Within the applicable airport noise contours of the Albany and Lebanon airports, which are indicated on Figures 1 and 2 following this Chapter, the following regulations shall apply:

(1) In the 55 to 60 L_{dn} range day-night sound level area (L_{dn}), a declaration of anticipated noise levels shall be attached to any building permit and land division approval.

(2) In the 60 to 65 L_{dn} area, in addition to (1) above, prior to issuance of a building permit for construction of noise-sensitive land use (such as real property normally used for sleeping or normally used as schools, churches, hospitals or public libraries), the permit applicant shall be required to demonstrate that a noise-abatement strategy will be incorporated into the building design which will achieve an indoor noise level equal to or less than that of noise-sensitive property within the L_{dn} 55 area. The Director will review building permits for noise-sensitive developments.

Figures 1 and 2 for LCC 934.810 are not currently available on the Linn County website. The Facility will comply with all applicable noise regulations, as discussed in Exhibit O-3 of this ASC.

4.3.7 LCC Chapter 935 – Access Improvement Standards

4.3.7.1 LCC 935.020 Access requirements; level of use

(A) The creation of private roads, local access roads, easements of road access, flag-lots, and private driveways are subject to the minimum access requirements set forth in subsection (B).

(B) Minimum access requirements.

(4) Local access roads shall be constructed to the highest level of improvement as set forth in subsection (B).

The Facility will use existing access roads to the extent practicable. As mentioned above, the Facility can be accessed from I-5 via Diamond Hill Road, Gap Road, and Priceboro Road. The Applicant is

proposing 2.65 miles of new temporary access roads and 10.68 miles of new permanent access roads within the Facility Site Boundary to provide access to Facility infrastructure.

The proposed private access roads will be graded and graveled to meet load requirements for equipment. The private access roads will be approximately 16 to 20 feet wide and constructed to facilitate access throughout the Facility to infrastructure during construction and operation of the Facility. The proposed gravel roads will be constructed to facilitate emergency vehicle access to Facility infrastructure and will include vehicle turnaround areas.

> *(5) A reduction in right-of-way width and roadway condition may be warranted when new residences are proposed to be served by a preexisting access.*

The Applicant is not proposing the construction of any new residences in this application. This standard is not applicable to the proposed Facility.

> *(6) If a reduction in right-of-way width and roadway condition is warranted under paragraph (5) of this subsection, the Director and the Roadmaster shall retain the authority to establish minimum access requirements according to the following criteria:*
>
> *(a) The road or driveway was established and provided access to more than one residence prior to July 1, 1991.*
>
> *(b) The access improvements proposed represent an incremental improvement over the existing circumstances.*
>
> *(c) The proposed access is feasible and equitable, given the circumstances involved.*
>
> *(d) The applicant shall provide the County a written waiver of liability for an access approved under the provisions of this section.*

As previously mentioned, the Applicant is not proposing the construction of any new residences, therefore paragraph (5) of this subsection does not apply. Paragraph (6) applicability is dependent on paragraph (5) applicability. Since paragraph (5) does not apply, paragraph (6) also does not apply to the Facility.

4.3.7.2 LCC 935.100 Easements of road access; requirements

> *(A) The applicant shall record an easement of road access for an authorized unit of land if the unit of land:*
>
> *(1) does not having frontage on a public road; or*
>
> *(2) has frontage on one of the above roads but to which access is provided by means other than road frontage.*
>
> *(B) The deeds of the authorized unit of land encumbered by granting the easement and the deed of the authorized unit to which the access easement is granted shall reflect the existence of the easement described in subsection (A).*

The proposed Facility has obtained or will obtain and record easements necessary for access that is not provided by a public road.

4.3.7.3 LCC 935.200 Minimum construction standards for access

(A) Construction of the access must comply with the minimum improvement standards set forth in subsection (B) before development permits for a primary use of the land may be issued. Additional improvements are required for an access serving more than three development sites. Any variance to these standards is subject to review and written approval by the appropriate Rural Fire District and the Roadmaster.

(B) Minimum improvement standards.

(1) The all-weather access must be built and maintained to the minimum access requirements of LCC 935.020 and shall be at least 12 feet in width and consist of a minimum of six inches of crushed rock or crushed gravel. An acceptable alternative base for the roadbed is six inches of quarry-run rock topped with minimum of four inches of 1" minus crushed rock or 1" minus crushed gravel. The access route, including any culverts and bridges, must be capable of supporting gross vehicle weights (GVW) of 50,000 pounds. The County reserves the right to require written verification of compliance with the GVW standard from an Oregon registered professional engineer.

As previously mentioned in Section 4.3.7.1, the proposed private access roads will be approximately 16 to 20 feet in width and will serve only one development site (the Facility). These roads will be constructed to the standards provided by the above and support at least 50,000 pounds for gross vehicle weight. The 10.68 miles of permanent access roads will be maintained throughout the lifetime of the Facility.

(2) The access will be provided with an unobstructed vertical clearance of at least 13 feet six inches and an unobstructed horizontal clearance of 20 feet and a minimum curve radius of 48 feet.

The proposed roads will be designed to meet the above design standards.

(3) At least one intervisible turnout every 500 feet, or as otherwise determined by the County Engineer, shall be provided in any access way less than 20 feet wide. The turnout shall provide passage space at least 20 feet wide and 40 feet long.

The Applicant is proposing private access roads that will be 16 to 20 feet wide. For access roads less than 20 feet wide, turnouts will be provided as required by the criterion above.

(4) Roadside ditches shall be provided if deemed appropriate by the County Engineer.

The Applicant understands this provision and will provide roadside ditches, if deemed necessary.

(5) Dead-end access ways over 150 feet in length shall provide and maintain a cleared turnaround, with a turning radius of at least 40 feet. When a dead-end access serves four

or more dwellings, a turnaround with a turning radius of 48 feet shall be provided and maintained.

The Applicant will comply with these regulations and ensure that dead-end access ways over 150-feet in length in the final Facility design will have a cleared turnaround with a turning radius of at least 40 feet.

(6) Grades shall not exceed 12 percent.

The proposed service roads will be graded and graveled. The graded roads will not exceed 12 percent. The criterion is satisfied.

(7) Driveways shall be marked with the resident's rural address unless the residence is visible from the roadway and the address is clearly visible on the residence. Letters or numbers shall be a minimum of three inches in height and constructed of reflective material.

The Applicant is not proposing any dwellings. At the gated locations into the Facility, the address will be marked as required by the County.

4.3.7.4 LCC 935.250 Local access road improvements

(A) Applications for recognition of an easement to connect to a local access road, or for a partition in which a local access road is being created, shall be subject to the minimum road improvement standards in LCC 935.200.

(B) The County Engineer will inspect the local access road and determine what improvements are needed to accommodate the proposed development.

(C) The County Engineer shall determine the area (length and width) of the road right-of-way which will be improved.

(D) An easement to connect to and extend a local access road shall be subject to the local access road minimum improvement standards in LCC 935.200 (B) or (C).

(E) When a local access road is being proposed, the applicant shall deed the road right-of-way within the development to Linn County for road purposes. The executed deed shall be submitted to the county road department.

(F) Upon receipt of the executed deed, the Board, together with the Roadmaster, shall decide whether or not to accept the road as a local access road into the Linn County road records.

The Applicant will coordinate with the County Engineer during the building permit process to obtain all required easements and access permits, if local access roads are included in the final design. If applicable, these criteria will be satisfied.

4.3.7.5 LCC 935.320 Grading permit; access

A grading permit granted pursuant to LCC 921.530 may be required for actions under this Chapter.

The Applicant understands a grading permit will be required for construction of the proposed Facility components. The Applicant will obtain a grading permit prior to construction of the Facility. The criterion will be satisfied.

4.3.7.6 LCC 935.330 Rural Resource Zone access improvement standards

(A) Except as provided in LCC 935.015 (I), the access improvement standards in LCC 935.020 are applicable to all principal uses permitted in the RRZ.

The LCC access improvement standards have been addressed above for the proposed access roads within the Site Boundary. The proposed access roads comply with the improvement standards for the Rural Resource Zone. The criterion is satisfied.

4.4 Compliance with Linn County Comprehensive Plan

4.4.1 Chapter 900 Comp Plan; General Provisions

III. Plan Goals; Policies and Implementation

4.4.1.1 900.500 Plan goals and policies; generally

D. *The major purpose of the Land Use Element is to establish the goals and policies governing each of the designations on the Comprehensive Plan Map. There is a set of policies to apply to each Plan designation.*

(1) Three of the designations –

(a) Agricultural Resource,

(b) Forest Resource, and

(c) Farm/Forest – which apply to 95 percent of the county are primarily for protecting agricultural land and forest land from the encroachment of incompatible uses.

(2) The other four Plan designations–

(a) Rural Residential,

(b) Rural Center (unincorporated communities with a mixture of residential, commercial, and/or industrial uses),

(c) Commercial, and

(d) Industrial – allow for uses not directly dependent on the capability of the land for resource use. Linn County is taking an exception to Statewide Planning Goals #3

(Agricultural Lands) and #4 (Forest Lands) for the land designated in these four categories. The completed exceptions statement is on file at the planning and building department.

This section does not include policy requirements applicable to the Facility. Therefore, this subsection does not apply.

4.4.2 Chapter 901 Citizen Involvement Element Code

4.4.2.1 901.300 Citizen involvement goal

To insure that citizens have the opportunity to be involved in all phases of the planning process.

Citizen involvement in all phases of the planning process is provided by both the Applicant and ODOE. Once the Applicant submits the Notice of Intent (NOI) to apply for a permit through the EFSC, ODOE schedules a public information meeting to notify the public of the proposal and provide an opportunity to ask questions and submit comments. The NOI public information meeting was held on July 25, 2023, in Brownsville, Oregon. According to the Project Order,[3] 136 public comments were received during the comment period and 6 public comments were received after the comment deadline, but were still evaluated by ODOE. Notice of the public meeting was directly mailed to owners of property located within the distances specified in OAR 345-020-0010(1)(f)(A) on June 27, 2023, and published in the Albany Democrat-Herald on June 29, 2023. On June 7, 2023, the Linn County Board of Commissioners was appointed as a Special Advisory Group (SAG) to advise ODOE during all EFSC proceedings associated with the proposed facility. Table D-5 provides the list of agencies, groups, local jurisdictions and tribes that were included in the NOI notification process.

Table D-5. NOI Reviewing Agencies[4]

State Agencies	
• Oregon Department of Agriculture	• Oregon Department of Land Conservation and Development
• Oregon Department of Aviation	• Oregon Department of State Lands
• Oregon Department of Environmental Quality	• Oregon Office of State Fire Marshal
• Oregon Department of Fish and Wildlife	• Oregon Public Utility Commission
• Oregon Department of Forestry	• Oregon State Historic Preservation Office
• Oregon Department of Geology and Mineral Industries	• Oregon Water Resources Department
Special Advisory Group (SAG)	
• Linn County Board of Commissioners	
Local Jurisdictions for Public Services	

[3] Project Order for Muddy Creek Energy Park, October 6, 2023. 2023-10-06-MCEP-NOI-Project-Order.pdf
[4] Table contents copied from the Project Order dated October 6, 2023, page 6.

State Agencies	
• City of Brownsville	• Halsey
• City of Coburg	• Junction City
• Cit of Eugene	• Lane County Planning Department
• City of Harrisburg	• Linn County Planning Department
• City of Springfield	
Other Reviewing Agencies	
• Pacific Northwest Electric Power and Conservation Planning Council	
Tribal Governments	
• Confederated Tribes of Grande Ronde	• Confederated Tribes of Siletz Indians
• Confederated Tribes of Warm Springs	

The Applicant held an additional public information meeting on March 4, 2024, to continue providing members of the public the opportunity to ask questions and submit comments.

In this manner, ODOE and the Applicant are consistent with the policy of notifying the appropriate agencies of current planning cases as provided above. The SAG will continue to ensure the review process of the Facility is consistent with Linn County's applicable substantive criteria. The Applicant will work with EFSC and the County to continue to notify appropriate agencies throughout the permitting process.

4.4.2.2 901.400 Citizen involvement policies

(A) The policies for citizen involvement are set forth in subsection (B) of this section.

(B) Policies.

(1) Linn County shall continue to follow the approved citizen involvement program during Plan implementation and update.

(2) The committee for citizen involvement shall continue to periodically evaluate citizen involvement in Linn County planning processes.

(3) Linn County shall continue to use the approved agency involvement program to notify the appropriate agencies of current planning cases.

These policies pertain to Linn County and therefore are not applicable to the Facility. Additionally, the Applicant has elected to have the Facility reviewed under EFSC which supersedes the County citizen involvement policies.

4.4.3 Chapter 903 Natural Resources Element Code

Section II Environmental Quality, goal 903.140, policies 903.160:

4.4.3.1 903.140 Goal for environmental quality: To maintain and improve the quality of the air, water, and land resources of Linn County.

(E) Linn County shall cooperate with state and federal agencies to control erosion and sedimentation in connection with land development plans.

A detailed analysis of soil impacts from construction and operation of the Facility are provided in Exhibits B and C of this application. In order to minimize the impacts to soils within the Facility Site Boundary, the Applicant will obtain a National Pollutant Discharge Elimination System (NPDES) (1200-C) Permit from the Oregon Department of Environmental Quality (ODEQ). This permit requires the implementation of an Erosion Control and Sediment Plan (ESCP) which includes best management practices to reduce the probability of erosion. A draft ESCP is included with Exhibit C as Attachment C-1.

(G) Linn County shall utilize its agency involvement program to request comments on land use decision which may affect water quality.

The proposed Facility is not anticipated to affect water quality within the Facility Site Boundary. As previously mentioned, the Applicant will obtain an NPDES 1200-C permit which is used to regulate stormwater runoff to surface waters from construction activities. This permit requires the implementation of best management practices to ensure water quality will not be affected within the site.

(I) Linn County shall utilize its agency involvement program to request comments on the impact of land use decisions which may adversely affect noise control standards.

Noise control standards and regulations are addressed in Exhibit O-3 of this ASC.

4.4.3.2 903.160 Policies for environmental quality

(A) Linn County shall cooperate with DEQ in implementing air quality standards.

(B) Linn County shall utilize its agency involvement program to request comments on the impact of land use decisions which may effect air quality.

(C) Linn County shall obtain and utilize information from DEQ and other appropriate agencies on the carrying capacity of the county's airsheds.

(D) Linn County shall cooperate with DEQ and other governmental agencies in developing and implementing water quality management

(E) Linn County shall cooperate with state and federal agencies to control erosion and sedimentation in connection with land development plans.

(F) Linn County shall cooperate with DEQ in applying state laws and standards in reviewing septic tank applications and identifying health hazard areas.

(G) Linn County shall utilize its agency involvement program to request comments on land use decision which may affect water quality.

(H) Linn County shall cooperate with DEQ in implementing noise control regulations.

(I) Linn County shall utilize its agency involvement program to request comments on the impact of land use decisions which may adversely affect noise control standards.

The above policies do not apply to the Facility because coordination between agencies is dictated by EFSC procedures, which supersede local procedures. The Applicant will solicit comments from ODEQ during the EFSC process and obtain all applicable ODEQ permits prior to construction of the Facility. Therefore, the EFSC procedures are consistent with the County's policies.

Section III Areas Subject to Natural and Geologic Hazards, goal 903.250, policies 903.260(B):

(1) Linn County shall use the best information available to identify areas subject to flooding, mass movement, and severe ponding, and areas outside rural fire district boundaries. The Federal Emergency Management Agency (FEMA) Flood Insurance Study for Linn County, Oregon and Incorporated Areas dated September 29, 2010 and subsequent amendments by that agency shall be the official data source for determining if a property is within a flood hazard area.

The policy is only applicable to Linn County. However, as described in Section 5.2.1, LCC Chapter 870, the Site Boundary contains areas shown within Zone A of the FEMA 100-year floodplain as provided by FEMA FIRM Panels 41043C1145G and 41043C1435G (FEMA 2026). The Applicant has designed the location of Facility structural infrastructure to be at least 50 feet from the boundary of the mapped 100-year floodplain. The Applicant will apply for and obtain a development permit prior to any construction activity within the FEMA designated floodplain, if required by final design.

(2) Bulletin 84, Environmental Geology of Western Linn County, Oregon and subsequent amendments shall be the official source for determining if a property is located within a mass movement area. If a property is within the identified hazard area, the Department shall require an applicant to provide a report from a qualified professional that states the property is not subject to mass movement or that the site can be safely developed using specific construction and site preparation methods.

The Facility is not within a mass movement area (USGS 1974). Therefore, this policy is not applicable to the Facility.

(3) Linn County shall review development in areas known to be subject to natural disasters and geologic hazards. The degree of risk associated with the hazard present shall determine the allowed density of future development.

This policy is specifically applicable to Linn County. However, the Site Boundary is not in an area known to be subject to natural disasters and geologic hazards (see Exhibit B). Therefore, the degree of risk associated with natural and geologic hazards is not applicable to the Facility.

(4) Subdivision plats submitted to Linn County for approval shall indicate specific areas potentially subject to natural or geologic hazards.

The proposed solar generating Facility is considered a "utility facility" under LCC Section 920.010 (332). A subdivision plat is not required for approval of this type of use. Therefore, this policy is not applicable.

> *(5) Linn County shall communicate with the Army Corps of Engineers, USDA Natural Resource Conservation Service, the Linn District of the State Forestry Department, and other federal or state agencies in efforts to protect the citizens of Linn County from natural disasters and geologic hazards in areas potentially subject to development which could intensify adverse conditions in areas subject to geologic or natural hazards.*

The above policy is specifically applicable to Linn County. However, the proposed solar generating facility will not intensify adverse conditions in areas subject to geologic or natural hazards. An in-depth analysis of natural and geologic hazards within the Site Boundary is provided in Exhibit B of this ASC. The Facility will be designed to avoid any identified natural and geologic hazards.

> *(6) Open space uses such as agriculture, forestry, and recreation shall be permitted in identified flood hazard areas.*

The Applicant is proposing a solar generating facility, not an open space use. Therefore, this policy does not apply.

> *(7) Linn County shall continue to regulate fill and excavation activities in Linn County in order to protect lives and properties from the potential adverse affects of foundation instability.*
>
> *(8) Linn County shall encourage fire protection service appropriate to the level of development in all areas of the county. Future subdivisions and planned unit developments located outside a rural fire district shall be required to be annexed to a rural fire district or contract for fire protection in order to protect the lives and property of the area.*
>
> *(9) Linn County shall cooperate and communicate with the Linn District of the State Forestry Department regarding future development within the Linn Fire Patrol District.*

The above policies are applicable to Linn County. Therefore, they not applicable to the Facility.

> *(10) Linn County recognizes the potential for forest fire when rural residential areas abut forested areas. Preventive measures should be taken by the rural resident to minimize the fire hazard potential.*

The Applicant has analyzed the risk of wildfire within the Facility Site Boundary and the 5-mile wildfire analysis area in Exhibit M. The overall fire risk is considered low for the Site Boundary and wildfire analysis area. This is based on low probability of ignition and low expected intensity as measured by average flame length, fuels, weather, and topography. The Applicant has proposed several fire minimization techniques in the draft Construction and Operational Wildfire Mitigation Plans (Exhibit M, Attachments 1 and 2).

> *(11) If a development is proposed in an area known to have geologic or natural hazards, the county may require the applicant to submit a report which details the extent of the hazard.*

The county, before approving the proposal, must find that presence of a hazard will not be detrimental to the development.

The above policies are the responsibility of Linn County to implement. An in-depth analysis of natural and geologic hazards within the land use analysis area is provided in Exhibit B of this application.

Section IV Open Spaces, Scenic and Historic Areas, and Natural Resources, goal 903.340:

B. Natural Areas, policy 903.415(B):

(1) Linn County shall cooperate with public and private efforts to preserve and protect natural areas. Concerned agencies shall be contacted when land use proposals affecting potential natural areas are received. Further evaluation of the delayed decision natural area sites will occur as specific information becomes available. Conflicting uses, if any, and the environmental, social, economic and energy consequences of such uses will be determined at that time. Linn County will then apply the necessary mechanisms that either protect the resource site, fully allow conflicting uses to occur, or limit conflicting uses.

The above policy is the responsibility of Linn County to implement. Further, the proposed Facility is not within an identified natural area in Linn County. Therefore, the policy is not applicable to the Facility.

C. Scenic Views and Sites, policy 903.425(B):

(1) Linn County shall cooperate with the U.S. Forest Service and the U.S. Bureau of Land Management in reviewing planning efforts for outstanding scenic views and sites occurring on federal lands.

The above policy is the responsibility of Linn County to implement. Therefore, the policy does not apply to the Facility.

D. Historic and Cultural Areas, policies 903.435(B):

(5) Linn County will seek to coordinate its historic preservation efforts with historic preservation programs, organizations, and agencies that exist at the local, private, federal, and state levels.

This policy is only applicable to Linn County. Therefore, the policy is not applicable to the Facility.

(11) The development of a major facility shall be accomplished in a manner not having a significant adverse impact on an historic area.

Response: LCC 904.110 defines "major facility" as "large scale improvements designed to provide regional services such as power generation or power transmission, transportation, and public health and safety." The Applicant believes that the Facility meets this definition as a power generation facility and has addressed criteria throughout this document that are pertinent to "major facilities."

The proposed Facility will not have a significant impact on historic areas. Exhibit J provides an analysis of potential significant impacts of the Facility on historic, cultural, and archaeological resources. No historic areas were identified within the Site Boundary.

E. Wilderness, Recreation Trails and Scenic Waterways, policy 903.445(B):

> *(2) The development of a major facility shall be accomplished in a manner not having a significant adverse impact on a sensitive fish or wildlife habitat or scenic or historic area.*

The Facility will not have a significant adverse impact on a sensitive fish or wildlife habitat or scenic or historic area. Impacts to fish and wildlife habitat are discussed in more detail in Section 4.3.5.2 in response to LCC 933.220(C)(4) and in Exhibits G and H. Impacts on historic, cultural, and archaeological resources are discussed above in response to LCC 903.340(D)(11) and in Exhibit J. Impacts on scenic resources are discussed in Section 4.3.5.2 in response to LCC 933.220(C)(3) and in Exhibit I.

F. Fish and Wildlife Areas and Habitats, policies 903.510(B):

> *(1) Linn County will cooperate with the Oregon Fish and Wildlife Department, the Linn County cities, the U.S. Agricultural Stabilization and Conservation Service, the Bureau of Reclamation, and the Soil and Water Conservation Districts of the region to identify and recognize areas of sensitive fish and wildlife habitat.*

This policy is only applicable to Linn County. Therefore, the Applicant has elected not to address it.

> *(2) Big game habitats have been jointly identified and mapped by the Oregon Department of Fish and Wildlife (ODFW) and the county. These maps, available in the planning and building department, show which areas of the county are within major, peripheral and impacted habitats. Development in these habitat areas will be closely monitored. Changes in habitat areas will be mapped and evaluated annually to determine if changes in standards are warranted.*

As discussed in Exhibit G, the Site Boundary is located within the Western Oregon Big Game Year-Round Peripheral Habitat overlay. The Applicant will conduct wildlife monitoring as described in Exhibit G. The Facility will comply with the policy listed above.

> *(3) The major and peripheral habitats are protected from most conflicting uses through application of the Forest Conservation and Management (FCM), Exclusive Farm Use (EFU), and Farm/Forest (F/F) zones. The FCM, EFU, and F/F zones encourage resource activities and limit potentially conflicting uses. Because of the recreational, economic, aesthetic, and ecological value of fish and wildlife, the potential impact on sensitive habitats will be assessed on planning permit applications for conditional uses, variances, and zone and plan amendments. Siting standards, including the use of setbacks and clustering methods, will be used to lessen impact on habitats.*

As discussed above and in Exhibit G, Western Oregon Big Game Year-Round Peripheral Habitat was found within the fish and wildlife analysis area (0.5-mile buffer around the proposed Site Boundary). Streams classified as having fish presence will be provided at minimum a 50-foot

riparian setback from the ordinary high-water mark. The Applicant will work with ODFW to identify priority areas to provide larger buffers where feasible to reduce potential impacts to amphibians and turtles.

> *(12) Linn County will rely upon the Oregon Forest Practices Act, the Willamette River Greenway program, a building setback provision and an overlay district to protect identified sensitive riparian habitat and sensitive nesting areas.*

The above policy is specific to Linn County. Therefore, the policy is not applicable to the Facility.

> *(13) The development of a major facility shall be accomplished in a manner not having a significant adverse impact on a sensitive fish or wildlife habitat or scenic or historic area.*

The Facility will not have a significant adverse impact on a sensitive fish or wildlife habitat or scenic or historic area. Impacts to fish and wildlife habitat are discussed in more detail in Section 4.3.5.2 in response to LCC 933.220(C)(4) and in Exhibits G and H. Impacts on historic, cultural, and archaeological resources are discussed above in response to LCC 903.340(D)(11) and in Exhibit J. Impacts on scenic resources are discussed in Section 4.3.5.2 in response to LCC 933.220(C)(3) and in Exhibit I.

G. Water Resources, policies 903.620(B):

> *(2) Linn County shall cooperate with the Oregon Department of Water Resources' efforts to properly manage the use and development of surface and ground water resources.*

The above policy is specific to Linn County. Therefore, the policy is not applicable to the Facility.

> *(4) The National Wetlands Inventory Maps shall be the official data source to determine if a property is affected by wetlands. Linn County shall cooperate with the Oregon Division of State Lands' efforts to limit or mitigate development within inventoried wetland.*

A desktop analysis was conducted which involved reviewing the Statewide Wetland Inventory, which includes multiple datasets such as the National Wetland Inventory (NWI), National Hydrography Dataset (NHD), and NRCS Soil Surveys. Wetland delineations for the Facility were conducted in 2023-2025. The delineation report is under review at the Oregon Department of State Lands (WD2023-0366). Proposed temporary and permanent impacts to wetlands and mitigation efforts are discussed in detail in Exhibit O-1.

4.4.4 Chapter 904 Community Facilities and Development Element Code

Section I Public and Major Facilities and Services

4.4.4.1 904.210 Policies for public facilities and services

> *(4) Linn County shall seek to prevent reduction of existing levels of public facilities and services brought about by new development.*

Exhibit L discusses potential impacts of the Facility on public services including sewer and water services, stormwater drainage, solid waste management, housing, traffic safety and operations,

police and fire protection, health care, and schools. As discussed in Exhibit L, the proposed Facility will not have significant impacts on public facilities and services.

> *(8) Linn County shall consider accessibility of emergency services, health services, and public safety services through the land use review process.*

As discussed in Exhibit L, the proposed Facility will not have significant impacts on public services, including emergency and health services. The Applicant has corresponded with local service providers to ensure the Facility will have access to emergency, health, and public safety services (see Exhibit L, Attachment L-1).

> *(11) A major facility shall be designed to minimize adverse impacts on public facilities. If an adverse impact is identified, a plan to reduce such impacts shall be developed and implemented.*

As stated above and in Exhibit L, the Facility is not anticipated to have adverse impacts on public facilities nor services. Therefore, no minimization or mitigation strategies are proposed.

> *(12) Linn County shall coordinate with utility companies and state and federal agencies in the placement of energy and communication transmission lines and encourage these facilities to be sited so as to:*
>
> *(a) Limit impacts on land owners by following property lines where feasible;*
>
> *(b) Jointly utilize or parallel existing rights-of-way in so far as safety and reliability permit;*
>
> *(c) Maintain productive use of the land in so far as possible; and*
>
> *(d) Mitigate adverse environmental impacts.*

As discussed in Section 4.3.3, the Applicant is proposing a 230-kV gen-tie transmission line that will extend approximately 0.5 miles from the Facility collector substation to the existing PacifiCorp Diamond Hill Substation (see Background Information Exhibit, Figure 2), which falls within the "utility facilities necessary for public service" use category and requires a Type IIA conditional use review pursuant to LCC 921.120. The proposed gen-tie line traverses private land through an easement authorized by the property owner. The proposed gen-tie line will be located directly adjacent to the existing 230-kV PacifiCorp Diamond Hill-McKenzie and the 138-kV Emerald People's Utility District Diamond Hill transmission lines. Energy collected by the proposed 230-kV gen-tie line will be collected at the Diamond Hill Substation and transmitted to the northwest power grid by way of the existing 230-kV PacifiCorp Diamond Hill-McKenzie transmission line. The proposed 230-kV gen-tie transmission line meets the definition of "associated transmission line" and is therefore considered a utility facility necessary for public service. As with the existing transmission lines crossing the affected landowner's property, after the proposed gen-tie line is installed, the landowner will be able to continue farming activities if desired. Due to the location of the proposed gen-tie transmission line on land already disturbed by agricultural activities, adverse environmental impacts are not anticipated. Environmental impacts associated with the Facility and any resulting mitigation efforts are discussed in Exhibits G and H.

(13) Linn County will seek and consider information about the provision of police and fire protection in the development of plans, land decision proposals and land use decisions.

As discussed in Exhibit L, the Applicant will be coordinating with the Linn County Sheriff's Office, Harrisburg Fire & Rescue District, and Linn County Fire Defense Board for police and fire services for the Facility. As explained in the Background Information Exhibit and Exhibit M, the Facility will be equipped and constructed for fire prevention. The solar array will have shielded electrical cabling, as required by applicable code, to prevent electrical fires. In addition, the collector system and substation will have redundant surge arrestors to deactivate the Facility during events of unusual operational events that could start fires. The collector substation will have also sufficient spacing between equipment to prevent the spread of fire. All electrical equipment will meet National Electrical Code and Institute of Electrical and Electronics Engineers standards and will not pose a significant fire risk. Vegetation within the fence line, and along the transmission line corridor, will be managed as needed to reduce fuels for fire. The Facility will be designed and constructed to minimize potential adverse impacts from fire. Given the inherent fire-safety features of Facility components and the relatively small number of new temporary and permanent residents, significant new demands on the fire protection forces that serve the area are not anticipated.

Construction and operation of the Facility would not likely result in a significant adverse impact to law enforcement services. As part of this application, the Applicant is proposing to construct 6-foot-tall fences around the solar array area. These fences will help to prevent the public from accessing the site. Containers used for the BESS facilities will remain locked at all times. The collector and BESS will also be surrounded by 6-foot fences that will stay locked unless accessed by Facility staff. With the implementation of these security measures, the Applicant does not anticipate an increase in the need for police protection services for the Facility.

4.4.4.2 Section I. Public and Major Facilities and Services

904.220(B): ***Policies for major facilities and services.***

(1) The county is aware of the impact a major facility may have and will review the following major facilities through applicable provisions in Linn County Code, administrative rules and sate statutes unless the county decision authority is preempted by state or federal law or regulation.

e) Power transmission corridors of 69KV capacity or greater; and

The Applicant is proposing a 230-kV gen-tie line to transfer power from the project collector substation to the existing 230-kV PacifiCorp Diamond Hill Substation. Therefore, the proposed gen-tie line meets the definition of a major facility and applicable state statutes and administrative rules have been addressed in Section 4.3 of this narrative.

(2) The county shall be involved at the initiation of the planning process for a major facility in order to identify local concerns at an early stage of project development. The county may conduct public hearings on proposed major facilities' when the local decision

process is pre-empted and it is in the county's interest to be actively involved in project development.

The Applicant has elected to have this application reviewed by EFSC. Therefore, the Applicant was required to submit an NOI for the proposed project. Linn County provided comments for the proposed Facility, which were included as part of the First Amended Project Order. Once the Applicant submits the ASC, Linn County will have another opportunity to comment on the proposed application and attend a public hearing for the Facility. Therefore, the County is an active part of the EFSC process.

(3) The development of a major facility may be permitted as specified in Linn County Code

Per LCC 928.320, major facilities, such as the proposed gen-tie line, are permitted as a conditional use in the EFU zoning district. The Applicant has addressed the applicable criteria for the proposed gen-tie line.

(4) The county will coordinate its major facility review with other agencies having an interest in the project.

As previously mentioned, the Applicant has elected to have the proposed Facility reviewed by EFSC. The County may provide comments through its involvement in the review process as a SAG (see Table D-5).

(5) If review of a major facility has begun at the state or federal level, then the applicant shall provide to the county all materials submitted to other reviewing agencies.

As previously mentioned, the Applicant has elected to have the proposed Facility reviewed by EFSC. Once the ASC has been submitted to EFSC, a public information meeting will be held to explain the application and the evaluation process. Then ODOE will issue a proposed order that addresses applicable issues identified by state and local agencies.

(6) A final development plan for a major facility shall be reviewed by the county through the land use process and conditions may be established to regulate operations and site development. The planning commission or board of commissioners may designate conditions of approval when deemed appropriate.

As previously mentioned, the Applicant has elected to have the proposed Facility reviewed by EFSC. The Linn County Board of Commissioners may submit comments and recommendations to EFSC. However, EFSC has the final authority for what will be included as conditions of approval.

4.4.4.3 Section III. Housing

904.320(B). ***Housing; policies.***

(1) Linn County will continue its coordination efforts in the assessment of, and planning for, regional housing needs in order to assure:

(a) Fair share distribution of 1 housing types and price levels;

(b) Fair share distribution of assisted housing; and

(2) Consistent housing policies and coordinated actions.

(3) Linn County will cooperate with local, state, and federal agencies to develop programs and funding sources that provide support for the maintenance and rehabilitation of existing housing and provide assistance to low and moderate income households to obtain housing.

(4) Linn County will maintain and regularly update a data inventory of:

(a) The type and condition of existing housing stock; and

(b) The current supply of buildable residential lands.

(5) Linn County will investigate alternative methods of permit processing and may change permit processing procedures in an effort to streamline the development permit process.

(6) Linn County will permit manufactured homes in the same manner as single-family dwellings are permitted.

(7) Linn County will adopted procedures and standards to permit home occupations where they do not conflict with surrounding land uses.

The Applicant is proposing a solar power generating facility, BESS, and supporting infrastructure. The Applicant is not proposing housing in this application. Therefore, the housing policies are not applicable to this application.

4.4.4.4 Section V. Energy Conservation

904.510. ***Energy conservation; goal****. To conserve energy.*

904.520. ***Energy conservation; policies.***

(A) The Linn County Comprehensive Plan shall include development patterns that allow and encourage the conservation of energy used for transportation.

(B) General information on energy conservation and renewable energy sources shall be made available to the public through the county planning and building department.

These energy policies are applicable to the County and not the Applicant. Therefore, these are not applicable to this application.

(C) Linn County will protect with resource plan designations (Agricultural Resource, Forest Resource or Farm/Forest) those sites and areas identified as having potential for future energy generation.

The Applicant is proposing a solar power generating facility within the Agricultural Resource Comprehensive Plan designation. As previously mentioned, the proposed Facility will generate up to 199 MW of solar power that will be transferred to the Northwest power grid. Therefore, the

proposed Facility complies with this policy because it is a renewable energy facility within the Agricultural Resource Comprehensive Plan designation.

> *(D) Linn County shall investigate the feasibility of incorporating solar access protection measures into the implementing ordinances during the first comprehensive plan update.*

This energy policy is applicable to the County and not the Applicant. Therefore, this policy is not applicable to this application.

4.4.5 Chapter 905 Land Use Element Code

4.4.5.1 Section II Agricultural Resource Lands, policies 905.120(A) and (H)

> *(A) Linn County will protect and maintain the farm orientation of the Agriculture Resource areas. Uses will be permitted according to applicable statutes, administrative rules and local code.*
>
> *(B) Linn County will use the land use planning process to minimize conflicts between agriculture uses and other non-resource land. Proposed development in the Exclusive Farm Use zone will be assessed and mitigated to minimize potential conflicts.*
>
> *(C) The public review process assesses proposed land use activities in the farm zone. Notices of pending land use action are sent to surrounding property owners, government agencies and other interested parties for comments for discretionary land use decisions. Responses help the county determine if the decision criteria can be met.*
>
> *(F) Agriculture Resource lands will be kept in large tracts to ensure farming can occur and the land is being used for its intended purposes. The minimum lot size is set by statute to ensure the land base continues to be suitable for resource production. The partition, land division and property line adjustment sections of the LCC establish standards for reducing the size of a parcel and creating new parcels.*
>
> *(G) Conversion of a tract or parcel that is designated as "Agricultural Resource" on the Comprehensive Plan map to a different Comprehensive Plan designation requires an exception to Statewide Planning Goal 3 and a Comprehensive Plan amendment. These reviews are difficult since they propose to remove land from agriculture production. This public process entails a hearing before the Planning Commission and the Board of Commissioners. This process provides the opportunity to assess the merits of the proposal and determine potential impacts on nearby resource land.*
>
> *H) Linn County recognizes the value of the Agricultural Land Evaluation and Site Assessment (LESA) system as a planning tool. This system aids in rating the agricultural value of land and determining its relative suitability for agricultural use. The LESA system is described in a Western Rural Development Center publication No. 26, dated February 1984, and entitled, Adapting the Agricultural Land Evaluation and Site Assessment (LESA) System in the Pacific Northwest. The LESA methodology used is described in an unpublished paper entitled "The Use of Agricultural Land Evaluation and Site in Linn County, Oregon" by Pease, et. al. This paper is*

included as an appendix to the Agricultural Lands Background Report. The county will use the LESA system as a means to analyze agricultural land issues in current and long-range planning cases.

This above policy directs Linn County to protect Agricultural Resources areas according to ORS, OAR and LCC regulations. In concert with this effort, the Applicant is following the submission and review requirements set forth by the State of Oregon. According to ORS 469.300 and 215.446, the proposed Facility falls within the use category of "Energy Facility" because it is a solar photovoltaic power generation facility that would be located on more than 160 acres of high-value farmland as defined in ORS 195.300. ORS 469.300 states that Energy Facilities are subject to EFSC review.

No property divisions are proposed. No zone change is included as part of the Goal 3 Exception request. The Facility is proposed to be entirely within the Rural Resource Zone and EFU zoning district. Solar power generating facilities and their associated components are permitted in agricultural lands under LCC 928.320. The Facility has demonstrated compliance with the applicable local code (Sections 4.2, 4.3, and 4.4 of this exhibit), state statutes, and administrative rules (Sections 4.5, 4.6, and 4.7).

4.4.6 Chapter 907 Transportation Plan

4.4.6.1 Section IV Road Network Policies, policies 907.394(B)(1) and (3)

(1) It is the policy of Linn County that improvement and maintenance of local access roads and private access roads is the responsibility of the land owners with property along that road.

(3) It is the policy of Linn County that all local access roads and private access roads have road width, surface improvements, design standards and levels of emergency vehicle access appropriate to the number of properties and level of traffic being serviced by the road. Improvements to local access roads and private access roads are to follow the road improvement standards as outlined in Linn County Land Development Code.

The Facility will use existing local roads for access throughout the Facility site to the extent possible. The Facility will take access from Mt. Tom Drive and Priceboro Drive. The Applicant is not proposing any improvements to these existing local roads in this application. If improvements are required for the local roads, the Applicant will work with the County to ensure they are completed.

The Applicant is proposing 2.65 miles of new temporary access roads and 10.68 miles of new permanent access roads within the Facility Site Boundary to provide access to Facility infrastructure. These service roads will travel throughout the Facility and will allow staff to access the Facility infrastructure during construction and operation of the Facility. Roads will measure 16 to 20 feet wide, having an internal turning radius of 28 feet and less than 10 percent grade, or a similar profile depending on siting, to provide access to emergency vehicles. Additionally, the Applicant has addressed Linn County's access improvement standards in Section 4.3.7 of this narrative. As such, the proposed Facility satisfies Section IV of the Linn County Comprehensive Plan.

4.5 Directly Applicable Rules, Statutes, and Goals – OAR 345-022-0030(7)(b)(C)(iii)

(iii) Identify all Land Conservation and Development Commission administrative rules, statewide planning goals and land use statutes directly applicable to the facility under ORS 197.646(3) and describe how the proposed facility complies with those rules, goals and statutes;

4.5.1 ORS 215.243 Agricultural Lands Policy

The Legislative Assembly finds and declares that:

(1) Open land used for agricultural use is an efficient means of conserving natural resources that constitute an important physical, social, aesthetic and economic asset to all of the people of this state, whether living in rural, urban or metropolitan areas of the state.

(2) The preservation of a maximum amount of the limited supply of agricultural land is necessary to the conservation of the state's economic resources and the preservation of such land in large blocks is necessary in maintaining the agricultural economy of the state and for the assurance of adequate, healthful and nutritious food for the people of this state and nation.

(3) Expansion of urban development into rural areas is a matter of public concern because of the unnecessary increases in costs of community services, conflicts between farm and urban activities and the loss of open space and natural beauty around urban centers occurring as the result of such expansion.

(4) Exclusive farm use zoning as provided by law, substantially limits alternatives to the use of rural land and, with the importance of rural lands to the public, justifies incentives and privileges offered to encourage owners of rural lands to hold such lands in exclusive farm use zones. [1973 c.503 §1]

The above policy is not directly applicable to the Facility or the decision criteria used by EFSC. However, the Applicant acknowledges the Agricultural Lands Policy and has designed the Facility to support and align with this policy. As described in Attachment D-1, the Applicant's Farm Operator will continue farming activities in concert with the operation of the solar panels and associated components. No new parcels are proposed to divide up the EFU-zoned land. Urban development is not proposed within the Facility.

4.5.2 ORS 215.446 Renewable Energy Facility; Application; Standards; Notices

(1) As used in this section:

(a) "Average electric generating capacity" has the meaning given that term in ORS 469.300.

(b) "Energy generation area" has the meaning given that term in ORS 469.300.

(c) "Renewable energy facility" means:

(A) A solar photovoltaic power generation facility using:

(i) More than 100 acres but not more than 240 acres located on high-value farmland as defined in ORS 195.300;

(ii) More than 100 acres but not more than 2,560 acres located on land that is predominantly cultivated or that, if not cultivated, is predominantly composed of soils that are in capability classes I to IV, as specified by the National Cooperative Soil Survey operated by the Natural Resources Conservation Service of the United States Department of Agriculture; or

(iii) More than 320 acres but not more than 3,840 acres located on any other land.

(B) An electric power generating plant with an average electric generating capacity of at least 35 megawatts but less than 50 megawatts if the power is produced from geothermal energy at a single plant or within a single energy generation area.

(C) An electric power generating plant with an average electric generating capacity of at least 35 megawatts but less than 100 megawatts if the power is produced from wind energy at a single energy facility or within a single energy generation area.

The Facility meets the definition of a solar photovoltaic power generation facility per OAR 660-033-0130(38)(f). However, the Facility exceeds the acreage thresholds provided above and will impact more than 240 acres of high-value farmland. As a result, this Facility falls under the jurisdiction of EFSC and is not subject to the standards of ORS 215.446.

4.5.3 ORS 215.274 Associated Transmission Lines Necessary for Public Service

(3) The governing body of a county or its designee shall approve an application under this section if an applicant demonstrates that the entire route of the associated transmission line meets at least one of the following requirements:

(a)The associated transmission line is not located on high-value farmland, as defined in ORS 195.300 (Definitions for ORS 195.300 to 195.336), or on arable land;

(b)The associated transmission line is co-located with an existing transmission line;

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

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

ORS 215.274 criteria mirror LCC 933.330(A)(2), which is addressed above in Section 4.3.5.3. The proposed gen-tie line is approximately 0.5 miles long and will run parallel to the existing PacifiCorp Calapooya-Diamond Hill 230-kV transmission line, and meets the requirements of ORS 215.274(3)(c), which is equivalent to LCC 933.330(A)(2)(a)(iii).

4.5.4 ORS 215.283 Uses Permitted in Exclusive Farm Use Zones in Nonmarginal Lands Counties; Rules

(1) The following uses may be established in any area zoned for exclusive farm use:

(c) Utility facilities necessary for public service, including wetland waste treatment systems but not including commercial facilities for the purpose of generating electrical power for public use by sale or transmission towers over 200 feet in height. A utility facility necessary for public service may be established as provided in:

(A) ORS 215.275; or

(B) If the utility facility is an associated transmission line, as defined in ORS 215.274 and 469.300.

The proposed gen-tie line meets the definition of "associated transmission line" as defined in ORS 215.274. The Applicant has addressed the criteria of ORS 215.274 above, which are also reflected in LCC 933.330(A)(2).

4.5.5 ORS 215.296 Standards for Approval of Certain Uses in Exclusive Farm Use Zones

(1) A use allowed under ORS 215.213 (Uses permitted in exclusive farm use zones in counties that adopted marginal lands system prior to 1993) (2) or (11) or 215.283 (Uses permitted in exclusive farm use zones in nonmarginal lands counties) (2) or (4) may be approved only where the local governing body or its designee finds that the use will not:

(a) Force a significant change in accepted farm or forest practices on surrounding lands devoted to farm or forest use; or

(b) Significantly increase the cost of accepted farm or forest practices on surrounding lands devoted to farm or forest use.

These criteria have been incorporated into the Oregon Administrative Rule (OAR) 660-0330-0130(5) and expanded on in Section 4.5.7. See findings below for evidence of compliance with these standards.

4.5.6 OAR 660-004-0018 Planning and Zoning for Exclusion Areas

(4) "Reasons" Exceptions:

(a) When a local government takes an exception under the "Reasons" section of ORS 197.732(1)(c) and OAR 660-004-0020 through 660-004-0022, OAR 660-014-0040, or OAR 660-014-0090, plan and zone designations must limit the uses, density, public facilities and services, and activities to only those that are justified in the exception.

(b) When a local government changes the types or intensities of uses or public facilities and services within an area approved as a "Reasons" exception, a new "Reasons" exception is

required."(c) When a local government includes land within an unincorporated community for which an exception under the "Reasons" section of ORS 197.732(1)(c) and OAR 660-004-0020 through 660-004-0022 was previously adopted, plan and zone designations must limit the uses, density, public facilities and services, and activities to only those that were justified in the exception or OAR 660-022-0030, whichever is more stringent.

The standards of OAR 660-004-0018(4) are discussed in Section 4.7 in response to OAR 345-021-0010(1)(k)(C)(v).

4.5.7 OAR 660-033-0130(5) Minimum Standards Applicable to the Schedule of Permitted and Conditional Uses

(5) Approval requires review by the governing body or its designate under ORS 215.296. Uses may be approved only where such uses:

(a) Will not force a significant change in accepted farm or forest practices on surrounding lands devoted to farm or forest use; and

(b) Will not significantly increase the cost of accepted farm or forest practices on surrounding lands devoted to farm or forest use.

(c) For purposes of subsection (a) and (b), a determination of forcing a significant change in accepted farm or forest practices on surrounding lands devoted to farm and forest use or a determination of whether the use will significantly increase the cost of accepted farm or forest practices on surrounding lands devoted to farm or forest use requires:

(A) Identification and description of the surrounding lands, the farm and forest operations on those lands, and the accepted farm practices on each farm operation and the accepted forest practices on each forest operation;

(B) An assessment of the individual impacts to each farm and forest practice, and whether the proposed use is likely to have an important influence or effect on any of those practices; and

(C) An assessment of whether all identified impacts of the proposed use when considered together could have a significant impact to any farm or forest operation in the surrounding area in a manner that is likely to have an important influence or effect on that operation.

(D) For purposes of this subsection, examples of potential impacts for consideration may include but are not limited to traffic, water availability and delivery, introduction of weeds or pests, damage to crops or livestock, litter, trespass, reduction in crop yields, or flooding.

(E) For purposes of subsection (a) and (b), potential impacts to farm and forest practices or the cost of farm and forest practices, impacts relating to the construction or installation of the proposed use shall be deemed part of the use itself for the purpose of conducting a review under subsections (a) and (b).

(F) In the consideration of potentially mitigating conditions of approval under ORS 215.296(2), the governing body may not impose such a condition upon the owner of the affected farm or forest land or on such land itself, nor compel said owner to accept payment to compensate for the significant changes or significant increases in costs described in subsection (a) and (b).

The surrounding lands analysis for OAR 660-033-0130(5) is provided as Attachment D-5. Due to the continuation of agricultural activities within and alongside the Facility as detailed in the Draft Agrivoltaics Plan (see Attachment D-1) no impacts are anticipated on farm or forest operations in the surrounding lands.

4.5.8 OAR 660-033-0130(38) Minimum Standards Applicable to the Schedule of Permitted and Conditional Uses

(38) A proposal to site a photovoltaic solar power generation facility shall be subject to the following definitions and provisions:

(a) "Arable land" means land in a tract that is predominantly cultivated or, if not currently cultivated, predominantly comprised of arable soils.

(b) "Arable soils" means soils that are suitable for cultivation as determined by the governing body or its designate based on substantial evidence in the record of a local land use application, but "arable soils" does not include high-value farmland soils described at ORS 195.300(10) unless otherwise stated.

(c) "Dual-use development" means developing the same area of land for both a photovoltaic solar power generation facility and for farm use.

(d) "Nonarable land" means land in a tract that is predominantly not cultivated and predominantly comprised of nonarable soils.

(e) "Nonarable soils" means soils that are not suitable for cultivation. Soils with an NRCS agricultural capability class V–VIII and no history of irrigation shall be considered nonarable in all cases. The governing body or its designate may determine other soils, including soils with a past history of irrigation, to be nonarable based on substantial evidence in the record of a local land use application.

As described in Section 2.4, the Site Boundary is primarily comprised of arable soils and therefore is considered arable land. There will be dual-use development.

(f) "Photovoltaic solar power generation facility" includes, but is not limited to, an assembly of equipment that converts sunlight into electricity and then stores, transfers, or both, that electricity. This includes photovoltaic modules, mounting and solar tracking equipment, foundations, inverters, wiring, storage devices and other components. Photovoltaic solar power generation facilities also include electrical cable collection systems connecting the photovoltaic solar generation facility to a transmission line, all necessary grid integration equipment, new or expanded private roads constructed to serve the photovoltaic solar power

generation facility, office, operation and maintenance buildings, staging areas and all other necessary appurtenances. For purposes of applying the acreage standards of this section, a photovoltaic solar power generation facility includes all existing and proposed facilities on a single tract, as well as any existing and proposed facilities determined to be under common ownership on lands with fewer than 1320 feet of separation from the tract on which the new facility is proposed to be sited. Projects connected to the same parent company or individuals shall be considered to be in common ownership, regardless of the operating business structure. A photovoltaic solar power generation facility does not include a net metering project established consistent with ORS 757.300 and OAR chapter 860, division 39 or a Feed-in-Tariff project established consistent with ORS 757.365 and OAR chapter 860, division 84.

The solar array and associated facilities meet the definition of "photovoltaic solar power generation facility." This includes the energy storage system, collector substation, and interconnection equipment (including overhead cables connecting the substations to the existing 230-kV line or other existing transmission line within the Site Boundary). All Facility components will be within the fence line of the solar facility (with possible exception of interconnection cables extending over the fence line to the proposed 230-kV gen-tie line). In addition, the 34.5-kV collector lines are also part of the solar facility as they will collect the energy from the solar modules and transfer it to the Facility substation.

(g) For high-value farmland described at ORS 195.300(10), a photovoltaic solar power generation facility shall not use, occupy, or cover more than 12 acres unless:

(A) The provisions of paragraph (h)(H) are satisfied; or

(B) A county adopts, and an applicant satisfies, land use provisions authorizing projects subject to a dual-use development plan. Land use provisions adopted by a county pursuant to this paragraph may not allow a project in excess of 20 acres. Land use provisions adopted by the county must require sufficient assurances that the farm use element of the dual-use development plan is established and maintained so long as the photovoltaic solar power generation facility is operational or components of the facility remain on site. The provisions of this subsection are repealed on January 1, 2022.

As discussed in Section 2.4.3, all land within the Facility Site Boundary meets the definition of high-value farmland under ORS §195.300(10). The Facility does not meet the requirements of paragraph (h)(H) (see analysis below). As the total area of high-value farmland within the Site Boundary would use, occupy, or cover more than 12 acres, the Applicant seeks a Goal Exception. Because the Facility falls under EFSC's jurisdiction, it is EFSC's statutes and rules that govern the goal exception process, ORS 469.504(2) and OAR 345-022-0030(4), rather than ORS 197.732 (see Section 4.7).

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

(A) The proposed photovoltaic solar power generation facility will not create unnecessary negative impacts on agricultural operations conducted on any portion of the subject property not occupied by project components. Negative impacts could

> *include, but are not limited to, the unnecessary construction of roads dividing a field or multiple fields in such a way that creates small or isolated pieces of property that are more difficult to farm, and placing photovoltaic solar power generation facility project components on lands in a manner that could disrupt common and accepted farming practices;*

The Facility will not create unnecessary negative impacts on agricultural operations conducted on land within the Site Boundary not occupied by Facility components because:

- As provided in the Draft Agrivoltaics Plan (Attachment D-1) and discussed in Section 2.4.5 above, agricultural operations will continue within the solar arrays within the fenced areas not occupied by Facility components such as the BESS, collector substation, and access roads. The Draft Agrivoltaics Plan provides a description of these anticipated agricultural operations, design adaptations that will be incorporated into the Facility's layout, and BMPs that will be implemented during construction and operations to facilitate agrivoltaics within the solar array areas.
- Construction within the Facility will be designed and managed to ensure the preservation of agricultural topsoil and to minimize soil compaction. Best management practices that will be implemented include the development of an Erosion and Sediment Control Plan, burying underground cables at a depth to ensure no contact with agricultural equipment, and preserving topsoil during trenching.
- During preliminary design, the number of roads and their location within the solar array area was designed to minimize impacts to existing grass seed production and wetlands. Temporary roads will be returned to agricultural use after construction.
- The Applicant will sign and record in the deed records for the County a document binding the Facility owner and the Facility owner's successors in interest, prohibiting them from pursuing a claim for relief or cause of action alleging injury from farming or forest practices as defined in ORS 30.930(2) and (4).
- The Applicant will implement a weed control plan during construction and operation that will reduce the risk of weed infestation in cultivated land and the associated cost to the landowner for weed control. A Draft Noxious Weed Control Plan is included in Exhibit G, Attachment G-3.
- The Facility will not affect the application of pesticides or fertilizers using aerial or ground-based methods.
- As further described in Section 4.7.1.3, feedback from landowners within the Site Boundary and incorporated into the ECONorthwest (ECO) report discussed below demonstrates that the Facility will not negatively impact their farming practices and will instead allow for diversification of farm revenues.

> *(B) The presence of a photovoltaic solar power generation facility will not result in unnecessary soil erosion or loss that could limit agricultural productivity on the subject*

property. This provision may be satisfied by the submittal and county approval of a soil and erosion control plan prepared by an adequately qualified individual, showing how unnecessary soil erosion will be avoided or remedied. The approved plan shall be attached to the decision as a condition of approval;

Exhibit C addresses soil erosion and includes a draft ESCP (see Attachment C-1). Construction would be performed under a NPDES 1200-C permit, including an ESCP, which will also include erosion and sediment control best management practices. The NPDES 1200-C will be prepared and stamped by a licensed engineer in the State of Oregon.

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

Reduction of soil compaction is addressed in the Draft Agrivoltaics Plan, Attachment D-1.

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

Project activities will not result in the unabated introduction or spread of noxious weeds or other undesirable weed species, as specified in a DD-3raft Noxious Weed Control Plan, included in Exhibit G, Attachment G-3.

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

As discussed in Section 2.4.3, the Facility is located on high-value farmland soils listed in OAR 660-033-0020(8)(a). As provided by OAR 660-033-0130(38)(k), the Applicant is requesting an exception pursuant to ORS 197.732 and OAR Chapter 660, Division 4.

(F) The project is not located on those high-value farmland soils listed in OAR 660-033-0020(8)(b)-(e) or arable soils unless it can be demonstrated that:

(i) Non high-value farmland soils are not available on the subject tract;

(ii) Siting the project on non high-value farmland soils present on the subject tract would significantly reduce the project's ability to operate successfully; or

(iii) The proposed site is better suited to allow continuation of an existing commercial farm or ranching operation on the subject tract than other possible sites

also located on the subject tract, including those comprised of non high-value farmland soils; and

The Facility Site Boundary is located within the Willamette Valley, east of the summit of the Coast Range and U.S. Highway 101 and does not contain a dairy operation or "specified perennials." As a result, OAR 660-033-0020(8)(c) does apply, but (b), (d) and (e) do not apply.

Figure D-5 shows the soils listed in OAR 660-033-0020(8)(c), which also include soils in OAR 660-033-0020(8)(a). The portions of the Facility that are non high-value farmland soils are extremely limited (only approximately 91 acres, or 6 percent, of the Facility Site Boundary) and insufficient for supporting the Facility components. The Facility requires at least 750 acres[5] to produce an energy output of 150 MW. Thus, non high-value farmland soils are not available in sufficient quantity on the subject tracts, and siting the project on non high-value farmland soils present would significantly reduce the project's ability to operate successfully.

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

(i) If fewer than 48 acres of photovoltaic solar power generation facilities have been constructed or received land use approvals and obtained building permits within the study area, no further action is necessary.

(ii) When at least 48 acres of photovoltaic solar power generation facilities have been constructed or received land use approvals and obtained building permits, either as a single project or as multiple facilities within the study area, the local government or its designate must find that the photovoltaic solar power generation facility will not materially alter the stability of the overall land use pattern of the area. The stability of the land use pattern will be materially altered if the overall effect of existing and potential photovoltaic solar power generation facilities will make it more difficult for the existing farms and ranches in the area to continue operation due to diminished opportunities to expand, purchase or lease farmland, acquire water rights, or diminish the number of tracts or acreage in farm use in a manner that will destabilize the overall character of the study area.

On December 8, 2023, Linn County Planning Staff confirmed that no photovoltaic solar power generation facilities have been constructed or received land use approvals nor obtained building permits within the 1-mile study area (pers. comm., Alyssa Boles, Planning Manager – Linn County, December 8, 2023; see Figure D-8). No new applications have been submitted in the intervening years. Therefore, no further action is necessary.

(H) A photovoltaic solar power generation facility may be sited on more than 12 acres of high-value farmland described in ORS 195.300(10)(f)(C) without taking an exception pursuant to ORS 197.732 and OAR chapter 660, division 4, provided the land:

[5] Assuming at minimum 5 acres to produce 1 MW solar energy.

> . . . [Criteria OAR 660-033-0130(38)(i)(H)(i)-(v) are omitted as OAR 660-033-0130(38)(i)(H) does not apply to the Facility.]

The Facility is not located in the Columbia Valley American Viticultural Area and thus not located on high-value farmland described in ORS 195.300(10)(f)(C). Therefore, OAR 660-033-0130(38)(i)(H) does not apply to the Facility. As a result, the criteria of OAR 660-033-0130(38)(H)(i)-(v) are not applicable.

> *(i) For arable lands, a photovoltaic solar power generation facility shall not use, occupy, or cover more than 20 acres. The governing body or its designate must find that the following criteria are satisfied in order to approve a photovoltaic solar power generation facility on arable land:*
>
> > . . . [Criteria OAR 660-033-0130(38)(i)(A)-(D) are omitted as the Facility is located on high-value farmland and the Applicant has addressed the applicable criteria of OAR 660-033-0130(38)(h) above]

As the entire Site Boundary is arable land and the Facility would use, occupy, or cover more than 20 acres, the Applicant seeks a Goal Exception. As the Facility is also located on high-value farmland, the Applicant has addressed the applicable criteria of OAR 660-033-0130(38)(h) above which includes the criteria under OAR 660-033-0130(38)(i).

> *(j) For nonarable lands, a photovoltaic solar power generation facility shall not use, occupy, or cover more than 320 acres. The governing body or its designate must find that the following criteria are satisfied in order to approve a photovoltaic solar power generation facility on nonarable land:*
>
> > . . . [Criteria OAR 660-033-0130(38)(j)(A)-(G) are omitted as the Solar Facility is subject to OAR 660-033-0130(38)(h), thus making OAR 660-033-0130(38)(j) not applicable]

The criteria for arable lands are not applicable. The Facility is located on high-value farmland and the Applicant has addressed the applicable criteria of OAR 660-033-0130(38)(h) above.

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

An exception to the acreage and soil thresholds in subsection (h) and (i) is requested by this ASC. See Section 4.7 for justification pursuant to ORS 197.732 and OAR Chapter 660, Division 4.

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

The Applicant acknowledges this condition of approval.

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

A bond or other security is required by EFSC and the security is issued in the name of the State. The Applicant is providing financial assurance for site restoration after Facility retirement as provided in Exhibit F.

4.6 Non-compliance with Applicable Substantive Criteria – OAR 345-022-0030(7)(b)(C)(iv)

> *(iv) If the proposed facility might not comply with all applicable substantive criteria, identify the applicable statewide planning goals and describe how the proposed facility complies with those goals; and*

As demonstrated above, the Facility complies with all applicable substantive criteria except to the extent that LCC 928.320(B)(18) and OAR 660-033-0130(38) require a goal exception as the total area of high-value farmland within the Site Boundary would use, occupy, or cover more than 12 acres. However, in accordance with OAR 345-022-0030(2)(B) Council may find compliance with the Land Use standard if it finds the Facility would otherwise comply with the applicable statewide planning goals, or that an exception to statewide planning goal 3 is justified. See Section 4.7 for evidence regarding why an exception to any applicable statewide planning goal is justified.

4.7 Statewide Planning Goal Exceptions – OAR 345-022-0030(7)(b)(C)(v)

> *(v) If the proposed facility might not comply with all applicable substantive criteria or applicable statewide planning goals, describe why an exception to any applicable statewide planning goal is justified, providing evidence to support all findings by the Council required under ORS 469.504(2).*

As discussed in Section 2.4 and 4.5.8 of this exhibit, the Facility will occupy more than 12 acres of high-value farmland and more than 20 acres of arable land, and therefore exceeds the acreage standards under OAR 660-033-0130(38)(g) and (i) and requires an exception to Statewide Planning Goal 3 (i.e., Goal 3). In addition, LCC 928.320(B)(18) requires an application for a photovoltaic solar power generation facility must show compliance with the criteria of OAR 660-033-0130(38). The exception request below addresses both such requirements.

The Council may find goal compliance for a facility that does not otherwise comply with one or more statewide planning goals by taking an exception to the applicable goal. Pursuant to ORS 469.504(2)(c): "[t]he council may take an exception to a goal if the council finds" that each of the following standards are met:

- Reasons justify why the state policy embodied in the applicable goal should not apply.
- The significant environmental, economic, social and energy consequences have been identified and adverse impacts will be mitigated in accordance with rules of the Council applicable to the siting of the facility components proposed in the ASC.
- The facility components proposed in the ASC are compatible with other adjacent uses or will be made compatible through measures designed to reduce adverse impacts.

Each of these standards are evaluated in detail below.

4.7.1 Demonstration that a "Reasons" Exception is Appropriate

ORS 469.504(2)(c)(A); OAR 345-022-0030(4)(c)(A) Reasons justify why the state policy embodied in the applicable goal should not apply;

The Council has discretion to approve a Goal 3 exception based on "reasons" it determines warrant the exception. As evidenced by previous Goal 3 exception approvals, the Council may rely on reasons specific to Goal 3 policies (i.e., minimal impacts to agriculture, economic benefits to the local agricultural community) or reasons that are not associated with Goal 3 policies (i.e., locational dependency, limited impacts to other environmental resources, general rural economic benefits, etc.). The Council has the discretion and authority to balance the policies that are embedded in the goal for which an exception is sought with its policy directive in ORS 469.010, other statewide planning goal policies and objectives, and other policy reasons that the Council determines warrant the requested exception.

In the following discussion, the Applicant provides the following reasons to justify why Goal 3 should not apply to the agricultural lands that will be impacted by the Facility:

1. The Facility is locationally dependent because of its unique and extremely close proximity to the regional grid for interconnection, and near proximity to major transportation corridors and energy supply end users.
2. The Facility would have minimal direct and indirect impacts on agricultural land use due to the following:
    a. Through the Facility's agrivoltaics system, the Site Boundary area will remain in agricultural use thus minimizing direct impacts to existing agricultural uses while maximizing the agricultural productivity in the Site Boundary.
    b. The Facility would not impact irrigated agricultural land or irrigated crops;
    c. The Facility would have no off-site impacts to agricultural on surrounding farmlands.
3. The Facility creates significant local economic benefit, including to the local agricultural economy.

4.7.1.1 Locational Dependency

Locational dependency refers to the proximity of the Facility components to existing infrastructure needed to construct and operate the facility, or the presence of uncommon geographical attributes at a site that would create a significant comparative advantage for the facility[6]. The Council has previously considered three locational dependency characteristics justified a Goal 3 exception:

[6] See ODOE's 2024 memorandum, *Agenda Item C (Information Item): Land Use Standard (OAR 345-022-0030) – Goal 3 Exceptions (Part I) for the December 13, 2024 EFSC Meeting*,

proximity to the regional transmission grid, proximity to existing energy infrastructure, and proximity to major transportation corridors/infrastructure.

Proximity to the Regional Transmission Grid.

The Facility is locationally dependent because it is uniquely sited to surround PacifiCorp existing Diamond Hill Substation, which will serve as the Facility's point of interconnection. That substation has available capacity for the electricity generated by the Facility and will deliver renewable energy to customers in Linn County and beyond. PacifiCorp's existing Diamond Hill Substation is located between the northern and southern portions of the Facility Site Boundary. As shown in Figure D-3, the Diamond Hill Substation is connected to the regional grid through three transmission lines: the 230 kV PacifiCorp Diamond Hill-McKenzie Transmission Line; the 230 kV PacifiCorp Diamond Hill-Halsey Transmission Line; and the 230 kV PacifiCorp Alvey-Fry transmission line[7]. These transmission lines and substation connect cities and communities along the I-5 corridor to the regional power grid.

Proximity to Existing Energy Infrastructure.

The Facility is locationally dependent to PacifiCorp's Diamond Hill Substation to allow for efficient use of existing substation and transmission infrastructure. If not for the available interconnection capacity at the Diamond Hill Substation, the Facility would not be located in the proposed location. Existing transmission line capacity is increasingly scarce in the Pacific Northwest transmission line grid (ODOE 2023). This constraint to existing transmission capacity, coupled with ODOE's forecast that by 2030 Oregon's electricity demand could increase approximately 40 percent (ODOE 2025), indicates that opportunities to produce electricity in a location where grid interconnection is available is increasingly critical for Oregon's energy needs.

The Facility will utilize existing electrical infrastructure, resulting in more electricity being delivered to the power grid without the need to build new regional substations or lengthy high-voltage transmission lines. The construction of new transmission lines and substations is disruptive to the landscape, costly to build and requires additional financing to maintain over the decades. Additionally, with the hotter, drier seasons, increasing transmission lines through rural areas can increase the number of potential fire-creating sources and the burden on our firefighting community. Using existing infrastructure is beneficial for end users because it takes advantage of infrastructure that they are already paying to maintain.

Proximity to Energy Market in Western Oregon

The Facility's location on the west side of the state is also unique as it would provide up to 150-MW of renewable energy close to the state's west side load demand without the need for increasing east-west regional transmission capacity over the Cascades. A key finding in ODOE's 2025 Oregon

[7] PacifiCorp Transmission & Distribution Public Map Desktop Application https://experience.arcgis.com/experience/6f422654851e4d858852fa00d1905170#data_s=id%3AdataSource_6-196118e92e0-layer-11%3A422

Energy Strategy is that Oregon does not have sufficient physical transmission capacity to meet the modeled electricity flows. Under every energy scenario modeled, an expansion of transmission capacity between the west and east sides of the state is needed (ODOE 2025). Bonneville Power Administration (BPA) anticipates significant load growth in the Portland region driven by high tech industry, transportation and building electrification coupled with reduced operation of 4.5 GW of carbon emitting generators on the west side along the I-5 corridor. BPA predicts this will increase flows on cross-Cascade transmission paths and throughout the load centers (BPA 2023). The intended market for the Facility is PacifiCorp's Oregon transmission system where the majority of the renewable energy delivered to their ratepayers on the westside of the State is generated on the east side. Pacificorp has expressed a strong interest in the Facility as it provides distributed generation valuable for delivering energy to ratepayers on the western side of the State. The Facility would help address the increasing challenges ODOE and BPA have identified for balancing the electric load across the state. By helping address this critical issue of load balancing and east-west transmission congestion, the Facility's location near west side load demands makes it unique and locationally dependent on being sited on EFU land adjacent to the Diamond Hill substation, thus justifying a "reason" exception under Goal 3.

Proximity to Major Transportation Corridors/Infrastructure

The Facility is also locationally dependent on existing transportation corridors and infrastructure. The Site Boundary is sited adjacent to I-5, providing easy access for construction and ongoing maintenance and operations. The Facility will take access from existing Priceboro Drive and Mt Tom Drive (public rights-of-ways). The Applicant is not proposing any improvements to these existing local roads in this application. If improvements are required for the local roads, the Applicant will work with the County to ensure they are completed. Existing access roads will be utilized to the extent practicable.

By locating the Facility adjacent to I-5 and existing local roads the Facility does not require construction of any major new access routes to connect the Facility with the regional transportation network, and minimizes the need for new access roads within the Site Boundary.

4.7.1.2 Minimal Impacts to Agriculture

The Facility would have minimal impacts to agriculture, thus justifying an exception to Goal 3 for the proposed site. This reason relies primarily on the fact that the site will include an agrivoltaics operation that would continue the site's current agricultural practices: a combination of growing annual ryegrass, tall fescue, clover, meadowfoam, and other crops, in addition to seasonal sheep grazing within the fenced solar array areas. This will diversify agricultural income streams for the landowners while the land will continue to be farmed, thus reducing economic losses and preventing the risk of fragmentation. Furthermore, the Facility does not impact irrigated agricultural lands or irrigated crops and would impose no off-site impacts to surrounding farmlands.

The Agrivoltaics System Will Ensure Minimal Direct Impacts to Agricultural Lands Within the Site Boundary

In accordance with OAR 660-015-0000(3), the policy of Goal 3 is:

> *To preserve and maintain agricultural lands.*

Certain non-farm uses, including solar facilities, are permitted within farm use zones as long as those permitted non-farm uses are "minimized to allow for maximum agricultural productivity."[8] OAR 660-033-0130(38) allows for certain sized photovoltaic solar power generation facilities on high-value farmland, arable lands, and non-arable lands. Therefore, it is possible for photovoltaic solar power generation facilities to be sited in farmland and be consistent with the policy of Goal 3 and compliant with its implementing regulations under OAR 660-033-0130.

The Facility requires an exception from Goal 3 because of the amount of land required (up to 835 acres), not because of the proposed use. Although the Facility exceeds the acreage restrictions under OAR 660-033-0130(38), the Applicant has minimized the "nonfarm use" (i.e. the photovoltaic solar power generation facility) to the smallest footprint practicable in order to maximize agricultural production within the Site Boundary under the agrivoltaics system. In this way, the Facility is compatible with Goal 3 policy. As discussed in Section 2.4.5, the proposed agrivoltaics operation would include continuation of the site's current practices: a combination of growing annual ryegrass, tall fescue, clover, meadowfoam, and other crops, in addition to seasonal sheep grazing within the fenced solar array areas. The crops will be planted in strips between the strings of solar panels. The panel strings will be spaced sufficiently wide to allow farm equipment to plant, manage and harvest the crops. In this manner, farming will continue throughout the Facility Site Boundary. Once the Facility is in operation, approximately 695 acres of the Goal 3 exception area will be returned to agricultural use post-construction. The remaining acreage (140.5 acres) within the Facility Site Boundary will be the infrastructure required for Facility operation.

The benefit of creating an agrivoltaics system within the Site Boundary is multi-fold. Not only are there benefits to the interspersed agriculture through shading and other operational benefits (see Draft Agrivoltaics Plan, Attachment D-1), the landowners will receive supplemental income from the Facility leases to diversify agricultural income streams while the land will continue to be farmed, thus reducing economic losses and preventing the risk of fragmentation (see Section 4.7.1.3 below). These factors increase the resiliency of farms in the face of changing economic conditions, varying weather patterns, and tight profit margins.

No Impacts to Irrigated Land or Crops

As discussed in Section 2.4.1, there are no place-of-use irrigation water rights nor irrigation districts located within the Facility Site Boundary (Figure D-5; OWRD 2026). Furthermore, the current agricultural uses in the Site Boundary are all non-irrigated farming, i.e. there are no irrigated crops. Accordingly, no impacts to on-site or surrounding water rights are anticipated.

[8] OAR 660-015-0000(3)

No Off-Site Impacts to Surrounding Farmlands

The Facility is surrounded to the north, east, and south by agricultural land primarily in grass seed production but with some other agricultural crops and activities also occurring. The Facility is bordered on the west by I-5. The Applicant will avoid impacting farm operations on these surrounding lands through implementation of minimization and mitigation measures including:

- Minimization of traffic impacts during construction through implementation of a Construction Traffic Management Plan which will be developed prior to construction. This plan will include traffic minimization measures at transportation route roads, which would be implemented as needed.
- Control the introduction and spread of noxious weeds in accordance with the methods, monitoring procedures, and success criteria set forth in the Noxious Weed Plan (Attachment G-3, in Exhibit G) and Draft Agrivoltaics Plan (Attachment D-1).
- No damage to crops or livestock in the surrounding lands is anticipated from the construction and operation of the Facility.
- The Applicant will minimize dust during construction through application of water and other dust control measures as discussed in Exhibit C. Further, the solar panels will safeguard soil health by protecting soils from wind and soil erosion through vegetation establishment under solar panels.
- Wildfire prevention and risk mitigation for the Facility are addressed in Exhibit M. Prior to construction and operations, the Certificate Holder and Project Developer will coordinate with local fire districts, as well as local emergency management agencies, to receive and incorporate input into the final Construction and Operation Wildfire Mitigation Plans (See Attachments M-1 and M-2, Exhibit M).
- Due to the continuation of agricultural activities alongside the Facility as detailed in the Draft Agrivoltaics Plan (see Attachment D-1) no impacts are anticipated on farm or forest operations in the surrounding lands.

4.7.1.3 Local Economic Benefits

As detailed in Attachment D-3, the Facility would generate meaningful economic benefits for Linn County, supporting jobs, income, and local business activity. Furthermore, incorporation of agrivoltaics substantially reduces potential economic impacts on the local agricultural economy by maintaining continued agricultural use across most of the Facility site and supporting ongoing compatibility between agricultural production and renewable energy development.

The Applicant commissioned ECO to evaluate the existing agricultural production value and economic output from the existing agricultural operations within the Goal 3 exception area and evaluate the change in agricultural production value and economic output arising from the Facility construction and operation under the proposed agrivoltaics operations. Based on the ECO analysis (see Attachment D-4), the Facility would result in a small and localized reduction in agricultural production but would not meaningfully affect the structure, function, or long-term performance of

Linn County's agricultural economy. Nor are any existing agricultural-related jobs in the County anticipated to be eliminated as a result of the Facility.

However, in acknowledgment of even the minute anticipated reduction value in agricultural production, the Applicant proposes to provide an agricultural mitigation fund that would provide meaningful investment in the local agricultural economy and compensate for the minor indirect effect that reduced production from the Site Boundary may have on the local economy. In this way, the Facility demonstrates that it would benefit the local economy, including the local agricultural economy, thus justifying a reason exception from Goal 3 agricultural protections.

County-wide Economic Benefits

The Applicant commissioned ECO to evaluate the economic impacts arising from Facility construction and operation. The ECO economic impact analysis (Attachment D-3) estimates how project expenditures circulate through the economy and are reflected in employment, labor income, and economic output. Direct project spending during construction and operations supports additional activity through supply chain purchases (indirect impacts) and household spending (induced impacts). During the 18-month construction period, the Facility is estimated to support approximately 520 jobs annually, $67.5 million in labor income, and $458.5 million in economic output within Linn County. Once operational, the Facility is expected to support approximately 9 ongoing jobs annually, along with $782,000 in labor income and $7.2 million in annual economic output. While construction drives the largest short-term impact, operations provide sustained, long-term economic benefits as project spending continues to circulate through the local economy.

Linn County's economy generated $5.4 billion in gross domestic product (GDP) and had an overall economic output of approximately $15.3 billion in 2024. Employment, both waged workers and proprietors, totaled roughly 67,550 jobs across all industries in 2024. Comparing Facility development impacts to these baseline measures provides perspective on the relative scale of facility-related activity within the county economy.

During an 18-month construction period, Facility activity represents a measurable, though temporary, share of County economic activity. Total (direct, indirect and induced) construction output is equivalent to approximately 8.7 percent of Countywide economic output. Construction employment supported by the Facility is equivalent to approximately 0.8 percent of total County employment. These figures reflect the one-time nature of construction activity and its concentrated economic contribution during the build period. Total annual operations-related output (direct, indirect, and induced) is equivalent to approximately 0.04 percent of total County output. Total operational employment contributions account for approximately 0.01 percent of total County employment. While modest in scale relative to the overall economy, operations provide recurring economic activity and locally retained income over the life of the Facility. In total, during the anticipated operation phase, the Facility will contribute $169.7 million to the Linn County economy. In addition, the Applicant anticipates that there will be planned upgrade events during the course of operations that could contribute an additional $29.9 million to the County economy.

Local Agricultural Economic Benefits

Linn County is a leading agricultural producer in Oregon and is widely recognized as the "Grass Seed Capital of the World." Grass seed production, particularly ryegrass and fescue, plays a central role in the County's agricultural economy and supports a substantial network of agricultural businesses, labor, and commodity organizations throughout the Willamette Valley. Existing agricultural activity within the Facility Site Boundary consists primarily of annual ryegrass and tall fescue seed production integrated with sheep grazing and biomass production.

Agricultural production within the Facility Site Boundary contributes to a small amount of spending in the agricultural economy of Linn County. Linn County's agricultural sector generates approximately $617.6 million in annual economic output and supports approximately 4,735 jobs.

Under the proposed Facility design, agricultural production is expected to continue on most of the Facility Site Boundary through agrivoltaics practices. Grass seed production would continue but would be reduced by approximately 140 acres (i.e. the footprint of the solar components; see Section 2.4.5.2). Based on the ECO analysis (see Attachment D-4), this would result in an estimated annual reduction of approximately $97,000 in agricultural production value.

The agricultural production affected by the Facility currently supports a modest amount of additional economic activity within Linn County through purchases of agricultural inputs, equipment, fuel, transportation, and support services. Based on the estimated reduction in agricultural production under Facility operations, indirect economic impacts to Linn County's agricultural economy are estimated at approximately $40,000 for annual ryegrass and $12,000 for tall fescue in annual economic output and less than one job. These impacts represent less than 0.01 percent of Linn County's existing agricultural employment and economic output. Participating landowners are also expected to receive solar lease revenue associated with the Facility, which is anticipated to offset reductions in direct agricultural production revenue at the landowner level.

Although the agrivoltaics plan includes continued use of sheep in an integrated crop-livestock farming practice, the total revenue from sheep grazing is anticipated to slightly decrease. The landowners would experience a direct loss of revenue from the displaced operations but no losses to direct employment. The participating landowners would replace lost production revenue with lease payments from the solar company. The economic activity in Linn County supported by the existing agricultural sheep operations is not anticipated to be affected by reductions in sheep grazing revenue. Since the grazing payments are paid directly to the grass seed producers, landowners would be the most affected by the reductions in these payments. No employment impacts or significant impacts to economic output are anticipated due to the reduction in sheep grazing as presented in Attachment D-4.

Overall, the Facility would result in a small and localized reduction in agricultural production but would not meaningfully affect the structure, function, or long-term performance of Linn County's agricultural economy. The incorporation of agrivoltaics substantially reduces potential impacts by maintaining continued agricultural use across most of the Facility site and supporting ongoing compatibility between agricultural production and renewable energy development. However, as

there will be some reduction in on-site agricultural production value, the Applicant will coordinate with ODOE and the various partner organizations to identify a specific agricultural improvement project or mitigation program to compensate for the minor indirect economic effect that reduced production within the Site Boundary may have on the local economy. Through the Facility's agrivoltaics program and provision of an agricultural mitigation program, the Facility demonstrates that it would benefit the local economy, including the local agricultural economy, thus justifying a reason exception from Goal 3 agricultural protections.

4.7.2 Evidence that Environmental, Socioeconomic, and Energy Consequences Favor the Exception

ORS 469.504(2)(c)(B); OAR 345-022-0030(4)(c)(B) The significant environmental, economic, social and energy consequences anticipated as a result of the proposed facility have been identified and adverse impacts will be mitigated in accordance with rules of the Council applicable to the siting of the proposed facility;

4.7.2.1 Environmental Consequences

- Operation of the Facility will not result in any air pollutant emissions. Solar energy is considered a non-polluting industry and is an internationally recognized clean, renewable source of energy. The Applicant will minimize dust during construction through application of water and other dust control measures as discussed in Exhibit C.
- Potential impacts to the area's water quality will be avoided and minimized through the implementation of the Facility's erosion control measures and best management practices, as required by the National Pollutant Discharge Elimination System Construction Stormwater Discharge General permit 1200-C.
- The Facility's environmental consequences are discussed primarily in Exhibit C (Soil Protection), Exhibit E (Protected Areas), Exhibit G (Fish and Wildlife Habitat), Exhibit H (Threatened and Endangered Species), Exhibit I (Scenic Resources) Exhibit J (Cultural Resources), Exhibit O Part 1 (Wetlands and Other Jurisdictional Waters), and Exhibit M (Wildfire). These exhibits demonstrate that the Facility will not cause significant adverse environmental consequences. Indeed, by and large, the proposed changes will avoid impacts to such resources altogether. The Applicant will mitigate for unavoidable impacts to wildlife habitat (see Exhibit G) and wetlands (see Exhibit O-1). The Facility, as proposed, is not anticipated to have any significant adverse impacts to soils, wetlands, protected areas, water resources, fish and wildlife habitat and species, threatened and endangered species, scenic and aesthetic resources, and historic, cultural, and archaeological resources.

4.7.2.2 Socioeconomic Consequences

The Facility will not impose negative socioeconomic consequences. Nor will the Facility have significant adverse impacts on scenic, cultural, historical, archaeological, or recreational resources

that could bear on socioeconomic health. Exhibit L (Public Services) demonstrates that the Facility will not have significant adverse impacts on community services such as housing, sewer, water supply, waste disposal, health care, education, and transportation. As discussed above, high-value farmland and lands dedicated to agricultural use are found throughout the Site Boundary. However, the Applicant plans to mitigate impacts to the agricultural land use by operating an agrivoltaics system within the solar array areas, thus leaving the land in agricultural production and by providing a mitigation fund to mitigate indirect economic impacts from loss production.

As discussed above, the Facility will create jobs and contribute economic benefit to Linn County. These benefits should be measured against the relatively small amount of agricultural activity that will be displaced by the Facility and will be mitigated for through the agrivoltaics operations and mitigation plan. Furthermore, lease payments received by the landowners from the Facility will provide a steady source of income that will supplement farm revenues and help ensure that other landowner operations will remain viable.

For the foregoing reasons the Facility does not impose significant adverse socioeconomic consequences but rather would provide net economic benefits to the county.

4.7.2.3 Energy Consequences

The Facility will support the generation of reliable renewable energy for sale to the public and, while doing so, promote the goals of Linn County, as well as Oregon's RPS and Clean Energy Targets bill (House Bill 2021). The Clean Energy Targets bill imposed additional requirements for certain electricity providers serving electricity in Oregon to reduce the greenhouse gas emissions associated with the electricity they provide. The Facility, as proposed, will provide a reliable source of electricity with no fuel cost, no need for additional new high-voltage transmission lines, and no associated emissions for the life of the Facility.

In addition to Oregon's RPS and clean energy goals, private companies have their own renewable energy procurement policies, which increase the demand for renewable energy in Oregon. These public and private policies are intended to reduce greenhouse gas emissions, mitigate climate impact, and reduce reliance on carbon-based fuels. Solar power generation, like that proposed with the Facility, helps further these public and private policies and outweighs removing approximately 140 acres of agricultural land out of production for the life of the Facility.

4.7.3 Compatibility with Adjacent Land Uses

ORS 469.504(2)(c)(C); OAR 345-022-0030(4)(c)(C) The proposed facility is compatible with other adjacent uses or will be made compatible through measures designed to reduce adverse impacts.

The Facility is surrounded to the north, east, and south by agricultural land primarily in grass seed production but with some other agricultural crops and activities also occurring. The Facility is bordered on the west by I-5. As discussed in Section 4.7.1.2, the Applicant will ensure the Facility is made compatible with adjacent uses through implementation of minimization and mitigation measures including:

- Minimization of traffic impacts during construction through implementation of a Construction Traffic Management Plan which will be developed prior to construction. This plan will include traffic minimization measures at transportation route roads, which would be implemented as needed.
- Control the introduction and spread of noxious weeds in accordance with the methods, monitoring procedures, and success criteria set forth in the Draft Noxious Weed Plan (Attachment G-3 in Exhibit G) and Draft Agrivoltaics Plan (Attachment D-1).
- No damage to crops or livestock in the surrounding lands is anticipated from the construction and operation of the Facility.
- The Applicant will minimize dust during construction through application of water and other dust control measures as discussed in Exhibit C. Further, the solar panels will safeguard soil health by protecting soils from wind and soil erosion through vegetation establishment under solar panels.
- Wildfire prevention and risk mitigation for the Facility are addressed in Exhibit M. Prior to construction and operations, the Certificate Holder and Project Developer will coordinate with local fire districts, as well as local emergency management agencies, to receive and

  incorporate input into the final Construction and Operational Wildfire Mitigation Plans (See Attachments M-1 and M-2, Exhibit M).
- Due to the continuation of agricultural activities alongside the Facility as detailed in the Draft Agrivoltaics Plan (see Attachment D-1), no impacts are anticipated on farm or forest operations in the surrounding lands.

5.0 Federal Land Management Plans – OAR 345-022-0030(7)(b)(D)

(D) If the proposed facility will be located on federal land:

(i) Identify the applicable land management plan adopted by the federal agency with jurisdiction over the federal land;

(ii) Explain any differences between state or local land use requirements and federal land management requirements;

(iii) Describe how the proposed facility complies with the applicable federal land management plan;

(iv) Describe any federal land use approvals required for the proposed facility and the status of application for each required federal land use approval;

(v) Provide an estimate of time for issuance of federal land use approvals; and

(vi) If federal law or the land management plan conflicts with any applicable state or local land use requirements, explain the differences in the conflicting requirements, state whether the applicant requests Council waiver of the land use standard described under paragraph (B) or (C) of this subsection and explain the basis for a waiver.

There are no federal lands within the Facility Site Boundary; therefore, OAR 345-021-0010 (1)(k)(D)(i) through (vi) do not apply.

6.0 Materials Analysis – OAR 345-022-0030(7)(c)

(c) A materials analysis, including:

(A) An inventory of substantial quantities of industrial materials flowing into and out of the proposed facility during construction and operation;

(B) The applicant's plans to manage hazardous substances during construction and operation, including measures to prevent and contain spills; and

(C) The applicant's plans to manage non-hazardous waste materials during construction and operation.

The materials analysis for the Facility can be found in Section 5.3 of the Background Information Exhibit.

7.0 Summary

The information provided in this Exhibit demonstrates the Facility's compliance with applicable substantive criteria. Therefore, EFSC may find that the Facility complies with statewide planning goals under OAR 345-022-0030(2)(b)(A) and the land use standard set forth in OAR 345-022-0030.

8.0 References

Adeh, E.H., J.S. Selker, C.W. Higgins. 2018. Remarkable Agrivoltaic Influence on Soil Moisture, Micrometeorology and Water-Use Efficiency. PLOS ONE. 13(11):1-15.

AL-agele, H.A., Nackley, L., Higgins, C.W. 2021a. A Pathway for Sustainable Agriculture. Sustainability 2021, 13, 4328. https://doi.org/10.3390/su13084328.

Andrew, A.C., C.W. Higgins, M.A. Smallman, M. Graham, S. Ates. 2021. Herbage Yield, Lamb Growth and Foraging Behavior in Agrivoltaic Production System, Department of Animal and Rangeland Sciences, Oregon State University, Corvallis, OR, United States, Department of Biological and Ecological Engineering, Oregon State University, Corvallis, OR, United States. Frontiers in Sustainable Food Systems, published 29, April 2021.

BPA (Bonneville Power Administration, 2023 The Evolving Grid Update on the State of Transmission https://www.bpa.gov/-/media/Aep/transmission/evolving-grid/042723-evolving-grid-bpat-final.pdf

FEMA (Federal Emergency Management Agency). 2026. FEMA National Flood Hazard Layer. Accessed March 2026. https://www.fema.gov/national-flood-hazard-layer-nfhl.

Graham, M., S. Ates, A.P. Melathopoulos, A.R. Moldenke, S.J. DeBano, L.R. Best, C.W. Higgins. 2021. Partial shading by solar panels delays bloom, increases floral abundance during the late-season for pollinators in a dryland, agrivoltaic ecosystem Scientific Reports. Nature Portfolio. (2021) 11:7452. https://doi.org/10.1038/s41598-021-86756-4.

Hassanpour A.E., Selker J.S., Higgins C.W. 2018. Remarkable agrivoltaic influence on soil moisture, micrometeorology and water-use efficiency. PLoS ONE 13(11): e0203256. https://doi.org/10.1371/journal.pone.0203256.

Helms, Douglas. 1992. Readings in the History of the Soil Conservation Service, Washington, DC: Soil Conservation Service, 1992, pp. 60-73.

Linn County. 2025. Title 9: Subtitle 1 – Comprehensive Plan. Latest Revision April 15, 2025. Accessed March 30, 2026. https://www.linncountyor.gov/planningbuilding/page/title-9-subtitle-1-comprehensive-plan.

Linn County. 2026. Planning Application. Accessed March 30, 2026. https://gis.co.linn.or.us/portal/apps/webappviewer/index.html?id=a0ea31b0971a4f65b8d5bc4675a15534.

NRCS (Natural Resources Conservation Service). 2026. Web Soil Survey. Accessed January 2026. https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx.

ODFW (Oregon Department of Fish and Wildlife). 2021. ODFW Sensitive Species List. https://www.dfw.state.or.us/wildlife/diversity/species/docs/Sensitive_Species_List.pdf Accessed May 2023.

ODOE. 2023. National Transmission Study Needs. October 2023. 12/National%20Transmission%20Needs%20Study%20-%20Final_2023.12.1.pdf

ODOE. 2025. Oregon Energy Strategy Key Model Findings. Prepared by Clean Electricity Generation and Transmission Policy Working Group. February. Available online at: https://www.oregon.gov/energy/Data-and-Reports/Documents/OES-Generation-Transmission-Key-Findings.pdf

OSL (Oregon State Legislature). 2023. Chapter 469 – Energy; Conservation Programs; Energy Facilities. Accessed October 4, 2023. https://www.oregonlegislature.gov/bills_laws/ors/ors469.html.

OSU (Oregon State University). 2026. Sustainable Farm Agrivoltaic. Accessed March 2026. https://agsci.oregonstate.edu/newsroom/sustainable-farm-agrivoltaic.

OWRD (Oregon Water Resources Department). 2026. Oregon Water Resources Department Water Rights Mapping Tool. Accessed April 2026. https://apps.wrd.state.or.us/apps/gis/wr/Default.aspx.

SWVGWMA (Southern Willamette Valley Groundwater Management Area). 2004. Declaration of a Groundwater Management Area in the Southern Willamette Valley. May 10, 2004. https://www.oregon.gov/deq/FilterDocs/gw-swvgwma-declaration.pdf.

USGS (U.S. Geological Survey). 1974. Environmental geology of western Linn County. Beaulieu, J.D., Hughes, P.W., and Mathoit, R.K. Accessed April 2026. https://ngmdb.usgs.gov/Prodesc/proddesc_32998.htm.

9.0 Approval Standards and Submittal Requirements

Table D-6. Approval Standards and Submittal Requirements Matrix

Requirements	Location
OAR 345-022-0030 Land Use	–
Approval Standards	
(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 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).	

Requirements	Location
(3) As used in this rule, the "applicable substantive criteria" are criteria from the affected local government's acknowledged comprehensive plan and land use ordinances that are required by the statewide planning goals and that are in effect on the date the applicant submits the application. If the special advisory group recommends applicable substantive criteria, as described under OAR 345-015-0180, the Council shall apply them. If the special advisory group does not recommend applicable substantive criteria, the Council shall decide either to make its own determination of the applicable substantive criteria and apply them or to evaluate the proposed facility against the statewide planning goals.	
(4) The Council may find goal compliance for a proposed facility that does not otherwise comply with one or more statewide planning goals by taking an exception to the applicable goal. Notwithstanding the requirements of ORS 197.732, the statewide planning goal pertaining to the exception process or any rules of the Land Conservation and Development Commission pertaining to the exception process, the Council may take an exception to a goal if the Council finds:	
(a) The land subject to the exception is physically developed to the extent that the land is no longer available for uses allowed by the applicable goal;	
(b) The land subject to the exception is irrevocably committed as described by the rules of the Land Conservation and Development Commission to uses not allowed by the applicable goal because existing adjacent uses and other relevant factors make uses allowed by the applicable goal impracticable; or	
(c) The following standards are met:	
(A) Reasons justify why the state policy embodied in the applicable goal should not apply;	
(B) The significant environmental, economic, social and energy consequences anticipated as a result of the proposed facility have been identified and adverse impacts will be mitigated in accordance with rules of the Council applicable to the siting of the proposed facility; and	
(C) The proposed facility is compatible with other adjacent uses or will be made compatible through measures designed to reduce adverse impacts.	
(5) If the Council finds that applicable substantive local criteria and applicable statutes and state administrative rules 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.	
(6) If the special advisory group recommends applicable substantive criteria for an energy facility described in ORS 469.300(11)(a)(C) to (E) or for a related or supporting facility that does not pass through more than one local government jurisdiction or more than three zones in any one jurisdiction, the Council shall apply the criteria recommended by the special advisory group. If the special advisory group recommends applicable substantive criteria for an energy facility described in ORS 469.300(11)(a)(C) to (E) or a related or supporting facility that passes through more than one jurisdiction or more than three zones in any one jurisdiction, the Council shall review the recommended criteria and decide whether to evaluate the proposed facility against the applicable substantive criteria recommended by the special advisory group, against the statewide planning goals or against a combination of the applicable substantive criteria and statewide planning goals. In making the decision, the Council shall consult with the special advisory group, and shall consider:	
(a) The number of jurisdictions and zones in question;	

Requirements	Location
(b) The degree to which the applicable substantive criteria reflect local government consideration of energy facilities in the planning process; and	
(c) The level of consistency of the applicable substantive criteria from the various zones and jurisdictions.	
Submittal Requirements	
(7) To assist the Council in determining whether the standard outlined in (1) through (6) has been met, the Applicant must submit:	–
(a) Information about the proposed facility's compliance with the statewide planning goals adopted by the Land Conservation and Development Commission, providing evidence to support a finding by the Council as required by OAR 345-022-0030.	Section 3.0
(b) The applicant must state whether the applicant elects to address the Council's land use standard by obtaining local land use approvals under ORS 469.504(1)(a) or by obtaining a Council determination under ORS 469.504(1)(b). An applicant may elect different processes for an energy facility and a related or supporting facility but may not otherwise combine the two processes. Once the applicant has made an election, the applicant may not amend the application to make a different election. In this subsection, "affected local government" means a local government that has land use jurisdiction over any part of the proposed site of the facility. In the application, the applicant must:	Section 3.1
(A) Include a map showing the comprehensive plan designations and land use zones in the analysis area;	Section 3.1.1
(B) If the applicant elects to obtain local land use approvals:	Section 3.1.2
(i) Identify the affected local governments from which land use approvals will be sought;	Section 3.1.2
(ii) Describe the land use approvals required in order to satisfy the Council's land use standard;	Section 3.1.2
(iii) Describe the status of the applicant's application for each land use approval; and	Section 3.1.2
(iv) Provide an estimate of time for issuance of local land use approvals.	Section 3.1.2
(C) If the applicant elects to obtain a Council determination on land use:	Section 4.0
(i) Identify the affected local governments;	Section 4.1
(ii) Identify the 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 that are in effect on the date the application is submitted and describe how the proposed facility complies with those criteria;	Section 4.1 through Section 4.4
(iii) Identify all Land Conservation and Development Commission administrative rules, statewide planning goals and land use statutes directly applicable to the facility under ORS 197.646(3) and describe how the proposed facility complies with those rules, goals and statutes;	Section 4.5
(iv) If the proposed facility might not comply with all applicable substantive criteria, identify the applicable statewide planning goals and describe how the proposed facility complies with those goals; and	Section 4.6
(v) If the proposed facility might not comply with all applicable substantive criteria or applicable statewide planning goals, describe why an exception to any applicable statewide	Section 4.7

Requirements	Location
planning goal is justified, providing evidence to support all findings by the Council required under ORS 469.504(2).	
(D) If the proposed facility will be located on federal land:	Section 5.0
(i) Identify the applicable land management plan adopted by the federal agency with jurisdiction over the federal land;	Section 5.0
(ii) Explain any differences between state or local land use requirements and federal land management requirements;	Section 5.0
(iii) Describe how the proposed facility complies with the applicable federal land management plan;	Section 5.0
(iv) Describe any federal land use approvals required for the proposed facility and the status of application for each required federal land use approval;	Section 5.0
(v) Provide an estimate of time for issuance of federal land use approvals; and	Section 5.0
(vi) If federal law or the land management plan conflicts with any applicable state or local land use requirements, explain the differences in the conflicting requirements, state whether the applicant requests Council waiver of the land use standard described under paragraph (B) or (C) of this subsection and explain the basis for a waiver.	Section 5.0
(c) A materials analysis, including:	Section 5.3 of the Background Information Exhibit
(A) An inventory of substantial quantities of industrial materials flowing into and out of the proposed facility during construction and operation;	Section 5.3 of the Background Information Exhibit
(B) The applicant's plans to manage hazardous substances during construction and operation, including measures to prevent and contain spills; and	Section 5.3 of the Background Information Exhibit
(C) The applicant's plans to manage non-hazardous waste materials during construction and operation.	Section 5.3 of the Background Information Exhibit

Figures

Muddy Creek Energy Park

Figure D-1
Land Use Analysis Area

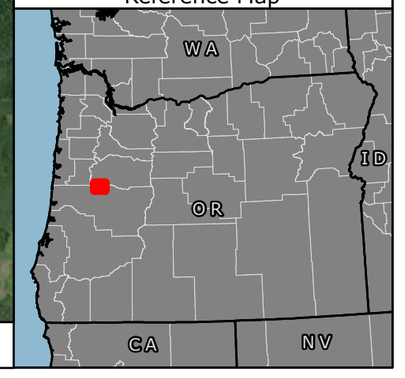
LINN COUNTY, OR

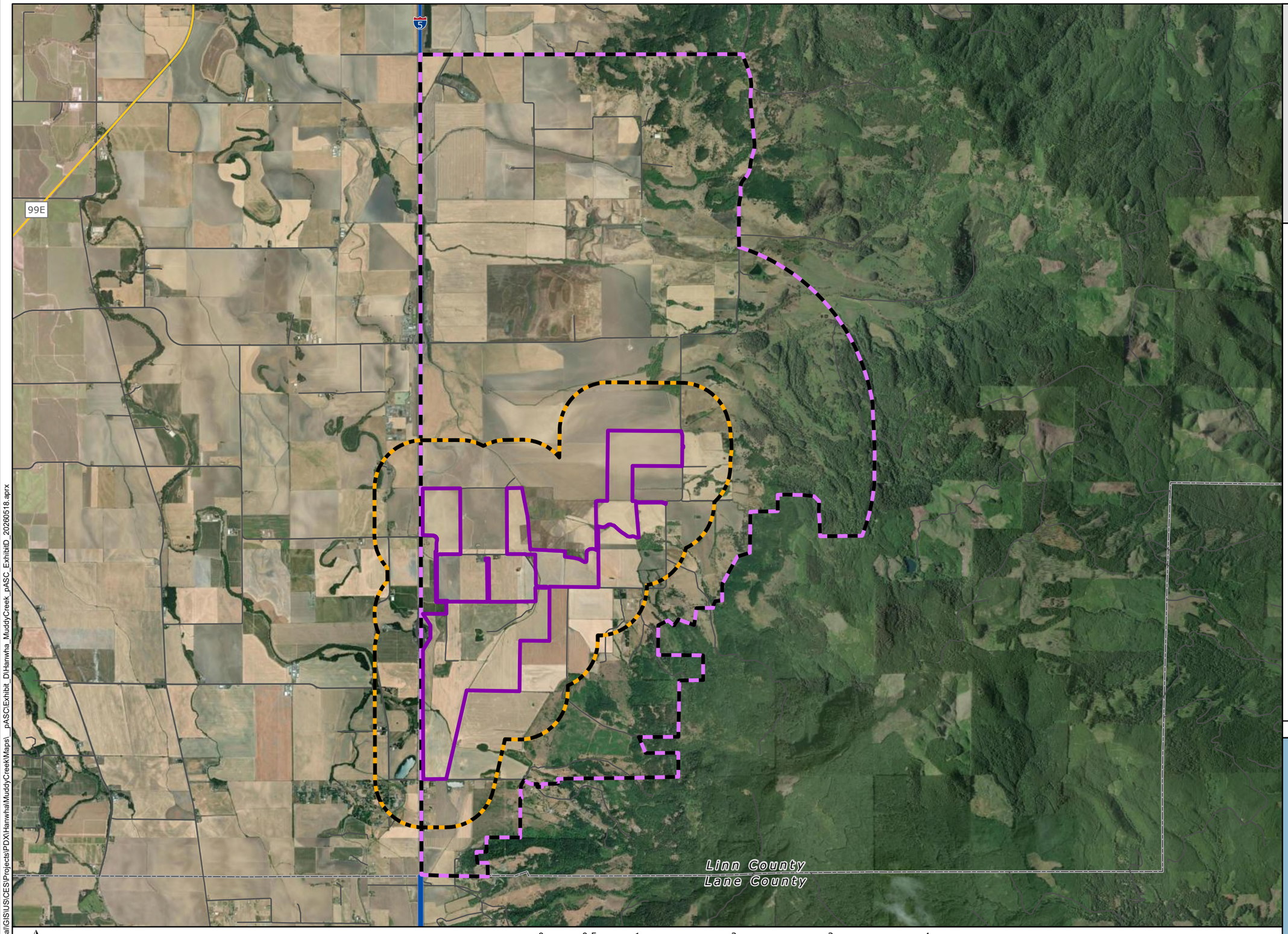
- Facility Site Boundary
- Land Use Analysis Area (0.5-mile Buffer)
- Surrounding Lands Analysis Area
- County Boundary
- Interstate Highway
- State Highway
- Local Roads

TETRA TECH

Hanwha Renewables

Reference Map





1:60,000

WGS 1984 UTM Zone 10N

0 0.5 1 2 3 4 Miles

NOT FOR CONSTRUCTION

\\tt.local\GIS\US\CES\Projects\PDX\Hanwha\MuddyCreek\Maps_pASC\Exhibit_D\Hanwha_MuddyCreek_pASC_ExhibitD_20260518.aprx

Muddy Creek Energy Park

Figure D-2
Zoning and Comprehensive Plan Designations

LINN COUNTY, OR

- Facility Site Boundary
- Land Use Analysis Area (0.5-mile Buffer)
- Surrounding Lands Analysis Area
- County Boundary
- Interstate Highway
- State Highway
- Local Roads

Linn County Zoning District

- Agribusiness AB
- Exclusive Farm Use EFU
- Farm/Forest F/F
- Forest Conservation and Management FCM
- Freeway Interchange Commercial FIC
- Limited Industrial LI
- Non Resource 5 Acre Minimum NR-5
- Rural Residential, 5 acre minimum RR-5
- Urban Growth Area - Limited Industrial UGA-LI

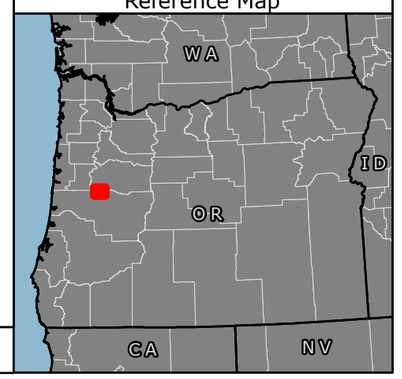
Linn County Comprehensive Plan Designation

- Agriculture-Resource AG
- Commercial COM
- Farm/Forest F/F
- Forest FOR
- Industrial IND
- Non-Resource NR
- Rural-Residential RR
- Urban-Growth-Area UGA

TETRA TECH

Hanwha Renewables

Reference Map



1:60,000 WGS 1984 UTM Zone 10N

0 0.5 1 2 3 4 Miles

NOT FOR CONSTRUCTION

\\tt.local\GIS\US\CES\Projects\PDX\HanwhaMuddyCreekMaps__pASC\Exhibit_D\Hanwha_MuddyCreek_pASC_ExhibitD_20260518.aprx

Muddy Creek Energy Park

Figure D-3
Tracts and Adjacent Facilities

LINN COUNTY, OR

- Facility Site Boundary
- Land Use Analysis Area (0.5-mile Buffer)
- County Boundary
- Interstate Highway
- Local Roads
- Tract Boundary
- Petroleum Product Pipeline
- Existing Substation

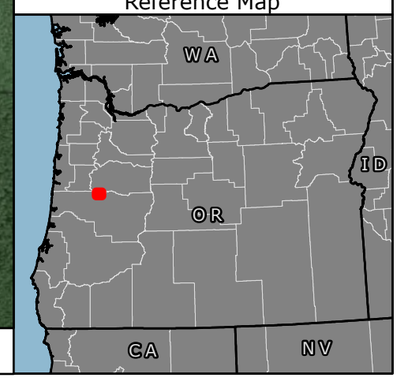
Existing Transmission Line by Voltage

- 230 kV
- 100-161 kV
- Under 100 kV

TETRA TECH

Hanwha Renewables

Reference Map



1:32,000

WGS 1984 UTM Zone 10N

0 0.5 1 2 Miles

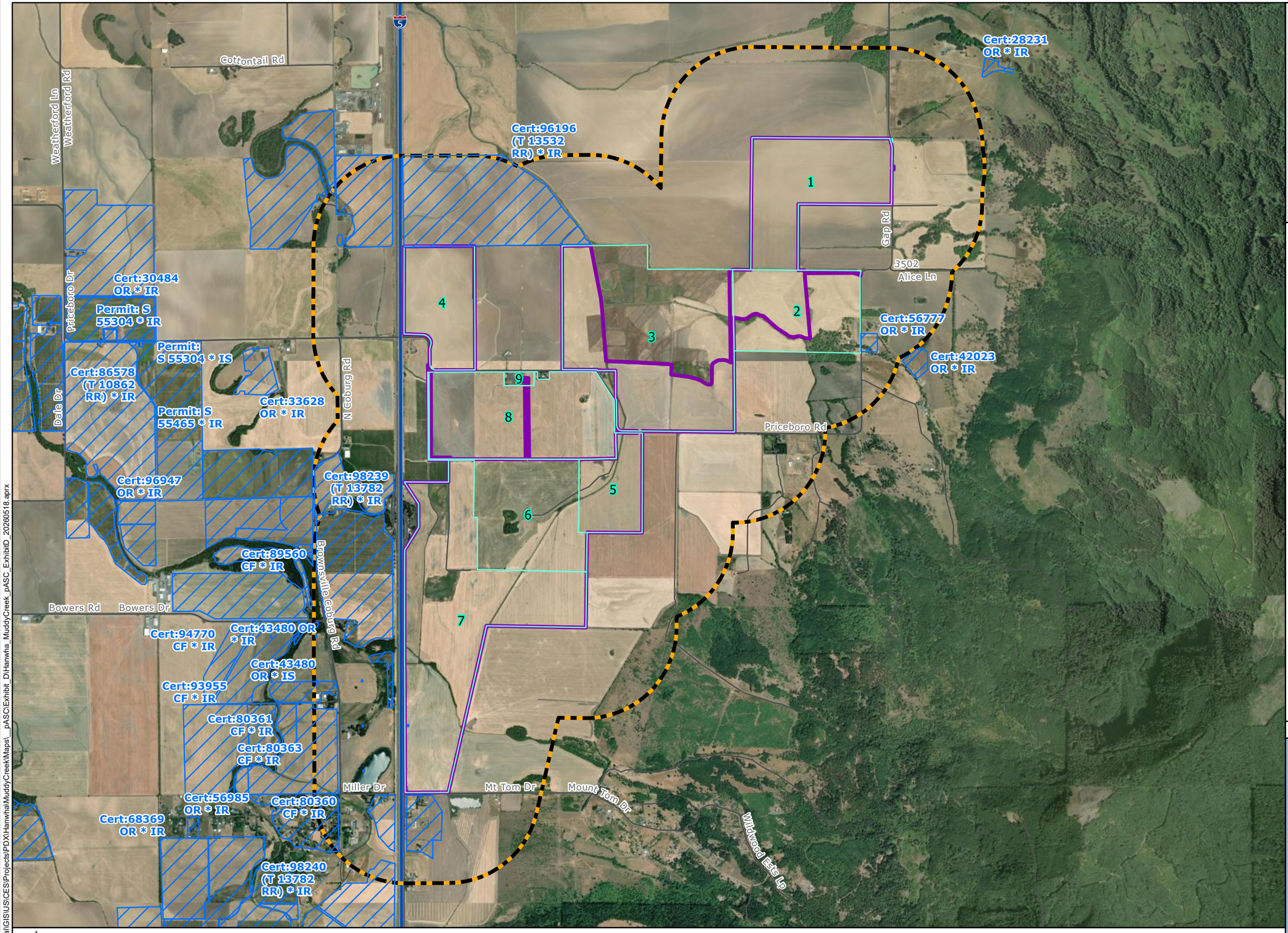
NOT FOR CONSTRUCTION

\\tt.local\GIS\US\CES\Projects\PDX\Hanwha\MuddyCreek\Maps__pASC\Exhibit_D\Hanwha_MuddyCreek_pASC_ExhibitD_20260518.aprx

Muddy Creek Energy Park

Figure D-4
Water Rights

LINN COUNTY, OR

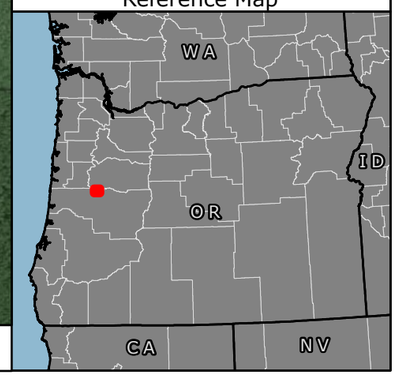


- Facility Site Boundary
- Land Use Analysis Area (0.5-mile Buffer)
- County Boundary
- Interstate Highway
- Local Roads
- Tract Boundary
- Water Rights Place of Use (Irrigation)

TETRA TECH

Hanwha Renewables

Reference Map



1:32,000

WGS 1984 UTM Zone 10N

0 0.5 1 2 Miles

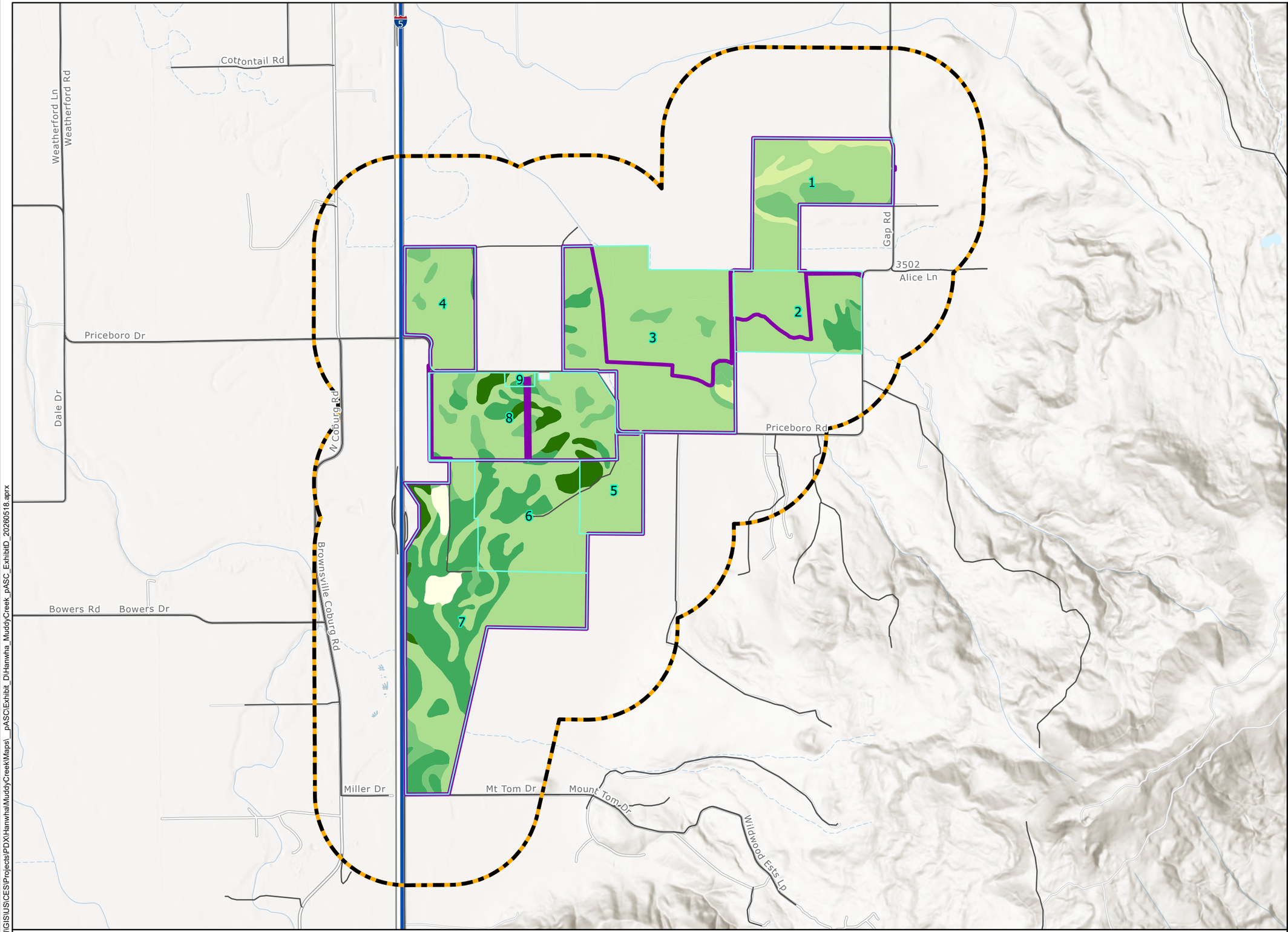
NOT FOR CONSTRUCTION

\\tt.local\GIS\US\CES\Projects\PDX\Hanwha\MuddyCreek\Maps_pASC\Exhibit_D\Hanwha_MuddyCreek_pASC_ExhibitD_20260518.aprx

Muddy Creek Energy Park

Figure D-5
NRCS Soil Capability Classifications

LINN COUNTY, OR



- Facility Site Boundary
- Land Use Analysis Area (0.5-mile Buffer)
- County Boundary
- Interstate Highway
- Local Roads
- Tract Boundary

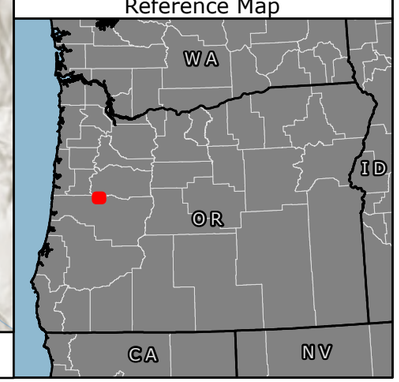
Non-Irrigated Capability Class

- Class I
- Class II
- Class III
- Class IV
- Class VI
- Class VII
- Class VIII

TETRA TECH

Hanwha Renewables

Reference Map



1:32,000

WGS 1984 UTM Zone 10N

0 0.5 1 2 Miles

NOT FOR CONSTRUCTION

\\ttl.local\GIS\US\CES\Projects\PDX\Hanwha\MuddyCreek\Maps_pASC\Exhibit_D\Hanwha_MuddyCreek_pASC_ExhibitD_20260518.aprx

Muddy Creek Energy Park

Figure D-6
High-value Farmland

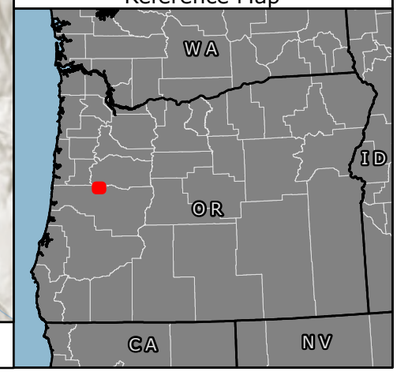
LINN COUNTY, OR

- Facility Site Boundary
- Land Use Analysis Area (0.5-mile Buffer)
- County Boundary
- Interstate Highway
- Local Roads
- Tract Boundary
- High-value Farmland per High-value Soils Predominance
- High-value Farmland per Wilamette Valley Viticultural Area

TETRA TECH

Hanwha Renewables

Reference Map



1:32,000

WGS 1984 UTM Zone 10N

0 0.5 1 2 Miles

NOT FOR CONSTRUCTION

\\tt.local\GIS\US\CES\Projects\PDX\Hanwha\MuddyCreek\Maps_pASC\Exhibit_D\Hanwha_MuddyCreek_pASC_ExhibitD_20260518.aprx

Muddy Creek Energy Park

Figure D-7
Arable and Non-Arable Soils

LINN COUNTY, OR

- Facility Site Boundary
- Land Use Analysis Area (0.5-mile Buffer)
- County Boundary
- Interstate Highway
- Local Roads
- Tract Boundary

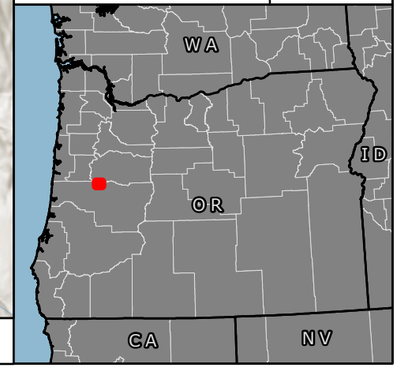
Arable and Non-Arable Soils

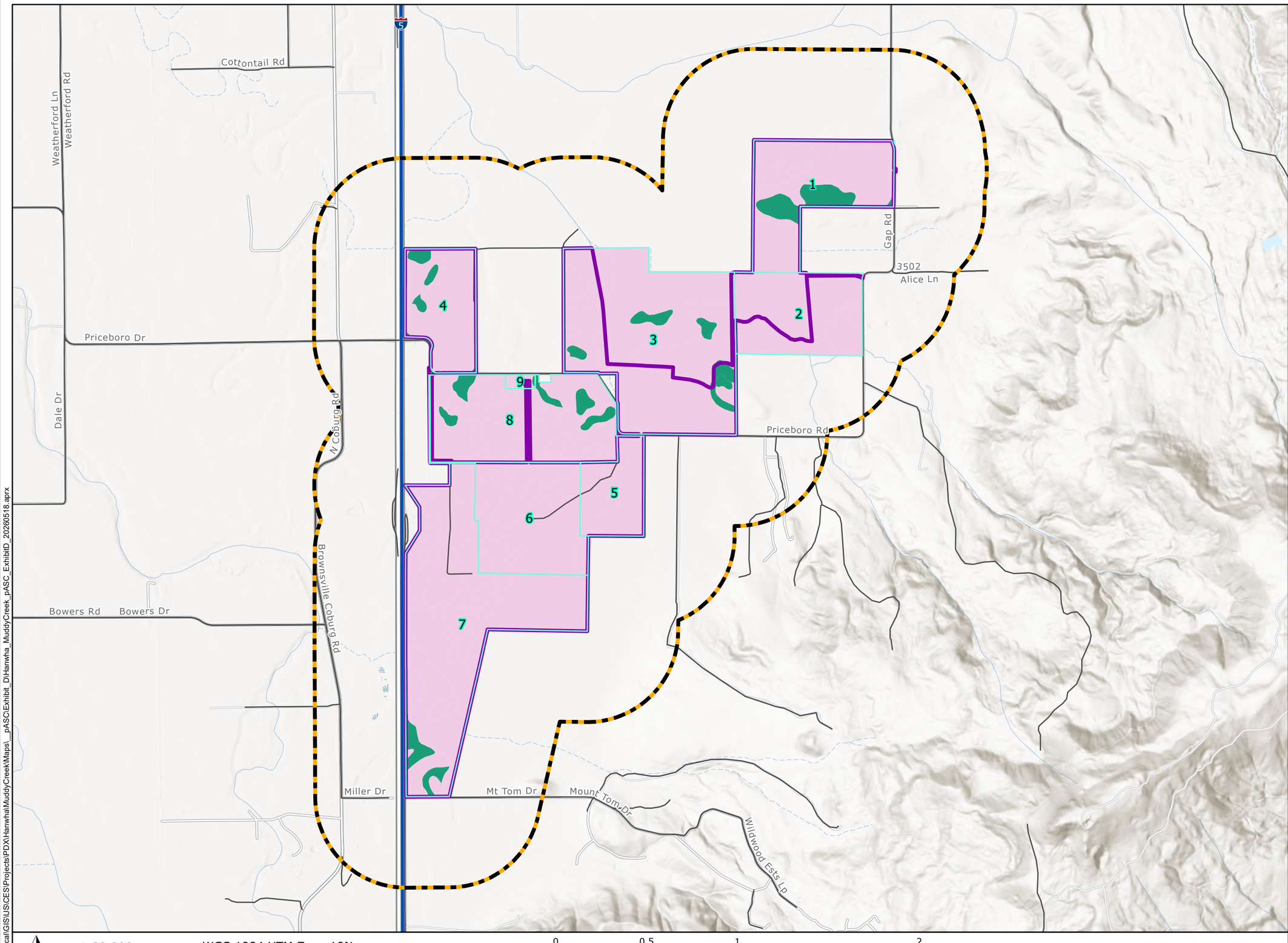
- Arable Soils (per definition under OAR 660-033-0130(38)(b))
- Non-Arable Soils (per definition under OAR 660-033-0130(38)(b)e)

TETRA TECH

Hanwha Renewables

Reference Map





1:32,000

WGS 1984 UTM Zone 10N

0 0.5 1 2 Miles

NOT FOR CONSTRUCTION

\\tt.local\GIS\US\CES\Projects\PDX\HanwhaMuddyCreekMaps__pASC\Exhibit_D\Hanwha_MuddyCreek_pASC_ExhibitD_20260518.aprx

Muddy Creek Energy Park

Figure D-9
One-Mile Study Area

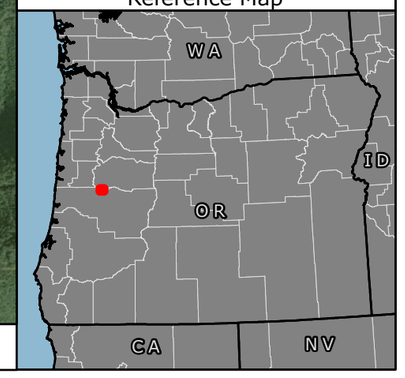
LINN COUNTY, OR

- Facility Site Boundary
- Study Area (1-mile Buffer)
- County Boundary
- Interstate Highway
- Local Roads

TETRA TECH

Hanwha Renewables

Reference Map



Priceboro Dr
Brownsville Coburg Rd
Alice Ln 3502
Gap Rd
Priceboro Rd
Bowers Dr
Bowers Rd
N Coburg Rd
Miller Dr
Mt Tom Dr
Mount Tom Dr

1:24,000 WGS 1984 UTM Zone 10N

0 0.5 1 2 Miles

NOT FOR CONSTRUCTION

\\tt.local\GIS\US\CES\Projects\PDX\Hanwha\MuddyCreek\Maps_pASC\Exhibit_D\Hanwha_MuddyCreek_pASC_ExhibitD_20260518.aprx

Attachment D-1. Draft Agrivoltaics Plan

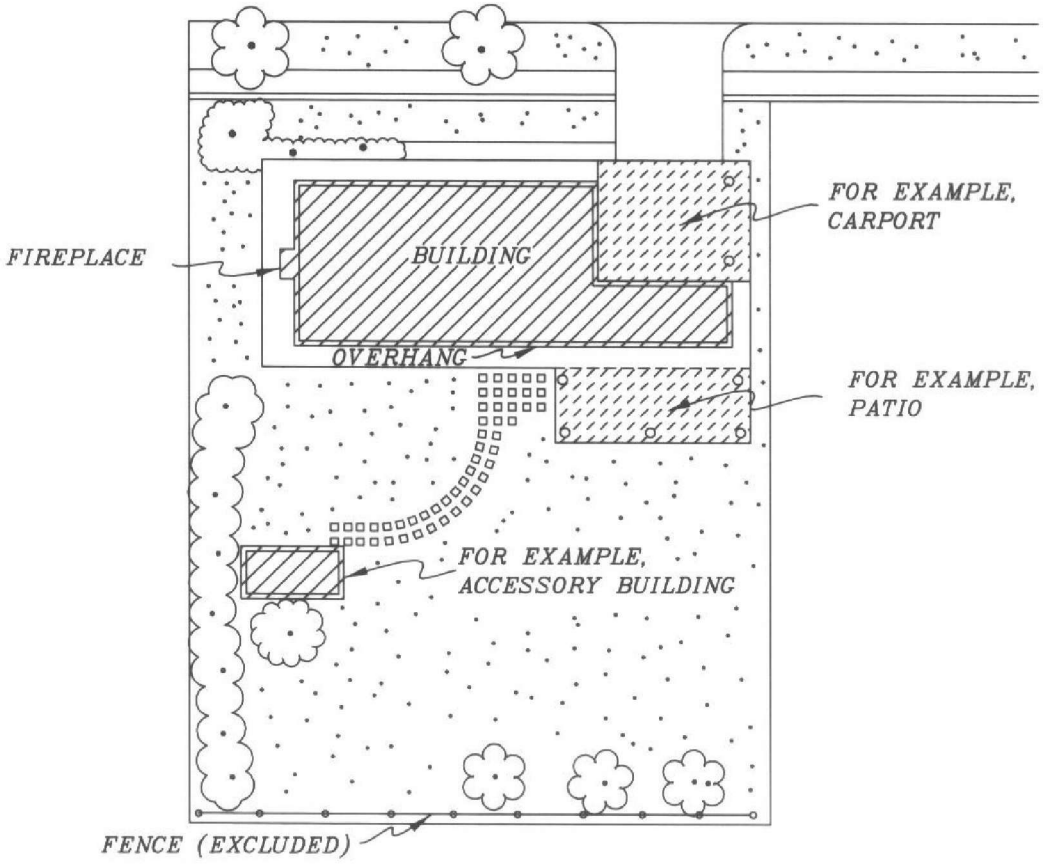
(pending, to be submitted under separate cover)

Attachment D-2. Linn County Code Lot Coverage Figure 1 from Appendix 1 to Chapter 920

FIG. 1. PROPERTY COVERAGE

LEGEND  :

EXAMPLES OF AREAS USED TO COMPUTE COVERAGE



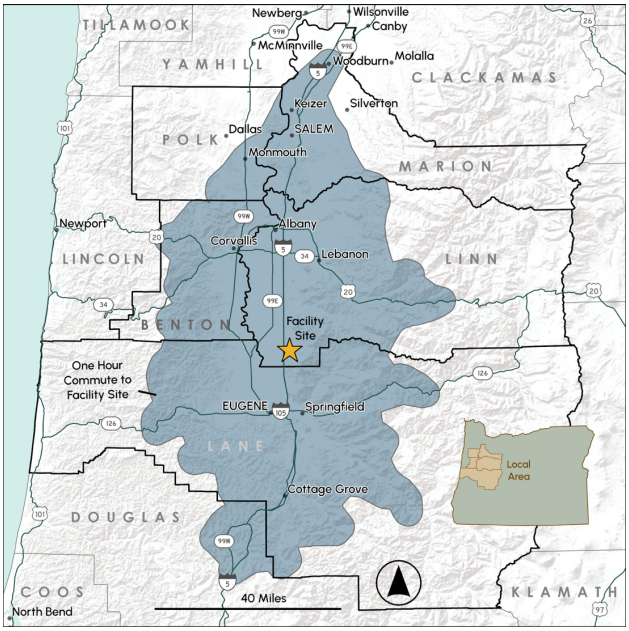
Attachment D-3. ECONorthwest Economic, Workforce, and Housing Impact Assessment

DATE:	May 13, 2026
TO:	Robert Wilson, Hanwha Renewables, LLC
FROM:	Terry Wirkkala, ECOnorthwest
SUBJECT:	Muddy Creek Energy Park Economic, Workforce, and Housing Impact Assessment

Executive Summary

Muddy Creek Energy Park LLC, a wholly owned subsidiary of Hanwha Renewables, LLC (Applicant), proposes to construct a 150-megawatt (MW) solar photovoltaic (PV) facility, a 150-MW battery energy storage system (BESS), and associated infrastructure on 839 acres of private farmland in Linn County, Oregon. The Muddy Creek Energy Park (Facility), which will be developed utilizing agrivoltaics technology, represents a major private capital investment in Linn County and is expected to generate substantial economic impacts for the local community in terms of jobs, income, and economic output. Potential impacts to the local housing market are evaluated based on workforce availability. Results are based on preliminary Facility specifications and are commensurate with the early planning-stage of the project.

Facility Site and Local Labor Commute-Shed



Local Workforce Availability

The Facility is projected to provide employment opportunities for local workers during both construction and operations. Within a 60-minute commute of the Facility site, a travel time that captures approximately 89 percent of construction workers commuting to job sites in Linn County, an estimated 19,500 workers are employed across 14 construction-related occupations. At peak construction, the Facility is expected to require approximately 172 on-site construction workers.

To assess the local labor supply available to support construction, the analysis applies the local unemployment rate to the estimated workforce in each relevant occupation within the defined labor market. Based on this approach, all construction labor demand is expected to

be met locally, with the exception of approximately 14 ironworkers who may need to be sourced from outside the local area.

Local Housing Market Impacts

Large construction projects can temporarily increase housing demand as non-local workers relocate to the area during construction, potentially drawing from the existing stock of vacant housing units.

HOUSING DEMAND

Peak housing demand reflects the estimated number of non-local workers during the construction period. Workforce availability estimates suggest that up to approximately 14 workers may require temporary accommodation at peak construction. Housing needs are expected to fluctuate as workers arrive and depart and as job durations vary. Workers employed for the full construction period may prefer rental housing, while those employed for shorter durations may rely on hotels, motels, or RV accommodations, often staying during the workweek and returning home on weekends.

Housing demand is further moderated by shared living arrangements, which are common among construction workers. Assuming double occupancy, 14 non-local workers would require an average of approximately 7 housing units.

HOUSING SUPPLY

Housing supply is evaluated within a 60-minute commute of the Facility site for three key types of short-term and transient housing:

RENTAL HOUSING

Rental housing provides a relatively stable and flexible option for workers employed for longer durations. Estimated vacant rental units within a 60-minute commute of the Facility site total approximately 6,061 units.

HOTEL/MOTEL

Hotel and motel accommodations represent a key source of short-term lodging variable demand. Hotel and motel room occupancy within a 60-minute commute of the Facility site is estimated at 3,672 units.

RV PARKS

RV sites represent a practical housing option for construction workers. A review of publicly available sources identified 22 RV parks within a 60-minute drive of the Facility site, with approximately 162 vacant units available.

HOUSING AVAILABILITY IMPACTS

Potential pressure on the local housing market due to Facility construction is estimated by comparing projected housing demand from non-local construction workers with the current inventory of vacant rental and transient housing within a reasonable commuting distance, 60-minutes of the Facility site. Projected peak construction labor demand is expected to require partial recruitment from outside the local labor market, with a conservative maximum estimate of approximately 14 non-local workers. When compared with existing rental and transient housing availability within a 60-minute commute of the Facility site, projected housing demand represents a minimal share of available units. Under both single- and double occupancy scenarios, regional housing markets appear capable of accommodating anticipated construction-related demand without materially affecting overall housing availability with approximately 707 housing units available per worker under single occupancy to 1,414 units per worker under double occupancy.

Property Value Impacts

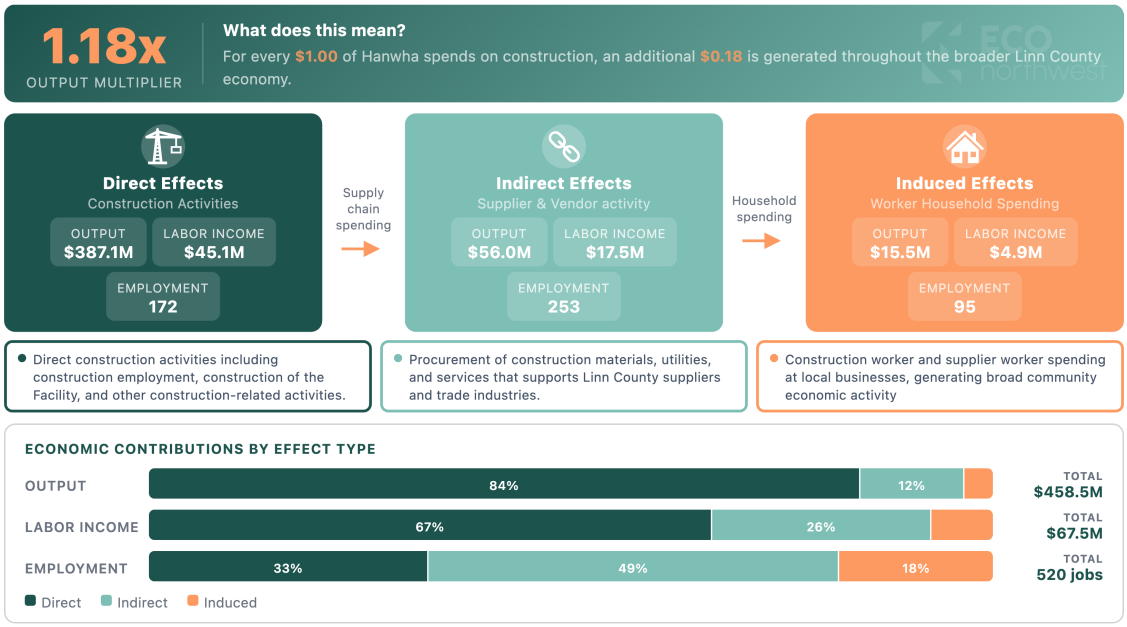
A review of the academic and industry literature on renewable energy development and property values indicates that impacts, where observed, are generally limited, localized, and highly context-specific. Some studies identify modest effects on residential property values in close proximity to solar facilities, often associated with visibility or changes in surrounding land use. However, most studies find no consistent evidence of widespread or long-term declines in property values, particularly beyond properties located near project infrastructure. Overall, findings suggest that property value effects tend to be modest relative to broader market drivers. These results indicate that, with appropriate siting and mitigation measures, solar energy development is unlikely to result in material impacts to property values at the community scale.

Economic Impacts of Facility Construction and Operation

The Facility would generate meaningful economic impacts in Linn County, supporting jobs, income, and local business activity. An economic impact analysis estimates how project expenditures circulate through the economy and are reflected in employment, labor income, and economic output. Direct project spending during construction and operations supports additional activity through supply chain purchases (indirect impacts) and household spending (induced impacts). During the 18-month construction period, the Facility is estimated to support approximately 520 jobs, $67.5 million in labor income, and $458.5 million in economic output within Linn County. Once operational, the Facility is expected to support approximately 9 ongoing jobs annually, along with $782,000 in labor income and $7.2 million in annual economic output. While construction drives the largest short-term impact, operations provide sustained, long-term economic benefits as project spending continues to circulate through the local economy.

Economic Contributions of Facility Construction

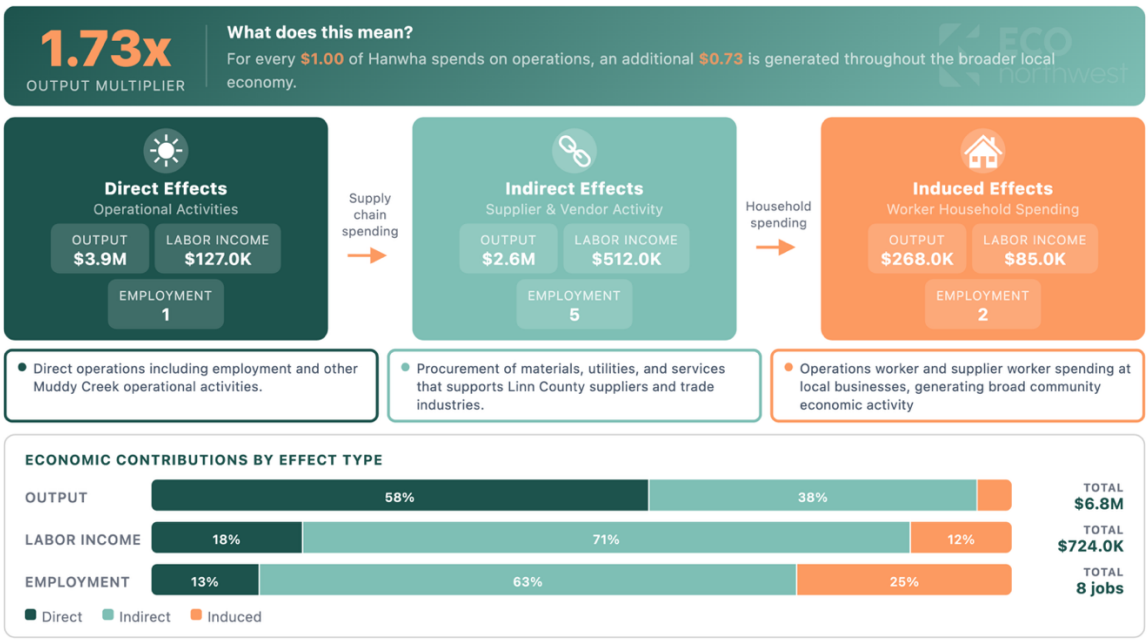
Linn County, OR



Source(s): Hanwha, IMPLAN, and ECOnorthwest Analysis

Annual Economic Contributions of Facility Operations

Linn County, OR

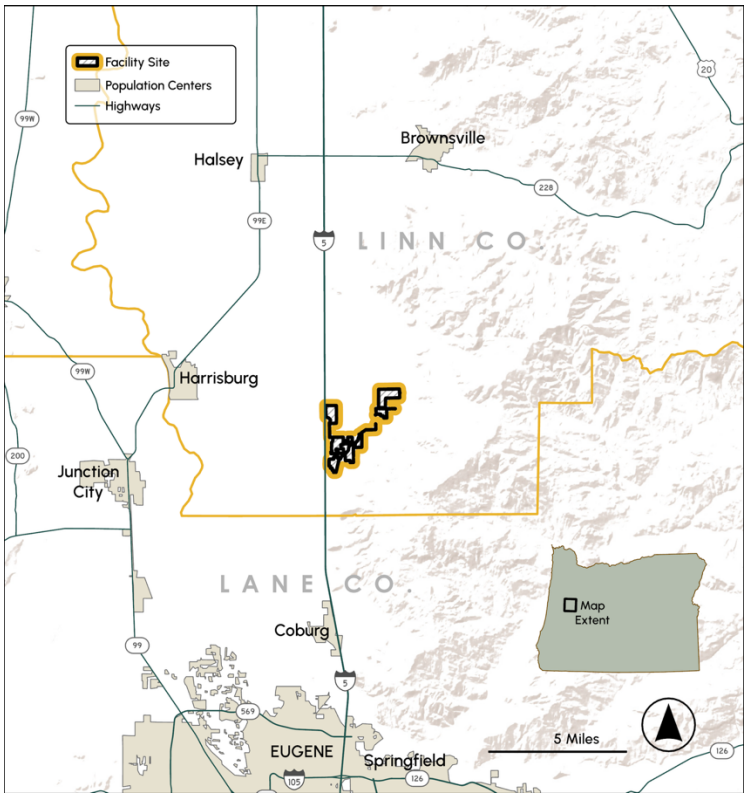


Source(s): Hanwha, IMPLAN, and ECOnorthwest Analysis

Introduction

Muddy Creek Energy Park LLC, a wholly owned subsidiary of Hanwha Renewables, LLC (Applicant), proposes to construct a 150-megawatt (MW) solar photovoltaic (PV) facility, a 150-MW battery energy storage system (BESS), and associated infrastructure on private land in Linn County, Oregon (see Exhibit 1). The proposed Muddy Creek Energy Park (Facility) would occupy approximately 839 acres of land zoned for Exclusive Farm Use (EFU) and is designed to employ an agrivoltaics, or dual-use, approach that integrates solar generation with agricultural activities.

Exhibit 1: Muddy Creek Energy Facility



Source: Hanwha Renewables, LLC.

This report evaluates the economic impacts arising from Facility construction and operation. The analysis evaluates how Facility-related spending would support employment, labor income, and economic output within the Linn County economy. This report also evaluates workforce availability and housing conditions to assess whether local and regional labor markets and housing supply can reasonably accommodate Facility construction. Results are based on preliminary Facility specifications and are commensurate with an early planning-stage level of analysis.

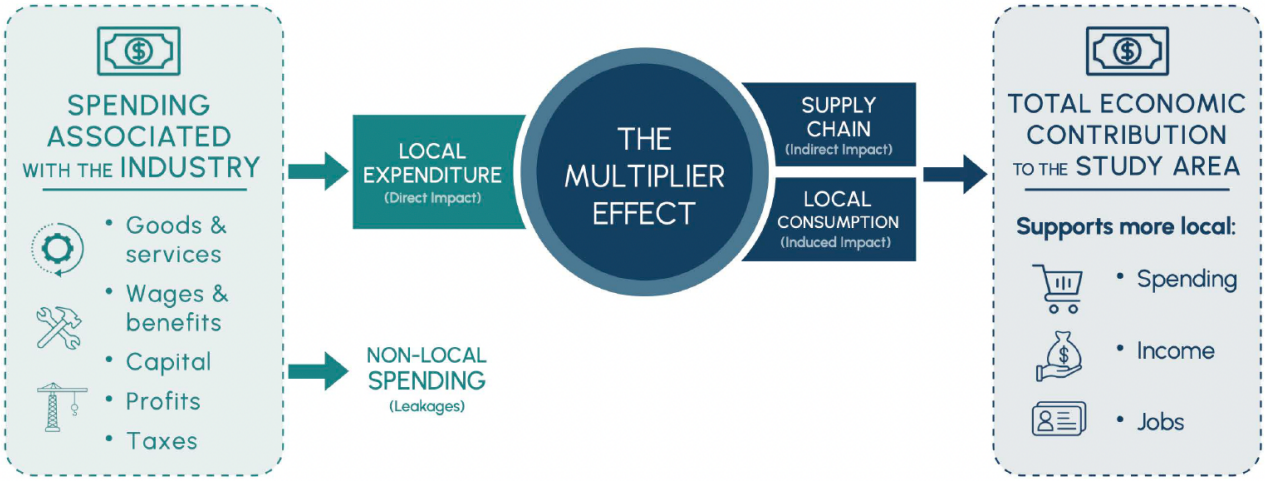
Economic Impact Analysis

IMPLAN Input-Output Modelling Methodology

IMPLAN is a regional input-output (I/O) model commonly used to estimate the economic impacts of renewable energy facilities and other development projects. The model divides the economy into 528 industry sectors and represents the economic linkages among industries, households, and government. Using national industry data and county-level economic data from the U.S. Bureau of Economic Analysis, the U.S. Census Bureau, and other federal sources, IMPLAN estimates how expenditures in one sector generate additional economic activity in other sectors through inter-industry purchases and household spending. These relationships are represented through input-output tables that track monetary flows among sectors of the economy.

The economic relationships represented in IMPLAN allow estimation of the overall change in the economy resulting from project construction and operations (see Exhibit 2). Project expenditures are applied to the model to estimate total impacts within an economy. Direct spending associated with construction and operations generates successive rounds of economic activity through supply-chain purchases and household spending, resulting in increases in employment, labor income, and economic output.

Exhibit 2. Overview of Economic Impact Analysis Framework



Source: ECOnorthwest, 2025

Impact Types

Economic multipliers derived from the model are used to estimate total economic impacts. Total economic impacts consist of three components: direct, indirect, and induced impacts.

- **Direct impacts** consist of expenditures made specifically for the proposed Facility, such as construction labor and materials. These direct impacts generate economic activity elsewhere in the local economy through the multiplier effect, as initial changes in demand generate additional economic activity through supply-chain purchases and household spending generating indirect and induced impacts.
- **Indirect impacts** represent the expenditures on goods and services by suppliers who provide goods and services to the construction project. Indirect effects are often referred to as "supply-chain" impacts because they involve interactions among businesses.
- **Induced impacts** represent the spending of households associated either directly or indirectly with the proposed project. Workers employed during construction, for example, will use their income to purchase groceries and other household goods and services. Workers at businesses that supply the project during construction or operation will do the same. Induced effects are also referred to as "consumption-driven" impacts.

Impact Measures

Impacts are assessed using the following measures that are reported by the IMPLAN model:

- **Jobs** are measured as the average number of employees engaged in full- or part-time work (i.e., employee headcount).
- **Labor income** is expressed as the sum of employee compensation and proprietor income. Employee compensation (wages) includes workers' wages and salaries, as well as other benefits such as health, disability, and life insurance; retirement payments; and non-cash compensation; expressed as total cost to the employer. Proprietor income (business income) represents the payments received by small-business owners or self-employed workers.
- **Output** is the total value of an industry's production and includes all components of the production function: labor income, taxes, profit, and intermediate inputs.

Limitations of Input-Output Models

I/O models are static models used to measure an economy's inputs and outputs based on data that represents the relationships within an economy at a specific point in time. This analysis uses data from the 2024 model year, which is the most recent year for which data is available. The model then estimates how specific changes in inputs to an economy result in changes throughout the economy. This approach—known as a partial equilibrium analysis—assumes that project-related changes do not fundamentally alter regional prices, wages, or production technologies. Given the scale of the Facility relative to the broader economy, this assumption is reasonable.

Construction Economic Impacts

Facility Construction Modeling and Input Assumptions

Construction cost estimates for the Facility were provided by Hanwha and reflect preliminary development assumptions. Facility construction is anticipated to occur over an 18-month period. Solar array and BESS components are assumed to be manufactured outside Linn County. As a result, solar-related equipment expenditures are treated as economic leakage for purposes of the county-level economic impact analysis. Other construction-related expenditures, such as site preparation, foundations, road work, trucking, and certain professional services, may be partially sourced from businesses operating within Linn County or the surrounding region. Local spending shares for eligible materials and services are estimated within the IMPLAN input–output model using Regional Purchase Coefficients (RPCs), which estimate the proportion of local demand met by local supply within the County.

Assumptions regarding timing, workforce composition, and cost allocation directly influence the estimated economic and fiscal impacts. These assumptions are based on client-provided information, industry benchmarks for utility-scale renewable energy development, IMPLAN model structure, and ECOnorthwest's prior experience evaluating renewable energy projects. These estimates remain subject to refinement as final engineering, procurement, and contracting decisions are finalized.

CONSTRUCTION WORKFORCE

Construction employment for the Facility is assumed to remain constant throughout the 18-month construction period at 172 workers, representing the estimated peak construction workforce under the preliminary Project specifications. Average annual construction employment is assumed to be equivalent to peak construction employment. Workforce residency assumptions were developed based on the existing construction employment base within Linn County based on IMPLAN's internal occupation data (see Workforce Impacts for more details).

Given the scale of the Facility relative to the county's construction workforce, ECOnorthwest assumes that 51 percent of construction workers are Linn County residents and 49 percent reside outside the County. Only labor income earned by County residents is treated as locally retained income in the IMPLAN model.

Approximately 10 percent of total construction costs are assumed to be allocated to on-site construction labor based on National Laboratory of the Rockies (NLR) estimates (National Laboratory of the Rockies, 2025). This allocation provides an estimate of total construction payroll (wages and employer-paid benefits combined) for modeling purposes.

CONSTRUCTION COSTS

Total Facility construction cost over 18 months is estimated at approximately $387.1 million, exclusive of taxes. Approximately $73.7 million (19 percent) of the total construction cost is expected to occur within Linn County (see Exhibit 3). An estimated 15 percent of hard and soft construction costs could be sourced locally. Labor costs for Linn County resident construction workers are estimated at $22.8 million, and labor costs for non-resident construction workers are estimated at $22.3 million.

Exhibit 3. Muddy Creek Estimated Construction Cost Breakdown

Cost Category	Local Spending	Non-Local Spending	Total Spending	Percent Local Spending
Hard and Soft Costs	$50,880,000	$288,396,000	$339,276,000	15%
Labor Costs	$22,810,000	$22,280,000	$45,090,000	51%
Total	**$73,690,000**	**$310,676,000**	**$384,366,000**	**19%**

Source(s): Hanwha Renewables, LLC (2026), IMPLAN (2024), ECOnorthwest Analysis
Notes: All values presented in 2026 dollars. Figures may not sum due to rounding. Local defined as Linn County, Oregon. Cost estimates do not include taxes.

Economic Impacts of Facility Construction

The estimated annualized economic impacts associated with construction of the Facility are summarized in Exhibit 4. Results reflect the annualized economic activity generated during the assumed 18-month construction period and are based on the Facility cost allocations and workforce assumptions described previously.

The direct employment, labor income, and economic output of the Facility reflect annualized Facility spending, including expenditures occurring both within and outside of Linn County. While this figure represents the complete scale of annualized construction investment, only the locally retained share of spending supports the secondary economic effects within the County (see Exhibit 3 for the local spending portions).

Local construction-related expenditures would support an estimated additional 174 indirect and induced jobs. The total employment impact from the construction of the Facility is estimated to be 520 jobs. Labor income associated with secondary employment (indirect and induced) is estimated to total $22.4 million.

The direct economic output of the Facility is equivalent to the 18-month cost of construction. The secondary output supported by Facility construction is estimated to be $71.4 million. This represents the economic activity level in construction-associated supply chain industries (manufacturing, wholesale trade, transportation and professional services) as well as household consumption industries (healthcare, restaurants, and retail).

In total, construction of the Facility is estimated to support 520 jobs, $67.5 million in labor income, and approximately $458.5 million in economic output within Linn County during the construction period. For every dollar of direct construction output, an additional $0.18 in economic output is supported elsewhere in Linn County through indirect and induced effects

Exhibit 4. Annualized Economic Impacts of Muddy Creek Facility Construction, Linn County

Impact	Employment	Labor Income	Economic Output
Direct	172	$45,090,000	$387,068,000
Indirect	253	$17,480,000	$55,954,000
Induced	95	$4,930,000	$15,484,000
Total	**520**	**$67,500,000**	**$458,506,000**

Source(s): Hanwha Renewables, LLC (2026), IMPLAN (2024), ECOnorthwest Analysis
Note: All values presented in 2026 dollars. Figures may not sum due to rounding.

Operations Economic Impacts

Facility Operations Modeling and Input Assumptions

Annual operations costs for the Facility were provided by Hanwha. Operations expenditures are assumed to include routine maintenance, equipment and materials, and subcontracted services. The operating life of the Facility is assumed to be 20 years with the solar components having an operational life of 30 years and the BESS components having an operational life of 20 years. Costs and the associated economic impact from operations is estimated for a single year of operation. Based on information provided by Hanwha, there are three separate construction events that will occur in operational years 5, 9, and 14. These events were modeled separately from operations and then added with the annual operation economic impacts for those years.

OPERATIONS WORKFORCE

Facility operations are expected to support one full-time on-site operational and maintenance worker residing in Linn County. Direct operations employment is modeled at 1 full-time position annually.

On-site worker salary estimates were based on comparable renewable energy facilities in the State of Oregon. Based on 12 operating renewable energy projects in Oregon, the average salary (including benefits) for on-site workers is $127,430, annually (Business Oregon, 2025). This is the labor income used in the direct operations for the IMPLAN model. Construction workers for the three Facility upgrade events during operation were estimated by IMPLAN based on the construction cost in that year as no additional information was provided by Hanwha as to the expected labor force in those years.

OPERATIONS COSTS

Estimated annual operating expenditures total approximately $3.1 million, exclusive of taxes (see Exhibit 5). Of total annual operating expenditures, approximately 81 percent is expected to occur within Linn County. Equipment, materials, services, and other purchases are assumed to have a similar local purchase share (approximately 81 percent). Local purchase shares for eligible operating expenditures were estimated using IMPLAN RPCs. Labor costs total approximately $127,000 annually, with all of it retained locally. Land lease payments are treated as 100 percent local expenditures.

Exhibit 5. Muddy Creek Estimated Annual Operations Costs

Cost Category	Local Spending	Non-Local Spending	Total Spending	Percent Local Spending
Equipment, Materials, Services, and Other	$2,431,000	$588,000	$3,019,000	81%
Labor Costs	$127,000	$0	$127,000	100%
Total	**$2,558,000**	**$588,000**	**$3,146,000**	**81%**

Source(s): Hanwha Renewables, LLC (2026), IMPLAN (2024), ECOnorthwest Analysis
Notes: All values presented in 2026 dollars. Figures may not sum due to rounding. Local defined as Linn County, Oregon. Cost estimates do not include taxes.

Economic Impacts of Facility Operations

The estimated annual economic impacts of Facility operations are summarized in Exhibit 6. Direct operations activity supports 1 job, approximately $127,000 in labor income, and $3.9 million in economic output, including taxes. As with construction, direct output reflects total annual Facility spending, including expenditures that occur both within and outside Linn County.

Operations-related spending supports additional secondary impacts through supply chain purchases and household spending. Indirect impacts support 5 jobs, and induced impacts support 2 jobs within local-serving industries on an annual basis.

Ongoing operations are estimated to support 8 total jobs, $724,000 in labor income, and approximately $6.8 million in economic output in Linn County annually. For every dollar of direct operational spending, $0.73 in economic activity is supported through business-to-business linkages and household consumption within the County economy.

Exhibit 6. Annual Economic Impacts of Muddy Creek Facility Operations, Linn County

Impact	Employment	Labor Income	Economic Output
Direct	1	$127,000	$3,931,000
Indirect	5	$512,000	$2,587,000
Induced	2	$85,000	$268,000
Total	**8**	**$724,000**	**$6,786,000**

Source(s): Hanwha Renewables, LLC (2026), IMPLAN (2024), ECOnorthwest Analysis
Notes: All values presented in 2026 dollars. Figures may not sum due to rounding.

In addition to standard annual Facility operations, three separate Facility upgrade events are planned within the operational phase occurring in years 5, 9, and 14. The economic impacts of these upgrade events are shown in Exhibit 7. In years when construction occurs, between 5 and 7 additional jobs are supported, for an additional $439,000 to $572,000 of labor income, and additional economic output of $2.8 to $3.9 million of economic output.

Exhibit 7. Economic Impacts of Planned Upgrades Over the Course of Facility Operations

Impact Measure	Impact Type	Year 5	Year 9	Year 14
Employment	Direct	3	3	4
	Indirect	1	1	2
	Induced	1	1	1
	Total	**5**	**5**	**7**
Labor Income	Direct	$302,000	$300,000	$395,000
	Indirect	$92,000	$92,000	$116,000
	Induced	$47,000	$47,000	$61,000
	Total	**$441,000**	**$439,000**	**$572,000**
Economic Output	Direct	$2,310,000	$2,405,000	$3,337,000
	Indirect	$296,000	$296,000	$370,000
	Induced	$149,000	$148,000	$193,000
	Total	**$2,755,000**	**$2,849,000**	**$3,900,000**

Source(s): Hanwha Renewables, LLC (2026), IMPLAN (2024), ECOnorthwest Analysis
Notes: All values presented in 2026 dollars. Figures may not sum due to rounding.

TOTAL OPERATIONS AND PLANNED UPDGRADE IMPACTS

The planned facility upgrades in operational years 5, 9, and 14 will increase the Facility's economic impact during those years. Combining the upgrade effects with the operational impacts shown previously in Exhibit 6 and Exhibit 7 and averaging them across the 25-year operational phase yields the average annual economic impact for the Facility over the useful life. These average annuals are presented in Exhibit 8. Across all three metrics, the planned upgrades significantly increase the direct economic effects of the Facility while modestly increasing the indirect and induced effects. Over the course of the 25-year operation phase,

Facility operations will contribute $169.7 million to the Linn County economy, and the planned upgrades will contribute an additional $29.9 million.

Exhibit 8. Annual Average Impacts of Operations and Planned Facility Upgrades

Impact	Employment	Labor Income	Economic Output
Direct	1	$166,880	$4,253,080
Indirect	5	$524,000	$2,625,480
Induced	2	$91,200	$287,600
Total	**9**	**$782,080**	**$7,166,160**

Source(s): Hanwha Renewables, LLC (2026), IMPLAN (2024), ECOnorthwest Analysis
Notes: All values presented in 2026 dollars. Figures may not sum due to rounding.

Economic Scale of the Facility

Linn County's economy generated $5.4 billion in gross domestic product (GDP) and had an overall economic output of approximately $15.3 billion in 2024. Employment, both waged-workers and proprietors, totaled roughly 67,550 jobs across all industries in 2024. Comparing Facility development impacts to these baseline measures provides perspective on the relative scale of facility-related activity within the county economy.

During an 18-month construction period, Facility activity represents a measurable, though temporary, share of County economic activity. Total (direct, indirect and induced) construction output is equivalent to approximately 8.7 percent of Countywide economic output. Construction employment supported by the Facility is equivalent to approximately 0.8 percent of total County employment. These figures reflect the one-time nature of construction activity and its concentrated economic contribution during the build period.

Total annual operations-related output (direct, indirect, and induced) is equivalent to approximately 0.04 percent of total County output. Total operational employment contributions account for approximately 0.01 percent of total County employment. While modest in scale relative to the overall economy, operations provide recurring economic activity and locally retained income over the life of the Facility. The addition of the planned Facility upgrades will temporarily increase the percent contributions of the project to economic output and employment up to 0.04 and 0.01 percent, respectively. In total, the 25-year operation phase will contribute $169.7 million to the Linn County economy, and the planned upgrades will contribute an additional $29.9 million.

Workforce Impacts

To assess whether sufficient labor is available locally to support Facility construction, projected peak construction labor demand is compared with the existing local workforce. The discussion considers three factors: peak construction labor demand by occupation, the

capacity of the local workforce to meet that demand, and the share of workers in each occupation expected to be hired locally versus from outside the area. The assessment draws on publicly available data and observed regional labor market trends, recognizing that future labor market conditions may differ from historical patterns.

Facility Labor Demand

Solar energy resource construction requires a mix of skilled and unskilled labor. Much of the installation and construction work is performed by general construction workers, while more specialized tasks are handled by civil engineers, electricians, iron workers, and powerline installers. Surveyors, health and safety specialists, and construction managers also play key roles in overseeing construction activities. Labor needs vary over the course of construction; however, due to the preliminary nature of the Facility, this analysis assumes peak Facility labor demand throughout the 18-month construction period where peak represents the maximum number of workers by occupation onsite at any given time. Under this assumption, the Facility is expected to support a peak construction workforce of approximately 172 workers annually. This estimate is based on preliminary Facility specifications and may change as Project design and construction planning are refined.

As presented in Exhibit 9, Facility construction labor demand is anticipated to be concentrated in a small number of key occupations. Construction laborers represent the largest share of the workforce with approximately 57 workers (33 percent), followed by electricians with roughly 30 workers (17 percent), iron workers with 28 workers (16 percent) and power line installers with roughly 16 workers (9 percent). Collectively, these occupations account for three-fourths of total projected labor demand during construction.

Exhibit 9. Facility Labor Demand Distribution by Occupation

SOC Code	Occupation	Peak Labor Demand	Share of Total Labor Demand
11-9021	Construction Management	2	1%
17-1022	Surveyors	5	3%
17-2051	Civil Engineers	1	1%
19-5011	Health and Safety Specialists	3	2%
43-6014	Secretaries and Administrative Assistants	1	1%
47-1011	Craft Supervision	8	5%
47-2051	Concrete Finishers	5	3%
47-2061	Construction Laborers	57	33%
47-2071	Paving Operators	3	2%
47-2073	Construction Equipment Operators	9	5%
47-2111	Electricians	30	17%
47-2221	Iron Workers	28	16%
47-4011	Construction Inspector/Engineers	4	2%
49-9051	Power Line Installers	16	9%
Total		**172**	**100%**

Source: Muddy Creek Energy Park LLC and ECOnorthwest analysis

Local Labor Supply

Linn County is among the most populous counties in Oregon, with an estimated population of 132,474 in 2024 (U.S. Census Bureau, Accessed 2026). Total employment in the County was approximately 41,970 in 2024, and median household income was $76,329, which is eight percent below the statewide median household income of $83,011 (U.S. Census Bureau, Accessed 2026). Employment in the County is concentrated in four industry sectors: trade, transportation, and utilities, which account for 25 percent of employment; manufacturing (20 percent); healthcare and social assistance (17 percent); and retail trade (13 percent). (U.S. Bureau of Labor Statistics, 2024 (a)).

The potential labor market available for Facility construction extends beyond Linn County and the communities immediately surrounding the Facility site. This reflects the temporary and project-based nature of construction work, which often leads construction workers to commute longer distances than workers in many other occupations.

To estimate workers' willingness to travel to job sites, average commute times were evaluated for occupations with the greatest projected demand during Facility construction, including construction laborers, electricians and iron workers. The analysis uses U.S. Census Bureau American Community Survey place-of-work data for the census micro-geography that includes Linn County. The distribution of commute times for these occupations is summarized in Exhibit 10 (U.S. Census Bureau, 2024).

The results indicate that workers in the selected occupations typically commute moderate distances. Approximately one third travel 30 minutes or less to jobs sites in Linn County, while 23 percent travel between 30-minutes and 60-minutes to job sites in Linn County. The remaining 11 percent of workers commute more than 60 minutes, suggesting that a nontrivial share of the workforce is accustomed to significant distances to work.

Exhibit 10. Commute Time to Work for Workers in Relevant Construction Occupations

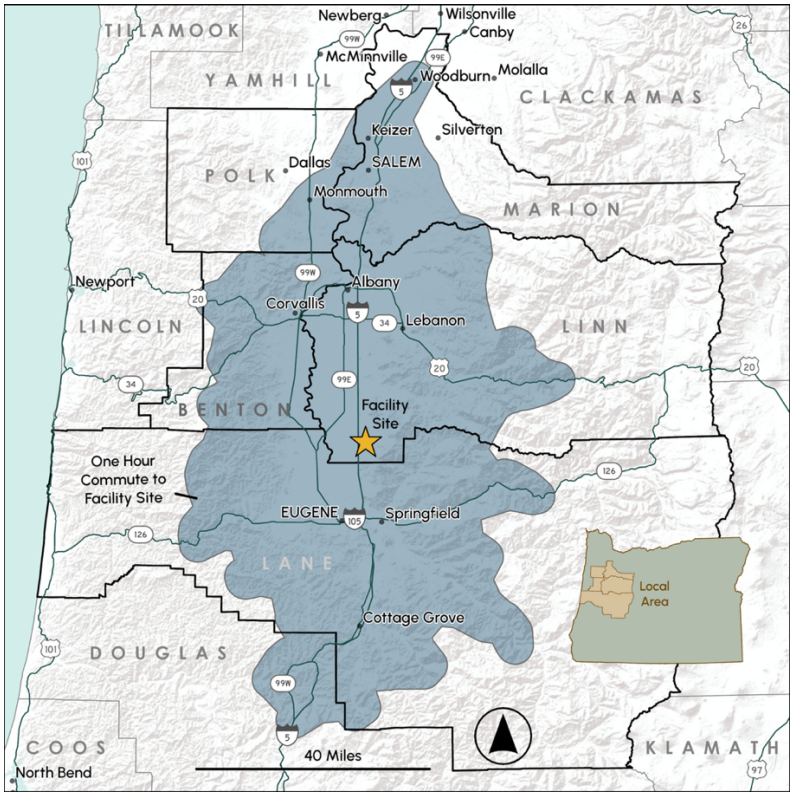
Drive Time	Share
0-30 minutes	66%
30-60 minutes	23%
60+ minutes	11%

Source: (U.S. Census Bureau, 2024)

Based on the commute-time analysis, defining the local labor market as the area within an approximate 60-minute drive time from the Facility site is reasonable for the type of workers needed for construction. Drive times reflect typical uncongested travel conditions and are intended to represent reasonable daily commuting distances in urban western Oregon though actual commute times may vary due to weather, construction, traffic patterns and other factors. This drive-time area includes portions of Linn, Lane, Benton, Marion and Polk counties. Although portions of additional counties fall within the 60-minute drive-time boundary, the local labor market is limited to these five counties due to the location of population centers that contain relevant workforce.

The geographic extent of the defined local labor market is presented in Exhibit 11. Because 11 percent of workers in relevant occupations commute more than 60 minutes to job sites in Linn County, and the 60-minute boundary encompasses portions of surrounding counties not included in the analysis, this definition of the local area provides a conservative estimate of the labor market available to support Facility construction.

Exhibit 11. Geographic Extent of the Local Area



Source: (U.S. Census Bureau TIGER/Line Shapefiles, Accessed 2026) (Google Maps, Accessed 2026) (Mapbox, Accessed 2026), ECOnorthwest analysis

Commuting patterns to job sites in Linn County indicate that a substantial share of workers travel from outside the County. Approximately 55 percent of workers employed in Linn County reside within the County, while the remaining 45 percent commute from other counties, primarily Benton, Marion, and Lane (see Exhibit 12). These patterns indicate that workers in the region routinely commute across county boundaries, demonstrating a willingness to travel longer distances to access employment opportunities.

Exhibit 12. Share of Linn County Workers by Home County

Home County	Share of Linn County Workers
Linn	55%
Benton	12%
Marion	11%
Lane	7%
Other Oregon Counties	16%
Total	**100%**

Source: (U.S. Census Bureau, 2025)

To characterize available labor supply, the analysis estimates the existing workforce in occupations relevant to Facility construction within the defined local area by drawing on two

data sources: the Bureau of Labor Statistics (BLS) and the 2024 IMPLAN model. Using two compatible data sources provides an opportunity to cross-validate employment estimates and helps ensure results are informed by available data and reflect comprehensive geographic coverage. This approach leverages the complementary strengths of each dataset in terms of employment accuracy and completeness, as discussed below.

Employment estimates from the 2024 BLS Occupational Employment and Wage Statistics (OEWS) survey provide total employment counts for metropolitan and nonmetropolitan statistical areas. Relevant data are reported for the Albany Oregon MSA (Linn County), the Corvallis Oregon MSA (Benton County), the Salem Oregon MSA (Marion and Polk Counties), and the Eugene-Springfield Oregon MSA (Lane County). Employment estimates for these geographies are summarized in Exhibit 13. Across the four BLS geographies, approximately 17,400 workers are employed in occupations relevant to Facility construction (U.S. Bureau of Labor Statistics, 2024).

Although the BLS reporting areas correspond one-for-one with the counties included in the analysis, they cover each county in its entirety rather than just the population that falls within the Facility's 60-minute commute shed. Counties within a 60-minute commute of the Facility site but with major population areas outside the 60-minute commute shed are not included in this analysis. As a result, the employment figures presented may slightly over or underestimate the labor supply available to the Facility.

Exhibit 13. Employment by Occupation and Region (2024)

SOC Code	Occupation Title	Albany Oregon	Corvalis Oregon	Salem Oregon	Eugene-Springfield Oregon	Total
11-9021	Construction Management	100	70	530	310	1,010
17-1022	Surveyors	0	0	50	40	90
17-2051	Civil Engineers	50	140	420	190	800
19-5011	Health and Safety Specialists	60	40	200	110	410
43-6014	Secretaries and Administrative Assistants	640	480	3090	1,770	5,980
47-1011	Craft Supervision	200	110	890	700	1,900
47-2051	Concrete Finishers	60	30	210	270	570
47-2061	Construction Laborers	370	160	1480	840	2,850
47-2071	Paving Operators	0	0	0	0	0
47-2073	Construction Equipment Operators	130	70	750	340	1,290
47-2111	Electricians	340	70	750	700	1,860
47-2221	Iron Workers	0	0	30	0	30
47-4011	Construction Inspector/Engineers	0	0	170	150	320
49-9051	Power Line Installers	40	0	140	110	290
Total		**1,990**	**1,170**	**8,710**	**5,530**	**17,400**

Source: (U.S. Bureau of Labor Statistics, 2024)

BLS OEWS data are generally considered the most accurate and reliable source of publicly available occupational employment information and serve as the primary source for estimating the available workforce. IMPLAN county-level estimates are included as a secondary-source to supplement and cross-check the OEWS results. IMPLAN combines data

from several sources, including BLS Census of Employment and Wages (CEW), Bureau of Economic Analysis Regional Economic Accounts (REA), and County Business Patterns (CBP), along with additional sector-specific sources where needed to address gaps related to data disclosure and coverage limitations. As shown in Exhibit 14, IMPLAN estimates indicate that approximately 21,691 workers in relevant occupations are employed within the defined local area (IMPLAN, 2024).

Exhibit 14. Employment and Occupation by County (2024)

SOC Code	Occupation Title	Linn	Marion	Benton	Lane	Polk	Five-County Total
11-9021	Construction Management	207	794	99	522	90	1,712
17-1022	Surveyors	8	50	20	31	4	113
17-2051	Civil Engineers	80	611	117	256	44	1,108
19-5011	Health and Safety Specialists	50	175	27	127	18	398
43-6014	Secretaries and Administrative Assistants	635	2,489	627	2246	377	6,375
47-1011	Craft Supervision	365	1,393	163	903	159	2,982
47-2051	Concrete Finishers	67	247	29	155	26	525
47-2061	Construction Laborers	563	2,096	243	1362	237	4,500
47-2071	Paving Operators	23	88	10	55	10	186
47-2073	Construction Equipment Operators	176	727	83	467	88	1,541
47-2111	Electricians	169	496	64	391	59	1,180
47-2221	Iron Workers	19	71	7	45	9	151
47-4011	Construction Inspector/Engineers	36	159	42	114	23	375
49-9051	Power Line Installers	58	205	23	230	28	545
Total		**2,456**	**9,602**	**1,556**	**6,905**	**1,173**	**21,691**

Source: (IMPLAN, 2024)

Across both datasets, the occupations relevant to Facility construction with the smallest regional workforce are surveyors, paving operators, and iron workers, while secretaries and administrative assistants, construction laborers, and craft supervisors account for the largest workforce. To estimate the local labor supply, employment figures from the BLS and IMPLAN datasets are averaged, with the resulting estimates presented in Exhibit 15. Averaging the two datasets balances geographic coverage with survey-based reliability. These local labor supply estimates represent the construction workforce generally available within a reasonable commuting distance of the Facility site.

Exhibit 15. Estimated Local Labor Supply for Facility Construction

SOC Code	Occupation	Local Labor Supply
11-9021	Construction Management	1,361
17-1022	Surveyors	101
17-2051	Civil Engineers	954
19-5011	Health and Safety Specialists	404
43-6014	Secretaries and Administrative Assistants	6,177
47-1011	Craft Supervision	2,441
47-2051	Concrete Finishers	547
47-2061	Construction Laborers	3,675
47-2071	Paving Operators	93
47-2073	Construction Equipment Operators	1,416
47-2111	Electricians	1,520
47-2221	Iron Workers	90
47-4011	Construction Inspector/Engineers	348
49-9051	Power Line Installers	417
Total		**19,545**

Source: (IMPLAN, 2024) (U.S. Bureau of Labor Statistics, 2024)

The estimate of available local labor supply reflects a static snapshot of current occupational employment and does not account for potential dynamic labor responses to new construction activity. In practice, sustained project development in an industry can encourage workers to reskill or retrain for construction-related trades required by renewable energy facilities. Although limited research directly examines the relationship between renewable energy development and workforce reskilling, recent data from the U.S. Department of Labor indicate a 43 percent increase in registered apprenticeships in the energy industry nationwide between 2020 and 2024 (U.S. Department of Labor , Accessed 2025). However, participation levels in urban western Oregon may differ from national averages.

Future labor market conditions may also be influenced by evolving labor standards and workforce development initiatives, including the Climate Jobs Oregon (CJO) coalition launched in January 2026. CJO is a labor-led coalition representing unions in trades commonly required for renewable energy construction, including electricians, operating engineers, ironworkers, laborers, sheet metal workers, and plumbers and pipefitters. The coalition seeks to expand apprenticeship and training pathways and increase the share of clean energy projects built with union labor (Climate Jobs Oregon, Accessed 2026). In partnership with Cornell University's Climate Jobs Institute, CJO has developed policy recommendations that include prevailing wage and benefit requirements and the use of project labor agreements (Cornell University's Climate Jobs Institute, 2026).

If implemented during construction, these initiatives could affect both worker availability and hiring practices. Expanded apprenticeship capacity could increase the supply of credentialed

local workers in key occupations, while greater reliance on signatory contractors or union hiring could shift recruitment practices and labor cost structures. Because the timing and scale of these initiatives remain uncertain, their potential effects are not quantified in this analysis. Instead, workforce estimates are based on observed employment patterns.

Comparison of Facility Labor Demand and Local Labor Supply

The preceding sections define both the Facility's anticipated peak construction labor demand and the size of the local workforce within a 60-minute commute of the Facility site. A comparison of projected Facility labor demand and the estimated local workforce indicates that local labor supply is sufficient for most occupations, although one occupation may face constraints. In all but one occupation, projected Facility demand represents only a small share of the available local workforce, indicating that these positions could reasonably be filled by local workers. However, for iron workers, although the local labor supply exceeds Facility demand in absolute terms, a large share of the existing workforce is already employed, making it unlikely that sufficient workers could be drawn away from existing jobs to meet peak construction needs.

To quantify these relationships, Facility labor demand is evaluated relative to local labor supply by occupation, as summarized in Exhibit 16. This comparison produces a local labor supply utilization rate, defined as the share of the local workforce required to meet peak construction demand. Utilization rates are evaluated relative to the population-weighted average regional unemployment rate of 5 percent to approximate the portion of the workforce that may be available for new employment (U.S. Bureau of Labor Statistics, 2024). The regional unemployment rate reflects conditions across the entire labor force and does not measure occupational-specific unemployment. Accordingly, it serves as a general screening benchmark rather than a precise estimate of occupation-specific labor availability.

Color shading in Exhibit 16 highlights where utilization exceeds key thresholds. These thresholds are intended as screening indicators of relative labor market tightness and are not predictive of actual hiring outcomes.

GREEN indicates a surplus of available local workforce, where Facility construction would require less than 5 percent of the local labor supply.

YELLOW indicates a limited but potentially adequate local workforce, where Facility construction would require between 5 percent 10 percent of the local labor supply.

ORANGE indicates a shortage of available local workforce, where Facility construction would require more than 10percent of the local labor supply.

As reflected by the green-shaded occupations in Exhibit 16, local labor supply is sufficient to meet all of the Facility's peak construction labor demand, except for iron worker occupations. A portion of Facility labor demand will require non-local hiring for this one occupation.

Exhibit 16. Facility Peak Labor Demand as a Percentage of Local Labor Supply

SOC Code	Occupation	Peak Labor Demand	Local Labor Supply	Local Labor Supply Utilization
11-9021	Construction Management	2	1,361	0%
17-1022	Surveyors	5	101	5%
17-2051	Civil Engineers	1	954	0%
19-5011	Health and Safety Specialists	3	404	1%
47-2051	Concrete Finishers	5	547	1%
47-2073	Construction Equipment Operators	9	1,416	1%
47-2061	Construction Laborers	57	3,675	2%
47-1011	Craft Supervision	8	2,441	0%
47-2111	Electricians	30	1,520	2%
47-2071	Paving Operators	3	93	3%
43-6014	Secretaries and Administrative Assistants	1	6,177	0%
47-4011	Construction Inspector/Engineers	4	348	1%
47-2221	Iron Workers	28	90	31%
49-9051	Power Line Installers	16	417	4%
Total		**172**	**19,545**	

Source: ECOnorthwest analysis

Local hiring outcomes depend on more than the number of workers available in a given occupation. Factors such as compensation, benefits, work schedules, licensing requirements, working conditions, competing job opportunities, and broader economic conditions all influence workers' decisions to accept one job over another. Some of these factors, including wages and incentives, are within the employer's control, while others, such as competing employment opportunities and overall labor market conditions, are not.

Hiring outcomes may also reflect decisions made by the contractor responsible for managing construction, including established hiring practices and preferences for sourcing labor. A recent econometric study found that expansion of solar and wind resource development is associated with a small increase in local employment, and solar development expansion is also associated with wage increases. These effects begin during construction and persist for many years following project completion (Chan & Zhou, 2025). Together, these findings suggest that while hiring outcomes may vary based on contractor practices, renewable energy development has the potential to generate sustained local labor market benefits under typical development conditions.

Because many of the factors influencing local hiring cannot be quantified directly, local workforce availability is evaluated using a set of assumptions tied to labor supply utilization

thresholds. These assumptions, illustrated through color shading in Exhibit 17, guide estimates of the share of construction workers likely to be hired locally.

GREEN For occupations with a surplus of available local workforce (green shading in Exhibit 16), construction of the Facility is assumed to fill all positions locally throughout the construction period.

YELLOW For occupations where Facility labor demand exceeds the regional unemployment rate of 5 percent but remains below twice that level (yellow shading in Exhibit 16), Facility construction is assumed to be capable of hiring a substantial share of workers locally if sufficient incentives are offered. To remain conservative, the analysis assumes that up to 75 percent of peak labor demand in these occupations can be met locally.

ORANGE For occupations where Facility labor demand exceeds twice the unemployment rate (orange shading in Exhibit 16), local labor supply is assumed to be insufficient to meet total demand. In these cases, the analysis assumes that up to 50 percent of peak labor demand can be filled locally, with the remaining workforce recruited from outside the local area.

Applying these assumptions to peak construction labor demand yields an estimated maximum of 14 non-local construction workers and 158 local construction workers as summarized in Exhibit 17. Of the 158 local construction workers, an estimated 87 are Linn County residents. Actual non-local employment may be lower as labor needs fluctuate over the construction period. This estimate represents the maximum potential increase in temporary households within the local area attributable to Facility construction and serves as the basis for the housing analysis presented in the following section.

Exhibit 17. Estimated Facility Workforce: Local and Non-Local Workers

SOC Code	Occupation	Peak Labor Demand	Local Labor		Non-Local Labor	
			Workers	Percent	Workers	Percent
11-9021	Construction Management	2	2	100%	0	0%
17-1022	Surveyors	5	5	100%	0	0%
17-2051	Civil Engineers	1	1	100%	0	0%
19-5011	Health and Safety Specialists	3	3	100%	0	0%
47-2051	Concrete Finishers	5	5	100%	0	0%
47-2073	Construction Equipment Operators	9	9	100%	0	0%
47-2061	Construction Laborers	57	57	100%	0	0%
47-1011	Craft Supervision	8	8	100%	0	0%
47-2111	Electricians	30	30	100%	0	0%
47-2071	Paving Operators	3	3	100%	0	0%
43-6014	Secretaries and Administrative Assistants	1	1	100%	0	0%
47-4011	Construction Inspector/Engineers	4	4	100%	0	0%
47-2221	Iron Workers	28	14	50%	14	50%
49-9051	Power Line Installers	16	16	100%	0	0%
Total		**172**	**158**	**92%**	**14**	**8%**

Source: ECOnorthwest analysis

Housing Availability Analysis

Renewable energy construction projects can result in an influx of non-local workers, which may create temporary demand for housing and lodging within the surrounding area. This analysis evaluates whether the anticipated construction workforce for the Facility is likely to affect local housing availability within a reasonable commuting distance, defined as an approximate 60-minute drive time.[1] Based on workforce availability estimates, up to 14 construction workers may be non-local at peak construction, creating temporary housing demand within the local area.

Construction employment is typically temporary, and most workers are unlikely to relocate permanently. However, because Facility construction is expected to last approximately 18 months, some workers employed for extended periods may seek longer-term housing options, such as rental units. Workers hired for shorter or intermittent periods may prefer temporary accommodations, including hotels, motels, or recreational vehicle (RV) sites. Accordingly, housing availability is evaluated across all relevant housing types within the local area, including rental housing, hotel and motel lodging, and RV parks.

Facility Housing Demand

Peak housing demand reflects the estimated number of non-local workers during the construction period. Workforce availability estimates suggest that up to approximately 14 workers may require temporary accommodation at peak construction. Housing needs are expected to fluctuate as workers arrive and depart and as job durations vary. Workers

[1] Please see the Local Labor Supply section for a description of the methodology for determining the 60-minute drive time boundary.

employed for the full construction period may prefer rental housing, while those employed for shorter durations may rely on hotels, motels, or RV accommodations, often staying during the workweek and returning home on weekends.

Housing demand is further moderated by shared living arrangements, which are common among construction workers. Assuming double occupancy, 14 non-local workers would require an average of approximately 7 housing units (see Exhibit 18).

Exhibit 18. Estimate Annual Facility Housing Demand, in Annual Units

	Facility Housing Demand
Single Occupancy	14
Double Occupancy	7

Source: ECOnorthwest analysis

Local Housing Supply

This section evaluates the availability of housing within the defined local area. The analysis considers multiple housing types that may be utilized by the construction workforce, including rental housing, hotel and motel lodging, and recreational vehicle (RV) parks, providing a comprehensive view of both longer-term and temporary accommodation options within a reasonable commuting distance of the Facility site.

Rental Housing

Rental housing provides a relatively stable and flexible option for workers employed for longer durations over construction. In this analysis, the rental housing category includes houses, apartments, mobile homes, groups of rooms, and single rooms, as defined by the U.S. Census Bureau (US Census Bureau, 2025). It excludes dormitories and transient accommodations, such as hotels and motels and RVs.

Rental housing conditions within the defined commuting area, which includes parts of Linn, Lane, Marion, Benton, and Polk counties, are summarized in Exhibit 19 using vacancy estimates from the 2024 American Community Survey five-year data.[2] Rental housing comprises a substantial share of the housing stock across the counties, and exceeds 50 percent of housing units in Corvallis and Eugene, likely due to the presence of large universities. Estimated vacant rental units total approximately 400 units in Linn County, 747 units in Benton County, 2,145 units in Lane County, 2,220 units in Marion County, and 549 units in Polk County (U.S. Census Bureau, 2024).

[2] The 2024 Americal Community Survey five-year data represent the most recent year of data available at the time of analysis.

Exhibit 19. Regional Rental Housing Stock, in Annual Units

Location	Total Housing Units	Rental Housing (% of total units)	Rental Vacancy Rate	Vacant Rental Units
Linn County	**53,315**	**32%**	**2%**	**400**
Albany	22,768	40%	1%	106
Lebanon	8,149	45%	4%	154
Sweet Home	4,310	33%	0%	0
Benton County	**40,951**	**43%**	**4%**	**747**
Corvallis	25,628	58%	4%	622
Philomath	2,660	33%	8%	72
Monroe	341	31%	0%	0
Lane County	**169,788**	**40%**	**3%**	**2,145**
Eugene	80,856	52%	4%	1,655
Springfield	25,905	45%	1%	142
Cottage Grove	4,479	41%	5%	99
Marion County	**132,295**	**38%**	**4%**	**2,220**
Salem	71,124	44%	5%	1,468
Keizer	15,171	38%	4%	243
Hayesville	7,577	54%	4%	180
Polk County	**34,867**	**35%**	**4%**	**549**
Monmouth	3,969	48%	1%	18
Independence	3,195	46%	3%	44
Total	**431,216**			**6,061**

Source: (U.S. Census Bureau, 2024), ECOnorthwest analysis

Hotel/Motel

Hotel and motel accommodations represent a key source of short-term lodging for non-local construction workers and are evaluated to assess the region's capacity to accommodate temporary demand. Smith Travel Research (STR) hotel performance data from the CoStar Group, covering the period from January 2015 through December 2025, show 125 active hotel properties within a 60-minute drive to the Facility site. CoStar provided actual room supply, room sales, and revenue data for 74 percent of the total room inventory, and generated estimates for the remaining 26 percent (CoStar Group, 2025). This analysis incorporates STR's data and estimates for all 125 hotels.

The market is concentrated in economy and midscale hotels, which account for 75 percent of the total room supply. Upscale and luxury hotels account for the remaining 25. There are 9,141 rooms in the hotel market within a 60-minute drive time from the Facility site. Over the twelve months from January 2025 to December 2025 the occupancy rate (percent of room

nights available sold) was 63.8 percent. The average daily rate (ADR) or rate paid per night, excluding taxes and extras was $143.

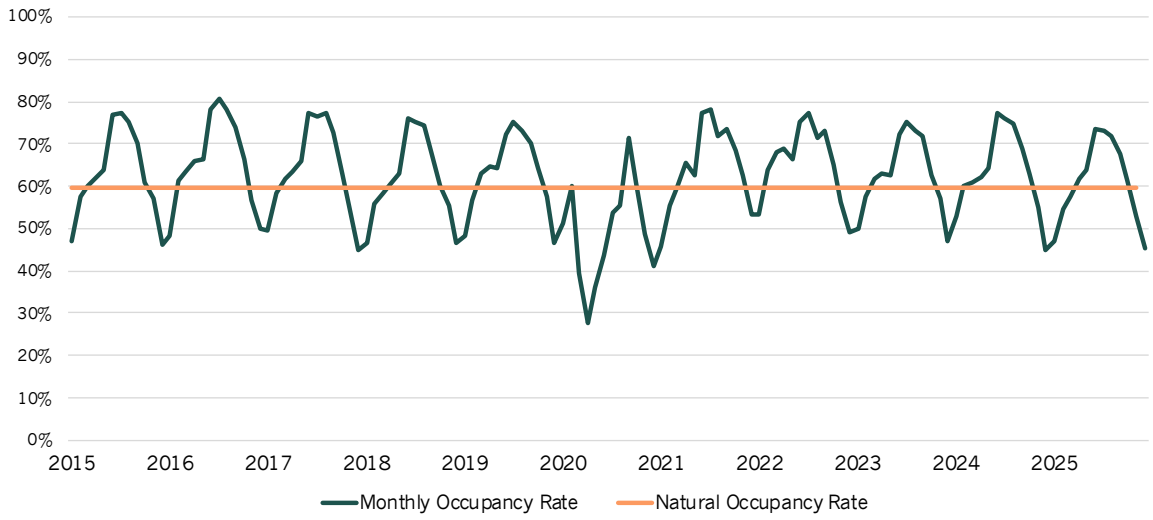
Over the five-year period from Jan 2021 to December 2025, room supply declined by 0.66 percent and demand by 1.2 percent. Room rates increased 2.4 percent a year above inflation.

NATURAL OCCUPANCY RATE

Current market conditions are not predictive of future conditions. When analyzing hotel markets more than a year or two into the future, it is necessary to determine the occupancy rate at which long-run supply and demand are in balance. This is called the natural occupancy rate and is calculated by economists using a regression analysis of historical data (deRoos, 1999).

The monthly market occupancy rate since January 2015 compared to the market's natural occupancy rate is illustrated in Exhibit 20. Using regression analysis of historical data from STR, the region's natural occupancy rate is estimated at 59.8 percent. The actual occupancy rate in the period from January 2025 to December 2025 was 63.8 percent, suggesting the market was undersupplied and could absorb additional room inventory. A theoretical increase of 586 rooms (6.8 percent of current inventory) would align observed occupancy with the estimated natural rate. This calculation is presented for analytical context and does not imply anticipated development.

Exhibit 20. Natural and Actual Hotel Occupancy Rate in the Area, January 2015 – December 2025

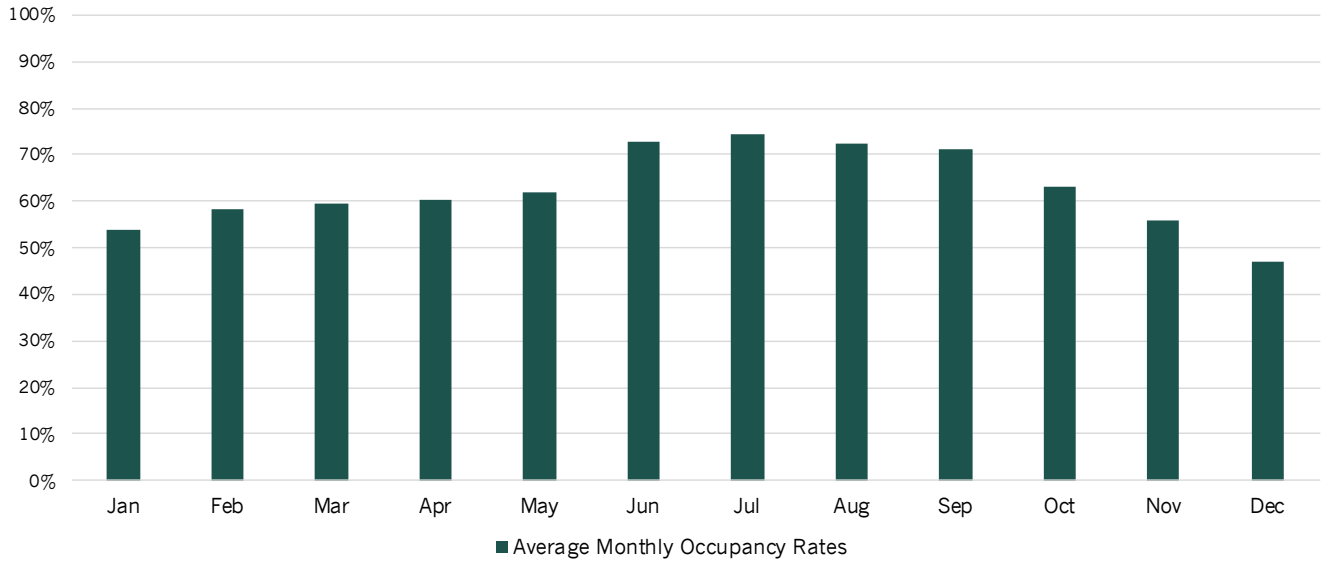


Source: (CoStar Group, 2025), ECOnorthwest analysis

Demand for hotel and motel rooms in the area is seasonal and influenced both by weather patterns and events associated Oregon's two largest universities as illustrated in Exhibit 21. Oregon State University and the University of Oregon are in the local area and contribute to

increased demand during major campus events that draw visitors from outside the region, such as graduation and sporting events. Occupancy rates in the local area peak in the summer months of June, July and August when more than 70 percent of the rooms are sold each day. Occupancy is lowest in the winter months of December and January when fewer than half of the rooms are sold each day and averages just over 60 percent in the spring and fall. During the shoulder and off-season months, vacancies run between 3,017 and 4,065 rooms a day (CoStar Group, 2025).

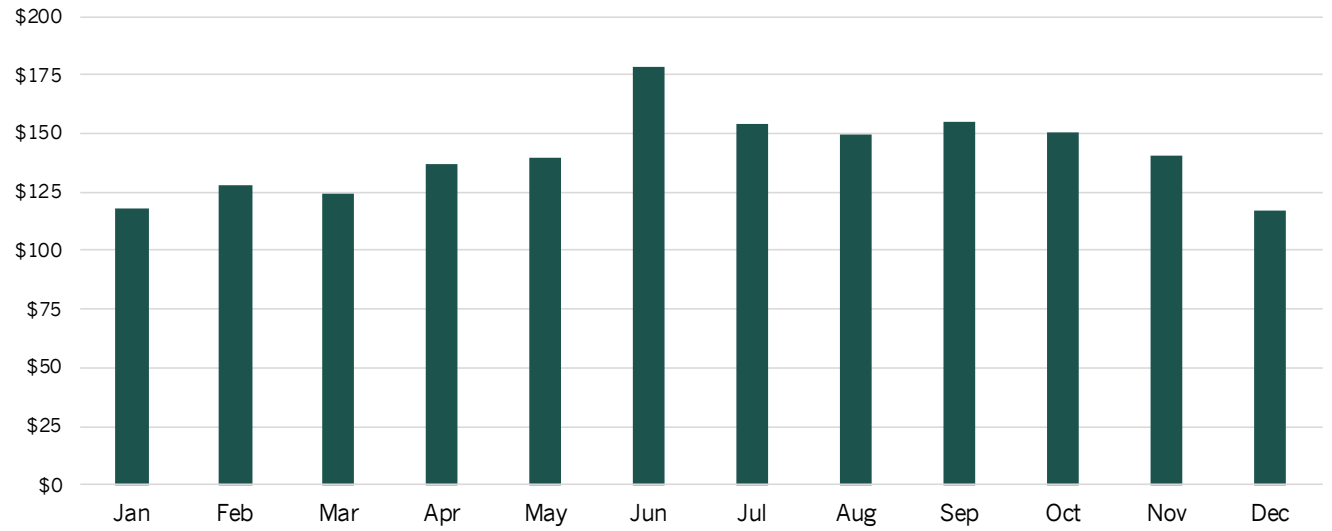
Exhibit 21. Average Monthly Hotel Occupancy Rates in the Area, January 2015 – December 2025



Source: (CoStar Group, 2025), ECOnorthwest analysis

ADRs shown in Exhibit 22 for the period from January 2025 through December 2025, are influenced by occupancy rates and the potential for premium pricing associated with major university events. Rates peak in June, during graduation season, at an average of $179 per night. Other university-related events throughout the year likely contributes to the relatively steady ADR average of $150 per night from July through November. ADRs are lowest in January and December, averaging $117 per night.

Exhibit 22. Average Daily Rate in the Area, Jan 2025 – Dec 2025



Source: (CoStar Group, 2025), ECOnorthwest analysis

RV Park

RV sites with full hookups and access to dump stations represent a practical housing option for construction workers due to their convenience and relatively low cost. Full hookups provide water, electricity, and sewage connections, while dump stations allow for efficient waste disposal and help maintain sanitary conditions. Many non-local construction workers travel with recreational vehicles to stay near construction sites over the course of their assignments.

A review of publicly available sources identified 22 RV parks within a 60-minute drive of the Facility site, providing approximately 1,556 individual RV sites. Among parks with available fee information, monthly rates range from approximately $455 to $857. Full hook-ups are offered by an average of 91 percent of identified RV parks and approximately 68 percent advertise access to dump stations, as summarized in Exhibit 23. Some parks do not explicitly list these amenities online, although they may still provide them.

Exhibit 23. Regional RV Park Capacity and Amenities by Distance to Facility

Location	Total RV Parks	% of Sites with Full Hookups	% of Sites with Dump Stations
0–30 minutes	7	71%	71%
30–60 minutes	15	100%	67%
Total (Average)	**22**	**(91%)**	**(68%)**

Source: (Knox Butte RV Park, Accessed 2026) (Eugene Mobile Village, Accessed 2026) (Blue Ox RV Park, Accessed 2026) (Foster Lake RV Resort, Accessed 2026) (Emerald Valley RV Park, Accessed 2026) (KOA Campground, Accessed 2026) (Country Star RV Park, Accessed 2026) (Kountry Village, Accessed 2026) (Eugene Kamping World, Accessed 2026) (Armitage Park, Accessed 2026) (Deerwood RV Park, Accessed

2026) (Meadowlark RV Park, Accessed 2026) (Dexter Shores RV Park, Accessed 2026) (Hee Hee Illahee RV Resort, Accessed 2026) (Phoenix RV Park & Storage, Accessed 2026) (Salem Estates RV Park & Storage, Accessed 2026) (Benton Oaks RV Park, Accessed 2026) (Ash Creek Mobile & RV Park, Accessed 2026) (Independence MH & RV Park, Accessed 2026) (Google, Accessed 2026)

Interviews with RV park operators indicate that average annual occupancy is approximately 90 percent, with seasonal variation ranging from 50 percent to full capacity.[3] Occupancy rates are generally higher during the summer months than in winter. After accounting for average annual occupancy, approximately 162 RV sites are estimated to be vacant within a 60-minute commute of the Facility site, as summarized in Exhibit 24.

Exhibit 24. Regional RV Park Inventory

Location	Total RV Parks	Total RV Sites	Vacant RV Sites	Monthly Rate Range
Linn County	7	604	63	$550 to $855
Benton County	2	39	4	$600 to $600
Lane County	7	402	42	$600 to $850
Marion County	3	404	42	$455 to $857
Polk County	3	107	11	$770 to $850
Total	**22**	**1,556**	**162**	**$455 to $857**

Source: (Knox Butte RV Park, Accessed 2026) (Eugene Mobile Village, Accessed 2026) (Blue Ox RV Park, Accessed 2026) (Foster Lake RV Resort, Accessed 2026) (Emerald Valley RV Park, Accessed 2026) (KOA Campground, Accessed 2026) (Country Star RV Park, Accessed 2026) (Kountry Village, Accessed 2026) (Eugene Kamping World, Accessed 2026) (Armitage Park, Accessed 2026) (Deerwood RV Park, Accessed 2026) (Meadowlark RV Park, Accessed 2026) (Dexter Shores RV Park, Accessed 2026) (Hee Hee Illahee RV Resort, Accessed 2026) (Phoenix RV Park & Storage, Accessed 2026) (Salem Estates RV Park & Storage, Accessed 2026) (Benton Oaks RV Park, Accessed 2026) (Ash Creek Mobile & RV Park, Accessed 2026) (Independence MH & RV Park, Accessed 2026) (Google, Accessed 2026)

Summary of available housing supply

Available housing supply by type and location is summarized in Exhibit 25. Housing supply is most constrained in Polk County. In all counties except Linn County, rental housing exceeds the supply of transient lodging. Among the five counties, Lane County provides the largest amount of available housing, followed by Marion County. Across the local area, total available housing supply is estimated at approximately 9,898 units on an annual basis.

[3] Interviews were conducted with a selection of RV parks.

Exhibit 25. Summary of Available Housing Supply, in Annual Units

Location	Rental Housing Units	Hotel/Motel Rooms	RV Sites	Total Vacant Dwelling Units
Linn County	400	378	63	841
Benton County	747	383	4	1,134
Lane County	2,145	1,918	42	4,105
Marion County	2,220	953	42	3,215
Polk County	549	43	11	603
Total	**6,061**	**3,675**	**162**	**9,898**

Source: (CoStar Group, 2025) (U.S. Census Bureau, 2024) (Knox Butte RV Park, Accessed 2026) (Eugene Mobile Village, Accessed 2026) (Blue Ox RV Park, Accessed 2026) (Foster Lake RV Resort, Accessed 2026) (Emerald Valley RV Park, Accessed 2026) (KOA Campground, Accessed 2026) (Country Star RV Park, Accessed 2026) (Kountry Village, Accessed 2026) (Eugene Kamping World, Accessed 2026) (Armitage Park, Accessed 2026) (Deerwood RV Park, Accessed 2026) (Meadowlark RV Park, Accessed 2026) (Dexter Shores RV Park, Accessed 2026) (Hee Hee Illahee RV Resort, Accessed 2026) (Phoenix RV Park & Storage, Accessed 2026) (Salem Estates RV Park & Storage, Accessed 2026) (Benton Oaks RV Park, Accessed 2026) (Ash Creek Mobile & RV Park, Accessed 2026) (Independence MH & RV Park, Accessed 2026) (Google, Accessed 2026)

Housing Availability Impacts

Large construction projects can temporarily increase housing demand as non-local workers relocate to the area during construction, potentially drawing from the existing stock of vacant housing units. To assess potential pressure on the local housing market, this analysis compares projected housing demand from non-local construction workers with the current inventory of vacant rental and transient housing within a reasonable commuting distance of the Facility site.

Within the defined local area, vacant housing supply includes approximately 6,061 rental units and 3,837 units of transient lodging, including hotels, motels, and RV sites, for a total of about 9,898 housing units available annually, as summarized in Exhibit 25. Peak housing demand associated with Facility construction is estimated at up to 14 households under a single-occupancy assumption and up to 7 households under a double-occupancy assumption. When compared with available housing supply, this results in an estimated availability ranging from approximately 707 housing units per worker under single occupancy to 1,414 units per worker under double occupancy, as presented in Exhibit 26.

Exhibit 26. Housing Supply and Facility Housing Demand, Annual units

	Single Occupancy	Double Occupancy
Total Housing Supply	9,898	9,898
Facility Housing Demand	14	7
Vacant Housing Unit Availability per Worker	707	1,414

Source: ECOnorthwest analysis

Rental Housing Vacancy Pressure

In rental markets with limited vacancy, a temporary influx of non-local construction workers may increase demand and contribute to tighter housing conditions during peak construction periods. To assess potential pressure on rental housing availability, projected increases in renter households associated with Facility construction are compared with the existing inventory of vacant rental units. This relationship can be expressed as a housing utilization rate, which serves as an indicator of rental market tightness and the potential for localized housing impacts, including price pressure or displacement risk.

A housing utilization rate below 1.0 indicates a surplus of vacant rental units relative to projected demand, suggesting the market can absorb additional households with limited pressure. A utilization rate above 1.0 indicates a shortage of vacant rental units relative to demand, signaling the potential for increased housing market pressure.

Housing utilization rates associated with Facility construction are estimated to be less than 0.01 under both single and double-occupancy assumptions. These low utilization rates indicate ample available capacity within the existing rental housing stock and suggest that projected construction-related demand is unlikely to materially affect rental housing availability under either occupancy scenario.

Workers seeking short-term or transient accommodations are most likely to find housing in Lane and Marion counties, particularly in hotels and motels, which are generally more available than RV sites. Workers intending to stay in RVs may face more limited availability, especially during the summer months when demand for RV sites is highest.

Workers preferring rental housing, such as those expecting to work on the Facility for an extended period and seeking longer-term leases, are most likely to find rental options in Lane, Marion, and Benton counties. Based on available supply, sufficient rental housing exists within the local area to accommodate projected housing demand under both single- and double-occupancy scenarios.

In summary, projected peak construction labor demand is expected to require partial recruitment from outside the local labor market, with a conservative maximum estimate of approximately 14 non-local workers. When compared with existing rental and transient housing availability within a 60-minute commute of the Facility site, projected housing demand represents a modest share of available units. Under both single- and double-occupancy scenarios, regional housing markets are expected to be able to accommodate anticipated construction-related demand without materially affecting overall housing availability.

Property Value Impact Assessment

The relationship between utility-scale solar development and nearby property values has been examined in a growing body of empirical research. Existing studies employ a range of methodologies, including hedonic pricing models and quasi-experimental approaches, to estimate how proximity to solar facilities is reflected in observed real estate transactions. Overall, the evidence does not indicate uniform or systematic effects; instead, findings vary based on factors such as land use context, proximity, project characteristics, and local market conditions. This literature provides a relevant framework for evaluating potential property value impacts in the Muddy Creek area of Linn County, where rural land use patterns, agricultural production, and dispersed residential development are key factors influencing local market responses. In addition to distance, visibility and viewshed effects are frequently identified as important factors influencing property value responses, particularly for residential properties with scenic or amenity-oriented characteristics.

Key Findings from Literature

The empirical literature indicates that property value impacts associated with utility-scale solar development are generally modest in magnitude, localized in extent, and dependent on land use context. Some studies identify small reductions in nearby residential property values, typically within short distances and on the order of a few percentage points, often attributed to perceived disamenities, including visual impacts and changes to rural or scenic character. However, these effects are not consistently observed across studies or regions, and some research, including Hao and Michaud (2024), finds neutral or even positive relationships, indicating that nearby solar development is not uniformly perceived as a disamenity.

In contrast, agricultural and vacant land values are often found to be stable or increasing, reflecting the capitalization of solar lease opportunities and development potential into land values. Across the literature, distance is a key factor: where effects are observed, they tend to diminish rapidly and are rarely detectable beyond approximately one mile. Overall, findings remain mixed, with many studies identifying no statistically significant effects, reinforcing that property value outcomes are context-specific rather than systematic across locations.

Property Value Impacts of Solar Facilities in the Literature

The most comprehensive empirical evidence on solar facility impacts comes from Lawrence Berkeley National Laboratory (LBNL). Elmallah et al. (2023) examined 1.8 million residential property transactions across six states, including California, Connecticut, Massachusetts, Minnesota, North Carolina, and New Jersey, which together accounted for more than half of U.S. utility-scale solar capacity at the time of the study. Using a difference-in-differences approach, the authors found that homes within 0.5 miles of large-scale solar photovoltaic

projects sold for approximately 1.5 percent less than comparable homes located two to four miles away. Statistically significant effects were limited to a subset of states, including Minnesota (4.0 percent), North Carolina (5.8 percent), and New Jersey (5.6 percent), and no effects were observed beyond one mile. No measurable impacts were detected in California, Connecticut, or Massachusetts. The authors emphasize that results vary based on landscape characteristics, prior land use, and community context. In some cases, projects located in rural or agricultural areas exhibited somewhat larger short-distance effects (approximately 3 to 4 percent), although these effects remain limited to properties in close proximity and are not observed beyond one mile (Elmallah, Hoen, Fujita, Robson, & Brunner, 2023).

Findings from Gaur and Lang (2020) are broadly consistent with the LBNL results, while highlighting variation across geographic contexts. Using more than 400,000 residential property transactions and a quasi-experimental approach, the authors estimate an average 1.7 percent reduction in home values within one mile of solar installations. These effects are concentrated very close to facilities (within approximately 0.1 miles) and are more pronounced in non-rural settings, particularly where solar projects are located near residential clusters. In rural areas, estimated effects are not statistically distinguishable from zero, indicating that any impacts are highly localized and not consistently observed in agricultural landscapes. A subsequent study focusing on Massachusetts and Rhode Island finds similarly modest, proximity-based effects in more densely developed markets, reinforcing that observed impacts vary with local land use patterns and housing market characteristics (Gaur and Lang, 2020) (Gaur and Lang, 2023).

Other evidence suggests that property value impacts are often neutral. Al-Hamoodah et al. (2018), based on a national survey of property assessors and analysis of 956 solar installations, report that most assessors perceive no impact, or in some cases a positive impact, on nearby home values. Assessors noted that projects located on previously disturbed land or screened by vegetation were often viewed favorably, and that the long operational life of solar facilities can contribute to land use stability (Al-Hamoodah, et al., 2018).

Additional appraisal and market-based studies reach similar conclusions. Analyses conducted by CohnReznick LLP (2023) across 18 states, as well as matched-pair studies in Midwestern markets, generally find no statistically significant differences in home sale prices near solar facilities, even at relatively close distances (Marous & Company, 2021). While these studies do not employ the same econometric methods as academic analyses, they provide consistent evidence from applied valuation practice.

A smaller set of studies identifies more varied outcomes, including both negative and positive effects. A national-scale analysis by Hu et al. (2025) finds that residential properties within three miles of large-scale solar facilities sold for approximately 4.8 percent less on average, although the authors conclude that effects are driven primarily by proximity and are not strongly influenced by visibility. The same study finds that agricultural and vacant land within

two miles increased in value by approximately 19 percent, reflecting the capitalization of solar development potential. Similarly, Abashidze and Taylor (2023) find no direct effect on nearby farmland values but identify an increase in land values near transmission infrastructure following solar development, consistent with an option-value effect related to future leasing opportunities (Hu, et al., 2025) (Abashidze & Taylor, 2023).

Some evidence also suggests the potential for neutral or positive residential impacts under certain conditions. Hao and Michaud (2024), using a difference-in-differences approach in Midwestern markets, find modest increases in nearby home values (0.5 to 2.0 percent), although these effects diminish with project size. The authors suggest that local market responses may vary depending on site characteristics and community context (Hao & Michaud, 2024).

Across studies, several consistent patterns emerge. Where effects are observed, they are typically small in magnitude and limited to properties located in close proximity to solar facilities, with impacts diminishing rapidly with distance and generally not detectable beyond one mile. Results vary across regions and study designs, and many analyses find no statistically significant effects across study areas. Evidence also indicates that impacts differ by land type: while some residential properties may experience modest proximity effects, agricultural and vacant land values are often stable or increasing, reflecting potential income opportunities associated with solar development.

In rural, agricultural regions such as Linn County, characterized by large parcels and dispersed residential development, the literature suggests limited potential for widespread or market-wide property value impacts. Any effects that do occur are likely to be localized and influenced by site-specific factors, including siting, screening, and proximity to existing residential uses.

Synthesis and Implications for Linn County, Oregon

When viewed collectively, the empirical literature provides a broadly consistent, evidence-based characterization of property value impacts associated with utility-scale solar development. Across studies, any observed effects on residential property values are generally small in magnitude, typically in the range of 1 to 5 percent, and highly localized, occurring primarily within short distances of facilities. These effects are not consistently observed across regions and tend to diminish rapidly with distance, with little evidence of impacts beyond approximately one mile. Results vary by land use context: while some studies identify modest proximity-based effects for residential properties in certain settings, many find no statistically significant impacts, particularly in rural areas. In contrast, agricultural and vacant land values are generally stable or increasing, reflecting the potential for solar lease income or future development opportunities to be capitalized into land prices.

For Linn County, Oregon, which is characterized by extensive agricultural production, relatively low residential density, and dispersed settlement patterns, these findings suggest limited potential for widespread or market-wide property value impacts associated with solar development. The County's land use and market conditions align most closely with rural contexts in which empirical studies have not consistently identified statistically significant effects on residential property values. To the extent that impacts occur, the literature indicates they are likely to be confined to properties in close proximity to facilities and influenced by site-specific factors such as visibility. Agricultural parcels may experience neutral or positive value effects due to the potential for lease revenues or increased development optionality.

Individual properties may respond differently to nearby development depending on site-specific factors, including proximity, visibility, and the extent to which landscape or viewshed characteristics contribute to property value. Where effects are observed, the literature indicates they are generally confined to properties in close proximity to facilities and do not extend across broader market areas. Overall, the evidence supports a distinction between localized, property-specific effects and broader market-wide outcomes, with the latter generally not observed in rural settings.

Works Cited

Abashidze, N., & Taylor, L. O. (2023). Utility-Scale Solar Farms and Agricultural Land Values. *Land Economics*, 327-342.

Al-Hamoodah, L., Koppa, K., Schieve, E., Reeves, D. C., Hoen, B., Seel, J., & Rai, V. (2018). *An Exploration of Property-Value Impacts Near Utility-Scale Solar Installations.* The University of Texas at Austin.

Amazon Web Services. (2022). *AWS Investment: Eastern Oregon*. Retrieved from https://assets.aboutamazon.com/fc/65/e3944125451698e1de8d734e2ac7/easternoregon-eis-factsheet-2022.pdf

Armitage Park. (Accessed 2026). Retrieved from https://www.lanecounty.org/cms/One.aspx?portalId=3585881&pageId=16383626

Ash Creek Mobile & RV Park. (Accessed 2026). Retrieved from https://www.facebook.com/Ash-Creek-Mobile-RV-Park-117934361600206/

Avengrid. (2007). *Golden Hills Wind Farm*. Retrieved from https://www.oregon.gov/energy/facilities-safety/facilities/Facilities%20library/2007-07-01%20GHW%20Exhibit%20H-L.pdf

Benton Oaks RV Park. (Accessed 2026). Retrieved from https://www.bceventcentercorvallis.net/p/getinvolved

Blue Ox RV Park. (Accessed 2026). Retrieved from https://theblueoxrvpark.com

Burns Park. (Accessed 2026). Retrieved from http://gilliamcountyor.gov/government/facilities_department/index.php

Business Oregon. (2025). *Strategic Investment Program (SIP)*. Retrieved from https://www.oregon.gov/biz/programs/sip/pages/default.aspx

Chan, H. R., & Zhou, Y. C. (2025, December). Charged Up: Impacts of Green Energy Transition on Local Labor Markets. The University of Manchester, Clemson University.

Climate Jobs Oregon. (Accessed 2026). Retrieved from https://www.climatejobsoregon.org/

Cornell University's Climate Jobs Institute. (2026). *Building the Future: A Bold Vision for Climate Jobs in Oregon.* ILR Climate Jobs Institute.

CoStar Group. (2025). *Performance Data*. Retrieved from Smith Travel Research (STR): https://costar.com

Country Star RV Park. (Accessed 2026). Retrieved from https://fosterlakeinn.com/rv-park/

Deerwood RV Park. (Accessed 2026). Retrieved from https://deerwoodrvpark.com

deRoos, J. (1999). Natural Occupancy Rates and Development Gaps: A Look at the US Lodging Industry. *The Cornell Hotel and Restaurant Administration Quarterly, 40*(2), 14-22.

Dexter Shores RV Park. (Accessed 2026). Retrieved from http://dextershoresrv.com/reservations/

Elmallah, S., Hoen, B., Fujita, S. K., Robson, D., & Brunner, E. (2023). Shedding light on large-scale solar impacts: An analysis of property values and proximity to photovoltaics across six U.S. states. *Energy Policy*, 113425.

Emerald Valley RV Park. (Accessed 2026). Retrieved from https://www.emeraldvalleyrvp.com

Eugene Kamping World. (Accessed 2026). Retrieved from https://www.eugenekampingworld.com/about

Eugene Mobile Village. (Accessed 2026). Retrieved from https://eugenervpark.com/

Foster Lake RV Resort. (Accessed 2026). Retrieved from https://fosterlakervresort.com/

Gaur, V., & Lang, C. (2020). *Property Value Impacts of Commercial-scale Solar Energy in Massachusetts and Rhode Island.* University of Rhode Island.

Gaur, V., & Lang, C. (2023). *House of the rising sun: The effect of utility-scale solar arrays on housing prices.* Retrieved from Energy Economics: https://www.sciencedirect.com/science/article/abs/pii/S0140988323001974

Google. (Accessed 2026). Retrieved from www.google.com

Google Maps. (Accessed 2026). *Google Maps*. Retrieved from maps.google.com

Hao, S., & Michaud, G. (2024). Assessing property value impacts near utility-scale solar in the Midwestern United States. *Solar Compass*.

Hee Hee Illahee RV Resort. (Accessed 2026). Retrieved from https://heeheeillahee.com/index.php/home/reservations-rates/

Hu, C., Chen, Z., Liu, P., Zhang, W., He, X., & Bosch, D. (2025). Impact of large- scale solar on property values in the United States: Diverse effects and causal mechanisms. *PNAS: Economic Sciences*, Vol. 122.

Iberdrola Renewables. (2010). Retrieved from Montague Wind Power Facility , Appendix K: https://www.oregon.gov/energy/facilities-safety/facilities/Facilities%20library/2010-04-27-MWP-pASC-Exhibits-K-O.pdf

IMPLAN. (2024). *Occupational Employment (Sherman County, Wasco County, Hood River County)*. Retrieved from implan.com

IMPLAN. (2024). State Industry Detail. Oregon.

Independence MH & RV Park. (Accessed 2026). Retrieved from http://independencemhrvpark.com/

Knox Butte RV Park. (Accessed 2026). Retrieved from https://knoxbuttervpark.com

KOA Campground. (Accessed 2026). *Albany/Corvallis KOA Journey*. Retrieved from https://koa.com/campgrounds/albany/

Kountry Village. (Accessed 2026). Retrieved from http://kountryvillage.net/

Mapbox. (Accessed 2026). Retrieved from https://mapbox.com

Marous & Company. (2021). *Market Impact Analysis: Koshkonong Solar Energy Center Dane County, Wisconsin.* Retrieved September 18, 2025, from https://apps.psc.wi.gov/ERF/ERFview/viewdoc.aspx?docid=409444

Meadowlark RV Park. (Accessed 2026). Retrieved from http://www.meadowlark-rvpark.com/

National Laboratory of the Rockies. (2025). *JEDI: Jobs and Economic Development Impact Models*. Retrieved from https://www.nrel.gov/analysis/jedi/models

Oregon Ryegrass Growers Seed Commission. (Accessed 2025). *Oregon Ryegrass*. Retrieved from https://www.ryegrass.com/index.html

Phoenix RV Park & Storage. (Accessed 2026). Retrieved from https://www.stayatphoenixrvpark.com/

Salem Estates RV Park & Storage. (Accessed 2026). Retrieved from https://www.salemestatesrv.com/

Tetra Tech. (2015). *Wheatride Wind Energy Facility*. Retrieved from https://www.oregon.gov/energy/facilities-safety/facilities/Facilities%20library/2015-07-01%20WRW%20Exhibit%20K-Q.pdf

U.S. Bureau of Labor Statistics. (2024 (a)). *Quarterly Census of Employment and Wages (QCEW)*. Retrieved from https://www.bls.gov/cew/

U.S. Bureau of Labor Statistics. (2024). *Local Area Unemployment Statistics*. Retrieved from U.S. Bureau of Labor Statistics: https://www.bls.gov/lau/

U.S. Bureau of Labor Statistics. (2024). *Occupational Employment and Wage Statistics (OEWS)*. Retrieved from https://data.bls.gov/oes

U.S. Census Bureau. (2024). *American Community Survey (ACS) 5-Year Estimates Public Use Microdata Sample (PUMS)*. Retrieved from United States Census Bureau: https://www.census.gov/programs-surveys/acs/microdata/documentation.html

U.S. Census Bureau. (2025). *Longitudinal Employer-Household Dynamics Origin-Destination Employment Statistics (LODES)*. Retrieved 2025, from United States Census Bureau: https://lehd.ces.census.gov/data/

U.S. Census Bureau. (Accessed 2026). *Quick Facts, Gilliam County OR*. Retrieved from U.S. Census Bureau: https://www.census.gov/quickfacts/fact/table/gilliamcountyoregon/PST045224

U.S. Census Bureau TIGER/Line Shapefiles. (Accessed 2026). *TIGER/Line Shapefiles*. Retrieved from https://www.census.gov/geographies/mapping-files/time-series/geo/tiger-line-file.html

U.S. Department of Labor . (Accessed 2025). Retrieved from Apprenticeship USA: https://www.apprenticeship.gov/apprenticeship-industries/energy

US Census Bureau. (2025). *Glossary*. Retrieved August 2025, from United States Census Bureau: https://www.census.gov/glossary/?term=Housing+unit

USDA NASS CDL. (2024). *Cropland Data Layer.* Retrieved from USDA NASS: https://www.nass.usda.gov/Research_and_Science/Cropland/SARS1a.php

Attachment D-4. ECONorthwest Agricultural and Agrivoltaics Impact Assessment

ECOnorthwest

DATE:	May 18, 2026
TO:	Robert Wilson, Hanwha Renewables
FROM:	Terry Wirkkala, ECOnorthwest
SUBJECT:	Muddy Creek Energy Park Agricultural and Agrivoltaics Impact Assessment

Executive Summary

Muddy Creek Energy Park LLC proposes to develop a 150-megawatt (MW) solar photovoltaic facility with a co-located 150-MW battery energy storage system on Exclusive Farm Use (EFU) land in Linn County, Oregon. The Facility is designed to incorporate agrivoltaics, allowing continued agricultural production alongside energy generation. This assessment evaluates the Facility's potential impacts on agricultural production and the broader agricultural economy in Linn County.

Linn County is a leading agricultural producer in Oregon and is widely recognized as the "Grass Seed Capital of the World." Grass seed production, particularly ryegrass and fescue, plays a central role in the County's agricultural economy and supports a substantial network of agricultural businesses, labor, and commodity organizations throughout the Willamette Valley. Existing agricultural activity within the Facility site consists primarily of annual ryegrass and tall fescue seed production integrated with sheep grazing and biomass production.

Under the proposed Facility design, agricultural production is expected to continue within the Facility site through agrivoltaics practices. Facility infrastructure and operational buffers are estimated to reduce productive agricultural acreage by approximately 140 acres, resulting in an estimated annual reduction of approximately $$74,000 and $23,000 in agricultural production value for annual ryegrass seed and tall fescue seed respectively.

The agricultural production affected by the Facility currently supports a modest amount of additional economic activity within Linn County through purchases of agricultural inputs, equipment, fuel, transportation, and support services. Based on the estimated reduction in agricultural production under Facility operations, indirect economic impacts to Linn County's agricultural economy are estimated at approximately $40,000 for annual ryegrass and $12,000 for tall fescue in annual economic output and less than one job. These impacts represent less than 0.01 percent of Linn County's existing agricultural employment and economic output. Participating landowners are also expected to receive solar lease revenue associated with the Facility, which is anticipated to offset reductions in direct agricultural production revenue at the landowner level.

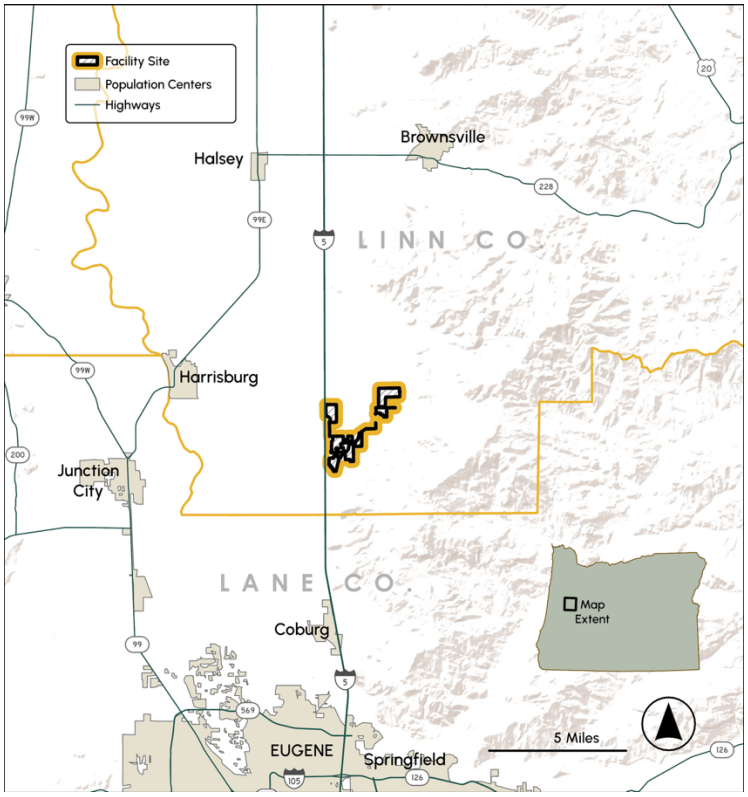
Overall, the Facility would result in a small and localized reduction in agricultural production but would not meaningfully affect the structure, function, or long-term performance of Linn County's agricultural economy. The incorporation of agrivoltaics substantially reduces

potential impacts by maintaining continued agricultural use across most of the Facility site and supporting ongoing compatibility between agricultural production and renewable energy development.

Introduction

Muddy Creek Energy Park LLC, a wholly owned subsidiary of Hanwha Renewables LLC (Applicant), proposes to construct a 150-megawatt (MW) solar photovoltaic (PV) facility, a 150-MW battery energy storage system (BESS), and associated infrastructure on private land in Linn County, Oregon (see Exhibit 1). The limits of disturbance for the proposed Muddy Creek Energy Park (Facility) include approximately 873 acres of land zoned for Exclusive Farm Use (EFU) and is designed to employ an agrivoltaics, or dual-use, approach that integrates solar generation with agricultural activities. This memorandum evaluates the effect of the Facility on the agricultural economy of Linn County, incorporating the anticipated reduction in existing agricultural acreage within the Facility site.

Figure 1: Muddy Creek Energy Facility



Source: Hanwha Renewables LLC

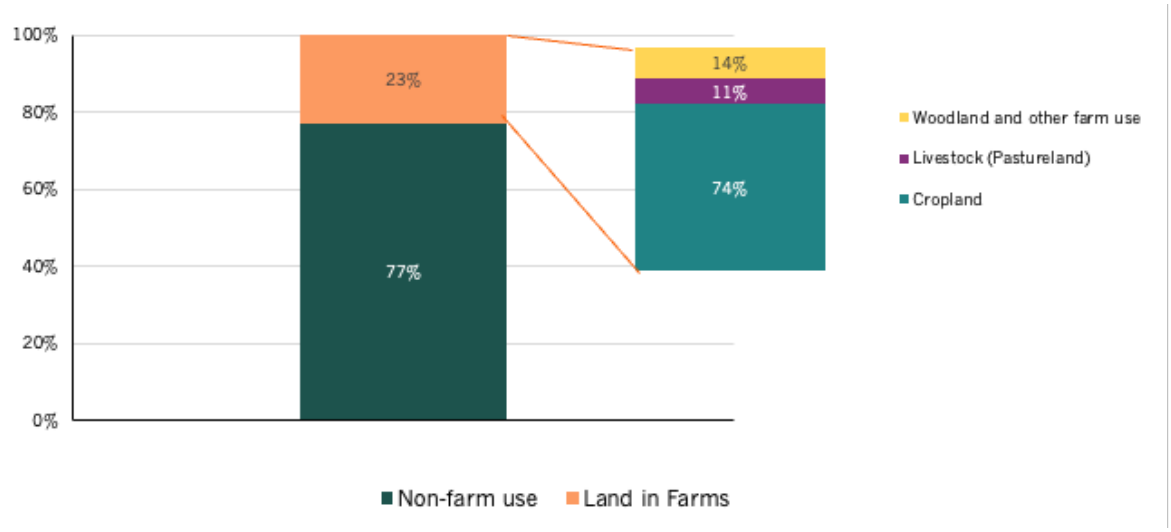
Agricultural Impact Analysis

State and Local Agricultural Overview

Linn County is widely recognized as a leading grass seed production region, underscoring the central role agriculture plays in shaping both land use patterns and the local economy. In 2022, farmland accounted for approximately 23 percent of total land use in the County,

closely aligned with the statewide share of 25 percent. Although Linn County represents a relatively small portion of Oregon's total farmland, about two percent, it is an important agricultural contributor to the State. Cropland dominates agricultural land use within the County, comprising 74 percent of farmland, while pasture accounts for an additional 11 percent, as illustrated in Exhibit 1 (USDA NASS, Accessed, 2026) (USDA, Accessed 2026).

Exhibit 1. Linn County Land Use in 2022



Source: (USDA, Accessed 2026)

As shown in Exhibit 2 Linn County's agricultural landscape is defined by a high share of family-owned farms and a diverse mix of operations. In 2022, approximately 2,050 farms in the County (96 percent) were family-owned, reflective of the share that are family-owned statewide. Farms in the County average 157 acres in size, smaller than the state average of 430 acres. About 30 percent of all farms in the county include harvested irrigated cropland, and irrigated acres account for 12 percent of all land in farms. Annual farm sales in Linn County reflect a mix of operation sizes that closely mirrors the statewide pattern, with 45 percent of farms reporting annual sales of less than $2,500, 34 percent reporting sales between $2,500 and $24,999, and 12 percent reporting sales exceeding $100,000, compared with 41 percent, 34 percent, and 14 percent statewide (USDA, Accessed 2026) (USDA, Accessed 2026).

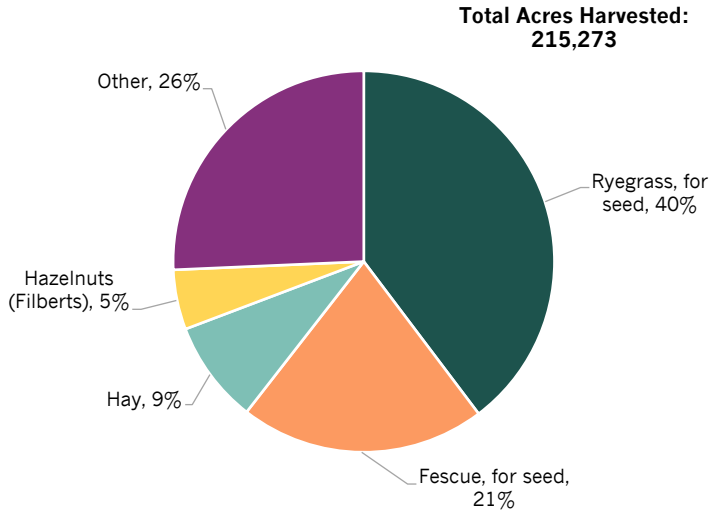
Exhibit 2. Land in Farms and Selected Crops Harvested in Linn County, 2022

	Number of Farms	Percent of Farms	Acres	Percent of Total Farm Acres
Total Farms and Farm Acres	2,138		336,063	
Average Farm Size			157	
Family-owned Farms		96%		
Farms by value of sales				
Less than $2,500	965	45%		
$2,500 to $9,999	491	23%		
$10,000 to $49,999	343	16%		
$50,000 to $99,999	76	4%		
$100,000 or more	263	12%		
Land in Farms by use				
Total Cropland	1,391	65%	250,309	74%
Harvested Cropland	1,251	59%	215,273	64%
Pastureland			37,758	11%
Acres irrigated	619	29%	41,648	12%
Selected Crops Harvested				
Ryegrass, for seed	146	7%	85,483	25%
Fescue, for seed	135	6%	44,831	13%
Hay	571	27%	18,740	6%
Hazelnuts (Filberts)	167	8%	10,915	3%

Source: (USDA NASS, Accessed, 2026) (USDA, Accessed 2026)
Note: The number of farms with pastureland is not provided by NASS.

Linn County's crop production is primarily focused on ryegrass and fescue seed crops, which together covered 130,314 acres in 2022, representing 61 percent of the County's harvested cropland and 68 percent of Oregon's total ryegrass and fescue seed acreage (see Exhibit 3). Other notable crops within the County include Hay with 18,740 acres of harvested and Hazelnuts with 10,915 acres harvested in 2022. The share of selected harvested crops within Linn County are illustrated in Exhibit 3 (USDA NASS, Accessed, 2026) (USDA, Accessed 2026).

Exhibit 3. Percent of Harvested Crops by Crop Type in Linn County, 2022

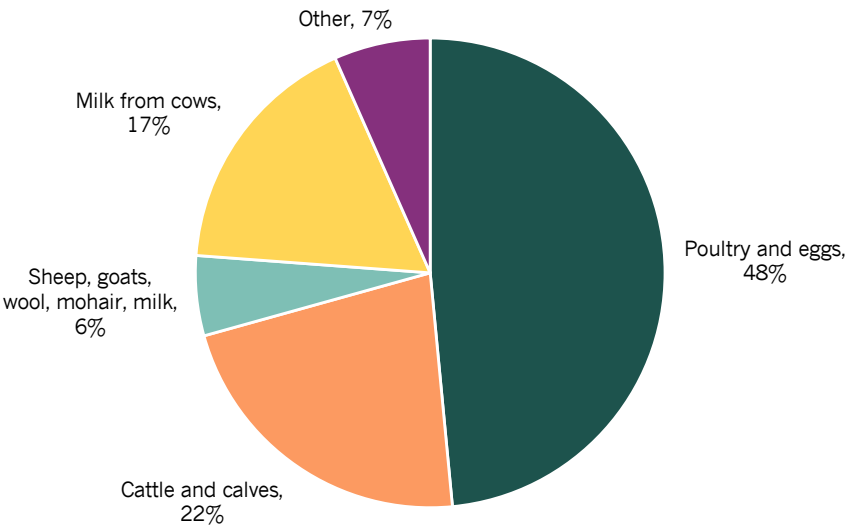


Source: (USDA, Accessed 2026)

Livestock and Poultry

Livestock and poultry are an important part of Linn County's agricultural economy. In 2022, sales from livestock and poultry totaled $83.5 million, accounting for 24 percent of the County's total agricultural sales and ranking sixth among Oregon's 36 counties in livestock and poultry sales. Broilers and other chickens accounted for the largest share of the sales at 48 percent ($40.5 million), followed by sales of cattle and calves at 22 percent ($18.5 million). The remaining 30 percent ($24.5 million) came primarily from dairy sales, as shown in Exhibit 4 (USDA, Accessed 2026).

Exhibit 4. Livestock and Poultry Sales by Product for Linn County, 2022



Source: (USDA, Accessed 2026)

Livestock also plays an important supporting role in the County's grass seed production. In Linn County, sheep grazing is widely integrated into grass seed production as a field management practice. Grazing is typically conducted during the dormant or early growth period to reduce biomass and manage weeds prior to seed development. These practices can improve plant health and seed yields while reducing the need for mechanical or chemical inputs. As such, sheep grazing serves as both a production tool and a complementary agricultural activity within grass seed production systems. Cultivated seed land for grazing is not captured in the County's reported pasture acreage.

Economic Output and Employment

Linn County generated a total of $376.6 million in agricultural sales in 2022, representing five percent of Oregon's $7.5 billion in total agricultural sales. Sales included $284.6 million in crop sales and $92.1 million in livestock sales. Specialty crops, including grass seed and hay led the county's agricultural economy, generating $150.3 million, or 40 percent of all agricultural sales (see Exhibit 5).

Exhibit 5. 2022 Agricultural Sales for Linn County, in 2025 dollars

Agricultural Product	Sales	Percent of Agricultural Sales
Crops		
Speciality crops (incl. grass seed) and hay	$150,267,000	40%
Fruits, tree nuts, berries	$56,000,000	15%
Nursery, greenhouse, floriculture, sod	$42,997,000	11%
All other crops	$35,367,000	9%
Crop Total	$284,631,000	
Livestock		
Poultry and eggs	$44,583,000	12%
Cattle and calves	$20,404,000	5%
Milk from cows	$15,802,000	4%
All other livestock	$11,159,000	3%
Livestock Total	$91,948,000	
Total Agricultural Sales	**$376,579,000**	100%

Source: (USDA, Accessed 2026; USDA, Accessed 2026; USDA, Accessed 2026)
Note: All figures are inflated into 2025 dollars using the CPI.

Linn County's agricultural industry supports an estimated 4,735 jobs, including 2,236 wage-and-salary positions and 2,499 proprietorships, and generates approximately $217.1 million in labor income (IMPLAN, 2024). Of that total labor income, $148.7 million came from wages and salaries and $68.5 million from proprietorship income. Agricultural industries account for seven percent of all jobs and proprietorships in the County and contributes four percent of total economic output. All other crop farming, which includes grass seed, provides 40

percent of the County's agricultural jobs (see Exhibit 6), compared to less than one percent statewide. In Oregon overall, most agricultural employment is within the support activities for agriculture and forestry industry, while in Linn County, support activities accounts for the second most jobs, or 991 jobs representing 21 percent of agricultural employment within the County.

Exhibit 6. Employment, Labor Income and Economic Output by Agricultural Sector in Linn County, 2024

IMPLAN Sector	Description	Employment	Employment Income	Total Output
10	All other crop farming	1,934	$12,903,000	$184,574,000
19	Support activities for agriculture and forestry	991	$82,249,000	$83,886,000
16	Commercial logging	460	$71,201,000	$82,382,000
3	Vegetable and melon farming	415	$13,483,000	$19,545,000
6	Greenhouse, nursery, and floriculture production	271	$12,702,000	$47,650,000
4	Fruit farming	219	$9,128,000	$40,120,000
5	Tree nut farming	141	$7,163,000	$23,230,000
11	Beef cattle ranching and farming	134	$918,000	$33,707,000
14	Animal production, except cattle and poultry and eggs	55	$2,281,000	$12,420,000
13	Poultry and egg production	51	$3,405,000	$63,674,000
	All other agriculture	63	$1,707,098	$26,373,756
	Total	**4,735**	**$217,140,098**	**$617,561,756**

Source: (IMPLAN, 2024)

Notes: All figures are inflated into 2025 dollars using the CPI. Income and employment estimates include all full-time, part time and temporary wage and salary positions and proprietorships. IMPLAN Sector 2 - Grain farming includes wheat, corn, dry beans and dry peas. IMPLAN Sector 10 - All other crop farming includes grass seed, hay farming (e.g. alfalfa, clover, grass), hops, mint and tea farming

According to IMPLAN estimates, agricultural sectors in Linn County generated $617.6 million in economic output, accounting for four percent of the County's total economic output. While agriculture is not among the County's largest industries by output, its share of total output is larger than the statewide average where agricultural industry sectors contribute less than two percent of total economic output. Among agricultural sectors, all other crop farming generates $184.6 million ranking twelfth across all sectors in Linn County and accounted for one percent of total County output. The county's largest sectors by output were nonferrous metal smelting and refining ($2.4 billion), other real estate ($86.2 million) and nonferrous metal foundries ($468.1 million) as shown in Exhibit 7. Together these three industries accounted for one-fifth of the County's total economic output.

Exhibit 7. Top Ten IMPLAN Industry Sectors by Contribution to Economic Output in Linn County, 2024

IMPLAN Industry Sector	Total Output in 2024
Nonferrous metal (exc aluminum) smelting and refining	$ 2,377,069,000
Other real estate	$ 586,238,000
Nonferrous metal foundries	$ 468,092,000
Paperboard mills	$ 391,107,000
Hospitals	$ 366,219,000
Wholesale - Other nondurable goods merchant wholesalers	$ 360,335,000
Veneer and plywood manufacturing	$ 292,284,000
Frozen fruits, juices and vegetables manufacturing	$ 273,584,000
Scientific research and development services	$ 265,897,000
Truck transportation	$ 234,025,000

Source: (IMPLAN, 2024)

Note: Excludes contribution from owner-occupied housing which is treated by IMPLAN as an industry because homeownership generates wealth and is counted in GDP. Also excludes government payroll. All figures are inflated into 2025 dollars using the CPI.

Grass Seed Production

Located in Oregon's Willamette Valley, Linn County benefits from a temperate climate and diverse, rich soils that support grass production (Oregon State University, Accessed 2026). The grass seed industry generates three products: seed sold directly to market, forage for sheep grazing, and biomass from post-harvest straw, which is typically exported as forage (Hart, et al., 2012). Grass seed for fescue and ryegrass is the County's primary crop, accounting for 61 percent of all harvested cropland. In 2022, all varietals of ryegrass seed combined accounted for 40 percent of harvested cropland and 57 percent of harvested grass seed acreage in the County. All varietals of fescue seed combined accounted for 21 percent of all harvested cropland and 30 percent of harvested grass seed acreage. Grass seed production fluctuates annually influenced by weather and pest pressure as demonstrated by the variability in grass seed harvested acreage for Linn County and Oregon depicted in Exhibit 8. Between 2007 and 2022 harvested acreage in Linn County followed a similar trend to statewide harvests for ryegrass and fescue.

Across the four agricultural censuses conducted between 2007 and 2022, Linn County recorded its lowest harvested acreage in 2017 for ryegrass at 82,669 acres and in 2012 for fescue at 28,605 acres. Over the full period, harvested acreage averaged 95,042 acres for ryegrass and 36,531 acres for fescue (see Exhibit 8). Several economic and climate factors appear to have contributed to fluctuations in acreage harvested over this period. The 2008 economic downturn reduced demand for Oregon grass seed, likely reflecting the industry's linkages to construction activity, and supply declined as a result. By 2012, however, stronger export demand had contributed to a recovery, and harvested acres increased from post 2008 lows (Natural Resource Report, 2011). Heat-related production losses in 2021 impacted the harvested acreage for both ryegrass and fescue statewide, even as demand remained

elevated, supported by a shift in household spending toward home and garden investments during COVID-19 (Trade & Industry Development, 2021).

Exhibit 8. Average Annual Harvested Acres for All Varietals of Ryegrass and Fescue, 2007 - 2022

	All Ryegrass Varietals (Acres)		All Fescue Varietals (Acres)	
Year	Linn County	Oregon	Linn County	Oregon
2007	116,610	289,230	41,098	190,472
2012	95,404	227,975	28,605	131,983
2017	82,669	197,680	31,590	137,415
2019		189,225		179,140
2020		188,300		181,850
2021		184,510		178,950
2022	85,483	194,230	44,831	185,525
Average	**95,042**	**210,164**	**36,531**	**169,334**

Source: (USDA, Accessed 2026) (Anderson, Accessed 2026)
Note: Production data for grasses from NASS are only available in the census of agriculture which is conducted once every five years. Statewide data for non-census years, 2019, 2020, 2021, is provided from the Oregon State University Extension Service Commodity Data Sheets.

Since 2019, grass seed prices have been volatile, reflecting recurring supply and demand shocks. In 2020, prices for the annual ryegrass varietal fell after supply was expanded too aggressively in response to demand returning after the 2008 economic crisis. Prices for both the annual ryegrass and tall fescue varietals then increased as demand surged during the COVID-19 lockdowns. From 2022 to 2025, tall fescue seed prices declined by 56 percent as production recovered from heat-related disruptions during the 2021 harvest, leading to oversupply (see Exhibit 9). As inventories built up, seed dealers directed growers to plow out approximately 20 to 30 percent of their fields to reduce supply and bring the market into closer balance with demand (Capital Press, 2024).

Exhibit 9. Oregon Grass Seed Average Price per Pound

	Average Price Per Pound	
Year	Annual Ryegrass	Tall Fescue
2019	$0.41	$0.87
2020	$0.27	$0.78
2021	$0.44	$1.27
2022		$1.34
2023		$0.99
2024		$0.73
2025		$0.59
Average	**$0.37**	**$0.94**

Source: (Oregon Tall Fescue Commission, FY 2022/2023) (Oregon Tall Fescue Commission, FY 2023/2024) (Oregon Tall Fescue Commission, FY 2024/2025) (Oregon Tall Fescue Commission, FY 2025/2026) (Anderson, Accessed 2026)
Note: All figures are reported in nominal values.

Varietal-level production data for annual ryegrass and tall fescue is unavailable through the USDA Census of Agriculture or Survey datasets. State-level production data for these varietals is available through the Oregon State Extension Seed Production Specialist report and is used here because the data primarily represents Linn County production, which represents 68 percent of Statewide ryegrass and fescue production.

From 2019 to 2021, yearly statewide production of annual ryegrass averaged 236.3 million pounds and 250.6 million pounds for tall fescue as shown in Exhibit 10. Yields for annual ryegrass ranged from 2,055 pounds per acre in 2019 to a low of 1,693 pounds per acre in 2020, due to an increase in the vole population, a pest which damages ryegrass production (Smith Seed Services, Accessed 2026). Tall fescue yields ranged from 1,719 in 2020 to 1,400 in 2021, when extreme heat and drought conditions experienced in Oregon impacted the growing season (Trade & Industry Development, 2021).

Total production value for both annual ryegrass and tall fescue was lowest in 2020 but rebounded in 2021 supported by a shift in household spending toward home and garden investments during COVID-19 (Trade & Industry Development, 2021). For annual ryegrass, total production value averaged $89.4 million statewide, while total production for tall fescue averaged $241.8 million from 2019 to 2021(see Exhibit 10).

Exhibit 10. Grass Seed Harvest, Production, and Value in Oregon, 2019 to 2021

Year	Acres Harvested	Total Production (lbs)	Yield (lbs/acre)	Average Price (per lb)	Value per Acre Harvested	Total Value of Production
Annual Ryegrass						
2019	125,920	258,765,000	2,055	$0.41	$843	$106,094,000
2020	125,460	212,360,000	1,693	$0.27	$457	$57,337,000
2021	117,740	237,788,000	2,020	$0.44	$889	$104,627,000
Annual Ryegrass Average	**123,040**	**236,304,333**	**1,922**	**$0.37**	**$729**	**$89,352,667**
Tall Fescue						
2019	155,940	266,616,000	1,710	$0.87	$1,487	$231,956,000
2020	158,230	272,035,000	1,719	$0.78	$1,341	$212,187,000
2021	152,150	213,030,000	1,400	$1.32	$1,848	$281,200,000
Tall Fescue Average	**155,440**	**250,560,333**	**1,610**	**$0.99**	**$1,559**	**$241,781,000**

Source: (Anderson, Accessed 2026)

Notes: All figures are in nominal dollars. The total value of production is estimated using total production and average price.

OREGON RYEGRASS AND FESCUE COMMISSIONS

The Oregon Ryegrass and Tall Fescue Commissions are agricultural producer programs with the aim of improving the profitability of Oregon seed growers though education, marketing and research programs. The Oregon Ryegrass and Tall Fescue Commissions are primarily funded through a 0.35 percent assessment on the per pound purchase price at the first purchase. In 2021, the assessment on Oregon's tall fescue harvest of 213.0 million pounds generated an estimated $984,000 in funding for the Oregon Tall Fescue Commission.

Similarly, Oregon's annual ryegrass harvest of 237.8 million pounds in 2021 generated an estimated $366,000 in funding for the Oregon Ryegrass Commission.

In addition to the two commissions that advocate for ryegrass and tall fescue producers, the Oregon Grass Seed Bargaining Association (OGSBA) represents these producers in annual price negotiations with seed dealers and works to secure a reasonable grower price for its members (OGSBA, Accessed 2026).

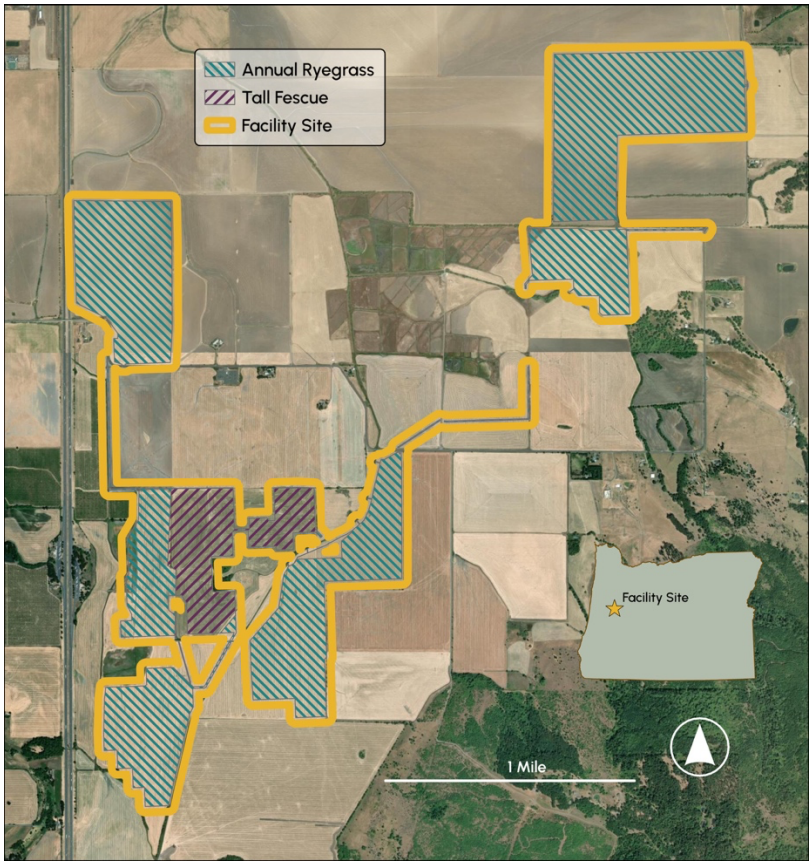
Integrated Sheep Grazing in Grass Seed Production

Linn County led the state in 2022 sales of sheep, goats, and related products, accounting for $4.6 million, or 15 percent, of the statewide total of $31.2 million. The county's roughly 37,000 sheep and lamb population also support local grass seed production through integrated crop-livestock farming practices. Sheep are typically grazed on grass seed fields early in the season, providing access to high-quality forage when other forage sources are generally scarce. This grazing helps manage vegetative growth, promoting additional shoot growth and increasing seed production (Oregon Agriculture in the Classroom, Accessed 2026) (USDA NASS, Accessed, 2026) (USDA NASS, 2024).

Facility Site Agricultural Overview

Land cover in the Facility site is presented in Exhibit 11 based on data from the USDA Cropland Data Layer (CDL) and client provided data. Using satellite imagery, the Cropland Data Layer Program provides a geo-referenced, crop specific land cover map for the United States. The land cover map is updated annually. This data in conjunction with satellite imagery and landowner information inform the crops presented in Exhibit 11.

Exhibit 11. Muddy Creek Facility Site Agricultural Land Cover



Source: (USDA NASS CDL, 2024), Hanwha Renewables LLC

Landowner Survey

The Facility site includes four landowners. In support of the Application for Site Certification (ASC) process, the Applicant surveyed these landowners, who together own the land where the solar and BESS components will be developed within the Facility Site. The survey consisted of questions designed to elicit data to inform the agricultural land use analysis. The Survey confirmed as suggested by CDL information, that the primary agricultural activity within the Facility site is grass seed production, specifically annual ryegrass seed and tall fescue seed.

Agricultural Operation Information

Select information on the agricultural operations within the Facility Site were provided by survey responses from five participating landowners and lessees. Existing agricultural production within the limits of disturbance are presented in Exhibit 11. Reported annual ryegrass seed yield on this land ranges from 1,500 to 1,800 pounds per acre, while tall fescue grass seed yield is reported between 1,100 and 1,200 pounds per acre (Langdon, 2026). These reported yields are consistent with NRCS soil survey information indicating anticipated

annual ryegrass yields as low as 1,220 pounds per acre within portions of the Facility site (USDA NRCS Web Soil Survey, 2026). Anticipated yields for tall fescue are not provided by the NRCS soil survey.

The exact locations of input purchases for grass seed production are unknown but are assumed to be predominately purchased within Linn County. The respondents indicate that grass seed is marketed and sold through multiple companies and organizations throughout the Willamette Valley (Malpass, 2026).

In addition to the grass seed production, biomass is produced and sold as a byproduct of seed production (Malpass, 2026). Once the grass seed is harvested, the remaining straw is raked and baled. This baled straw is used for animal feed in export markets (Oregon State University Extension, 2012). Grass seed famers report that this land can produce 2.5 tons of biomass per acre. This biomass is then sold through secondary markets (Malpass, 2026). No additional information was provided regrading associated costs for biomass production.

Sheep grazing is an integrated part of grass seed production in the region. Sheep are grazed roughly six months a year from late October through March to manage residue, maintain plant health and recycle nutrients (Malpass, 2026). Landowners receive grazing fees as part of the grazing arrangement at a rate of $0.10 per head per day at a stocking rate of roughly one head per acre (Langdon, 2026), totaling roughly $18.25 per acre annually. No additional labor is anticipated to be required from grass seed operations for sheep grazing.

The landowner surveys confirm that the agricultural operations include both the operator and hired labor. However, details on the tenant operation labor including total FTE requirements for the agricultural production occurring within the Facility site and the distribution between tenant and hired labor were not provided. Thus, labor estimates for the agricultural operations are approximated from published Oregon State University (OSU) crop budgets.

Agricultural Impacts

Agricultural production within the Facility site contributes to a small amount of spending in the agricultural economy of Linn County. To estimate the magnitude of the potential impacts of this spending, the agricultural impact analysis models the participating agricultural operations' grass seed and biomass production. This analysis relies upon publicly available data, published crop reports, regional trends, and local expert opinion. However, future agricultural production markets and conditions may differ from historical trends.

This analysis provides an estimate of existing agricultural operations' contribution to the local agricultural economy, using spending associated with the current grass seed production activities within the Facility site. In addition, this section provides an estimate of projected agricultural operations' contribution to the local agricultural economy following adoption of agrivoltaics within the Facility site.

Assumptions around agricultural operations are based on publicly available data and landowner survey data. The following analysis assumes that sheep grazing and biomass are produced as a byproduct on all grass seed acres.

Within the approximately 873 acres included in the limits of disturbance, roughly 140 acres are expected to contain infrastructure required for photovoltaic operations, including solar arrays and associated buffers, BESS, and roads. The remainder of the grass seed production acres within the Facility are expected to remain in agricultural production through the implementation of agrivoltaics practices.

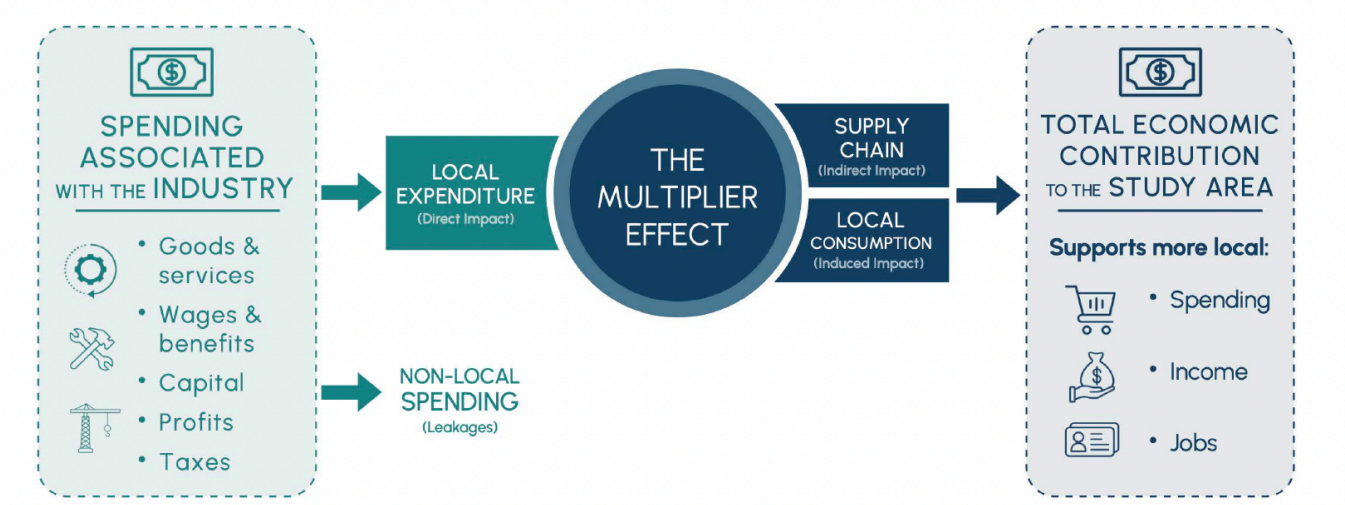
Accordingly, this analysis assumes a total reduction of approximately 140 acres of agricultural production across the Facility site, including an estimated 21 acres of tall fescue and 119 acres of annual ryegrass. In total, approximately 733 acres within the limits of disturbance are expected to remain in agricultural production during Facility operations.

IMPLAN Input-Output Modelling Methodology

IMPLAN is a regional input-output (I/O) model commonly used to estimate the economic impacts of renewable energy facilities and other development projects. The model divides the economy into 528 industry sectors and represents the economic linkages among industries, households, and government. Using national industry data and county-level economic data from the U.S. Bureau of Economic Analysis, the U.S. Census Bureau, and other federal sources, IMPLAN estimates how expenditures in one sector generate additional economic activity in other sectors through inter-industry purchases and household spending. These relationships are represented through input-output tables that track monetary flows among sectors of the economy.

The economic relationships represented in IMPLAN allow estimation of the overall change in the economy resulting from project construction and operations (see Exhibit 12). Project expenditures are applied to the model to estimate total impacts within an economy. Direct spending associated with construction and operations generates successive rounds of economic activity through supply-chain purchases and household spending, resulting in increases in employment, labor income, and economic output.

Exhibit 12. Overview of Economic Impact Analysis Framework



Source: ECOnorthwest, 2025

Impact Types

Economic multipliers derived from the model are used to estimate total economic impacts. Total economic impacts consist of three components: direct, indirect, and induced impacts.

- **Direct impacts** component consists of expenditures made specifically for the agricultural production, such as labor, chemicals, machinery, etc. These direct impacts generate economic activity elsewhere in the local economy through the multiplier effect, as initial changes in demand ripple through the local economy and can be traced to indirect and induced impacts.
- **Indirect impacts** represent expenditures on goods and services by suppliers who provide goods and services to the agricultural operation. Indirect impacts are often referred to as "supply-chain" impacts because they involve interactions among businesses.
- **Induced impacts** represent the spending of households associated either directly or indirectly with the agricultural operation. Workers employed by the agricultural operation, for example, will use their income to purchase groceries and other household goods and services. Workers at businesses that supply the agricultural operation will do the same. Induced impacts are also referred to as "consumption-driven" impacts.

Impact Measures

Impacts are assessed using the following measures that are reported by the IMPLAN model:

- **Jobs** are measured as the average number of employees engaged in full- or part-time work
- **Labor income** is expressed as the sum of employee compensation and proprietor income. Employee compensation (wages) includes workers' wages and salaries, as well as other benefits such as health, disability, and life insurance; retirement payments; and non-cash compensation; expressed as total cost to the employer. Proprietor income (business income) represents the payments received by small-business owners or self-employed workers.
- **Output** is the total value of an industry's production and includes all components of the production function: labor income, taxes, profit, and intermediate inputs.

Limitations of Input-Output Models

I/O models are static models used to measure an economy's inputs and outputs based on data that represents the relationships within an economy at a specific point in time. This analysis uses data from the 2024 model year, which is the most recent year for which data is available. The model then estimates how specific changes in inputs to an economy result in changes throughout the economy. This approach—known as a partial equilibrium analysis—assumes that project-related changes do not fundamentally alter regional prices, wages, or production technologies. Given the scale of the agricultural production relative to the broader economy, this assumption is reasonable.

Agricultural Production Value

Existing agricultural operations within the Facility site produce annual ryegrass, tall fescue, biomass, and sheep grazing fees. Production estimates are generated based on a combination of publicly available data and the landowner survey and are presented in the following sections. The agricultural production value of the participating agricultural operations is used to estimate the economic contributions of these operations to Linn County. These estimates are used to model the indirect effects to the local agricultural economy of a potential reduction in agricultural production

Agricultural production is expected to continue at the Facility site throughout operations through the implementation of agrivoltaics practices. However, net farmable acreage is expected to decrease to accommodate solar arrays, access roads, BESS and other Facility infrastructure, resulting in an estimated 140-acre reduction in active agricultural production. Of the acreage removed from production, approximately 119 acres are currently in ryegrass production, and 21 acres are in tall fescue production.

All remaining grass seed acreage is assumed to continue production of the same crops throughout Facility operations in accordance with the agrivoltaics plan. Because these lands

are expected to remain in active agricultural production, they are not treated as lost agricultural acreage within the agricultural impact model.

Grass Seed Production Value

The value of crop production in the Facility site is dependent on grass seed yields, prices, and harvested acreage. The normalized average annual ryegrass price in Oregon is $0.37 per pound (see Exhibit 9), which is the assumed annual ryegrass price for all existing agricultural operations. Annual ryegrass seed yields within the Facility site are reported to average 1,650 pounds per acre (Langdon, 2026). The reported yield is lower than the countywide normalized average of 1,922 pounds per acre (see Exhibit 10). The low yields point to the soil quality and growing conditions in the Facility site and are supported by Natural Resource Conservation Service Soil Survey reported annual ryegrass yield in the Facility site as low as 1,220 pounds per acre (USDA NRCS Web Soil Survey, 2026).

The average tall fescue price in Oregon is $0.94 per pound (see Exhibit 9). Annual tall fescue seed yield within the Facility site is reported to average 1,150 pounds per acre. The reported yield is lower than the countywide average of 1,380 pounds per acre (see Exhibit 10).

Using a price of $0.37 per pound, the reduction in annual ryegrass seed production sales within the Facility Site under agrivoltaics operations is estimated at $74,000 This value represents less than 0.1 percent of Linn County's average specialty crop sales ($150.3 million annually) (USDA NASS, Accessed, 2026).

Using a price of $0.94 per pound, tall fescue seed production sales within the Facility Site under agrivoltaics operations is estimated at $23,000 This operation's sales represent less than 0.1 percent of Linn County's average specialty crop sales ($150.3 million annually) (USDA NASS, Accessed, 2026).

Seed Biomass Production Value

Biomass is a byproduct of grass seed production in the Willamette Valley. The production of biomass following grass seed harvest within the Facility Site is estimated by landowners at 2.5 tons per acre and valued at between $5 to $10 per ton (Malpass, 2026). This analysis assumes an average price per ton of $7.50. As a byproduct of grass seed production, the inputs and labor used in the production of biomass are assumed to be incorporated into the production of grass seed. Therefore, the production of biomass is modeled jointly with grass seed within the IMPLAN model to avoid double-counting.

Sheep Grazing Value

Sheep grazing is an integral component of grass seed production systems in the Willamette Valley. Based on landowner surveys and publicly available information, grass seed producers

utilize sheep grazing to manage residue, maintain plant health and recycle nutrients between late October and March, roughly six months of the year (Malpass, 2026). Landowners receive limited grazing revenue from allowing sheep on fields during winter months, indicating that grazing is primarily a field management practice rather than a significant revenue source. Landowners in the South Willamette Valley receive grazing fees equal to $0.10 per head per day at a stocking rate of roughly one head per acre (Langdon, 2026), totaling roughly $18.25 per acre annually. The reduction in agricultural production within the Facility Site under agrivoltaics operations is estimated at $2,550 in grazing revenue annually.

Economic Output and Employment under Agrivoltaics Operations

Total sales by agricultural commodity group are summarized in preceding sections and in Exhibit 5. These data from the 2022 Agricultural Census identify agricultural sales in Linn County for that year, representing the most recent agricultural census data (USDA NASS, 2024).[1] In addition, employment, labor income, and economic output are summarized by agricultural sector in Exhibit 6. The second set of data are from the 2024 IMPLAN model for Linn County and information is summarized by IMPLAN economic sector, as indicated in Exhibit 7. These two sources of information each provide a comprehensive picture of the agricultural economy in Linn County and together are used as a baseline for the following assessment.

As shown in Exhibit 5, the 2022 Agricultural Census estimated total sales of $376.6 million in Linn County, with crop sales accounting for 76 percent of the total value. Existing agricultural production within the Facility Site is expected to contribute a minor amount of local spending in the agricultural economy. The participating landowners are assumed to purchase some goods and services (e.g., equipment, fertilizer, fuel, and seed) from businesses within Linn County (Langdon, 2026).

The direct employment is estimated using information from the OSU enterprise budget for Annual Ryegrass production. To model the labor hours and income, full-time jobs were scaled to the size of the operation based on the OSU enterprise budget and Oregon Grass Seed Bargaining Association (OGSBA) production budget for ryegrass (Eleveld, Silberstein, Mellbye, Young, & Lahmann, 2010) (Oregon Grass Seed Bargaining Association, Accessed 2026).

ANNUAL RYEGRASS PRODUCTION UNDER FACILITY OPERATIONS

Under Facility operations, total production of annual ryegrass seed and biomass will decrease. The landowners would experience a direct loss of profit from the displaced operations and a reduction in employment estimated at 0.11 jobs associated with grass seed production. The participating landowners would replace lost production revenue with lease payments from the solar company, which are assumed to be equal to or greater than previous payments. The

[1] This represents the most recent USDA Census of Agriculture data available.

economic activity in Linn County supported by the existing agricultural operations that may be affected when the Facility is built is less than one-half of a job (0.24 jobs), $19,000 in labor income, and $40,000 in direct economic output (the indirect impacts in Exhibit 13). While the distribution of economic impacts between tenants and landowners may differ, this analysis estimates the economic impacts to Linn County's overall agricultural economy as opposed to costs borne by individual operators.

Exhibit 13. Economic Impacts of a Reductions to Ryegrass Production Under Facility Operations

Impact	Employment	Labor Income	Output
Direct	0.11	$1,000	$74,000
Indirect	0.24	$19,000	$40,000
Induced	0.06	$3,000	$9,000
Total	**0.41**	**$23,000**	**$123,000**

Source: (IMPLAN, 2026), ECOnorthwest Analysis
Note: Direct employment includes both proprietor and hired labor. Since operation specific labor distribution between propreitor and hired labor and across grass seed production activities were unavailable, all direct employment was modeled based on published crop budgets full-time employment.

While the economic activity presented in Exhibit 13is generated by annual ryegrass production within the Facility site, the indirect impacts most closely reflect the annual economic activity in Linn County's agricultural sector supported by those operations. To the extent agricultural production within the Facility site is reduced, associated purchases of goods and services from supporting agricultural businesses would also decline, resulting in corresponding reductions in employment, labor income, and economic output within the County's agricultural economy.

The estimated indirect output reduction of approximately $40,000 reflects the portion of annual agricultural economic activity that could be lost due to reduced annual ryegrass production within the Facility site. The IMPLAN sector most affected by these indirect impacts is Sector 19 – Support Activities for Agriculture and Forestry, which was the twelfth-largest employment sector in Linn County in 2024. The estimated reduction of 0.24 jobs and approximately $19,000 in labor income represents less than 0.01 percent of total agricultural employment in Linn County. Given the relatively small scale of agricultural production affected by the Facility, no existing agricultural positions are anticipated to be eliminated within Linn County as a result of the Facility.

TALL FESCUE PRODUCTION UNDER FACILITY OPERATIONS

Under Facility operations, total production of tall fescue seed and biomass will decrease. The landowners would experience a direct loss of profit from the displaced operations and a reduction in employment estimated at 0.01 jobs associated with grass seed production. The participating landowners would replace lost production revenue with lease payments from the

solar company, which are assumed to be equal to or greater than previous payments. The economic activity in Linn County supported by the existing agricultural operations that may be affected when the Facility is built is 0.08 jobs, $6,000 in labor income, and $12,000 in direct economic output (the indirect impacts in Exhibit 14). While the distribution of economic impacts between tenants and landowners may differ, this analysis estimates the economic impacts to Linn County's overall agricultural economy as opposed to costs borne by individual operators.

Exhibit 14. Economic Impacts of a Reductions to Tall Fescue Production Under Facility Operations

Impact	Employment	Labor Income	Output
Direct	0.01	$250	$23,000
Indirect	0.08	$6,000	$12,000
Induced	0.02	$840	$3,000
Total	**0.10**	**$7,090**	**$38,000**

Source: (IMPLAN, 2026), ECOnorthwest Analysis

Note: Direct employment includes both proprietor and hired labor. Since operation specific labor distribution between propreitor and hired labor and across grass seed production activities were unavailable, all direct employment was modeled based on published crop budgets full-time employment.

While the economic activity presented in Exhibit 14 is generated by tall fescue production within the Facility site, the indirect impacts most closely reflect the annual economic activity in Linn County's agricultural sector supported by those operations. To the extent agricultural production within the Facility site is reduced, associated purchases of goods and services from supporting agricultural businesses would also decline, resulting in corresponding reductions in employment, labor income, and economic output within the County's agricultural economy.

The estimated indirect output reduction of approximately $12,000 reflects the portion of annual agricultural economic activity that could be lost due to reduced tall fescue production within the Facility site. The IMPLAN sector most affected by these indirect impacts is Sector 19 – Support Activities for Agriculture and Forestry, which was the twelfth-largest employment sector in Linn County in 2024. The estimated reduction of 0.08 jobs and approximately $6,000 in labor income represents less than 0.01 percent of total agricultural employment in Linn County. Given the relatively small scale of agricultural production affected by the Facility, no existing agricultural positions are anticipated to be eliminated within Linn County as a result of the Facility.

SHEEP GRAZING REVENUE UNDER FACILITY OPERATIONS

Under Facility operations, total revenue from sheep grazing will decrease. The landowners would experience a direct loss of revenue from the displaced operations but no losses to direct employment. The participating landowners would replace lost production revenue with

lease payments from the solar company, which are assumed to be equal to or greater than previous payments. The economic activity in Linn County supported by the existing agricultural operations is not anticipated to be affected by reductions in sheep grazing revenue. Since the grazing payments are paid directly to the grass seed producers, landowners would be the most affected by the reductions in these payments. No employment impacts or significant impacts to economic output are anticipated due to the reduction in sheep grazing as presented in Exhibit 15.

Exhibit 15. Economic Impacts of a Reductions to Sheep Grazing Under Facility Operations

Impact	Employment	Labor Income	Output
Direct	0.00	$70	$380
Indirect	0.00	$1	$4
Induced	0.00	$20	$50
Total	**0.00**	**$91**	**$434**

Source: (IMPLAN, 2026), ECOnorthwest Analysis

Commodity Organizations

A reduction in agricultural production in the Facility site may also result in minor reductions in assessment revenue for commodity organizations such as the Oregon Ryegrass and Tall Fescue Commissions that collect revenue based on commodity production within the State. The annual reduction in seed production due to the Facility would be based on 0.35 percent of the purchase price at the time of sale.

In addition, changes in grass seed production may have downstream effects that are outside the scope of this analysis. Grass seed production in the Willamette Valley includes a mix of seed type production, with some acreage tied to contractual arrangements for particular seed types. The removal of production acreage could marginally affect the supply of certain seed varieties; however, overall production levels are influenced by a range of factors, including weather, pests, and market demand. Given the relatively small share of regional production affected, any broader market impacts are expected to be negligible and are not evaluated as part of this analysis.

Works Cited

Anderson, N. (Accessed 2026). *Oregon Grass Seed Crop Estimates.* Retrieved from Oregon State University: https://cropandsoil.oregonstate.edu/sites/agscid7/files/crop-soil/grasses_-_19-21.pdf

Capital Press. (2024, July 12). *Grass seed prices drop in 2024 despite last year's plow out order.* Retrieved from https://capitalpress.com/2024/07/12/grass-seed-prices-drop-in-2024-despite-last-years-plow-out-orders/

Eleveld, B., Silberstein, T., Mellbye, M., Young, B., & Lahmann, E. (2010). *Enterprise BudgetAnnual Ryegrass Seed, Willamette Valley Region, Page 1Annual Ryegrass, Conventional Tillage, Volun.* Oregon State University Extension Service.

Hart, J., Anderson, N., Hulting, A., Chastain, T., Mellbye, M., Young III, W., & Silberstein, T. (2012). *Postharvest Residue Management for Grass Seed Production in Western Oregon.* Retrieved from OSU Extension Service: https://extension.oregonstate.edu/sites/extd8/files/documents/em9051.pdf

IMPLAN. (2024). Industry Detail. Linn County.

IMPLAN. (2026). Retrieved from www.implan.com

Langdon, J. (2026, March 23). (ECOnorthwest, Interviewer)

Malpass, R. (2026, March 4). (ECOnorthwest, Interviewer)

Natural Resource Report. (2011, May 18). *Oregon Grass Seed Business Resurrected by Exports.* Retrieved from Natural Resource Report: https://naturalresourcereport.com/2012/05/oregon-grass-seed-business-resurrected-by-exports/

OGSBA. (Accessed 2026). *Oregon Grass Seed Bargaining Association.* Retrieved from https://ogsba.com/

Oregon Agriculture in the Classroom. (Accessed 2026). *Grass Seed and Oregon.* Retrieved from https://oregonaitc.org/resources/oregon-resources/oregon-grown-commodities/forage-and-turf-grass-seed/

Oregon Grass Seed Bargaining Association. (Accessed 2026). *Production Budgets*. Retrieved from Fescue: https://ogsba.com/resources#production-budgets

Oregon Grass Seed Bargaining Association. (Accessed 2026). *Production Budgets: Perennial Ryegrass.*

Oregon Ryegrass Seed Commission. (FY 2024/2025). *Pricing Reports.* Retrieved from https://www.ryegrass.com/pricingreports.html

Oregon State University. (Accessed 2026). *Willamette Valley Grass Seed Production*. Retrieved from Willamette Valley Field Crops: https://valleyfieldcrops.oregonstate.edu/willamette-valley-grass-seed-production

Oregon State University Extension. (2012, September). *Postharvest residue management for grass seed production in Western Oregon*. Retrieved from https://extension.oregonstate.edu/catalog/pub/em-9051-postharvest-residue-management-grass-seed-production-western-oregon

Oregon Tall Fescue Commission. (FY 2022/2023). *Pricing Reports.* Retrieved from https://www.oregontallfescue.org/pricingreports.html

Oregon Tall Fescue Commission. (FY 2023/2024). *Pricing Reports.* Retrieved from https://www.oregontallfescue.org/pricingreports.html

Oregon Tall Fescue Commission. (FY 2024/2025). *Pricing Reports.* Retrieved from https://www.oregontallfescue.org/pricingreports.html

Oregon Tall Fescue Commission. (FY 2025/2026). *Pricing Reports.* Retrieved from https://www.oregontallfescue.org/pricingreports.html

SeedWorld. (2017, October 9). *Perennial Ryegrass Acres Decline.* Retrieved from https://www.seedworld.com/us/2017/10/09/perennial-ryegrass-acres-decline/

Silberstein, T., Eleveld, B., Mellbye, M., Young, B., & Lahmann, E. (2010). *Enterprise BudgetTall Fescue Seed, South Willamette Valley Region, Page 1Tall Fescue Seed, Establishment and ProductionSouth Willamette Valley Region.* Oregon State University Extension Service.

Smith Seed Services. (Accessed 2026). *Oregon Harvest/Market Update*. Retrieved from https://smithseed.com/news/2020/oregon-harvest-market-update

Trade & Industry Development. (2021, October 12). *Seed Money: Grass Seed Shortage, Inflation Affecting Sports Industry.* Retrieved from https://www.tradeandindustrydev.com/industry/food-agriculture-related/seed-money-grass-seed-shortage-inflation-affecting-18536

USDA. (Accessed 2026). *2022 County Profile - Table 1.* Retrieved from National Agricultural Statistics Service: https://www.nass.usda.gov/Publications/AgCensus/2022/Full_Report/Volume_1,_Chapter_2_County_Level/Oregon/st41_2_001_001.pdf

USDA. (Accessed 2026). *2022 Oregon Ag Census*. Retrieved from National Agricultural Statistics Service:

https://www.nass.usda.gov/Publications/AgCensus/2022/Online_Resources/County_Profiles/Oregon/cp99041.pdf

USDA. (Accessed 2026). *Quick Stats*. Retrieved from USDA National Agricultural Statistics Service: https://quickstats.nass.usda.gov/

USDA NASS. (2024). *2022 Linn County Profile.* Retrieved from National Agricultural Statistics Service: https://www.nass.usda.gov/Publications/AgCensus/2022/Online_Resources/County_Profiles/Oregon/cp41065.pdf

USDA NASS. (2024). *Oregon State Profile.* Retrieved from National Agricultural Statistics Service: https://www.nass.usda.gov/Publications/AgCensus/2022/Online_Resources/County_Profiles/Oregon/cp99041.pdf

USDA NASS. (Accessed, 2026). *2022 Linn County Profile.* Retrieved from National Agricultural Statistics Service: https://www.nass.usda.gov/Publications/AgCensus/2017/Online_Resources/County_Profiles/Oregon/cp41043.pdf

USDA NASS CDL. (2024). *Cropland Data Layer.* Retrieved from USDA NASS: https://www.nass.usda.gov/Research_and_Science/Cropland/SARS1a.php

USDA NRCS Web Soil Survey. (2026). *Yields of Grass Seed, Linn County*. Retrieved from National Cooperative Soil Survey: https://websoilsurvey.nrcs.usda.gov/app/

Attachment D-5. OAR 660-033-0130(5) Findings

(pending, to be submitted under separate cover)