

Exhibit Q

Threatened and Endangered Species

**Wheatridge Renewable Energy Facility East
January 2024**

**Prepared for
Wheatridge East Wind, LLC**

Prepared by



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Acronyms and Abbreviations

ASC	Application for Site Certificate
BESS	battery energy storage system
Certificate Holder	Wheatridge East Wind, LLC
Facility or WREFE	Wheatridge Renewable Energy Facility East
GIS	Geographic Information Systems
MW	megawatt
NOAA Fisheries	National Oceanic and Atmospheric Administration, National Marine Fisheries Service
O&M	operations and maintenance
OAR	Oregon Administrative Rules
ODA	Oregon Department of Agriculture
ODFW	Oregon Department of Fish and Wildlife
ODOE	Oregon Department of Energy
OESA	Oregon Endangered Species Act
ORBIC	Oregon Biodiversity Information Center
ORS	Oregon Revised Statutes
RFA	Request for Amendment
USFWS	U.S. Fish and Wildlife Service
WAGS	Washington ground squirrel
WREFI	Wheatridge Renewable Energy Facility
WREFII	Wheatridge Renewable Energy Facility II
WREFIII	Wheatridge Renewable Energy Facility III

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1.0 Introduction

The Wheatridge Renewable Energy Facility East (Facility) is an approved, but not yet constructed, wind energy generation facility consisting of up to 66 turbines and related or supporting facilities with a peak generating capacity of up to 200 megawatts (MW), to be located in an Approved Site Boundary of approximately 4,582 acres on over 42,000 acres of leased land in Morrow and Umatilla counties, Oregon. As part of Request for Amendment (RFA) 1 to the Facility Site Certificate, Wheatridge East Wind, LLC (Certificate Holder) is proposing to expand wind power generation at the Facility to provide the opportunity for increased power capacity and availability. This includes expanding the Site Boundary and micro-siting corridors, increasing the peak generating capacity by adding more and newer turbines, changing the intraconnection routes, and extending the construction date. See the RFA 1's Division 27 document (*Request for Amendment #1 for the Wheatridge Renewable Energy Facility East*) for a more detailed summary of the proposed changes.

This Exhibit Q was prepared to meet the submittal requirements in Oregon Administrative Rule (OAR) 345-021-0010(1)(q). Analysis in this exhibit incorporates and/or relies on reference information, analysis, and findings found in the Application for Site Certificate (ASC), previous RFAs, and Oregon Department of Energy Final Orders to demonstrate that the Facility, as modified by RFA 1, continues to comply with applicable Site Certificate conditions and the approval standard in OAR 345-022-0070. OAR 345-022-0070 requires that:

To issue a site certificate, the Council, after consultation with appropriate state agencies, must find that:

(1) For plant species that the Oregon Department of Agriculture has listed as threatened or endangered under ORS 564.105(2), the design, construction and operation of the proposed facility, taking into account mitigation:

(a) Are consistent with the protection and conservation program, if any, that the Oregon Department of Agriculture has adopted under ORS 564.105(3); or

(b) If the Oregon Department of Agriculture has not adopted a protection and conservation program, are not likely to cause a significant reduction in the likelihood of survival or recovery of the species; and

(2) For wildlife species that the Oregon Fish and Wildlife Commission has listed as threatened or endangered under ORS 496.172(2), the design, construction and operation of the proposed facility, taking into account mitigation, are not likely to cause a significant reduction in the likelihood of survival or recovery of the species.

The approved Facility resulted from a Site Certificate and facility division approved in the Final Order on the RFA 1 to the Site Certificate¹ for Wheatridge Renewable Energy Facility II (WREFII).

¹ Final Order on Request for Amendment 1 to the Site Certificate for the Wheatridge Renewable Energy Facility II (November 2020)

The Final Order imposed three conditions (PRE-TE-01, PRE-TE-02 and PRE-TE-03) intended to avoid potential impacts to threatened and endangered species.² Under this RFA 1, the changes proposed will not compromise the Certificate Holder's ability to comply with these conditions, although revisions to Site Certificate Condition PRE-TE-01 are proposed in the Division 27 document to clarify survey needs and revisions to Site Certificate Condition PRE-TE-03 are proposed to clarify that a mitigation plan is required to address impacts to Laurence's milkvetch (*Astragalus collinus* var. *laurentii*) rather than an exception request. These revisions were developed in coordination with the Oregon Department of Fish and Wildlife (ODFW) and the Oregon Department of Agriculture (ODA), respectively, and the Oregon Department of Energy (ODOE). No new conditions or other modifications to conditions are needed for protection of listed species.

1.1 Analysis Area

In accordance with OAR 345-001-0010(35)(a), the Analysis Area for threatened and endangered plant and animal species is the area within and extending five miles from the Amended Site Boundary (Figure Q-1). The Amended Site Boundary is inclusive of portions of the Approved Site Boundary. A portion of the Amended Site Boundary is designated as the amended micro-siting corridor, where proposed Facility components may be located.

1.2 Agency Consultation

Consultation and coordination with personnel from ODFW and the United States Fish and Wildlife Service (USFWS) prior to the ASC regarding the presence on and use of areas within the Approved Site Boundary by threatened and endangered plant and wildlife species can be found in the ASC's Exhibit Q (Wheatridge 2015). Consultation and coordination with ODFW and ODOE with respect to modifications to the Facility proposed in this RFA are summarized in Exhibit P of this RFA. Initial consultation and coordination with the ODA included a conference call on November 2, 2022, as summarized below.

- ODA described the status of the Laurence's milkvetch seed collection at the WREFII, and the seed banking and related research underway as developed under the Exception Request #1 to Condition PRE-TE-03. The ODA-prepared monitoring report will be available in 2023.
- The Certificate Holder discussed potentially expanding the ODA research efforts, via an Exception Request, if impacts to Laurence's milkvetch are anticipated at the proposed Facility.
- ODA agreed to continue the discussion about mitigation after the impacts to Laurence's milkvetch are assessed at the proposed Facility.

The Certificate Holder again met with ODA and ODOE on September 27, 2023, to discuss the results of the 2023 surveys and potential mitigation options, as summarized below.

² Final Order on Application for the Wheatridge Wind Energy Facility (April 2017)

- The Certificate Holder described the vast extent of Laurence’s milkvetch mapped during surveys for the Facility in 2023, as well as micrositing efforts to avoid and minimize impacts to Laurence’s milkvetch. These micrositing efforts and the Certificate Holder’s stepwise mitigation approach are described in the Laurence’s Milkvetch Mitigation Plan (Attachment Q-1).
- The Certificate Holder and ODA discussed preliminary mitigation ideas, including (1) seed collection, (2) replanting in temporarily disturbed areas, (3) developing onsite and/or offsite mitigation with monitoring, and/or (4) establishing a grant to enhance recovery efforts. ODA indicated that offsite mitigation and protecting plant material offsite (i.e., seed collection/ banking) are typical best management practices for native plant conservation, and that ODA typically recommends a 1:1 replacement ratio in conjunction with other activities.
- ODA agreed to continue the discussion about mitigation after reviewing the 2023 survey report and considering the potential impact estimates provided during the meeting.

The Certificate Holder again met with ODA and ODOE on October 10, 2023, and November 16, 2023, to further discuss the results of the 2023 surveys, anticipated impacts to Laurence’s milkvetch, and potential mitigation options. Based on these meetings, ODA provided a draft mitigation planning document outlining appropriate mitigation actions (e.g., seed collection, plant re-establishment, etc.) that have been incorporated into Attachment Q-1, Laurence’s Milkvetch Mitigation Plan.

2.0 Identification of Species – OAR 345-021-0010(1)(q)(A)

OAR 345-021-0010(1)(q) Information about threatened and endangered plant and animal species that may be affected by the proposed facility, providing evidence to support a finding by the Council as required by OAR 345-022-0070. The applicant must include:

OAR 345-021-0010(1)(q)(A) Based on appropriate literature and field study, identification of all threatened or endangered species listed under ORS 496.172(2) and ORS 564.105(2) that may be affected by the proposed facility.

Identification of state-listed or candidate species that might be affected by the proposed Facility involved a combination of literature review and the familiarity of the Certificate Holder’s environmental team with the region. Field studies were then designed to verify the presence/absence of such species within the Analysis Area.

2.1 Desktop Review

The Certificate Holder used a variety of sources to identify state threatened and endangered plant and animal species that may be affected by the proposed Facility. Sources included online databases and coordination with ODA and ODFW (see Section 1.2). Additionally, the Certificate Holder coordinated

with the ODFW and the USFWS prior to the ASC, regarding the presence and use of the proposed Facility by sensitive species (see Section 1.2).

The Certificate Holder reviewed habitat and range information for special-status plant and animal species known to occur in Morrow and Umatilla counties and the Columbia Plateau to develop a list of special-status species that had the potential to occur within the Analysis Area. Species were eliminated from consideration if their habitat was absent from the Analysis Area, or their range did not overlap with the Analysis Area. The Certificate Holder also reviewed special-status species information recorded during surveys at the adjacent Wheatridge Renewable Energy Facilities I, II, and III (WREFI, WREFII, WREFIII respectively) and at the proposed Wagon Trail Solar Project (Wheatridge 2015, Wheatridge 2019a, Wheatridge East 2022).

In addition to reviewing publicly available sources, the Certificate Holder submitted a request to the Oregon Biodiversity Information Center (ORBIC) to obtain site-specific records of special-status species occurrences and sensitive habitats within 10 miles of the Amended Site Boundary (ORBIC 2022a, ORBIC 2022b). Aerial photographs, National Wetlands Inventory data (USFWS 2022a) and the National Hydrography Dataset (USGS 2018) were reviewed to identify any potential changes to habitats within the Analysis Area since the ASC was submitted. The Certificate Holder also reviewed ODFW habitats mapped during surveys for the adjacent WREFI, WREFII, and WREFIII facilities and the Wagon Trail Solar Project; the extent of these surveys partially overlaps with the proposed Facility's location (Wheatridge 2015, Wheatridge 2019a, Wheatridge East 2022).

Based on the review of existing data, two species listed as state threatened or endangered were identified as having the potential to occur within the Analysis Area (Table Q-1). These included one mammal and one vascular plant species, both of which were subsequently documented during field surveys (see Section 3.0). No state-listed fish have the potential to occur within the Analysis Area (ORBIC 2022b, StreamNet 2022).

One species, Northern wormwood (*Artemisia campestris* var. *wormskioldii*; state endangered), was initially considered for inclusion in Exhibit Q but excluded because it is not known or expected to occur within the Analysis Area. Northern wormwood's range is restricted to basalt, compacted cobble, and sand on the banks of the Columbia River, and it is believed to be extirpated in Oregon. (ODA 2022a).

Table Q-1. State Listed Species with Potential to Occur within the Analysis Area

Scientific Name	Common Name	Federal Status ¹	State Status ²	Occurrence within Analysis Area	Potential Habitat within the Amended Site Boundary
Mammals					
<i>Urocitellus washingtoni</i>	Washington ground squirrel	-	E	Yes (ORBIC, ASC Exhibit Q)	Yes
Plants					
<i>Astragalus collinus</i> var. <i>laurentii</i>	Laurence's milkvetch	SOC	T	Yes (ORBIC, ASC Exhibit Q)	Yes
Sources: ODA 2022a, ODA 2022b, ODFW 2021a, ODFW 2021b, ORBIC 2021, ORBIC 2022a, ORBIC 2022b, Oregon Flora 2022a, Oregon Flora 2022b, Oregon Flora 2022c and USFWS 2022b, Wheatridge 2015.					
1. SOC = Species of Concern.					
2. T = Threatened, E = Endangered.					

Although candidate plant species are not included in the Threatened and Endangered Species Standard (OAR 345-022-0070) or the requirements of OAR 345-021-0010(1)(q), a list of candidate plant species with potential to occur at the proposed Facility are included here as requested by ODOE (2013) and considering Condition PRE-FW-03 which requires that the Certificate Holder flag all environmentally sensitive areas as restricted work zones, including areas with candidate plant species.

Based on range maps, and although ORBIC had no record of them within the Analysis Area, four ODA candidate plant species were initially identified as having potential for occurrence at the proposed Facility: dwarf evening-primrose (*Eremothera [Cammissonia] pygmaea*), disappearing monkeyflower (*Erythranthe [Mimulus] inflatula [evanescens]*), hepatic monkeyflower (*Erythranthe [Mimulus] jungermannioides*), and sessile mousetail (*Myosurus sessilis*) (Wheatridge 2015, ORBIC 2022b). No candidate plant species were documented during surveys for the approved Facility in 2011, 2012, 2013, or 2018. Surveys in 2022 and 2023 did not target these candidate species' habitats and occurred after the identification period for some of these species.

Dwarf evening-primrose can be found on dry plains and slopes with unstable soils or on gravel in steep talus, dry washes, banks and roadcuts between approximately 500 and 2,000 feet in elevation (Oregon Flora 2022b). This species is known from Umatilla County but not Morrow County (ORBIC 2023). Surveys in 2011-2013 included the entirety of the amended micro-siting corridors addressed in this RFA 1 in Umatilla County and did not detect this species. As a result, impacts to this species are not anticipated as a result of the proposed Facility and it is not discussed further.

Disappearing monkeyflower occurs in habitats typically associated with wetlands and waters (i.e., moist, heavy gravel that is inundated in early spring) (Wheatridge 2015). This species is not currently known to occur in Morrow or Umatilla counties and was not detected during surveys in the Analysis Area (ORBIC 2023, Wheatridge 2015). As a result, impacts to this species are not anticipated as a result of the proposed Facility and it is not discussed further.

Hepatic monkeyflower and sessile mousetail are known to occur in Umatilla County but not Morrow County according to ORBIC (2023), although Oregon Flora (2023) identifies hepatic monkeyflower occurrences in both Umatilla County and Morrow County. These species are found in habitats typically associated wetlands and waters and/or cliffs (i.e., basalt crevices in seepage zones of vertical cliffs and canyon walls for hepatic monkeyflower, and vernal pools and alkali flats for sessile mousetail) (Wheatridge 2015). As described above, surveys in 2011-2013 included the entirety of the amended microsites corridors addressed in this RFA 1 in Umatilla County and did not detect these species. As a result, impacts to these species are not anticipated as a result of the proposed Facility and are not discussed further.

2.2 Field Surveys

The Certificate Holder conducted field surveys in 2022 and 2023 to evaluate the potential presence of state-listed species in the Amended Site Boundary. The purpose of these surveys was to update and to supplement surveys completed for the ASC (see Exhibit P). Survey methods and results are described in detail in the reports attached to the ASC (Wheatridge 2015) and Exhibit P, Attachment P-1. The 2022 and 2023 survey reports detail the methods and findings of Washington ground squirrel (WAGS; *Urocitellus washingtoni*) surveys and botanical surveys (Laurence's milkvetch) that are summarized in this exhibit. Field survey reports are included in Attachment P-1 of Exhibit P of this RFA.

2.2.1 Wildlife

The Certificate Holder previously conducted WAGS surveys in the Analysis Area in 2011-2013 prior to applying for and receiving the initial Site Certificate. Additional surveys were conducted in the Facility's vicinity in 2018 (Wheatridge 2019a), 2019 (Wheatridge 2019b), 2020 (Tetra Tech 2021a), and 2021 (Tetra Tech 2021b; see Exhibit P, Figure P-2). The Certificate Holder conducted WAGS surveys to support RFA 1 in 2022 and 2023, described here. WAGS field surveys involved a team of surveyors walking linear transects spaced 165 to 230 feet apart within the WAGS Survey Area, documenting and mapping WAGS and their sign. The WAGS Survey Area included 1,000-foot buffers on the amended microsites corridors in potential WAGS habitat. Approximately 8,502 acres of the potential habitat, which was only a portion that required survey per Condition PRE-TE-01, was surveyed in 2022, and approximately 22,870 acres were surveyed in 2023. Potential habitat included non-agricultural habitats and non-developed lands. WAGS surveys were conducted in spring 2022 and 2023. In 2022, surveys occurred between April 17 and May 29, 2022, in two phases, spaced at least 2 weeks apart. In 2023, surveys occurred between March 15 and May 31 south of Big Butter Creek Lane and between March 20 and June 2 north of Big Butter Creek Lane; surveys were again conducted in two phases spaced at least 2 weeks apart. See Figure Q-2 for a depiction of areas that have been surveyed in relation to the amended microsites corridors.

The surveys generally followed methodology developed in the *Status and Habitat Use of the WAGS on State of Oregon Lands* (Morgan and Nugent 1999). During the protocol surveys, potential habitat was surveyed twice during the survey period; surveys were conducted at least 2 weeks apart. The

second phase of surveys included transects either offset from or perpendicular to the first phase transects to increase coverage by traveling in between the transect paths walked during the first phase of surveys. In 2022, a single round of surveys, conducted in areas that were not previously surveyed, was conducted late in the season to better inform the Certificate Holder on locations to potentially avoid, without assuming a lack of presence of WAGS. These areas received two rounds of surveys in 2023. In 2023, a single round of surveys was conducted in an area that was subsequently dropped from consideration for development due to the presence of WAGS. For details on the WAGS survey methods and results, see the 2022 and 2023 WAGS survey report (one report for 2022 and two reports for 2023; Exhibit P, Attachment P-1).

Approximately 2,528 acres within 1,000 feet of the amended micrositing corridor was not surveyed for WAGS in 2022 or 2023, primarily north of Big Butter Creek Lane where Facility disturbance is anticipated later in the construction schedule due to phasing (see the Division 27 document), but also associated with areas not accessible during WAGS surveys in 2023, primarily outside the Amended Site Boundary (see Exhibit P, Attachment P-1). The Certificate Holder will continue to conduct surveys as needed prior to ground disturbance within 1,000 feet of these areas that have not been surveyed and consult with ODOE and ODFW on approach for addressing areas beyond the Certificate Holder's access control.

2.2.2 Plants

The Certificate Holder performed special status plant surveys in 2011, 2012, 2013, 2018, 2019, 2022, and 2023. The area covered during the surveys is summarized in Table P-1 and Figure P-2 of Exhibit P. For complete survey methods employed and results of surveys in 2011, 2012, and 2013, see Attachment P-1 of the ASC (Wheatridge 2015). Surveys performed in 2022 and 2023 are detailed below.

In 2022, special status plant surveys were conducted within an approximately 2,028-acre Botanical Survey Area, which encompassed the amended micrositing corridor that was under consideration at the time of surveys (i.e., during the summer of 2022), limited to the areas that were accessible at the time of the surveys, were suitable for rare plants (i.e., not cultivated), and could be surveyed within the target species' identification period in 2022 (i.e., through the end of July; see Attachment P-1 of Exhibit P). In 2023, an additional 9,169-acre Botanical Survey Area was surveyed between June and mid-August. In both 2022 and 2023, the Botanical Survey Area included buffers on proposed Facility wind infrastructure (500-foot buffers on each side of turbine strings and 150-foot buffers on each side of transmission lines, access roads, collector lines, substations, BESS and operations and maintenance [O&M] facilities [i.e., the amended micrositing corridor]) as proposed prior to surveys, and excluded active agricultural fields because they do not support target species, resulting in a variable 300- to 1,000-foot-wide corridor. See Figure Q-3 for a depiction of areas that have been surveyed within the micrositing corridor.

Surveyors used the Intuitive Controlled survey method to locate plants. This method incorporates meandering transects that traverse the survey area, and that target the full array of major vegetation types, aspects, topographical features, habitats, and substrate types. While enroute, the

surveyors search for target species, and when the surveyors arrive at an area of high potential habitat (that was defined in the pre-field review or encountered during the field visit), they conduct a complete survey for the target species. Complete surveys include an examination of 100 percent of the habitat.

Field surveys were scheduled to coincide with the best identification period for the one target species with potential to occur within the 2022 Botanical Survey Area: Laurence's milkvetch. For details on the plant survey methods and results, see the 2022 and 2023 botanical survey reports (Exhibit P, Attachment P-1).

Approximately 330 acres within the amended micro-siting corridor were not surveyed for Laurence's milkvetch in 2022 or 2023, primarily in areas associated with the transmission line route no longer under consideration. As a result, of this area not surveyed, up to approximately 31 acres within 100 feet of proposed temporary and permanent impacts (the area requiring surveys per Site Certificate Condition PRE-TE-03) were not surveyed in 2022 or 2023. The Certificate Holder will continue to conduct surveys as needed prior to ground disturbance in these areas and consult with ODOE and ODA on approach for addressing areas beyond the Certificate Holder's access control.

3.0 Occurrence and Potential Adverse Effects – OAR 345-021-0010(1)(q)(B)

OAR 345-021-0010(1)(q)(B) For each species identified under (A), a description of the nature, extent, locations and timing of its occurrence in the analysis area and how the facility might adversely affect it.

3.1 Wildlife

One state-listed wildlife species was found to have the potential to occur within the Analysis Area based on desktop analysis: WAGS (state endangered species). WAGS was found to occur within the Analysis Area during Facility surveys (Attachment P-1).

3.1.1 Washington Ground Squirrel

WAGS are small, diurnal ground squirrels that spend much of the year (on average, July through February) underground (Sherman and Shellman Sherman 2005). Occurrence of WAGS is limited primarily to shrub-steppe and grassland habitats in parts of the Columbia Plateau ecoregion. In Oregon, occurrences are limited to the Columbia Basin at elevations up to 984 feet (300 meters) south of the Columbia River, east of the John Day River, and west of Milton-Freewater (Morgan and Nugent 1999). More information on the life history of WAGS is provided in the 2022 and 2023 WAGS survey reports (Exhibit P, Attachment P-1).

Current and potential threats to the continued survival of the species include habitat loss from the conversion of habitat to agricultural use, residential use, infrastructure project development and other forms of development; as well as habitat fragmentation, recreational shooting, genetic isolation and drift, predation, disease, drought and invasive weeds on forage quality and quantity (USFWS 2010).

3.1.1.1 Occurrence

Two WAGS occurrences, associated with surveys performed in 1979 and 2013, were recorded within the Analysis Area (ORBIC 2022a, b, Carlson et al. 1980, Gerhardt and Anderson 2014). ORBIC occurrences are buffered to protect the location of the rare plant or animal, so the exact location and extent of the colonies are unknown. One polygon overlaps the central portion of the Amended Site Boundary along Big Butter Creek Lane. The second polygon overlaps the western part of the Amended Site Boundary along County Road 735. Both element occurrence records were initially reported in 1979 and last observed in 2013. The Certificate Holder also reviewed previous WAGS surveys (Gerhardt and Anderson 2014), which indicated that WAGS were present in the vicinity of the Amended Site Boundary. Neither of these occurrences overlapped with colonies documented during field surveys.

Five active WAGS colonies were recorded during WAGS surveys in 2022, primarily south of Big Butter Creek Lane and east of Little Butter Creek Road (Figure Q-4; see also Exhibit P, Attachment P-1). Colony acreages within the 2022 WAGS Survey Area ranged from 0.12 acres to 2.29 acres and totaled approximately 4 acres within the 2022 WAGS Survey Area. The majority of colonies were confirmed active by the detection of alarm calls associated with burrows and scat characteristic of this species. Colonies consisted of 12 to 110 burrows, with an average of 45 burrows. The recorded colonies were located in bunchgrass (i.e., perennial grassland) habitats. Common grass species recorded at active colonies in this area included Sandberg bluegrass (*Poa secunda* ssp. *secunda*) and bulbous bluegrass (*Poa bulbosa*). For colonies with shrubs, the dominant species recorded were rubber rabbitbrush (*Ericameria nauseosa*) and green rabbitbrush (*Chrysothamnus viscidiflorus*). The two dominant forbs recorded in the colonies were western yarrow (*Achillea millefolium*) and redstem stork's bill (*Erodium cicutarium*).

In 2023, seven new active WAGS colonies were recorded south of Big Butter Creek Lane (and east of Little Butter Creek Road; Figure Q-4; see also Exhibit P, Attachment P-1). Colony acreages within the 2023 WAGS Survey Area south of Big Butter Creek Lane ranged from 0.003 acres to 4.41 acres and totaled approximately 10 acres within the 2023 WAGS Survey Area south of Big Butter Creek Lane. All colonies were confirmed active by the detection of alarm calls associated with burrows; several colonies were additionally confirmed active by identification of scat characteristic of this species, and one colony included a visual observation of a WAGS. The recorded colonies were located in grassland and shrub-steppe habitats. Common grass species recorded at active colonies included cheatgrass (*Bromus tectorum*), bluebunch wheatgrass (*Pseudoroegneria spicata*), and Sandberg bluegrass. For colonies with shrubs, the dominant species recorded were big sagebrush (*Artemisia tridentata*), rubber rabbitbrush, and green rabbitbrush. The dominant forbs recorded in

the colonies were lupine species (*Lupinus* sp.), western yarrow, tall tumbled mustard (*Sisymbrium altissimum*), and redstem stork's bill. Two of the colonies, located in shrub-steppe habitat, were in an area that was subsequently dropped from consideration for development due to the presence of WAGS.

During the 2023 surveys, all WAGS colonies recorded in 2022 were also revisited to determine activity status and any updates to the colony extent. Two of the five colonies identified in 2022 were observed to be active during the 2023 surveys, while the remaining three had no evidence of colony activity. Following guidance from ODFW (Steve Cherry, pers. comm., phone call, September 1, 2023), the boundaries of colonies depicted in this RFA consist of the cumulative mapping from 2022 and 2023 (i.e., the 2022 boundary for colonies with no activity in 2023, and the combined 2022 and 2023 boundary for colonies active in both years) because WAGS survey results are valid for three years (Site Certificate Condition PRE-TE-01).

Surveys for WAGS north of Big Butter Creek Lane in 2023 identified 11 confirmed active WAGS colonies (Figure Q-4; see also Exhibit P, Attachment P-1). These colonies ranged from 0.3 to 12.1 acres and included from 9 to 100 burrows associated with WAGS calls, scat, and/or visual observations of WAGS. All colonies in this area were found in heavily grazed mixed grassland habitats with sporadic shrubs. Common grass species recorded at active colonies included Sandberg bluegrass and bulbous bluegrass. For colonies with shrubs present, the dominant shrub species recorded were rubber rabbitbrush and green rabbitbrush.

3.1.1.2 Potential Adverse Effects

Vehicles and equipment used during construction activities, as well as O&M vehicles, could cause direct mortality of WAGS by collision on roadways as many of the colonies are located near existing primary or secondary dirt roads. No other direct adverse effects are expected, as all ground-disturbing activities will avoid active WAGS colonies and the 785-foot buffer around colonies in potentially suitable WAGS habitat (Figure Q-5). Existing stream channels are not depicted within the 785-foot buffers on Figure Q-5 because they are not considered suitable WAGS habitat. Also, the permanent impacts associated with the transmission/overhead collector line poles are included in Exhibit Q figures. No poles will be placed in active WAGS colonies or in the 785-foot buffer in potentially suitable habitat, though overhead transmission lines may cross the 785-foot buffer while avoiding any surface disturbance in Category 1 habitat.

Potential indirect adverse effects from construction outside of active WAGS colonies and buffers, but within potentially suitable WAGS habitat, includes temporary and permanent loss and modification of unoccupied habitat that could result in decreased cover, food availability, and dispersal opportunities should WAGS move into these areas. These indirect impacts are primarily reflected in impacts to Category 2 WAGS habitat because proposed Facility development in these areas could limit movement and dispersal for existing colonies. Category 2 WAGS habitat is identified as an additional 4,136-foot buffer of suitable ground squirrel habitat on Category 1 WAGS habitat, except where there are habitat barriers to dispersal.

As described in the Final Order, construction and operation of the Facility will result in permanent and temporary loss of WAGs habitat³. Facility dirt and gravel roads are not anticipated to result in barriers to dispersal, as ground squirrels cross dirt and gravel roads, thus limiting the effects of Facility-related habitat fragmentation. There are limited permanent impacts to Category 2 WAGS habitat (i.e., 13.0 acres of permanent habitat loss; Table Q-2). Permanent impacts will be minimal and mitigated for as described in the Draft Habitat Mitigation Plan (Exhibit P, Attachment P-2). The temporary impacts to Category 2 habitat (i.e., 122.3 acres) will be minimal and short term due to the revegetation and noxious weed control measures described in the Draft Noxious Weed Control Plan (Exhibit P, Attachment P-3) and Draft Revegetation Plan (Exhibit P, Attachment P-4). There are no impacts proposed to Category 1 WAGS habitat.

Table Q-2. Temporary and Permanent Impacts to Category 2 WAGS Habitat

Habitat Subtype	Category 2 Temporary Impacts (Acres) ¹	Category 2 Permanent Impacts (Acres) ¹
Exotic Annual Grassland	0.2	<0.1
Native Perennial Grassland	121.7	13.0
Rabbitbrush/Snakeweed Shrub-steppe	0.3	-
TOTAL	122.3	13.0
1. Numbers may not sum correctly due to rounding; “-” means no impact while <0.1 means greater than zero but less than 0.05 acres impact.		

This species may experience slightly increased raptor predation pressure as a result of increased perching and nesting structures provided by the proposed Facility transmission line. However, this effect does not appear to be large enough to cause long-term effects resulting in abandonment of colonies as thriving colonies have been found adjacent to existing transmission lines (Tetra Tech 2011, 2014).

3.2 Plants

One state-listed plant species was found to have the potential to occur within the Analysis Area based on desktop analysis: Laurence’s milkvetch (state threatened species). Laurence’s milkvetch was found to occur within the Analysis Area during Facility surveys (Table Q-3)

³ Final Order on Application for the Wheatridge Wind Energy Facility (April 2017)

Table Q-3. Plant Blooming Period, Occurrence, and Likelihood of Adverse Effects

Species	Blooming/ Identification Period ¹	Potential for Occurrence within Analysis Area				Potential Adverse Effects ²
		Potential Habitat within Amended Site Boundary	ORBIC Records (Analysis Area)	ORBIC Records (Amended Site Boundary)	Observed during Surveys?	
Laurence’s milkvetch	Late May - August	Yes	Yes	No	Yes	Yes
1. Peak blooming period (ODA 2022c, Oregon Flora 2022b). 2. Potential for adverse effects not considering avoidance, minimization, and mitigation measures.						

3.2.1 Laurence’s Milkvetch

Laurence’s milkvetch is listed as a state threatened species under the Oregon Endangered Species Act (OESA). This 4 to 20-inch-tall taprooted perennial is in the pea (*Fabaceae*) family and occupies sandy or rocky soils overlying basalt on dry slopes of the Columbia Plateau in northern Oregon (ODA 2022c). Laurence’s milkvetch blooms from May to August and develops pendulant seed pods from late May to August that are required for identification (ODA 2022c). Threats to Laurence’s milkvetch include habitat loss due to agricultural development, grazing, road maintenance activities, competition from exotic weeds, and seed predation by insects (ODA 2022c).

3.2.1.1 Occurrence

Fourteen occurrences of Laurence’s milkvetch constituting 37,426 plants and covering 503 acres were documented during surveys performed in 2022 and 2023 (Figure Q-6). Following guidance from NatureServe (2020), observations within one kilometer of each other were assigned to the same occurrence.

In 2022, sixty-five observations (i.e., isolated individuals or groupings of individuals) were recorded within the 2022 Botanical Survey Area and six were recorded outside the 2022 Botanical Survey Area (Attachment P-1). Observations ranged from 1 to approximately 10,000 plants and occupied between 0.01 and 13 acres each. Observations were primarily located within perennial grassland (native and non-native) and were present throughout much of the 2022 Botanical Survey Area, typically occupying upper slopes, on open, dry sites. Plants were found to occur on slopes facing all compass directions, on slight to moderate slopes (0 – 45 degrees), and in loamy soils, ranging from rocky and gravelly loam to sandy loam.

In 2023, surveys resulted in the mapping of 334 observations (i.e., isolated individuals or clusters of plants within 100 feet of each other) totaling 474 acres within the 2023 Botanical Survey Area. Observations ranged from one to approximately 5,000 plants, and the largest population occupied

approximately 62 acres. Plants were present throughout the central and southeast portion of the 2023 Botanical Survey Area, but largely absent in the northern and western portions of the Facility.

Almost all observations included individuals with fruit present, which are required to differentiate this variety from similar species and varieties that occur in the area. A few solitary vegetative plants were tentatively identified as Laurence's milkvetch, as the species was present in the general area. Frequently associated species included the perennial grasses bluebunch wheatgrass, Idaho fescue (*Festuca idahoensis*), bulbous bluegrass, and Sandberg's bluegrass; the annual grasses cheatgrass and an unidentified brome (*Bromus* sp.); the forbs common yarrow (*Achillea millefolium*) and yellow salsify (*Tragopogon dubius*); and the shrubs gray rabbitbrush (*Ericameria nauseosa*) and green rabbitbrush.

Plants were found in loamy soils, ranging from rocky and gravelly loam to sandy loam. Basalt outcrops were common as well as sparsely vegetated talus slopes although they did not dominate the landscape. Many observations were found in perennial grassland habitat with a high proportion of native species; however, many of these areas were also impacted by grazing and non-native plants. Occurrences were also located in highly disturbed habitat, where non-native annual and perennial grasses, such as cheatgrass and bulbous bluegrass, were common. These areas included locations near farm roads between cultivated fields, as well as a few locations where plants were observed growing directly in cattle trails. Grazing was present throughout the 2022 and 2023 Botanical Survey Areas and off-road vehicle use was evident near multiple observations. Plants were not observed in former agricultural land. However, in the northern portion of the 2022 Botanical Survey Area, one occurrence was identified just west of previously cultivated areas used for grazing in recent years (Figure Q-6).

3.2.1.2 *Potential Adverse Effects*

Besides the 14 occurrences from the 2022 and 2023 surveys noted above, there are six known occurrences from the ORBIC database and three from previous surveys conducted by the Certificate Holder (one of which overlaps with an occurrence from 2022-2023), making a total of 22 known occurrences of Laurence's milkvetch within the Analysis Area (Figure Q-7). Note that multiple plant groupings were often assigned to the same occurrence. Only one of the previously known occurrences of Laurence's milkvetch occurred within the Amended Site Boundary (Occurrence E-3; Figure Q-7), and also overlaps one of the occurrences from the 2022 and 2023 surveys (Occurrence 1) as noted above. For the purpose of tallying occurrences here, occurrences 1 and E-3 are considered a single occurrence.

Eight of the 14 occurrences of Laurence's milkvetch observed during the 2022 and 2023 surveys are within the disturbance footprint (i.e., occurrences 5, 6, 7, 8, 9, 11, 12, and 13; Figures Q-8.0 to Q-8.10). Temporary and permanent impacts on each occurrence are provided in Table Q-4.

Table Q-4. Permanent and Temporary Impacts to Laurence’s Milkvetch

Occurrence ID	Temporary Impacts (Acres)	Permanent Impacts (Acres)
5	0.91	0.17
6	0.03	No Impact
7	15.49	1.61
8	0.92	No Impact
9	19.20	2.31
11	2.91	0.27
12	0.77	No Impact
13	2.74	0.61
TOTAL	42.96	4.97

Note: Numbers may not sum correctly due to rounding.

Potential adverse effects during construction and operations could include loss of habitat and direct mortality as a result of vegetation clearing for roads, towers, and construction areas. Direct impacts could include removal of individual plants, the seed bank, habitat and/or habitat of pollinators. Indirect impacts could include degradation and fragmentation of habitat that is not currently occupied (e.g., within 100 feet of occurrences), potential for establishment of noxious weeds and invasive plants, potential for wildland fire, or a change in vegetation community as a result of construction.

Dust deposition on plants during construction and from transport along access roads through occupied habitat could affect photosynthesis, respiration, transpiration, and reproduction, which could negatively impact productivity of Laurence’s milkvetch and possibly the structure of the plant community within its habitat (Farmer 1993; Trombulak and Frissell 2000).

The proposed Facility disturbance footprint was overlain on the GIS polygons of Laurence’s milkvetch occurrences delineated during surveys conducted in 2022 and 2023. It is anticipated that some plants will be directly removed due to construction and operation of the proposed Facility, with approximately 5 acres of permanent impacts and approximately 43 acres of temporary impacts due to construction activities.

Portions of five occurrences will be permanently impacted (occurrences 5, 7, 9, 11, and 13; see Table Q-4 and Figure Q-8). Portions of eight occurrences will be temporarily impacted, including the five occurrences that will also be permanently impacted as described above, as well as occurrences 6, 8, and 12. These eight occurrences combined have approximately 34,805 known individuals and cover approximately 497 acres. Of this, approximately 48 acres will be directly affected, which is approximately 5 percent of the total known acres of range-wide occurrences compiled from recent data (collected from 2008 to 2021; Tetra Tech 2019a, 2019b, and 2020), as well as Laurence’s milkvetch occurrences mapped during 2022 and 2023 surveys for the Facility.

Potential adverse effects will be avoided, minimized and/or mitigated by the measures discussed in Section 4.

In summary, the proposed Facility design has avoided direct impacts to 6 out of 14 Laurence's milkvetch occurrences documented during surveys. The remaining eight occurrences will be directly impacted (five permanently and temporarily and three temporarily only) and mitigated as described below. Potential indirect adverse effects include loss of potentially suitable but currently unoccupied habitat.

4.0 Avoidance and Minimization – OAR 345-021-0010(1)(q)(C)

OAR 345-021-0010(1)(q)(C) For each species identified under (A), a description of measures proposed by the applicant, if any, to avoid or reduce adverse impact.

4.1 Wildlife

Based on the results of the 2022 and 2023 WAGS surveys, the Certificate Holder has revised the location of proposed Facility infrastructure in order to avoid active WAGS colonies and their associated 785-foot buffers in suitable habitat (i.e., Category 1 habitat), and minimized impacts to Category 2 habitat where feasible. As noted above, approximately 2,062 acres within 1,000 feet of the amended micro-siting corridor was not surveyed for WAGS in 2022 or 2023, primarily north of Big Butter Creek Lane but also associated with areas not accessible during WAGS surveys in 2023, primarily outside the Amended Site Boundary (see Exhibit P, Attachment P-1; Figure Q-2). The Certificate Holder will continue to conduct surveys as needed prior to ground disturbance within 1,000 feet of these areas that have not been surveyed and consult with ODOE and ODFW on approach for addressing areas beyond the Certificate Holder's access control.

Aside from these areas, protocol-level surveys were conducted in 2023 in areas not surveyed in 2022, and in areas surveyed in 2022, the Certificate Holder conducted a pre-construction survey per Condition PRE-TE-01⁴ and updated the colony boundaries and the associated Category 1 and 2 buffers. The Certificate Holder will ensure that these sensitive areas are correctly marked with exclusion flagging and avoided during construction.

A total of 8,502 acres were surveyed to protocol in 2022, and approximately 22,870 acres were surveyed in 2023. An additional 2,062 acres of potentially suitable WAGS habitat will be surveyed, as applicable and feasible (i.e., where landowner access is granted), prior to ground disturbance in these areas.

- Newly discovered WAGS colonies will be avoided by 785 feet and any Category 2 habitat affected by temporary or permanent disturbance will be mitigated according to Conditions

⁴ Revisions to Site Certificate Condition PRE-TE-01 are proposed in the Division 27 document to clarify survey needs; these revisions were developed in coordination ODFW and ODOE as described in Exhibit P.

PRE-TE-01 and PRE-TE-02 and consistent with the ODFW Fish and Wildlife Habitat Mitigation Policy.

- Areas that contain buffers overlapping existing roads during construction will be flagged to ensure no vehicles or construction equipment inadvertently travel off those roads and damage Category 1 habitat.
- No impacts, including access road improvements, would occur within Category 1 WAGS habitat.
- The Certificate Holder will also enforce speed limits for proposed Facility personnel and contractors to minimize the risk of vehicle collisions with WAGS during construction and through O&M activities near Category 1 habitat.
- The Certificate Holder will flag Category 1 habitat near proposed temporary and permanent impacts to ensure avoidance.
- The Certificate Holder will employ a construction monitor(s) familiar with WAGS to ensure appropriate measures such as the flagging and speed limits discussed above are implemented to avoid disturbance to WAGS and Category 1 WAGS habitat.
- As described in Exhibit P, the Certificate Holder will also develop a proposed Facility-specific worker environmental training program during construction and operation that includes information on WAGS such as restrictions, protection measures, individual responsibilities associated with the proposed Facility, and the consequences of non-compliance. All employees and contractors working in the field will be required to attend the environmental training session prior to working on site.
- In addition, the Certificate Holder has implemented during design and will continue to implement during construction and operation, fire risk minimization measures as described in Exhibit V that will minimize impacts to WAGS and suitable WAGS habitat.

4.2 Plants

Based on the results of the 2022 botanical surveys, the Certificate Holder revised the location of proposed Facility infrastructure in order to avoid Laurence's milkvetch. Laurence's milkvetch mapped within the micro-siting corridor during surveys in 2013 were also avoided by Facility design. Following surveys in 2023, the Certificate Holder again modified the Facility layout based on the survey results, including shifting access roads to be routed around plants, and reduced the total anticipated acres of impact to Laurence's milkvetch by approximately 10 acres. This included, for example, adjusting turbine access road alignments at six locations where topography and other resource constraints allowed to avoid and reduce impacts to Laurence's milkvetch; these adjustments in some cases avoided impacting mapped polygons that contain hundreds of Laurence's milkvetch plants. However, many of the largest occurrences are located along turbine strings and associated access roads that are situated at the top of ridgelines that are relatively narrow and moving facilities downslope would not capture enough of the wind resource to be

feasible. Additionally, many of the documented occurrences span the ridgelines and continue downslope, so moving facilities downslope would not necessarily avoid impacting Laurence's milkvetch plants. Therefore, the Certificate Holder has modified the Facility layout to avoid occurrences mapped during 2023 surveys to the extent feasible. In order to minimize impacts to individuals of Laurence's milkvetch, the Certificate Holder will implement the following minimization measures, in consultation with ODOE and ODA.

4.2.1 Flag and Avoid

- The Certificate Holder will minimize the disturbance footprint in areas of occupied Laurence's milkvetch habitat, to the extent possible.
- The construction footprint will be flagged and vehicles and personnel will be kept within the construction disturbance limits.
- The work zone for any turbines or other proposed Facility components within 100 feet of known milkvetch occurrences will be restricted to that area outside of the documented Laurence's milkvetch occurrence, to the extent possible, and those occurrences will be flagged.
- Any non-emergency maintenance within or adjacent to known occupied Laurence's milkvetch habitat will be conducted during the spring or fall to avoid impacts to flowering and fruiting plants, as well as to pollinators during flowering.
- The Certificate Holder will also develop a Facility-specific worker environmental training program during construction and operation that includes information on Laurence's milkvetch such as restrictions, protection measures, individual responsibilities associated with the proposed Facility, and the consequences of non-compliance. All employees and contractors working in the field will be required to attend the environmental training session prior to working on site.

4.2.2 Noxious Weed Control

Noxious weeds and invasive plant species are listed as a threat to Laurence's milkvetch (ODA 2022c). Control of noxious weeds in the areas to be revegetated within and adjacent to occupied Laurence's milkvetch habitat will follow the noxious weed control plan developed for the proposed Facility (see Exhibit P, Attachment P-3). Special considerations for weed control adjacent to occupied habitat includes prioritizing mechanical treatment methods. If herbicides are used, the manufacturer's guidelines will be followed to establish a buffer area around confirmed individuals of Laurence's milkvetch in which herbicides must not be used.

Vehicle wash stations - including a pressure washer and water tank -- will be placed in proximity to main access points by occupied Laurence's milkvetch habitat to minimize the introduction of noxious weeds or other invasive plant species by construction vehicles. Vehicles will be washed prior to entering these areas.

4.2.3 Soil Salvage, Seedbank Preservation, and Fugitive Dust Control

During construction of temporary features, the Certificate Holder will excavate and store soils by soil horizon, so that soils could be replaced and restored appropriately including replacing topsoil on the surface as described in the Draft Revegetation Plan (Exhibit P, Attachment P-4). This will not only help preserve the soil seedbank of Laurence's milkvetch, but will also allow for soil conditions favorable for germination of Laurence's milkvetch and other native plant species, as well as provide soil conditions conducive to revegetation efforts. Water trucks will be used during construction to limit the amount of fugitive dust per the proposed Facility's National Pollutant Discharge Elimination System 1200-C permit. Fugitive dust could affect photosynthesis, respiration, transpiration, and reproduction, which could negatively impact productivity of Laurence's milkvetch and possibly the structure of the plant community within its habitat (Farmer 1993, Trombulak and Frissell 2000).

4.2.4 Revegetation

The Certificate Holder will consult with ODA on revegetation, weed treatment, and restoration for areas in proximity to occurrences of Laurence's milkvetch, as described in the Draft Revegetation Plan (Exhibit P, Attachment P-4).

4.2.5 Summary

To minimize potential impacts to known Laurence's milkvetch populations, the Certificate Holder will flag the boundaries of the Laurence's milkvetch populations prior to construction in areas located near proposed disturbance and access roads to reduce impacts during construction. Facility speed limits will also be in place in these areas (and throughout the Amended Site Boundary) to minimize the effects of dust on adjacent plant populations and water trucks will be used during construction to mitigate fugitive dust. In compliance with condition CON-FW-03, the Certificate Holder will employ a qualified environmental professional to provide environmental training to all personnel prior to working onsite.⁵ Training will include information on sensitive species potentially present onsite, precautions to avoid injuring or destroying wildlife or sensitive wildlife habitat, exclusion areas, permit requirements and other environmental issues.

Finally, prior to construction, the Certificate Holder will have a fire control plan (Wildfire Mitigation Plan, Exhibit V, Attachment V-1), approved by Umatilla and Morrow counties, in place that will be implemented throughout the life of the proposed Facility that will minimize impacts to rare plants and their associated habitats.

⁵ Final Order on Application for the Wheatridge Wind Energy Facility (April 2017)

5.0 Protection and Conservation Program Compliance– OAR 345-021-0010(1)(q)(D)

OAR 345-021-0010(1)(q)(D) For each plant species identified under (A), a description of how the proposed facility, including any mitigation measures, complies with the protection and conservation program, if any, that the Oregon Department of Agriculture has adopted under ORS 564.105(3).

The ODA establishes protection and conservation programs for selected species listed as threatened or endangered under the OESA. Because no such programs apply to any species with the potential to occur within the Analysis Area, no additional information is required under this provision.

6.0 Potential Impacts to Plants, Including Mitigation Measures – OAR 345-021-0010(1)(q)(E)

OAR 345-021-0010(1)(q)(E) For each plant species identified under paragraph (A), if the Oregon Department of Agriculture has not adopted a protection and conservation program under ORS 564.105(3), a description of significant potential impacts of the proposed facility on the continued existence of the species and on the critical habitat of such species and evidence that the proposed facility, including any mitigation measures, is not likely to cause a significant reduction in the likelihood of survival or recovery of the species.

After avoidance and minimization measures have been implemented, impacts to a state threatened plant species remain. Site Certificate Condition PRE-TE-03(iv) identified the need for an impact assessment and mitigation plan for any listed plant species for which avoidance cannot be maintained. As described in this exhibit and the Laurence’s Milkvetch Mitigation Plan (Attachment Q-1), impacts to Laurence’s milkvetch are unavoidable. As a result, the Certificate Holder has developed a Laurence’s Milkvetch Mitigation Plan to provide the impact and mitigation information described in Site Certificate Condition PRE-TE-03(iv). This information and analysis are provided as a mitigation plan rather than an exception request because a Site Certificate has not been issued for this RFA 1.

In 2020, the Certificate Holder performed a range-wide occurrence analysis for the portion of the Wheatridge Wind Energy Project located in Morrow County (Wheatridge West; Tetra Tech 2020). The number of occurrences for this analysis were identified based on a 0.62-mile separation distance of the combined available data, as described in NatureServe (2004). The combined data in Tetra Tech 2020 indicated 25 known extant range-wide occurrences (IPC 2018, ORBIC 2018, Tetra Tech 2019a, Wheatridge 2015). The 25 known extant occurrences include three occurrences discovered during surveys conducted by the Certificate Holder prior to 2022 (Tetra Tech 2019a, Wheatridge 2015). Additional data from 2017 to 2019 are publicly available (Tetra Tech 2019b).

Results from the current 2022 and 2023 surveys include 13 more documented occurrences, as described above (Figure Q-7). The original range-wide population estimate was approximately 8,707 individuals (Table 1 in Tetra Tech 2020). Inclusion of results from Tetra Tech (2019b; 825 individuals), as well as the most recent 2022 and 2023 survey results, where an estimated 37,426 individual plants were observed (Attachment P-1 of Exhibit P of this RFA), results in a range-wide estimate of approximately 46,958 individuals. Removing from this estimate plants that were anticipated to be impacted by Wheatridge West (Tetra Tech 2020; 428 individuals) results in an updated range-wide estimate of approximately 46,530 individuals.

The number of individuals of Laurence's milkvetch potentially impacted by construction of the proposed Facility was estimated based on the total count of plants in each observation and the percentage of that occurrence within the disturbance footprint. Based on this calculation, approximately 2,604 individuals will be directly impacted by construction of the proposed Facility. This amounts to approximately 7 percent of the individuals documented by the Certificate Holder in 2022 and 2023. As noted above, the current range-wide population estimate for Laurence's milkvetch is approximately 46,530 individuals. Impacts to approximately 2,604 individuals from construction of the proposed Facility will amount to impacts of approximately 6 percent of the range-wide population of Laurence's milkvetch. Similarly, impacts to 48 acres of occupied Laurence's milkvetch habitat from construction and operation of the proposed Facility will result in impacts to approximately 5 percent of the 997 acres of known occupied habitat range-wide.

The range-wide estimates of total population size and occupied acres are conservative, as some historic occurrences have been omitted and the survey areas for many of the known occurrences are limited (e.g., public road rights-of way, proposed development projects) and did not map or census the entire extent of occurrences. Many of the notes associated with these occurrences indicate the plants extend beyond the survey area and mapped occurrence, and that suitable habitat also extends beyond the areas surveyed. In addition, other occurrences of Laurence's milkvetch may have been documented in Umatilla and Morrow counties in recent years during surveys on private land for various proposed development projects, but these are not currently included in ORBIC or other publicly available data.

Thus, the estimates of percent range-wide impact are similarly conservative. Even before factoring in mitigation, the proposed Facility is not likely to cause a significant reduction in the likelihood of survival or recovery of the species.

Temporary and permanent habitat loss will be mitigated for according to the Laurence's Milkvetch Mitigation Plan (Attachment Q-1), which was developed in coordination with ODA and ODOE. Minimization measures will include flagging and avoidance, noxious weed control, soil salvage, seedbank preservation, and fugitive dust control, and revegetation. Mitigation measures include seed collection, banking, and associated research, and plant re-establishment and associated research. These mitigation measures are detailed in Attachment Q-1 along with an implementation schedule, a monitoring approach, and success criteria. Mitigation actions will occur concurrent with and following habitat-disturbing activities and provide the intended benefits for the duration of the proposed Facility.

7.0 Potential Impacts to Animals, Including Mitigation Measures – OAR 345-021-0010(1)(q)(F)

OAR 345-021-0010(1)(q)(F) For each animal species identified under (A), a description of significant potential impacts of the proposed facility on the continued existence of such species and on the critical habitat of such species and evidence that the proposed facility, including any mitigation measures, is not likely to cause a significant reduction in the likelihood of survival or recovery of the species.

The Certificate Holder will avoid impacts to WAGS colonies and associated Category 1 habitat identified during 2022 and 2023 field surveys, as well as any additional colonies identified prior to ground disturbance in those areas. As a result, construction, operation, and maintenance of the proposed Facility is not expected to result in a significant reduction in the likelihood of survival or recovery of WAGS.

8.0 Monitoring – OAR 345-021-0010(1)(q)(G)

OAR 345-021-0010(1)(q)(G) The applicant's proposed monitoring program, if any, for impacts to threatened and endangered species.

8.1 Wildlife

The Certificate Holder will implement a WAGS post-construction monitoring program as described in the Draft Wildlife Monitoring and Mitigation Plan (Exhibit P, Attachment P-5).⁶ Monitoring will be of any known colonies and will be completed on the same schedule as the raptor nest monitoring for the proposed Facility, per Condition PRE-TE-02. The monitoring surveys will include returning to the known colonies to determine occupancy and the extent of the colony as well as a general explanation of the amount of use at the colony. If the colony is not found within the known boundary of the previously recorded location a survey 500 feet out from the known colony will be conducted to determine if the colony has shifted over time. Any new colonies that are located during other monitoring activities, such as raptor nest monitoring surveys, will be documented and the extent of those colonies should be delineated as well. These newly discovered colonies will also be included in any future WAGS monitoring activities (see Exhibit P, Attachment P-5).

8.2 Plants

Monitoring of revegetation success and noxious weed control efforts, including in locations where Laurence's milkvetch will be impacted, are described in the Revegetation Plan (see Exhibit P, Attachment P-4) and Noxious Weed Control Plan (see Exhibit P, Attachment P-3). Monitoring

⁶ Final Order on Application for the Wheatridge Wind Energy Facility (April 2017)

associated with Laurence’s milkvetch mitigation is described in the Laurence’s Milkvetch Mitigation Plan (Attachment Q-1).

9.0 References

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Figures

(Note that Figures Q-4, Q-5, Q-6, Q-7, and Q-8 are confidential and are provided under separate cover)

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Wheatridge Renewable Energy Facility East

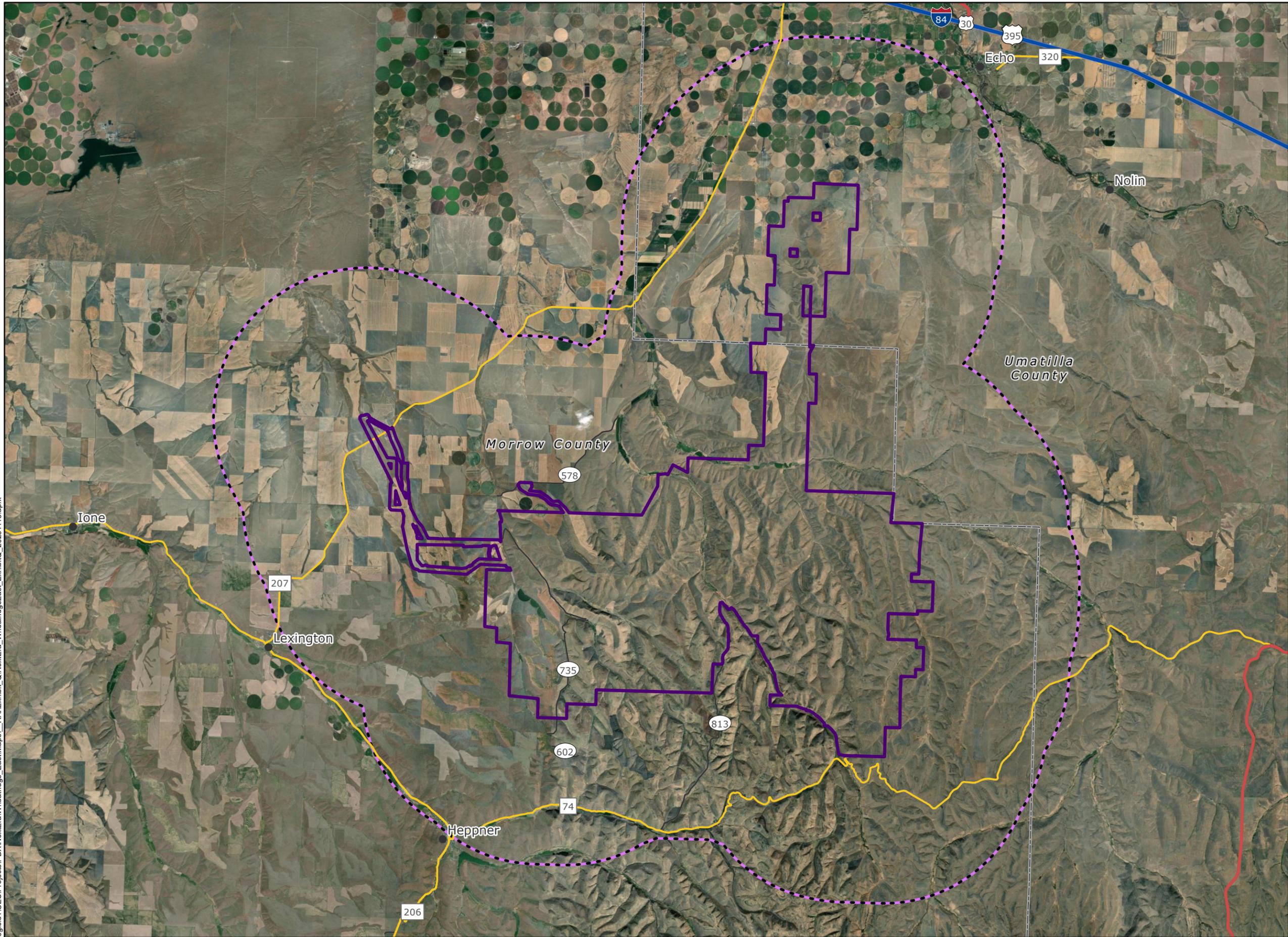
Figure Q-1 Analysis Area for Threatened and Endangered Species

MORROW AND UMATILLA COUNTIES, OR

- Amended Site Boundary
- Analysis Area (5-mile buffer)
- County Boundary
- City/Town
- Interstate Highway
- US Highway
- State Highway
- County Highway



Reference Map

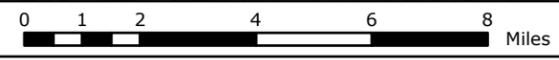


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WGS 1984 UTM Zone 11N



NOT FOR CONSTRUCTION

Wheatridge Renewable Energy Facility East

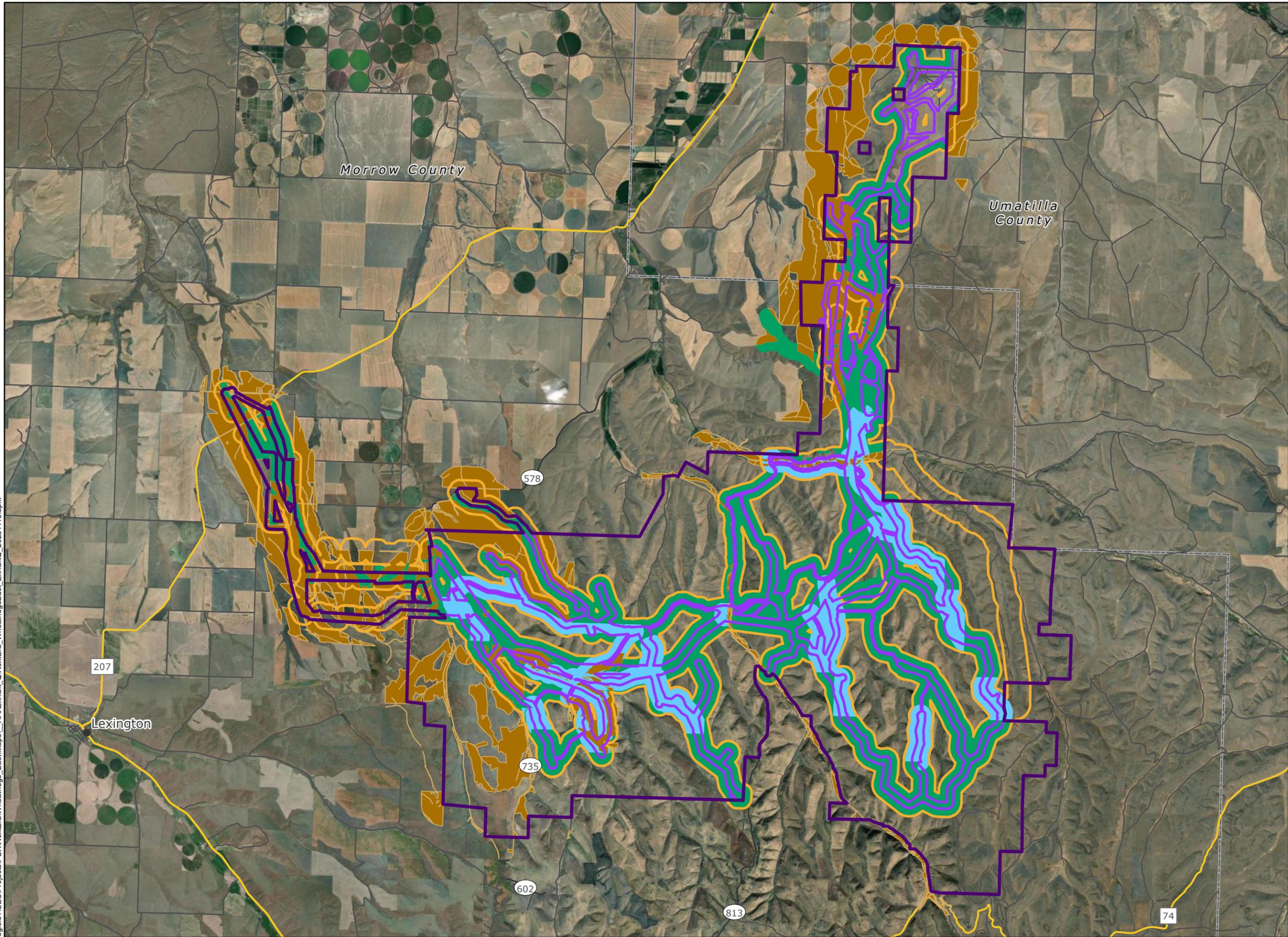
Figure Q-2 Washington Ground Squirrel (WAGS) Survey Areas

MORROW AND UMATILLA COUNTIES, OR

- Amended Site Boundary
- Amended Wind Micrositing Corridors
- County Boundary
- City/Town
- State Highway
- County Highway
- Local Roads
- WAGS Survey Corridor (2023)
- WAGS Survey Area (2022)
- WAGS Survey Area (2023)
- Category 6 Habitat



Reference Map



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Wheatridge Renewable Energy Facility East

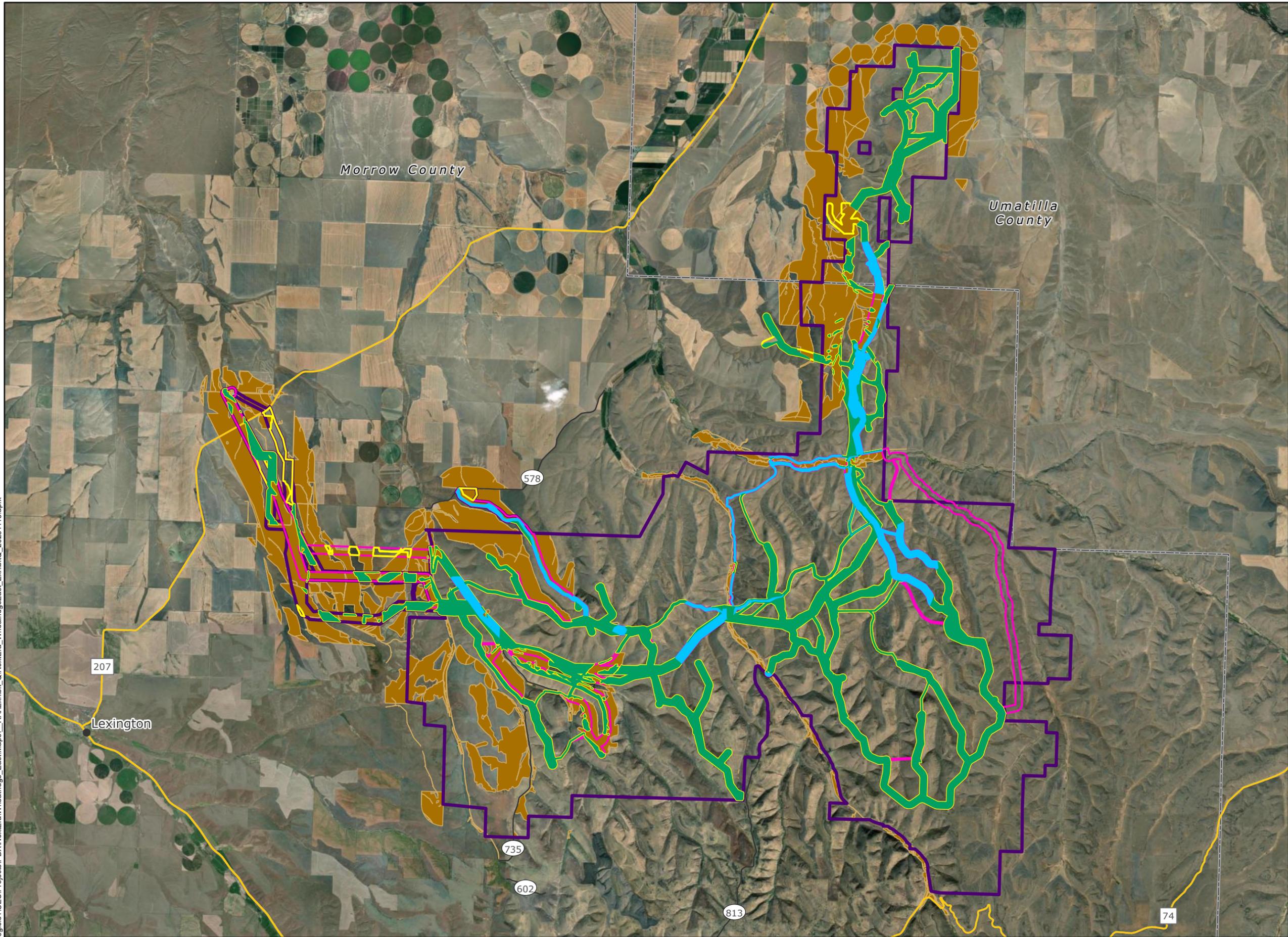
Figure Q-3 Rare Plants Survey Areas

MORROW AND UMATILLA COUNTIES, OR

- Amended Site Boundary
- County Boundary
- City/Town
- State Highway
- County Highway
- Category 6 Habitat
- Rare Plants Survey Corridor (2023)
- Rare Plants Survey Corridor (2022)
- Rare Plants Survey Area (2023)
- Rare Plants Survey Area (2022)



Reference Map



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Attachment Q-1. Laurence's Milkvetch Mitigation Plan

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Wheatridge Renewable Energy Facility East

Laurence's Milkvetch Mitigation Plan

**Prepared for
Wheatridge East Wind, LLC**

Prepared by



November 2023

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Appendix A. Oregon Department of Agriculture’s Wheatridge East REF Impacts and Mitigation Planning for Lawrence’s Milkvetch

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1.0 Introduction

The Wheatridge Renewable Energy Facility East (Facility) is an approved, but not yet constructed, wind energy generation facility consisting of up to 66 turbines and related or supporting facilities with a peak generating capacity of up to 200 megawatts (MW), to be located in an Approved Site Boundary of approximately 4,582 acres on over 42,000 acres of leased land in Morrow and Umatilla counties, Oregon.

As part of Request for Amendment (RFA) 1 to the Facility Site Certificate, Wheatridge East Wind, LLC (Certificate Holder) is proposing to expand wind power generation at the Facility to provide the opportunity for increased power capacity and availability. This includes expanding the Site Boundary and micrositing corridors, increasing the peak generating capacity by adding more and newer turbines, changing the intraconnection routes, and extending the construction date. See the RFA 1's Division 27 document (*Request for Amendment #1 for the Wheatridge Renewable Energy Facility East*) for a more detailed summary of the proposed changes.

This Laurence's Milkvetch Mitigation Plan (Plan) addresses the need for the Certificate Holder to construct the Facility in areas occupied by the state-threatened Laurence's milkvetch (*Astragalus collinus* var. *laurentii*).¹ The Certificate Holder anticipates beginning construction of the Facility in late Q1 or early Q2 2024.

2.0 Regulatory Framework

As described in Exhibit Q of RFA 1, impacts to Laurence's milkvetch are unavoidable. As part of an avoidance exception request to the Oregon Department of Energy (ODOE), Site Certificate Condition PRE-TE-03(iv) requires an impact assessment and mitigation plan for any listed plant species for which avoidance cannot be maintained. The Certificate Holder is proposing minor revisions to this Site Certificate condition to reflect that a mitigation plan is required to address impacts to Laurence's milkvetch rather than an exception request. As a result, the Certificate Holder has developed this Plan to provide the impact and mitigation information described in Site Certificate Condition PRE-TE-03(iv). This information and analysis are provided in this Plan rather than an exception request because a Site Certificate has not been issued for RFA 1.

PRE-TE-03: To avoid, minimize, and mitigate potential impacts to Laurent's milkvetch, the certificate holder must:

- i. Conduct preconstruction plant surveys (survey area) in suitable habitat for Laurent's milkvetch within 100-feet of temporary and permanent disturbance from all facility components. If the species is found to occur, the certificate holder must install protection

¹ Synonyms for Laurence's milkvetch (*Astragalus collinus* var. *laurentii*) include Laurent's milkvetch and Lawrences' milkvetch.

flagging around the plant population and avoid any ground disturbance within this zone unless impacts to Laurence's milkvetch plants have been approved as described under (iv) below.

- ii. Ensure that any plant protection zone established under (i) above is included on construction plans showing the final design locations.*
- iii. If herbicides are used to control weeds, the certificated holder shall follow the manufacturer's guidelines in establishing a buffer area around confirmed populations of Laurence's milkvetch. Herbicides must not be used within the established buffers.*
- iv. If avoidance cannot be maintained, the certificate holder may request that the Department consider **allowing impacts to habitat occupied by Laurence's milkvetch** ~~an avoidance exception~~, authorized through Council concurrence as further described below. The ~~exception~~ request must include an impact assessment and mitigation plan for the affected species including but not limited to:
 - Literature review and/or field studies that inform the current status of the species within the survey area or region, if survey area does not contain sufficient information to develop a statistically viable approach for determining impact significance;*
 - A description of the individual(s) or populations(s) identified within the survey area that would be avoided and impacted;*
 - An evaluation of facility impacts on the survival or recovery of the species, in accordance with the Threatened and Endangered Species standard;*
 - Proposed mitigation measures such as: funded studies that improve understanding of reproductive biology and pollination; development of seed germination, propagation, and transplanting protocols; and/or compensatory mitigation project including conservation easement(s) and species propagation, protection, and habitat enhancement measures, and/or other proposed mitigation measures that would benefit the affected species.*
 - The Department's review and determination of the exception request shall be conducted in consultation with the Oregon Department of Agriculture, or a third-party consultant. The Department's determination on the exception request must be concurred with by Council. Council retains authority to reject, modify or concur with the exception request.**

[Final Order on ASC; AMD3; Threatened and Endangered Species Condition 3; AMD4]

3.0 Reasons Avoidance is Not Feasible

Surveys for Laurence's milkvetch were performed for the Facility in 2022 and 2023 in support of RFA 1 (see Exhibit P, Attachment P-1, and Exhibit Q). Botanical surveys were also conducted within

portions of the current micrositing corridors for the original Application for Site Certificate in 2013 (Wheatridge 2015). One Laurence's milkvetch occurrence was identified during Facility surveys in 2013. The extent of the occurrence identified in 2013 was avoided by the current Facility layout. Surveys conducted in 2022 and 2023 resulted in an expansion of this original occurrence and identification of 13 additional occurrences (for a total of 14 occurrences), some of which cannot feasibly be avoided. The surveys performed in 2022 and 2023 encompass the area addressed in this Plan.

The extent of the Laurence's milkvetch occurrences within the Amended Site Boundary and micrositing corridors is such that complete avoidance of impacts to the plants is not possible through micrositing. A total of 37,426 plants were documented in 2022 and 2023, covering 503.2 acres within the area surveyed with many occurrences extending beyond the area surveyed. The Certificate Holder determined that micrositing within the Amended Site Boundary would be ineffective due to the extent of the mapped occurrences and likely presence of the plants throughout the Amended Site Boundary and adjacent to the mapped occurrences in similar habitat outside the micrositing corridors.

The Certificate Holder modified the Facility layout to avoid occurrences mapped during 2022 and 2023 surveys to the extent feasible, including shifting access roads to be routed around plants. Following surveys in 2023, specifically, the Certificate Holder modified the Facility layout based on the survey results and reduced the total anticipated acres of impact to Laurence's milkvetch by approximately 10 acres. This included, for example, adjusting turbine access road alignments at six locations where topography and other resource constraints allowed to avoid and reduce impacts to Laurence's milkvetch; these adjustments in some cases avoided impacting mapped polygons that contain hundreds of Laurence's milkvetch plants. However, modifying the Facility layout to fully avoid Laurence's milkvetch plant occurrences is not feasible for the following reasons:

- 1. Topography:** Many of the largest occurrences are located along turbine strings and associated access roads that are situated at the top of ridgelines that are relatively narrow and moving facilities downslope would not capture enough of the wind resource to be feasible. The topographic relief in these areas is visible on the figures included in Exhibit Q. Additionally, many of the documented occurrences span the ridgelines and continue downslope, so moving facilities downslope would not necessarily avoid impacting Laurence's milkvetch plants.
- 2. Federal Aviation Administration (FAA) Determinations of No Hazard:** The Certificate Holder cannot move turbines because of permitting with the FAA. The FAA Determination of No Hazard to Air Navigation limits the micrositing of turbines to no more than 1 arcsecond (approximately 70-100 feet [one arc-second]). Moving turbines less than 100 feet would not significantly change the impacts to the Laurence's milkvetch occurrences.

Due to the reasons listed above, the Certificate Holder determined that full avoidance of the Laurence's milkvetch occurrences is not feasible.

4.0 Current Status of Laurence's Milkvetch

4.1 Background, Habitat, and Threats

Laurence's milkvetch, a tap-rooted perennial in the pea (Fabaceae) family, is listed as threatened under the Oregon Endangered Species Act. It has a global rank of G5T1 (critically imperiled throughout its range) and a state rank of S1 (critically imperiled in Oregon; ORBIC 2023). This endemic species has a narrow distribution, limited to Gilliam, Morrow, Sherman and Umatilla counties, Oregon (ODA 2023, ORBIC 2023). Laurence's milkvetch is typically found in sandy or rocky soils on dry slopes and hilltops in Palouse grasslands. Associated species include bluebunch wheatgrass (*Pseudoroegneria spicata*), Idaho fescue (*Festuca idahoensis*), Sandberg bluegrass (*Poa secunda* ssp. *secunda*), and cheatgrass (*Bromus tectorum*; ODA 2023, ODFW 2023).

Habitat loss, primarily through agricultural conversion, is considered a threat to this species, as are grazing, herbicide use, road construction and maintenance, seed predation, and competition with invasive plant species (ODA 2023, ODFW 2023). Additionally, as this species is dependent on pollinators to produce seeds and cannot self-fertilize, it is sensitive to impacts/losses that occur to its pollinators (ODA 2023).

4.2 Occurrence and Distribution

In 2020, the Certificate Holder performed a Laurence's milkvetch range-wide occurrence analysis for the portion of the Wheatridge Wind Energy Project located in Morrow County (Wheatridge West; Tetra Tech 2020). The number of occurrences for this analysis were identified based on available spatial data and implementation of a 0.62-mile separation distance of the combined available data, as described in NatureServe (2004). The combined data in Tetra Tech 2020 indicated 25 known extant range-wide occurrences and two historical occurrences² (IPC 2018, ORBIC 2018, Tetra Tech 2019a, Wheatridge 2015). The 25 known extant occurrences include three occurrences discovered during surveys conducted by the Certificate Holder for Wheatridge West, as well as the occurrence documented in 2013 for the Facility (Tetra Tech 2019a, Wheatridge 2015). Review of publicly available data identified 12 additional Laurence's milkvetch occurrences documented in Umatilla County between 2017 and 2019 (Tetra Tech 2019b). In addition, results from the 2022 and 2023 surveys conducted for the Facility identified 13 new occurrences in addition to the extension of the occurrence originally mapped in 2013, as described above and in Exhibit Q (e.g., see Exhibit Q, Figure Q-7), for a total of 50 known extant occurrences (Table 1).

As described in the range-wide occurrence analysis conducted in 2020, the Oregon Biodiversity Information Center (ORBIC) summarizes observations into element occurrences (EOs). Some of the EOs do not meet the 0.62-mile minimum separation distance utilized in this range-wide occurrence analysis. As such, two of the originally identified 25 extant occurrences in this range-wide analysis are a combination of EOs (Occurrence E-16 and E-23; Table 1) because they are less than 0.62-mile

² The historic occurrences include EOs 1, 2, and 11 (ORBIC 2018). Historic EOs 2 and 11 are less than 0.62-miles apart and were considered a single historical occurrence for the 2020 analysis (Tetra Tech 2020).

from one another. Table 1 provides additional details on the originally identified 25 extant occurrences plus the additional 25 occurrences documented since that original analysis. The two historic occurrences do not contribute to the range-wide population estimate and have been omitted from Table 1.

The original range-wide population estimate was approximately 8,707 individuals (Table 1 in Tetra Tech 2020). Inclusion of results from other recent publicly available survey efforts (Tetra Tech 2019b; 825 individuals), as well as the most recent 2022 and 2023 survey results for the Facility, where an estimated 37,426 individual plants were observed (Attachment P-1 of Exhibit P of this RFA), results in a range-wide estimate of approximately 46,958 individuals. Removing from this estimate plants that were anticipated to be impacted by construction of Wheatridge West (Tetra Tech 2020; 428 individuals) results in an updated range-wide estimate of approximately 46,530 individuals. Range-wide, there are a total of approximately 997 acres of extant occurrences, all of which are on private land (Table 1; IPC 2018, ORBIC 2022, Tetra Tech 2019a, Wheatridge 2015, Attachment P-1 of Exhibit P of this RFA). The range-wide estimates of total population size and occupied acres, however, are based on incomplete data as:

1. Nine of the extant occurrences in the ORBIC database have not been visited since 1983 or earlier;
2. Population estimates for some occurrences are either provided as a range or an inexact number (e.g., "hundreds of plants");
3. Population estimates are not provided for all occurrences; and
4. The survey areas for many of the known occurrences are limited (e.g., public road rights-of-way, proposed development projects) and did not map or census the entire extent of the occurrence.

In addition, other occurrences of Laurence's milkvetch may have been documented in Umatilla and Morrow counties in recent years during surveys on private land for various proposed development projects, but these are not currently included in ORBIC or other publicly available data.

Table 1. Range-Wide Extant Laurence's Milkvetch Occurrence Summary

Occurrence Number for Analysis	Source ¹	Last Date Observed	Size of Mapped Occurrence (Acres)	# of Plants for Analysis	Notes
E-1	Wheatridge 2015	May - July 2011	6.5	No estimate provided	No population estimate provided for surveys conducted in 2011 by Northwest Wildlife Consultants (NWC).
	Tetra Tech 2019a	June 30, 2019	50.5	1,500 (estimated)	Observed during pre-construction compliance surveys for Wheatridge West. Occurrence stretches for approximately 2.6 miles within the survey area on a plateau and adjacent slopes in native grasslands. Individuals were scattered to continuous within this area. Occurrence continued to the south, southeast, and north of the area surveyed.
E-2	Tetra Tech 2019a	June 29, 2019	4.7	378 (estimated)	Observed during pre-construction compliance surveys for Wheatridge West. Majority of individuals were observed within native perennial grassland. Three individuals observed in adjacent revegetated/planted grassland.
E-3/WRE-1 ²	Wheatridge 2015	May - July 2013	15.4	No estimate provided	Observed during surveys for Wheatridge East in 2013. Partially overlaps with Occurrence WRE-1 documented 2022-2023.
E-4	ORBIC 2018 (EO 31)	June 9, 2008	91.6	350 (estimated)	June 28, 1983: 50-100 plants in flower and fruit. Plants healthy, growing with Idaho fescue, bluebunch wheatgrass, and velvet lupine (<i>Lupinus leucophyllus</i>). Many small plants, not in fruit.
					June 9, 2008: Hundreds of plants observed. More plants may be further up the slope but surveyor unable to see that far.
E-5	ORBIC 2018 (EO 30)	May 29, 2015	1.9	450 (estimated) ³	June 28, 1983: 200-700 plants in fruit and flower. Population healthy, growing with Idaho fescue, bluebunch wheatgrass, velvet lupine, common yarrow (<i>Achillea millefolium</i>), and traces of rubber rabbitbrush (<i>Ericameria nauseosa</i>).
					May 29, 2015: Collection made, no population data available.
E-6	ORBIC 2018 (EO 33)	June 9, 2008	0.01	9	First and last observed in 2008 along roadside.

Occurrence Number for Analysis	Source ¹	Last Date Observed	Size of Mapped Occurrence (Acres)	# of Plants for Analysis	Notes
E-7	ORBIC 2018 (EO 32)	June 9, 2008	0.01	4	First and last observed in 2008 along roadside.
E-8	ORBIC 2018 (EO 8)	June 23, 2011	2.1	19	May 25, 1983: about 30-50 plants in area; half in roadside rights-of-way (ROW), half on adjacent private land. In flower (early flowers did not set fruit); small fruit present.
					June 30, 2009: 19 plants in roadway ROW.
					June 23, 2011: 19 plants.
E-9	ORBIC 2018 (EO 16)	May 25, 1983	1.9	No estimate provided	Observed on rocky slopes with bluebunch wheatgrass. Other species present included Sandberg bluegrass, lupine species (<i>Lupinus</i> spp.), and basalt milkvetch (<i>Astragalus filipes</i>).
E-10	ORBIC 2018 (EO 17)	May 25, 1983	1.9	No estimate provided	Observed on rocky slopes with bluebunch wheatgrass. Other species present included Sandberg bluegrass, lupine species, basalt milkvetch, and common yarrow.
E-11	ORBIC 2018 (EO 36)	June 30, 2010	12.3	72	June 30, 2010: 72 plants observed.
E-12	ORBIC 2018 (EO 37)	June 24, 2011	0.2	1	August 31, 2010: 100 plants.
					June 24, 2011: 1 plant
E-13	ORBIC 2018 (EO 18)	June 23, 2011	50.4	106	June 30, 2009: about 250 plants in ROW.
					June 30, 2010: 107 plants in ROW.
					June 23, 2011: 106 plant in 1.5 acres. More plants off ROW on adjacent private property.
E-14	ORBIC 2018 (EO 12)	June 23, 2011	58.8	2,403	June 7, 2005: 2 plants, 100% in flower, no fruit. Observed on highway ROW growing with cheatgrass (<i>Bromus tectorum</i>), bluebunch wheatgrass, Idaho fescue, and rubber rabbitbrush.
					June 30, 2009: 17 plants.

Occurrence Number for Analysis	Source ¹	Last Date Observed	Size of Mapped Occurrence (Acres)	# of Plants for Analysis	Notes	
					June 23, 2011: 2,403 plants.	
E-15	ORBIC 2018 (EO 19)	May 25, 1983	1.9	15	1983: 12-15 plants seen along the roadside.	
E-16	ORBIC 2018 ⁴	EO 20	June 23, 2011	6.5	218	May 25, 1983: 40 plants observed in roadside population. June 23, 2011: 218 plants.
		EO 21	May 25, 1983	1.9	20	June 17, 1951: herbarium collection, no population data. May 25, 1983: 15-20 plants observed in roadside population. Large and healthy plants, but limited habitat.
E-17	ORBIC 2018 (EO 22)	May 25, 1983	1.9	45	40-50 plants seen on east facing slope. Most plants in flower or with immature fruit; a few plants with mature fruit. Population healthy, despite the poor condition of the vegetation community/habitat. The Idaho fescue – bluebunch wheatgrass grassland community where observation had formerly been overgrazed and was dominated by cheatgrass and rubber rabbitbrush.	
E-18	ORBIC 2018 (EO 23)	June 24, 2011	8.1	445	May 25, 1983: observed growing in Idaho fescue – bluebunch wheatgrass grassland. Roadside population with a few plants above the fence in a lightly grazed grassland pasture.	
					June 30, 2010: approximately 1,100 plants in ROW, inside hairpin turn.	
					June 24, 2011: 445 plants.	
E-19	ORBIC 2018 (EO 35)	June 23, 2011	59.1	1,398	June 23, 2011: 1,398 plants.	

Occurrence Number for Analysis	Source ¹	Last Date Observed	Size of Mapped Occurrence (Acres)	# of Plants for Analysis	Notes	
E-20	ORBIC 2018 (EO 25)	June 27, 1983	1.9	100	100+ plants. Plants in flower and fruit. Found on southwest and east-facing slopes in bluebunch wheatgrass grassland. Occasionally, growing with Idaho fescue, basalt milkvetch, and broadleaf lupine (<i>Lupinus latifolius</i>).	
E-21	ORBIC 2018 (EO 26)	June 27, 1983	1.9	100	100+ plants. Plants in flower and fruit. Found on SW and E facing slopes in <i>Pseudoroegneria spicata</i> grassland. Occasionally, growing with Idaho fescue, basalt milkvetch, and broadleaf lupine.	
E-22	ORBIC 2018 (EO 27)	June 27, 1983	1.9	30	30 plants. Plants in flower and fruit. Found on southwest and east facing slopes in bluebunch wheatgrass grassland. Occasionally, growing with Idaho fescue, basalt milkvetch, and broadleaf lupine.	
E-23	ORBIC 2018 ⁴	EO 28	June 27, 1983	1.9	100	June 27, 1983: 100 plants.
		EO 29	June 12, 2010	11.4	900	June 27, 1983: 500 plants; plants in flower and fruit.
						June 12, 2010: 800+ plants (estimated), very likely in excess of 1,000 plants, 85% vegetative, 15% flowering with no obvious seedling this year present. Native bunchgrass grassland; heavily grazed; cheatgrass locally abundant.
E-24	IPC 2018	June 2016	0.1	37	Observed during surveys for the Boardman to Hemingway Transmission Line Project.	
E-25	IPC 2018	June 2016	0.02	7	Observed during surveys for the Boardman to Hemingway Transmission Line Project.	
WRE 1 – 14 ²	Fields and Thompson 2023, Tetra Tech 2022	August 2023	503.2 (combined)	37,426 (combined)	Observed during surveys for the Facility in 2022 and 2023. Plants often continued beyond the area surveyed; thus, the number of plants included in this analysis likely underestimates the number of plants in the area. Fourteen occurrences documented, one of which (Occurrence 1) partially overlaps with EO-3 noted above in this table. See Figure Q-7 in Exhibit Q.	

Occurrence Number for Analysis	Source ¹	Last Date Observed	Size of Mapped Occurrence (Acres)	# of Plants for Analysis	Notes
NH 1-12	Tetra Tech 2019b	July 2019	112 (combined)	825 (combined)	Tetra Tech documented 12 occurrences of Laurence’s milkvetch covering 112 acres during surveys for the Nolin Hills Wind Power Project in Umatilla County. The survey report describing these occurrences (Tetra Tech 2019b) is publicly available on ODOE’s website; figures and spatial data for these occurrences are not publicly available.
(E-1)	Tetra Tech 2020	N/A	(15)	(428)	An estimated 428 plants over 15 acres were anticipated to be impacted by Wheatridge West (Tetra Tech 2020). This updated range-wide estimate, therefore, excludes this portion of Occurrence E-1 for the purposes of this analysis. This likely conservatively underestimates the number of remaining plants associated with Occurrence E-1 because the portion of this occurrence documented in 2011 contained no estimate of the number of plants, and the portion of this occurrence documented in 2019 extended beyond the area surveyed and thus additional plants were present that were not included in the occurrence tally. Additionally, this conservative estimate does not account for successful outplanting performed in these areas following construction of Wheatridge West (Sloan and Brown 2023).
Total			997	46,530	

1. EO = ORBIC element occurrence; WRE = Wheatridge Renewable Energy Facility East; NH = Nolin Hills Wind Power Project
2. Three Laurence’s milkvetch polygons within occurrence WRE-1 mapped in 2022 and 2023 fall within Occurrence E-3 mapped in 2013. Occurrence WRE-1 and E-3 are considered one occurrence, but the overlapping mapped acreage was not removed from the overall range-wide acreage tally because it totals less than 1 acre. No estimate of number of plants was provided based on the 2013 surveys, so the 92 plants mapped in the overlapping area in 2022 and 2023 does not constitute a double counting of plants.
3. Number of plants is based on 1983 data, as no population estimate is provided for the 2015 observation, despite it being the last observed date.
4. Two ORBIC element occurrences were combined into one occurrence for this analysis since they are less than the 0.62-mile separation distance.

5.0 Facility Survey Findings and Impact Evaluation

5.1 Survey Findings

Surveys were conducted within the micro-siting corridor for the Facility in 2022 and 2023 (see Exhibit P, Attachment P-1; Fields and Thompson 2023; Tetra Tech 2022). The previously documented occurrence from 2013, as well as the expansion of this occurrence documented in 2022 and 2023, will be avoided by the Facility layout. However, an additional 13 occurrences (14 occurrences total) were identified during surveys in 2022 and 2023, and thus impacts to Laurence's milkvetch plants are proposed as part of RFA 1.

A total of 37,426 plants were documented in 2022 and 2023, covering 503.2 acres within the area surveyed. The 14 occurrences documented included 389 observations of either isolated individuals or clusters of plants (see Figure Q-6 in Exhibit Q). These observations (isolated individuals or clusters of plants) ranged from 1 to approximately 10,000 plants and occupied between 0.01 and 62 acres. Frequently associated species included the perennial grasses bluebunch wheatgrass, Idaho fescue, bulbous bluegrass (*Poa bulbosa*), and Sandberg's bluegrass; the annual grasses cheatgrass and an unidentified brome (*Bromus* spp.); the forbs common yarrow and yellow salsify (*Tragopogon dubius*); and the shrubs gray rabbitbrush and green rabbitbrush (*Chrysothamnus viscidiflorus*). Many observations were found in native perennial grassland habitat with a high proportion of native species; however, many of these areas were also impacted by grazing and non-native plants. Occurrences were also located in highly disturbed habitat, where non-native annual and perennial grasses, such as cheatgrass and bulbous bluegrass, were common. These areas included locations near farm roads between cultivated fields, as well as a few locations where plants were observed growing directly in cattle trails.

5.2 Impact Evaluation

To determine potential impacts to occupied Laurence's milkvetch habitat from construction of the Facility, the Certificate Holder performed an evaluation following the methods used in the Exception Request for Wheatridge West (Tetra Tech 2020), which was based on Exhibit Q of the Boardman to Hemingway Application for Site Certificate (IPC 2018). The impact evaluation presented in that application was recommended by the Oregon Department of Agriculture (ODA).

Eight of the 14 occurrences of Laurence's milkvetch observed during the 2022 and 2023 surveys are proposed to be impacted by the Facility (see Exhibit Q, Figure Q-8 and Table Q-4). Portions of five occurrences will be permanently impacted (occurrences 5, 7, 9, 11 and 13; see Table Q-4 and Figure Q-8 in Exhibit Q). Portions of eight occurrences will be temporarily impacted, including the five occurrences that will also be permanently impacted as described above, as well as occurrences 6, 8 and 12. These eight occurrences combined have approximately 34,805 known individuals and cover approximately 497 acres. Of this, approximately 48 acres will be directly affected, which is approximately 10 percent of the total occupied area documented during surveys for the Facility. It is important to note, however, that the estimated acres and number of plants associated with occurrences documented during surveys for the Facility are likely underestimates because many of

these occurrences are based on a limited survey area and plants were noted to extend beyond the area surveyed.

The number of individuals of Laurence's milkvetch potentially impacted by construction of the Facility was estimated based on the total count of plants in each observation (i.e., mapped polygon associated with each individual plant or plant cluster) and the percentage of that observation within the disturbance footprint. Based on this calculation, approximately 2,604 individuals will be impacted by construction of the Facility. This amounts to approximately 7 percent of the individuals documented within the areas surveyed. However, as noted above, the number of plants documented during surveys likely underestimates the number of existing plants. Therefore, the estimate of 7 percent likely overestimates the percent of individuals affected as many of these observations extended beyond the area surveyed.

As noted in Section 4.2, the current range-wide population estimate for Laurence's milkvetch is approximately 46,530 individuals. Impacts to approximately 2,604 individuals from construction of the Facility will amount to impacts of approximately 6 percent of the range-wide population of Laurence's milkvetch. Similarly, impacts to approximately 48 acres of occupied Laurence's milkvetch habitat from construction and operation of the Facility will result in impacts to approximately 5 percent of the estimated 997 acres of occupied habitat range-wide.

6.0 Proposed Minimization and Mitigation Measures

6.1 Minimization Measures

In order to minimize impacts to individuals of Laurence's milkvetch, the Certificate Holder will implement the following minimization measures, in consultation with ODOE and ODA.

Flag and Avoid

- The Certificate Holder will minimize the disturbance footprint in areas of occupied Laurence's milkvetch habitat, to the extent possible.
- The construction footprint will be flagged and vehicles and personnel will be kept within the construction disturbance limits.
- Any non-emergency maintenance within or adjacent to known occupied Laurence's milkvetch habitat will be conducted during the spring or fall to avoid impacts to flowering and fruiting plants, as well as to pollinators during flowering.
- An on-site construction monitor will inform construction crews of the minimization measures applicable to these plant occurrences prior to crews conducting work in this area. The construction monitor will visit this area daily during construction to review compliance with these measures.

Noxious Weed Control

- Noxious weeds and invasive plant species are listed as a threat to this species by ODA (2023) and the Oregon Department of Fish and Wildlife (ODFW 2023). Control of noxious weeds in the areas to be revegetated within and adjacent to occupied Laurence's milkvetch habitat will follow the Noxious Weed Control Plan developed for the Facility (Tetra Tech 2023b). Special considerations for weed control adjacent to occupied habitat includes prioritizing mechanical treatment methods. If herbicides are used, the manufacturer's guidelines will be followed to establish a buffer area around confirmed individuals of Laurence's milkvetch in which herbicides must not be used.
- Vehicle wash stations—including a pressure washer and water tank—will be placed in proximity to main access points to occupied Laurence's milkvetch habitat to minimize the introduction of noxious weeds or other invasive plant species by construction vehicles. Vehicles will be washed prior to entering these areas.

Soil Salvage, Seedbank Preservation, and Fugitive Dust Control

- During construction of temporary features, the Certificate Holder will excavate and store soils by soil horizon, so that soils can be replaced and restored appropriately including replacing topsoil on the surface as described in the Revegetation Plan (Tetra Tech 2023a). This will not only help preserve the soil seedbank of Laurence's milkvetch but will also allow for soil conditions favorable for germination of Laurence's milkvetch and other native plant species, as well as provide soil conditions conducive to revegetation efforts.
- Areas temporarily disturbed by construction will be revegetated as specified in the revegetation plan prepared for the Facility (Tetra Tech 2023a).
- Water trucks will be used during construction to limit the amount of fugitive dust per the Facility's National Pollutant Discharge Elimination System 1200-C permit. Fugitive dust could affect photosynthesis, respiration, transpiration, and reproduction, which could negatively impact productivity of Laurence's milkvetch and possibly the structure of the plant community within its habitat (Farmer 1993, Trombulak and Frissell 2000).

6.2 Mitigation Measures

As noted above, due to the extensive size and locations of the Laurence's milkvetch occurrences documented during surveys for the Facility, flagging and avoidance of all individuals in these occurrences is not feasible. Therefore, the Certificate Holder will fund ODA to implement the measures summarized below in Sections 6.2.1-6.2.3 and detailed in Appendix A (developed by ODA) to mitigate for the unavoidable impacts to Laurence's milkvetch. These mitigation measures were developed in consultation with ODOE and ODA and informed by the success of the Laurence's milkvetch mitigation efforts associated with Wheatridge West (Appendix A³; Sloan and Brown

³ Appendix A reflects a preliminary estimate of proposed impacts to 3,030 Laurence's milkvetch plants; this estimate was reduced prior to finalization of this Plan and thus the impacts described in text here reflect the updated, reduced number of impacted plants compared to Appendix A.

2023). These measures were developed based on estimated impacts prior to construction. The final mitigation measures and funding agreement with ODA will reflect actual impacts to Laurence's milkvetch that occur during Facility construction.

6.2.1 Mitigation

1. Seed collection, banking & associated research

- 1.1. Multiple years (2+) of seed collection from the plants and population being impacted.
- 1.2. Seed banking and long-term storage of seeds at the regional conservation seed bank (Rae Selling Berry Seed Bank) for use in future recovery and research.
- 1.3. Financially sponsoring the long-term storage of seeds of each species at the regional seed bank for at least 10 years.
- 1.4. Research to assess wild-produced seed quality and viability, and compare that to the viability of old stored seed to inform a seed banking conservation strategy that accounts for declines in seed longevity over time.

2. Plant re-establishment & associated research

- 2.1. Research introduction techniques, including refining germination and cultivation methods as needed; introductions will occur on temporarily impacted areas (and/or unimpacted areas) and offsite on permanently protected property.
- 2.2. Seed introductions using a variety of methods including basic seed dispersal, assisted seed sowing with special planting and site preparation methods, and treated-seed sowing using seeds pre-treated for germination (e.g., scarified, imbibed, and/or treated with the germination encouraging hormones potassium nitrate and gibberellic acid).
- 2.3. Transplant introductions may be employed using a variety of methods; plants can be grown in different conditions, planted in either fall or spring, and include a variety of supplemental watering.
- 2.4. Research the effectiveness of plant establishment techniques by monitoring survival, growth, and reproduction.

3. Monitoring

- 3.1. Monitor impacted natural populations or plants to observe post-impact conditions and recovery; this can include photo point monitoring, repeatable plant counts, and the collection of other basic population monitoring information.
- 3.2. Monitor introduced plants or populations to document performance (see 2.3. above).
- 3.3. Periodic monitoring may continue for up to 5-10 years.

6.2.2 *Success Criteria*

Proposed success criteria are provided below. These success criteria reflect anticipated impacts and thus may be adjusted (e.g., number of seeds banked) to reflect and mitigate for actual impacts to Laurence's milkvetch that occur during Facility construction.

1. Collecting at least 50,000 Laurence's milkvetch seeds to bank 20,000 in long-term storage at Rae Selling Berry Seed Bank for use in future research and recovery.
2. Completing a seed banking conservation strategy for Laurence's milkvetch that presents and incorporates seed viability testing results from this mitigation and helps account for decreasing seed longevity over time.
3. Introducing thousands of Laurence's milkvetch propagules, prioritizing seeds but also including transplants, to establish more plants in the wild; the intent is to establish plants in place of those eliminated during construction.
4. Introducing and/or augmenting a population on protected public lands.
5. Completing a Laurence's milkvetch introduction summary report that presents seeding and transplant methods, monitoring results, and recommendations for future introduction efforts.
6. Compiling a monitoring report focused on site and population conditions following construction to address the effectiveness of our avoidance, minimization, and mitigation efforts.

6.2.3 *Schedule*

The planned schedule for implementation of mitigation measures is provided below. This schedule includes contingencies in case environmental factors or unforeseen circumstances interfere with the proposed timeline. Therefore, this schedule may be adjusted, and effort reduced, if initial efforts (e.g., of seed collection) are successful and therefore subsequent efforts are not needed to meet success criteria.

- YEAR 1 – Seed collection site scouting and plant bagging (to catch dropping fruits), seed collection, collection site documentation, seed cleaning, seed accessioning (seed bank submission), seed viability testing of banked seed and year zero seed, and initiating long-term storage.
- YEAR 2 – Seed collection site scouting and plant bagging, second round seed collections, collection site documentation, seed cleaning, seed accessioning, seed viability testing of new year zero and year 1 seed, and draft or revise species-specific seed banking strategy recommendations (based on seed longevity).
- YEAR 3 – Draft reintroduction trial plans, introduction site selection, additional seed collection contingency (if needed), seed pre-treatments, seed introductions, and preliminary reporting on introduction protocols.
- YEAR 4 – Conduct germination and cultivation trials, transplant care, monitor seed introductions from year 3, data entry, preliminary analysis, and reporting, introduction of second round of seeds and transplanting trials.
- YEAR 5 – Final round of seed viability testing, monitoring introductions from years 3 and 4, data entry, analysis and reporting.

7.0 Conclusion

Based on the impact analysis, and considering the minimization and mitigation measures proposed, impacts to Laurence's milkvetch from construction and operation of the Facility are not expected to lead to the entire loss of any documented occurrence. Most of the occurrences that are proposed to be impacted span large portions of the microsite corridor (making full avoidance infeasible) and extend beyond the limits of disturbance; thus, these occurrences are anticipated to persist following construction. In addition, the permanent Facility infrastructure (e.g., roads, turbine foundations) are not expected to be a barrier to pollinators, which Laurence's milkvetch is dependent on to produce seeds (ODA 2023).

Several of the previously documented large, known occurrences of this species are along public roads and highways (Table 1; ORBIC 2022, Figure Q-7 in Exhibit Q). These known occurrences are exposed to continued disturbance associated with traffic and road maintenance, yet continue to persist. This indicates that this species is likely able to tolerate disturbances associated with road building and road maintenance activities, similar to the activities associated with construction and operation of the Facility.

Construction and operation of the Facility will not affect six of the occurrences documented during surveys for the Facility or the other known range-wide occurrences of this species. Additionally, identification of the 37,426 Laurence's milkvetch plants during surveys for the Facility have added significantly to the known range-wide population of this species. Since the original analysis was conducted for the Wheatridge West Exception Request in 2020, the range-wide estimate has increased by more than a factor of five due primarily to surveys for the Facility, even considering plants removed during construction of Wheatridge West. While construction of the Facility will destroy individuals of this species, it would not cause a significant reduction in the likelihood of survival or recovery of the species range-wide, and the proposed mitigation measures will promote the conservation of the impacted occurrences and the species range-wide. Therefore, the Facility meets the Threatened and Endangered Species Standard at Oregon Administrative Rule 345-022-0070.

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**Appendix A. Oregon Department of
Agriculture's Wheatridge East REF
Impacts and Mitigation Planning for
Lawrence's Milkvetch**

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Wheatridge East REF Impacts and Mitigation Planning for Lawrence's milkvetch
Oregon Department of Agriculture Native Plant Conservation Program (ODA)
November 2023

Project impacts and context

About 389 Lawrence's milkvetch (*Astragalus collinus* var. *laurentii*; ASCOLA) patches, containing approximately 37,426 plants, were detected and grouped into 14 occurrences total in the project area. These populations, which we had no record of, bridge a previous gap in the geographic range of the species and provide a more thorough understanding of the plant.

Of the ~500+ acres of ASCOLA detected in the project boundary they expect to impact under 50 acres: ~43 acres of temporary impacts ~5 acres of permanent impacts. The specific number of plants proposed for impact is 3,030, which includes 2,716 plants in temporarily disturbed areas and 314 plants in permanent impact areas.

Post-survey adjustments to micro-siting avoided ~10 of the original ~60 acres mapped for impact.

Investing in noxious weed control and prevention efforts will be important for protecting what is reported to be mostly high-quality habitat that may still be somewhat resilient to the physical disturbances.

Mitigation plans

In addition to the applicant and developers following standard avoidance and minimization efforts, Oregon Department of Agriculture Native Plant Conservation Program, supported by mitigation funding, will work to compensate for the losses and impacts associated with the project by enacting the following conservation and recovery actions. Seed collection and long-term storage at the regional conservation seed bank will conserve the unique genetic diversity present in occurrences that will be impacted. Maternal-line seed collections for research will be accessioned along with bulk seed for general recovery actions; banked seeds will be critical for future research and recovery efforts. Seed source populations will be permanently documented via herbarium specimen collection. Seed viability testing will be conducted on seeds of different ages and length of time in storage to understand the limits of banked seed longevity. Results will be synthesized in a seed banking planning document (or revision) that provides species-specific recommendations for seed banking timelines. Research on the introduction of seeds will be conducted to investigate our ability to establish plants in the wild and successful techniques will help replace the losses resulting from the development while also informing future recovery-based introductions; transplants may be included in the

research as well. Preparations for treated-seed sowing and transplant production would entail germination and cultivation trials to help refine existing methods and better understand factors affecting germination and growth. Monitoring the natural and introduced populations is essential for understanding the long-term effectiveness of our minimization and mitigation efforts and will provide context to guide improved protocols in the future.

Seed collection and banking will focus on about 3-4 major concentrations of plants across the impacted areas. Seeds do not need to be collected from the plants that will be eliminated during the project, so construction can begin before seed collection; adjacent plants are expected to sufficiently represent the unique genetic diversity of the impacted occurrences. Property access for ODA through all stages of work needs to be coordinated by NextEra and pre-approved by the private property owner in writing. To acquire about 20,000 viable seeds for banking, many more seeds need to be collected to account for underdeveloped seeds (previously >15%) and seeds that don't germinate (previously between 50-80% of fully developed seed).

Suitable introductions sites will include temporarily impacted and/or undisturbed occupied areas within the project area (known to be suitable for ASCOLA) and suitable offsite areas. In addition to prioritizing nearby public lands, a NextEra mitigation property in the region will be considered.

1. Seed collection, banking & associated research

- 1.1. Multiple years (2+) of seed collection from the plants and population being impacted.
- 1.2. Seed banking and long-term storage of seeds at the regional conservation seed bank (Rae Selling Berry Seed Bank) for use in future recovery and research.
- 1.3. Financially sponsoring the long-term storage of seeds of each species at the regional seed bank for at least 10 years.
- 1.4. Research to assess wild-produced seed quality and viability, and compare that to the viability of old stored seed to inform a seed banking conservation strategy that accounts for declines in seed longevity over time.

2. Plant re-establishment & associated research

- 2.1. Research introduction techniques, including refining germination and cultivation methods as needed; introductions will occur on temporarily impacted areas (and/or unimpacted areas) and offsite on permanently protected property.
- 2.2. Seed introductions using a variety of methods including basic seed dispersal, assisted seed sowing with special planting and site preparation methods, and treated-seed sowing using seeds pre-treated for germination (e.g., scarified, imbibed, and/or treated with the germination encouraging hormones potassium nitrate and gibberellic acid).



- 2.3. Transplant introductions may be employed using a variety of methods; plants can be grown in different conditions, planted in either fall or spring, and include a variety of supplemental watering.
- 2.4. Research the effectiveness of plant establishment techniques by monitoring survival, growth, and reproduction.

3. Monitoring

- 3.1. Monitor impacted natural populations or plants to observe post impact conditions and recovery; this can include photo point monitoring, repeatable plant counts, and the collection of other basic population monitoring information.
- 3.2. Monitor introduced plants or populations to document performance (see 2.3. above).
- 3.3. Periodic monitoring may continue for up to 5-10 years.

Success criteria

1. Collecting at least 50,000 ASCOLA seeds to bank 20,000 in long-term storage at Rae Selling Berry Seed Bank for use in future research and recovery.
2. Completing a seed banking conservation strategy for ASCOLA that presents and incorporates seed viability testing results from this mitigation and helps account for decreasing seed longevity over time.
3. Introducing thousands of ASCOLA propagules, prioritizing seeds but also including transplants, to establish more plants in the wild; the intent is to establish plants in place of those eliminated during construction.
4. Introducing and/or augmenting a population on protected public lands.
5. Completing an ASCOLA introduction summary report that presents seeding and transplant methods, monitoring results, and recommendations for future introduction efforts.
6. Compiling a monitoring report focused on site and population conditions following construction to address the effectiveness of our avoidance, minimization, and mitigation efforts.

Approximate mitigation timeline

Contingencies need to be included in the project agreement in case environmental factors or unforeseen circumstances interfere with the proposed timeline.

YEAR 1 – Seed collection site scouting and plant bagging (to catch dropping fruits), seed collection, collection site documentation, seed cleaning, seed accessioning (seed bank submission), seed viability testing of banked seed and year zero seed, and initiating long-term storage.

YEAR 2 – Seed collection site scouting and plant bagging, second round seed collections, collection site documentation, seed cleaning, seed accessioning, seed viability testing of new year zero and year 1 seed, and draft or revise species-specific seed banking strategy recommendations (based on seed longevity).



YEAR 3 – Draft reintroduction trial plans, introduction site selection, additional seed collection contingency (if needed), seed pre-treatments, seed introductions, and preliminary reporting on introduction protocols.

YEAR 4 – Conduct germination and cultivation trials, transplant care, monitor seed introductions from year 3, data entry, preliminary analysis, and reporting, introduction of second round of seeds and transplanting trials.

YEAR 5 – Final round of seed viability testing, monitoring introductions from years 3 and 4, data entry, analysis and reporting.

Specific seed collection location priorities

Seed collections, and perhaps reintroductions too, may be spread across the project area.

1. The western Milk Canyon to Gleason Butter population concentration
2. The central Dry Morris Canyon, Morris Canyon, and Morris Butter population concentration
3. The southern Ayers Canyon population concentration
4. The eastern Dry Ayers Canyon population concentration

