

Exhibit K

Land Use

Sams Valley Reinforcement Projects December 2017

Prepared for



PacifiCorp

Prepared by



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Acronyms and Abbreviations

BLM	U.S. Bureau of Land Management
BMP	Best Management Practice
CRMMP	Cultural Resources Mitigation and Monitoring Plan
EFSC	Energy Facility Siting Council
EFU	Exclusive Farm Use
ESCP	Erosion and Sediment Control Plan
IEEE	Institute of Electrical and Electronics Engineering
IRP	Integrated Resource Plan
JACP	Jackson County Comprehensive Plan
JOCP	Josephine County Comprehensive Plan
JDC	Josephine County Rural Development Code
LDO	Jackson County Land Development Code
kV	kilovolt
LCDC	Land Conservation and Development Commission
NEPA	National Environmental Policy Act
NERC	North American Electric Reliability Corporation
NPDES	National Pollutant Discharge Elimination System
NRHP	National Register of Historic Places
OAR	Oregon Administrative Rule
ODFW	Oregon Department of Fish and Wildlife
ORS	Oregon Revised Statutes
PacifiCorp	PacifiCorp dba Pacific Power
Project	Sams Valley Reinforcement Projects
PUC	Public Utility Commission of Oregon
RFA4	Written Request for Amendment #4 Eugene–Medford 500 kV Transmission Line
SHPO	State Historic Preservation Office
UFC	Unified Facilities Criteria
WECC	Western Electricity Coordinating Council

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1.0 Introduction

Exhibit K was prepared to meet the submittal requirements for the Sams Valley Reinforcement Projects (Project), per Oregon Administrative Rule (OAR) 345-021-0010(1)(k), related to compliance with statewide planning goals for land use. To issue a site certificate, the Energy Facility Siting Council (EFSC or Council) must find that the Project complies with Oregon's Statewide Planning Goals adopted by the Land Conservation and Development Commission (LCDC), and generally implemented through local land use ordinances. In this Request for Amendment No. 4, PacifiCorp dba Pacific Power (PacifiCorp) seeks to expand the EFSC-certificated facility boundary to include the Grants Pass-Sams Valley Transmission Line and the Sams Valley Substation. The analysis in this exhibit focuses on the Project described in *Written Request for Amendment #4 Eugene-Medford 500 kV Transmission Line* (RfA4) except as noted in Section 3.

PacifiCorp has elected to seek a EFSC determination of compliance under Oregon Revised Statute (ORS) 469.504(1)(b). Under this election, RFA4 complies with EFSC's land use standard if the EFSC determines:

ORS 469.504(1)(b)(A) The facility complies with applicable substantive criteria from the affected local government's acknowledged comprehensive plan and land use regulations that are required by the statewide planning goals and in effect on the date the application is submitted, and with any Land Conservation and Development Commission administrative rules and goals and any land use statutes that apply directly to the facility under ORS 197.646;

ORS 469.504(1)(b)(B) For an energy facility or a related or supporting facility that must be evaluated against the applicable substantive criteria pursuant to subsection (5) of this section, that the proposed facility does not comply with one or more of the applicable substantive criteria but does otherwise comply with the applicable statewide planning goals, or that an exception to any applicable statewide planning goal is justified under subsection (2) of this section; or

ORS 469.504(1)(b)(C) For a facility that the council elects to evaluate against the statewide planning goals pursuant to subsection (5) of this section, that the proposed facility complies with all applicable statewide planning goals or that an exception to any applicable statewide planning goal is justified under subsection (2) of this section.

Exhibit K demonstrates the Project's compliance with the applicable substantive criteria from the applicable comprehensive plans and zoning codes for the jurisdictions containing the Project (Section 5.2). Exhibit K demonstrates the Project's compliance with the LCDC administrative rules and goals, and any land use statutes directly applicable to the Project (Section 5.3). To the extent that the EFSC finds it is necessary to allow improved access roads outside of the Project Boundary, Exhibit K also demonstrates that an exception to statewide planning Goal 4, Forest Lands, is justified under ORS 469.504(2) (Section 5.4). In addition, Exhibit K demonstrates consistency with

applicable federal land management plans (Section 6). Finally, Exhibit K provides evidence upon which EFSC may find that the proposed Project meets OAR 345-022-0030.

2.0 Site Certificate Condition Compliance

PacifiCorp recommends the following new conditions for this resource:

- **Land Use Condition 1:** During construction in Josephine County, PacifiCorp shall develop a traffic management plan that includes traffic control measures to mitigate the effects of Project construction traffic and provide the same to the Josephine County Public Works Department. PacifiCorp shall conduct all work in compliance with the traffic management plan.
- **Land Use Condition 2:** PacifiCorp will prepare a wildfire mitigation plan in coordination with the fire district with jurisdiction: Jackson County Fire District #3, Rural Metro Fire in Grants Pass, Rogue River Fire District #1, and the Grants Pass Fire/Rescue within the Department of Public Safety. This plan will detail how PacifiCorp will prevent, respond to, and manage fire risk during the Project's construction and operation. Specific measures and precautions will be taken on forest lands to address fire risks.
- **Land Use Condition 3:** Prior to initiating development, PacifiCorp shall obtain a commercial road approach permit from Jackson County Roads.
- **Land Use Condition 4:** Prior to initiating development, PacifiCorp shall contact Permit Specialist Roger Allemand at 541-774-6360 to obtain any miscellaneous (utility) permits that may be needed for construction within ODOT right-of-way (Hwy. 234).
- **Land Use Condition 5:** During construction in Jackson County, PacifiCorp shall develop a traffic management plan that includes traffic control measures to mitigate the effects of Project construction traffic and provide the same to the Jackson County Roads Department. PacifiCorp shall conduct all work in compliance with the traffic management plan.
- **Land Use Condition 6:** A 50-foot primary fuel break must be developed and maintained around the perimeter of the Sams Valley Substation development envelope.
- **Land Use Condition 7:** PacifiCorp will include a written statement that will be recorded prior to construction that recognizes the rights of adjacent and nearby land owners to conduct forest operations consistent with the Forest Practices Act and Rules in accordance with OAR 660-006-0025(5).
- **Land Use Condition 8:** Prior to initiating development, PacifiCorp will file and receive a determination from the Oregon Department of Aviation as required by OAR 738-070-0060 on FAA Form 7460-1 Notice of Proposed Construction or Alteration to determine if this development will pose a hazard to aviation safety. A subsequent submittal to the FAA may also be required. In addition, a basic site plan showing the location of the substation in

relation to the Medford airport will be needed to help assess land use compatibility relative to the airport, specifically to help identify any structures that may interfere with aircraft operations.

- **Land Use Condition 9:** If temporary filling or grading is necessary in a mapped floodplain, PacifiCorp will demonstrate to the Jackson County Floodplain Administrator that the temporary improvements (grading) in the floodplain will not increase floodplain on adjacent properties, increase erosive velocity, or reduce slope stability.

3.0 Land Use Analysis Area – OAR 3450-021-0010 (1)(k)(A)

OAR 3450-021-0010 (1)(k) Information about the proposed facility's compliance with the statewide planning goals adopted by the Land Conservation and Development Commission, providing evidence to support a finding by the Council as required by OAR 345-022-0030. The applicant shall state whether the applicant elects to address the Council's land use standard by obtaining local land use approvals under ORS 469.504(1)(a) or by obtaining a Council determination under ORS 469.504(1)(b). An applicant may elect different processes for an energy facility and a related or supporting facility but may not otherwise combine the two processes. Once the applicant has made an election, the applicant may not amend the application to make a different election. In this subsection, "affected local government" means a local government that has land use jurisdiction over any part of the proposed site of the facility. In the application, the applicant shall:

OAR 3450-021-0010 (1)(k)(A) Include a map showing the comprehensive plan designations and land use zones in the analysis area.

Figures K-1, K-2, and K-3 show the comprehensive plan designations and land use zones in the Analysis Area. According to OAR 345-001-0010 (59)(c), for the purposes of addressing applicable substantive criteria from Josephine and Jackson counties and the City of Rogue River, the Analysis Area consists of the Project Site Boundary and the area within 0.5 miles of the Site Boundary.

4.0 Local Land Use Approval – OAR 3450-021-0010 (1)(k)(B)

OAR 3450-021-0010 (1)(k)(B) If the applicant elects to obtain local land use approvals:

(i) Identify the affected local government(s) from which land use approvals will be sought.

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

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

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

PacifiCorp elects to obtain land use approvals directly from EFSC.

5.0 EFSC Determination on Land Use – OAR 3450-021-0010 (1)(k)(C)

PacifiCorp elects to address EFSC’s land use standard by obtaining an EFSC determination under ORS 469.504(1)(b) and OAR 345-021-0010(1)(k)(C). EFSC’s rules state, as noted in the following sections, that in seeking EFSC’s land use approval, PacifiCorp must identify the “applicable substantive [land use] criteria” of the relevant local governments and must describe how the proposed facility complies with those criteria, as well as any LCDC rules, goals, or land use statutes that apply directly to the Project under ORS 197.646(3). If PacifiCorp cannot demonstrate compliance with one or more of the applicable substantive criteria, they must describe how the proposed Project complies with the Statewide Planning Goals adopted by the LCDC or, alternatively, warrants a goal exception (OAR 345-021-0010(1)(k)). This exhibit demonstrates that the Project complies with the majority of the applicable local substantive criteria from the comprehensive plans and zoning codes for the jurisdictions in which the Project is located. This exhibit also demonstrates, and that where the Project does not meet an applicable criterion or Statewide Planning Goal, EFSC should approve a goal exception to the extent the Project cannot comply with an applicable criterion, as permitted by ORS 469.504(1)(b)(B). PacifiCorp is requesting a Goal 4 exception for access road improvements on forest lands. Note that a land use application for the proposed substation addressing ORS 215.275 was filed in Jackson County on November 9, 2016, prior to the Oregon Department of Energy (ODOE) August 15, 2017 jurisdictional determination. That application was appealed locally in June of 2017 and an appeal hearing was held before a Jackson County hearings officer on September 11, 2017. As of the date of this site certificate amendment Application, the County has yet to issue a final decision on the Application.

Oregon law provides that once an applicant for an EFSC site certificate application elects to have EFSC review the land use elements of the project, EFSC has exclusive jurisdiction of those elements. The operative statute, ORS 469.405(2) explains:

Notwithstanding ORS 34.020 or 197.825, or any other provision of law, the land use approval by an affected local government of a proposed amendment to a facility and the recommendation of the special advisory group of applicable substantive criteria shall be subject to judicial review only as provided in ORS 469.403. If the applicant elects to show compliance with the statewide planning goals by demonstrating that the facility has received local land use approval, the provisions of this section shall apply only to proposed projects for which the land use approval by the local government occurs after the date an application for amendment is submitted to the State Department of Energy.

Thus, since Jackson County has yet to make a final land use decision on the application for the Sams Valley Substation, the Council may review the proposed substation's compliance with the applicable statewide planning goals.

5.1 Utility Facilities Necessary for Public Service

ORS 215.283(1): The following uses may be established in any area zoned for exclusive farm use: (c) Utility facilities necessary for public service, including wetland waste treatment systems but not including commercial facilities for the purpose of generating electrical power for public use by sale or transmission towers over 200 feet in height. A utility facility necessary for public service may be established as provided in: (A) ORS 215.275; or . . .

ORS 215.275: (1) A utility facility established under ORS 215.213 (1)(c)(A) or 215.283 (1)(c)(A) is necessary for public service if the facility must be sited in an exclusive farm use zone in order to provide the service. (2): To demonstrate that a utility facility is necessary, an applicant for approval under . . . ORS 215.283 must show that reasonable alternatives have been considered . . .

Where the Project crosses or is on land zoned as Exclusive Farm Use (EFU)¹, PacifiCorp must address the statutory standards for a “utility facility necessary for public service.” The counties’ zoning code provisions regarding such facilities are also addressed herein although the County provisions cannot impose requirements that are stricter than ORS 215.283(1) consistent with *Brentmar v. Jackson County*. (See Section 5.2). The uses listed in ORS 215.283(1) must be reviewed exclusively under the provisions of those statutes as uses permitted outright (versus prohibited or conditionally allowed uses). The “necessary for public service” language in ORS 215.283(1)(d) is a statutory requirement that a utility facility not be sited on EFU-zoned lands unless the county (or in this case, EFSC) finds that it is “necessary to situate the facility in the agricultural zone in order for the service to be provided.” ORS 215.275(2) provides a common framework to determine whether the Project is “necessary” as a matter of land use law, which includes, as a threshold matter, to demonstrate that PacifiCorp considered reasonable alternatives to siting the Project within an EFU zone.

The prior Jackson County land use application included a detailed alternatives analysis required by ORS 215.275(2) for the Sams Valley Substation. Such application did not include the transmission line. Prior to submitting application, PacifiCorp conducted an alternatives analysis of some 19 alternative sites as required by the US Army Corps of Engineers (USACE) and Oregon Department of State Lands (DSL) for a joint Clean Water Act/Removal Fill permit. The preferred location for the substation was noted as “Site 1.” Of these 19 sites, sites 11-13, and 15-19 are located in non-EFU zones and were analyzed under the ORS 215.275(2) factors. An additional site, Site 20, was also analyzed when project opponents argued that it met the other alternative site selection parameters which led PacifiCorp to analyze sites 1-19. PacifiCorp’s comprehensive ORS 215.275(2)

¹ The Project only crosses or is on EFU-zoned land in Jackson County. See Section 5.2.

alternatives analysis, originally submitted as part of its Jackson County permit process, is appended here as Attachment K-1, and a number of excerpts of that analysis are used herein to demonstrate compliance with ORS 215.275.

5.1.1 PacifiCorp's Planning and Public Service Obligation (Project Need)

An applicant or site certificate holder's objectives or the Project Need may inform the scope of alternatives that are considered "reasonable" for purposes of the ORS 215.275(2). The Project Need is explained in detail in RfA4 and Exhibit N. Every 2 years, the Public Utility Commission of Oregon (PUC) requires all energy utilities to file a long-term resource plan, called an Integrated Resource Plan (IRP). The purpose of the IRP is to help to assure the PUC that utilities engage in careful resource planning.

PacifiCorp's 2017 IRP includes the company's estimate of future energy needs, its analysis of the resources available to meet those needs, and the activities required to secure those resources. The IRP lays out the company's plans to provide reliable and reasonably priced service to its customers. The analysis supporting this plan helps PacifiCorp, its regulators, and its customers understand the effects of both near-term and long-term resource decisions on customer bills, the reliability of electric service PacifiCorp customers receive, and changes to emissions from the generation sources used to serve customers. In the 2017 IRP, PacifiCorp presents a cost-conscious plan to transition to a cleaner energy future with near-term investments in both existing and new renewable resources, new transmission infrastructure, and energy efficiency programs (PacifiCorp 2017).

Planning standards developed by the North American Electric Reliability Corporation (NERC) define reliability of the interconnected bulk electric system in terms of adequacy and security. Adequacy is the electric system's ability to meet aggregate electrical demand for customers at all times. Security is the electric system's ability to withstand sudden disturbances or unanticipated loss of system elements. Increasing transmission capacity often requires redundant facilities in order to meet NERC reliability criteria. In consideration of NERC planning standards and to meet the transmission demand potential, PacifiCorp conducts annual system assessments to confirm minimum levels of system performance during a wide range of operating conditions, from serving loads with all system elements in service to extreme conditions where portions of the system are out of service. Factored into these assessments are load growth forecasts, operating history, seasonal performance, resource additions or removals, new transmission asset additions, and the largest transmission and generation contingencies. Based on these analyses, PacifiCorp identifies any potential system deficiencies and determines the infrastructure improvements needed to reliably meet customer loads.

The PacifiCorp 2017 IRP identifies the new 500/230-kilovolt (kV) Sams Valley Substation as a necessary project to meet future load growth needs (PacifiCorp 2017). The modeling also indicates that the current system requires redundant paths of power in the region. Specifically, system modeling indicates that a new 500 kV/230 kV substation, which connects a new 230 kV line to the existing 500 kV Dixonville–Meridian line, is necessary to increase capacity and improve reliability

in the region. If any of the existing transmission lines in Josephine and Jackson counties that provide cross-basin service were to fail—including the 230 kV Grants Pass–Dixonville line, 230 kV Meridian–Whetstone line, and 230 kV Meridian–Lone Pine No. 1 and No.2 lines—other transmission lines in the system would become overloaded, leading to potential additional line failures, a loss of supply to existing substations, and significant load shedding (i.e., the need to drop customers). In order to prevent such failures, PacifiCorp has determined that a new substation, located at the intersection of a new 230 kV line and the existing 500 kV Dixonville–Meridian line, is necessary for reliable public service.

5.1.2 Reasonable Alternatives

5.1.2.1 Transmission Line Alternatives Analysis

For the proposed Grants Pass–Sams Valley Transmission Line, PacifiCorp made reasonable efforts to identify alternative sites that are not zoned EFU. This led to the consideration of three transmission line alternatives:

- **The Preferred Alternative:** The alternative ultimately selected for the Project, the Preferred Alternative consists of a new 230 kV transmission line running east from the existing Grants Pass Substation in Josephine County, near Grants Pass, terminating at a new 500/230 kV substation in Jackson County, Oregon, north of Medford. The new transmission line will be approximately 18 miles long and will be constructed as a double circuit that will also carry the existing 115 kV line. Since this alternative follows the existing transmission line route, it will only require 35 feet of right-of-way expansion to accommodate the larger circuits.
- **Alternative 2:** A new 230 kV transmission line with a new 100-foot right-of-way corridor with and additional width up to 25 feet, as needed for hazardous vegetation conditions, with the same termini as the Preferred Alternative, and approximately the same length; but adjacent to the existing 115 kV line’s 100-foot right-of-way corridor; and
- **Alternative 3:** A new 230 kV transmission line with a -foot right-of-way corridor with and additional width up to 25 feet, as needed for hazardous vegetation conditions, south of the Proposed Alternative, adjacent to the Rogue River. It would have the same termini as the Preferred Alternative.

None of these alternatives were able to avoid crossing EFU-zoned land, as shown on Figure K-2. The transmission line needs to connect the Grants Pass Substation with the existing 500 kV line at a new substation. Given the location of these existing public utility components, surrounding EFU zoning, and right-of-way width requirements to meet safety standards, there is no route between the two that can completely avoid EFU-zoned land. Although per ORS 215.275, the focus of the alternative site analysis is on non-EFU land, the alternative routes were also evaluated and compared in terms of potential development constraints related to public services and infrastructure, land use and ownership, and hydrologic, biological, and cultural/archeological resources within the Project’s vicinity. Because both Alternatives 2 and 3 would require a new 100-125-foot corridor, they would

both result in greater impacts on EFU-zoned land. In addition, siting the transmission line in an existing utility corridor will minimize the dividing of farmed lots and the introduction of a new use on agricultural lands. Therefore, the Preferred Alternative, as the proposed transmission line route that utilizes the existing right-of-way will have the lowest potential for impacts to EFU-zoned land.

5.1.2.2 Substation Alternatives Analysis

PacifiCorp completed a substation alternatives analysis for the Project to identify potential substation sites and determine the most reasonable alternative in terms of cost, logistics, and environmental impacts. In so doing, it identified eight potential alternative sites that have non-EFU zoning. These sites were included in the site evaluation based on their ability to meet the following design and siting criteria:

- **Design:** The new substation must be 500 kV/230 kV to provide a means of interconnection for a new 230 kV line and the existing 500 kV Dixonville–Meridian line. In addition, the minimum substation footprint (size, shape, and configuration) of 20 acres is predetermined by required clearances and terminations, and cannot be modified to fit into smaller or narrower, oddly-shaped parcels. The proposed substation has been designed to fit into the smallest footprint possible and there are no additional design changes that will result in a smaller substation footprint.
- **Security:** A new substation that interconnects a new 230 kV line and the existing 500 kV Dixonville–Meridian line is necessary to meet the security and redundancy recommendations of NERC and the Western Electricity Coordinating Council (WECC). System modeling indicates that concentration or expansion of existing substations is not feasible. Co-locating the new 500/230 kV substation with the existing Meridian or Whetstone substations (i.e., immediately adjacent and connected to one of the existing substations) would result in greater system risks when compared to a separate facility, and is not recommended. Therefore, co-location of the new substation with existing substations is undesirable.
- **Location:** Reasonable alternatives were considered within 1 mile of the existing 500 kV and 115kV transmission line corridors. These corridors run parallel to each other between the proposed Sams Valley site and Agate Road, just west of White City, Oregon, where the transmission lines diverge. If the substation is not located directly underneath the intersection of the existing 500 kV and the new 230 kV, additional “tap line” connections would be necessary between the substation and the 500 kV/230 kV lines. A “tap line” is a connection line that begins at the transmission line and then connects that transmission line into the substation. The farther the interconnecting transmission line resides from the substation, the longer the tap line. Any new section of 500 kV line right-of-way requires 250 feet of width, and the 230 kV right-of-way requires 125 feet of width. These connecting tap lines would require a new right-of-way acquisition for the connection distance from the substation to their respective line locations (the distance is dependent upon the location and alignment of the substation). This would result in substantially higher construction

costs, additional impacts due to added line length, and increased right-of-way acquisitions and displacement of developed land uses. In addition, tap lines would require additional permits, approvals, and easements that would introduce further uncertainty and challenges to the Project. Moreover, where owners are unwilling to sell property necessary for tap lines, PacifiCorp's condemnation power is likely insufficient to obtain such tap line rights-of-way, pursuant to ORS 772.210(1)(b).² For these reasons, sites located more than 1 mile from the existing 500 kV corridor were considered unreasonable per the PUC requirements for ensuring reasonable costs to the rate payers, and were excluded from consideration in this analysis. In addition, sites that are located on currently developed properties (e.g., residential or industrial structures present) or within the designated 100-year floodplain were excluded from consideration.

These sites are shown on Figure K-4, and are discussed below.

- **Site 11:** Jackson County zoning for this site is Aggregate Removal (AR), which as explained below in Section 5.3.2 would not allow a substation. Site 11 fails to satisfy the locational needs of the proposed substation because it is located away from the intersection of the existing 500 kV line and proposed 230 kV line. The site does not meet the criterion of siting within an existing right-of-way, as the 230 kV line would need to be extended 3.73 miles compared to Site 1 (the proposed site for the Sams Valley Substation). Additionally, Site 11 has the potential to disturb 20 acres of wetlands, and has the likely presence of vernal pool habitat, which is suitable habitat for vernal pool fairy shrimp.
- **Site 12:** Jackson County zoning for this site is also Aggregate Removal (AR), which as which as explained below in Section 5.3.2 would not allow a substation. Site 12 fails to satisfy the locational needs of the proposed substation because it is located away from the intersection of the existing 500 kV line and proposed 230 kV line. It would require a 3.9-mile extension of the double circuit 230/115 kV line. Site 12 would require approximately 0.52 miles of new tap lines outside of existing rights-of-way, requiring several new property easements of up to 250 feet in width. Site 12 has the potential to disturb 15.9 acres of wetlands, and has the likely presence of vernal pool habitat, which is suitable habitat for vernal pool fairy shrimp.
- **Sites 13, 15-18:** These six sites are all zoned GI, General Industrial. They have substantial engineering constraints and fail to satisfy the locational needs of the proposed substation because they are located away from the intersection of the existing 500 kV line and proposed 230 kV line. Because of their location in relation to the existing Whetstone Substation as compared to Site 1, these alternatives would need tap lines to interconnect with both the Whetstone Substation and the 230/115 kV line, with an additional length of up to 7 miles. The current configuration of the Whetstone Substation would also need to be modified for the addition of this new line. This site would require expansion of the existing

² A public utility may only condemn rights-of-way up to 100 feet in width for transmission lines less 330 kV or less.

right-of-way along the base of Lower Table Rock, and at the Rogue River crossing, and it would require obtaining new a right-of-way for the new line section into Whetstone Substation. PacifiCorp is unlikely to be able to obtain new tap line rights-of-way within developed portions of the surrounding area, making it the construction of such tap lines for sites 13, 15, and 16 very uncertain, and virtually impossible for sites 17 and 18. Depending on which of these sites were used, up to 20 acres of wetlands would be disturbed, which likely have suitable habitat for vernal pool fairy shrimp.

- **Site 20:** Site 20 is a partially-decommissioned sewage settling pond owned by Rogue Valley Sewer Services (RVSS). In addition to having many of the wetland impacts affecting other sites, RVSS has indicated that it is not willing to sell a sufficient portion of this site necessary to support the Sams Valley Substation.

5.2 Identification of Applicable Substantive Criteria – OAR 3450-021-0010 (1)(k)(C)(i)

OAR 3450-021-0010 (1)(k)(C) If the applicant elects to obtain a Council determination on land use:

(i) Identify the affected local government(s).

The Project Site Boundary crosses the jurisdictions of Jackson and Josephine counties, as well as the City of Rogue River. Table K-1 breaks up individual features of the Grants Pass–Sams Valley Transmission Line and Sams Valley Substation by typical land use categories.

Table K-1. Zoning by Project Feature

Jurisdiction	Project Feature	Zone	Centerline (miles)	Disturb. Area (acres)
Josephine County	New 230/115 kV double circuit transmission line replacing an existing 115kv in the existing right-of-way with an additional 35 feet of right-of-way (135 feet total), required to provide a safe operating system per NESC code.	Forest Commercial	1.5	24.2
		Rural Residential – 2.5	0.3	5.1
		Rural Residential – 5	<0.1	0.4
		Woodlot Resource	1.0	16.6
	New single-circuit 230 kV transmission line tap (100-foot right-of-way) at Grants Pass Substation	Rural Residential – 2.5	<0.1	0.4
	New single-circuit 115 kV transmission line tap (100-foot right-of-way) at Grants Pass Substation	Rural Residential – 2.5	0.1	1.0
	Associated transmission line access road improvements outside of right-of-way (temporary) ¹	Forest Commercial	1.0	2.0
		Rural Industrial	0.1	0.1
		Rural Residential – 2.5	0.1	0.2

Table K-1. Zoning by Project Feature

Jurisdiction	Project Feature	Zone	Centerline (miles)	Disturb. Area (acres)
		Rural Residential – 5	<0.1	<0.1
		Woodlot Resource	0.5	0.9
City of Rogue River	New 230/115 kV double circuit transmission line replacing an existing 115kv in the existing right-of-way with an additional 35 feet of right-of-way (135 feet total), required to provide a safe operating system per NESC code.	Residential Single Family – 12,000 sf Lot	--	0.3
		Residential Estate	<0.1	1.3
Jackson County	New 230/115 kV double circuit transmission line replacing an existing 115kv in the existing right-of-way with an additional 35 feet of right-of-way (135 feet total), required to provide a safe operating system per NESC code.	Exclusive Farm Use	4.2	69.0
		Forest Resource	2.4	40.3
		Open Space Reserve	1.5	25.2
		Rural Residential - 2.5	0.9	13.9
		Rural Residential – 5	0.8	11.9
		Urban Residential	0.2	2.9
		Woodland Resource	4.8	76.9
	New single-circuit 230 kV transmission line taps (100-foot right-of-way) at Sams Valley Substation	Exclusive Farm Use	0.3	0.3
		Open Space Reserve	0.1	0.9
	New single-circuit 115 kV transmission line (100-foot right-of-way)	Open Space Reserve	0.2	1.8
	New single-circuit 500 kV transmission line taps (250-foot right-of-way) at Sams Valley Substation	Exclusive Farm Use	0.2	5.5
		Open Space Reserve	0.1	2.8
	Associated transmission line access road improvements outside of right-of-way (temporary) ¹	Aggregate Removal	0.2	0.4
		Exclusive Farm Use	2.9	6.0
		Forest Resource	2.2	4.5
		Open Space Reserve	1.7	3.6
		Rural Residential - 2.5	<0.1	0.1
		Rural Residential – 5	0.7	1.5
		Woodland Resource	4.4	9.1
	New 500/230 kV Sams Valley Substation	Exclusive Farm Use	NA	17.3

Table K-1. Zoning by Project Feature

Jurisdiction	Project Feature	Zone	Centerline (miles)	Disturb. Area (acres)
	230 kV reconductored transmission line with additional structures; no new rights-of-way required	Aggregate Removal	1.0	12.3
		Exclusive Farm Use	1.8	21.8
		General Industrial	0.2	2.5
		Open Space Reserve	1.9	22.9
1. Access roads outside of the utility corridor are not included in the “new electric transmission line.”				

5.3 Applicable Substantive Criteria from OAR 3450-021-0010 (1)(k)(C)(ii)

(ii) Identify the applicable substantive criteria from the affected local government's acknowledged comprehensive plan and land use regulations that are required by the statewide planning goals and that are in effect on the date the application is submitted and describe how the proposed facility complies with those criteria.

Criteria applicable to the Project was generally obtained and refined through a detailed review of the relevant planning documents for each jurisdiction. The applicable substantive criteria are taken from the following sections of the documents listed below:

- Josephine County Comprehensive Plan (Josephine County, 2005a)
 - Goal 2: To Conserve and Develop the Forest Lands of Josephine County
 - Goal 6: Prevent Loss of Life And Property Due to Natural and Man-Made Hazards
 - Goal 7: Preserve Valuable Limited Resources, Unique Natural Areas and Historic Features
- Josephine County Rural Development Code (Josephine County 2005b)
 - Article 42 – Site Plan Review
 - Article 45 – Conditional Use Permits
 - Article 61 – Rural Residential Zones
 - Article 65 – Forest Commercial & Woodlot Resource Zones
 - Article 69 – Overlays
 - Article 72 – Heights, Setbacks & Accessory Structures
 - Article 74 – Signs

- Article 76 – Wildfire And Emergency Safety Standards
- Article 81 – Access Standards
- Article 83 – Erosion Control & Storm Drain Facilities
- Article 84 – Water Standards
- Article 85 – Utilities
- Article 93 – Archeological Resources
- Article 94 – Historic Buildings & Sites
- Jackson County Comprehensive Plan (Jackson County 1982)
 - Agricultural Lands Element
 - Environmental Quality Element
 - Forest Lands Element
 - Natural and Historic Resources Element
 - Natural Hazards Element
 - Public Facilities and Services Element
- Jackson County Land Development Ordinance (Jackson County 2004)
 - Exclusive Farm Use (EFU) District
 - Forest Resource (FR) Districts
 - Aggregate Removal (AR) District
 - Chapter 6. Use Regulations
 - Chapter 7.1 Environmental and Cultural Overlays
 - 7.2 Floodplain Overlay
 - 7.3 Transportation and Public Facility Overlays
 - Chapter 8 Dimensional Standards, Measurements and Adjustments
- City of Rogue River Comprehensive Plan (Rogue River 2017a)
 - Goal 2 Land Use Planning
 - Goal 5 Open Space, Scenic and Historic Areas and Natural Resources
- City of Rogue River Zoning Ordinance (Rogue River 2017b)
 - Chapter 17.15 R-E Residential Estate District
 - Chapter 17.20 R-1 Residential Single-Family District
 - Chapter 17.65 Requirements Applicable in all Zones

- Chapter 17.90 Storm and Surface Water Management
- Chapter 17.95 Erosion Prevention and Sediment Control

5.3.1 Josephine County

5.3.1.1 Josephine County Comprehensive Plan

The Josephine County Comprehensive Plan is implemented through the Josephine County Rural Development Code (JDC). PacifiCorp demonstrates that the Project is consistent with the JDC in section 4.3.1.2. Nonetheless, for EFSC's use, PacifiCorp demonstrates how the Project complies with applicable sections of the Josephine County Comprehensive Plan (JOCP), which is organized by Goals with associated Policies.

Goal 2: To Conserve and Develop the Forest Lands of Josephine County

Policies:

7. Josephine County shall provide zoning classifications which will protect and conserve for forestry uses all rural commercial forest lands, non-commercial forest lands, and any other forest lands as defined in LCDL Goal 4. This policy is designed to encourage economic forest management by individual land owners as a beneficial use. Forest Uses shall be: (1) the production of trees and the processing of forest products; (2) open space, buffers from noise, and visual separation of conflicting uses; (3) watershed protection and wildlife and fisheries habitat; (4) soil protection from wind and water; (5) maintenance of clean air and water; (6) outdoor recreational activities and related support services and wilderness values compatible with these uses; and (7) grazing land for livestock.

A portion of the Site Boundary will be located on private and public forest lands within the Josephine County Forest Zones. Although JOCP Goal 2, Policy 7 does not specify authorize utility facilities or transmission lines as a use associated with forest lands, JDC 65.030(F) authorizes "[e]lectric transmission lines that are new, to include right of way widths of up to 100 feet as specified in ORS 772.210" as a conditional use in the Forest Commercial and Woodlot Resource zones (Forest Zones). The JDC provision under Article 65 mirrors OAR 660-006-0025(4)(q), which is part of OAR chapter 660, division 6 implementing Goal 4 (Forest Lands). The local code and the OAR do not define a "new transmission line," but instead references ORS 772.210. ORS Chapter 772 governs right-of-way for public uses, with ORS 772.210 permitting public utilities to condemn lands for transmission lines, supports, and necessary equipment within certain parameters, based on the voltage of the project design.

PacifiCorp proposes to construct a new double circuit 230/115 kV line on new structures within the Forest Commercial and Woodlot Resource zones in Josephine County. Therefore, per ORS 772.210, PacifiCorp may acquire a new right-of-way of up to 100 feet in width. Although up to 100 feet of right-of-way is allowed, PacifiCorp is only seeking a new 35-foot-wide right-of-way for the new line. PacifiCorp proposes to take advantage of the existing 115 kV line's 100 foot right-of-way

to the greatest extent possible by carrying both the existing 115 kV line and the new 230 kV line on new double circuit structures located within the existing 100 foot right-of-way, plus the new 35 feet of right-of-way (to make a total of 135 feet of right-of-way). The additional 35 feet of right-of-way is required to maintain electrical clearances and meet safety requirements for the new 230/115 kV double circuit towers and transmission line.

The Project will not introduce a new use in the Forest Zones, as it involves expanding an existing utility right-of-way to co-locate a new transmission line with an existing transmission line, and expanding existing access roads used for general utility (and other uses depending on the access road) for Project construction. Although transmission line right-of-way widening in forested areas might require permanent removal of tall growing trees that could potentially exceed clearance requirements, tree removal will be limited to the minimum amount necessary. Where conductor to ground clearance is 100 feet or more (e.g., a canyon or ravine crossing), tall-growing trees may be left in place as long as the conductor clearance to the vegetation tops is 50 feet or more. Trees with less than 50 feet of clearance may be selectively removed if they present a hazard to the safe operation of the transmission line. Following construction, tall growing hazard trees will be prohibited from growing within the expanded right-of-way, while shrub/scrub and herbaceous vegetation will be allowed to revegetate. Trees located on or off the right-of-way that are identified as a danger or hazard will only be removed on an as-needed basis throughout the life of the Project.

Selective tree removal for clearance purposes may result in some loss in tree volume along the new edges of the transmission line corridor. Also, future harvesting of trees within a tree length of the power line will have a higher risk factor, and there may be increased risk of wildfire during construction and operation. However, the Project is expected to pose a low fire risk, and well-maintained powerline corridors can even serve as a fire break and provide access for firefighting purposes.

To address potential impacts to forestry practices on forest lands, PacifiCorp will implement certain minimization and mitigation measures, such as: riparian area protections, herbicide best management practices (BMPs), fire protection, and erosion control. See the subsequent discussion under JDC Article 65 for more details regarding minimization and mitigation measures. With minimization and mitigation measures including siting the Project in an existing utility corridor, the project complies with the Forest Conservation policy.

Goal 6: Prevent Loss of Life And Property Due to Natural and Man-Made Hazards

Policies:

3. The Josephine County Board of Commissioners shall encourage reduction of fuel concentrations and the construction of fire breaks, i.e., the utilization of fire resistant vegetation, construction of water sources, construction of roads suitable for use by emergency equipment, and design of loop road systems that allow for emergency evacuation of an area in rural developments.

The Project is expected to pose a low fire risk. All facilities will be designed per recommendations of the Institute of Electrical and Electronics Engineering (IEEE) Guide for Substation Fire Protection (979-2012) and the Unified Facilities Criteria (UFC) for Fire Protection Engineering for Facilities (UFC 3-600-01). Large hazard trees adjacent to the existing transmission line right-of-way pose a threat if a conductor blows close enough to arc to trees, causing them to catch fire or ignite surrounding vegetation. Vegetation, if allowed to become overgrown, may grow into the clearance area of the conductors. This poses an additional risk of fire due to arcing or direct contact, and may also cause power outages. During construction, trees that pose a hazard to the proposed transmission line and exceed transmission line clearance requirements may be topped or cleared from the right-of-way. During operation and maintenance of the Project, vegetation that is overgrown and poses a hazard to the transmission line may be topped or cleared on an as-needed basis. Additionally, precautionary measures will be taken during construction to reduce fire risk. Construction equipment will be monitored where activities may present safety issues, and fire suppression equipment will be carried on all vehicles and equipment. For these reasons, the Project is consistent with this Goal. Please see the discussion under JDC Article 76 for more information about fire management plans and mitigation measures to reduce fire risk.

Goal 7: Preserve Valuable Limited Resources, Unique Natural Areas and Historic Features

Policies:

1. The Board of County Commissioners shall encourage the identification and preservation of archaeological sites, prior to their development in Josephine County. When sites are identified by a qualified archaeologist, Josephine County will evaluate archaeological sites for their significance. If found to be significant, the County will apply the provisions of the Goal 5 rule, as applied in Chapter 14 of the Zoning Ordinance.

Exhibit S provides an analysis of potential, significant, adverse impacts of the Project to historic, cultural, and archaeological resources. HDR, Inc. (HDR), on behalf of PacifiCorp, conducted a records review followed by field surveys. The records review included all areas within 0.25 miles of the Analysis Area for the Project. Field surveys were conducted within the Analysis Area where landowner access could be obtained. There are no historic or cultural resources identified within the Analysis Area that are listed on the National Register of Historic Places (NRHP). One archaeological site (35JA 00274) identified by surveys in the Site Boundary has been recommended as eligible for listing on the NRHP. Nine other archaeological sites (HDR-SV-01, -02, -04, -06, -09, -11, -13, 35JA 00200, and 35JA 00275) identified by surveys in the Site Boundary have not been evaluated for NRHP eligibility, and are considered potentially NRHP-eligible. NRHP-eligible and unevaluated resources will be avoided by the Project and monitored during construction (See Exhibit S). The completed surveys and Cultural Resources Protection Conditions 1 and 5 (see Exhibit S) are consistent with implementation of this policy.

5. Class 1 and 2 streamside vegetation shall be substantially protected. Land use management activities shall take into consideration management of fishery resources in Josephine County.

PacifiCorp will span streams and their associated riparian corridors to the extent practicable, thereby avoiding stream and riparian impacts. In cases where work will occur in or near riparian areas, PacifiCorp will retain any existing riparian vegetation for use as wildlife travel corridors. In regard to access roads, existing access roads and bridges will be utilized to the extent practicable. In addition, areas disturbed by construction activities, except permanent road surfaces, will be reseeded with a site-specific native seed mix approved by the U.S. Bureau of Land Management (BLM) or a seed mix agreed on with private landowners. Therefore, the Project is consistent with this policy. See the discussion under Article 72 of the JDC regarding minimization and mitigation measures that will be implemented to protect streamside vegetation and water quality.

6. The County shall provide for wildlife protection. When a nest site or rookery is identified and when a significant activity is proposed nearby, there shall be consultation with the Oregon Department of Fish and Wildlife to mitigate impacts. Nearly all 1C sites, as defined by OAR 660-16000(5)(c), are within national Wild and Scenic Rivers or State Scenic Waterways boundaries and conflicting uses will be limited by national and state river management programs. Areas outside the river corridors are not yet clearly identified and will be classified as 1B sites until precise locations are determined, at which time ESEE analysis will be conducted. In sensitive deer habitat areas (those areas outside the impacted areas and below 2500 feet elevation), measures shall be implemented to limit the number of residences to 32 per two square miles of habitat area. The review process is included in Chapter 14 of the Zoning Ordinance.

Portions of the Project in Josephine County are within deer winter range habitat. However, the Project does not include residences and therefore the Project is exempt from the density requirements under JDC 69.220.

Due to the linear nature of the Project and the pre-existing condition of the vegetation, in combination with proposed vegetation protection measures and actions, the Project will have a low impact in regard to loss of vegetation communities and associated wildlife habitat. To ensure there is no unavoidable impact to habitat, and as referenced in Exhibit P, PacifiCorp will finalize a Habitat Mitigation Plan that sets forth the mitigation measures that will be implemented to achieve the goals and standards of the Oregon Department of Fish and Wildlife's (ODFW) Habitat Mitigation Policy by providing compensatory mitigation for unavoidable adverse impacts.

5.3.1.2 Josephine County Rural Development Code

Article 42 – Site Plan Review

42.050 - SITE REVIEW STANDARDS & CRITERIA

B. Criteria.

1. All criteria made applicable by the provisions of Article 44 (Variances), Article 69 (Overlays), Chapter 7 (Development Standards), Chapter 8 (Public Facilities), and Chapter 9 (Special Uses).

In regard to Article 44 (Variances), the Project anticipates meeting the dimensional standards contained in this code and therefore will not require a variance from Josephine County.

In regard to Article 69 (Overlays), the Project is not located in any flood hazard overlay, wild and scenic rivers overlay, or airport overlay. Portions of the Site Boundary are within the deer overlay. See the discussion under Article 69 regarding the Project's compliance with this overlay.

In regard to Chapter 7 (Development Standards), please see the discussions under Articles 72 and 76 below. Articles 71, 73, and 75 are not applicable to the Project for the following reasons:

- Article 71 – Lot Size & Shape. The Project does not include any proposal to subdivide, partition, re-plat, or adjust property lines.
- Article 73 – Fences, Walls & Screens. The Project does not include any proposal to build any new fences, walls, or screens.
- Article 75 – Off-Street Parking. No off-street parking is proposed or required.

In regard to Chapter 8 (Public Facilities), a discussion of standards pertaining to required infrastructure and public facilities is included under Articles 81, 83, 84, and 85 below. Articles 82 and 86 are not applicable to the Project for the following reasons:

- Article 82 – Subdivision & Street Names & Street Signs. The Project does not propose any new subdivision, planned unit development, or road, and therefore will not need to comply with the naming and street sign requirements under this article.
- Article 86 – Solid Waste, Waste Transfer Centers, Sewage Transfer Sites, Resource Recovery Facilities. The Project does not include the siting of solid waste, waste transfer centers, sewage transfer sites, resource recovery facilities, or recycling centers.

In regard to Chapter 9 (Special Uses), a discussion of standards pertaining to required infrastructure and public facilities is included under Articles 93 and 94 below. Articles 91, 92, 95, 96, 97, and 98 are not applicable to the Project for the following reasons:

- Article 91 – Aggregate Operating Standards. The Project does not propose mining or processing of aggregate resources.
- Article 92 – Home Occupations. The Project does not propose a home occupation on residentially developed property.
- Article 95 – Hydroelectric & Power Transmission Facilities. Article 95 applies to hydroelectric facilities and their associated transmission facilities. As the Project is not a hydroelectric facility, Article 95 does not apply to the proposed Project facilities.
- Article 96 – Destination Resorts. The Project is not a destination resort.
- Article 97 – Recreation Resorts. The Project is not a recreation resort.
- Article 98 – Campgrounds, RV Parks, & Lodges. The Project does not include the development of campgrounds, RV parks, lodges, or conference grounds.

2. The location, size, design and operating characteristics of the proposed use will not result in significant impacts on the neighborhood ("significant impact" is defined in Article 11 of this code);

Article 11 of the JDC defines "significant impact" as a "criterion used to determine whether proposed land use activities will inappropriately affect the use or quality of other properties or public facilities." As the Project is a utility project that already utilizes existing rights-of-way, it won't introduce new uses that could pose a potential conflict to adjacent residential properties in the Rural Residential Zone or timber lands in the Forest Zones. By utilizing the existing right-of-way to the extent practicable, the Project will minimize its footprint and the corresponding impacts to surrounding uses. The proposed use will not result in significant impacts on the neighborhood. Please see the discussions under Article 61 and 65 for more details regarding the Project's conformance to surrounding uses within the applicable land use zones.

3. The use will not exceed the carrying capacity of the land as defined in Section 11.030;

Article 11 of the JDC defines "carrying capacity" as "the ability of land to support proposed development as determined by an evaluation of suitability for sewage disposal, the adequacy of the domestic groundwater supply (quantity and quality), the presence of adequate off-site roads, the suitability of soil and terrain to support on-site roads, the presence or absence of flood, fire, or erosion hazards, and the applicability of other special land use concerns (e.g., watershed protection, protection of wildlife and fishery habitat, the presence of scenic easements, airport flight paths, the availability of emergency services, etc.)." The Project will not exceed the carrying capacity of the land for the following reasons:

- Sewage disposal: No sewer services are provided in the unincorporated areas crossed by the Project. Portable toilets will be provided for workers to use during construction of the Project. The portable toilets will be serviced by the supplying agent on a weekly basis on-site, and all waste will be taken off-site for proper disposal.
- Groundwater supply: All water needed for Project construction will be trucked in; there will be no new wells as part of the Project.
- Off-site and on-site roads: The Project will utilize existing access roads, and there will be no new temporary or permanent roads constructed in Josephine County.
- Flood, fire, or erosion hazards: The Project is located outside of all flood hazard areas. The Project is expected to pose a low fire risk; however, specific measures to address fire hazards are discussed under Articles 65 and 76. PacifiCorp will implement erosion control measures to minimize impacts to wetlands, wildlife habitat, agricultural operations, and forest areas and other resources. A National Pollutant Discharge Elimination System (NPDES) 1200-C permit, which will incorporate an Erosion and Sediment Control Plan (ESCP), will be obtained prior to construction.
- Other special land use concerns:

- Due to the linear nature of the Project and the pre-existing condition of the vegetation, in combination with vegetation protection measures and actions, the Project will have a low impact in regard to loss of vegetation communities and associated wildlife habitat. To ensure there is no unavoidable impact to habitat, and as referenced in Exhibit P, PacifiCorp will finalize a Habitat Mitigation Plan that sets forth the mitigation measures that will be implemented to achieve the goals and standards of ODFW's Habitat Mitigation Policy by providing compensatory mitigation for unavoidable adverse impacts.
- Exhibit R provides an assessment of scenic resources and impacts for the Project. The Project is not located within any scenic easements.
- The Project is not located in or near an airport overlay.

4. Existing and proposed infrastructure and public facilities are adequate to serve the proposed development. Pursuant to a requirement contained in the county's Transportation Systems Plan, or any other official document containing county road standards, the review body may control the location and number of vehicular access points, establish new streets, increase right-of-way and road width, require curbs, sidewalks and traffic circulation features.

The Project will utilize existing access roads and there will be no new temporary or permanent roads constructed in Josephine County.

5. The development is designed so that it coordinates efficiently with surrounding development patterns and existing and planned utilities, facilities and streets in the vicinity;

By co-locating a new 230 kV transmission line with an existing 115 kV transmission line on new poles with a minor right-of-way expansion, the Project has been designed to coordinate efficiently with surrounding development patterns.

6. Any development that includes lands that are subject to flooding, wildfire, or erosion hazards shall present a plan or plans that satisfy the requirements of Article 69.1 (Flood Hazard Overlay), Article 76 (Wildfire and Emergency Safety Standards), and Article 83 (Erosion Control & Storm Drain Facilities). The approved provisions of the mitigation plan or plans shall become conditions of development for the site.

The Project is located outside of any flood hazard overlay. Regarding wildfire and erosion hazards, see discussions under Articles 76 and 83.

Article 45 – Conditional Use Permits

45.030 - REVIEW STANDARDS & CRITERIA

Conditional use permit requests shall comply with the following standards and criteria:

A. Standards.

1. Development standards contained within this code and all other applicable master plans, rules, resolutions, ordinances, codes, technical manuals and policies of the county or the state or federal governments;

Development standards pertaining to the Project are discussed under Articles 61, 65, 72, 74, and 76 below.

2. The Josephine County Roadway and Traffic Management Plan, including the Official Street Map;

The Project has the potential to result in short-term impacts on transportation from increased traffic generated by construction vehicles, as well as disruptions to traffic from single lane closures. Exhibit U discusses the potential traffic impacts from Project construction and operations. With regard to traffic impacts during construction for surrounding farm use, the Project will have only temporary, intermittent, short-term impacts, which will be further minimized by Land Use Condition 1 (Section 2).

3. Standards for construction of required infrastructure and public facilities; and

A discussion of standards pertaining to required infrastructure and public facilities is included under Articles 81, 83, 84, and 85.

4. Access standards contained in Section 11.030.

The Project will utilize existing access roads, and there will be no new temporary or permanent roads constructed in Josephine County.

B. Criteria.

1. All criteria made applicable by the provisions of Article 69 (Overlays), Chapter 7 (Development Standards), Chapter 8 (Public Facilities), and Chapter 9 (Special Uses).

In regard to Article 69 (Overlays), the Project is not located in any flood hazard overlay, wild and scenic rivers overlay, or airport overlays. Portions of the Site Boundary are within the deer overlay. See the discussion under Article 69 regarding the Project's compliance with this overlay.

In regard to Chapter 7 (Development Standards), please see the discussions under Articles 72 and 76 below. Articles 71, 73, and 75 are not applicable to the Project for the reasons described in the response to section JDC 42.050.

In regard to Chapter 8 (Public Facilities), a discussion of standards pertaining to required infrastructure and public facilities is included under Articles 81, 83, 84, and 85. Articles 82 and 86 are not applicable to the Project for the following reasons:

- Article 82 – Subdivision & Street Names & Street Signs. The Project does not propose any new subdivision, planned unit development, or road and therefore will not need to comply with the naming and street sign requirements under this article.

- Article 86 – Solid Waste, Waste Transfer Centers, Sewage Transfer Sites, Resource Recovery Facilities. The Project does not include the siting of solid waste, waste transfer centers, sewage transfer sites, resource recovery facilities, or recycling centers.

In regard to Chapter 9 (Special Uses), a discussion of standards pertaining to required infrastructure and public facilities is included under Articles 93 and 94. Articles 71, 73, and 75 are not applicable to the Project for the reasons described in the response to section JDC 42.050.

2. The location, size, design and operating characteristics of the proposed use will not result in significant impacts on the neighborhood (“significant impact” is defined in Article 11 of this code);

Article 11 of the JDC defines “significant impact” as a “criterion used to determine whether proposed land use activities will inappropriately affect the use or quality of other properties or public facilities.” As the Project is a utility project that already utilizes existing rights-of-way, it won’t introduce new uses that could pose a potential conflict to adjacent residential properties in the Rural Residential Zone or timber lands in the Forest Zones. By utilizing the existing right-of-way to the extent practicable, the Project is minimizing its footprint and impacts to surrounding uses. The proposed use will not results in significant impacts on the neighborhood. Please see the discussions under Article 61 and 65 for more details regarding the Project’s conformance to surrounding uses within the applicable land use zones.

3. The use will not exceed the carrying capacity of the land as defined in Section 11.030;

Article 11 of the JDC defines “carrying capacity” as “the ability of land to support proposed development as determined by an evaluation of suitability for sewage disposal, the adequacy of the domestic groundwater supply (quantity and quality), the presence of adequate off-site roads, the suitability of soil and terrain to support on-site roads, the presence or absence of flood, fire or erosion hazards, and the applicability of other special land use concerns (e.g., watershed protection, protection of wildlife and fishery habitat, the presence of scenic easements, airport flight paths, the availability of emergency services, etc.).” The Project will not exceed the carrying capacity of the land for the following reasons:

- Sewage disposal: No sewer services are provided in the unincorporated areas crossed by the Project. Portable toilets will be provided for workers to use during construction of the Project. The portable toilets will be serviced by the supplying agent on a weekly basis on site, and all waste will be taken off-site for proper disposal.
- Groundwater supply: All water will be trucked in; there will be no new wells as part of the Project.
- Off-site and on-site roads: The Project will utilize existing access roads and there will be no new temporary or permanent roads constructed in Josephine County.
- Flood, fire, or erosion hazards: The Project is located outside of all flood hazard areas. The Project is expected to pose a low fire risk; however, specific measures to address fire hazards are discussed under Articles 65 and 76. PacifiCorp will implement erosion control

measures to minimize impacts to wetlands, wildlife habitat, and agricultural operations and forest areas and other resources. A NPDES 1200-C permit, which will incorporate an ESCP, will be obtained prior to construction.

- Other special land use concerns:
 - Due to the linear nature of the Project and the pre-existing condition of the vegetation, in combination with vegetation protection measures and actions, the Project will have a low impact in regard to loss of vegetation communities and associated wildlife habitat. To ensure there is no unavoidable impact to habitat, and as referenced in Exhibit P, PacifiCorp will finalize a Habitat Mitigation Plan that sets forth the mitigation measures that will be implemented to achieve the goals and standards of ODFW's Habitat Mitigation Policy by providing compensatory mitigation for unavoidable adverse impacts.
 - Exhibit R provides an assessment of scenic resources and impacts for the Project. The Project is not located within any scenic easements.
 - The Project is not located in or near an airport overlay.

4. Existing and proposed infrastructure and public facilities are adequate to serve the proposed development. Pursuant to a requirement contained in the county's Transportation Systems Plan, or any other official document containing county road standards, the review body may control the location and number of vehicular access points, establish new streets, increase right-of way and road width, require curbs, sidewalks and traffic circulation features.

The Project will utilize existing access roads and there will be no new temporary or permanent roads constructed in Josephine County.

5. The development is designed so that it coordinates efficiently with surrounding development patterns and existing and planned utilities, facilities and streets in the vicinity;

By co-locating a new 230kv transmission line with an existing 115kv transmission line on new poles with a minor right-of-way expansion, the Project has been designed to coordinate efficiently with surrounding development patterns.

6. Any development that includes lands that are subject to flooding, wildfire, or erosion hazards shall present a plan or plans that satisfy the requirements of Article 69.1 (Flood Hazard Overlay), Article 76 (Wildfire and Emergency Safety Standards), and Article 83 (Erosion Control & Storm Drain Facilities). The approved provisions of the mitigation plan or plans shall become conditions of development for the site.

The Project is located outside of any flood hazard overlay. Regarding wildfire and erosion hazards, see discussions under Articles 76 and 83 below.

Article 61 – Rural Residential Zones

61.030 - CONDITIONAL USES

The following uses, with accessory uses, shall be authorized using Quasi-Judicial Review Procedures (Article 22), subject to the requirements for Conditional Uses (Article 45) and Site Plan Review (Article 42). All uses shall also meet the applicable development standards listed in Section 61.060 of this Article. A Development Permit (Article 41) shall be required as the final permit approval.

U. Utility and communication facilities including commercial power generation facilities, conditioned upon, but not limited to, the following criteria:

- 1. Submission of an acceptable site plan for landscaping and protection of adjoining residential properties;*
- 2. Demonstration of compliance with applicable state air quality discharge permits.*

A portion of the Site Boundary will be located through lands zoned Rural Residential in Josephine County (see Figure K-1). Per JDC 61.030(U), utility facilities are allowed as a conditional use in the Rural Residential Zone, as long as the Project meets the applicable conditional use criteria from the JDC and the specific criteria listed under JDC 61.030(U). PacifiCorp demonstrates how the Project meets the applicable conditional use criteria from the JDC in the discussions under Articles 42 and Article 45.

Figure C-2 provides a preliminary Site Plan for the Project. Regarding criterion JDC 61.030(U)(1), because the Project is a utility project that already utilizes existing rights-of-way, it won't introduce new uses that could pose a potential conflict to adjacent residential properties in the Rural Residential Zone. Vegetation in the right-of-way will be maintained according to federal and state safety standards for vegetation management in utility line corridors. Therefore, a landscape plan isn't required for the Project. There may be minor vegetation removal during construction, but it will be temporary and disturbed areas will be reseeded post construction. Fish and Wildlife Condition 1 (see Exhibit P) will assist in meeting the standards above.

Regarding criteria JDC 61.030(U)(2), the Project will not emit any substances subject to state air quality discharge permits.

61.060 - PROPERTY DEVELOPMENT STANDARDS

All uses authorized by this Article are subject to certain additional permit, process and property development standards that are contained elsewhere in this code. The following is a list of Articles that are or may be applicable:

B. Property Development Standards

The following listed property development standards under JDC 61.060.B. that are applicable to the Project are listed below. Note that the minimum lot size and lot width standards applicable to the Rural Residential sub-zones (RR-2.5 and RR-5) are not applicable to the Project as it does not propose to subdivide, partition, re-plat or adjust property lines:

3. Minimum setback from property lines – Front (30'); Side (10'); Rear (25')

See response under Article 72 below.

4. Access & transportation – See Article 81

See response under Article 81 below.

8. Erosion, sediment, storm drainage facilities – See Article 83

See response under Article 83 below.

17. Stream setbacks – See Article 72

See response under Article 72 below.

17. Utilities – See Article 85

See response under Article 85 below.

20. Water standards – See Article 84

See response under Article 84 below

Article 65 – Forest Commercial & Woodlot Resource Zones

65.030 - CONDITIONAL USES

The following uses, with accessory uses, shall be authorized using Quasi-Judicial Review Procedures (Article 22), subject to the requirements for Conditional Uses (Article 45) and Site Plan Review (Article 42). All uses shall also meet the applicable development standards listed in Section 65.095 of this Article. A Development Permit (Article 41) shall be required as the final permit approval.

F. Electric transmission lines that are new, to include right of way widths of up to 100 feet as specified in ORS 772.210

A portion of the Site Boundary will be located through lands zoned Forest Commercial and Woodlot Resource in Josephine County, both on public and private forest lands (see Figure K-2). JDC 65.030(F) authorizes “[e]lectric transmission lines that are new, to include right-of-way widths of up to 100 feet as specified in ORS 772.210” as a conditional use in the Forest Commercial and Woodlot Resource zones. This local code provision mirrors OAR 660-006-0025(4)(q), which is part of OAR chapter 660, division 6 implementing Goal 4 (Forest Lands). The local code and the OAR do not define a “new transmission line,” but instead references ORS 772.210. ORS Chapter 772 governs right-of-way for public uses, with ORS 772.210 permitting public utilities to condemn lands for transmission lines, supports, and necessary equipment within certain parameters based on the voltage of the project design. ORS 772.210 (1) permits a public utility to:

(b) Condemn such lands not exceeding 100 feet in width for its lines (including poles, towers, wires, supports and necessary equipment therefor) and in addition thereto, other lands necessary and convenient for the purpose of construction of service facilities. If the lands are covered by trees that are liable to fall and constitute a hazard

to its wire or line, any public utility or transmission company organized for the purpose of building, maintaining and operating a line of poles and wires for the transmission of electricity for lighting or power purposes may condemn such trees for a width not exceeding 300 feet, as may be necessary or convenient for such purpose.

PacifiCorp proposes to construct a new double circuit 230/115 kV line on new structures within the Forest Commercial and Woodlot Resource zones in Josephine County. Therefore, per ORS 772.210, PacifiCorp may acquire a new right-of-way of up to 100 feet in width. Although up to 100 feet of right-of-way is allowed, PacifiCorp is only seeking a new 35-foot-wide right-of-way for the new line. PacifiCorp proposes to take advantage of the existing 115 kV line's 100 foot right-of-way to the greatest extent possible by carrying both the existing 115 kV line and the new 230 kV line on new double circuit structures located within the existing 100 foot right-of-way, plus the new 35 feet of right-of-way (to make a total of 135 feet of right-of-way). The additional 35 feet of right-of-way is required to maintain electrical clearances and meet safety requirements for the new 230/115 kV double circuit towers and transmission line.

PacifiCorp demonstrates how the Project meets the applicable conditional use criteria from the JDC in the discussions under Articles 42 and Article 45.

Y. Public road and highway projects and transportation facilities and improvements not allowed under Section 65.020.B.5

The transmission line corridor will be accessed from existing roads. Roads leading to the transmission line are generally multiuse roads (e.g., PacifiCorp access, back country roads, and residential access) used by a variety of individuals for various purposes. Access roads range from paved to gravel or bare soil surfaces, and are under the ownership of Jackson or Josephine counties, private individuals, or BLM. The Project will include temporary improvements to existing access roads in Josephine County and the disturbed area will be returned to pre-Project conditions. Per JDC 65.030(Y), improvement of existing access roads is allowed as a conditional use as long as the Project meets the applicable conditional use criteria from the JDC. In the discussions for Articles 42 and 45, PacifiCorp demonstrates how the Project meets the applicable conditional use criteria from the JDC.

65.060 - GENERAL CRITERIA FOR CONDITIONAL USES & NEW DWELLINGS

In addition to the criteria for conditional uses contained in Article 45 of this code, all conditional uses in the Forest Zones shall be reviewed against the following additional requirements:

A. The proposed use will not force a significant change in, or significantly increase the cost of, accepted farming or forest practices on agriculture or forest lands;

The Project is not introducing a new use in the Forest Commercial and Woodlot Resource Zones, as it is expanding an existing utility right-of-way to co-locate a new transmission line with an existing transmission line, and expanding existing access roads used for general utility (and other uses depending on the access road) for Project construction. Although transmission line right-of-way widening in forested areas may require permanent removal of tall growing hazard trees that exceed

or may exceed clearance requirements, tree removal will be limited to the minimal amount necessary. Where conductor to ground clearance is 100 feet or more (e.g., a canyon or ravine crossing), tall-growing trees may be left in place as long as the conductor clearance to the vegetation tops is 50 feet or more. Hazard trees with less than 50 feet of clearance may be selectively removed. Following construction, tall growing hazard trees will be prohibited from growing within the expanded right-of-way, while shrub/scrub and herbaceous vegetation will be allowed to revegetate. Trees located on or off the right-of-way that are identified as a danger or hazard may be removed on an as-needed basis through the life of the Project.

Selective tree removal for clearance purposes may result in some loss in tree volume along the new edges of the transmission line corridor. Also, future timber harvesting operations of trees within a tree length of the power line will have a higher risk factor, and there may be increased risk of wildfire during construction and operation. However, well-maintained powerline corridors can serve as a fire break or provide access for firefighting purposes.

To address potential impacts to forestry practices on forest lands, PacifiCorp will implement certain minimization and mitigation measures, such as: riparian area protections, herbicide BMPs, fire protection, and erosion control. Additionally, the following minimization and mitigation measures may be implemented:

- Areas disturbed by construction activities, except permanent road surfaces, will be reseeded with a site-specific native seed mix approved by BLM or a seed mix agreed on with private landowners.
- PacifiCorp will prepare a revegetation plan in consultation with BLM and private landowners. The plan will specify disturbance types and their appropriate revegetation techniques to be applied for proposed project work areas. Techniques used on BLM land would be pre-approved and will include reseeded with certified weed-free native or other acceptable species. Following construction, vegetation within the right-of-way will be maintained as specified in PacifiCorp's *Transmission & Distribution Vegetation Management Program Specification Manual* (Attachment P-5), using a variety of integrated vegetation management control methods, including manual, mechanical, chemical, biological, and cultural options. Vegetation types and heights allowed within the corridor vary within the wire zone-border zone³ and conductor to ground clearance height
- Clearing of forest and shrub-steppe vegetation will be minimized by limiting activity to those areas that are directly impacted by construction activities and trees that pose a hazard to the proposed transmission line. Existing snags within the right-of-way will be retained, provided they are not a safety hazard (i.e., have the potential to fall onto the line, encroach on minimum clearance standards, or hinder operations and maintenance).
- Existing downed woody material will be left in place, to the extent possible, or lopped and scattered.
- Riparian vegetation removal will take place in accordance with Attachment P-5. A PacifiCorp forester will coordinate with the agencies prior to vegetation work and discuss

any known avian issues or other concerns the agencies may have and plan the work accordingly.

The Project, taking into account measures to minimize or mitigate impacts, will not force a significant change in, or significantly increase the cost of, accepted forestry practices in the Forest Zones in Josephine County.

B. The proposed use will not significantly increase fire hazard or significantly increase fire suppression costs or significantly increase risks to fire suppression personnel; and

As documented in the Project Environmental Assessment (BLM 2016), the Project is expected to pose a low fire risk. For fire safety, all facilities (including the substations) will be designed per recommendations of the IEEE Guide for Substation Fire Protection (979-2012) and the UFC for Fire Protection Engineering for Facilities (UFC 3-600-01). Large trees adjacent to the existing transmission line right-of-way pose a threat if a conductor blows close enough to arc to trees, causing them to catch fire or ignite surrounding vegetation. Vegetation, if allowed to become overgrown, may grow into the clearance area of the conductors. This poses an additional risk of fire due to arcing or direct contact, and may also cause power outages. During construction, trees that pose a hazard to the proposed transmission line and exceed transmission line clearance requirements will be cleared from the right-of-way. During operation and maintenance of the Project, vegetation that is overgrown and poses a hazard to the transmission line maybe cleared on an as-needed basis. Additionally, precautionary measures will be taken during construction to reduce fire risk. Construction equipment will be monitored where activities may present safety issues, and fire suppression equipment will be carried on all vehicles and equipment.

C. For private parks and campgrounds, reservoirs and water impoundments, home occupations, medical hardship dwellings, and fishing accommodations for private use, a written statement recorded with the deed or written contract with the county or its equivalent is obtained from the land owner which recognizes the rights of adjacent and nearby land owners to conduct forest operations consistent with the Forest Practices Act and Rules.

This provision does not apply to the Project, as the proposed use is not a private park or campground, reservoir or water impoundment, home occupation, medical hardship dwelling, or fishing accommodation.

65.095 – PROPERTY DEVELOPMENT STANDARDS

All uses authorized by this Article are subject to certain additional permit, process and property development standards that are contained elsewhere in this code. The following is a list of Articles that are or may be applicable:

B. Property Development Standards

The following listed property development standards under JDC 65.095.B. that are applicable to the Project are listed below:

1. Minimum setback from property lines – Front (30'); Rear (30'); Side (30')

See response under Article 72 below.

2. Access & transportation – See Article 81

See response under Article 81 below.

6. Erosion, sediment, storm drainage facilities – See Article 83

See response under Article 83 below.

14. Signs – See Article 74

See response under Article 74 below.

16. Stream setbacks – See Article 72

See response under Article 72 below.

17. Utilities – See Article 85

See response under Article 85 below.

19. Water standards – See Article 84

See response under Article 84 below.

Article 69 – Overlays

ARTICLE 69.1 - FLOOD HAZARD OVERLAY

69.120 - FLOOD HAZARD AREAS

This Article shall apply to all areas of flood hazard within Josephine County as identified in the Federal Flood Insurance Study by the Federal Insurance Administration in a scientific and engineering report entitled "The Flood Insurance Study for the County of Josephine, State of Oregon," dated December 1, 1981, and revised September 27, 1991, with the accompanying Flood Insurance Rate Maps. The study is adopted by reference as part of this code and is on file in the Josephine County Planning Office. Flood hazard areas include the following: Approximate Floodplain (or Unnumbered "A" Zones), Floodway Fringe (or Numbered "A" Zones), and Floodway (See Section 11.030 for these and other related definitions).

The Project is not located in any flood hazard areas within Josephine County; therefore, the standards and requirements under Article 69.1 do not apply to the Project.

ARTICLE 69.2 - DEER OVERLAY

The purpose of this overlay is to restrict development so that critical deer winter range habitat is protected

69.220 - DENSITY REQUIREMENTS

In areas identified as critical deer winter range habitat, findings must be made to show that a residence will not cause the density of dwellings within winter range to exceed 32 homes per 2

square miles. The calculation will include the area outside impacted lands below 2500 feet elevation.

Portions of the Site Boundary in Josephine County are within deer winter range habitat. However, the Project does not include residences, and therefore the Project is exempt from the density requirements under JDC 69.220.

Due to the linear nature of the Project and the pre-existing condition of the vegetation, in combination with vegetation protection measures and actions, the Project will have a low impact in regard to loss of vegetation communities and associated wildlife habitat. To ensure there is no unavoidable impact to habitat, and as referenced in Exhibit P, PacifiCorp will finalize a Habitat Mitigation Plan that sets forth the mitigation measures that will be implemented to achieve the goals and standards of ODFW's Habitat Mitigation Policy by providing compensatory mitigation for unavoidable adverse impacts. PacifiCorp recommends Fish and Wildlife Condition 3 (see Exhibit P).

ARTICLE 69.3 - WILD & SCENIC RIVERS OVERLAY

69.310 - PURPOSE

The purpose of this overlay is to facilitate development which is compatible with the requirements of the State and Federal Scenic Waterways Program.

The Project is not located within the wild and scenic rivers overlay.

ARTICLE 69.4 - AIRPORT OVERLAY

69.410 - PURPOSE

An airport overlay is applied to an area which is in the proximity of active air fields where aircraft operations occur on a regular basis. The perimeter of this overlay signifies a measure of noise level (sound measured in decibels), dust, engine exhaust, and visual impact, surrounding the airport. In order to prevent the creation of hazards, special airport zoning regulations controlling and limiting the use of land, are established within the airport overlay. The provisions of this Section are not intended to abrogate any other section of this code and when it appears that there is a conflict, the most restrictive requirements shall apply.

The Project is not located within the airport overlay.

Article 72 – Heights, Setbacks & Accessory Structures

72.020 - STRUCTURE HEIGHT & SETBACK REQUIREMENTS

A. The following minimum requirements shall be applied to all permitted, conditional, and accessory structures allowed by this code unless specified otherwise. All requirements are specified in feet:

STRUCTURE			SETBACK FROM PROPERTY LINE	
ZONE	HEIGHT	FRONT	SIDE	REAR
RR*	35	30	10	25
FC*	None	30	30	30
WR*	35	30	30	30
* The restriction does not apply to agricultural buildings (see Section 72.030.B.3)				

In regard to the height limitations listed in the above table, JDC 72.030.B.4. excludes “electrical transmission towers” from the height limits prescribed in JDC 72.020.A.

In regard to the setback requirements, the JDC defines “setback” as “a specified distance for the placement of a structure from, including but not limited to, a road, a right-of-way or easement, property line, other structure, septic system, well, river or other waterway, or natural or man-made resource.” The JDC defines “structures” as “anything constructed, erected, installed or portable, the use of which requires a location on the ground or is attached to something having a location on the ground...” The JDC’s definition of structure under Section 11.030 goes on to specifically exclude utility poles from the definition: “utility poles....are not considered structures in any location and Development Permits are not required.” Therefore, the transmission line poles are not subject to the minimum setback distances established under JDC 72.020.A.

B. Stream Setbacks. No structure, excluding fences, boat landings, docks, bridges, hydroelectric facilities, pumping, or water treatment facilities, shall be located closer than 50 feet to the banks of any Class 1 stream, or 25 feet to the banks of Class 2 water courses as defined by the Oregon State Department of Fish and Wildlife:

- 1. This setback area shall be maintained, to the greatest extent feasible, in stabilized vegetation;*
- 2. Streamside vegetation that provides shading of the surface waters shall be retained;*
- 3. Existing streamside vegetation shall be maintained to the greatest extent possible during construction and development.*

According to JDC 72.040.B, no structure, excluding fences, boat landings, docks, bridges, hydroelectric facilities, pumping, or water treatment facilities, shall be located closer than 50 feet to the banks of any Class 1 stream, or 25 feet to the banks of Class 2 water courses. Although utility poles are not included in the definition of structures and therefore the stream setback requirements may not apply to the transmission line poles, PacifiCorp proposes to span streams and their associated riparian corridors to the extent practicable and where feasible, retaining any existing riparian vegetation for use as wildlife travel corridors. In regard to access roads, existing access roads and their existing bridges will be utilized to the extent practicable. In addition, areas disturbed by construction activities, except permanent road surfaces, will be reseeded with a site-

specific native seed mix approved by BLM, or a seed mix agreed on with private landowners. The following measures will be implemented.

- PacifiCorp will prepare a revegetation plan in consultation with BLM and private landowners. The plan will specify disturbance types and their appropriate revegetation techniques to be applied for proposed project work areas. Techniques used on BLM land will be preapproved and will include reseeding with certified weed-free native or other acceptable species. Following construction, vegetation within the right-of-way will be maintained as specified in Attachment P-5 using a variety of integrated vegetation management control methods, including manual, mechanical, chemical, biological, and cultural options. Vegetation types and heights allowed within the corridor vary within the wire zone-border zone3 and conductor to ground clearance height
- Clearing of forest and shrub-steppe vegetation will be minimized by limiting activity to those areas that are directly impacted by construction activities and trees that pose a hazard to the proposed transmission line. Existing snags within the right-of-way will be retained, provided they are not a safety hazard (i.e., have the potential to fall onto the line, encroach on minimum clearance standards, or hinder operations and maintenance).
- Existing downed woody material will be left in place, to the extent possible, or lopped and scattered.
- Riparian vegetation removal will take place in accordance with Attachment P-5. A PacifiCorp forester will coordinate with the agencies prior to vegetation work and discuss any known avian issues or other concerns the agencies may have and plan the work accordingly.
- Areas disturbed by construction activities, except permanent road surfaces, will be reseeded with a site-specific native seed mix approved by BLM or a seed mix agreed on with private landowners.

Article 74 – Signs

74.030 – GENERAL PROVISIONS

According to JDC 74.030.A., signs erected and maintained by or under authority of a public utility for the purpose of conveying information, warnings, distances, or directions are exempt from sign requirements. Only those signs necessary for safety and notification will be associated with the Project and will not extend beyond the right-of-way and will meet the requirements of this Article.

Article 76 – Wildfire And Emergency Safety Standards

76.020 – APPLICATION OF WILDFIRE AND EMERGENCY SAFETY STANDARDS

B. Site Plan Review and Conditional Use Permits. Any land development that requires review and approval pursuant to the provisions of Article 42 (Site Plan Review) or Article 45 (Conditional Use Permits) shall be required to develop wildfire mitigation

plans that assure safety of the development. The review body shall apply the standards contained in this Article to assure that its purposes are met.

C. Forest Zones. The development of new structures, the substantial improvement of existing structures, the relocation of structures and the replacement of structures in Forest Zones (Article 65) shall meet the requirements of this Article.

76.030 - SITE DEVELOPMENT AND CONSTRUCTION STANDARDS

The JDC's definition of structure under Section 11.030 specifically exclude utility poles from the definition: "utility poles....are not considered structures in any location and Development Permits are not required." Therefore, the transmission line poles located in the Forest Zones are not subject to the requirements of this article. However, per JDC 76.020.B, a wildfire mitigation plan will be developed as the Project would be subject to a conditional use permit approval under Article 45.

The Project is expected to pose a low fire risk as cited in the Project Environmental Assessment (BLM 2016). All facilities will be designed per recommendations of the IEEE Guide for Substation Fire Protection (979-2012) and the UFC for Fire Protection Engineering for Facilities (UFC 3-600-01). Large trees adjacent to the existing transmission line right-of-way pose a threat if the conductor blows close enough to arc to trees, causing them to catch fire or ignite surrounding vegetation. Vegetation, if allowed to become overgrown, may grow into the clearance area of the conductors. This poses an additional risk of fire due to arcing or direct contact, and may also cause power outages. During construction, trees that pose a hazard to the proposed transmission line and exceed transmission line clearance requirements may be cleared from the right-of-way. During operation and maintenance of the Project, vegetation that is overgrown and poses a hazard to the transmission line may be cleared on an as-needed basis. Additionally, precautionary measures will be taken during construction to reduce fire risk. Construction equipment will be monitored where activities may present safety issues and fire suppression equipment will be carried on all vehicles and equipment. However, Land Use Condition 2 (Section 2) is provided to ensure compliance with JDA 76.020.B.

76.040 - ACCESS

The Project will utilize existing access roads and there will be no new temporary or permanent roads constructed in Josephine County.

76.060 - FIRE PROTECTION SERVICE OR ON-SITE FIRE PROTECTION PLAN

As a condition of a permit to develop, the owner shall provide proof of fire protection service or fire protection measures that meets one of the following options:

A. Fire Protection District. The property upon which a structure or structures are to be developed is located within a fire protection district and the district agrees in writing to cover the structures, or the property is not located within a fire district, but the owner has requested to be included in the district and the district agrees in writing to include the property within the district before the development of any structure begins; or

B. Contract Fire Protection. If the property cannot be located within a fire protection district, but fire protection service is available from a commercial fire service provider that is listed on the State Fire Marshal Roster and the owner provides a contract for fire protection to cover the property before the development of any structure begins; or

C. On-Site Fire Protection Plan. If the options described in Subsections A and B above are not achieved, the owner shall devise and implement a special on-site fire protection plan as a condition of the permit. The plan shall include measures such as on-site water storage, fire sprinkling systems, additional safety zones, the placement of structures in the most defensible locations, storage of on-site fire-fighting equipment, and any other practical and effective measures given the conditions at the site. The special on-site fire mitigation measures shall be reviewed and approved utilizing the modification of standards procedures contained in Section 76.090. Note: In the Forest zones, a dwelling shall be located in accordance with A or B above and only C if residential fire protection is determined to be impracticable per OAR 660-006-0035.

Land Use Condition 2 is provided to ensure compliance with JDC 76.060:

76.080 - VEGETATION MITIGATION

B. Fire Safety Zones.

With respect to fire safety zone requirements of JDC 76.080, the Project features are exempt from this requirement as the transmission line is not considered a structure.

Article 81 – Access Standards

81.010 - PURPOSE

The purpose of these standards is to ensure safe ingress and egress to and from properties; to minimize street congestion and traffic hazards, to protect the future operation of transportation facilities, to provide safe and convenient access to businesses, public services, and places of public assembly; and to make vehicular circulation more compatible with surrounding land uses.

The Project will utilize existing access roads, and there will be no new temporary or permanent roads constructed in Josephine County.

Article 83 – Erosion Control & Storm Drain Facilities

83.020 - APPLICATION OF STANDARDS

A. These standards shall apply to any land division or land use application including development and construction which would require any grading or filling on slopes that are 15% or greater or soils that are granitic in composition as mapped by the Natural Resource Conservation Service except when authorized or regulated by the Oregon Forest Practices Act.

B. An erosion and sediment control plan to prevent or mitigate possible hazards to life, property, or the natural environment shall be required.

PacifiCorp will implement erosion control measures to minimize impacts to wetlands, wildlife habitat, and agricultural operations and forest areas and other resources. A NPDES 1200-C permit, which will incorporate an ESCP, will be obtained prior to construction. Temporarily disturbed areas will be restored to preconstruction conditions. In addition, as identified in Exhibit P (Fish and Wildlife Condition 1), a Reclamation and Revegetation Plan will be prepared for the Project.

The Restoration and Revegetation Plan and/or ESCP will include, but are not necessarily limited to, the following minimization measures and BMPs:

- Roadway areas will be restored to their original grades, drainage condition, and rock surface.
- Exposed soil in overland segments that are affected by construction will be seeded when there is adequate soil moisture, and reseeded in the spring if a healthy cover crop does not grow.
- Straw mulch will be placed over the seeded areas to stabilize the soil surface until permanent vegetation is established.
- Sediment fences and check dams will remain in place and be maintained until the affected areas are well vegetated.
- Overland corridors will be constructed with waterbars adequately spaced so that surface drainage continues to natural drainage patterns, with minimal diversions through ditches and culverts.
- Regular maintenance of drainage facilities will be conducted to ensure continued proper operation.

Article 84 – Water Standards

84.020 - APPLICATION

This Article shall apply to the following land divisions and uses when the owner/developer intends to use a groundwater source as a water supply. In addition, this Section shall apply to newly constructed and existing wells as outlined in Sections 84.070 and 84.080 of this code.

All water will be trucked in; there will be no new wells as part of the Project. Therefore, the Project is not subject to Article 84 rules and regulations.

Article 85 – Utilities

85.010 - UTILITY IMPROVEMENTS

A. All utilities shall be placed underground to the lot line of each lot during the construction of any new street or road that:

1. *Will be maintained by the county;*
2. *Has the potential to be maintained by the county; or*
3. *Is maintained by abutting owners through a recorded agreement required as a part of an approved land division.*

B. The developer shall make necessary arrangements with the utility companies or other persons or corporations effected for the installation of underground lines and facilities, including but not limited to communication, street lighting, and cable television, to place them underground.

The requirements under JDC 85.010 apply to land development where new streets or roads are being constructed. No new streets or roads are being proposed; therefore, these regulation do not apply to the Project.

Article 93 – Archeological Resources

93.010 - PURPOSE

The purpose of this Article is to establish provisions to mitigate adverse impacts to archeological resources and to prescribe the means by which archeological sites are assessed and protected.

See response under Article 94, below.

Article 94 – Historic Buildings & Sites

93.010 - PURPOSE

The purpose of this Article is to establish provisions for the review of development proposals affecting identified historic properties.

Exhibit S provides an analysis of potential significant adverse impacts of the Project to historic, cultural, and archaeological resources. HDR, Inc. (HDR), on behalf of PacifiCorp, conducted a records review followed by field surveys. The records review included all areas within 0.25 miles of the Analysis Area for the Project. Field surveys were conducted within the Analysis Area where landowner access could be obtained. There are no historic or cultural resources identified within the Analysis Area that are listed on the NRHP. One archaeological site (35JA 00274) identified by surveys in the Site Boundary has been recommended as eligible for listing on the NRHP. Nine other archaeological sites (HDR-SV-01, -02, -04, -06, -09, -11, -13, 35JA 00200, and 35JA 00275) identified by surveys in the Site Boundary have not been evaluated for NRHP eligibility, and are considered potentially NRHP-eligible. NRHP-eligible and unevaluated resources will be avoided by the Project and monitored during construction. (See Exhibit S, Section 6.3.). The already completed surveys and Cultural Resources Protection Conditions 1 and 5 (see Exhibit S) are consistent implement this policy.

5.3.2 Jackson County

The following sections provide analysis regarding compliance with the substantive criteria from the Jackson County Comprehensive Plan (JACP) and Jackson County Land Development Ordinance (LDO) that are applicable to the Project. As the LDO implements the Plan, the Council can find that compliance with the applicable provisions of the LDO is sufficient to demonstrate compliance with the Plan.

5.3.2.1 Jackson County Comprehensive Plan

This section demonstrates how the Project complies with applicable sections of the JACP, which is organized by resource Elements with associated Policies, and implemented through the LDO.

Agricultural Lands Element

Policy: The priority use of farm land shall be farm uses.

The Agricultural Lands Element including the above policy is generally consistent with the Oregon statutes and rules regarding protection of Goal 3 resources. ORS 215.275 is incorporated verbatim into the Jackson County Land Development Ordinance 4.2.10(D). A “utility facility necessary for a public service” is permitted under subsection (1) of ORS 215.283, and therefore may not be more strictly regulated in local codes than by state law. As discussed below, in the Jackson County Zoning Code section demonstrating the Project’s compliance with the applicable Oregon statutes as implemented through the Jackson County EFU zoning ordinances, PacifiCorp will minimize the Project impacts on agricultural lands as much as possible, and the impacts to agricultural land that will occur are required to achieve the Project objectives. Additional discussion regarding the Project’s compliance with statewide planning goals, and particularly Goal 3, is provided in Sections 5.2.2 and 5.4. The discussion in the above-referenced sections demonstrates that PacifiCorp has made all possible efforts to avoid disruption to agricultural lands, and that the Project is consistent with Policy 1 of the agricultural lands element.

Environmental Quality Element

Policy: Criteria shall be developed to consider environmental impacts on all discretionary land development actions and to assure compliance with applicable state and federal environmental quality standards.

The LDO includes Chapter 7, which provides Environmental and Cultural overlays that development must be consistent with including floodplain, historical and archeological, and wildlife. The overlays protect site-specific environmental and cultural resources through the application of additional development regulations and requirements. These development regulations are addressed, as applicable to the Project and demonstrate that the Project is in compliance with state and federal environmental quality standards.

Policy: The county shall promote an environment free from unnecessary, excessive and offensive noise that may jeopardize the health, safety, and welfare of county citizens.

Exhibit X provides an assessment of the existing acoustical environment and anticipated Project sound levels. Exhibit X describes sound level thresholds derived from the Oregon Department of Environmental Quality (ODEQ) noise regulations (OAR 340-035-0035), which are used to assess the significance of impacts to noise sensitive properties. OAR 340-035-0035 defines “noise sensitive property” as “real property normally used for sleeping, or normally used as schools, churches, hospitals or public libraries. Property used in industrial or agricultural activities is not Noise Sensitive Property unless it meets the above criteria in more than an incidental manner.”

Under OAR 340-035-0035(5)(g) noise from construction activities is specifically exempt from compliance with the state noise regulations. However, projected noise levels resulting from Project construction and operation will be minimal, and meet requirements contained in ODEQ rules (see Exhibit X). Typically, composite construction site noise levels are conservatively estimated to decrease 6 decibels on an A-weighted scale for each doubling of distance. However, these levels will be further reduced when additional attenuation factors are considered, such as terrain (e.g., Lower Table Rock itself) and ground effects such as Highway 234 (see Exhibit X). Construction activities will result in temporary, intermittent, and transient noise as construction activities progress along the right-of-way. In general, construction noise will be short-term, intermittent, and will not jeopardize the health, safety, and welfare of county citizens.

Policy: Soil erosion and sedimentation and wise utilization of soil shall be considered in land use development actions.

PacifiCorp will implement erosion control measures to minimize impacts to wetlands, wildlife habitat, and agricultural operations and forest areas and other resources. A NPDES 1200-C permit, which will incorporate an erosion and sediment control plan, will be obtained prior to construction. Temporarily disturbed areas will be restored to preconstruction conditions. In addition, as identified in Exhibit P (Fish and Wildlife Condition 1), a Reclamation and Revegetation Plan will be prepared for the Project.

The Restoration and Revegetation Plan and/or ESCP will include, but are not necessarily limited to, the following minimization measures and BMPs:

- Roadway areas will be restored to their original grades, drainage condition, and rock surface.
- Exposed soil in overland segments that are affected by construction will be seeded when there is adequate soil moisture, and reseeded in the spring if a healthy cover crop does not grow.
- Straw mulch will be placed over the seeded areas to stabilize the soil surface until permanent vegetation is established.
- Sediment fences and check dams will remain in place and be maintained until the affected areas are well vegetated.

- Overland corridors will be constructed with waterbars adequately spaced so that surface drainage continues to natural drainage patterns, with minimal diversions through ditches and culverts.
- Regular maintenance of drainage facilities will be conducted to ensure continued proper operation.

Policy: The county shall promote an environment free from unnecessary, excessive and offensive noise that may jeopardize the health, safety, and welfare of county citizens.

Exhibit X provides an assessment of the existing acoustical environment and anticipated Project sound levels. Exhibit X describes sound level thresholds derived from the Oregon Department of Environmental Quality (ODEQ) noise regulations (OAR 340-035-0035), which are used to assess the significance of impacts to noise sensitive properties. OAR 340-035-0035 defines “noise sensitive property” as “real property normally used for sleeping, or normally used as schools, churches, hospitals or public libraries. Property used in industrial or agricultural activities is not Noise Sensitive Property unless it meets the above criteria in more than an incidental manner.”

As noted in the Environmental Assessment (BLM 2016b), during operation of the Project, the transmission line would produce corona-generated noise similar to noise levels associated with the existing transmission lines. For lines rated at 230 kV and lower, corona noise is typically very low (for example, 25 dBA [A-weighted decibels] at the right-of-way edge) and is usually not noticeable (California Public Utilities Commission 1999). Based on typical noise levels for similar voltage transmission lines, noise levels at the edge of the right-of-way are estimated to be approximately 20 dBA during fair weather, and 45 dBA during foul weather (BPA 2010), which is below Oregon’s 55 dBA residential daytime noise impact threshold, and 50 dBA residential nighttime noise impact threshold. Therefore, there will be no unnecessary, excessive and offensive noise resulting from the proposed Project transmission lines to nearby residences.

For the Sams Valley substation, the Project has a design goal threshold of 10 dBA above the background level to represent point where the audibility of Project noise might be characterized as an adverse noise impact per the OAR 340-035-0035 (1)(b)(B)(i). As the Project progresses, the acoustic modeling analysis and compliance assessment will be refined to incorporate ambient sound data collected in the vicinity of the Sams Valley Substation as well as any further design and/or mitigation changes, if necessary. Final design of the Sams Valley Substation will be specified to comply with all applicable ODEQ noise regulations; OAR Chapter 340, Division 35. In general, operation noise from the substation taking into account mitigation, as necessary, would not negatively affect the county citizens.

Forest Lands Element

Policy: The county shall conserve its forest resources, reduce conflicts between forest and nonforest uses, and encourage a sustained yield of forest products.

Conflicts can occur through physical land conversion to non-resource uses or as indirect impacts on surrounding forest land. Routing of the transmission line through the Goal 4 forest lands cannot be

avoided, due to the location of the existing and proposed substations and the 500kv line (as shown on Figure K-2). However, the Project was sited in an existing transmission line right-of-way, thereby minimizing the amount of tree cutting necessary to construct the project. In addition, the Project will utilize existing access roads, improved where necessary, to further minimize the loss of forest land or impacts to forest uses. Because the Project is a utility project that already utilizes existing rights-of-way, it won't introduce new uses that could pose a potential conflict to forest use. Section xx provides further discussion that demonstrates consistency with this policy

Policy: Activities on forest lands should be carried out to the benefit of forest production, domestic livestock grazing, watershed protection and aquifer recharge maintenance, wildlife and fisheries habitat, open space and scenic resources, recreation, and controlled mining.

To address potential impacts to forest lands, PacifiCorp will implement certain minimization and mitigation measures, such as: riparian area protections, herbicide BMPs, fire protection, and erosion control. (See the subsequent discussion under Section 5.2.2.2 for more details regarding minimization and mitigation measures.) With minimization and mitigation measures including siting the Project in an existing utility corridor, the project complies with the Forest Conservation policy.

Natural and Historic Resources Element

Policy: The county shall work with The Nature Conservancy, the Natural Heritage Advisory Council, and other affected agencies and organizations in ensuring that natural areas are appropriately identified and preserved. These resources will be inventoried in conjunction with periodic review to satisfy OAR 660- 023-0000 and the requirements of Goal 5.

The Project Transmission Line will pass through the Table Rocks which is jointly managed by the Nature Conservancy and BLM. Exhibit L addresses impacts to the Preserve and other natural areas. In general, impacts will be minimized and mitigated through siting the Project in an existing utility corridor and implementing erosion control and other environmental BMPs. In addition, Exhibit L includes a condition (Protected Areas Condition 1) requiring coordination with the Nature Conservancy and BLM to ensure the Project is consistent with preservation goals for the Preserve and other natural areas as applicable.

Policy: In conjunction with the Oregon Department of Fish and Wildlife and other affected agencies, the county shall provide for the protection of a productive and healthy fish and wildlife community and habitat, and shall protect threatened or endangered species.

Vegetation management will be performed in accordance with the specifications identified in Attachment P-5. Integrated vegetation management works to minimize adverse impacts to fish and wildlife habitat and species by establishing sustainable plant communities that are compatible with the facility while promoting plant diversity and establishment of a sustainable supply of forage, escape and nesting cover, and movement corridors.

Policy: The county shall actively promote the identification and preservation of historic resources.

Exhibit S provides an analysis of potential significant adverse impacts of the Project to historic, cultural, and archaeological resources. HDR, Inc. (HDR), on behalf of PacifiCorp, conducted a records review followed by field surveys. The records review included all areas within 0.25 miles of the Analysis Area for the Project. Field surveys were conducted within the Analysis Area where landowner access could be obtained. There are no historic or cultural resources identified within the Analysis Area that are listed on the NRHP. One archaeological site (35JA 00274) identified by surveys in the Site Boundary has been recommended as eligible for listing on the NRHP. Nine other archaeological sites (HDR-SV-01, -02, -04, -06, -09, -11, -13, 35JA 00200, and 35JA 00275) identified by surveys in the Site Boundary have not been evaluated for NRHP eligibility, and are considered potentially NRHP-eligible. NRHP-eligible and unevaluated resources will be avoided by the Project and monitored during construction. (See Exhibit S, Section 6.3.). The already completed surveys and Cultural Resources Protection Conditions 1 and 5 (see Exhibit S) are consistent implement this policy.

Natural Hazards Element

Policy: County land use actions shall be based upon a determination of acceptable risk of wildfire hazards, and such hazards shall be reduced through positive county action in terms of guiding development and improving fire protection services.

The Project is expected to pose a low fire risk. All facilities will be designed per recommendations of the IEEE Guide for Substation Fire Protection (979-2012) and the UFC for Fire Protection Engineering for Facilities (UFC 3-600-01). Large trees adjacent to the existing transmission line right-of-way pose a threat if a conductor blows close enough to arc to trees, causing them to catch fire or ignite surrounding vegetation. Vegetation, if allowed to become overgrown, may grow into the clearance area of the conductors. This poses an additional risk of fire due to arcing or direct contact, and may also cause power outages. During construction, trees that pose a hazard to the proposed transmission line and exceed transmission line clearance requirements will be cleared from the right-of-way. During operation and maintenance of the Project, vegetation that is overgrown and poses a hazard to the transmission line may be cleared on an as-needed basis. Additionally, precautionary measures will be taken during construction to reduce fire risk. Construction equipment will be monitored where activities may present safety issues, and fire suppression equipment will be carried on all vehicles and equipment. For these reasons, the Project is consistent with this Policy.

Policy: The county shall prohibit the placement or construction of new buildings within the floodway of rivers, and streams, with the exception of replacement of existing development. All construction for development in the 100-year floodplain or floodway shall be in compliance with the standards outlined in the land development ordinance.

The Project will not construct new buildings in the floodway of rivers and streams. The Project will only include replacement of structures in the 100-floodplain. The Project demonstrates compliance with the Land Development Ordinance in Section 5.2.2.2.

Policy: The county shall minimize the damaging effects of stream erosion and deposition through enactment of appropriate ordinances and/or cooperative efforts with their concerned agencies and organizations.

The Project transmission line will span streams and their associated riparian corridors, to the extent possible, and will retain existing riparian vegetation for use as wildlife travel corridors. Access roads will use existing bridges where avoidance of stream crossings isn't possible. An existing bridge will be used to cross Sardine Creek and Sams Creek. Because Class 1 streams are largely avoided or existing bridges will be used to cross them, there will be no significant erosion and deposition. Soil Protection Condition 2 (see Exhibit I) further demonstrates that the Project is consistent with this Policy.

Policy: County land use actions shall be based upon a determination of acceptable risk of slope erosion hazards.

Risk of slope erosion is addressed in detail in Exhibits H and I. As described in Exhibit H, the runoff potential and water erosion hazard for the identified soils at the site range from low to high, with higher erosion potentials associated with steeper slopes, especially on slopes exceeding 25 percent (Table I-1). U.S. Climate Data (2017) reports that the site vicinity receives approximately 31 inches of rainfall per year. The erosion potential and available precipitation, therefore, make site soils sensitive to water erosion during winter and spring months when most of the precipitation occurs, particularly where slopes are steep.

Most soil erosion impacts will be of limited duration, occurring predominantly during the construction period of approximately 1 year. The areas used only for construction will be reclaimed when the best season exists for replanting, typically in the fall or spring. Reclamation activities may include regrading to original land contours, replacing topsoil, and revegetation (see Exhibit P).

During operations, maintenance or repair activities may also require reclamation in small areas in or around the Project features. Existing gravel roads will be used to access Project features. PacifiCorp does not anticipate that significant soil disturbance or erosion will result from typical operations. The substation area will be covered with gravel and/or pavement that will have a low susceptibility to wind and water erosion.

Policy: In areas of known mass movement hazards, development shall be restricted to the extent necessary to assure that risk does not exceed an acceptable level.

Exhibit H provides information on landslide considerations for the Project. Landslides are indicated at various locations along the existing transmission line (Figure H-1). While most of the structure locations on the existing 115 kV Grants Pass-Sams Valley Transmission Line are outside of landslide areas, there are a few locations where the existing structures are located inside landslide areas. Upon review of the overlay of landslide areas on aerial imagery, these areas appear to be

older landslides and lack fresh landslide scarps, are considerably revegetated, and occur on fairly shallow slopes.

The new double circuit 230/115 structures will be placed adjacent to existing structures. Considering the existing structures have not experienced landslide issues while in place, a potential reactivation of these landslides is unlikely and will pose a low risk to public safety because they are located in unpopulated areas.

If slope stability issues are identified during the final design geotechnical investigations, the structures will either be relocated during the micrositing process or else remedial measures to improve slope stability will be implemented.

Policy: County land use actions shall be based upon a determination of acceptable risk to seismic hazards.

Exhibit H provides information on seismic considerations for the Project. The probability of a fault displacement at the Project is considered to be low because of the absence of known or mapped potentially active faults in the Project area, and particularly within the Site Boundary. For facilities designed to the current IBC and OSSC (2014) guidelines for Site Class D, the design seismic event will have a 2 percent chance of exceedance in the next 50 years (or an event with an approximate 2,475-year recurrence interval). The Project will be designed for this event, to avoid life threatening structural damage from either the vibrational response of the structure or from secondary hazards associated with ground movement or failure, such as landslides, lateral spreading, liquefaction, fault displacement, or subsidence. It is generally assumed that if significant structural damage can be prevented, the risk to human safety will be minimal. Therefore, the Project is consistent with this Policy,

Public Facilities and Services Element

Policy: Proposed linear transmission facilities shall be routed along existing corridors, except in those instances where existing corridors cannot provide appropriate routing. Alternative siting must comply with the Jackson County Land Development Ordinance.

The Project is routed along an existing transmission line corridor, as shown on Figure C-2. Therefore, it is consistent with and implements this policy.

5.3.2.2 Jackson County Land Development Ordinance

Land use and development in Jackson County is governed by the Jackson County Land Development Ordinance (LDO). As shown in Table K-1, portions of the Project will be located in the following zones in Jackson County.

- Exclusive Farm Use
- Forest Resource
- Open Space Reserve

- Rural Residential - 2.5
- Rural Residential – 5
- Urban Residential
- Woodland Resource
- Aggregate Removal
- General Industrial

EFU District

The proposed substation and portions of the transmission line will be partially located in Jackson County EFU zoning. These uses are permitted pursuant to ZDO table 4.2.1, shown below:

TABLE 4.2-1: USE TABLE FOR EXCLUSIVE FARM USE (EFU) DISTRICT
 1 = Type 1 2 = Type 2 Review 3 = Type 3 Review 4 = Type 4 Review
 X = Prohibited HVFL = High-Value Farmland

#	USE	HVFL	ALL OTHER	STATE LAW REFERENCE	SEE ALSO
45	Utility facilities necessary for public service, including wetland waste treatment systems, <u>not including</u> commercial facilities for generating electrical power for public use by sale, or transmission towers over 200 feet high	2	2	ORS 215.275 and .283(1)(d); OAR 660-033-0120 & 0130(16)	4.2.10(C) 6.3.6(A)

The LDO allows a substation in EFU-zoned land as a “utility facility necessary for a public service.” LDO 4.2.10(D). This is a direct incorporation of the parallel provision in ORS 215.283(1)(c), although the LDO appears to not have been updated to reference the current codification of that statute. That statute explains that the applicable criteria for such use (which is reflected in the LDO) are contained in ORS 215.275, which provides as follows:

Utility facilities necessary for public service; criteria; rules; mitigating impact of facility.

- 1) *A utility facility established under ORS 215.213 (1)(c)(A) or 215.283 (1)(c)(A) is necessary for public service if the facility must be sited in an exclusive farm use zone in order to provide the service.*
- 2) *To demonstrate that a utility facility is necessary, an applicant for approval under ORS 215.213 (1)(c)(A) or 215.283 (1)(c)(A) must show that reasonable alternatives have*

been considered and that the facility must be sited in an exclusive farm use zone due to one or more of the following factors:

- a) Technical and engineering feasibility;*
 - b) The proposed facility is locationally dependent. A utility facility is locationally dependent if it must cross land in one or more areas zoned for exclusive farm use in order to achieve a reasonably direct route or to meet unique geographical needs that cannot be satisfied on other lands;*
 - c) Lack of available urban and nonresource lands;*
 - d) Availability of existing rights of way;*
 - e) Public health and safety; and*
 - f) Other requirements of state or federal agencies.*
- 3) Costs associated with any of the factors listed in subsection (2) of this section may be considered, but cost alone may not be the only consideration in determining that a utility facility is necessary for public service. Land costs shall not be included when considering alternative locations for substantially similar utility facilities. [***]*
- 4) The owner of a utility facility approved under ORS 215.213 (1)(c)(A) or 215.283 (1)(c)(A) shall be responsible for restoring, as nearly as possible, to its former condition any agricultural land and associated improvements that are damaged or otherwise disturbed by the siting, maintenance, repair or reconstruction of the facility. [***]*
- 5) The governing body of the county or its designee shall impose clear and objective conditions on an application for utility facility siting under ORS 215.213 (1)(c)(A) or 215.283 (1)(c)(A) to mitigate and minimize the impacts of the proposed facility, if any, on surrounding lands devoted to farm use in order to prevent a significant change in accepted farm practices or a significant increase in the cost of farm practices on the surrounding farmlands.*
- 6) The provisions of subsections (2) to (5) of this section do not apply to interstate natural gas pipelines and associated facilities [...].*

Subsection (1) of the statute explains what qualifies as a utility facility necessary for a public service. Subsection (2) lists the only factors that an applicant must consider in order to satisfy the statute. Subsection (3) restricts consideration of costs in the alternatives analysis. Subsection (4) does not apply to the Application because construction will not occur on any agricultural land currently being used for agricultural purposes. Subsection (5) allows the County to impose conditions to prevent a significant change in accepted farm practices or a significant increase in the cost of farm practices. It does not require PacifiCorp to address the possibilities of such impacts or explain how they can be mitigated in the first instance. Subsection (6) does not apply.

ORS 215.275 is incorporated verbatim into the LDO at Section 4.2.10(D). No other criteria apply to the Application because a “utility facility necessary for a public service” is permitted under subsection (1) of ORS 215.283, and therefore may not be more strictly regulated in local codes than by state law. *Brentmar v. Jackson County*, 321 Or 481, 496 (1995). This also prohibits application of County site design standards.³ Also, the Oregon Court of Appeals has explained that ORS 215.275 may not be interpreted in light of other legislative policies or concerns, be they local or statewide. *WKN Chopin, LLC v. Umatilla County*, 66 Or LUBA 1 (2012).⁴

The Oregon Land Use Board of Appeals (LUBA) has issued several opinions on this statute, most of which attempt to define what is a “reasonable alternative” for purposes of ORS 215.275(2). Out of these opinions, a few general precepts are apparent.

First, a “reasonable alternative” must be a non-EFU site. PacifiCorp has no obligation to review any other EFU-zoned sites for the analysis, even if use of those sites would result in less overall disturbance of EFU land from transmission lines needed to connect to the substation. *WKN Chopin v. Umatilla County*, 66 Or LUBA 1 (2012).

Second, the need for the facility is defined by a utility, and LUBA will not second-guess it. “A utility’s decision about its service needs should be respected and [...] a site that does not meet those needs is not a reasonable alternative.” *Sprint PCS v. Washington County*, 186 Or App 470, 480-81 (2003). Although LUBA has opined that a utility’s objectives that do not advance the goal of providing service should not disqualify an alternative site (*Id.*), the corollary is also true: alternatives may be determined to not be “reasonable” based on objectives *consistent* with providing utility service.

Third, a “reasonable alternative” does not require a different methodology for providing the service. *Id.* at 479.

It is with the above precepts in mind that PacifiCorp prepared the enclosed alternatives analysis.

Service Need

The proposed substation is needed as part of the larger Project, which has been previously described. The enclosed alternatives analysis explains that the Sams Valley Substation is needed for a number of reasons, as described in detail in Exhibit N. These include the need to maintain compliance with the North American Electric Reliability Corporation (NERC) and Western Electricity Coordinating Council (WECC) requirements for accommodation of future load growth, to provide redundant paths for power throughout the region, and to avoid power disruptions and/or system overload caused by failure of other substations.

³ The Oregon Land Use Board of Appeals (LUBA) has specifically opined that County design standards do not apply in applications for a “utility facility necessary for a public service” under ORS 215.283(1)(c). *T-Mobile USA v. Yamhill County*, 55 Or LUBA 83, 88 (2007).

⁴ Where counties incorporate state land use provisions into their local codes, their interpretation is a question of state, not local law. See, e.g. *Spiering v. Yamhill County*, 25 Or LUBA 695 (1993) (county’s interpretation of ordinance implementing a state statute is a question of law for LUBA to decide).

In order to satisfy the identified service needs, PacifiCorp seeks a site that will satisfy several objectives. First is the need to co-locate within existing transmission right-of-way used for the Project. A logical extension of this objective is to avoid having to extend the proposed 230 kV line farther than is necessary to provide the needed additional capacity and redundancy, and to avoid having to construct tap lines, either of which may require additional right-of-way that is not practical to acquire. Thus, the most desirable location from an engineering perspective is the preferred location because it is at the intersection of the new 230 kV and 500 kV lines. Second is the need to construct a substation that meets all regulatory requirements and also is capable of connecting the 500 kV and 230 kV to meet the necessary reliability standard. Such a station is designed to reduce hazards and to ensure a maximum level of security. These needs result in a substation design of at least 20 acres. Finally, as a redundancy project, there is a need to avoid co-location with other substations so that the new substation will not be affected by a security breach or other emergency affecting another.

Identified Alternative Sites

As explained in the revised analysis, reasonable alternative sites must be those along the proposed alignment of the Project because it is intended to use existing transmission rights-of-way. For purposes of the analysis, the alignment of the new 230 kV is fixed, although specific locations of new towers within the existing right-of-way have yet to be determined. Therefore, PacifiCorp reviewed all sites within one mile of the proposed and existing transmission line corridors. This is in recognition of the fact that extending tap lines more than one mile is impractical, in light of the substantial additional right-of-way required, potential displacement of existing uses, uncertainty with respect to required regulatory approvals, and natural resource impacts. This did not, however, result in a reduction of the number of sites analyzed. Originally, PacifiCorp reviewed 20 alternative sites throughout EFU and non-EFU zoned. However, as ORS 215.275 requires analysis of non-EFU sites only, Sites 1-10 and 19 are excluded from revised analysis because they are located on EFU-zoned land.

Alternative sites for purposes of this alternatives analysis are numbered 11-18 and 20. Most of these alternatives would require additional, and in some cases relatively long tap lines to connect the substation to the existing 500/230 kV transmission right-of-way. In all cases except for the preferred alternative (Site 1), the proposed 230 kV line would have to be significantly extended beyond what is necessary to connect with a more distant substation, creating substantial cost increases for the other alternative sites.

Attachment K-1 includes a detailed explanation of why each alternative site should be rejected pursuant to the factors in ORS 215.275(2). The following summarizes the reasons why the Council can find that Site 1 is the only feasible locations for the Sams Valley Substation.

4.2.10 Utility/Solid Waste Use Regulations

D) Utility Facilities Necessary for Public Service [ORS 215.275; 215.283(1)(d); OAR 660-033-0120; and 0130(16)]

A utility facility is necessary for public service if the facility must be sited in the EFU zone in order to provide the service. To demonstrate that a utility facility is necessary, an applicant must show that reasonable alternatives have been considered and that the facility must be sited in the EFU zone due to one (1) or more of the following factors:

a) Technical and engineering feasibility;

The need for siting the Project on EFU lands in Jackson County is largely driven by technical and engineering feasibility considerations. As noted above, system modeling indicates that a new 230 kV line between the existing Grants Pass Substation and a new 500/230 kV substation (to be located north of Medford), is necessary for system reliability. This need arises under the system operating standards established by the NERC and its Regional Reliability Council, WECC. Site 1 meets the NERC and WECC system modeling requirements to provide a new 500 kV/230 kV substation that connects the new 230 kV line to the existing 500 kV Dixonville–Meridian line.

A minimum site size of 20 acres and location outside of the FEMA-mapped 100-year floodplain are necessary to support the substation. This is driven by the need to avoid potential flood hazards and to provide the necessary clearances between substation equipment, as explained in Attachment K-1.

Certain alternative sites are not feasible for technical and engineering reasons. First no alternative sites are located at the intersection of the 230 kV and 500 kV lines. Second, all sites located in the unincorporated urban area of White City, near the Whetstone Industrial Park, would require a minimum 3.7-mile extension (necessary to serve Site 11, the closest alternative to Site 1) of the new 230 kV line. This cost would be in addition to the cost of the proposed reconductoring of the existing 230 kV line. Third, several of the sites (including Sites 13, 15, 16, and 20) would require the substation to be electrically “behind” the Whetstone Substation, requiring complicated tap line routing around the substation to make the adequate connection.

b) The proposed facility is locationally dependent. A utility facility is locationally dependent if it must cross land in one (1) or more areas zoned for exclusive farm use in order to achieve a reasonably direct route or to meet unique geographical needs that cannot be satisfied on other lands;

The proposed transmission line must travel between the Grants Pass Substation east of Grants Pass and a new substation to be located north of Medford. As shown in Figure K-2, there is no reasonably direct route between these two points that avoids crossing EFU lands in Jackson County.

The substation must be located within close proximity to where the existing 500 kV Dixonville–Meridian and 115 kV Grants Pass–Lone Pine transmission line corridors intersect. The Sams Valley Substation site provides the only alternative for a direct link from the existing 500 and 230kv rights-of-way. Alternative sites would require an indirect link by way of an extension of the proposed 230 kV line outside of the Project Area southward to the unincorporated urban area west of White City. As explained above, in several of these locations tap lines would need to be very long and include complicated routing to provide the necessary connection.

The Project includes very short tap lines to drop the new 230kV line into the substation and to connect the existing lines to the substation, which lines will be almost entirely located on the substation site. A “tap line” is a connection line that begins at the transmission line and then connects that transmission line into the substation. If the substation is not located directly underneath the intersection of the existing 500 kV and the new 230 kV, long tap line connections will be needed between the substation and 500 kV/230 kV lines. The farther the interconnecting transmission line resides from the substation, the longer the tap line. Any new section of a 500 kV line ROW requires 250 feet of width, and the 230 kV ROW requires 125 feet of width. These connecting tap lines would require right-of-way acquisition for the connection distance from the substation to their respective line locations, the distance of which will be dependent upon the location and alignment of the substation. These tap lines would require added resource impacts, easements across new parcels impacting multiple landowners, and additional regulatory approvals. Moreover, where owners are unwilling to sell property necessary for tap lines, PacifiCorp’s condemnation power is likely insufficient to obtain such tap line rights-of-way, pursuant to ORS 772.210(1)(b).⁵ This is explained further in consideration of (d), below.

c) Lack of available urban and non-resource lands;

There is a complete lack of available urban and non-resource land available where the proposed transmission line traverses resource land, in light of the location dependency of the transmission line on the existing transmission right-of-way corridor. There are also no available non-resource lands at the intersection of the existing 500kV and new 230kV lines for a substation, which as explained above, is an engineering locational imperative for the Sams Valley Substation.

It is not clear whether non-EFU alternatives for the Sams Valley Substation are available for purchase. However, alternative sites are likely unavailable as explained below:

- As of September, 2017, none of the sites were listed as being for sale. Attachment K-1.
- Sites 11 and 12 are zoned for “Aggregate Removal” (AR). A substation is considered a “minor utility facility” in the AR zone (see LDO 13.3.310). Such “minor utility facilities” are only permitted in AR zones if an applicant can prove “that [the project] will cause no conflict with the existing or potential use of the property for aggregate or other mineral extraction.” LDO 4.4.4. Give the size of the proposed substation, the fact that it will permanently convert the property to a non-aggregate use, because transmission line right-of-way for an extension of the new 230 kV line and tap lines will be required to traverse AR zoned property, and because substation equipment would be sensitive to blasting for mineral extraction in this area, it is highly unlikely that the AR zone would allow a substation on these sites.
- The majority of Site 15 is owned by the Nature Conservancy and is therefore unlikely to be available.

⁵ A public utility may only condemn rights-of-way up to 100 feet in width for transmission lines less 330 kV or less.

- Sites 13 and 16 are owned by the City of Medford, which may wish to preserve the sites for employment or other uses.
- Site 20 is owned by Rogue Valley Sewer Services (RVSS). During the initial County review of the substation application, RVSS provided letter to the County stating this property is not compatible for a substation, and their unwillingness to sell the property.

For the above reasons and as described in more detail in Attachment K-1, the Council can find that urban and non-resource lands are not available for construction of the transmission line. The Commission can also find that there is a lack of such sites available for the Sams Valley Substation, especially in regards to Sites 11, 12, 15, and 20.

d) Availability of existing rights-of-way;

PacifiCorp has designed the Project to take maximum advantage of existing transmission line rights-of-way. The Project will be sited along and partially within the existing 115 kV Grants Pass-Lone Pine right-of-way corridor. This existing corridor ranges from 40 to 100 feet wide, is approximately 17.9 miles long, and crosses both privately-owned and BLM-managed lands. To accommodate the new line, the existing right-of-way corridor would need to be widened from 40 or 100 feet to 135 feet. The Project also includes reconductoring a 4.7-mile segment of the Grants Pass to Meridian 230 kV transmission line, for which all work will be located within the existing corridor.

Alternative urban or non-EFU right-of-way is not readily available for the transmission project. Pursuant to ORS 772.210(l)(b) the maximum width of new right-of-way that could be acquired through condemnation is 100 feet, whereas PacifiCorp's minimum right-of-way width for a 203 kV line is 125 feet. Also, there is no alternative urban/non-EFU route that would be feasible to make the required connection between the Grants Pass Substation and the 500 kV Eugene-Medford Transmission Line.

The new Sams Valley Substation will be located directly beneath the existing 500 kV Dixonville-Meridian 500 kV transmission line. The substation, which is necessary to support the new transmission line, is planned for three parcels owned by PacifiCorp located near the intersection of Tresham Lane and Oregon State Highway 234. This substation site is located at the intersection of existing transmission lines that are integral to the proposed Project. This situation will greatly reduce potential impacts by avoid the need to develop entirely new transmission lines with new easements across properties that are currently unaffected.

All identified alternative sites would require new right-of-way to be served. As explained above, these sites would all be located near the Whetstone Industrial Park, located west of White City. Several additional miles would have to be added to the proposed 230 kV line to locate the substation in this area. What is more, the tap lines required to serve a substation on the alternative sites would be far longer than those that will be used to "drop" the lines into Site 1 and entirely new rights-of-way would have to be acquired to establish those tap lines. As explained above, it is very unlikely that PacifiCorp could condemn such rights-of-way, given the limitation in ORS 772.210(l)(b). This is a problem that particularly affects sites 17 and 18, which would require tap

lines to run through developed industrial properties, the owners of which would almost certainly be unwilling to sell such developed properties. Even if they were willing, the costs for such right-of-way would be prohibitive.

e) Public health and safety; and

This factor would allow PacifiCorp to reject a site located in a non-EFU zone if public health and safety concerns dictate that the substation must be located in an EFU zone. The substation is not anticipated to have negative public health and safety impacts; therefore, the need for siting the Project on EFU-zoned lands in Jackson County was not driven by public health and safety considerations.

f) Other requirements of state and federal agencies.

Because development of the proposed substation site will result in wetland impacts, a joint U.S. Army Corps of Engineers (USACE) Clean Water Act (CWA) Sec. 404/Oregon Department of State Lands (DSL) Removal-Fill permit (Joint Permit) is required. A Joint Permit application requires an alternatives analysis to determine which site of the identified alternatives would constitute the “Least Environmentally Damaging Practicable Alternative” (LEDPA), using guidelines established by the United States Environmental Protection Agency (EPA), known as the Section 404(b)(1) Guidelines. The result of the 404(b)(1) analysis established that Site 1 is the LEDPA. Based on this analysis, the other alternative substation sites are not likely to be compliant with the Federal Endangered Species Act or the Clean Water Act, or be able to obtain an Army Corp of Engineers 404 permit. To do so would require PacifiCorp to demonstrate that alternative sites—which have already been determined to have more potential wetland impacts than the proposed site—would in fact have fewer impacts. PacifiCorp would be unable to demonstrate that an alternative site is the LEDPA based on the wetland and vernal pool complexes identified on alternative sites.

2) Costs associated with any of the factors listed in subsection (1) above may be considered, but cost alone may not be the only consideration in determining that a utility facility is necessary for public service. Land costs shall not be included when considering alternative locations for substantially similar utility facilities and the siting of utility facilities that are not substantially similar.

As discussed above, costs were not the only consideration in determining the Project’s proposed location. However, the additional costs necessary to utilize non-EFU alternatives are extremely high, which further supports locating the Sams Valley Substation at Site 1. These increased costs are explained in Table 3-1 on page 14 of Attachment K-1. To briefly summarize the costs differences, the increased costs of the *least* expensive alternative site, Site 12, have been calculated to be approximately \$4.9 million. The average increased costs for the non-EFU alternatives is approximately \$12.5 million, the largest of which is associated with Site 17 (\$18.9 million). Note that these increased costs exclude the value of the land itself, which is obviously likely to be much higher for non-EFU sites.

3) The owner of a utility facility approved under this Section shall be responsible for restoring, as nearly as possible, to its former condition any agricultural land and associated

improvements that are damaged or otherwise disturbed by the siting, maintenance, repair or reconstruction of the facility. Nothing in this subsection shall prevent the owner of the utility facility from requiring a bond or other security from a contractor or otherwise imposing on a contractor the responsibility for restoration.

Exhibit W documents PacifiCorp's ability to restore the sites affected by construction, as nearly as possible, to their former, pre-project condition.

4) The County shall impose clear and objective conditions on an application for utility facility siting to mitigate and minimize the impacts of the proposed facility, if any, on surrounding lands devoted to farm use in order to prevent a significant change in accepted farm practices or a significant increase in the cost of farm practices on surrounding agricultural lands.

The above provision requires the County to impose conditions to mitigate the potential impacts of a utility facility on farm uses if such potential impacts are identified. However, it does not require PacifiCorp to identify such potential impacts in the first instance.

As discussed below, there is no evidence that the Project will have adverse impacts on surrounding lands devoted to farm use, or result in significant changes in accepted farm practices or a significant increase in the cost of farm practices on the surrounding farmlands.

5) In addition to the provisions of subsections (1) to (4) above, the establishment or extension of a sewer system as defined by OAR 660-011-0060(1)(f) in the EFU zone shall be subject to the provisions of OAR 660-011-0060.

The Project will not establish or extend a sewer system; this code provision is not applicable.

6) The provisions of this Section do not apply to interstate natural gas pipelines and associated facilities authorized by and subject to regulation by the Federal Energy Regulatory Commission.

The project is not an interstate gas pipeline; this code provision is not applicable.

4.2.3 General Review Criteria for Type 2-4 Permits

The use may be approved only where the use:

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

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

In *Brentmar v. Jackson County*, 321 Or 481, 496 (1995), the Oregon Supreme Court held that uses listed under subsection 1 of ORS 125.283—so called “sub 1 uses”—cannot be subjected to more stringent criteria than those established in state law. A “utility facility necessary for a public service” is listed in ORS 215.283(1)(c), and is therefore a sub 1 use allowed by right in all EFU zones. The sole criteria for such use is set forth in ORS 215.275, which was addressed above. Thus,

the Council should find that LDO 4.2.3, the “General Review Criteria for Type 2-3 Permits,” does not apply.

However, should the Council find otherwise, PacifiCorp has analyzed potential impacts on farm or forest uses and found no evidence that the Project will force a significant change in accepted farm or forest practices on surrounding lands. This is primarily because its construction and/or operation will not convert existing farmland away from active farm uses, will not alter the surrounding lands, and will not generate any permanent increases in traffic that might interfere with farm vehicles.

Farming practices on surrounding land produce crops such as marijuana and alfalfa. Not all surrounding land zoned EFU is actively farmed. Some parcels are uncultivated, some are used for residential uses, and some parcels are used as open space (e.g. Table Rocks). There are 3 high voltage transmission lines running through the study area, as shown on Figure K-1. The Project will be adjacent to or share right-of-way with one of the existing lines, although there will be 35 feet of right-of-way expansion. These properties are already impacted by public utility use. Additionally, intervening non-farm uses and maintained public road rights-of-way provide some existing spatial separation from the Project and surrounding properties used for farm use.

Site-specific variables that may change or increase the cost of farm practices include soil, access, water, sun exposure (light or shading) vegetation condition and fire. The following discussion provides an assessment of the potential effect of the Project on each variable and how that might influence farming practices on surrounding lands.

Soil

Disturbance that could affect soils on surrounding properties would primarily be from erosion. Most soil erosion impacts would be of limited duration, occurring predominantly during the construction period of approximately 1 year. The areas used only for construction would be reclaimed when the best season exists for replanting, typically in the fall or spring. Reclamation activities may include regrading to original land contours, replacing topsoil, and revegetation (see Exhibit P). Localized impacts to soils at and around tower locations, access roads, and facility footprints in the temporary disturbance area will be minimized through the use of BMPs and restoration efforts to restore soil surfaces and vegetation following disturbances.

During operations, the impacts resulting from operations-related activities would be similar to those described above for construction, only on a much smaller scale. Existing gravel roads would be used to access Project features. PacifiCorp does not anticipate that significant soil disturbance or erosion would result from typical operations. The substation area would be covered with gravel and/or pavement that will have a low susceptibility to wind and water erosion. In general, erosion impacts would be confined to the project facilities and will not spill over to adjacent farm or forest lands,

Access

The Project does not include any continually-staffed facilities; therefore, transportation impacts will be due only to construction activities. Access to the transmission line and substation site will be from existing roads, with only an improved driveway needed to connect the substation site to Tresham Lane. Generally, the existing transmission line access roads are not used for farm uses. Interstate-5, OR-99, OR-234, Table Rock Road, and Kirtland Road would be used to transport construction materials and equipment into the Project area from labor and material source locations. These roads are likely to be used by farm vehicles. However, the temporary volume of construction-related traffic would represent an insignificant increase in daily traffic compared to the ADT volumes for roads in the project area (BLM 2016a).

No conditions are necessary to avoid impacts from the Project on farm activities.

Water

Possible contamination from construction equipment or supplies such as lubricant and fuel will be controlled in accordance with PacifiCorp's spill prevention and management plan (see Exhibit G for Soil Condition 1), which include construction and operational standards which ensure that any spills will be contained on site. Sanitary wastes generated during construction will be limited to portable toilets, which will be serviced regularly by a qualified sewage disposal vendor (see Exhibit V).

All water used for construction will be trucked in, and there will be no new wells as part of the Project. The substation site will be graded so that stormwater is collected in a swale and detention pond located on the northern portion of the site. Stormwater along the transmission line will infiltrate on site, within the ROW, because except for the poles, the corridor will be pervious. In summary, Project construction and operations will be implemented according to plans intended to prevent any adverse effects on water used on surrounding farm or forest properties.

Exposure

Project structures will not be at a height or density that they would shade or obstruct light to surrounding land.

Vegetation Condition

The Project will include an invasive weeds plan (Fish and Wildlife Condition 2) to prevent adverse impacts to vegetation on surrounding land and prior to construction.

Fire

The Project is expected to pose a low fire risk. All facilities will be designed per recommendations of the IEEE Guide for Substation Fire Protection (979-2012) and the UFC for Fire Protection Engineering for Facilities (UFC 3-600-01). Large trees adjacent to the existing transmission line right-of-way pose a threat if a conductor blows close enough to arc to trees, causing them to catch fire or ignite surrounding vegetation. Vegetation, if allowed to become overgrown, may grow into the clearance area of the conductors. This poses an additional risk of fire due to arcing or direct

contact, and may also cause power outages. During construction, trees that pose a hazard to the proposed transmission line and exceed transmission line clearance requirements will be cleared from the right-of-way. During operation and maintenance of the Project, vegetation that is overgrown and poses a hazard to the transmission line will be cleared on an as-needed basis. Additionally, precautionary measures will be taken during construction to reduce fire risk. Construction equipment will be monitored where activities may present safety issues, and fire suppression equipment will be carried on all vehicles and equipment. For the substation, a 50-foot primary fuel break will be installed around the perimeter of the substation development to further reduce the potential for the spread of wildfire near this facility (Land Use Condition 6; see Section 2).

The Project will not impact the above identified elements on the surrounding farm and forest parcels as outlined above, and therefore will not force a significant change in or significantly increase the cost of accepted farming and forestry practices in the areas surrounding the Project.

Forest Resource (FR) Districts

Forest Districts include Open Space Reserve, Forest Resource, and Woodland Resource. As explained in the table below, transmission lines are permitted in Jackson County pursuant to the general review criteria for Type 2 through Type 4 permits. LDO 4.3.4.

TABLE 4.3-1: USE TABLE FOR FOREST DISTRICTS 1 = Type 1 2 = Type 2 Review 3 = Type 3 Review 4 = Type 4 Review				
#	USE	TYPE	STATE LAW REFERENCE	SEE ALSO
32	New electric transmission lines with <u>right-of-way widths of up to 100 feet</u> . New distribution lines (e.g., gas, oil, geothermal) with <u>rights-of-way 50 feet or less in width</u>	3	OAR 660-006-0025(4)(q) and (5);ORS 772.210	4.3.4

OAR 660-006-0025(4)(q), which addresses permitted uses in forest lands, provides for development of “new” transmission lines with up to 100 feet of right of way. PacifiCorp is co-locating the new 230 kV transmission line with an existing 115 kV transmission line and will acquire 35 feet of additional right of way for the new transmission line, for a total right-of-way width of up to 135 feet. Under ORS 772.210(1)(b), PacifiCorp could acquire right of way of up to 100 feet in width for a 230 kV transmission line. This is separate from any existing transmission line right of way.

PacifiCorp’s view is that the term “new electric transmission line” includes related and supporting facilities, all of which should be conditionally permitted.⁶ In addition, construction and maintenance

⁶ ORS 772.210, which is referenced in the County provision above, supports this position by providing that a utility can “condemn such lands not exceeding 100 feet in width for its lines (including poles, towers, wires,

access roads are implied as being permitted as accessories to transmission line projects. Therefore, the Council can find that all Project features and related and supporting facilities are conditionally permitted in Goal 4 forest lands under OAR 660-006-0025(4)(q).

In the event that EFSC finds that OAR 660-006-0025(4)(q) does not cover access roads outside the transmission line corridor, PacifiCorp demonstrates in Section 6.3.1 that the substantially modified existing roads outside of the corridor are permitted outright on forest lands under OAR 660-006-0025(3)(h), and that roads comply with statewide planning Goal 4. Alternatively, in the event EFSC concludes that the roads outside the transmission line corridor are not conditionally permitted as part of the new electric transmission line and are inconsistent with Statewide Planning Goal 4, PacifiCorp demonstrates in Section 6.4 that EFSC should provide an exception to Goal 4.

4.3.4 General Review Criteria for Type 2-4 Permits

The use shall be approved only when the following findings can be made:

A) The use will not force a significant change in, or significantly increase the cost of, accepted farming or forest practices on agriculture or forest lands;

The Project does not involve introducing a new use in the Forest Zone. The proposed Project is to expand an existing utility ROW to co-locate a new transmission line with an existing transmission line, and expand to use existing access roads for utility (and other uses depending on the access road) purposes.

Right-of-way widening in forested areas would require permanent removal of tall-growing trees that exceed or may exceed clearance requirements, resulting in changes to the stand structure and composition. Forested vegetation types that are cleared during construction could take longer to revegetate compared to shrub/scrub or herbaceous communities. Over time, as the expanded right-of-way revegetates and vegetation maintenance activities are periodically implemented, these areas are expected to transition to shrub-scrub community types that are more compatible with the transmission facilities.

The exact number and location of trees that need to be removed is not known at this time; preconstruction surveys will be performed to identify trees to be removed. Tree removal will be limited to the minimum amount necessary. Where conductor to ground clearance is 100 feet or more (e.g., a canyon or ravine crossing), tall-growing trees may be left in place as long as the conductor clearance to the vegetation tops is 50 feet or more. Trees with less than 50 feet of clearance may be selectively removed. Following construction, tall growing trees will be prohibited from growing within the expanded right-of-way, while shrub/scrub and herbaceous vegetation will be allowed to revegetate. Trees located on or off the right-of-way that are identified as a danger or a hazard will be removed on an as-needed basis throughout the life of the Project.

As allowed in the existing right-of-way grant, PacifiCorp will maintain the proposed system through line maintenance and vegetation management activities. Ongoing maintenance activities will be

supports and necessary equipment therefor) and in addition thereto, other lands necessary and convenient for the purpose of construction of service facilities."

similar to those used for the existing 115 kV and 230 kV transmission lines and in accordance with Attachment P-5. Vegetation management within and along the right-of-way and access roads will occur periodically to keep vegetation a safe distance from the conductors, maintain access to structures, and to help control noxious weeds. Vegetation management is explained in Attachment P-5. Herbicide use on BLM lands will be restricted to BLM-approved herbicides and application methods.

To address potential impacts to forestry practices on surrounding lands, PacifiCorp will implement certain minimization and mitigation measures for riparian area protections, herbicide management, fire protection and erosion control, including those measures identified below:

- Areas disturbed by construction activities, except permanent road surfaces, will be reseeded with a site-specific native seed mix approved by BLM or a seed mix agreed on with private landowners.
- PacifiCorp will prepare a revegetation plan in consultation with BLM and private landowners. The plan will specify disturbance types and their appropriate revegetation techniques to be applied for proposed project work areas. Techniques used on BLM land will be preapproved and will include reseeded with certified weed-free native or other acceptable species. Following construction, vegetation within the right-of-way will be maintained as specified in Attachment P-5 using a variety of integrated vegetation management control methods, including manual, mechanical, chemical, biological, and cultural options. Vegetation types and heights allowed within the corridor vary within the wire zone-border zone and conductor to ground clearance height
- Clearing of forest and shrub-steppe vegetation will be minimized by limiting activity to those areas that are directly impacted by construction activities and trees that pose a hazard to the proposed transmission line. Existing snags within the right-of-way will be retained, provided they are not a safety hazard (i.e., have the potential to fall onto the line, encroach on minimum clearance standards, or hinder operations and maintenance).
- Existing downed woody material will be left in place, to the extent possible, or lopped and scattered.
- Riparian vegetation removal will take place in accordance with Attachment P-5

Because the Project involves expanding an existing use rather than introducing a new use, and includes measures to minimize or mitigate impacts, there is no evidence that the Project will force a significant change in, or significantly increase the cost of, accepted forestry practices in the areas surrounding the Project in Jackson County.

B) The proposed use will not significantly increase fire hazard or significantly increase fire suppression costs or significantly increase risks to fire suppression personnel. Further, it must be demonstrated that the use will comply with the fire safety requirements in Section 8.7.

As provided in the Sams Valley Reinforcement Project Draft EA, the Project is expected to pose a low fire risk. For fire safety, all facilities (including the substation) will be designed per recommendations of the Institute of Electrical and Electronics Engineering (IEEE) Guide for Substation Fire Protection (979-2012) and the Unified Facilities Criteria (UFC) for Fire Protection Engineering for Facilities (UFC 3-600-01). Large trees adjacent to the existing transmission line right-of-way pose a threat if the conductor blows close enough to arc to trees, causing them to catch fire or ignite surrounding vegetation. Vegetation, if allowed to become overgrown, may grow into the clearance area of the conductors. This poses an additional risk of fire due to arcing or direct contact, and may also cause power outages. During construction, trees that pose a hazard to the proposed transmission line and exceed transmission line clearance requirements may be cleared from the right-of-way. During operation and maintenance of the Project, vegetation that is overgrown and poses a hazard to the transmission line may be cleared on an as-needed basis. Additionally, precautionary measures will be taken during construction to reduce fire risk. Construction equipment will be monitored where activities may present safety issues, and fire suppression equipment will be carried on all vehicles and equipment.

The Project features are exempt from the fuel break requirements of LDO 8.7. The substation improvements are not considered structures and the substation site is not in the Forest Zone. The transmission line is an existing structure that is to be replaced, which exempts the transmission line from compliance with LDO 8.7 — Wildfire Safety. The transmission line will also be parallel to another existing transmission line corridor, which will create a larger fuel break. Nevertheless, Land Use Condition 2 (see Section 2) is provided to ensure that wildfire danger is minimized:

Because the Project will not significantly increase fire hazard and includes conditions to further minimize fire risk, and because the Grants Pass–Sams Valley Transmission Line is not introducing a new use or access roads to the existing transmission line, there will not be increased fire suppression costs or risks to fire personnel from the Project.

A written statement must be recorded in the public records with the deed or written contract, or its equivalent must be obtained from the land owner, which recognizes the rights of adjacent and nearby land owners to conduct forest operations consistent with the Forest Practices Act and Rules. [OAR 660-006-0025(5)]

PacifiCorp will provide a statement meeting the requirements of the above prior to project construction. The statement requirements are included as a Land Use Condition 7 (see Section 2).

Aggregate Removal (AR) District

The Project includes a limited amount of reconductoring of the existing 230 kV line through land zoned AR. As demonstrated in the following table, transmission towers are permitted in the Jackson County AR District pursuant to LDO 6.3.6.

TABLE 4.4-1: USE TABLE FOR AGGREGATE REMOVAL DISTRICT
1 = Type 1 2 = Type 2 Review 3 = Type 3 Review 4 = Type 4 Review

18	Freestanding transmission towers	2		6.3.6
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The Project will not introduce a new use in the Aggregate Removal (AR) zone, which allows transmission towers and by extension, conductors. The Project does involve reconductoring a segment of transmission line on existing poles within an existing utility right-of-way and making improvements to existing access roads. As this work is entirely an improvement of an existing facility and will not expand the footprint of the existing right-of-way, the Council can find that the new use provisions of the Jackson County AR zone do not apply.

Chapter 6. Use Regulations

TABLE 6.2-1:USE TABLE FOR BASE ZONING DISTRICTS																		
		1 = Type 1 Permit 2 = Type 2 Permit 3 = Type 3 Permit 4 = Type 4 Permit																
CATEGORY	SPECIFIC USE	ZONING DISTRICTS																SEE ALSO
		RU	RURAL RESIDENTIAL		URBAN RESDL		COMMERCIAL								INDUSTRIAL			
			RR 00 & 10	RR-5 RR-2.5 & RR-5A	UR-1 UR-4 To UR-10	UR -30	G C	IC	N C	R S	A R S	R R S	S V R S	GI	LI			
	Freestanding transmission towers (new)	2	2	2	-	-	2	2	-	-	-	-	-	2	2		6.3.6(B)	
	Major utility facilities	3	-	-	-	-	-	-	-	-	-	-	-	2	2		6.3.6(B)	
	Minor utility facilities	2	2	2	2	2	2	2	2	2	2	2	2	2	2		6.3.6(B)	
Transportation Improvements	All Types ⁴	1	1	1	1	1	1	1	1	1	1	1	1	1	1		6.3.5(C), 12.3.1	

Portions of the expanded transmission line corridor will be located in the Rural Residential 2.5 and 5 zones, the Urban Residential zone, and the General Industrial zone. According to Table 6.2.1, Use Table for Base Zoning Districts, the Project will consist of minor utility facilities, which are a Type 2 use, and Transportation Improvements, which are a Type I use in the Residential and Industrial zones. The Table refers to the criteria of 6.3.6(B) for minor utility facilities and 6.3.5 (C) for the transportation improvements in residential and industrial districts.

6.3.5

C) Transportation Uses

1) Within existing rights-of-way, transportation improvements, such as bridges, culverts, streets, roads, highways, bike paths and pedestrian access will not require land use application approval for installation, repair or replacement unless subject to the requirements of Chapter 7. Accessory or incidental maintenance yards, stockpile sites, weigh stations, rest areas, and similar types of improvements are Type 2 uses in commercial or residential zones, and Type 1 uses in industrial zones. Such accessory uses may be sited within public rights-of-way or on publicly owned lands adjacent to them.

The Project will include temporary improvements to existing private or federally-owned access roads and one new permanent access driveway. The provisions of Chapter 7 applicable to the

Project are addressed in that section. The Project does not include any accessory transportation uses and is therefore a Type 1 use. In certain cases, access permits from local jurisdictions, which are addressed in the recommended Land Use Conditions 3, 4, and 5 (see Section 2).

6.3.6 Utility/Solid Waste Uses

A) Transmission Facilities

1) Modifications to towers existing prior to adoption of this Ordinance will conform to any original approval requirements, FAA and FCC requirements and the following regulations. Co-location of antennae and related devices on an existing tower facility is a Type 1 use permitted by right.

The new 230 kV transmission line will be co-located with the existing 115 kV transmission line, but will be constructed on new poles. The project includes a section of reconductored transmission line on existing towers. PacifiCorp is including Land Use Condition 8 (see Section 2) to ensure this standard is met.

B) Utility Facilities

1) Maximum use of existing easements and rights-of-way will be made.

The new 230 kV transmission line will be co-located with the existing 115 kV transmission line, but will be constructed on new poles. The project includes a sections of reconductored transmission line on existing towers within an existing right-of-way.

Jackson County Development Standards

The following section discusses the project's compliance with the development standards of the LDO, including overlay zone requirements. As explained above, pursuant to *Brentmar v. Jackson County*, the criteria for the proposed substation are exclusively those set forth or referenced in ORS 215.283(1)(c), which in this case are the applicable criteria of ORS 215.275. LUBA has explicitly held that, in addition to additional discretionary criteria being inapplicable to a "utility facility necessary for a public service," site development and/or design standards are similarly inapplicable. *T-Mobile USA v. Yamhill County*, 55 Or LUBA 83, 88 (2007). For this reason, the Council should find that Jackson County development standards, including dimensional requirement, are inapplicable to the Sams Valley Substation. However, should the Council find otherwise, these are addressed below.

7.1 Environmental and Cultural Overlays

C) ASC 90-1 Deer and Elk Habitat

5) General Development Standards

The following standards apply to all discretionary land use permits subject to review under this Section, unless a condition of approval when the parcel was created required compliance with prior habitat protection standards. The land use decision

will include findings that the proposed use will have minimal adverse impact on winter deer and elk habitat based on:

- a) Consistency with maintenance of long-term habitat values of browse and forage, cover, sight obstruction;*
- b) Consideration of the cumulative effects of the proposed action and other development in the area on habitat carrying capacity; and c) Location of dwellings and other development within 300 feet of an existing public or private road, or driveway that provides access to an existing dwelling as shown on the County 2001 aerials or other competent evidence. When it can be demonstrated that habitat values and carrying capacity are afforded equal or greater protection through a different development pattern an alternative location may be allowed through the discretionary review process described in subsection (6), below;*
- d) Dwellings other than the initial dwelling on a lot or parcel will comply with one (1) of the following, as applicable:*
 - i) A maximum overall density (within the tract) of one (1) dwelling unit per 160 acres in Especially Sensitive Winter Range units, or one (1) dwelling unit per 40 acres in Sensitive Winter Range units; or*
 - ii) Clustering of new structures within a 200-foot radius of the existing dwelling to achieve the same development effect as would be achieved under i), above.*

The figure on page 16-10 of the Natural and Historic Resources element (Jackson County 2008) of the Comprehensive Plan (reproduced from the Goal 5 background document) shows the approximate location of Black-Tailed Deer and Roosevelt Elk Winter range Units. Based on this map, it appears portions of the new transmission line are in the Sardine Creek Unit.

The Project does not include dwellings. There will be minimal vegetation removal compared to the area already affected by existing land uses in the area. In addition, due to the linear nature of the Project, the pre-Project condition of the vegetation, and the proposed vegetation protection measures and actions, the Project will have a low impact in regard to loss of vegetation communities and associated wildlife habitat. To ensure there is no unavoidable impact to habitat, PacifiCorp will prepare a Habitat Mitigation Plan that sets forth the mitigation measures that will be implemented to achieve the goals and standards of ODFW's Habitat Mitigation Policy by providing compensatory mitigation for unavoidable adverse impacts. PacifiCorp recommends Fish and Wildlife Condition 3 (see Exhibit P).

*J) ASC 90-9 Scenic Resources**3) Special Findings Required*

a) Within the scenic resource areas of special concern, any land use action subject to review by the Department will include findings demonstrating that the proposal will have no significant impact on identified scenic views, sites, stream and roadway corridors either by nature of its design, mitigation measures proposed, or conditions of approval; and

b) Land use activities that have no significant visual impact will not attract undue attention, and must visually harmonize with existing scenic resources. This can be accomplished through project designs that repeat the form, line, colors, or textures typical of the subject landscape, and designing the land use activity to blend into the existing landscape.

Exhibit R provides an assessment of scenic resources and impacts for the Project. For the reasons provided in Exhibit R, the Council should find that the Plan does not include an express scenic resource inventory, or land use restrictions or requirements pertaining to scenic areas in Jackson County. Out of an abundance of caution, PacifiCorp offers the following explanation of the scenic resources identified in the Goal 5 Background Document should the Council find that such resources have been incorporated into the Plan. As a general matter, the Council can find that impacts to scenic resources will be minimal because the proposed transmission component of the project will take advantage of developed transmission corridors that already have transmission lines. Thus, there will be little perceptible increase in scenic impacts beyond the impacts of the transmission lines already present.

In the Jackson County Goal 5 Background Document, Table 7.1 Outstanding Scenic Roadways in Jackson County identifies 17 road segments in the county, including two segments of I-5; segments of Oregon highways 140, 227, 66, 62, 238, 230 and 99; and segments of 9 roads under Jackson County, BLM and/or U.S. Forest Service jurisdiction, including Table Rock Road (Jackson County 1990). The scenic road segments in the Analysis Area include 9 miles of I-5 from the Josephine County line to the Rocky Point Bridge; OR 99 from OR 62 in Medford north to I-5; Table Rock Road from OR 234 to the Rogue River; and a few miles of OR 238 east of the Josephine County line. No standards or limitations are set forth in the Plan or Jackson County Land Development Ordinance that govern or limit land uses as a result of these designations, however. The Project facilities would potentially be visible to travelers on a portion of the identified I-5 segment and Table Rock Road. Because the new Project structures would be similar to the existing transmission lines and consistent with the existing character of the landscape in those areas, the visual changes associated with the Project are expected to be unnoticeable to most viewer groups (BLM 2016b). Therefore, The Council can find that the Project would have limited visual effect on I-5 and Table Rock Road travelers, and minimal adverse impact on these scenic resources.

Table 7.2 Outstanding Scenic Streams, Views, and Sites in Jackson County lists Lower Table Rock, Upper Table Rock and Roxy Ann Peak as outstanding scenic views or sites within the Analysis Area.

As addressed in detail in Exhibit R, the Project facilities would potentially be visible to some visitors to Lower Table Rock and Upper Table Rock, but would not be noticed to users at Roxy Ann Peak. Based on the limited extent of possible views of the Project features, the small user population that might experience such views, and the limited degree of visual contrast, the visual impact of the Project for visitors to Lower or Upper Table Rock will not be significant. Therefore, The Council can find that the Project would not have a significant adverse visual effect on this scenic resource. In addition, Table 7.2 identifies the location of the outstanding Lower Table Rock view site as 36S-2W-08, 09, 16 and 17. The protected view shed is located south of Lower Table Rock, where the substation and the 230/115 kV transmission line would be blocked from view.

In the Jackson County Goal 5 Background Document, Table 7.2 Outstanding Scenic Streams, Views, and Sites in Jackson County only lists the Upper Rogue River Corridor/Rogue River Gorge (in northeastern Jackson County above Lost Creek Lake, and not within the Analysis Area) and the Bear Creek Greenway Corridor as scenic stream corridor features. As a result, it is extremely unlikely that any viewers on the Greenway would actually be able to see or notice any Project structures in the vicinity of Mile 14-15. Therefore, The Council can find that the Project would have no visibility from the Greenway, and no adverse visual effect on this scenic resource.

In summary, with respect to ASC 90-9 (3) (b), no significant adverse impacts on important scenic resources will result from Project design, construction, and operation. This outcome is in part attributable to the limited number and extent of scenic resources, and their location relative the Project facilities. It is also in part attributable to the proposed design for the Project transmission structures, with predominant use of single-pole structures (rather than lattice steel) and use of wood or self-weathering steel structures in some locations. As a result, the Project structures would appear similar to existing transmission structures, and the visual change in the landscape would be minor (BLM 2016b).

4) Scenic Quality Performance Standards

To mitigate adverse impacts of development on scenic resources, discretionary land use actions will meet the applicable scenic quality performance standards set forth in this Section. If a standard is found to conflict with any other provision of this Ordinance or local regulation, or state administrative rule or statute, or federal regulation, the more restrictive will govern.

b) Siting Standards

i) Any land use actions that require removal of native vegetation and/or topographic modifications within view of an identified scenic roadway, stream, view, or site will be located where topography or vegetation offers some shielding of the use, and will include development scale, form, and color consistent with the surrounding landscape;

ii) Hilltop siting is generally inappropriate for structures in a scenic area, as are excessive cut and fill operations for the placement of

roadways or structures. Clustering of housing and structures for use of common access, increased setbacks from roadways and water areas, and landscaping will be considered appropriate methods of minimizing adverse scenic impacts; and

iii) Where naturally occurring vegetation or land forms are not present to provide partial screening for land use activities, landscaping with native plant materials will be required to provide this screening in accordance with landscaping standards in subsection (e) below.

The reconductoring activity within the Lower Table Rock viewshed will occur on existing transmission poles in existing ROW. There will be no hilltop siting in the viewshed area. There may be minor vegetation removal during construction, but it would be temporary and disturbed areas would be reseeded post construction. As outlined above, temporarily disturbed areas will be restored to preconstruction conditions. In addition, as identified in Exhibit P (Fish and Wildlife Condition 1), a Reclamation and Revegetation Plan will be prepared for the Project.

c) Structure/Facility Development Standards

Structures and other permanent facilities will be unobtrusively designed in terms of scale and form. Colors used will be earth tones found in the surrounding landscape.

Given current practices and technology, high-voltage electrical transmission lines require structures that are large in scale and somewhat prominent. The transmission line will be consistent with visual elements that are present within the existing rural landscape of the Rogue River and Sams Valley areas, which already includes a mixture of manmade features such as highways, secondary roads, transmission lines, communication facilities, and residential, commercial and industrial structures.

d) Roadway Development Standards

Existing road rights-of-way will be used whenever possible in order to avoid creating new roadways for access. Access points along a scenic roadway corridor will be the minimum number acceptable to the County based on considerations of traffic and public safety. A buffer strip of native vegetation will be retained adjacent to the right-of-way, and such buffer strip will retain all native trees whose removal is not explicitly approved by the County during the development review process.

The Project makes use of existing roads to the extent possible to meet access needs, and will include temporary improvements to existing access roads. As noted above, the disturbed areas will be returned to pre project conditions. The Project does not involve development of any new or improved access points to Table Rock Road. Therefore, the Project is compliant with the roadway development standard of ASC 90-9.

e) Landscaping Standards

Notwithstanding fuelbreak requirements and public health or safety concerns, clearing of native vegetation for discretionary land uses on scenic resource lands will be minimized. All disturbed land will be reclaimed pursuant to a plan prepared by an individual registered with the American Society of Landscape Architects, or other qualified landscape design professional, or professional forester with experience in reclaiming forest lands as determined by the County.

There may be minor vegetating removal adjacent to the northerly slopes of Lower Table Rock during construction. If such clearing occurred, vegetation removal would be limited to the minimum needed to accommodate the transmission line and the effect would be temporary, with the disturbed areas restored post construction. PacifiCorp recommends Fish and Wildlife Condition 1 (see Exhibit P) to meet the standards above.

*K) ASC 90-10 Ecologically or Scientifically Significant Natural Areas**1) Description*

This area includes all lands on which ecologically or scientifically significant natural areas are located. These sites are illustrated on a map contained in the Goal 5 background document and the Natural and Historic Resources Element of the Jackson County Comprehensive Plan, and are either protected or subject to limitations on conflicting uses where they would affect the features and values associated with each site.

No portions of the Project are located within the ASC 90-10 overlay zone. This standard does not apply.

7.3 Transportation and Public Facility Overlays*7.3.1 Airport Approach (AA) and Airport Concern (AC) Overlays**D) Review Standards*

When review is required under this Section, the owner or developer will show that the proposed use or structure will not conflict with aviation activities by submitting the following:

- 1) A statement from the Oregon Department of Aviation that the proposed use or structure complies with state regulations;*

The proposed development is in proximity to a navigation facility and may impact the assurance of navigation signal reception. For that reason, PacifiCorp is recommending Land Use Condition 8 (see Section 2).

Chapter 8 Dimensional Standards, Measurements and Adjustments

8.5 Setback Measurement and Requirements

LDO 13.3 (268) defines a structure, in part, as a building or other major improvement that is built, constructed or installed, not including minor improvements such as utility poles. Therefore the transmission line poles are not subject to the setback requirements.

The Sams Valley Substation property is zoned EFU. LDO Table 8.2-1 requires minimum structure setbacks of 30 feet in the EFU zone. As explained above, the Council can find under *Brentmar v. Jackson County*, these setback requirements are inapplicable. If it finds otherwise, it can find that the electrical boxes will not be subject to the structure setbacks because they are less than less than 200 square feet in area and are less than 10' high at the highest point. However, Land Use Condition 6 (see Section 2) is provided for safety purposes.

Setback standards do not apply to transmission towers located within PacifiCorp right-of-way and even if they did, the location of such towers near the center of the right-of-way ensures that they could be met.

8.6 Stream Corridors and Riparian Habitat

8.6.1 General Setback Requirement for Structures

A) Except as allowed by subsection (B), no structure or other development, including grading, will be located closer than 75 feet to the top of bank of the Rogue River, or closer than 50 feet to the top of bank of any Class 1 or 2 stream or other fish-bearing water area, including lakes, ponds perennial and intermittent fish-bearing streams, but excluding man-made farm ponds. The top of bank will be defined as "bankfull stage" in OAR 141-085-0010(2), "Bankfull Stage means the stage or elevation at which water overflows the natural banks of streams or other waters of this state and begins to inundate the upland. In the absence of physical evidence, the two (2)-year recurrence interval flood elevation may be used to approximate the bankfull stage."

B) The following uses may be allowed in the riparian setback area provided they are designed and constructed to minimize the intrusion into the riparian area and the removal of riparian vegetation. Lands disturbed by development activities will be reclaimed (see Section 8.6.4 below).

3) Replacement of existing structures with structures in the same location provided that no additional riparian area is disturbed.

4) Roads and driveways, in accordance with the requirements of Sections 8.6.2 and 8.6.3, and County approved pedestrian/bicycle paths.

The Project is an allowable use in the riparian setback areas as identified above. Streams and their associated riparian corridors will be spanned, retaining any existing riparian vegetation for use as wildlife travel corridors. Where avoidance isn't possible, existing bridges will be used. An existing

bridge will be used to cross Sardine Creek and Sams Creek. In general, streams and riparian corridors are largely avoided or existing bridges will be used to cross if necessary. In addition, if there stream setback areas disturbed by construction activities they will be reseeded with a site-specific native seed mix approved by BLM or a seed mix agreed on with private landowners. The following measures further demonstrate how the Project will be designed and constructed to minimize the intrusion into the riparian area and the removal of riparian vegetation.

- PacifiCorp will prepare a revegetation plan in consultation with BLM and private landowners. The plan will specify disturbance types and their appropriate revegetation techniques to be applied for proposed project work areas. Techniques used on BLM land will be preapproved and will include reseeding with certified weed-free native or other acceptable species. Ongoing vegetation management will be guided by Attachment P-5. Following construction, vegetation within the right-of-way will be maintained as specified in Attachment P-5 using a variety of integrated vegetation management control methods, including manual, mechanical, chemical, biological, and cultural options. Vegetation types and heights allowed within the corridor vary within the wire zone-border zone³ and conductor to ground clearance height
- Clearing of forest and shrub-steppe vegetation will be minimized by limiting activity to those areas that are directly impacted by construction activities and trees that pose a hazard to the proposed transmission line. Existing snags within the right-of-way will be retained, provided they are not a safety hazard (i.e., have the potential to fall onto the line, encroach on minimum clearance standards, or hinder operations and maintenance).
- Existing downed woody material will be left in place, to the extent possible, or lopped and scattered.
- Riparian vegetation removal will take place in accordance with Attachment P-5. A PacifiCorp forester will coordinate with the agencies prior to vegetation work and discuss any known avian issues or other concerns the agencies may have and plan the work accordingly.

5.3.3 City of Rogue River

The following sections provides analysis regarding compliance with the applicable local substantive criteria from the City of Rogue River Comprehensive Plan (RRCP) and City of Rogue River Zoning Ordinance (RRZO). Only a small portion of the Site Boundary is located within the incorporation limits of the City of Rogue River (see Table K-1) and the only Project facilities proposed in the City of Rogue River are the transmission line structures and conductors. No access roads or work areas are located within the City of Rogue River limits.

5.3.3.1 City of Rogue River Zoning Ordinance

The project crosses through the City of Rogue River lands zoned R-E and R-1 as addressed below.

Chapter 17.15 R-E Residential Estate District

17.15.020 Permitted uses.

The following uses and their accessory uses are permitted outright:

E. Public and public utility buildings, structures and uses; but not including storage or repair yards, warehouses and similar uses.

Per RRZO Chapter 17.05, “structure” is defined as “something constructed or built and having a fixed base on, or fixed connection to, the ground or another structure.” The Project transmission line and towers would be considered a public utility structure and the Project itself would be a public utility use. Therefore, the Project is permissible outright in the R-E Residential Estate District.

Chapter 17.20 R-1 Residential Single-Family District

17.20.020 Permitted uses.

The following uses and their accessory uses are permitted outright:

F. Public and public utility buildings, structures and uses; but not including storage or repair yards, warehouses, and similar uses.

Following the discussion above for the R-E District, the Project would also be permitted outright in the R-1 Residential Single-Family District.

Chapter 17.65 Requirements Applicable in all Zones

17.65.010 Utilities.

A. The erection, construction, alteration, or maintenance by public utility or municipal or other governmental agencies of underground or overhead gas, electrical, steam, or water transmission or distribution systems, collection, communication, supply or disposal systems, including poles, towers, wires, mains, drains, sewers, pipes, conduits, cables, fire-alarm boxes, police call boxes, traffic signals, hydrants, and other similar equipment and accessories in connection therewith, but not including buildings, shall be permitted in any district.

B. The developer shall make necessary arrangements with utility companies or other persons or corporations affected for the installation of underground lines and facilities. Electrical lines and other wires, including but not limited to communication, street lighting and cable television, shall be placed underground.

Per RRZO 17.65.010.A. the construction and maintenance of overhead electrical transmission systems, including poles, towers, wires, and accessories in connection therewith, are permitted in any district.

RRZO 17.65.010.B. applies to development of new land uses, such as subdivisions, and requires developers to work with utility companies to place electrical lines and other wires underground.

Although “developer” is not defined by the RRZO, the term is clearly in reference to a party separate from the utility company. Therefore, this code requirement does not apply to the proposed Project.

Chapter 17.90 Storm and Surface Water Management

17.90.020 Applicability.

No permit for construction of new development or tenant improvements that result in impervious cover greater than 500 square feet within the city and urban growth boundary shall be issued until effects on storm water management are evaluated. The storm water plan shall be reviewed by the public works director and city engineers. All additional fees for this review shall be paid by the applicant. The level of review varies according to the affected area:

- A. Level 1: 500 – 1,999 square feet. No storm water management measures beyond any mitigation measures for pollution reduction or flow control are required.*
- B. Level 2: 2,000 – 4,999 square feet. Conceptual plans that conform to the storm water management best management practices shall be submitted and approved.*
- C. Level 3: 5,000+ square feet. A storm water management plan that conforms to the storm water management manual shall be submitted and approved.*

Areas smaller than 500 square feet may require review, and a greater level of review for properties between 500 and 4,999 square feet may be necessary when the site is identified as having especially sensitive conditions, including but not limited to wetlands and steep slopes.

Separate applicability thresholds for pollution reduction and flow control standards are listed in RRMC 17.90.040. Development projects shall not be phased or segmented in such a manner to avoid the requirements of these rules and regulations.

The Project involves re-use of existing transmission structures or replacement of existing structures in their current locations, and does not constitute new development. Construction will not result in new impervious areas within Rogue River and will not occur in sensitive areas with steep slopes and/or wetlands. Therefore, this section is inapplicable.

Chapter 17.95 Erosion Prevention and Sediment Control

17.95.020 Applicability.

The erosion prevention and sediment control plan shall be reviewed by the public works director and city engineers. All additional fees for this review shall be paid by the applicant. An erosion prevention and sediment control plan shall be required and approved by the public works director and city engineer under any of the following circumstances:

- C. No permit for construction of new development or tenant improvements that result in impervious cover greater than 500 square feet within the city and urban growth boundary shall be issued until effects on erosion prevention and sediment control are evaluated. The level of review varies according to the affected area:*

- 1. Level 1: 500 – 1,999 square feet. No erosion prevention and sediment control measures beyond any mitigation measures for pollution reduction or flow control are required.*
- 2. Level 2: 2,000 – 4,999 square feet. Conceptual plans that conform to the erosion prevention and sediment control best management practices shall be submitted and approved.*
- 3. Level 3: 5,000+ square feet. A comprehensive erosion prevention and sediment control study that conforms to RRMC 17.95.050 shall be submitted and approved.*
- 4. Areas smaller than 500 square feet may require review, and a greater level of review for properties between 500 and 4,999 square feet may be necessary when the site is identified as having especially sensitive conditions, including but not limited to wetlands and steep slopes.*

Per the previous response for Chapter 17.90, this requirement does not apply to the proposed Project. Regardless, PacifiCorp will implement erosion control measures to minimize impacts to wetlands, wildlife habitat, and other resources. A NPDES 1200-C permit, which will incorporate an ESCP, will be obtained prior to construction.

5.3.3.2 City of Rogue River Comprehensive Plan

Goal 2 Land Use Planning

Policy 1. To allow orderly development to occur throughout the City in accordance with adopted ordinances, state statutes, and the policies adopted in this Comprehensive Plan, and to ensure that the current quality of life be maintained.

The Project is a utility project that will utilize existing rights-of-way and modify an existing utility use. Therefore it will not affect orderly development or the quality of life on adjacent properties, and will not introduce new uses along the route through the City of Rogue River. The Project's compliance with the City of Rogue River's Zoning Ordinance is discussed in Section 6.2.3.2. The Project's compliance with state-wide planning goals is discussed under Section 6.3.1.

Goal 5 Open Space, Scenic and Historic Areas and Natural Resources

Policy 1. To strictly control development in the steep areas of the Urban Growth Boundary, in conjunction with the County, in the floodways of the streams, and in the parks and potential parks with the Zoning Ordinance and other ordinances.

By co-locating the facility with an existing utility ROW, the Project is designed to accommodate the natural topography, drainage, soils including streams and associated floodways and avoids parks. Therefore it is consistent with this Policy.

Policy 3. To strive to maintain a “stream corridor concept” in the floodways of the Rogue River, Evans Creek and Wards Creek as recommended in the “Land Use Plan - Fisheries, Jackson County”.

The Project is sited to span stream corridors and associated floodways. Therefore it is consistent with this Policy.

Policy 4. To require that development be accommodated to natural topography, drainage and soils and make maximum use of existing vegetation to minimize erosion.

The Project involves expanding an existing utility ROW to co-locate a new transmission line with an existing transmission line. By co-locating the facility with an existing utility ROW, the Project is designed to accommodate the natural topography, drainage, and soils. Where practicable, vegetation will be left in place to minimize erosion. Tree removal will be limited to the minimal amount necessary. Where conductor to ground clearance is 100 feet or more (e.g., a canyon or ravine crossing), tall-growing trees may be left in place as long as the conductor clearance to the vegetation tops is 50 feet or more. Trees with less than 50 feet of clearance may be selectively removed. Following construction, tall growing trees may be prohibited from growing within the expanded right-of-way, while shrub/scrub and herbaceous vegetation will be allowed to revegetate. Trees located on or off the right-of-way that are identified as a danger or hazard may be removed on an as-needed basis throughout the life of the Project. Vegetation management within and along the right-of-way and access roads will occur periodically to keep vegetation a safe distance from the conductor, maintain access to structures, and to help control noxious weeds. Vegetation management is guided by Attachment P-5.

Policy 5. To encourage continued development and upkeep of the recreational facilities and maintain with pride all open space, scenic and historic areas and natural resources.

The Project is in an existing utility corridor and will not impact recreational facilities or open space, historic areas, or natural resources. Therefore it is consistent with this Policy.

5.4 Directly Applicable Rules, Statutes, and Goals – OAR 3450-021-0010 (1)(k)(C)(iii)

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

Administrative rules and land use statutes pertinent to the Project are those that implement statewide planning goals typically through the local jurisdiction land use approval process. Therefore, they were incorporated into and addressed in those sections above. ORS 197.646(3) explains that LCDC shall notify local governments of new statewide planning goal, statute, or administrative rule requirements that might require changes to acknowledged comprehensive plans and land use regulations. There are no new goals or rules that must be directly addressed for the Project. Therefore, the requirements of the above rule are not applicable.

Should the Council find otherwise, PacifiCorp offers the following overview of how the Project complies with the statewide planning goals, to aid EFSC in its review.

5.4.1 Goal 1, Citizen Involvement

“To develop a citizen involvement program that insures the opportunity for citizens to be involved in all phases of the planning process.”

Goal 1 is a requirement for local governments to establish a public involvement program and does not directly apply to the Project.

5.4.2 Goal 2, Land Use Planning

“To establish a land use planning process and policy framework as a basis for all decisions and actions related to use of land and to assure an adequate factual base for such decisions and actions.”

Goal 1 is a requirement for local governments to establish a land use planning program and does not directly apply to the Project.

5.4.3 Goal 3, Agricultural Lands

“To preserve and maintain agricultural lands.”

This Goal is designed for the preservation of agricultural lands. As addressed above in Section 6.2.2.1, Goal 3 is implemented at a local level through EFU zoning, which limits and regulates uses that could have significant adverse effects on agricultural lands and accepted farming practices. As discussed in Section 6.2.2.1 above, the Project is permitted in the EFU zone, and an assessment of the Project’s consistency with the requirements of ORS 215.275 is provided. The assessment demonstrates that the Project is consistent with the Goal 3.

5.4.4 Goal 4, Forest Lands

“To conserve forest lands by maintaining the forest land base and to protect the state’s forest economy by making possible economically efficient forest practices that assure the continuous growing and harvesting of forest tree species as the leading use on the forest land consistent with sound management of soil, air, water, and fish and wildlife resources and to provide for recreational opportunities and agriculture.”

While the Project is consistent with the underlying policies of Goal 4, the Project m access road improvements located outside of the utility corridor that are not explicitly identified as an allowed use. Although the authorizing provisions in the relevant forestland zones could fairly be interpreted to allow temporary forest roads without an exception, if EFSC finds that a Goal Exception is

required, it can find pursuant to ORS 469.504(1)(b)(B)⁷ that such an exception is warranted in this instance, as explained below.

Goal 4 is implemented through LCDC's applicable rules set forth in OAR Chapter 660, Division 6. PacifiCorp has demonstrated that, for the Goal 4 forest lands that the Project crosses in Jackson and Josephine counties, it is conditionally permitted as a "new electric transmission line." It is assumed that the term "new electric transmission line" includes related and supporting facilities, including access roads, communication stations, and other such facilities, all of which should be conditionally permitted. For that reason, all Project features and related and supporting facilities are conditionally permitted in Goal 4 forest lands under OAR 660-006-0025(4)(q).

Road improvements on Goal 4 forest lands outside of the transmission line corridor should be included as part of the "new electric transmission line" that can be conditionally approved under OAR 660-006-0025(4)(q) because they are required as a related facility and are necessary for construction and operation. Additionally, the topography present in Forest Zones typically does not allow for access roads to linearly follow transmission lines. The existing access road improvements will vary depending on the condition of the existing roads, but generally will include widening of roads to provide a 14-foot-wide travel surface, with a 25-foot-wide travel surface for horizontal curves. Additional improvements may be made to allow for the passage of heavy equipment. However, because there will only be improvements to existing access roads, none of these activities will result in the removal of a significant amount of Goal 4 land from forest use.

In the event EFSC concludes that the improved access roads outside the transmission line corridor are not conditionally permitted as part of the new electric transmission line, EFSC should find that such roads nonetheless comply with statewide planning Goal 4 or grant PacifiCorp an exception to Goal 4 as discussed in Section 5.5.

5.4.5 Goal 5, Open Spaces, Scenic, Historic and Natural Resources

"To conserve open space and protect natural and scenic resources."

This Goal is focused on protecting inventoried natural, scenic and historical resources. As discussed in response to the local applicable substantive criteria, the Project will satisfy local criteria implementing Goal 5 protections in all jurisdictions. As discussed in Exhibits J and P, PacifiCorp will avoid, minimize, and as necessary, mitigate impacts to wildlife and natural resources, including

⁷ ORS 469.504(1)(b)(B) provides that EFSC can find, "[f]or an energy facility or a related or supporting facility that must be evaluated against the applicable substantive criteria pursuant to subsection (5) of this section, that the proposed facility does not comply with one or more of the applicable substantive criteria but does otherwise comply with the applicable statewide planning goals, or that an exception to any applicable statewide planning goal is justified under subsection (2) of this section." According to the Oregon Supreme Court, "ORS 469.504(1)(b)(B) allows a comprehensive inquiry that requires the council to determine compliance with the most specific criteria that it can: local "applicable substantive criteria" where possible; findings of compliance with the statewide planning goals in the alternative; and exceptions to the goals if necessary." *Save Our Rural Oregon v. Energy Facility Siting Council*, 339 OR 353, 369 (2005). Thus, PacifiCorp may offer a proposal for a Goal 4 exception in the alternative.

Class I and Class II streams, and Table Rocks for temporary and permanent impacts associated with Project construction and operation. PacifiCorp demonstrates that the Project is consistent with ODFW's Habitat Mitigation Policy (see the discussion in Exhibit P) and will not result in significant adverse impacts to protected areas or significant or important scenic resources (see discussion in Exhibit R). These EFSC Exhibits reflect the underlying policies and objectives of Goal 5 and support findings that the Project is consistent with Goal 5.

5.4.6 Goal 6, Air, Water and Land Resources

"To maintain and improve the quality of the air, water and land resources of the state."

This Goal is primarily concerned with waste and process discharges to the land, water, and air of the state. As outlined Exhibit V, the Project will have minimal waste discharges and will not degrade any air, water, or land resources. Goal 6 requires compliance with state environmental quality statutes and regulations, which the Project will obtain, as described in Exhibits E and V. Therefore, the Project is consistent with Goal 6.

5.4.7 Goal 7, Areas Subject to Natural Disasters and Hazards

"To protect life and property from natural disasters and hazards"

This Goal is intended to provide appropriate safeguards for developments which could be damaged by natural disasters with potential for resultant injury to persons or property. PacifiCorp has identified natural disaster hazards in Exhibit H. PacifiCorp has proposed adequate safeguards and mitigation measures for those portions of the Project crossing hazardous areas, including addressing geological risks and landslide hazards in Exhibit H. As outlined in Exhibit H, PacifiCorp has taken measures to ensure that the Project is consistent with Goal 7.

5.4.8 Goal 8, Recreation Needs

"To satisfy the recreational needs of the citizens of the state and visitors and, where appropriate, to provide for the siting of necessary recreational facilities including designation resorts."

This Goal is intended to provide appropriate recreational facilities to meet existing and future recreation needs. As discussed in Exhibit T, the Project will not result in a significant adverse impact to any important recreational opportunities or facilities within the analysis area nor will it preclude development of future recreation improvements. For the reasons outlined in Exhibit T, the Project is consistent with Goal 8.

5.4.9 Goal 9, Economic Development

"To provide adequate opportunities throughout the state for a variety of economic activities vital to the health, welfare and prosperity of Oregon's citizens."

This Goal provides certain guidelines for local governments to follow to stimulate orderly economic growth. Reliable electricity is required to stimulate and maintain economic growth. For these reasons and those set forth in Division 27 document, the Project is consistent with Goal 9.

5.4.10 Goal 10, Housing

“To provide for the housing needs of citizens of the state.”

This Goal is intended to assist local governments in developing plans to provide adequate housing. In particular, Goal 10 requires local governments to inventory buildable lands and decide which lands must be used for residential development to meet projected housing needs. The Project is located minimally in residentially zoned lands and has no impacts on the provision of housing needs under Goal 10. The Project will not prevent residential development on buildable lands and will not result in any land being removed from the inventoried buildable lands. Therefore, the Project is not inconsistent with Goal 10.

5.4.11 Goal 11, Public Facilities and Services

“To plan and develop timely, orderly and efficient arrangement of public facilities and services to serve as a framework for urban and rural development.”

This Goal requires local governments to coordinate their land-use planning with a review of the availability of public facilities and services such as water, sewer, and roads. Although the Project is a “utility facility necessary for public service”, it is not a public facility within the meaning of Goal 11. The Project will not require public sewer or water facilities, and impacts to public roads during construction will be minimized. Therefore, the Project is consistent with Goal 11.

5.4.12 Goal 12, Transportation

“To provide and encourage a safe, convenient and economic transportation system.”

This Goal directs local government decisions regarding transportation facilities. As discussed extensively in Exhibit U, the Project will not have a significant adverse impact transportation systems. Construction and operation traffic are discussed in Exhibit U. As noted in Exhibit U, the Project will not result in traffic levels of concern. The Project will involve improvements to private access roads but not improvements to public roads. PacifiCorp will coordinate with the affected local public works and road departments during the final design phase pre-construction and only temporary short term impacts are anticipated during construction, if at all. Therefore, the Project is consistent with Goal 12.

5.4.13 Goal 13, Energy Conservation

“To conserve energy.”

This Goal obliges local governments to maximize energy conservation. Specifically, the Goal emphasizes the efficient siting of land uses and multiple uses of land when possible for energy efficiency. The Project will help meet Oregon’s energy needs in a cost-effective manner. The transmission line will be located within existing transmission corridors to minimize impacts on property owners and existing land uses. Accordingly, the Project is consistent with Goal 13.

5.4.14 Goal 14, Urbanization

“To provide for an orderly and efficient transition from rural to urban land use.”

This Goal governs the transition from rural to urban land uses in areas outside of established urban growth boundaries, focusing on ensuring that urban uses are not sited on rural lands and that adequate services are in place for such uses. The Project is not introducing an urban use on rural land and is not subject to Goal 14.

5.4.15 Goal 15 through Goal 19

These Goals are not applicable to the Project, as the Project Site Boundary is not located in any of the geographic areas covered by these Goals.

5.5 Statewide Planning Goal Exceptions

5.5.1 Identification of Exceptions – OAR 345-021-0010 (1)(k)(C)(iv)

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

For development of the Project in forested areas of Jackson county, the Project is a “new electric transmission line” within the meaning of OAR 660-006-0025(4)(q). Moreover, the Project complies with the applicable conditional use criteria set forth in OAR 660-006-0025(5) as outlined in section 6.2. However, access roads outside of a 500-foot ROW corridor may not be included in the “new electric transmission line” use. Accordingly, PacifiCorp provides a basis for a finding by EFSC that the Project (1) nevertheless complies with the policies underlying Goal 4 or, alternatively, (2) warrants an exception to Goal 4 for any access road improvements in forest lands that are outside of the transmission line corridor included in the “new electric transmission line” use.

As described in detail in Division 27 the Project’s Site Boundary conservatively provides for a 6-foot buffer on each side of each 14-foot-wide access road. Vegetation around the road must be removed to facilitate construction and operation of the Project, although minimal tree removal is expected.

5.5.2 Justification of Exceptions – OAR 3450-021-0010 (1)(k)(C)(v)

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

In accordance with OAR 660-015-0000(4), the policy of Goal 4 is:

To conserve forest lands by maintaining the forest land base and to protect the state's forest economy by making possible economically efficient forest practices that assure the continuous growing and harvesting of forest tree species as the leading use on forest land consistent with sound management of soil, air, water, and fish and wildlife resources and to provide for recreational opportunities and agriculture.

As explained above, the proposed exception, if granted, would not result in substantial conversion of Goal 4 lands away from uses allowed by Goal 4; rather, it would recognize existing transmission line access roads and allow improvement (re-graveling) of the same. Findings explaining the Project's consistency with ORS 469.504(2) are provided below.

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

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

The land subject to the proposed exception consists of access roads outside of the Project Boundary in Jackson County, which may need to be improved. As these roads already exist and will remain, the Council can find that they are "physically developed to the extent that the land is no longer available" for uses consistent with Goal 4.

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

(c) The following standards are met:

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

Should the Council find that the requested exception cannot be approved pursuant to (A), above, it can find that that reasons justify the granting of an exception for access roadway improvements in this instance for the following reasons: (1) the Project serves an important public interest and

cannot be built without the proposed access roads; (2) the adverse impact to forest lands imposed by the access roads will be minimal; and (3) concerns regarding the minor impacts to forest lands raised by the Project are outweighed by the harm that would be caused if the Project could not be permitted.

As described in the Division 27 document, the proposed access roads are an essential component of the Project facilities. During the construction phase, the access roads are necessary to allow materials, equipment, and personnel to access the construction sites. Therefore, without the proposed improvements to existing access roads the Project could not be built or maintained.

Moreover, the Project will use existing access roads in Goal 4 forest lands. The Project is locationally-dependent in that it is co-located with an existing transmission line. Alternative routes would, in fact, have resulted in a far greater number of acres of Goal 4 forest land being removed from forest or related uses for the construction of new access roads.

5.5.2.1 The Project Serves a Critical Public Interest

PacifiCorp is required, by both federal and state laws, to plan for and meet load and transmission requirements as documented in the IRP. PacifiCorp has identified the Project as a necessary component of an overall resource portfolio that best balances cost, risk, and environmental concerns and, as explained in detail in Division 27, both the Idaho and Oregon public utility commissions have acknowledged resource portfolios that identify the Project as a key resource.

The Project is required to maintain compliance with the NERC TPL requirements and reinforce the transmission system to guard against possible conditions that could require future load shedding in the region. Purpose and necessity of this project includes:

- Maintain compliance with NERC TPL-002 requirements (loss of a single transmission element such as a line or transformer) based on projected loads post 2019.
- Maintain compliance with TPL-003 event (loss of two transmission elements) based on projected loads post 2019.

The new 230/115 kV line is required for the following reasons:

- Maintain compliance with NERC TPL-002 for a voltage deficiency and a TPL-003 transmission element loss.

Reconductoring of the existing 230kV line is required to maintain compliance with NERC TPL-003 for an overloading issue for loss of the 500 kV supply to Meridian or the loss of both 500-230 kV banks at Meridian Substation.

Further, PacifiCorp has a statutory obligation to ensure that facilities are in place to prevent any occurrence that may violate compliance with NERC standards. The Project will increase capacity and improve reliability to the region as part of the NERC reliability standards and the WECC system operating standards (NERC 2011). The additional line will help meet new power demands due to regional growth and act as a redundant path for power in the event another local transmission line is damaged or experiences disruption of service. It will improve and strengthen the power grid for

the entire region, including the more than 88,000 Jackson County and 41,000 Josephine County customers of PacifiCorp.

As improvements to existing access roads are necessary to allow this critical public need to be met, the Council can find that the access roads serve a critical public interest.

5.5.2.2 The Benefit to the Public of the Project Outweighs the Minimal Detriment Posed by the Project, Justifying an Exception

As described above, the access roads proposed to be improved in forest lands will impose minimal impacts. Furthermore, the improvements proposed for existing roads will not remove any significant amount of forest lands from their availability for forest uses. Therefore, EFSC can find that the Project will not result in significant adverse impacts to, or significantly increase the cost of, commercial forest operations.

PacifiCorp has demonstrated that the access road improvements are necessary for the construction and maintenance of the Project, that the Project is necessary to serve a critical public interest, and that the access roads are locationally-dependent. The evidence provided by PacifiCorp is sufficient to document compliance with the Goal 4 policy to preserve forest lands; therefore, if EFSC determines that an exception to Goal 4 is required, EFSC should grant the exception.

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

Pursuant to ORS 469.504(2)(c)(B), the significant environmental, economic, social and energy consequences anticipated as a result of the proposed Project have been identified, and adverse impacts will be mitigated in accordance with rules of EFSC applicable to the siting of the proposed Project.

5.5.2.3 Environmental

Minimal new forest land, if any, will need to be cleared for maintenance of the existing roads. The Project will result in a small amount of permanent habitat conversion in forested areas, where trees will be cleared and mature forest will be permanently replaced by shrub-scrub or other non-forested habitat. Once the Project and associated access road improvements have been developed, no further habitat conversion will take place. Permanent impacts to forest lands will be minor and mitigated in accordance with the Fish and Wildlife Habitat Mitigation Plan (see Exhibit P).

5.5.2.4 Economic

As discussed in Division 27, the Project is a transmission project that will have a positive economic impact for the region over both the short term (construction jobs) and long term (reliability for future growth). As discussed above, PacifiCorp has a statutory obligation to ensure that facilities are in place to prevent any occurrence that may violate compliance with NERC standards. The Project

will increase capacity and improve reliability to the region as part of the NERC reliability standards and the WECC system operating standards (NERC 2011). The additional line will help meet new power demands due to regional growth and act as a redundant path for power in the event another local transmission line is damaged or experiences disruption of service. It will improve and strengthen the power grid for the entire region, including the more than 88,000 Jackson County and 41,000 Josephine County customers of PacifiCorp.

5.5.2.5 Social/Energy

The Project will have no significant adverse impacts on public services or facilities, including hospitals, schools, or transportation systems, as discussed in Exhibit U. The Request demonstrates that the Project fits into PacifiCorp's overall resource management strategy, and is designed to support PacifiCorp in its continuing efforts to promote energy efficiency and demand response as outlined in its 2017 IRP.

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

The development of access road improvements associated with the Project is compatible with adjacent land uses. Although there may be temporary disturbances to adjacent commercial forest operations during improvement of existing access roads, there will likely not be any long-term impacts associated with such activities, and the increased serviceability of these access roads may, in fact, enhance nearby forest operations in the future.

Commercial forest operations on surrounding lands may occur periodically and may occur during construction of the Project. Potential interference with such use during Project construction would be limited to traffic interference between logging activities—primarily log hauling—and movement of Project construction equipment and supplies, or improvement of access roads that may be used by the Project and concurrent non-Project forest operations. PacifiCorp will coordinate with local road departments and other to the extent necessary forest operators to time large-load deliveries to the extent such deliveries could potentially conflict with other forest or agricultural uses on surrounding lands. Ongoing forestland maintenance activities on surrounding lands are unlikely to be impacted by the development of access road improvements associated with the Project.

As identified in Exhibit P, PacifiCorp will implement erosion control measures in these areas to minimize impacts to wetlands, wildlife habitat, and agricultural operations and forest roads. Any grading to prepare the roads will be conducted under a NPDES 1200-C permit, which will incorporate an ESCP (see Exhibit I). As described in the Reclamation and Revegetation Plan and the Vegetation Maintenance Plan (see Exhibit P), PacifiCorp will restore temporarily disturbed areas to preconstruction conditions and will implement a noxious weed control plan.

During Project operations, limited activities will occur on access roads, similar to the existing use of the access roads and will be compatible with adjacent land uses. PacifiCorp will use the access roads to inspect the Project components located within the right-of-way and manage vegetation,

consistent with the Vegetation Management Plan (Exhibit P), but generally, such activities will have relatively low impact and are unlikely to cause potential adverse impacts on surrounding forest operations. Access roads are monitored for drainage or erosion control problems and repaired as necessary.

For the foregoing reasons, PacifiCorp demonstrates that the Project is compatible with adjacent land uses, and that measures will be taken to reduce any potential adverse impacts.

6.0 Federal Land Management Plans

6.1 Identification of Applicable Land Management Plans – OAR 3450-021-0010 (1)(k)(D)(i)

OAR 3450-021-0010 (1)(k)(D) If the proposed facility will be located on federal land:

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

The Project will cross lands managed by the BLM. There are two applicable land management plans adopted by a federal agency (BLM) with jurisdiction over the federal land: the Southwestern Oregon Resource Management Plan and Table Rocks Management Area Management Plan. Summaries of the Plans and their purposes are provided below:

6.1.1 Southwestern Oregon Resource Management Plan

This plan, adopted in 2016, provides direction for management of resources on approximately 1.2 million acres of BLM-administered lands in the Klamath Falls Field Office of the Lakeview District, the Medford District, and the South River Field Office of the Roseburg District. Management planning actions will support the following primary objectives:

- Provide a sustained yield of timber.
- Contribute to the conservation and recovery of threatened and endangered species (specifically northern spotted owl and marbled murrelet), including by:
 - Maintaining a network of large blocks of forest to be managed for late-successional forests; and
 - Maintaining older and more structurally-complex multi-layered conifer forests.
- Provide clean water in watersheds including to support conservation and recovery of Endangered Species Act-listed fish.
- Restore fire-adapted ecosystems.
- Provide recreation opportunities.
- Coordinate management of lands surrounding the Coquille Forest with the Coquille Tribe.

6.1.2 Table Rocks Management Area Management Plan

The Table Rocks are approximately 10 miles north of Medford in central Jackson County. Upper Table Rock is situated north of the Rogue River near its confluence with Little Butte Creek. Lower Table Rock is situated on the north bank of the Rogue River across from its confluence with Bear Creek, approximately 1 mile southwest and downstream from Upper Table Rock. The Table Rocks Management Area Management Plan was prepared jointly in 2013 by the BLM and The Nature Conservancy to provide direction for coordinated management of their respective properties in the Table Rocks area. The plan consists of management recommendations that include among others, to: manage the boundary and designation of Table Rocks, protect the scenic values, maintain or enhance the integrity of wildlife habitat for special status species, enhance, and restore natural riparian and wetland ecosystems, preserve and enhance the integrity of native plant communities and ecosystems; and locate, protect, and preserve the integrity of significant cultural resources. In addition, there is a management recommendation and objective for Rights-of-way, Easements and Leases:

J. Rights-of-way, Easements, and Leases

Objective 1: Provide needed rights-of-way and withdrawals while protecting resource values.

1. Continue existing rights-of-way and withdrawals

2. Avoid locating new rights-of-way and withdrawals except when no feasible alternatives are available; use existing corridors/footprints where feasible.

The objective allows for continued use of existing rights-of-way and the use of existing corridors for new rights-of-way. Because the proposed Project will utilize existing right-of-way with a limited increase in right-of-way width, the project is consistent with this objective.

6.2 Differences between Federal and State/Local Land Management Requirements – OAR 3450-021-0010 (1)(k)(D)(ii)

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

The local and state land use requirements and the federal land management requirements are different, and compliance with local and state plans does not necessarily ensure compliance with the applicable federal land management plans, or vice versa. However, because the National Environmental Policy Act (NEPA) review for the Project, the Project Environmental Assessment (BLM 2016) includes an evaluation of the Project's consistency with the applicable federal land management plans, EFSC is required to review RFA4, to the extent feasible, in a manner that is consistent with and does not duplicate review under NEPA⁸. At this time, PacifiCorp has not

⁸ ORS 469.370(13).

identified any differences between state/local and federal land management requirements that require discussion here.

6.3 Compliance with Applicable Federal Land Management Plans – OAR 3450-021-0010 (1)(k)(D)(iii)

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

In cooperation with BLM, PacifiCorp is in the process of assessing the extent to which the Project complies with the standards set forth in the aforementioned land management plans through the Environmental Assessment (BLM 2016). Where the Project is not consistent with a land management plan, the land use plan will be amended.

6.4 Required Federal Land Use Approvals – OAR 3450-021-0010 (1)(k)(D)(iv)

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

In January 2015, PacifiCorp submitted to the BLM updated SF 299 Applications for Transportation and Utility Systems and Facilities on Federal Lands and a Plan of Development. The Plan of Development provides general information on the Project's purpose and need, the currently proposed Project facilities, and the steps that PacifiCorp will follow during construction, operation, and maintenance. The timeline for issuance of right-of-way grants from BLM is a function of the NEPA review process, as well as any required right-of-way negotiation between PacifiCorp and BLM regarding appropriate mitigation.

The BLM district office in Medford, Oregon completed an environmental analysis under NEPA for the Project. The Environmental Assessment (BLM 2016) was available for a 30-day public comment period, which ended on January 6, 2017.

6.5 Estimated Schedule for Issuance of Federal Land Use Approvals – OAR 3450-021-0010 (1)(k)(D)(v)

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

A Record of Decision from BLM is expected in 2017 or 2018. Right-of-way grants for the Project will be issued shortly thereafter.

6.6 Conflicts between Federal and State or Local Land Use Requirements – OAR 3450-021-0010 (1)(k)(D)(vi)

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

There are no conflicts between federal law or applicable land management plans and applicable state or local land use requirements.

7.0 Summary

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

8.0 References

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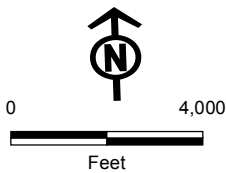
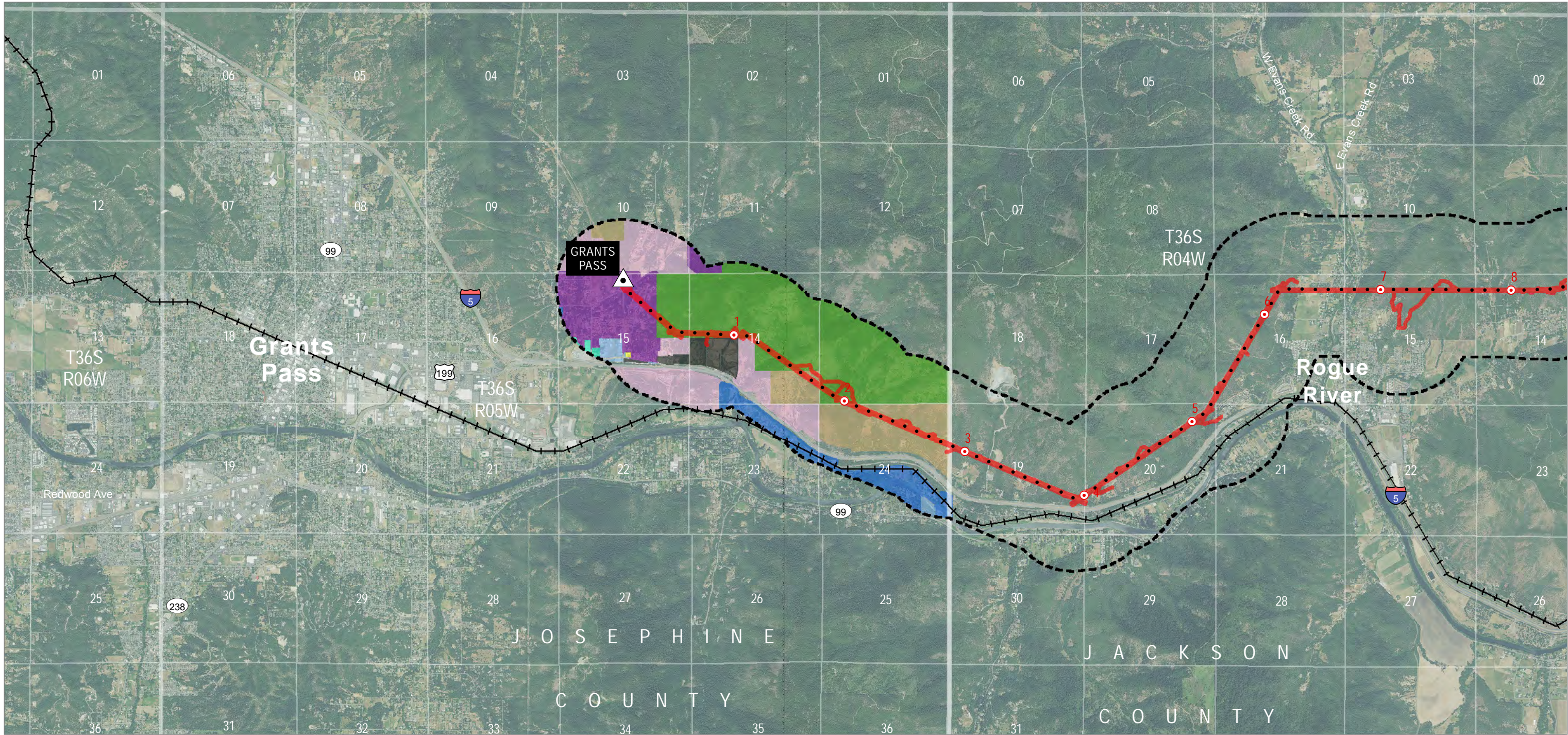
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Figures

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Map
Area

Zoning

Analysis Area (1/2-mile buffer of Site Boundary)

Land Use Zone within 1/2-mile of Site Boundary

- Forest Commercial (FC)
- Light Industrial (LI)
- Rural Commercial (RC)

- Rural Industrial (RI)
- Rural Residential, 1 Acre (RR1)
- Rural Residential, 2.5 Acres (RR2.5)
- Rural Residential, 5 Acres (RR5)
- Urban Area Acception, Committed (UAE-C)
- Woodlot Resource (WR)

Project Features

Site Boundary

Mileposts

Mile

Tenth-mile

Substations

Existing



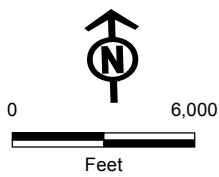
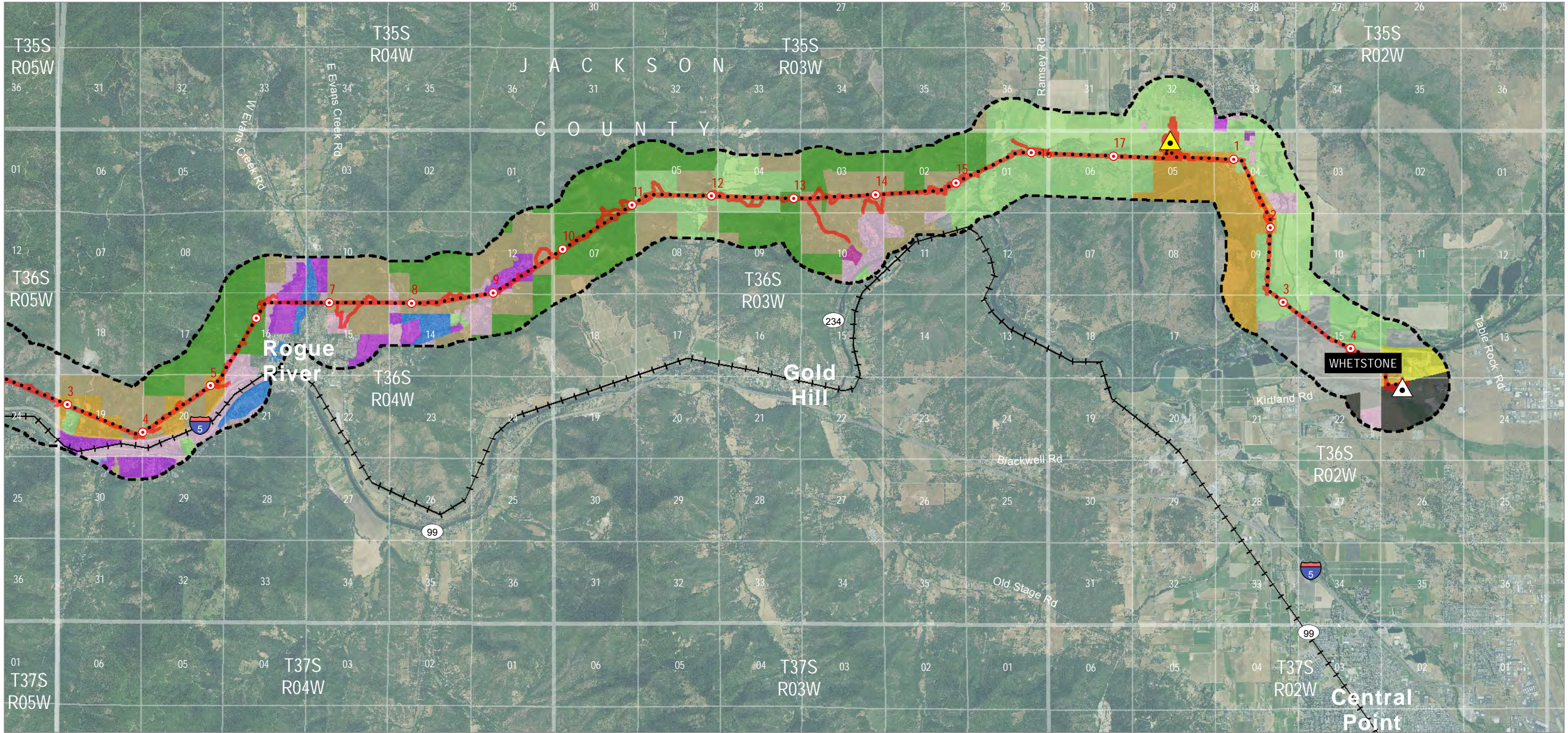
Sams Valley Reinforcement Projects
Josephine and Jackson Counties
Amendment #4

Zoning
Josephine County
Figure K-1

Source(s): Esri, Josephine County, PacifiCorp, USDA (NAIP)

Disclaimer: No warranty is made as to the accuracy or completeness of the data shown, and its use is not intended for other than the stated purpose.

Z:\UtilServ\Sams Valley\Reports\Exhibit K_Land Use\Maps\FIG K-1 Zoning_Josephine County.mxd December 2017



Zoning

Analysis Area (1/2-mile buffer of Site Boundary)

Land Use Zone within 1/2-mile of Site Boundary

- Aggregate Removal (AR)
- Exclusive Farm Use (EFU)
- Forest Resource (FR)
- General Industrial (GI)
- Limited Use (LU)

- Open Space Reserve (OSR)
- Rural Residential - 00 (RR-00)
- Rural Residential - 2.5 (RR-2.5)
- Rural Residential - 5 (RR-5)
- Rural Residential - 10 (RR-10)
- Rural Service Commercial (RS)
- Urban Residential (UR-1)
- Woodland Resource (WR)

Project Features

Site Boundary

Mileposts

- Mile
- Tenth-mile

Substations

- Proposed
- Existing



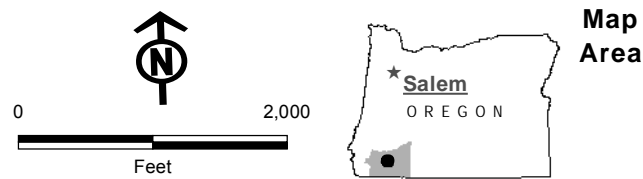
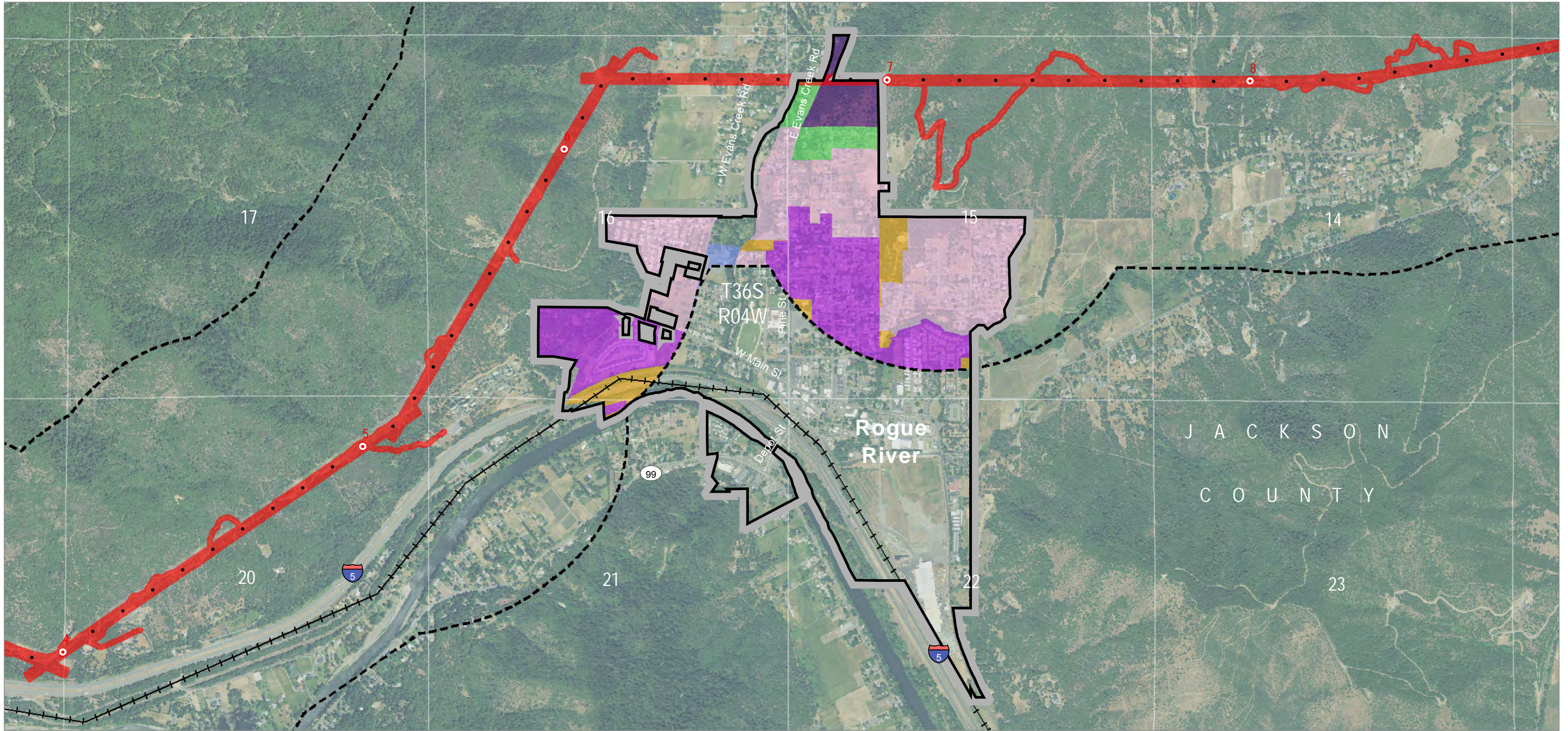
Sams Valley Reinforcement Projects
Josephine and Jackson Counties
Amendment #4

Zoning
Jackson County
Figure K-2

Source(s): Esri, Jackson County, PacifiCorp, ODOT, USDA

Disclaimer: No warranty is made as to the accuracy or completeness of the data shown, and its use is not intended for other than the stated purpose.

Z:\UtilServ\Sams Valley\Reports\Exhibit K_Land Use\Maps\FIG K-2 Zoning_Jackson County.mxd
December 2017



Source(s): Esri, Jackson County, PacifiCorp, ODOT, USDA

Disclaimer: No warranty is made as to the accuracy or completeness of the data shown, and its use is not intended for other than the stated purpose.

Z:\UtilServ\Sams Valley\Reports\Exhibit K_Land Use\Maps\FIG K-3 Zoning_Rogue River.mxd
December 2017

Zoning

- Analysis Area (1/2-mile buffer of Site Boundary)
- Land Use Zone within 1/2-mile of Site Boundary
- Public/Open Space (P)

- Residential Single Family, 6,000 sf Lot (R1-6)
- Residential Single Family, 8,000 sf Lot (R1-8)
- Residential Single Family, 12,000 sf Lot (R1-12)
- Residential Multiple Family (R-2)
- Residential Estate (RE)

Project Features

- Site Boundary
- Mileposts
- Mile
- Tenth-mile

Other Features

- City Limit



Sams Valley Reinforcement Projects
Josephine and Jackson Counties
Amendment #4

Zoning
City of Rogue River
Figure K-3

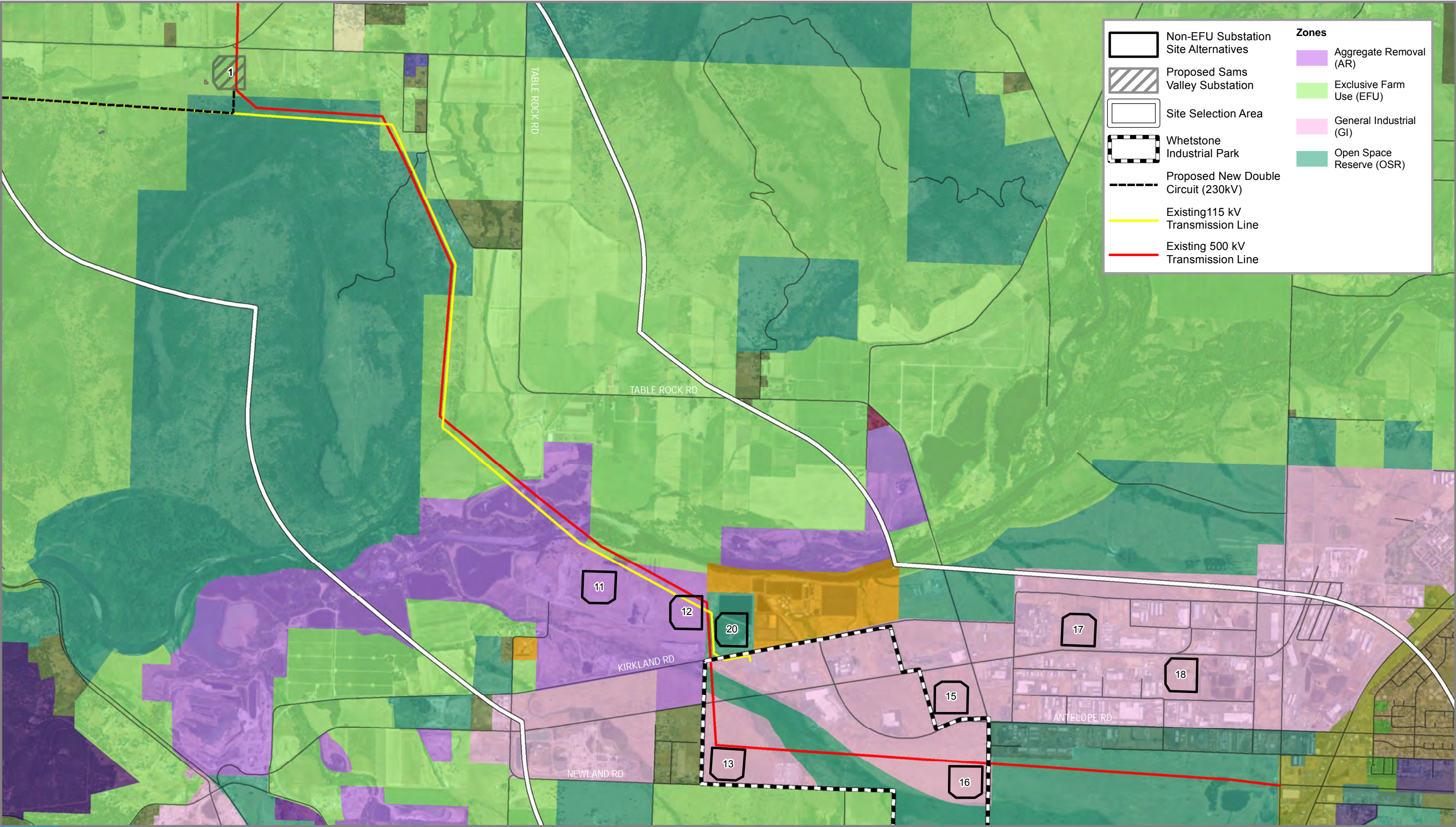
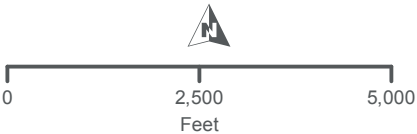


FIGURE K-4. SUBSTATION SITING ALTERNATIVES
SAMS VALLEY SUBSTATION PROJECT



Attachment K-1. ORS 215.275(2) Alternative Site Analysis

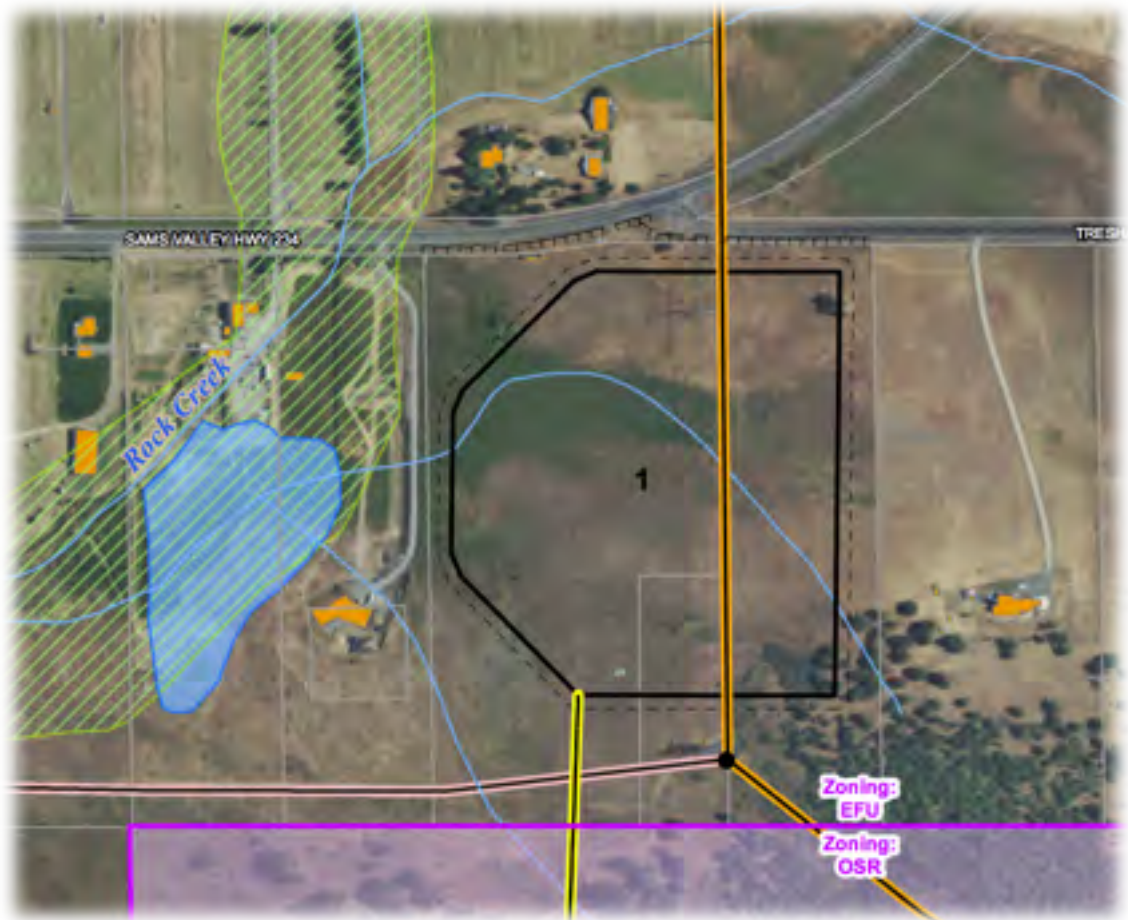
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SAMS VALLEY SUBSTATION Alternatives Site Analysis

Prepared for Jackson County

September 5, 2017

Submitted to EFSC
December 2017



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ORS 215.275

ALTERNATIVE SITE ANALYSIS

This proposal is to construct, operate, and maintain a new 500 kV/230 kV substation north of Medford (the “Substation”). The Substation is proposed to be located on private land under the ownership of PacifiCorp, doing business as Pacific Power (Pacific Power), at the intersection of a newly-constructed 230 kV transmission line co-located with an existing 115kV line and the Dixonville-Meridian 500 kV transmission line (the “Property”). See **Exhibit 1**.

As explained in the Application, transmission system modeling indicates that a new 500 kV/230 kV substation, which connects a new 230 kV line to the existing Dixonville-Meridian 500 kV line, is necessary to increase capacity and improve reliability in the Southern Oregon region. This need arises under the North American Electric Reliability Corporation¹ (NERC), and its Regional Reliability Council, Western Electricity Coordination Council (WECC) system operating standards. These entities provide the necessary standards for ensuring reliable, adequate, and secure supplies of electricity are provided to the public. NERC planning standards define the reliability of the interconnected bulk electric system in terms of adequacy and security. See **Exhibit 2**.

The Property is zoned for exclusive farm use (EFU). Necessary utility facilities such as substations are permitted in Jackson County EFU zones as follows:

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

(A) ORS 215.275 (Utility facilities necessary for public service); or

(B) If the utility facility is an associated transmission line, as defined in ORS 215.274 (Associated transmission lines necessary for public service) and 469.300 (Definitions).”

ORS 215.283(1)(c). Pursuant to subsection (A) above, construction of the proposed substation is subject to ORS 215.275 because the Application is for a substation only and not “associated transmission lines.” However, as discussed below, the length and

¹ NERC was founded as a nonprofit organization in 1968. It was designated as the Electric Reliability Organization (ERO) by the Federal Energy Regulatory Commission following passage of the Energy Policy Act of 2005. As a result of the law, NERC’s official name changed to the North American Electric Reliability Corporation, effective January 1, 2007. The ERO will develop and enforce mandatory reliability standards for the bulk electric power system in the United States, Canada, and a portion of Baja Mexico.

alignment of necessary transmission and tap lines dictate the locational needs of the substation in large part. ORS 215.275 is set forth below:

(1) A utility facility established under ORS 215.213 (1)(c)(A) or 215.283 (1)(c)(A) is necessary for public service if the facility must be sited in an exclusive farm use zone in order to provide the service.

(2) To demonstrate that a utility facility is necessary, an applicant for approval under ORS 215.213 (1)(c)(A) or 215.283 (1)(c)(A) must show that reasonable alternatives have been considered and that the facility must be sited in an exclusive farm use zone due to one or more of the following factors:

- (a) Technical and engineering feasibility;
- (b) The proposed facility is locationally dependent. A utility facility is locationally dependent if it must cross land in one or more areas zoned for exclusive farm use in order to achieve a reasonably direct route or to meet unique geographical needs that cannot be satisfied on other lands;
- (c) Lack of available urban and nonresource lands;
- (d) Availability of existing rights of way;
- (e) Public health and safety; and
- (f) Other requirements of state or federal agencies.

(3) Costs associated with any of the factors listed in subsection (2) of this section may be considered, but cost alone may not be the only consideration in determining that a utility facility is necessary for public service. Land costs shall not be included when considering alternative locations for substantially similar utility facilities. The Land Conservation and Development Commission shall determine by rule how land costs may be considered when evaluating the siting of utility facilities that are not substantially similar.

The Jackson County Land Development Ordinance (LDO) section 4.2.10(D) implements ORS 215.275. Thus, responses to the criteria of ORS 215.275 suffice as responses to the criteria of LDO 4.2.10(D).

1. Need for the utility service.

The Public Utility Commission of Oregon (PUC) requires all energy utilities to file a long-term resource plan, called an Integrated Resource Plan (IRP), every two years (see [2017](#)

[PacifiCorp IRP](#)).² The IRP presents a utility's program to meet the future energy and capacity needs to its customers. The IRP includes PacifiCorp's estimate of those future energy needs, its analysis of the resources available to meet those needs and the activities required to secure those resources. The purpose of the IRP is to assure the PUC that utilities engage in careful resource planning. PacifiCorp's 2017 IRP presents the company's plans to provide reliable and reasonably priced service to its customers. The analysis supporting this plan helps PacifiCorp, its customers, and its regulators understand the effect of both near-term and long-term resource decisions on customer bills, the reliability of electric service PacifiCorp customers receive, and changes to emissions from the generation sources used to serve customers. In the 2017 IRP, PacifiCorp presents a cost-conscious plan to transition to a cleaner energy future with near-term investments in both existing and new renewable resources, new transmission infrastructure, and energy efficiency programs.

In order to meet the transmission demand potential, PacifiCorp conducts annual system assessments to confirm minimum levels of system performance during a wide range of operating conditions, from serving loads with all system elements in service to extreme conditions where portions of the system are out of service. Factored into these assessments are load growth forecasts, operating history, seasonal performance, resource additions or removals, new transmission asset additions, and the largest transmission and generation contingencies. Based on these analyses, PacifiCorp identifies any potential system deficiencies and determines the infrastructure improvements needed to reliably meet customer loads. NERC planning standards define reliability of the interconnected bulk electric system in terms of adequacy and security. Adequacy is the electric system's ability to meet aggregate electrical demand for customers at all times. Security is the electric system's ability to withstand sudden disturbances or unanticipated loss of system elements. Increasing transmission capacity often requires redundant facilities in order to meet NERC reliability criteria. See **Exhibit 2**

The PacifiCorp 2017 IRP identifies the new 500kV/230kV substation in Sams Valley as a necessary project to meet future load growth needs. (PacifiCorp, 2017). The modeling indicates that the current system requires redundant paths of power in the region. Specifically, system modeling indicates that a new 500 kV/230 kV substation, which connects a new 230 kV line to the existing Dixonville-Meridian 500 kV line, is necessary to increase capacity and improve reliability in the Southern Oregon region. If any of the existing transmission lines in Josephine and Jackson County that provide cross-basin service were to fail—including the 230 kV Grants Pass-Dixonville line, 230 kV Meridian-Whetstone line, and 230 kV Meridian-Lone Pine No. 1 and No.2 lines—other transmission lines in the system would become overloaded, leading to potential additional line failures, a loss of supply to existing substations, and significant load shedding (i.e., the need to drop customers). In order to prevent such failures, Pacific Power has determined that a

² Available at

https://www.pacifiCorp.com/content/dam/pacifiCorp/doc/Energy_Sources/Integrated_Resource_Plan/2017_IRP/2017_IRP_VolumeI_IRP_Final.pdf.

new substation, located at the intersection of a new 230 kV line and the existing Dixonville-Meridian 500 kV line, is necessary.

2. Essential elements of the proposed substation.

The Substation must have certain locational characteristics in order to meet the public need articulated above. See **Exhibit 3**

(i) Co-location within existing transmission rights-of-way.

As stated above, the Substation is needed to reinforce the northwestern electrical grid system by adding a new connection from the existing Meridian-Dixonville 500 kV line, via a new 230 kV from Grants Pass. The new 230 kV line will be co-located with an existing 115kV line in the existing ROW, presuming the Sams Valley Substation site is the location. The Applicant's initial application narrative explained that the alignment of the new 230 kV line will be dependent on substation siting and approval at the Sams Valley Substation site. The siting of the new 230 kV line is related to the specific engineering at the Sams Valley Substation in terms of how it interconnects within the substation. This interconnection will be dependent on geotechnical conditions at the site. Therefore, the general alignment and right-of-way corridor of the new 230 kV line has been established, and any variance is based on minor site conditions. See enclosed map, **Exhibit 1**. At this scale, the alignment of the proposed 230 kV line is fixed. This alignment drives the Applicant's locational analysis because locating the Substation away from these lines would require new right-of-way corridors for tap lines and/or further extension of the 230 kV line, which would substantially increase the expense, engineering complexity, and potential risk of the overall project. For rural and resource land, new tap line corridors would substantially increase the impacts to open space, natural resources, and farmland. In urban and industrial areas, new tap line corridors require displacement of existing development, extensive added length to avoid existing development, and/or easement acquisition. For this reason, the Applicant's Alternatives Analysis reviewed non-EFU alternative sites within approximately 0.5 mile of the existing and proposed right-of-way corridors. At distances beyond 0.5 miles the industrial and residential infrastructure density increased or the terrain became incompatible. In the industrial and residential infrastructure areas, the increased density of existing buildings and residential uses would not accommodate the required ROW for each of the lines. The 500 kV line requires a 250-foot right-of-way and the 230 kV line requires a 125-foot right-of-way for tap lines. Pacific Power does not allow other infrastructure or development within these rights-of-way. If a substation were to be constructed in areas of such density, the infrastructure under the ROW would need to be condemned and existing buildings removed to meet line height clearance standards. Siting the substation further to the north or west of the proposed site created terrain constraints. Those areas' hilly to mountainous topography would require considerable site reconfiguration to construct the Substation, resulting in extensive fill, cut and transmission line height clearance considerations that were not reasonable given the existence of the Sams Valley Substation site which is a relatively flat area and fully compatible for the substation equipment.

(ii) Engineering Requirements

The physical size of a substation is determined by many clearance requirements and design considerations. PacifiCorp adheres to Institute of Electrical and Electronics Engineers (IEEE) and National Electrical Safety Code (NESC) clearance standards, and takes into account the minimum approach distances (MAD) of field personnel dictated by geographical area and International Brotherhood of Electrical Workers Union. Geographical elevation and environmental location are other considerations which will affect required clearance distances. **Exhibit 3.**

The width of a bay inside a substation is dependent on the voltage and basic insulation level (BIL). As the operating voltage of a substation increases, greater phase to phase spacing is required to 1) prevent a flashover during normal operation and 2) to reduce the mechanical stresses from fault current which could aid in the evolution of a single phase fault into a multi-phase fault and/or cause the failure of bus support insulators. As the BIL increases, so do the clearance requirements from live part to fences and roadways. The length of a bay inside a substation is designed with considerations for safe access to equipment for maintenance and removal. The substation design also needs to maintain adequate distances from live parts so that field personnel can stay within their MAD.

Transmission line routing and future expandability are two more design considerations taken into account when laying out a substation. A new substation needs to account for how the transmission lines will be brought in and terminated inside the substation. The substation design engineer also must take into account how future lines will enter and terminate such that line crossings outside the substation are kept at a minimum. Both of these considerations will affect the total real estate required for the substation. Therefore, one site may require more or less land area than another depending on how the existing lines are oriented to enter and leave the substation.

Electrical bus routing within the substation will also affect the footprint. The design engineer must route the bus of one voltage through the power transformer to the other voltage all while not blocking line positions and stranding assets as is the case with the Sam's Valley Substation design. The 500 kV yard is set up for an ultimate six breaker ring and the 230 kV yard is set up for future breaker and a half (which supports additional future bays for future 230 kV lines) and will not strand any 230 kV bay positions. See **Exhibit 2**

Access, roads, and drive paths are designed such that a truck large enough to support the entry and exit of the largest piece of equipment is able to adequately maneuver within the substation. This is another factor which can impact the size of a substation.

(iii) Security

NERC, through WECC, provides a platform for ensuring reliable, adequate, and secure supplies of electricity through coordination with the asset owners. NERC planning standards define reliability of the interconnected bulk electric system in terms of adequacy and security. Adequacy is the electric system's ability to meet aggregate electrical demand for customers at all times. Security is the electric system's ability to withstand sudden disturbances or unanticipated loss of system elements. Increasing transmission

capacity often requires redundant facilities in order to meet NERC reliability criteria for security. On March 7, 2014, the Federal Energy Regulatory Commission (FERC) ordered NERC to submit to the Commission new reliability standards requiring certain transmission owners “to take steps or demonstrate that they have taken steps to address physical security risks and vulnerabilities related to the reliable operation” of the power grid. In FERC’s order, the new reliability standards require grid owners to perform risk assessments to identify their critical facilities, evaluate potential threats and vulnerabilities, and implement security plans to protect against attacks.

Concentration of critical infrastructure in a single location is not recommended for security and reliability reasons. Therefore, concentration and/or expansion of existing substations is not desirable. By locating infrastructure facilities in multiple sites that are separated miles apart, risk to the overall system is reduced, as a security event in one location will not impact multiple facilities which are intended to operate redundantly. Therefore, co-locating the new 500-230 kV substation with the existing Whetstone Substation would result in similar security risks and is not recommended, and not feasible as the site physical size and conditions at Whetstone would not accommodate.

In summary, Pacific Power is required to construct a new substation that:

- Provides service reliability through transmission line redundancy.
- Is located at a site that allows transmission lines to be co-located manner within existing transmission line corridors.
- Is located on a site large enough to support a facility capable of interconnecting 230 kV and 500 kV transmission lines.
- Assures system security.

3. Alternative Sites Analysis Summary

The Applicant conducted a complete analysis of alternative sites that would meet the public utility need described above. The most desirable site is located at the intersection of the existing transmission lines because it allows for the necessary interconnection with the fewest impacts to the existing system, natural resources, and rate-payers. The Applicant reviewed multiple alternative sites to determine the best site to meet the obligations of a public utility. This included establishing a reasonable study area. Only those lands that were available (i.e. vacant with a potentially willing seller), at least 20 acres, and within a 0.50-mile direct line distance of the existing 500 kV and the 115 kV ROW that would carry the new 230 kV Grants Pass line were considered. It was not presumed that tap lines from the 0.50 mile distance could be established in a direct line. Adjacent land development could preclude such connections due to required transmission line clearances. In these situations, the tap line may need to be routed around constraints, adding additional distance to connect into the substation. Constructing the substation outside of that area would not be practicable due to the length of necessary tap line connections. As other EFU sites need not be included in the

alternatives analysis³, the analysis focused on non-EFU sites in and around White City, through which existing transmission lines are present.

The Alternative sites considered are shown on **Exhibit 4**. Pacific Power's analysis includes nine sites, which are summarized below, as well as in Table 3-1-Alternative Site Summary:

(i) Site 1 (Preferred Alternative)

The substation would be located on three vacant parcels owned by Pacific Power. **Exhibit 1**. The site is located at the intersection of existing transmission ROWs. These include the existing Dixonville-Meridian 500 kV transmission line as well as the upgraded 115 kV/230 kV from Grants Pass. Additional ROW is not needed for this site for either transmission lines. A single easement and tap line of 0.09 miles would be required to drop the 230kV line into the substation. The substation would occupy approximately 20 acres and consist of a fenced, secured, graveled yard containing transformers and switches, and screened with plantings to soften the visual effects. The surrounding area is rural in an area where parcels are zoned EFU. This site has been evaluated for its ability to comply with state and federal requirements. There are no federally-listed endangered species present on the site, based on site surveys. Pacific Power is in the process of gaining authorization from the U.S. Army Corps of Engineers (USACE) for a Department of the Army (DA) Standard Individual Permit (IP) pursuant to Section 404 of the Clean Water Act (CWA). See Section 3 for additional detail on applicability of this site as the preferred alternative.

(ii) Site 11

Site 11 is vacant lot owned by Linda Kay Marr Trust. **Exhibit 4**. There are no known existing improvements. The zoning is Aggregate Removal (AR) for the substation site, and AR and EFU for the transmission tap line ROWs. The lot is not currently listed on the Multiple Listing Service (MLS) as for sale. It would require 3.7 miles of an extension of the double circuit 115 kV/230 kV line. This would require expansion of the existing 115kV ROW along the base of the Lower Table Rock resource area as well as necessitate a modified crossing of the Rogue River. For this site, approximately 0.80 miles of new 500 kV and 230 kV tap lines would need to be constructed to accommodate the ability for the entry and exit into the substation which would further impact the property around the substation by the need for property easements of 250' and 125' along with increasing impacts to potential wetlands because of the way lines are required to enter and exit a substation at these voltages. The additional cost to construct at Site 11, excluding land costs, is \$6,538,500. The LEDPA analysis determined via aerial imagery that the site likely contains extensive vernal pools, **Exhibit 5**. The vernal pools are also suitable habitat for the federal Endangered Species Act listed fairy shrimp, *Branchinecta lynchi*. Constructing a substation at this location would require further site analysis, consultation by the US Fish and Wildlife Service, and likely obtaining a federal Endangered Species Act Section 10 Take Permit. Since obtaining such a permit is discretionary by the US

³ *WKN Chopin v. Umatilla County*, 66 Or LUBA 1 (2012).

Fish and Wildlife Service, this site does not meet the suitability criteria for the substation because it is not clear that necessary federal permits could be obtained at this location.

(iii) Site 12

Site 12 is vacant lot owned by Knife River Holdings Company to the immediate east of Site 11. **Exhibit 4.** There are no known existing improvements. The zoning is Aggregate Removal (AR) for the substation and for the tap line transmission ROWs. The lot is not currently listed on the Multiple Listing Service (MLS) as for sale. It would require 3.9 miles of an extension of the double circuit 115 kV/230 kV line. This would require potential expansion of the ROW along the base of Lower Table Rock resource area as well as crossing the Rogue River. A 500 and 230 kV tap line would not be needed due to the presence under the 500 kV line. The additional cost to construct at Site 12, excluding land costs, is \$4,978,000. The LEDPA analysis determined that via aerial imagery the site likely contains extensive vernal pools, **Exhibit 5.** The vernal pools are also suitable habitat for the federal Endangered Species Act listed fairy shrimp, *Branchinecta lynchi*. Constructing a substation at this location would require further site analysis, consultation with the US Fish and Wildlife Service, and likely obtaining a Federal Endangered Species Act Take Permit. Since obtaining such a permit is discretionary by the US Fish and Wildlife Service, this site does not meet the suitability criteria for the substation because it is not clear that necessary federal permits could be obtained at this location.

(iv) Site 13

Site 13 is vacant lot owned by the City of Medford. **Exhibit 4.** There are no known existing improvements. The zoning is General Industrial (GI) for the substation for the transmission tap line ROWs. The lot is not currently listed on the Multiple Listing Service (MLS) as for sale. Approximately 0.50 miles of new 500 and 230 kV tap lines would need to be constructed to accommodate the ability for the entry and exit into the substation requiring property easements of 250' and 125'. The Whetstone substation would also require modification due to this site being located after the 500 kV line drops into Whetstone substation. The additional cost to construct at Site 13, excluding land costs, is \$12,256,000. The LEDPA analysis determined that via aerial imagery the site likely contains extensive vernal pools, **Exhibit 5.** The vernal pools are also suitable habitat for the federal Endangered Species Act listed fairy shrimp, *Branchinecta lynchi*. This site also contains critical habitat for US Fish and Wildlife Service listed species, wooly meadow foam, *Limnathes floccosassp, spp grandiflora*. **Exhibit 6.** Constructing a substation at this location would require further site analysis, consultation with the US Fish and Wildlife Service, and likely obtaining a Federal Endangered Species Act Take Permit. Since obtaining such a permit is discretionary by the US Fish and Wildlife Service, this site does not meet the suitability criteria for the substation because it is not clear that necessary federal permits could be obtained at this location.

(v) Site 15

Site 15 is vacant lot owned by the Nature Conservancy and the City of Medford. **Exhibit 4.** There are no known existing improvements. The zoning is General Industrial (GI) for

the substation and for the transmission tap line ROWs. The lot is not currently listed on the Multiple Listing Service (MLS) as for sale. It would require 6.2 miles of an extension of the double circuit 115 kV/230 kV line. This would require potential expansion of the ROW along the base of Lower Table Rock resource area as well as crossing the Rogue River. Approximately 1.2 miles of new 500 and 230 kV tap lines would need to be constructed to accommodate the ability for the entry and exit into the substation requiring property easements of 250' and 125'. The Whetstone substation would also require modification due to this site being located after the 500 kV line drops into Whetstone substation. The additional cost to construct at Site 15, excluding land costs, is \$15,517,000. Based on aerial imagery and the Jackson County GIS data layer, the site likely contains extensive vernal pools, **Exhibit 5**. The vernal pools are also suitable habitat for the federal Endangered Species Act listed fairy shrimp, *Branchinecta lynchi*. This site also contains critical habitat for US Fish and Wildlife Service listed species, woolly meadow foam, *Limnathes floccosassp, spp grandiflora*. **Exhibit 6**. Constructing a substation at this location would require further site analysis, consultation with the US Fish and Wildlife Service, and likely obtaining a Federal Endangered Species Act Take Permit. Since obtaining such a permit is discretionary by the US Fish and Wildlife Service, this site does not meet the suitability criteria for the substation because it is not clear that necessary federal permits could be obtained at this location.

(vi) Site 16

Site 16 is vacant lot owned by the City of Medford. **Exhibit 4**. There are no known existing improvements. The zoning is General Industrial (GI) for the substation and for the transmission tap line ROWs. The lot is not currently listed on the Multiple Listing Service (MLS) as for sale. It would require 6.2 miles of an extension of the double circuit 115 kV/230 kV line. This would require potential expansion of the ROW along the base of Lower Table Rock resource area as well as crossing the Rogue River. Approximately 1.2 miles of new 500 and 230 kV tap lines would need to be constructed to accommodate the ability for the entry and exit into the substation requiring property easements of 250' and 125'. The Whetstone substation would also require modification due to this site being located after the 500 kV line drops into Whetstone substation. The additional cost to construct at Site 16, excluding land costs, is \$13,674,000. Based on aerial imagery and the Jackson County GIS data layer the site likely contains extensive vernal pools, **Exhibit 5**. The vernal pools are also suitable habitat for the federal Endangered Species Act listed fairy shrimp, *Branchinecta lynchi*. This site would also require expansion at the Whetstone substation impacting the US Fish and Wildlife critical habitat for the woolly meadow foam, *Limnathes floccosassp, spp grandiflora*. See **Exhibit 6**. Constructing a substation at this location would require further site analysis, consultation with the US Fish and Wildlife Service, and likely obtaining a Federal Endangered Species Act Take Permit. Since obtaining such a permit is discretionary by the US Fish and Wildlife Service, this site does not meet the suitability criteria for the substation because it is not clear that necessary federal permits could be obtained at this location.

(vii) Site 17

Site 17 is vacant lot owned by CareStream Health, Inc. **Exhibit 4.** There are existing improvements on a portion of the parcel. The site would require partitioning of the parcels. The zoning is General Industrial (GI) for the substation and GI, Light Industrial (LI) and Open Space Reserve (OSR) for the transmission tap line ROWs. The lot is not currently listed on the Multiple Listing Service (MLS) as for sale. It would require 6.8 miles of an extension of the double circuit 115 kV/230 kV line. This would require potential expansion of the ROW along the base of Lower Table Rock resource area as well as crossing the Rogue River. Approximately 2.3 miles of new 500 and 230 kV tap lines would need to be constructed to accommodate the ability for the entry and exit into the substation requiring property easements of 250' and 125'. The adjacent industrial land uses and businesses would likely be impacted to accommodate necessary ROWs for the tap lines. Due to safety requirements and general maintenance and operating restrictions, buildings are not permitted within the ROW corridor. The Whetstone substation would also require modification due to this site being located after the 500 kV line drops into Whetstone substation. The additional cost to construct at Site 17, excluding land costs, is \$19,015,000. Based on aerial imagery and the Jackson County GIS data layer, the site likely contains extensive vernal pools through the extended tap lines, **Exhibit 5.** The vernal pools are also suitable habitat for the federal Endangered Species Act listed fairy shrimp, *Branchinecta lynchi*. This site would also require expansion at the Whetstone substation impacting the US Fish and Wildlife critical habitat for the woolly meadow foam, *Limnathes floccosassp, spp grandiflora*. **Exhibit 6.** Constructing a substation at this location would require further site analysis, consultation with the US Fish and Wildlife Service, and likely obtaining a Federal Endangered Species Act Take Permit. Since obtaining such a permit is discretionary by the US Fish and Wildlife Service, this site does not meet the suitability criteria for the substation because it is not clear that necessary federal permits could be obtained at this location.

(viii) Site 18

Site 18 is vacant lot owned by Koch RP Holdings. **Exhibit 4.** There are no known existing improvements. The zoning is General Industrial (GI) for the substation and GI, Light Industrial (LI) and Open Space Reserve (OSR) for the transmission tap line ROWs. The lot is not currently listed on the Multiple Listing Service (MLS) as for sale. It would require 7.1 miles of an extension of the double circuit 115 kV/230 kV line. This would require potential expansion of the ROW along the base of Lower Table Rock resource area as well as crossing the Rogue River. Approximately 1.6 miles of new 500 and 230 kV tap lines would need to be constructed to accommodate the ability for the entry and exit into the substation. The adjacent industrial land uses and businesses would likely be impacted to accommodate necessary ROWs for the tap lines. Due to safety requirements and general maintenance and operating restrictions, buildings cannot be located within the ROW corridor. The Whetstone substation would also require modification due to this site being located after the 500 kV line drops into Whetstone substation. The additional cost to construct at Site 18, excluding land costs, is \$18,165,000. Based on aerial

imagery and the Jackson County GIS data layer the site likely contains vernal pools for the tap lines, **Exhibit 5**. The vernal pools are also suitable habitat for the federal Endangered Species Act listed fairy shrimp, *Branchinecta lynchi*. This site would also require expansion at the Whetstone substation impacting the US Fish and Wildlife critical habitat for the woolly meadow foam, *Limnathes floccosassp, spp grandiflora*, **Exhibit 6**. Constructing a substation at this location would require further site analysis, consultation with the US Fish and Wildlife Service, and likely obtaining a Federal Endangered Species Act Take Permit. Since obtaining such a permit is discretionary by the US Fish and Wildlife Service, this site does not meet the suitability criteria for the substation because it is not clear that necessary federal permits could be obtained at this location.

(ix) Site 20

Site 20 is an actively used parcel owned by Rogue Valley Sewer Services (RVSS). **Exhibit 4**. The site consists of three lots, all of which would be impacted by the substation. This site was included in the Alternatives Analysis due to public comments received in the County Type 2 Land Use Approval process, even though it does not meet the Applicant's criteria due to its active use status (not vacant land). RVSS has provided a letter to the County stating this property is not compatible for a substation, and their unwillingness to sell the property. **Exhibit 7**. The zoning is Open Space Reserve (OSR) for the substation, and OSR and AG for the transmission tap line ROWs. It would require approximately 4.0 miles of an extension of the double circuit 115 kV/230 kV line. This would require potential expansion of the ROW along the base of Lower Table Rock resource area as well as crossing the Rogue River. Approximately 1000 feet of new 500 and 230 kV tap lines would need to be constructed to accommodate the ability for the entry and exit into the substation. This site, in comparison to the other Alternatives, would require extensive work due to its existing use as both active and inactive sewer ponds. The additional cost to construct at Site 20, excluding land costs, is \$10,928,128. Based on aerial imagery and the Jackson County GIS data layer, the site likely originally contained vernal pools, **Exhibit 5**. The vernal pools are also suitable habitat for the federal Endangered Species Act listed fairy shrimp, *Branchinecta lynchi*. This site would also require expansion at the Whetstone substation impacting the US Fish and Wildlife critical habitat for the woolly meadow foam, *Limnathes floccosassp, spp grandiflora*. **Exhibit 6**. Constructing a substation at this location would require further site analysis and consultation with the US Fish and Wildlife Service, and likely obtaining a Federal Endangered Species Act Take Permit. Since obtaining such a permit is discretionary by the US Fish and Wildlife Service, this site does not meet the suitability criteria for the substation because it is not clear that necessary federal permits could be obtained at this location.

Table 3-1, Alternatives Analysis Summary

LAND USE IMPACTS	Site 1	Site 11	Site 12	Site 13	Site 15	Site 16	Site 17	Site 18	Site 20
Zoning	EFU	AR	AR	GI	GI	GI	GI	GI	OSR
Parcel Size	30.48 acres/ 3 parcels	166 acres/1 parcel	68 acres/1 parcel	235 acres/1 parcel	69 acres/2 parcels	177 acres/1 parcel	78 acres/2 parcel	25 acres/3 parcel	60 acres/3 parcels
Owner	Pacific Power	May Trust	Knife River Corp	City of Medford	City of Med/Nature Conserv.	City of Medford	Care Stream	Koch RP Holdings	RVSS
Tap Line ROW Acres (500/230 kV)	0.69	18.64	0	11.21	27.58	8.94	55.3	42.27	9.09
New 230 kV Acres	0	15.82	16.55	20.79	26.3	26.3	28.85	30.12	16.97
# of ROW Easements	1	20	21	25	32	29	50	54	22
230 kV Tap Line Length (miles)	0.09	0.29	0	0.30	0.50	0.27	0.85	0.45	0.2
500 kV Tap Line Length (miles)	0	0.47	0	0.22	0.66	0.16	1.40	1.17	0.2
Total 230+500 kV tap length	0.09	0.76	0.00	0.52	1.16	0.43	2.25	1.62	0.40
New 230kV Double-Circuit Length (miles)	0	3.73	3.9	4.9	6.2	6.2	6.8	7.1	4
Wetland Impacts (acres)	3.5	20	15.9	20	20	20	0.5	20	20
COSTS	Site 1	Site 11	Site 12	Site 13	Site 15	Site 16	Site 17	Site 18	Site 20
Tap Lines	\$112,500	\$1,773,000	\$0	\$1,035,000	\$2,605,000	\$818,000	\$5,263,000	\$4,073,000	\$850,000
New 230kV	\$0	\$4,662,500	\$4,875,000	\$6,125,000	\$7,750,000	\$7,750,000	\$8,500,000	\$8,875,000	\$5,000,000
ROW easements	\$2,070	\$103,000	\$103,000	\$96,000	\$162,000	\$106,000	\$252,000	\$217,000	\$78,182
New Breaker Whetstone	\$0	\$0	\$0	\$5,000,000	\$5,000,000	\$5,000,000	\$5,000,000	\$5,000,000	\$5,000,000
Total	\$114,570	\$6,538,500	\$4,978,000	\$12,256,000	\$15,517,000	\$13,674,000	\$19,015,000	\$18,165,000	\$10,928,182

Assumptions:

Tap Line Easements: Based on 50% of fee value. Land estimated at \$6k per acre; therefore, 1ac of easement would cost 3k.

Tap Line ROW width: 250' 500kV, 125' 230 kV Tap Line Construction Costs: \$3M/mi=500 kV, \$1.25M/mi 230 kV

New Double Circuit 230kV: \$1.25/mi; additional 35 feet width needed for ROW easements

Substations sited east or south of Whetstone require alteration at Whetstone. This is estimated at \$5M for new double circuit 230kV, and new breaker and switch gear.

4. Alternatives Analysis in Detail

Below each alternative considered is discussed in relationship to the ORS 215.275 criteria.

(i) Site 1: Preferred Alternative

The Pacific Power Proposed Project, Sams Valley Substation, is necessary to improve system reliability in the Medford, Grants Pass, and Crescent City areas. The project would involve construction, operation, and maintenance of a new 500kV/230kV substation in Jackson County, Oregon. The Proposed Project for Jackson County land use approval is to construct, operate, and maintain a new 500 kV/230 kV substation north of Medford. The substation would be located on private land under the ownership of Pacific Power, at the intersection of a new 230 kV line (co-located with an existing 115 kV line) and the existing Dixonville-Meridian 500 kV transmission line, **Exhibit 1**.

The substation would occupy approximately 20 acres. The land is currently vacant and zoned EFU. Surrounding land uses are agricultural in nature with low density residential as allowed under their EFU zoning. The Substation would consist of a fenced, secured, and graveled yard containing transformers and switches. Access would occur via existing roads from Tresham Lane. All required erosion and sediment control measures and best management practices will be implemented during construction as established under the building permit processes with the County and State. The site would be graded such that storm water would flow into collector basins and would be conveyed through a series of storm drains into a detention basin constructed along the northeast corner of the site. The site would be screened with vegetation to minimize its appearance. The existing entrance at the intersection of Tresham Lane and Oregon Route 234 would be abandoned and a new access driveway would be constructed at the northeast corner of the site. The new access road would be extended around the western substation boundary, and it would connect to an existing access road south of the substation. Access improvements would include a 14-foot travel way, on average, with additional area for drainage and maneuverability as needed. Improvements would involve removing vegetation, blading to shape existing road surface, and placing surfacing aggregate (i.e., road rock or riprap) to stabilize the entrance and road surfacing. A culvert that spans the existing entrance would remain in place, but the driveway will be abandoned. A new culvert would be located within a non-jurisdictional roadside ditch at the new entrance driveway. These site features are shown in the Site Plan provided in Type 2 Application, and herein shown as **Exhibit 8**.

a. Technical and engineering feasibility;

Site 1 meets the NERC and WECC System modeling requirements to provide a new 500 kV/230 kV substation, which interconnects a new 230 kV line to the existing Dixonville-Meridian 500 kV line. The site meets technical and engineering requirements based on the 500 kV line and the new 230 kV line intersecting at the site. **Exhibit 3**. The site is relatively flat and of a suitable size to accommodate the necessary infrastructure. Minimal

site modifications will be necessary. Pacific Power owns and operates the site, and therefore any modifications will be unconstrained. It will fully satisfy the ability to increase capacity and improve reliability in the Southern Oregon region as part of the North American Electric Reliability Corporation (NERC) reliability standards and the Western Electricity Coordinating Council (WECC) system operating standards. See **Exhibit 2**.

b. The proposed facility is locationally dependent. A utility facility is locationally dependent if it must cross land in one or more areas zoned for exclusive farm use to achieve a reasonably direct route or to meet unique geographical needs that cannot be satisfied on other lands;

Siting a new substation has specific locational dependencies to minimize site constraints that either result in increased costs and engineering complexity, or undue upset to landowners and existing infrastructure. Therefore, great care is taken to attempt to locate substations and their supporting transmission lines in areas with the least amount of impact to area residences and resources. Site 1 provides the best alternative for a direct link from the existing 500 and 230kv ROWs. **Exhibit 3**. One short tap line (200 feet or less) will be required to drop the new 230kV line into the substation. Pacific Power has conducted an alternatives analysis reviewing eight (8) locations. If the substation is not located directly underneath the intersection of the existing 500 kV and the new 230 kV, as shown as Site 1, additional “tap line” connections are necessary between the substation and 500 kV/230 kV lines. A “tap line” is a connection line that begins at the transmission line and then connects that transmission line into the substation. The farther the interconnecting transmission line resides from the substation, the longer the tap line. These connecting tap lines would require ROW acquisition over the connection distance from the substation to their respective line locations. Any new section of a 500 kV line ROW requires 250 feet of width, and the 230 kV ROW requires 125 feet of width, and the distance is dependent upon the location and alignment of the substation, **Exhibit 2**. Site 1 property is currently owned by Pacific Power which includes three tax lots. If the substation is not constructed at Site 1, per Oregon Revised Statute, Title 57, Chapter 758.015 could also result in potential condemnation of private residences and land in order to meet required construction distances. In addition, the new tap lines would require added resource impacts, easements across new parcels impacting multiple landowners, and additional regulatory approvals. For these reasons, Pacific Power has selected Site 1 as the Proposed Project Alternative, as it meets the EFU zoning requirements, complies with the Jackson County LDOs, federal redundancy of service requirements, the local and state requirements for co-location of new lines within existing ROWs, and applicable federal environmental laws, all without condemnation of land or residences.

c. Lack of available urban and nonresource lands;

There are limited to no available non-resource lands at the intersection of the existing 500kV and new 230kV lines. Therefore, an EFU site is the Preferred Alternative. The non-resource lands, herein further described, contain far greater constraints than the Preferred Alternative (Site 1).

d. Availability of existing rights of way;

Site 1 provides for the ability to co-locate the 230 in the existing 115 kV ROW. In addition, the 500 kV line is located at the site. Therefore, Site 1 provides the best alternative to locate the Substation nearest existing rights of way. See **Exhibit 1**.

e. Public health and safety;

The public health and safety is benefited by the construction of the Substation at Site 1. Site 1 facilitates construction due to its ease of access and Pacific Power ownership. These elements allow for an efficient and timely construction. If another site is selected, the project will not meet the required schedules to ensure that Southern Oregon is protected for unexpected power outages. Such outages can result in unforeseen health and safety conditions for Jackson, Josephine and Del Norte County residents.

f. Other requirements of state or federal agencies.

The siting of a substation requires compliance with state and federal requirements. This include, but are not limited to the following:

Regulation	Source	Description
ORS 196.795-990	Oregon Division of State Lands	CWA 401-Removal Fill Permit
OAR 340-216-0020	Oregon, Dept of Environmental Quality, Air Contaminant Discharge Permit	Construction Projects
NPDES-1200-C	Oregon DEQ, Stormwater Permit	Stormwater Discharges for construction
Federal Endangered Species Act, 16 U.S.C. § 1531 et seq	USFWS	Federally listed as Threatened, Vernal pool fairy shrimp, <i>Branchinecta lynchi</i> ,
Section 404(b)(1) of the CWA [40 C.F.R. 230]	EPA, Section 404 Clean Water Act, Army Corps of Engineers, Removal/Fill permit of wetlands	Removal/Fill of wetland, disposal sites for discharges into waters of the US.
NERC Standard BAL-502-RFC-0	NERC Mandatory Planning Resource Adequacy Analysis, Assessment and Documentation	To establish common criteria, based on one day in ten year loss of Load expectation principles, for the analysis, assessment and documentation of Resource Adequacy for Load in the Reliability Corporation (RFC) region
Least Cost Planning Requirement	Oregon Public Utility Commission	“The primary goal must be least cost to the utility and its ratepayers consistent with the long-run public interest.”

This impact analysis was conducted as the alternative sites posed the potential to impact wetlands. An impact analysis was conducted for the alternatives in this Application, in accordance with Section 404(b)(1) of the CWA [40 C.F.R. 230]. Pursuant to Section 404 of the CWA, any activity requiring a removal/fill must undergo an analysis of alternatives in order to identify the Least Environmentally Damaging Practicable Alternative (LEDPA) using guidelines established by the United States Environmental Protection Agency (EPA), known as the Section 404(b)(1) Guidelines. The result of the 404(b)(1) analysis has established that Site 1 is the Preferred Alternative as it has demonstrated to be the Least Environmentally Damaging Practicable Alternative. Therefore, for purposes of this Application, only Site 1 conforms with ORS 215.275 (of) Other requirements of state or federal agencies

Based on this analysis the other alternative sites discussed below are not reasonable alternatives due to their inability to be compliant with existing state and federal requirements. Pacific Power is not confident that any of the sites herein further described would meet the Federal Endangered Species Act, the Clean Water Act, or be able to obtain an Army Corp of Engineers 404 permit.

(ii) Site 11

a. Technical and engineering feasibility;

Site 11 meets the NERC and WECC System modeling requirements to provide a new 500 kV/230 kV substation, which interconnects a new 230 kV line to the existing Dixonville-Meridian 500 kV line. The site is less desirable than Site 1 due to the engineering unknowns since the site is considered an aggregate resource. The geomorphic conditions would require further investigation and based on the proximity to the river is likely in the 100 year flood plain which could preclude construction of the sub by itself. Even if the location is not within the 100 year flood plain, a significant amount of site build up would be required to ensure no localized flooding would impact operations and this would require that the overall footprint of the sub expand in order to incorporate the amount of elevation gain needed over the current ground surface elevation. **Exhibit 3.**

Site 11 will also require the extension of the new double circuited 230/115 kV line for approximately 3.73 miles and include the need to span the Rogue River, which would require further engineering studies to determine constructability as well as dramatically impact the riparian view shed. The construction method for this double circuit requires the demolition of the existing 115kV line and complete rebuild of the new double circuit. This means that the construction impacts along the Rogue River and along Table Rock would be significantly increased over the preferred site impacts.

The greatest detractor to the use of this site would be caused by construction of the related to the tap lines and access roads. The tap lines required for construction in this area would require new easements of 250' in width for the two tap 500kV lines (one entering and one exiting the sub) and a single new 230kV line easement ranging up to 250' in width for the new 230 kV line to be double circuited and the tap connection to the

existing 230kV line. The access road from Kirkland Road out to the substation is a significant construction effort. Because of the size of the equipment in a 500kV substation there might be a need for separate roads entering and exiting this substation. The required width for access road is at least 30' but because of the area significant build up would be required (as it was for the substation thereby dramatically increase the likely width) and would impact up to 5,000' of land if both entry and exist roads were required.

b. The proposed facility is locationally dependent.

As explained above, the Proposed Substation is dependent upon a location along the planned route of the new 230 kV line. This route connects to the existing 500 kV line at Site 1 (the preferred alternative). Therefore, the Hearing Officer can find that the proposed facility is locationally dependent. **Exhibit 3.**

Site 11 fails to satisfy the locational needs of the Proposed Substation. It would require 3.7 miles of an extension of the double circuit 115 kV/230 kV line. This would require expansion of the existing 115kV ROW along the base of the Lower Table Rock resource area as well as necessitate a modified crossing of the Rogue River. For this site, approximately 0.80 miles of new 500 and 230 kV tap lines would be needed to accommodate entry and exit into the substation, which would further impact the property around the substation along with increasing impacts to potential wetlands because of the way lines are required to enter and exit a substation at these voltages. The additional cost to construct at Site 11, excluding land costs, is \$6,538,500.

c. Lack of available urban and nonresource lands;

Based on Jackson County zoning this site is considered an Aggregate Resource (AR zoning). A Landuse Application and review would be necessary to determine if removing this use from the county is acceptable. In addition, since this Site is zoned AR, while it meets the ORS 215.275 requirement to consider non EFU zoned lands, it is likely a resource land. The lack of available urban and non-resource land is evident based on minimal alternatives that meet this criteria (c). Under Land Development Ordinance 6.3.4 Industrial/Manufacturing Uses allowed under AR zoning, substations are not listed as permitted uses.

d. Availability of existing rights of way;

Site 11 does not meet the criteria of siting within existing rights away, as compared to Site 1, as the 230kV line would be extended 3.73 miles, 18.64 acres and approximately 0.76 miles of new tap lines would be required outside existing rights of way requiring several new property easements of up to 250' in width.

e. Public health and safety;

There are no known public health or safety concerns affecting this site.

f. Other requirements of state or federal agencies.

An impact analysis was conducted for the alternatives in this Application, in accordance with Section 404(b)(1) of the CWA [40 C.F.R. 230]. Pursuant to Section 404 of the CWA, any activity requiring a removal/fill must undergo an analysis of alternatives in order to identify the Least Environmentally Damaging Practicable Alternative (LEDPA) using guidelines established by the United States Environmental Protection Agency (EPA), known as the Section 404(b)(1) Guidelines. This impact analysis was conducted as the alternative sites posed the potential to impact wetlands.

The result of the 404(b)(1) analysis has established that Site 11, was not the preferred Alternative as it has demonstrated to not be the Least Environmentally Damaging Practicable Alternative. Therefore, for purposes of this Application, Site 11 does not conform with ORS 215.275 (f) Other requirements of state or federal agencies. These findings were presented in the original Type 2 Application, accepted by Jackson County on March 17, 2017.

The conditions at Site 11 has the potential to disturb 20 acres of wetlands and the likely presence of vernal pool habitat at the site, suitable habitat for vernal pool fairy shrimp, *Branchinecta lynchi*. **Exhibit 5.** Fairy shrimp, *Branchinecta lynchi* are a listed species under the Federal Endangered Species Act. Take of said species would require US Fish and Wildlife to issue a Section 10(a) Incidental Take Permit and accept a Habitat Conservation Plan

(iii) Site 12

a. Technical and engineering feasibility;

Site 12 meets the NERC and WECC System modeling requirements to provide a new 500 kV/230 kV substation, which interconnects a new 230 kV line to the existing Dixonville-Meridian 500 kV line. The site is less desirable than Site 1 due to the engineering unknowns since the site is considered an aggregate resource. The geomorphic conditions would require further investigation and based on the proximity to the river is likely in the 100 year flood plain which could preclude construction of the sub by itself. Even if the location is not in the 100 year flood plain a significant amount of site build up would be required in order to ensure no localized flooding would impact operations and this would require that the overall footprint of the sub expand in order to incorporate the amount of elevation gain needed over the current ground surface elevation. **Exhibit 3.**

Site 12 will also require the extension of the new double circuited 230/115 kV line for approximately 3.9 miles and include the need to span the Rogue River, which would require further engineering studies to determine constructability as well as dramatically impact the riparian view shed. The construction method for this double circuit requires the demolition of the existing 115kV line and complete rebuild of the new double circuit.

This means that the construction impacts along the Rogue River and along Table Rock would be significantly increased over the preferred site impacts.

The greatest detraction to the use of this site would be caused by construction of the related to the tap lines and access roads. The tap lines required for construction in this area would require new easements of 250' in width for the two tap 500kV lines (one entering and one exiting the sub) and a single new 230kV line easement ranging up to 250' in width for the new 230 kV line to be double circuited and the tap connection to the existing 230kV line. The access road from Kirkland Road out to the substation is a significant construction effort. Because of the size of the equipment in a 500kV substation there might be a need for separate roads entering and exiting this substation. The required width for access road is at least 30' but because of the area significant build up would be required (as it was for the substation thereby dramatically increase the likely width) and would impact up to 5,000' of land if both entry and exist roads were required.

b. The proposed facility is locationally dependent.

As explained above, the Proposed Substation is dependent upon a location along the planned route of the new 230 kV line. This route connects to the existing 500 kV line at Site 1 (the preferred alternative). Therefore, the Hearing Officer can find that the proposed facility is locationally dependent. **Exhibit 3.**

Site 12 fails to satisfy the locational needs of the Proposed Substation. It would require 3.9 miles of an extension of the double circuit 115 kV/230 kV line. This would require potential expansion of the ROW along the base of Lower Table Rock resource area as well as crossing the Rogue River. A 500 and 230 kV tap line would not be needed due to the presence under the 500 kV line. The additional cost to construct at Site 12, excluding land costs, is \$4,978,000.

c. Lack of available urban and nonresource lands;

Based on Jackson County zoning this site is considered an Aggregate Resource (AR zoning). A Landuse Application and review would be necessary to determine if removing this use from the county is acceptable. In addition, since this Site is zoned AR, while it meets the ORS 215.275 requirement to consider non EFU zoned lands, it is likely a resource land. The lack of available urban and non-resource land is evident based on minimal alternatives that meet this criteria (c). Under Land Development Ordinance 6.3.4 Industrial/Manufacturing Uses allowed under AR zoning, substations are not listed as a permitted use.

d. Availability of existing rights of way;

Site 12 does not meet the criteria of siting within existing rights away, as compared to Site 1, as the 230kV line would be extended 3.9 miles, 16.55 acres and approximately 0.52 miles of new tap lines would be required outside existing rights of way requiring several new property easements of up to 250' in width.

e. Public health and safety;

There are no known public health or safety concerns affecting this site.

f. Other requirements of state or federal agencies.

An impact analysis was conducted for the alternatives in this Application, in accordance with Section 404(b)(1) of the CWA [40 C.F.R. 230]. Pursuant to Section 404 of the CWA, any activity requiring a removal/fill must undergo an analysis of alternatives in order to identify the Least Environmentally Damaging Practicable Alternative (LEDPA) using guidelines established by the United States Environmental Protection Agency (EPA), known as the Section 404(b)(1) Guidelines. This impact analysis was conducted as the alternative sites posed the potential to impact wetlands.

The result of the 404(b)(1) analysis has established that Site 12, was not the preferred Alternative as it has demonstrated to not be the Least Environmentally Damaging Practicable Alternative. Therefore, for purposes of this Application, Site 12 does not conform with ORS 215.275 (f) Other requirements of state or federal agencies. These findings were presented in the original Type 2 Application, accepted by Jackson County on March 17, 2017.

The conditions at Site 12 have the potential to disturb 15.9 acres of wetlands and the likely presence of vernal pool habitat at the site, suitable habitat for vernal pool fairy shrimp, *Branchinecta lynchi*. **Exhibit 5.** Fairy shrimp, *Branchinecta lynchi* are a listed species under the Federal Endangered Species Act. Take of said species would require US Fish and Wildlife to issue a Section 10(a) Incidental Take Permit and accept a Habitat Conservation Plan

(iv) Site 13

a. Technical and engineering feasibility;

Site 13 has substantial engineering constraints. Because this is on the opposite side of the existing Whetstone substation as compared to the preferred site, approximately three-quarters of a mile of new 230kV line would need to be constructed parallel to the existing lines that currently run past and to the Whetstone substation in order to get into the Whetstone sub. The current configuration of the Whetstone substation would need to be modified for the addition of this new line. **Exhibit 3.**

The greatest detraction to the use of this site would be caused by construction of the related to the tap lines as well as the new 230kV line mentioned in the preceding paragraph. The tap lines required for construction in this area would require new easements of 250' in width for the two tap 500kV lines (one entering and one exiting the sub) and a single new 230kV line easement ranging up to 250' in width for the new 230 kV line to be double circuited and the tap connection to the existing 230kV line. The new 230 kV line required to connect to Whetstone would create potential insurmountable

engineer constraints because the routing has wetlands, Whetstone creek riparian corridor constraints, vernal pools as well as an endangered plant species. Attempting to obtain the state and federal approvals due to sensitive species present, could not occur in a timely manner, if at all.

Site 13 would also require approximately a 5 mile extension of the double circuit 115 kV/230 kV line and include the need to span the Rogue River, which would require further engineering studies to determine constructability as well as dramatically impact the riparian view shed. The construction method for this double circuit requires the demolition of the existing 115kV line and complete rebuild of the new double circuit. This means that the construction impacts along the Rogue River and along Table Rock would be significantly increased over the preferred site impacts.

b. The proposed facility is locationally dependent.

As explained above, the Proposed Substation is dependent upon a location along the planned route of the new 230 kV line. This route connects to the existing 500 kV line at Site 1 (the preferred alternative). Therefore, the Hearing Officer can find that the proposed facility is locationally dependent. **Exhibit 3.**

Site 13 fails to satisfy the locational needs of the Proposed Substation. Approximately 0.50 miles of new 500 and 230 kV tap lines would need to be constructed to accommodate the ability for the entry and exit into the substation. The Whetstone substation would also require modification due to this site being located after the 500 kV line drops into Whetstone substation. The additional cost to construct at Site 13, excluding land costs, is \$12,256,000.

c. Lack of available urban and nonresource lands;

Based on Jackson County zoning this site is considered a General Industrial (GI). A Landuse Application and review would be necessary to determine if the proposed substation use is considered compatible. Under LDU Table 6.2-1, developing a substation in GI zoning would require a Type 2 review (LDO 6.3.6(B)).

d. Availability of existing rights of way;

Sufficient existing right-of-way is not available for this site. This site would require expansion of the existing ROW along the base of Lower Table Rock resource area, obtaining new ROW for the new line section into Whetstone sub, as well as crossing the Rogue River. The new line section would require consultation with the Oregon Department of Fish and Wildlife and the US Fish and Wildlife Service in order to get over the Whetstone creek into Whetstone sub and this area is known to have vernal pools, **Exhibit 5** as well as an endangered plant species the wooly meadowfoam, *Limnathes floccosassp, spp grandiflora*, **Exhibit 6.**

e. Public health and safety;

There are no known public health or safety concerns affecting this site.

f. Other requirements of state or federal agencies.

An impact analysis was conducted for the alternatives in this Application, in accordance with Section 404(b)(1) of the CWA [40 C.F.R. 230]. Pursuant to Section 404 of the CWA, any activity requiring a removal/fill must undergo an analysis of alternatives in order to identify the Least Environmentally Damaging Practicable Alternative (LEDPA) using guidelines established by the United States Environmental Protection Agency (EPA), known as the Section 404(b)(1) Guidelines. This impact analysis was conducted as the alternative sites posed the potential to impact wetlands.

The result of the 404(b)(1) analysis has established that Site 13, was not the preferred Alternative as it has demonstrated to not be the Least Environmentally Damaging Practicable Alternative. Therefore, for purposes of this Application, Site 13 does not conform with ORS 215.275 (f) Other requirements of state or federal agencies. These findings were presented in the original Type 2 Application, accepted by Jackson County on March 17, 2017.

The conditions at Site 13 that showed the potential to disturb 20 acres of wetlands and the likely presence of vernal pool habitat at the site, suitable habitat for vernal pool fairy shrimp, *Branchinecta lynchi*. **Exhibit 5.** Fairy shrimp, *Branchinecta lynchi* are a listed species under the Federal Endangered Species Act. Take of this species would require US Fish and Wildlife to issue a Section 10(a) Incidental Take Permit and accept a Habitat Conservation Plan. This site also within the area known as Whetstone Creek, Unit 8, critical habitat for the woolly meadow foam, *Limnathes floccosassp*, *spp grandiflora*. **Exhibit 6.** Disturbance would require obtaining a Federal Section 10(a) permit.

(v) Site 15

a. Technical and engineering feasibility;

Site 15 has substantial engineering constraints. Because this is on the opposite side of the existing Whetstone substation as compared to the preferred site, approximately three-quarters of a mile of new 230kV line would need to be constructed parallel to the existing lines that currently run past and to the Whetstone substation in order to get into the Whetstone sub. The current configuration of the Whetstone substation would need to be modified for the addition of this new line. **Exhibit 3.**

The greatest detraction to the use of this site would be caused by construction of the related to the tap lines as well as the new 230kV line mentioned in the preceding paragraph. The tap lines required for construction in this area would require new easements of 250' in width for the two tap 500kV lines (one entering and one exiting the sub) and a single new 230kV line easement ranging up to 250' in width for the new 230 kV line to be double circuited and the tap connection to the existing 230kV line. The new 230 kV line required to connect to Whetstone would create potential insurmountable engineer constraints because the routing has wetlands, Whetstone creek riparian corridor constraints, vernal pools as well as an endangered plant species. Attempting to obtain

the state and federal approvals due to sensitive species present, could not occur in a timely manner, if at all.

If an alternate route for the 230 kV line was sought that went on a more direct path towards Whetstone it would have significant impacts on the existing industrial properties located between the site and the Whetstone sub. These impacts could be as severe as require the industrial facilities to vacate their occupied land in order to route lines into Whetstone.

Site 15 would also require approximately a 5-mile extension of the double circuit 115 kV/230 kV line and include the need to span the Rogue River, which would require further engineering studies to determine constructability as well as dramatically impact the riparian view shed. The construction method for this double circuit requires the demolition of the existing 115kV line and complete rebuild of the new double circuit. This means that the construction impacts along the Rogue River and along Table Rock would be significantly increased over the preferred site impacts.

b. The proposed facility is locationally dependent.

As explained above, the Proposed Substation is dependent upon a location along the planned route of the new 230 kV line. This route connects to the existing 500 kV line at Site 1 (the preferred alternative). Therefore, the Hearing Officer can find that the proposed facility is locationally dependent. **Exhibit 3.**

Site 15 fails to satisfy the locational needs of the Proposed Substation. It would require 6.2 miles of an extension of the double circuit 115 kV/230 kV line. This would require potential expansion of the ROW along the base of Lower Table Rock resource area as well as crossing the Rogue River. Approximately 1.2 miles of new 500 and 230 kV tap lines would need to be constructed to accommodate the ability for the entry and exit into the substation. The Whetstone substation would also require modification due to this site being located after the 500 kV line drops into Whetstone substation. The additional cost to construct at Site 15, excluding land costs, is \$15,517,000.

c. Lack of available urban and nonresource lands;

Based on Jackson County zoning this site is considered a General Industrial (GI). A Landuse Application and review would be necessary to determine if the proposed substation use is considered compatible. Under LDU Table 6.2-1, developing a substation in GI zoning would require a Type 2 review (LDO 6.3.6(B)).

d. Availability of existing rights of way;

Sufficient existing right-of-way is not available for this site. This site would require expansion of the existing ROW along the base of Lower Table Rock resource area, obtaining new ROW for the new line section into Whetstone sub, as well as crossing the Rogue River. The new line section would require consultation with the Oregon State Fish and Wildlife and the US Fish and Wildlife Service in order to get over the Whetstone creek into Whetstone sub and this area is known to have vernal pools, **Exhibit 5**, as well as an

endangered plant species the wooly meadowfoam, *Limnathes floccosassp, spp grandiflora*, **Exhibit 6**.

e. Public health and safety;

There are no known public health or safety concerns affecting this site.

f. Other requirements of state or federal agencies.

An impact analysis was conducted for the alternatives in this Application, in accordance with Section 404(b)(1) of the CWA [40 C.F.R. 230]. Pursuant to Section 404 of the CWA, any activity requiring a removal/fill must undergo an analysis of alternatives in order to identify the Least Environmentally Damaging Practicable Alternative (LEDPA) using guidelines established by the United States Environmental Protection Agency (EPA), known as the Section 404(b)(1) Guidelines. This impact analysis was conducted as the alternative sites posed the potential to impact wetlands.

The result of the 404(b)(1) analysis has established that Site 15, was not the preferred Alternative as it is has demonstrated to not be the Least Environmentally Damaging Practicable Alternative. Therefore, for purposes of this Application, Site 15 does not conform with ORS 215.275 (f) Other requirements of state or federal agencies. These findings were presented in the original Type 2 Application, accepted by Jackson County on March 17, 2017.

The conditions at Site 15 that showed the potential to disturb 20 acres of wetlands and the likely presence of vernal pool habitat at the site, suitable habitat for vernal pool fairy shrimp, *Branchinecta lynchi*. **Exhibit 5**. Fairy shrimp, *Branchinecta lynchi* are a listed species under the Federal Endangered Species Act. Take of said species would require US Fish and Wildlife to issue a Section 10(a) Incidental Take Permit and accept a Habitat Conservation Plan. This site also within the area known as Whetstone Creek, Unit 8, US Fish and Wildlife Service critical habitat for the wooly meadow foam, *Limnathes floccosassp, spp grandiflora*. **Exhibit 6**. Disturbance would require obtaining a Federal Section 10(a) permit.

(vi) Site 16

a. Technical and engineering feasibility;

Site 16 has substantial engineering constraints. Because this is on the opposite side of the existing Whetstone substation as compared to the preferred site, approximately one mile of new 230kV line would need to be constructed parallel to the existing lines that currently run past and to the Whetstone substation in order to get into the Whetstone sub. The current configuration of the Whetstone substation would need to be modified for the addition of this new line. **Exhibit 3**.

The greatest detracting to the use of this site would be caused by construction of the related to the tap lines as well as the new 230kV line mentioned in the preceding paragraph. The tap lines required for construction in this area would require new

easements of 250' in width for the two tap 500kV lines (one entering and one exiting the sub) and a single new 230kV line easement ranging up to 250' in width for the new 230 kV line to be double circuited and the tap connection to the existing 230kV line. The new 230 kV line required to connect to Whetstone would create potential insurmountable engineer constraints because the routing has wetlands, Whetstone creek riparian corridor constraints, vernal pools as well as an endangered plant species. Attempting to obtain the state and federal approvals due to sensitive species present, could not occur in a timely manner, if at all.

If an alternate route for the 230 kV line was sought that went on a more direct path towards Whetstone it would have significant impacts on the existing industrial properties located between the site and the Whetstone sub. These impacts could be as severe as require the industrial facilities to vacate their occupied land in order to route lines into Whetstone.

Site 16 would also require approximately a 5-mile extension of the double circuit 115 kV/230 kV line and include the need to span the Rogue River, which would require further engineering studies to determine constructability as well as dramatically impact the riparian view shed. The construction method for this double circuit requires the demolition of the existing 115kV line and complete rebuild of the new double circuit. This means that the construction impacts along the Rogue River and along Table Rock would be significantly increased over the preferred site impacts.

b. The proposed facility is locationally dependent.

As explained above, the Proposed Substation is dependent upon a location along the planned route of the new 230 kV line. This route connects to the existing 500 kV line at Site 1 (the preferred alternative). Therefore, the Hearing Officer can find that the proposed facility is locationally dependent. **Exhibit 3.**

Site 16 fails to satisfy the locational needs of the Proposed Substation. It would require 6.2 miles of an extension of the double circuit 115 kV/230 kV line. This would require potential expansion of the ROW along the base of Lower Table Rock resource area as well as crossing the Rogue River. Approximately 1.2 miles of new 500 and 230 kV tap lines would need to be constructed to accommodate the ability for the entry and exit into the substation requiring property easements of 250' and 125'. The Whetstone substation would also require modification due to this site being located after the 500 kV line drops into Whetstone substation. The additional cost to construct at Site 16, excluding land costs, is \$13,674,000.

c. Lack of available urban and nonresource lands;

Based on Jackson County zoning this site is considered a General Industrial (GI). A Landuse Application and review would be necessary to determine if the proposed substation use is compatible. Under LDU Table 6.2-1, developing a substation in GI zoning would require a Type 2 review (LDO 6.3.6(B)).

d. Availability of existing rights of way;

Sufficient existing right-of-way is not available for this site. This site would require expansion of the existing ROW along the base of Lower Table Rock resource area, obtaining new ROW for the new line section into Whetstone sub, as well as crossing the Rogue River. The new line section would require consultation with the Oregon Department of Fish and Wildlife and the US Fish and Wildlife Service in order to get over the Whetstone creek into Whetstone sub and this area is known to have vernal pools as well as an endangered plant species the wooly meadowfoam, *Limnathes floccosassp*, *spp grandiflora*, **Exhibit 6**.

e. Public health and safety;

There are no known public health or safety concerns affecting this site.

f. Other requirements of state or federal agencies.

An impact analysis was conducted for the alternatives in this Application, in accordance with Section 404(b)(1) of the CWA [40 C.F.R. 230]. Pursuant to Section 404 of the CWA, any activity requiring a removal/fill must undergo an analysis of alternatives in order to identify the Least Environmentally Damaging Practicable Alternative (LEDPA) using guidelines established by the United States Environmental Protection Agency (EPA), known as the Section 404(b)(1) Guidelines. This impact analysis was conducted as the alternative sites posed the potential to impact wetlands.

The result of the 404(b)(1) analysis has established that Site 16, was not the preferred Alternative as it has demonstrated to not be the Least Environmentally Damaging Practicable Alternative. Therefore, for purposes of this Application, Site 16 does not conform with ORS 215.275 (f) Other requirements of state or federal agencies. These findings were presented in the original Type 2 Application, accepted by Jackson County on March 17, 2017.

The conditions at Site 16 that showed the potential to disturb 20 acres of wetlands and the likely presence of vernal pool habitat at the site, suitable habitat for vernal pool fairy shrimp, *Branchinecta lynchi*. **Exhibit 5**. Fairy shrimp, *Branchinecta lynchi* are a listed species under the Federal Endangered Species Act. Take of said species would require US Fish and Wildlife to issue a Section 10(a) Incidental Take Permit and accept a Habitat Conservation Plan. This site also within the area known as Whetstone Creek, Unit 8, US Fish and Wildlife Service critical habitat for the wooly meadow foam, *Limnathes floccosassp*, *spp grandiflora*. **Exhibit 6**. Disturbance would require obtaining a Federal Section 10(a) permit. Disturbance would require obtaining a Federal ESA Section 10(a) permit.

(vii) Site 17

a. Technical and engineering feasibility;

Site 17 has substantial engineering constraints. Because this is on the opposite side of the existing Whetstone substation as compared to the preferred site, approximately one and one half of a mile of new 230kV line would need to be constructed to the Whetstone substation. The current configuration of the Whetstone substation would need to be modified for the addition of this new line. **Exhibit 3.**

The greatest detraction to the use of this site would be caused by construction of the related to the tap lines as well as the new 230kV line mentioned in the preceding paragraph. The tap lines required for construction in this area would require new easements of 250' in width for the two tap 500kV lines (one entering and one exiting the sub) and a single new 230kV line easement ranging up to 250' in width for the new 230 kV line to be double circuited and the tap connection to the existing 230kV line. This site is located in a heavily developed industrial area. This means that in order to construct these tap lines all the currently existing industrial development would need to vacate their parcels because these lines cannot have structures within their ROW due to safety related clearance requirements as well as maintenance and operational requirements.

The new 230 kV line required to connect to Whetstone would create potential insurmountable engineer constraints because the routing has wetlands, Whetstone creek riparian corridor constraints, vernal pools as well as an endangered plant species. Attempting to obtain the state and federal approvals due to sensitive species present, could not occur in a timely manner, if at all.

If an alternate route for the 230 kV line was sought that went on a more direct path towards Whetstone it would have significant impacts on the existing industrial properties located between the site and the Whetstone sub. These impacts could be as severe as require the industrial facilities to vacate their occupied land in order to route lines into Whetstone.

Site 17 would also require approximately a 5 mile extension of the double circuit 115 kV/230 kV line and include the need to span the Rogue River, which would require further engineering studies to determine constructability as well as dramatically impact the riparian view shed. The construction method for this double circuit requires the demolition of the existing 115kV line and complete rebuild of the new double circuit. This means that the construction impacts along the Rogue River and along Table Rock would be significantly increased over the preferred site impacts.

b. The proposed facility is locationally dependent.

As explained above, the Proposed Substation is dependent upon a location along the planned route of the new 230 kV line. This route connects to the existing 500 kV line at Site 1 (the preferred alternative). Therefore, the Hearing Officer can find that the proposed facility is locationally dependent. **Exhibit 3.**

Site 17 fails to satisfy the locational needs of the Proposed Substation. It would require 6.8 miles of an extension of the double circuit 115 kV/230 kV line. This would require potential expansion of the ROW along the base of Lower Table Rock resource area as well as crossing the Rogue River. Approximately 2.3 miles of new 500 and 230 kV tap lines would need to be constructed to accommodate the ability for the entry and exit into the substation. The adjacent industrial land uses and businesses would likely be impacted to accommodate necessary ROWs for the tap lines. Due to safety requirements and general maintenance and operating restrictions buildings cannot be located within the ROW corridor. The Whetstone substation would also require modification due to this site being located after the 500 kV line drops into Whetstone substation. The additional cost to construct at Site 17, excluding land costs, is \$19,015,000.

c. Lack of available urban and nonresource lands;

Based on Jackson County zoning this site is considered a General Industrial (GI). A Landuse Application and review would be necessary to determine if the proposed substation use is compatible. Under LDU Table 6.2-1, developing a substation in GI zoning would require a Type 2 review (LDO 6.3.6(B)).

d. Availability of existing rights of way;

Sufficient existing right-of-way is not available for this site. This site would require expansion of the existing ROW along the base of Lower Table Rock resource area, obtaining new ROW for the new line section into Whetstone sub, as well as crossing the Rogue River. The new line section would require consultation with the Oregon Department of Fish and Wildlife and the US Fish and Wildlife Service in order to get over the Whetstone creek into Whetstone sub and this area is known to have vernal pools as well as an endangered plant species the wooly meadowfoam, *Limnathes floccosassp*, *spp grandiflora*, **Exhibit 6**.

e. Public health and safety;

There are no known public health or safety concerns affecting this site.

f. Other requirements of state or federal agencies.

An impact analysis was conducted for the alternatives in this Application, in accordance with Section 404(b)(1) of the CWA [40 C.F.R. 230]. Pursuant to Section 404 of the CWA, any activity requiring a removal/fill must undergo an analysis of alternatives in order to identify the Least Environmentally Damaging Practicable Alternative (LEDPA) using guidelines established by the United States Environmental Protection Agency (EPA), known as the Section 404(b)(1) Guidelines. This impact analysis was conducted as the alternative sites posed the potential to impact wetlands.

The result of the 404(b)(1) analysis has established that Site 17, was not the preferred Alternative as it is has demonstrated to not be the Least Environmentally Damaging Practicable Alternative. Therefore, for purposes of this Application, Site 17 does not

conform with ORS 215.275 (f) Other requirements of state or federal agencies. These findings were presented in the original Type 2 Application, accepted by Jackson County on March 17, 2017.

The conditions at Site 17 that showed the potential to disturb 0.5 acres of wetlands and the likely presence of vernal pool habitat for the tap lines to reach the site, suitable habitat for vernal pool fairy shrimp, *Branchinecta lynchi*. **Exhibit 5.** Fairy shrimp, *Branchinecta lynchi* are a listed species under the Federal Endangered Species Act. Take of said species would require US Fish and Wildlife to issue a Section 10(a) Incidental Take Permit and accept a Habitat Conservation Plan. This site also within the area known as Whetstone Creek, Unit 8, US Fish and Wildlife Service critical habitat for the woolly meadow foam, *Limnathes floccosassp, spp grandiflora*. **Exhibit 6.** Disturbance would require obtaining a Federal Section 10(a) permit. Disturbance would require obtaining a Federal ESA Section 10(a) permit.

(viii) Site 18

a. Technical and engineering feasibility;

Site 18 has substantial engineering constraints. Because this is on the opposite side of the existing Whetstone substation as compared to the preferred site, approximately one and one half of a mile of new 230kV line would need to be constructed to the Whetstone substation. The current configuration of the Whetstone substation would need to be modified for the addition of this new line. **Exhibit 3.**

The greatest detraction to the use of this site would be caused by construction of the related to the tap lines as well as the new 230kV line mentioned in the preceding paragraph. The tap lines required for construction in this area would require new easements of 250' in width for the two tap 500kV lines (one entering and one exiting the sub) and a single new 230kV line easement ranging up to 250' in width for the new 230 kV line to be double circuited and the tap connection to the existing 230kV line. This site is located in a heavily developed industrial area. This means that in order to construct these tap lines all the currently existing industrial development would need to vacate their parcels because these lines cannot have structures within their ROW due to safety related clearance requirements as well as maintenance and operational requirements.

Additionally, the new 230 kV line required to connect to Whetstone would be almost impossible to site because the area it has to traverse already has confirmed wetlands and vernal pools as well as an endangered plant species. The new 230 kV line required to connect to Whetstone would create potential insurmountable engineer constraints because the routing has wetlands, Whetstone creek riparian corridor constraints, vernal pools as well as an endangered plant species. Attempting to obtain the state and federal approvals due to sensitive species present, could not occur in a timely manner, if at all.

If an alternate route for the 230 kV line was sought that went on a more direct path towards Whetstone it would have significant impacts on the existing industrial properties located

between the site and the Whetstone sub. These impacts could be as severe as require the industrial facilities to vacate their occupied land in order to route lines into Whetstone.

Site 18 would also require approximately a 5 mile extension of the double circuit 115 kV/230 kV line and include the need to span the Rogue River, which would require further engineering studies to determine constructability as well as dramatically impact the riparian view shed. The construction method for this double circuit requires the demolition of the existing 115kV line and complete rebuild of the new double circuit. This means that the construction impacts along the Rogue River and along Table Rock would be significantly increased over the preferred site impacts.

b. The proposed facility is locationally dependent.

As explained above, the Proposed Substation is dependent upon a location along the planned route of the new 230 kV line. This route connects to the existing 500 kV line at Site 1 (the preferred alternative). Therefore, the Hearing Officer can find that the proposed facility is locationally dependent. **Exhibit 3.**

Site 81 fails to satisfy the locational needs of the Proposed Substation. It would require 7.1 miles of an extension of the double circuit 115 kV/230 kV line. This would require potential expansion of the ROW along the base of Lower Table Rock resource area as well as crossing the Rogue River. Approximately 1.6 miles of new 500 and 230 kV tap lines would need to be constructed to accommodate the ability for the entry and exit into the substation. The adjacent industrial land uses and businesses would likely be impacted to accommodate necessary ROWs for the tap lines. Due to safety requirements and general maintenance and operating restrictions buildings cannot be located within the ROW corridor. The Whetstone substation would also require modification due to this site being located after the 500 kV line drops into Whetstone substation. The additional cost to construct at Site 18, excluding land costs, is \$18,165,000.

c. Lack of available urban and nonresource lands;

Based on Jackson County zoning this site is considered a General Industrial (GI). A Landuse Application and review would be necessary to determine if the proposed substation use is considered compatible. Under LDU Table 6.2-1, developing a substation in GI zoning would require a Type 2 review (LDO 6.3.6(B)).

d. Availability of existing rights of way;

Sufficient existing right-of-way is not available for this site. This site would require expansion of the existing ROW along the base of Lower Table Rock resource area, obtaining new ROW for the new line section into Whetstone sub, as well as crossing the Rogue River. The new line section would require consultation with the Oregon Department of Fish and Wildlife and the US Fish and Wildlife Service in order to get over the Whetstone creek into Whetstone sub and this area is known to have vernal pool, **Exhibit 4**, as well as an endangered plant species the woolly meadowfoam, *Limnathes floccosasp*, *spp grandiflora*. for Whetstone substation expansion, **Exhibit 6.**

e. Public health and safety;

There are no known public health or safety concerns affecting this site.

f. Other requirements of state or federal agencies.

An impact analysis was conducted for the alternatives in this Application, in accordance with Section 404(b)(1) of the CWA [40 C.F.R. 230]. Pursuant to Section 404 of the CWA, any activity requiring a removal/fill must undergo an analysis of alternatives in order to identify the Least Environmentally Damaging Practicable Alternative (LEDPA) using guidelines established by the United States Environmental Protection Agency (EPA), known as the Section 404(b)(1) Guidelines. This impact analysis was conducted as the alternative sites posed the potential to impact wetlands.

The result of the 404(b)(1) analysis has established that Site 18, was not the preferred Alternative as it has demonstrated to not be the Least Environmentally Damaging Practicable Alternative. Therefore, for purposes of this Application, Site 18 does not conform with ORS 215.275 (f) Other requirements of state or federal agencies. These findings were presented in the original Type 2 Application, accepted by Jackson County on March 17, 2017.

The conditions at Site 18 that showed the potential to disturb 20 acres of wetlands based on aerial mapping signatures and the likely presence of vernal pool habitat at the site, suitable habitat for vernal pool fairy shrimp, *Branchinecta lynchi*. **Exhibit 5.** This potential was increased in the tap line ROW corridor. Fairy shrimp, *Branchinecta lynchi* are a listed species under the Federal Endangered Species Act. Take of said species would require US Fish and Wildlife to issue a Section 10(a) Incidental Take Permit and accept a Habitat Conservation Plan. This site also within the area known as Whetstone Creek, Unit 8, US Fish and Wildlife Service critical habitat for the woolly meadow foam, *Limnathes floccosassp, spp grandiflora*. **Exhibit 6.** Disturbance would require obtaining a Federal Section 10(a) permit. Disturbance would require obtaining a Federal Section 10(a) permit.

(ix) Site 20

a. Technical and engineering feasibility;

Site 20 meets the NERC and WECC System modeling requirements to provide a new 500 kV/230 kV substation, which interconnects a new 230 kV line to the existing Dixonville-Meridian 500 kV line. The site is less desirable than Site 1 due to the engineering unknowns since the site is considered an aggregate resource. The geomorphic conditions would require further investigation and based on the proximity to the river is likely in the 100 year flood plain which could preclude construction of the sub by itself. Even if the location is not in the 100 year flood plain a significant amount of site build up would be required in order to ensure no localized flooding would impact operations and this would require that the overall footprint of the sub expand in order to

incorporate the amount of elevation gain needed over the current ground surface elevation. **Exhibit 3.**

Site 20 will also require the extension of the new double circuited 230/115 kV line for approximately 3.73 miles and include the need to span the Rogue River, which would require further engineering studies to determine constructability as well as dramatically impact the riparian view shed. The construction method for this double circuit requires the demolition of the existing 115kV line and complete rebuild of the new double circuit. This means that the construction impacts along the Rogue River and along Table Rock would be significantly increased over the preferred site impacts.

The greatest detractor to the use of this site would be caused by construction of the related to the tap lines and the fact that it is currently occupied by an operational water treatment facility. According to the Rogue Valley Sewer Service the only way the parcel of land available for other uses would be allowed to be used as a substation is if the facility did not impact the operational pond. In to construct the 500kV tap lines into and out of this facility the substation would not be able to fit onto the available parcel. The reason for this is due to the fact that the “entering” tap line would have to run alongside Kirkland Road. The “exiting” tap line would run directly out and over the operation pond. In order to put the tap line entering the substation along the road, the substation layout would have to push north or further into the operation pond. In addition to the impacts caused by the 500kV taps the 230kV taps would also encroach upon the operation pond. Attempts to reroute any of these lines around the pond would require that they be constructed through the adjacent operational City of Medford water reclamation facility as well as potentially require a second (and new) Rogue River crossing.

b. The proposed facility is locationally dependent.

As explained above, the Proposed Substation is dependent upon a location along the planned route of the new 230 kV line. This route connects to the existing 500 kV line at Site 1 (the preferred alternative). Therefore, the Hearing Officer can find that the proposed facility is locationally dependent. **Exhibit 3.**

Site 20 fails to satisfy the locational needs of the Proposed Substation. It would require approximately 4.0 miles of an extension of the double circuit 115 kV/230 kV line. This would require potential expansion of the ROW along the base of Lower Table Rock resource area as well as crossing the Rogue River. Approximately 1000 feet of new 500 and 230 kV tap lines would need to be constructed to accommodate the ability for the entry and exit into the substation. This site, in comparison to the other Alternatives, would require extensive site work due to the existing use as both active and inactive sewer ponds. The additional cost to construct at Site 20, excluding land costs, is \$10,928,182

c. Lack of available urban and nonresource lands;

Site 20 is zoned Open Space Reserve (OSR). According to Table 4.3.1 of the Jackson County Land Development Ordinance, a substation is not an allowed use in the OSR zoning district and, therefore, the proposed site would need to be rezoned from OSR to

General Industrial (GI) in order for the substation to be permitted. Under OAR 660-004-0020 and OAR 660- 004-0022, a “reasons” goal exception would need to be taken to rezone from OSR to an industrial use. Vernal pools are also likely to occur within the site, creating less certainty to defend a rezoning to develop the site. In addition, Jackson County’s Comprehensive Plan, Policy 8 of Economic Elements, clearly prohibits re-zoning of non-industrial lands for industrial purposes, with only a few exceptions, which the Project does not qualify. Therefore, permitting the site for development would require additional local land use permits and approvals, most of which are likely to be challenged due to inconsistency with local plans and policies.

In addition, OSR zoning would be considered “resource lands” under ORS 215.275 review of alternatives, and therefore should not be considered a suitable site. This site was included in the analysis for the substation in response to public comments.

d. Availability of existing rights of way;

Site 20 does not meet the criteria of siting within existing rights away, as compared to Site1, as the 230kV line would be extended 4 miles, 17 acres and approximately 0.4 miles of new tap lines would be required outside existing rights of way requiring up to 250’ wide new property easements.

e. Public health and safety;

There are no known public health or safety concerns affecting this site.

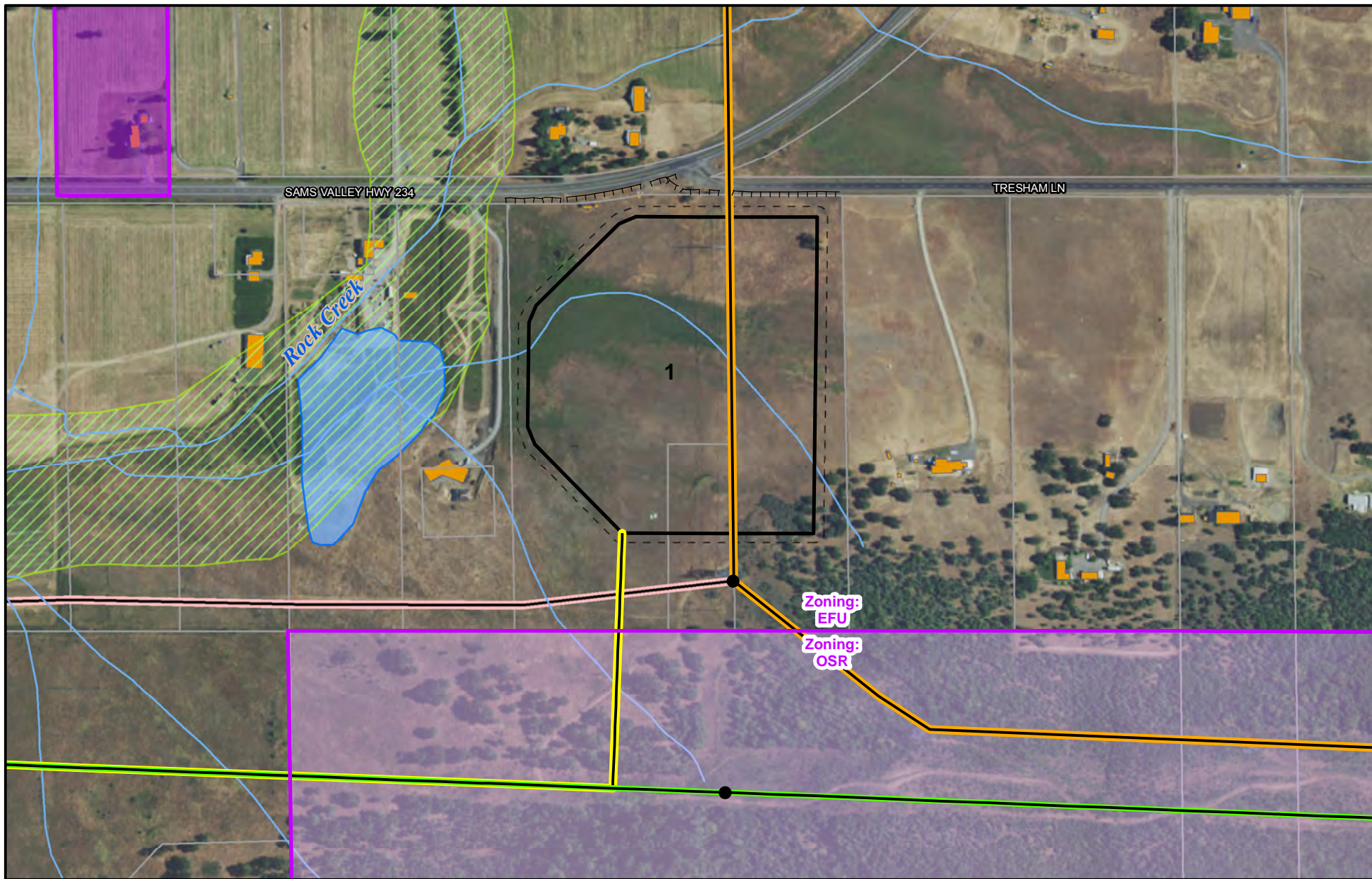
f. Other requirements of state or federal agencies.

Site 20 is currently used as an abandoned and active sewerage pond. Development of the site would require approvals by Oregon Department of Environmental Quality to close the sewerage facility and remediate the site. The site contains over 20 acres of active wetlands, and would require approvals under both state and federal Section 404(b)(1) of the CWA [40 C.F.R. 230]. The Jackson County mapping system shows this site a highly disturbed site for vernal pools, the preferred habitat for fairy shrimp, *Branchinecta lynchi*. **Exhibit 5.** Fairy shrimp, *Branchinecta lynchi* are a listed species under the Federal Endangered Species Act. Take of said species would require US Fish and Wildlife to issue a Section 10(a) Incidental Take Permit and accept a Habitat Conservation Plan. The site is recognized by the Audubon Society as a key birding resource. Based on interest from outside parties in this alternative site, we reviewed the potential impact to the avian resources present, **Exhibit 9.** Based on the resource data base analysis of known birds to exist in the area, Site 20 is considered a critical location for unusual and rare shore birds as well as song birds. Endangered Species surveys would likely be required by the US Fish and Wildlife Service through one or more migration seasons to determine presence or absence of species. While this location was not included in the LEDPA Alternatives Analysis, it is likely that it also would not have yielded a preferred site based on the critical resources present.

End Exhibit K-1

List of Referenced Exhibits:

1. Site 1-Preferred Alternative, Sams Valley Site
2. Technical Memorandum: Letter to Jackson County re: Purpose and Need for a Substation, August 28, 2017, Pacific Power
3. Technical Memorandum: Letter to Jackson County re: Engineering and Locational Requirements, August 28, 2017, Pacific Power.
4. Alternative Sites Considered (Map)
5. Vernal Pool Habitat (Map)
6. Wooly Meadowfoam Habitat (Map)
7. Rogue Valley Sewer Services Letter to Jackson County, August 10, 2017, RVSS.
8. Substation Site Plan, Site 1 Location
9. Technical Memorandum: Habitat Avian Use Assessment, August 14, 2017, West Environmental.

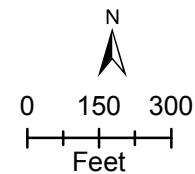


- | | | |
|----------------------|----------------------------------|-----------------------------------|
| Substation Footprint | Existing 115 kV Line | Taxlot |
| 30' Property Setback | Existing 230kV Line | Potential 500kV ROW (245ft width) |
| Stream | Location of Proposed 230 kV Line | Potential 230kV ROW (125ft width) |
| Waterbody | Potential 230kV Connection | |
| 100-Year (FEMA) | Existing 500kV Line | |
| Ditch | Potential 500kV Connection | |
| Buildings | Corner Structure | |

Zoning

- | |
|---|
| RR-5 |
| OSR |
| EFU* (All areas outside RR-5 & OSR are zoned EFU) |

**Exhibit 1
Site 1
Proposed Sams Valley Substation Site**



*All locations should be considered approximate. Locations are not intended for construction purposes.

Exhibit 2

August 28, 2017

Mr. Francisco Hernandez
10 South Oakdale Avenue, Room #100
Medford, Oregon 97501

Dear Mr. Hernandez,

The following information regards an explanation to clarify the need for the new substation in Sams Valley.

NERC TPL-001-4 Annual System Assessment Overview

PacifiCorp conducts an annual system assessment to evaluate the performance of PacifiCorp's West (PACW) Bulk Electric System (BES) and to identify system potential problems related to its ability to operate the electric transmission system based on North American Electric Reliability Corporation (NERC) Standard TPL-001-4 and Western Electricity Coordinating Council (WECC) Criterion TPL-001-WECC-CRT-3. This criteria requires reviewing the transmission system and how it can be operated if there were a loss of transmission lines and/or equipment like transformers.

The studies are performed to determine whether the main transmission system meets the performance requirements for the required modeled planning events (e.g. loss of a transmission line), and to assess the impact of extreme events (e.g. loss of multiple transmission lines), in the near-term and long-term planning horizons. Modeling/study simulations are performed for selected events that have the potential to produce severe system impacts.

A corrective action plan is developed as part of the planning assessment when the analysis identifies an inability of the system to meet the required level of performance established in NERC TPL-001-4, WECC Criterion, and PacifiCorp's Engineering Handbook. The corrective action plan lists identified system deficiencies, associated system reinforcements necessary to meet the required performance and the anticipated time frame within which these improvements would be incorporated into the system (**TPL-001-4 R2.7**).

Power Flow Base Case Setup and Modeling

The power flow cases used in the annual NERC TPL-001-4 system assessment are based on approved WECC seasonal base cases, which are consistent with data provided in accordance with the MOD-032-1 standard (TPL-001-4 R1). Planned projects include new facilities and changes to existing facilities (TPL-001-4 R1.1.3), which were based on PacifiCorp's current 10-year capital plan at the time of the study. The loads in the cases were updated to represent inputs from the transmission customer real and reactive load projections, provided in the 2015 10-year load and resource data submitted to PacifiCorp (TPL-001-4 R1.1.4); as well as all known commitments for firm transmission service and interchange (TPL-001-4 R1.1.5). These loads were then verified and updated as necessary using historical data and regional coincidence factors.

Specific to the Sams Valley project, the assessment was performed prior to and following addition of the project. The model for the Sams Valley project included a new 500-230 kV, 650 MVA transformer tapping the existing Dixonville-Meridian 500 kV line; reconductoring 5.6 miles of 230 kV transmission between Whetstone and Sams Valley substations; and construction of 18.4 miles of new 230 kV transmission line between Grants Pass and Sams Valley substations.

Simulations and Analysis

Simulations were performed for planning events on all base cases to assess system performance for peak and off-peak load conditions addressing the near-term and long-term planning horizons (TPL-001-4 R2.1, R2.2). The analysis used the Siemens PSS®E power flow simulation program. The analysis considered all planning events as defined in NERC TPL-001-4 Table 1 (TPL-001-4 R3.1). All applicable category planning events on PacifiCorp's portion of the main transmission system were identified and a list of those contingencies to be evaluated for system performance was created (TPL-001-4 R3.4). All unique planning event contingencies were simulated in the analysis.

A portion of the assessment included analysis of system dynamic stability in the near-term planning horizon to determine whether the main transmission system meets the performance requirements in NERC TPL-001-4 Table 1 (**TPL-001-4 R4.1**). This analysis used the Siemens PSS®E dynamic simulation program (**TPL-001-4 R4**).

Sams Valley Project Requirements

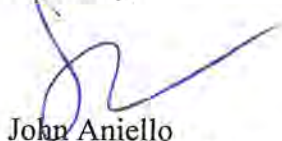
As a result of the annual system assessments, the Sams Valley Project was the best solution to resolve several operating problems of the NERC TPL-001-4 requirements and eliminated a variety of situations in which transmission outages would require load shedding in the southern Oregon region. The Project was first identified in the 2010 system assessment and the need has been validated in subsequent annual assessments:

- Maintain compliance with NERC TPL-001-4 P2-3 and P4 event requirements (loss of two transmission elements as a result of an internal breaker fault or stuck breaker): a failure of the Meridian 230 kV breaker 1R49 will cause the loss of the Meridian-Whetstone 230 kV line and the Meridian-Lone Pine 230 kV line No.2 causing an overload of the Meridian-Lone Pine No.1.
- Avoid consequential load loss resulting from a TPL-001-4 P2-2, P2-3, P4 or P6 event: a 230 kV bus fault at Grants Pass substation, 230 kV internal breaker fault or stuck breaker at Grants Pass substation, or an outage of both 230 kV transmission lines supplying Grants Pass 230-115 kV substation causes the loss of all Grants Pass and Crescent City load, approximately 230 MW at peak load.
- Avoid load shedding presently necessary through use of an automatic remedial action scheme after a TPL-001-4 P6 event: A loss of both 500 kV transmission lines supplying Meridian or loss of both Meridian 500-230 kV transformer banks causes low voltage on the 230 kV system and requires significant load shedding, up to 310 MW in Medford and Grants Pass.
- Avoid complex operating procedures under various transmission line and transformer outage conditions to sectionalize the 115 kV and 230 kV systems in southern Oregon. As part of the operating procedures, large areas of southern Oregon and northern California are served by separate radial transmission feeds. Such configuration sets up the system for consequential load loss to large parts of the system, including the Roseburg, Grants Pass, Crescent City, Medford, Klamath Falls and Yreka areas for the second outage, in order to meet NERC TPL-001-4 requirements.

- Maintain compliance with NERC TPL-001-4 P1 and P2-1 event requirements (loss of a single transmission element such as a line or transformer) when the Medford area 115 kV system is operated in a radial configuration
 - An outage of the Dixonville-Grants Pass 230 kV line will overload the 230 kV Meridian-Whetstone line.

An outage of the Meridian-Whetstone 230 kV line will cause a voltage collapse in Grants Pass, Crescent City and portions of the Medford area.

Sincerely,

A handwritten signature in blue ink, appearing to read "John Aniello", with a stylized flourish extending to the right.

John Aniello
Director of PMW for Pacific Power

Exhibit 3

August 28, 2017

Mr. Francisco Hernandez
10 South Oakdale Avenue, Room #100
Medford, Oregon 97501

Dear Mr. Hernandez,

Pacific Power has submitted an application to construct, operate, and maintain a new 500 kV/230 kV substation north of Medford. The Substation is proposed to be located on private land under the ownership of Pacific Power, at the intersection of an existing 115kV line and the Dixonville-Meridian 500 kV transmission line in the Sam's Valley area.

The purpose of this letter is to explain the engineering and locational requirements for the construction of the substation and how the various sites considered meet or don't meet these required criteria.

Locational Criteria

The Substation is needed to reinforce the northwestern electrical grid system by adding a new connection from the existing Meridian-Dixonville 500 kV line, via a new eighteen miles 230 kV towards Grants Pass. In order to reduce overall construction impacts the location of the substation was determined based on proximity to existing lines. The new 230 kV line connecting the new substation to the existing Grants Pass substation is planned to co-located within the existing 115kV line ROW that runs past the selected property. This decision was made to reduce the overall environmental and construction impacts as compared to constructing a brand new 230kV line in a separate corridor. For example, in rural and resource land, new tap line corridors would substantially increase the impacts to open space, natural resources. A new 230kV line generally requires a 125' wide easement because Pacific Power cannot allow any tall vegetation, or any infrastructure or development within these rights-of-way the new path could potentially be destructive to existing forest land and to private properties. In urban and industrial areas, the new tap line corridors could potentially require displacement of existing development, extensive added length to avoid existing development, and/or easement acquisition.

Beyond the need for the new 230kV line, moving away from the selected site creates the need to construct new 500kV tap lines from the new substation to the Meridian – Dixonville line. A 500 kV line requires a 250-foot right-of-way along its length.

Substation Engineering Requirements

The physical size of a substation is determined by many clearance requirements and design considerations. PacifiCorp adheres to Institute of Electrical and Electronics Engineers (IEEE) and National Electrical Safety Code (NESC) clearance standards, and takes into account the minimum approach distances (MAD) of field personnel dictated by geographical area and International Brotherhood of Electrical Workers Union. Geographical elevation and environmental location are other considerations which will affect required clearance distances.

The width of a bay inside a substation depends on the voltage and basic insulation level (BIL). As the operating voltage of a substation increases, greater phase to phase spacing is required to 1) prevent a flashover during normal operation and 2) to reduce the mechanical stresses from fault current which could aid in the evolution of a single phase fault into a multi-phase fault and/or cause the failure of bus support insulators. As the BIL increases, so do the clearance requirements from live part to fences and roadways. The length of a bay inside a substation is designed with considerations for safe access to equipment for maintenance and removal. The substation design also needs to maintain adequate distances from live parts so that field personnel can stay within their MAD.

Transmission line routing and future expandability are two more design considerations taken into account when laying out a substation. A new substation needs to account for how the transmission lines will be brought in and terminated inside the substation. The substation design engineer also must take into account how future lines will enter and terminate such that line crossings outside the substation are kept at a minimum. Both of these considerations will affect the total real estate required for the substation. Therefore, one site may require more or less land area than another depending on how the existing lines are oriented to enter and leave the substation.

Electrical bus routing within the substation will also affect the footprint. The design engineer must route the bus of one voltage through the power transformer to the other voltage all while not blocking line positions and stranding assets as is the case with the Sam's Valley Substation design. The 500 kV yard is set up for an ultimate six breaker ring and the 230 kV yard is set up for future breaker and a half (which supports additional future bays for future 230 kV lines) and will not strand any 230 kV bay positions.

Access, roads, and drive paths are designed so that a truck large enough to support the entry and exit of the largest piece of equipment is able to adequately maneuver within the substation. This is another factor which can impact the size of a substation.

Site 1 (Preferred Alternative)

The substation would be located on three vacant parcels currently owned by Pacific Power. The site is located at the intersection of existing transmission lines. Additional ROW easements are not needed for this site for either transmission line. The substation would occupy approximately 20 acres and consist of a fenced, secured, graveled yard containing transformers and switches, and screened with plantings to soften the visual effects. There are no known issues associated with the site that would require extraordinary construction requirements.

Sites 2 – 8 (Proximate to Sams Valley)

There were seven other properties considered in the Sams Valley area which were all eliminated due to the additional impacts caused by either the requirement of longer tap lines or the extension of the 230kV line, or because of impacts to existing land owners.

Of the additional seven sites reviewed only one, site 2, was situated in a manner that allowed direct connection into the 500kV line without requiring new tap lines. However, because this site is farther from the existing 230kV and 115kV lines, significantly longer tap lines back to these is required. Assuming the construction of these lines can be accomplished in the same manner as is planned for the preferred site (all line segments running parallel to each other) we would need a new line route and associated ROW easement through a currently occupied residential parcel of close to 250' in width. This would likely require the demolition of the existing home and associated farm buildings.

For all remaining sites the impacts to the surrounding properties related to the 500kV tap lines required would be significant. The impacts range, in the best case as evidenced by site 4, from requiring two new 250' tap line ROW's (one of which would be on elevated ground on the north side of the site) to the worst case which is represented by Sites 6 and 8, which would require two new 250' tap line ROW's.

The greatest detraction to the use of these sites and specifically for sites 2 through 4, is that they require the actual displacement of residential property owners. The footprint of the substation for sites 2 through 4 will require demolishing existing buildings in order to fit on these locations.

Sites 9 and 10

There were two other properties considered just a few miles outside the Sams Valley area which were also eliminated due to the additional impacts caused by either the requirement of longer tap lines or the extension of the 230kV line or because of impacts to existing land owners. The greatest detraction to the use of these sites is the need for long 500kV tap lines and the additional need of a small river crossing of a feeder creek into the Rogue River, which greatly increases the complexity of the engineering as well as the impact to the local populace and environment.

Finally both of these sites would impact properties currently in use for agricultural purposes and the extended tap lines could require the actual displacement of residential property owners.

Sites 11 and 12

Site 11 and 12 are less desirable than Site 1 due to the engineering unknowns since these site are considered aggregate resources. The geomorphic conditions would require further investigation and based on the proximity to the river, are likely in the 100 year flood plain which could preclude construction of the substation by itself. Even if the locations are not within the 100 year flood plain, a significant amount of site build up would be required to ensure no localized flooding would impact operations and this would require that the overall footprint of the substation expand in order to incorporate the amount of elevation gain needed over the current ground surface elevation.

Both site will also require the extension of the new double-circuited 230/115 kV line for approximately 3.7 to 4 miles and include the need to span the Rogue River, which would require further engineering studies to determine constructability as well as dramatically impact the riparian view shed. The construction method for this double circuit requires the demolition of the existing 115kV line and complete rebuild of the new double circuit. This means that the construction impacts along the Rogue River and along Table Rock would be significantly increased over the preferred site impacts.

The greatest detraction to the use of these sites would be caused by construction of the related to the tap lines and access roads. The tap lines required for construction in this area would require new easements of 250' in width for the two tap 500kV lines (one entering and one exiting the sub) and a single new 230kV line easement ranging up to 250' in width for the new 230 kV line to be double-circuited and the tap connection to the existing 230kV line. The access road from Kirkland Road out to the substations is a significant construction effort. Because of the size of the equipment in a 500kV substation there might be a need for separate roads entering and exiting this substation. The required width for access road is at least 30' but because of the area significant build up would be required (as it was for the substation thereby dramatically increase the likely width) and would impact, in the case of Site 11, up to 5,000 sq. ft. of currently un-impacted land if both entry and exist roads were required.

Sites 13, 15, and 16

Site 13, 15, and 16 have substantial engineering constraints. Because these locations are on the opposite side of the existing Whetstone substation as compared to the preferred site, approximately three-quarters of a mile of new 230kV line would need to be constructed parallel to the existing lines that currently run past and to the Whetstone substation in order to get into the Whetstone sub. The current configuration of the Whetstone substation would need to be modified for the addition of this new line.

The greatest detraction to the use of these sites would be caused by construction of the tap lines as well as the new 230kV line mentioned in the preceding paragraph. The tap lines required for construction in these areas would require new easements of 250' in width for the two tap 500kV lines (one entering and one exiting the sub) and a single new 230kV line easement ranging up to 250' in width for the new 230 kV line to be double-circuited and the tap connection to the existing 230kV line. The new 230 kV line required to connect to Whetstone would be almost impossible to site because the area it has to traverse already has confirmed wetlands and vernal pools as well as an endangered plant species. Additionally the new 230 kV line would be required to cross Whetstone creek which would require Oregon Department of Fish and Wildlife approval which they are unlikely to give because of the impacts to trees along the riparian boundary of the creek.

These sites would also require approximately a 5-mile extension of the double circuit 115 kV/230 kV line and include the need to span the Rogue River, which would require further engineering studies to determine constructability as well as dramatically impact the riparian view shed. The construction method for this double circuit requires the demolition of the existing 115kV line and complete rebuild of the new double circuit. This means that the construction impacts along the Rogue River and along Table Rock would be significantly increased over the preferred site impacts.

Sites 17 and 18

Sites 17 and 18 have substantial engineering constraints. Because these sites are on the opposite side of the existing Whetstone substation as compared to the preferred site, approximately one and one half mile of new 230kV line would need to be constructed to the Whetstone substation. The current configuration of the Whetstone substation would need to be modified for the addition of this new line.

The greatest detraction to the use of these sites would be caused by construction of the tap lines as well as the new 230kV line mentioned in the preceding paragraph. The tap lines required for construction in this area would require new easements of 250' in width for the two tap 500kV lines (one entering and one exiting the sub) and a single new 230kV line easement ranging up to 250' in width for the new 230 kV line to be double circuited and the tap connection to the existing 230kV line. These sites are located in a heavily developed industrial area. This means that in order to construct these tap lines, all the existing industrial development would need to vacate their parcels because these lines cannot have structures within their ROW due to safety-related clearance requirements as well as maintenance and operational requirements.

Additionally, the new 230 kV line required to connect to Whetstone would be almost impossible to site because the area it has to traverse already has confirmed wetlands and vernal pools as well as an endangered plant species. Additionally, the new 230 kV line would be required to cross Whetstone creek (potentially twice) which would require Oregon Department of Fish and Wildlife approval, which they are unlikely to give because of the impacts to trees along the riparian boundary of the creek. If an alternate route for the 230 kV line were sought that went on a more direct path towards Whetstone it would have significant impacts on the existing industrial properties located between the site and the Whetstone sub. These impacts could be as severe as requiring the industrial facilities to vacate their occupied land in order to route lines into Whetstone.

The sites would also require approximately a 5-mile extension of the double circuit 115 kV/230 kV line and include the need to span the Rogue River, which would require further engineering studies to determine constructability as well as dramatically impact the riparian view shed. The construction method for this double circuit requires the demolition of the existing 115kV line and complete rebuild of the new double circuit. This means that the construction impacts along the Rogue River and along Table Rock would be significantly increased over the preferred site impacts.

Site 20

Site 20 would require extension of the new double-circuited 230/115 kV line for approximately 3.73 miles and include the need to span the Rogue River, which would require further engineering studies to determine constructability as well as dramatically impact the riparian view shed. The construction method for this double circuit requires the demolition of the existing 115kV line and complete rebuild of the new double circuit. This means that the construction impacts along the Rogue River and along Table Rock would be significantly increased over the preferred site impacts.

The greatest detractor to the use of this site would be caused by construction of the related to the tap lines and the fact that it is currently occupied by an operational water treatment facility. According to the Rogue Valley Sewer Service, the only way the parcel of land available for other uses would be allowed to be used as a substation is if the facility did not impact the operational pond. In to construct the 500kV tap lines into and out of this facility the substation would not be able to fit onto the available parcel. The reason for this is due to the fact that the "entering" tap line would have to run alongside Kirkland Road. The "exiting" tap line would run directly out and over the operational pond. In order to put the tap line entering the sub along the road, the sub layout would have to push north or further into the operation pond. In addition to the impacts caused by the 500kV taps, the 230kV taps would also encroach upon the operation pond. Attempts to reroute any of these lines around the pond would require that they be constructed through the adjacent operational City of Medford water reclamation facility as well as potentially require a second (and new) Rogue River crossing.

Sincerely,

A handwritten signature in black ink, consisting of a large, stylized 'J' followed by a horizontal line extending to the right.

John Aniello
Director of PMW, Pacific Power

Exhibit 4

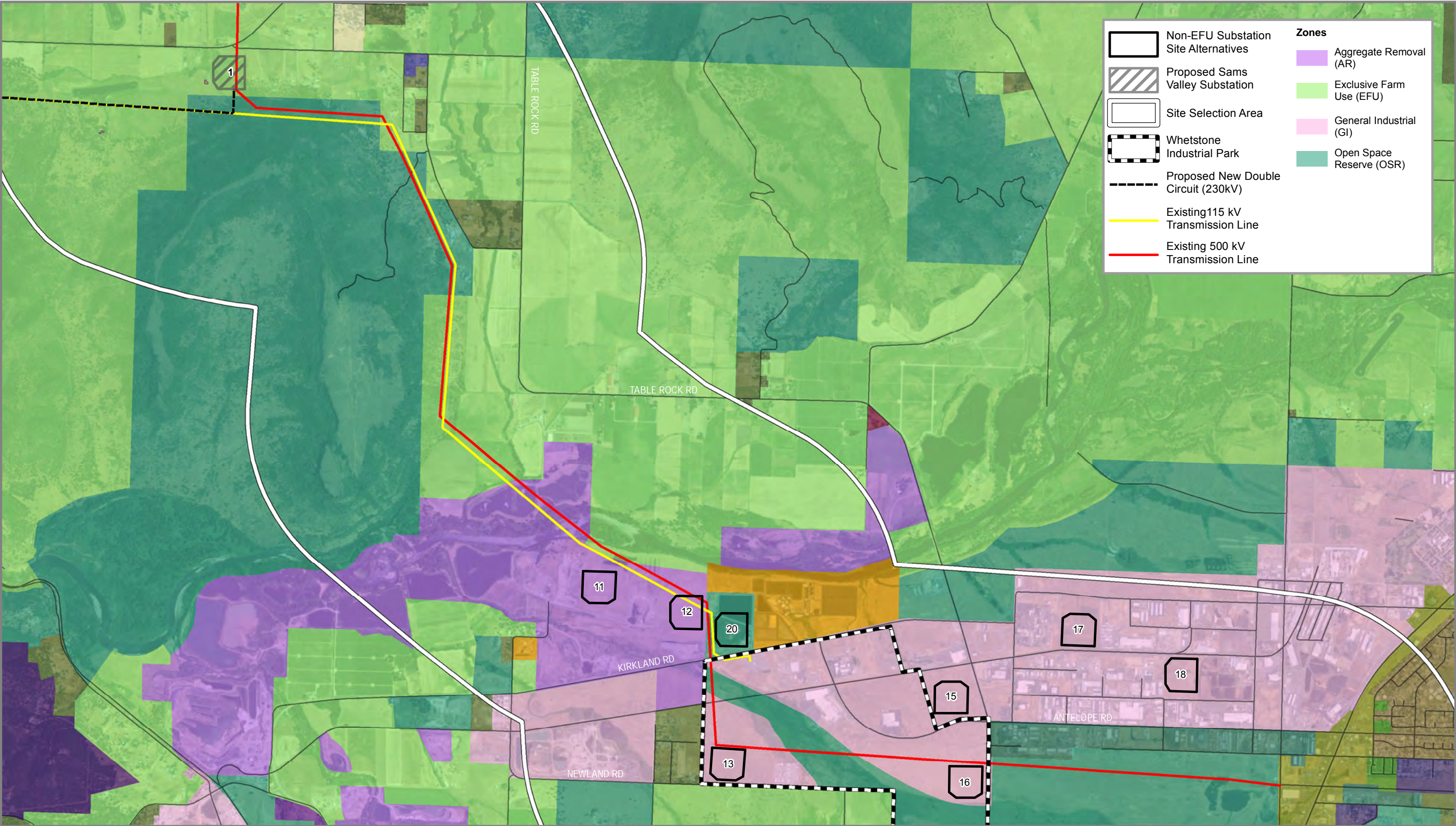


Exhibit 5

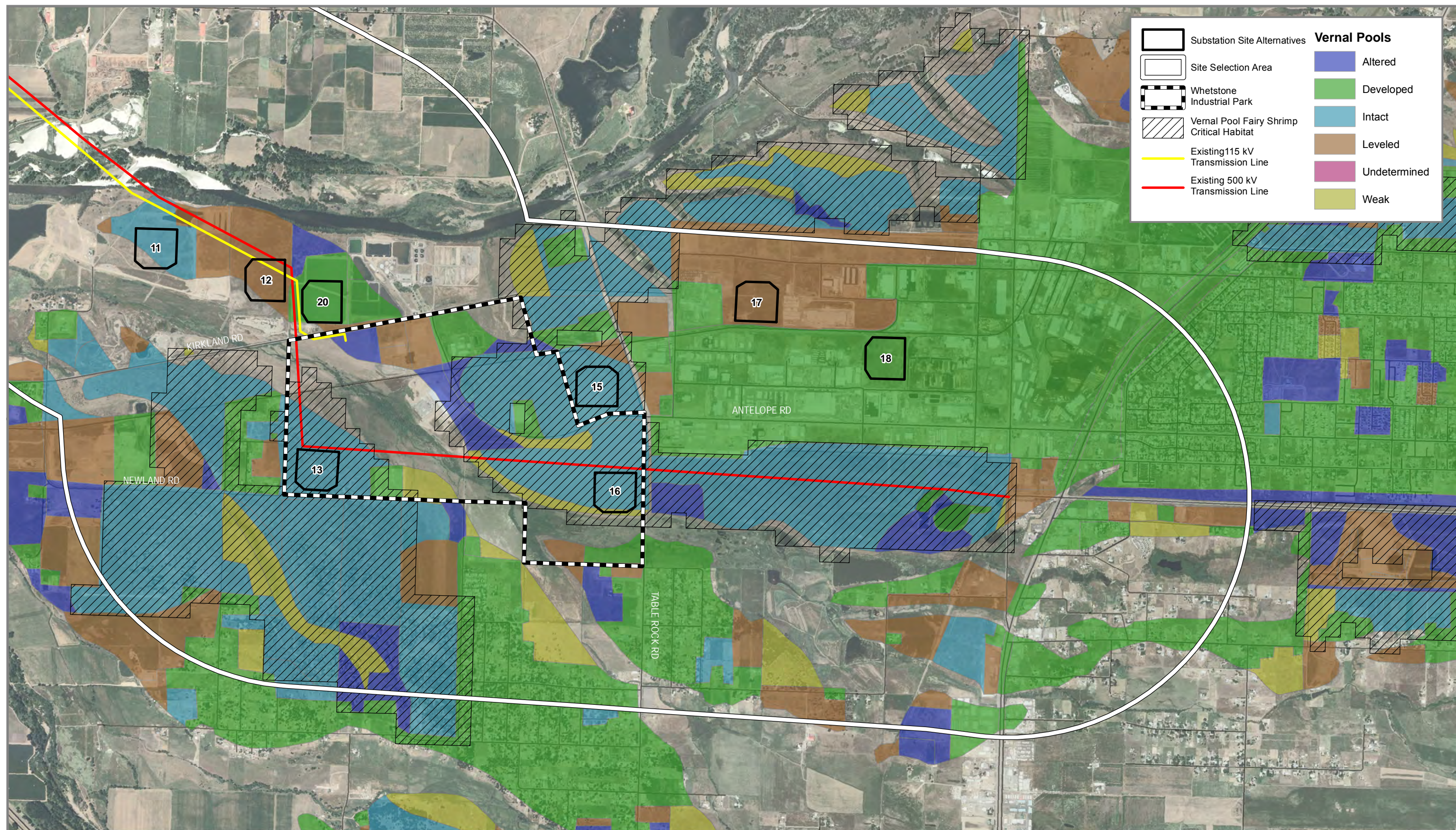


Exhibit 6

Critical Habitat for *Limnanthes floccosa* ssp. *grandiflora*

Unit: RV8 – Whetstone Creek, Jackson County, Oregon

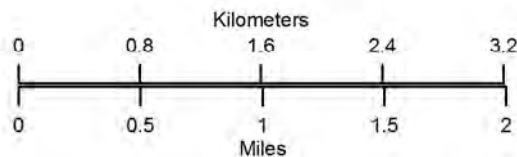
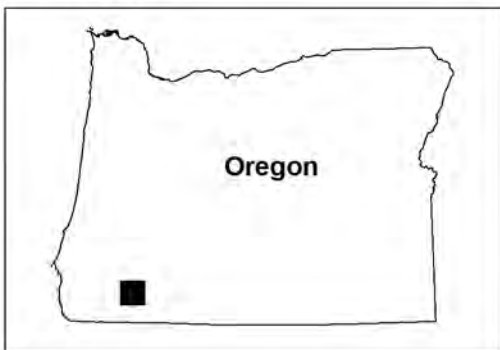
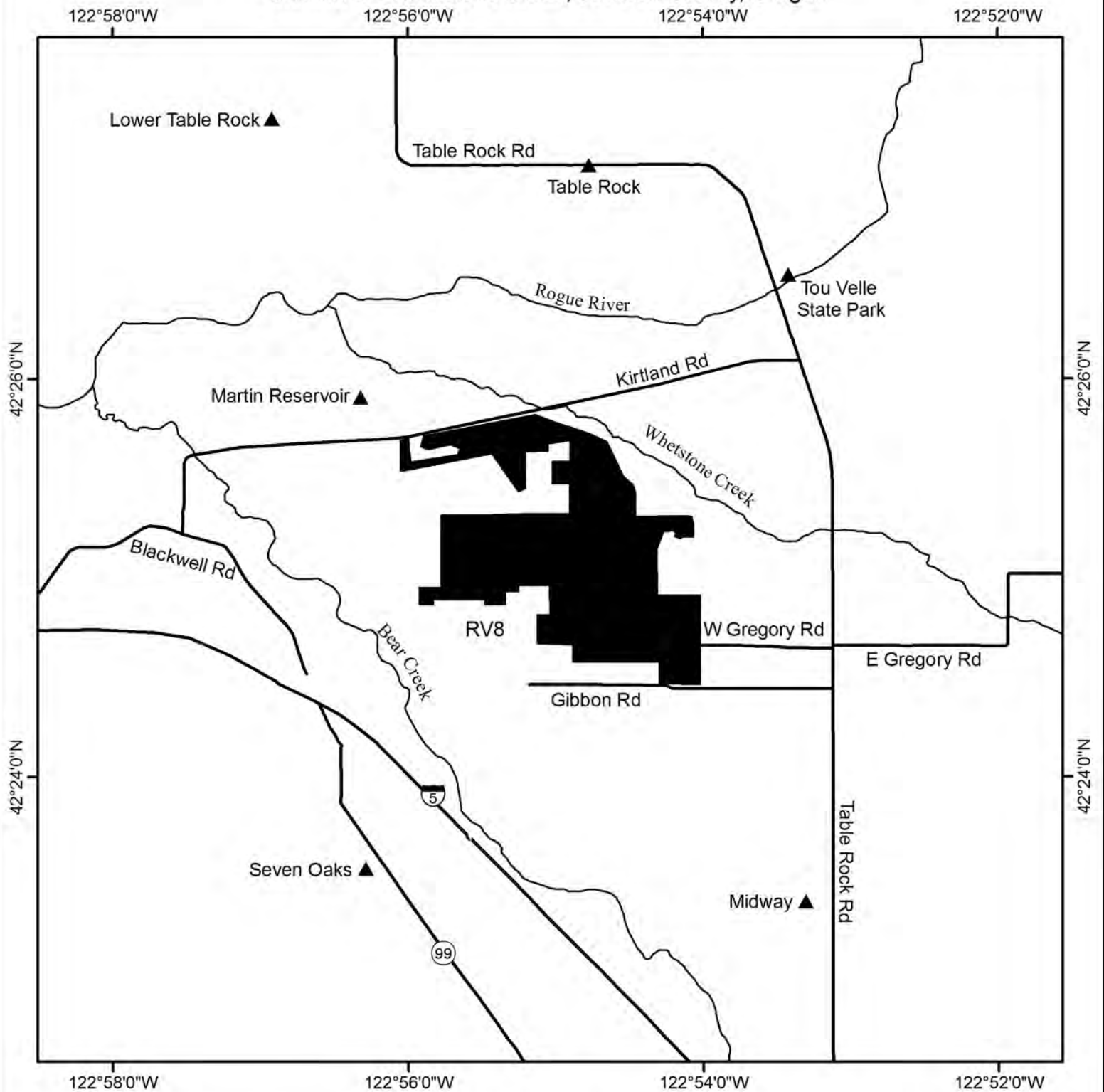


Exhibit 6

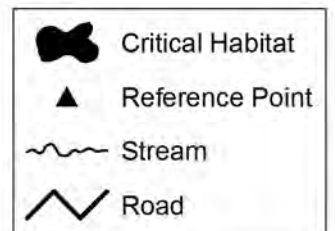


Exhibit 7



ROGUE VALLEY SEWER SERVICES

Location: 138 West Vilas Road, Central Point, OR - Mailing Address: P.O. Box 3130, Central Point, OR 97502-0005
Tel. (541) 664-6300, Fax (541) 664-7171 www.RVSS.us

August 10, 2017

Francisco Hernandez
Jackson County Planning Department
10 South Oakdale
Medford, OR 97501

Re: 439-16-02333-ZON: White City Lagoons

Dear Frank,

Rogue Valley Sewer Services owns a 50 acre sewage treatment lagoon site on Kirtland Road in Jackson County Oregon. I understand that Pacific Power is looking at this site as a possible location for a sub-station. Based on my conversations with Pacific Power, this sub-station would require a minimum of 25 acres at this location.

The site includes two sewage lagoons, a 15.5 acre cell to the North and a 20 acre cell to the South. The north cell is currently used to treat hauled septic tank and chemical toilet waste.

A portion of the South cell has been filled in to facilitate the trucks delivering waste and we have plans to construct a larger vector dump site in this area.

Another portion of the South cell is used for temporary storage of vector truck waste from sewer cleaning.

The construction of a power sub-station on this site would eliminate or severely restrict our current uses of the property. For this reason I do not believe that it would be appropriate to sell or lease a portion of this property for this use.

Feel free to call me if you have any questions regarding this project.

Sincerely,

Carl Tappert, PE
Manager

Exhibit 8

PACIFICORP (8971 HWY 234)
N. 1/2 OF SECTION 5, T36S, R2W, W.M.
JACKSON COUNTY, OREGON
362W05-600, 700 & 701

THERE ARE NO EXISTING OR PROPOSED
WELLS, SEPTIC SYSTEMS,
DRAINFIELDS OR SEWER PIPES.

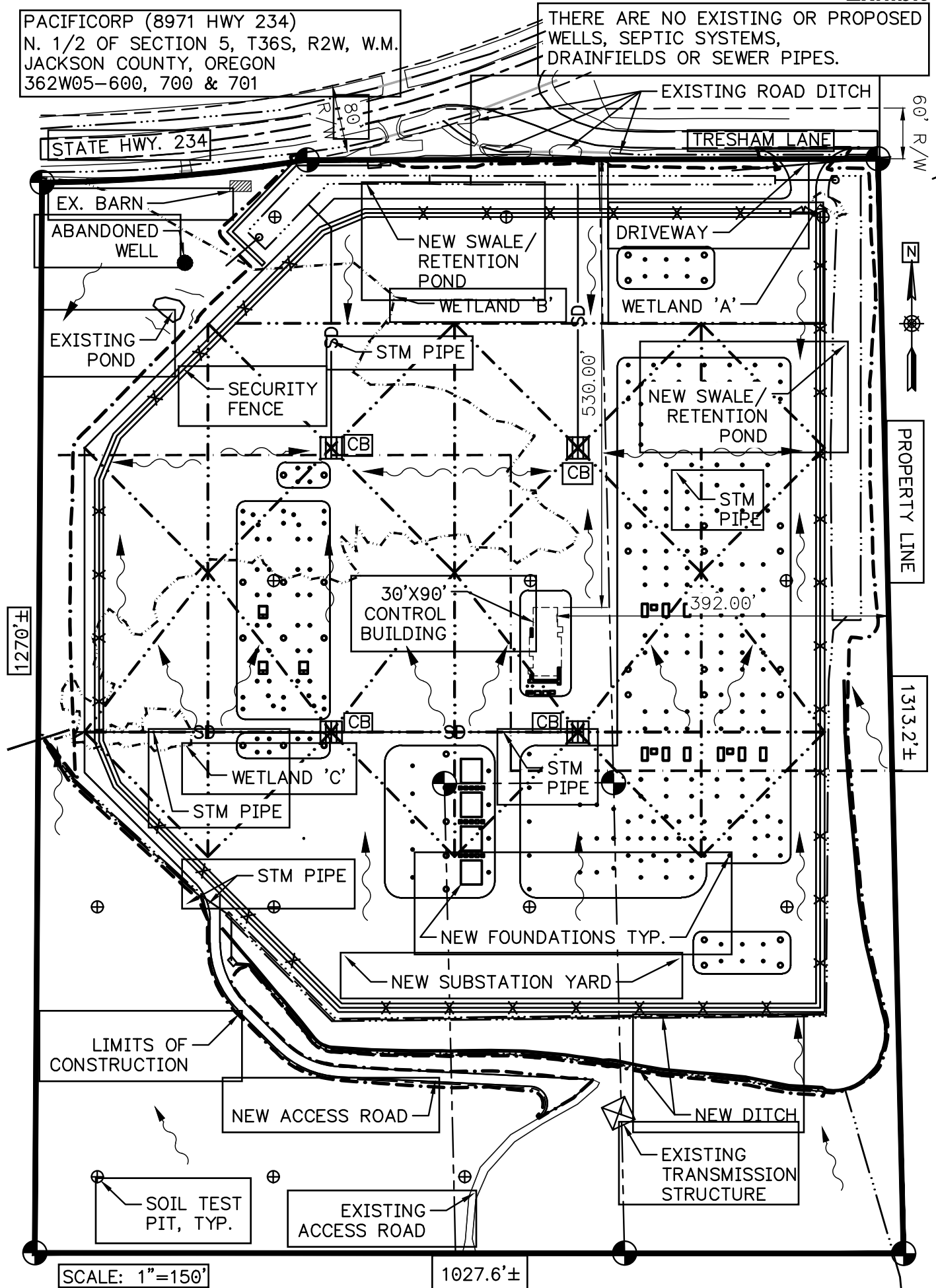


Exhibit 9



MEMORANDUM

Date: August 14, 2017

To: Diane Barr, Camas Consulting, LLC

From: Western EcoSystems Technology, Inc. (WEST)

Subject: Habitat-Based Avian Use Assessment of Sam's Valley Substation Siting

INTRODUCTION

Pacific Power, a subsidiary of Berkshire Hathaway Energy, is considering a location for a new substation near the intersection of Tresham Road and State Route 234 in Jackson County, Oregon, herein referred to as Site 1. The landuse authorization for siting the substation has resulted in public comments to consider an alternative site known as the Rogue Valley Sewer Services Site 20 property on Kirtland Road, herein referred to as Site 20. Camas Consulting, LLC, in coordination with Pacific Power, requested Western EcoSystems Technology, Inc. (WEST) to conduct a desktop assessment of at-risk bird species associated with the siting of a substation at Site 1 and Site 20.

Substation Avian Electrocution Risk or Exposure

The electrocution risk to birds on electrical infrastructure, including substations, is directly related to the voltage, which dictates the clearances between contact points, combined with biological and site-specific factors. Factors that influence avian electrocution risk include substation location, birds likely present at or near the site, relative bird size, age of a bird, social behavior, habitats, prey species, type of fencing (e.g., prey species access), and propensity of certain bird species to perch or nest on or near substations.

A bird's dimensions are integral in assessing the potential for it to make phase-to-phase (i.e., energized-to-energized) or phase-to-ground (i.e., energized-to-ground) contact. Inherent in typical substation design are reduced clearances on the equipment, particularly on the "low side" or project side of the substation where the sub-transmission (e.g., 34.5 kilovolts [kV]) or distribution (i.e., ≤25 kV) enters the substation. With the reduction of these equipment clearances, the electrocution risk and exposure to birds and other animals increase. However, several factors are involved in potential substation electrocution risk to area birds.

At-risk Wildlife Species and Risk Factors

Landscape structure and connectivity are particularly integral to local and regional patterns of bird movement and habitat use, as birds move between different patch sizes and types for roosting and foraging (Haig et al., 1998). Bird attraction to substations may increase, based on a number of factors, including the surrounding habitats (i.e., habitats valuable to birds), substrate within and fencing around the substation (e.g., attract or prevent entry by mammals or reptiles), and the propensity for these factors to overlap with the substation site.

Animals (e.g., birds, mammals, reptiles) may enter substations to nest, forage, roost, or avoid predation. Animal electrocutions within a substation can be costly and result in outages, equipment damage, and electrical reliability. Animals most prone to causing substation outages include birds, ground and tree squirrels, snakes, and small- and medium-sized mammals. Vegetation within a substation, birds nesting on substation infrastructure, and openings in substation fencing that allow small mammal or snake ingress all can attract other animals, including birds, resulting in increased risk of electrocutions and animal-caused outages. The equipment at the highest risk for animal contact within a substation typically includes the low-side main bus, transformer bushings and arrestors, station service transformers, breakers, jumper conductors, and risers.

Bird electrocutions within substations that have resulted in substation outages include species such as the red-tailed hawk (*Buteo jamaicensis*), great horned owl (*Bubo virginianus*), American kestrel (*Falco sparverius*), golden eagle (*Aquila chrysaetos*; [rare based on anecdotal information]), black-billed magpie (*Pica hudsonia*), American crow (*Corvus brachyrhynchos*), European starling (*Sturnus vulgaris*), American coot (*Fulica americana*), and monk parakeet (*Myiopsitta monachus*; APLIC 2006; L. Nielsen and S. Ehmke, WEST, pers. comm. 2017). However, some species are more susceptible than others, such as bird species that attempt to either forage (e.g., great horned owl, black-billed magpie) or nest (e.g., European starling, American crow) on substation infrastructure.

STUDY SITES

Site 1 (currently proposed and preferred location) is a 25 acre area located along the south side of State Route 234 and Tresham Lane, approximately five miles (mi) northwest of White City, Jackson County, Oregon (Figure 1). Site 20 (alternate location) is also a 25 acre areal of land and is located along the north side of Kirtland Road, approximately three mi west of White City, Oregon (Figure 2). This parcel is currently owned by Rogue Valley Sewer Services and consists of two sewage settling ponds (north and south ponds), of which the south pond is non-functioning.

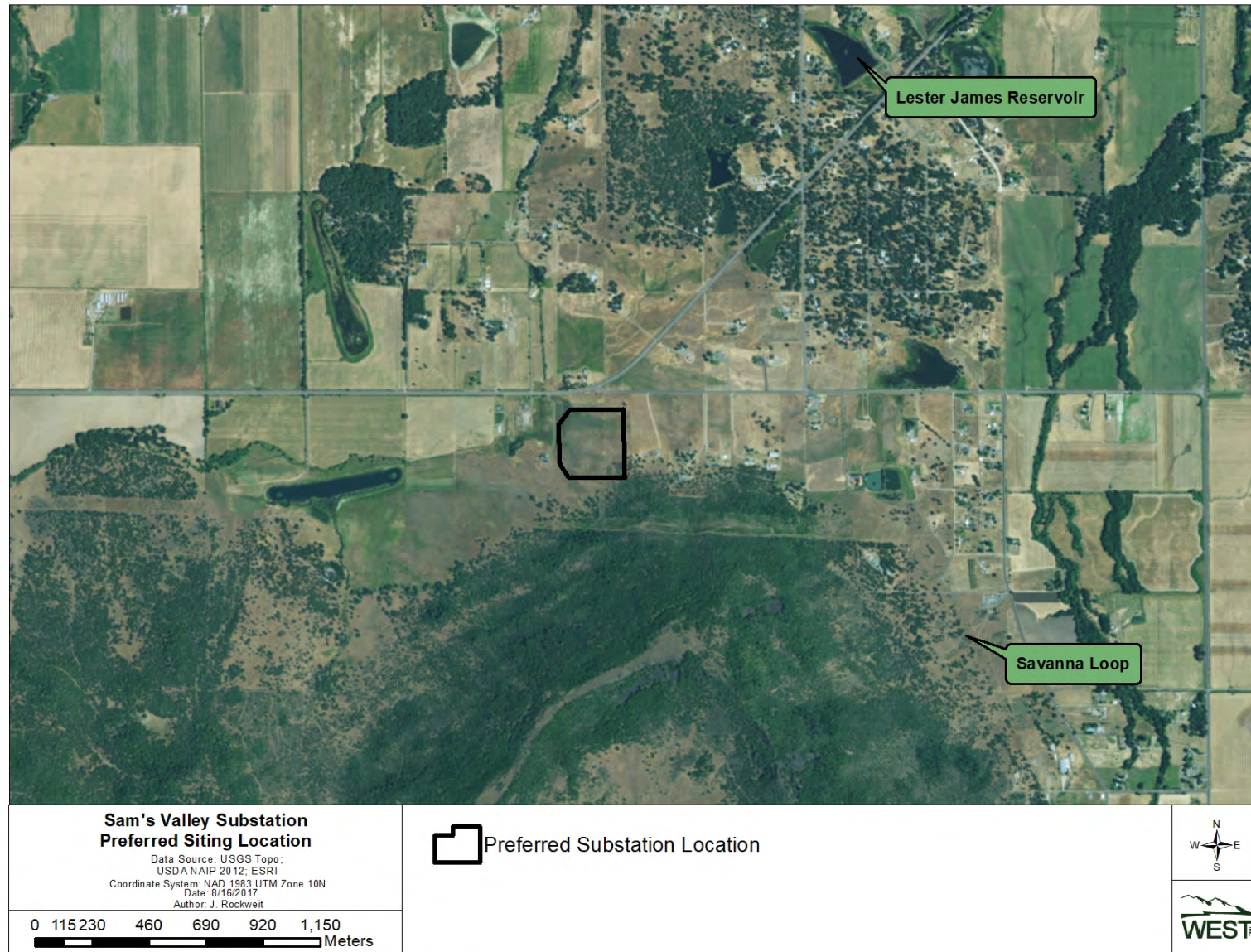


Figure 1. Site 1 – currently proposed/preferred location for the Sam's Valley Substation and eBird reporting locations.

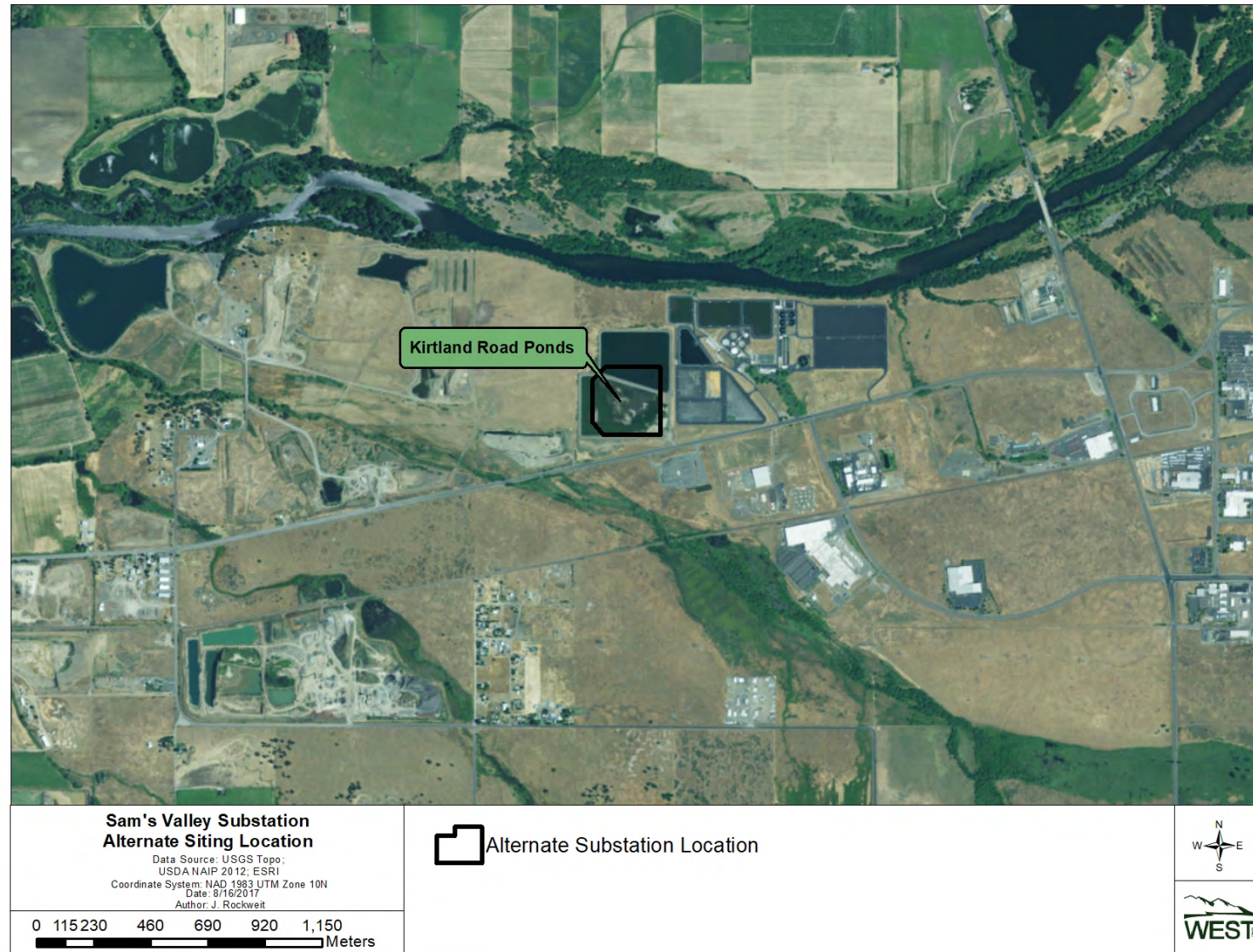


Figure 2. Site 20 - alternate siting location for the Sam's Valley Substation and eBird reporting location.

METHODS

Publicly-available data were gathered to perform a desktop-based avian risk assessment given the current habitat conditions of the Sites in question and bird species known or likely to occur in these areas. Data sources reviewed included: 1) USGS National Land Cover Database (NLCD; Homer et al. 2015), 2) National Audubon Society Important Bird Areas (IBA; National Audubon Society 2017), 3) online eBird records (eBird 2017), 4) the Oregon Biodiversity Information Center (ORBIC; the Oregon Natural Heritage Information Center 2017), and 5) online satellite imagery via Google Earth (2017). Satellite imagery and the NLCD datasets were first utilized to characterize land cover of the two sites; then publicly available data on bird species known to occur in or near the proposed substation locations were compiled based on the land cover types present. Lastly, the lists of species known or likely to occur were cross-referenced with a list of species considered to be at-risk due to substation development at each of the proposed sites.

RESULTS

Site 1 – Preferred Site

Site 1 is dominated by pasture and grassland cover types with a small amount (approximately two acres [ac]) of oak woodland in the southeast corner of the parcel (Figure 1). Site 1 has one small water feature located approximately 0.25 mi west of the site, with other nearby water features all in excess of 0.5 mi from the Site (Figure 1). Site 1 is located approximately 0.3 mi north of the Table Rocks IBA (National Audubon Society 2013), which is composed primarily of oak-woodland chaparral habitat, a threatened habitat in Oregon that is important nesting habitat for oak titmouse (*Baeolophus inornatus*), blue-gray gnatcatcher (*Polioptila caerulea*), and California towhee (*Melospiza crissalis*; National Audubon Society 2017). Less than two acres of this habitat type is present within Site 1 and is confined to the extreme southeast corner of the Site (Figure 1).

While no site-specific bird data were available for a relatively pure pasture/grassland cover type in the immediate vicinity of Site 1, two nearby reporting sites were found on eBird (2017). These included Lester James Reservoir, located approximately 1.2 mi northeast of Site 1, and Lower Table Rock – Savannah Loop Trail, located approximately 1.0 mi southeast of Site 1 (Figure 1). While these birding areas are relatively close to Site 1, the cover types at both sites are more diverse than those at Site 1. Lester James Reservoir is an open water feature, surrounded by a wetland edge and a few riparian trees that grades into upland pasture/grasslands. Twenty-seven species have been reported from the Lester James Reservoir area, with about half of those being water-centric species (e.g. ducks, geese, grebes; eBird 2017; Appendix A1). The Savannah Loop Trail is more of a traditional oak-woodland chaparral with a mixture of interspersed shrubs, trees, and grasslands. The Savannah Loop Trail has produced a more diverse suite of birds, totaling 83 species (eBird 2017; Appendix A2). As expected, the suite of avian species observed at the Savannah Loop Trail consisted largely of species typically associated with woodland and shrub

habitats, with far fewer species recorded that would typically be associated with open pasture/grasslands (see Appendix A2).

The pasture/grassland cover type which comprises the majority of Site 1 is a cover type that is relatively abundant across the local landscape, and therefore does not contain any limiting habitat components for avian species in the region. Given the limited diversity of habitats at Site 1, the number of avian species anticipated to use the Site is likely to be limited, and represented by a subset of the species identified at the nearby Lester James Reservoir and Savannah Loop Trail areas that are often associated with pasture/grassland habitats (e.g., western meadowlark [*Sturna neglecta*], American crow, various sparrows), with some potential for other grassland species that may have gone undocumented at these nearby birding sites. As a result, displacement of avian species from development of the substation would likely be limited to a relatively narrow suite of avian species commonly associated with the pasture/grassland cover types. While the Table Rocks IBA is in close proximity to the Site, the IBA was designated because of the oak woodland and chaparral habitats it contains. Thus the species that require woodland and chaparral habitats within the Table Rocks IBA for nesting and foraging are not likely to utilize the majority of the Site or be negatively affected by the loss of the pasture/grassland cover type associated with substation development at this location. Given the habitat types present and species considered most at risk of impacts from the substation, at-risk bird species could include species such as American crow, common raven (*Corvus corax*), red-tailed hawk, great horned owl, European starling, house finch (*Haemorrhous mexicanus*), and other grassland associated songbird species that may utilize the grassland/pasture habitats that would immediately surround the substation.

Site 20 – Alternate Site

Site 20 (alternate location) is a 25 ac parcel of land zoned as Open Space Reserve (OSR) that consists primarily of two sewage settling ponds (north and south ponds), of which the south pond is non-functioning and essentially serves as a wetland. This location is approximately one mile west of the Denman Wildlife Area and one mile north of Whetstone Savanna, both listed as Audubon IBAs (National Audubon Society 2013). Site 20 is considered an eBird “hotspot” (Kirtland Road Ponds) with 179 bird species observed (eBird 2017; Appendix A3). This location is also approximately 0.15 mi south of the Rogue River and 0.20 mile north of an ephemeral drainage, both of which contain riparian habitat. To accommodate siting of the substation, the entirety of the non-functioning south pond and part of the north pond would be filled. Wetland habitats, even in the form of sewage settling ponds, are important for birds, due to their reliable water supply, and in this case the high nutrient value of the ponds (Murray et al. 2012, National Audubon Society 2017). Given the apparent high use of these ponds and immediately surrounding area by avian species (eBird 2017), the partial filling of these ponds would likely cause displacement of a large and diverse suite of bird species that utilize the ponds. While displacement of bird species is likely to be substantially greater at Site 20 than at Site 1, the bird species most at-risk of electrocution would largely include the same species identified for Site 1. However, due to the high avian use of the surrounding habitats, Site 20 may have and increased risk of impacts to additional bird species (e.g., American coot) as they opportunistically occur within the substation.

DISCUSSION

APLIC (2006) states that the most effective approaches to minimizing potential bird contacts within substations is to employ the same practices used for distribution and transmission structures, specifically to “insulate” (i.e., cover-up) or “isolate” (i.e., provide sufficient clearances) between phase-to-phase and phase-to-ground contact points. The “high” side of a substation, where the voltage is increased or “stepped up” from lower (e.g., 34.5 kV) to higher voltages (e.g., 115 kV, 500 kV) generally provides sufficient clearances between potential contact points. However, it often is not feasible to obtain sufficient clearances on the low side (e.g., 34.5 kV); therefore, cover-up materials and devices (i.e., insulation) are more applicable for these areas. However, all material and device installation must comply with the project proponent's engineering review, safety requirements, and other operational guidelines.

Assuming that the substation will be engineered and built to be as avian-safe as practicable at either location the inherent risk of electrocution or collision by avian species at either location will be largely dependent on the species present in the immediate vicinity to the substation. As such, substation siting is important in assessing avian displacement and risk of electrocution or collision, as well as the potential effects to substation reliability (i.e., potential reduced reliability from animal-caused outages). While engineering the electrical components within the substation is important to minimizing avian risk, substation perimeter integrity and ground substrate are also important to minimizing risks. Fencing to prevent ingress of small and medium-sized mammals or reptiles and preventing vegetation growing within a substation both aid in minimizing potential prey species from entering a substation site, which in turn reduces the attraction to other predators (avian or mammalian). For the purposes of our assessment, it was assumed that fencing and ground substrates would be similar regardless of substation location.

Based on this desk-top assessment, we conclude that siting of the Sam's Valley Substation at Site 20 would likely cause significantly more displacement of birds than siting of the substation at Site 1. In addition, because of high known bird use documented at and in the immediate vicinity of Site 20, there would likely be greater risk of avian electrocution and collision at Site 20. In contrast, Site 1 would be considered a substantively lower risk to avian electrocution and collision than Site 20, primarily based on the proposed location and lower diversity of cover types in the immediate areas of the proposed substation.

References

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- Oregon Conservation Strategy. 2016. Oregon Department of Fish and Wildlife, Salem, Oregon.
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Appendix A: eBird Lists

Table 1. List of species observed at Lester James Reservoir, roughly 1.2 mi northeast of Site 1. Data from eBird (2017).

Cackling Goose	Canada Goose	California Scrub-Jay
Gadwall	American Wigeon	Common Raven
Mallard	Green-winged Teal	Ruby-crowned Kinglet
Ring-necked Duck	Bufflehead	Dark-eyed Junco
Ruddy Duck	Pied-billed Grebe	American Goldfinch
Great Blue Heron	Great Egret	American Crow
American Coot	Anna's Hummingbird	Tree Swallow
Acorn Woodpecker	American Kestrel	Yellow-rumped Warbler
Western Kingbird	Steller's Jay	Red-winged Blackbird

Table 2. List of species documented at Lower Table Rock – Savannah Loop, located approximately 1.0 mi southeast of Site 1. Data from eBird (2017).

Canada Goose	California Quail	Wild Turkey
Great Blue Heron	Turkey Vulture	Osprey
Cooper's Hawk	Red-tailed Hawk	Eurasian Collared-Dove
Mourning Dove	Vaux's Swift	Anna's Hummingbird
Rufous Hummingbird	Lewis's Woodpecker	Acorn Woodpecker
Downy Woodpecker	Hairy Woodpecker	Northern Flicker
American Kestrel	Olive-sided Flycatcher	Western Wood-Pewee
Dusky Flycatcher	Pacific-slope Flycatcher	Cassin's Vireo
Ash-throated Flycatcher	Western Kingbird	California Scrub-Jay
Warbling Vireo	Steller's Jay	Purple Martin
American Crow	Common Raven	Barn Swallow
Tree Swallow	Violet-green Swallow	Mountain Chickadee
Cliff Swallow	Black-capped Chickadee	White-breasted Nuthatch
Oak Titmouse	Bushtit	Bewick's Wren
Brown Creeper	House Wren	Wrentit
Blue-gray Gnatcatcher	Ruby-crowned Kinglet	Varied Thrush
Western Bluebird	American Robin	Orange-crowned Warbler
European Starling	Cedar Waxwing	Yellow Warbler
Nashville Warbler	MacGillivray's Warbler	Townsend's Warbler
Yellow-rumped Warbler	Black-throated Gray Warbler	Chipping Sparrow
Hermit Warbler	Wilson's Warbler	White-crowned Sparrow
Lark Sparrow	Dark-eyed Junco	Song Sparrow
Golden-crowned Sparrow	Vesper Sparrow	Western Tanager
California Towhee	Spotted Towhee	Western Meadowlark
Black-headed Grosbeak	Lazuli Bunting	Brown-headed Cowbird
Bullock's Oriole	Red-winged Blackbird	Purple Finch
Brewer's Blackbird	House Finch	House Sparrow
Lesser Goldfinch	American Goldfinch	

Table 3. List of species documented at the Kirtland Road Ponds, at and immediately surrounding Site 20. Data from eBird (2017).

Snow Goose	Ross's Goose	Greater White-fronted Goose
Cackling Goose	Canada Goose	Blue-winged Teal
Tundra Swan	Wood Duck	Gadwall
Cinnamon Teal	Northern Shoveler	Mallard
Eurasian Wigeon	American Wigeon	Canvasback
Northern Pintail	Green-winged Teal	Greater Scaup
Redhead	Ring-necked Duck	Bufflehead
Lesser Scaup	Hooded Merganser	Common Merganser
Common Goldeneye	California Quail	Ring-necked Pheasant
Ruddy Duck	Pied-billed Grebe	Horned Grebe
Wild Turkey	Western Grebe	Clark's Grebe
Eared Grebe	Double-crested Cormorant	American White Pelican
American Bittern	Great Blue Heron	Great Egret
Green Heron	White-faced Ibis	Turkey Vulture
Osprey	White-tailed Kite	Golden Eagle
Northern Harrier	Sharp-shinned Hawk	Cooper's Hawk
Bald Eagle	Red-shouldered Hawk	Red-tailed Hawk
Rough-legged Hawk	Ferruginous Hawk	Virginia Rail
Sora	American Coot	Black-necked Stilt
American Avocet	Black-bellied Plover	American Golden-Plover
Pacific Golden-Plover	Killdeer	Snowy Plover
Semipalmated Plover	Ruddy Turnstone	Whimbrel
Marbled Godwit	Dunlin	Ruff
Sanderling	Least Sandpiper	Baird's Sandpiper
Little Stint	Western Sandpiper	Pectoral Sandpiper
Semipalmated Sandpiper	Long-billed Dowitcher	Wilson's Snipe
Short-billed Dowitcher	Red-necked Phalarope	Red Phalarope
Wilson's Phalarope	Solitary Sandpiper	Greater Yellowlegs
Spotted Sandpiper	Lesser Yellowlegs	Sabine's Gull
Willet	Mew Gull	Ring-billed Gull
Bonaparte's Gull	Herring Gull	Forster's Tern
California Gull	Black Tern	Band-tailed Pigeon
Caspian Tern	Rock Pigeon	Great Horned Owl
Eurasian Collared-Dove	Mourning Dove	Rufous Hummingbird
Common Nighthawk	Vaux's Swift	Lewis's Woodpecker
Acorn Woodpecker	Belted Kingfisher	Hairy Woodpecker
Northern Flicker	Downy Woodpecker	Merlin
Peregrine Falcon	American Kestrel	Say's Phoebe
Western Wood-Pewee	Prairie Falcon	Cassin's Vireo
Ash-throated Flycatcher	Black Phoebe	Common Raven
California Scrub-Jay	Western Kingbird	Tree Swallow
Northern Rough-winged Swallow	American Crow	Barn Swallow
Violet-green Swallow	Purple Martin	Black-capped Chickadee
Cliff Swallow	Bank Swallow	House Wren
White-breasted Nuthatch	Rock Wren	Blue-gray Gnatcatcher
Marsh Wren	Bewick's Wren	Western Bluebird
Ruby-crowned Kinglet	Wrentit	Northern Mockingbird
American Robin	Varied Thrush	Cedar Waxwing

Table 3. List of species documented at the Kirtland Road Ponds, at and immediately surrounding Site 20. Data from eBird (2017).

European Starling	American Pipit	Yellow Warbler
Orange-crowned Warbler	Common Yellowthroat	Lark Sparrow
Yellow-rumped Warbler	Chipping Sparrow	White-crowned Sparrow
Fox Sparrow	Dark-eyed Junco	Savannah Sparrow
Golden-crowned Sparrow	Vesper Sparrow	Spotted Towhee
Song Sparrow	Lincoln's Sparrow	Lazuli Bunting
Yellow-breasted Chat	Black-headed Grosbeak	Bullock's Oriole
Yellow-headed Blackbird	Western Meadowlark	Brown-headed Cowbird
Red-winged Blackbird	Tricolored Blackbird	Great-tailed Grackle
Rusty Blackbird	Brewer's Blackbird	House Finch
American Goldfinch	Evening Grosbeak	Lawrence's Goldfinch
Lesser Goldfinch	House Sparrow	

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Exhibit L

Protected Areas

Sams Valley Reinforcement Projects December 2017

Prepared for



PacifiCorp

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Acronyms and Abbreviations

ACEC	Area of Critical Environmental Concern
ADT	average daily traffic
BLM	U.S. Bureau of Land Management
EFSC	Energy Facility Siting Council
I-5	Interstate 5
OAR	Oregon Administrative Rule
ODEQ	Oregon Department of Environmental Quality
ODFW	Oregon Department of Fish and Wildlife
ONAP	Oregon Natural Areas Plan
OPRD	Oregon Parks and Recreation Department
OR-99	Oregon Highway 99
OR-234	Oregon Highway 234
PacifiCorp	PacifiCorp dba Pacific Power
Project	Sams Valley Reinforcement Projects
RNA	Research Natural Area
SNHA	Significant Natural Heritage Area
TSP	Transportation System Plan
USFWS	U.S. Fish and Wildlife Service
WSR	Wild and Scenic River

1.0 Introduction

The Energy Facility Siting Council (EFSC; Council) previously approved the Eugene–Medford 500 kV Transmission Line Project (EFSC 1990) and found that the Eugene–Medford 500 kV Transmission Line Project complies with the protected areas standard. In this Request for Amendment No. 4, PacifiCorp seeks to expand the EFSC-certificated facility boundary to include the Grants Pass–Sams Valley transmission line and the Sams Valley Substation for the Sams Valley Reinforcement Projects (Project). The analysis in this exhibit focuses on the Project described in *Request for Amendment No. 4 Project Description and OAR Division 27 Compliance*.

Exhibit L provides an analysis of the Project’s impacts to protected areas, as required to meet the submittal requirements of Oregon Administrative Rule (OAR) 345-021-0010 (1)(L) paragraphs (A) through (C). This Exhibit demonstrates that the Project can comply with the approval standard in OAR 345-022-0040.

1.1 Portions of the Project Excluded from Analysis

The Project’s Grants Pass–Sams Valley Transmission Line and Sams Valley–Whetstone Reconductoring will be located adjacent to, and within 500 feet of, an existing 115-kV transmission line for the entirety of its length. Therefore, per OAR 345-022-0040(3), the provisions of OAR 345-022-0040(1) do not apply to the Grants Pass–Sams Valley Transmission Line or Sams Valley–Whetstone Reconductoring, and it is not included in the analysis of protected areas. In addition, almost all of the existing access road improvements will be within 500-feet of an existing utility right-of-way containing at least one 115-kV transmission line, and therefore, the provisions of OAR 345-022-0040(1) do not apply to those sections of access roads.

Existing access road improvements farther than 500-feet from the existing utility right-of-way and containing at least one 115-kV transmission line are shown on Figure L-1. These areas of access road improvements, none of which area in a protected area, are also not analyzed under OAR 345-022-0040 because they are a related facility to existing transmission lines (115-kV and 500-kV) that are outside of a utility right-of-way due to topographical constraints.

1.2 Analysis Area

The Exhibit L Analysis Area is the area within and extending 20 miles from the Project Site Boundary, as defined in OAR 345-001-0010(59)(e) for protected areas, containing the Sams Valley Substation, but excluding the exempt portions of the Project for the Grants Pass–Sams Valley Transmission Line and the Sams Valley–Whetstone Reconductoring. The Analysis Area encompasses portions of two Oregon counties: Josephine and Jackson. Figure L-2 shows the Project Site Boundary and the 20-mile Analysis Area.

2.0 Site Certificate Condition Compliance

There are no Conditions of Approval in the existing Site Certificate specific to protected areas. PacifiCorp recommends the following new condition for this resource:

- **Protected Areas Condition 1:** The certificate holder will coordinate with the Nature Conservancy and Bureau of Land Management prior to construction to identify, if necessary, specific construction specifications for work completed in Table Rocks to ensure the Project complies with the management and preservation goals of the Table Rocks Management Area Management Plan.

3.0 Protected Areas Inventory – OAR 3450-021-0010(1)(I)(A)(B)

This section provides an inventory of the protected areas (as defined by OAR 345-022-0040(1)) found within the Analysis Area.

OAR 3450-021-0010(1)(I) (A) A list of the protected areas within the analysis area showing the distance and direction from the proposed facility and the basis for protection by reference to a specific subsection under OAR 345-022-0040(1).

Table L-1 lists the protected areas in the Analysis Area, provides the distance and direction from the Project, and references the specific OAR 345-022-0040(1) rule for each protected area. There are 30 protected areas in the Analysis Area; nine of these protected areas are within 2 miles.

OAR 3450-021-0010(1)(I) (B) A map showing the location of the proposed facility in relation to the protected areas listed in OAR 345-022-0040 located within the analysis area.

In accordance with OAR 345-021-0010(1)(L)(B), Figure L-1 shows the general location of the Project, Analysis Area, and the protected areas identified within the Analysis Area.

Table L-1. Protected Areas Inventory

Protected Area	Approximate Distance from the Project (miles)	Approximate Distance from the Sams Valley Substation	Direction from Project	Basis for Protection (OAR)	Management Agency/Organization	Description
Table Rocks Significant Natural Heritage Area (SNHA)	Crossed by Project ¹	<0.1	Eastern end of Project	345-022-0040(1)(i)	The Nature Conservancy	Upper and Lower Table Rocks are rare remnant volcanic ‘islands’ standing alone in the center of the Rogue Valley. The Nature Conservancy owns or holds conservation easements on 2,759 acres that are managed as the Table Rocks Preserve, and are also designated as a Significant Natural Heritage Area. The Nature Conservancy manages its Table Rocks lands collaboratively with the U.S. Bureau of Land Management (BLM), which administers 2,105 acres of federal lands on the Table Rocks. Management activities include surveying and monitoring rare plant populations, non-native species, bats, butterflies, and birds, evaluating altered fire cycles, and supporting recreational and cultural uses. In 2011, Confederated Tribes of the Grande Ronde, the Conservancy and the BLM signed a Memorandum of Understanding to include the Tribes in future planning and management of the Table Rocks natural area (The Nature Conservancy & BLM 2013).
Table Rocks Area of Critical Environmental Concern (ACEC)	Crossed by Project ¹	0.8	Eastern end of Project	345-022-0040(1)(o)	BLM	The BLM administers a total of 2,105 acres on the slopes and tops of Upper and Lower Table Rocks (The Nature Conservancy & BLM 2013). Of the total, 1,243 acres are currently designated as an ACEC; 818 acres are not included within the ACEC designation, but will be included in the ACEC as BLM plans are amended to reflect current policy direction. The Table Rocks were designated as an ACEC to protect cultural, scenic, fish and wildlife, and natural process values (BLM 2016a).
Kendall Bar State Greenway	0.6	2.4	South	345-022-0040(1) (h)	Oregon Parks and Recreation Department (OPRD)	This is a 56-acre undeveloped state park property located on the south bank of the Rogue River, immediately south of Lower Table Rock. The parcel is managed by Oregon State Parks as part of the Valley of the Rogue Management Unit (OPRD 2017a, USGS 2017).
Whetstone Savanna Preserve SNHA	0.7	4.5	South	345-022-0040(1) (i)	The Nature Conservancy	This 150-acre preserve is owned by The Nature Conservancy and is designated as a Significant Natural Heritage Area. The site consists of native dry and wet prairie, shrub and oak savanna habitats. It is home to two federally listed endangered plants, as well as threatened vernal pool fairy shrimp. The diversity of species and habitat types (prairie, oak, chaparral), and conditions (intact, degraded and restored) provide a conservation perspective for these threatened habitats and species (Audubon Society 2017).
Tou Velle State Recreation Site	0.9	4.1	East	345-022-0040(1) (h)	OPRD	This 57-acre day-use park consists of two parcels located on the north and south banks of the Rogue River adjacent to Table Rock Road, and near the geologically prominent Table Rocks (OPRD 2017a).
Valley of the Rogue State Park	1.0	9.1	South	345-022-0040(1) (h)	OPRD	The 277-acre park has a variety of day-use facilities and a large overnight campground along 3 miles of shoreline on the Rogue River, between the communities of Rogue River and Gold Hill. The park includes a 3-mile segment of the Rogue River Greenway Trail and an easy, 1.25-mile, self-guided interpretive trail along the river’s edge (OPRD 2017a, OPRD 2017b).
Denman Wildlife Area (Military Slough Tract)	1.1	4.1	South	345-022-0040(1) (p)	Oregon Department of Fish and Wildlife (ODFW)	The Ken Denman Wildlife Area was established in 1954 when 1,760 acres was conveyed to the Oregon Game Commission from the United States General Services Administration by means of a restrictive deed specifying that the land be used for the purpose of wildlife conservation. Additional land acquisitions since that time have increased the size of the area to 1,858 acres. Currently, the wildlife area is managed to protect, enhance and restore all fish and wildlife species and their habitats located on the wildlife area, and to provide a wide variety of wildlife-oriented recreational and educational opportunities to the public (ODFW 2006).
Denman Wildlife Area (Hall Tract)	1.3	5.2	South	345-022-0040(1) (p)		
Denman Wildlife Area (Bear Creek Tract)	1.4	3.2	South	345-022-0040(1) (p)		

Table L-1. Protected Areas Inventory

Protected Area	Approximate Distance from the Project (miles)	Approximate Distance from the Sams Valley Substation	Direction from Project	Basis for Protection (OAR)	Management Agency/Organization	Description
Fort Lane State Heritage Site	2.3	3.2	South	345-022-0040(1) (h)	OPRD	This is a 26-acre property located south of the Rogue River and northwest of Central Point. The parcel is managed by Oregon State Parks as part of the Valley of the Rogue Management Unit (OPRD 2017c, USGS 2017). Fort Lane was a United States military fort constructed following the signing of the Table Rock Treaty on September 10, 1853. The treaty also established the short-lived Table Rock Reservation in the interior Rogue River Valley (The Oregon Encyclopedia 2017).
Southern Oregon Experiment Station	7.1	9.9	South	345-022-0040(1) (m)	Oregon State University	The Oregon State University Southern Oregon Research and Extension Center conducts applied research in the areas of tree fruit pathology, horticulture, and pest management.
Rogue River Wild and Scenic River (WSR; Recreational)	8.3	24.4	West	345-022-0040(1) (k)	BLM & USFS	The Congressionally-designated National Wild and Scenic portion of the Lower Rogue begins 7 miles west of Grants Pass and ends 11 miles east of Gold Beach. Wildlife seen along the Lower Rogue River include Black bear, river otter, black-tail deer, bald eagles, osprey, Chinook salmon, great blue heron, water ouzel, and Canada geese are common. Popular recreational activities include whitewater rafting, fishing, jet boat tours, scenic driving, hiking, picnicking, and sunbathing. It is one of the most popular whitewater runs in the world (National Wild and Scenic Rivers System 2017).
Rogue River State Scenic Waterway	11.2	26.9	West	345-022-0040(1) (k)	OPRD	The Rogue River from Applegate River to Lobster Creek (~83 miles), which also includes the WSR designation (see above), is a State Scenic Waterway (OPRD 2017).
Deer Creek ACEC	12.1	26.3	Southwest	345-022-0040(1) (o)	BLM	The ACEC has a Limestone cave system supporting bats and rare invertebrates, including a new species of spider (<i>Trogloraptor marchingtoni</i> ; BLM 2016a).
Round Top Butte Research Natural Area (RNA)	12.4	13.9	East	345-022-0040(1) (o)	BLM	The RNA has Oregon Natural Areas Plan (ONAP) cells for seasonally flooded bottomland prairie, dry grasslands, and Oregon white oak savannah; long-term vegetation monitoring site; designated National Natural Landmark (BLM 2016a).
Pickett Creek ACEC	14.2	29.9	West	345-022-0040(1) (o)	BLM	The ACEC includes large populations of Gentner’s fritillary (<i>Fritillaria gentneri</i>); Gentner’s fritillary recovery management area (BLM 2016a).
Mackin Gulch Forest Wayside	15.1	24.3	North	345-022-0040(1) (h)	OPRD	The old stagecoach road between Jacksonville and Roseburg passed through this site (OPRD, 2005).
Dakubetede ACEC	16.2	19.4	South	345-022-0040(1) (o)	BLM	This ACEC includes: Gentner’s fritillary; western-most stands of western juniper, rare water birch (<i>Betula occidentalis</i>), intact native grasslands; Gentner’s fritillary recovery management area (BLM, 2016).
Holton Creek RNA	16.2	19.7	South	345-022-0040(1) (o)	BLM	This RNA represents ONAP cells for low-elevation late-successional white fir-Douglas-fir forest; long-term vegetation monitoring site (BLM 2016a).
Golden Townsite State Heritage Site	16.4	23.3	North	345-022-0040(1) (h)	OPRD	At its peak, the 19th century mining town of Golden, now a ghost town, was home to 100 people and served as a hub for many others who worked the land in more remote locations. The 1850s mining camp eventually gave way to a town established around 1890. Today, visitors can explore the remaining settlements perched above the valley where miners once toiled (OPRD 2017b).
Brewer Spruce RNA	16.7	29.5	Southwest	345-022-0040(1) (o)	BLM	This RNA includes a unique conifer assemblage with Brewer spruce, Port-Orford-cedar, and Alaska yellow cedar (rare inland). In addition, there are ONAP cells for mid/high-elevation marsh/pond and white fir forest with Brewer spruce; long-term vegetation monitoring site (BLM 2016a).
Poverty Flat ACEC	17.0	18.0	Northeast	345-022-0040(1) (o)	BLM	There are rare Rogue River grassland and vernal pool communities supporting Bellinger’s meadow foam (<i>Limnanthes floccosa</i> ssp. <i>bellingariana</i>) in the ACEC (BLM 2016a).
Sterling Mine Ditch ACEC	17.0	19.8	South	345-022-0040(1) (o)	BLM	It was a ditch used for hydraulic gold mining (BLM 2016a).
King Mountain Rock Garden ACEC	17.4	20.7	North	345-022-0040(1) (o)	BLM	The ACEC includes a high-elevation serpentine community (BLM 2016a).

Table L-1. Protected Areas Inventory

Protected Area	Approximate Distance from the Project (miles)	Approximate Distance from the Sams Valley Substation	Direction from Project	Basis for Protection (OAR)	Management Agency/Organization	Description
Cobleigh Road ACEC	18.0	18.7	East	345-022-0040(1) (o)	BLM	This ACEC includes: Oak woodland, oak savannah, and chaparral, supporting Gentner’s fritillary; and Gentner’s fritillary recovery management area (BLM 2016a).
Cole Rivers Hatchery	18.8	19.2	Northeast	345-022-0040(1) (f)	ODFW	The Cole Rivers Hatchery was constructed by the US Army Corps of Engineers in 1973 to mitigate for spawning and rearing areas blocked by the construction of dams. The facility is used for adult collection, spawning, egg incubation and rearing of spring chinook, coho, summer steelhead, and winter steelhead, and egg incubation and rearing of fall chinook and rainbow trout (ODFW 2017).
Lost Lake RNA	19.5	23.2	Southeast	345-022-0040(1) (o)	BLM	This RNA represents ONAP cell for a mid-montane lake surrounded by mixed-conifer forest. Example of a landslide-dammed lake; long-term vegetation monitoring plots (BLM 2016a).
Grayback Glades RNA	19.6	28.4	South	345-022-0040(1) (o)	BLM	There are ONAP cells for high elevation white fir forest and Siskiyou alder glades; and large Port-Orford-cedar trees, mostly un-infested by Port-Orford-cedar root rot (BLM 2016a).
Pipe Fork RNA	19.6	27.4	South	345-022-0040(1) (o)	BLM	This RNA has ONAP cells for Port-Orford-cedar-white fir and Port-Orford-cedar-tanoak communities (BLM 2016a).
Wolf Creek Inn State Heritage Site	19.9	26.5	North	345-022-0040(1) (h)	OPRD	The inn was built around 1883 for Henry Smith, a local merchant-entrepreneur. It served local traffic to mines and stage travelers connecting between Roseburg and Redding prior to the completion of the Oregon and California railroad through the Siskiyou Mountains in 1887. Wolf Creek Inn is the oldest continuously operated hotel in the Pacific Northwest.
<p>Under OAR 345-022-0040(1), no areas meet the criteria stated in subsections:</p> <p>(a) - There are no national parks located within the Analysis Area.</p> <p>(b) - There are no national monuments located within the Analysis Area.</p> <p>(c) - There are no wilderness or wilderness study areas (WSA) located within the Analysis Area.</p> <p>(d) - There are no national or state wildlife refuges located within the Analysis Area.</p> <p>(e) - There are no national coordination areas located within the Analysis Area.</p> <p>(g) - There are no national recreation areas or national scenic areas located within the Analysis Area.</p> <p>(j) - There are no state estuarine sanctuaries within the Analysis Area.</p> <p>(l) - There are no experimental areas established by the Rangeland Resources Program, College of Agriculture, Oregon State University located within the Analysis Area.</p> <p>(n) - There are no experimental forests established by the Oregon State University College of Forestry, within the Analysis Area.</p> <p>1. Crossings allowed pursuant to OAR 345-022-040(3).</p>						

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4.0 Potential Impacts – OAR 3450-021-0010(1)(I)(C)

OAR 345-021-0010(1)(I)(C) requires an assessment of impacts to protected areas resulting from Project noise, traffic, water use, wastewater, or visual effects to support a finding of EFSC under OAR 345-022-0040(1).

The Grants Pass-Sams Valley Transmission Line and some of its associated access roads cross two protected areas: the Table Rock SNRA and the Table Rocks ACEC. However, as discussed in Section 1, per OAR 345-022-0040(3), the provisions of OAR 345-022-0040(1) do not apply to these Project features due to their proximity to existing utility rights-of-way (115-kV or greater). All other protected areas are at least 0.6 miles from the Project's Sams Valley Substation, the only portion of the Project relevant to the Analysis Area. No portion of the substation will be located within a protected area. Potential Project impacts resulting from construction and operation of the Sams Valley Substation that are subject to OAR 345-022-0040(1) are addressed below.

4.1 Noise Impacts – OAR 3450-021-0010(1)(I)(C)(i)

OAR 3450-021-0010(1)(I) (C) A description of significant potential impacts of the proposed facility, if any, on the protected areas including, but not limited to, potential impacts such as:

(i) Noise resulting from facility construction or operation;

Exhibit X provides an analysis of potential significant adverse impacts of the Project to the existing acoustic environment and noise sensitive receptors and demonstrates that the Project complies with the approval standards in Oregon Administrative Rule (OAR) 340-035-0035, the Oregon Department of Environmental Quality (ODEQ) noise regulations. OAR 340-035-0035 defines “noise sensitive property” as “real property normally used for sleeping, or normally used as schools, churches, hospitals or public libraries. Property used in industrial or agricultural activities is not Noise Sensitive Property unless it meets the above criteria in more than an incidental manner.” With the exceptions of camping in Valley of the Rogue State Park, none of the protected areas are considered to be noise sensitive properties.

Under OAR 340-035-0035(5)(g) noise from construction activities is specifically exempt from compliance with the state noise regulations. However, projected noise levels resulting from Project construction and operation will be minimal, and meet requirements contained in ODEQ rules (see Exhibit X). Except for Table Rocks ACEC and SNHA, the protected areas are more than 2 miles from the Project. Typically, composite construction site noise levels are conservatively estimated to decrease 6 decibels on an A-weighted scale for each doubling of distance. However, these levels will be further reduced when additional attenuation factors are considered, such as terrain (e.g., Lower Table Rock itself) and ground effects such as Highway 234 (see Exhibit X). Although potentially audible in Table Rocks SNHA and Table Rocks ACEC, the construction noise level is not such that it will result in resource interference within the protected areas and would typically be similar to existing maintenance and operations noise along the existing transmission line. In general,

construction noise would be short-term, intermittent, and would not negatively affect the values for which the Table Rocks ACEC and Table Rocks SNHA were originally designated. The same conclusion applies to other protected areas within the Analysis Area due to their distance from the facility.

The Project has a design goal threshold of 10 A-weighted decibels above the background level to represent the point where the audibility of Project noise might be characterized as an adverse noise impact per the OAR 340-035-0035 (1)(b)(B)(i). As the Project progresses, the acoustic modeling analysis and compliance assessment will be refined to incorporate ambient sound data collected in the vicinity of the Sams Valley Substation as well as any further design and/or mitigation changes, if necessary. Final design of the Sams Valley Substation will be specified to comply with all applicable ODEQ noise regulations; OAR Chapter 340, Division 35. In general, because of the small area where the substation would be audible in the Table Rocks SNHA and the distance from the substation to areas that provide allowed public access, operation noise from the substation taking into account mitigation, if necessary, would not negatively affect the values for which the Table Rocks ACEC and Table Rocks SNHA were originally designated. The same conclusion applies to other protected areas within the Analysis Area, due to their distance from the facility.

4.2 Traffic Impacts – OAR 3450-021-0010(1)(I)(C)(ii)

(ii) Increased traffic resulting from facility construction or operation;

As noted in Exhibit U, Interstate-5 (I-5), Oregon Highway 99 (OR-99), Oregon Highway-234 (OR-234), Table Rock Road, and Kirtland Road would be used to transport most of the equipment and materials for Project construction. Most of the existing access roads originate from I-5 and OR-234. Between the East Grants Pass Interchange (U.S. Highway 199) and the city of Gold Hill, the annual average daily traffic (ADT) on I-5 is 32,320 vehicles (ODOT 2014). Between the Rogue River Highway-Rock Point Interchange and the end of the Project near Sams Valley Road, the annual ADT volume on OR-234 is approximately 2,786 vehicles (ODOT 2014).

Jackson County recently completed its updated Transportation System Plan (TSP) in March 2017. The TSP does not include information regarding current transportation uses or volumes (Jackson County and Kittleson and Associates 2017). However, Figure 12B in the TSP identifies OR-234 as a Rural Arterial, Table Rock Road as a Rural Major Collector from OR-234 to Modoc Road and as a Rural Arterial south from Modoc Road and Kirtland Road as an Urban Major Arterial. Table 6 in the TSP provides Planned Average Daily Traffic Ranges. The planned ADT for Rural Major Collectors is 4,500-15,000, and greater than 5,000 for Rural Arterials and greater than 15,000 for Urban Arterials. Table 6 in the TSP also defines the traffic function as the road types as:

Arterial - Primary function is to serve both local and through traffic as it enters and leaves urban areas; serves major traffic movements; access control may be provided through medians and/or channelization; restricted on-street parking; pedestrian and bicycle facilities provided; will be used by public transit in urban areas. Carries high volumes of freight traffic that have both local and external destinations.

Major Collector - Primary function is to serve traffic between neighborhoods and community facilities; provides some degree of access to adjacent properties, while maintaining circulation and mobility for all users; carries lower traffic volumes at slower speeds than arterials; typically has two or three lanes; pedestrian and bicycle facilities provided; may be used by public transit in urban areas. Some freight traffic is destined for local delivery or local markets (Jackson County and Kittleson and Associates 2017).

As noted in the Environmental Assessment for Sams Valley (BLM 2016b), the Project has the potential to result in short-term impacts on transportation from increased traffic generated by construction vehicles and disruptions to traffic from potential single lane closures on smaller rural road accesses. I-5, OR-99, OR-234, Table Rock Road, and Kirtland Road would be used to transport construction materials and equipment into the Project area from labor and material source locations. Most of the protected areas within the Analysis Area are at a significant distance from the Project, and are not accessed via OR-234, Table Rock Road, and Kirtland Road. Although access to many protected areas likely involves some travel on I-5 or OR-99, the amount of Project-related construction traffic on these high-volume routes would be indistinguishable from background traffic conditions, and would not result in identifiable traffic impacts.

Potential traffic impacts associated with Project construction are limited to protected areas accessed primarily via OR-234, Table Rock Road, or Kirtland Road. The protected areas that could experience traffic impacts from construction are the Table Rocks ACEC, Table Rocks SNHA, Tou Velle State Recreation Site, and the Bear Creek Tract of the Denman Wildlife Area. Visitors traveling to all four areas could experience minor delays at times as a result of congestion created by construction-related traffic volumes and slow-moving construction vehicles. However, construction traffic would represent a small volume compared to the existing ADT levels for these routes, and timing patterns for construction traffic and recreational traffic to the protected areas would likely differ substantially. Therefore, any congestion-based traffic impacts would consist of minor delays for individual visitors, and would only occur intermittently during the period of construction activity at the Sams Valley Substation. Visitors to Table Rocks ACEC and SNHA could also experience delays from potential lane closures in the immediate vicinity of the substation site. If such closures occurred, they would involve short-term events happening intermittently during the construction period. Visitors would still be able to access the Table Rocks, and no visitors would experience major delays in accessing the site. Based on the timing attributes of potential traffic congestion and lane closures associated with Project construction, any traffic impacts for visitors to nearby protected areas would have at most a minor effect on their experience, and would not be significant.

After construction, there may be a small amount of additional traffic as a result of the Sams Valley Substation's increased operation and maintenance needs, though the increase would be negligible in volume compared to the overall traffic volumes on the roadways. Therefore, traffic impacts would not constitute a significant impact as defined by OAR 345-001-0010(53), because the magnitude and intensity of impacts will not have an important consequence that precludes

protected areas from providing the functions, experiences, or opportunities for which they were designated.

4.3 Water Use and Wastewater – OAR 3450-021-0010(1)(I)(C)(iii)(iv)

(iii) Water use during facility construction or operation;

As discussed in Exhibit O, Project water use will be temporary and limited to the construction period. Water will be used during construction for a number of activities, primarily for construction of concrete foundations and for dust control. The construction contractor will be responsible for arranging the delivery of water via water trucks from a source with an existing water right, and no water will be withdrawn from a protected area. Water used for dust control will ensure that protected areas, specifically Table Rocks ACEC and SNHA, are not affected by fugitive dust that otherwise might arise during construction. Normal operations and maintenance of the transmission line and substation will not require water, as the Project facilities will be unmanned. Therefore, the Project would not have significant permanent water demands.

(iv) Wastewater disposal resulting from facility construction or operation;

Wastewater disposal from Project construction or operation will not affect protected areas. Exhibit V documents structural and nonstructural best management practices that will be implemented during construction to prevent erosion and control sedimentation. As discussed in Exhibit V, the use of water for construction practices is not anticipated to generate significant runoff. The only need for sewage services required by the Project will occur during construction, and will consist of the use of portable toilets to serve the construction workforce. Waste from the portable toilets will be pumped regularly and disposed of offsite by a vendor supporting the construction contractor. Sewage from portable toilets will be disposed of according to applicable regulations and standard practices, and will not affect protected areas. No wastewater will be generated during Project operation, and stormwater will infiltrate into the ground.

4.4 Visual Impacts – OAR 3450-021-0010(1)(I)(C)(v)(vi)

(v) Visual impacts of facility structures or plumes.

The visual effects of the Project on protected areas would be based on the potential visibility of construction activities and permanent structures from any protected area. The viewshed of the Sams Valley Substation is constrained by the surrounding topography. Outward views from the site are enclosed to the south by the slopes of Lower Table Rock, to the east by Upper Table Rock, and to the north and west by the hills forming Sams Valley (e.g., Lyman Mountain, Elkhorn Butte, Turtle Rock, and Neil Rock). Longer-distance views are limited to a relatively narrow corridor toward the northeast, generally along the route of OR 234.

Based on terrain conditions, distance to the Sams Valley Substation, and the 110-foot maximum height of the substation's facilities, potential visibility of construction activities and permanent structures at the Sams Valley Substation would exist for only a few of the protected areas listed in Table L-1 and Figure L-3 (and described below). There would be no potential visibility for any

protected area more than 3 miles from the Sams Valley Substation (i.e., for the last 20 protected areas listed in Table L-1, beginning with the Southern Oregon Experiment Station).

Potential visibility conditions for the protected areas within 9 miles of the Sams Valley Substation are summarized as follows (in order of decreasing distance):

- Kendall Bar State Greenway (2.4 miles) - views north toward the site are blocked by Lower Table Rock.
- Fort Lane State Heritage Site (3.2 miles) - views north toward the site are blocked by Lower Table Rock.
- Denman Wildlife Area (3.2 to 5.2 miles) - views north toward the site from the Bear Creek Tract are blocked by Lower Table Rock, views northwest toward the site from the Hall Tract are screened by vegetation along the Rogue River or blocked by Lower Table Rock, and depending on location within the Military Slough Tract, views northwest or west toward the site are screened by vegetation along the Rogue River or blocked by Lower or Upper Table Rock.
- Valley of the Rogue State Park (9.1 mile) - views northeast toward the site are blocked by the ridges flanking the Rogue River.
- Whetstone Savanna Preserve SNHA (4.5 miles) - views northwest toward the site are blocked by Lower Table Rock.
- Table Rocks ACEC (0.8 miles) - views west or northwest toward the site from Lower Table Rock BLM-managed lands are blocked by Lower Table Rock, views west toward the site from the Upper Table Rock parking area and trail are blocked by Upper Table Rock, and the substation may be visible from views west toward the site from BLM-managed lands near the western perimeter of Upper Table Rock.
- Table Rocks SNHA (<0.1 miles) - views northwest toward the site from the Lower Table Rock parking area (on BLM-managed land) and trail (on the Nature Conservancy land) are blocked by Lower Table Rock, the substation may be visible from views north toward the site from the Nature Conservancy lands near the northern perimeter of Lower Table Rock, and views west toward the site from the Nature Conservancy lands near the southwestern perimeter of Upper Table Rock may not be obstructed.

As indicated above, potential visibility of construction activities and permanent structures at the Sams Valley Substation from protected areas would be limited to certain locations within the Table Rocks ACEC on Upper Table Rock, and certain locations within the Table Rocks SNHA on Upper and Lower Table Rock. Any potential views of the substation site from locations on Upper Table Rock would be at distances of nearly 2 miles or more; potential views of the substation site from locations on Lower Table Rock could occur at foreground viewing distances of 0.5 miles or less. Because the locations at the Table Rocks with potential visibility of the Project are relatively distant from the access points and designated trails for those two protected areas, only a small segment of Table Rocks users could be exposed to potential views of construction activities and permanent

structures at the Sams Valley Substation. To this extent this occurred, the Project features would be seen within the content of the landscape in Sams Valley, which includes visual contrast created by existing transmission lines, a state highway, secondary roads, rural residential development, and extensive agricultural use. As a result, the additional visual contrast introduced by the Project would be moderate and would not dominate the landscape or cause a substantial reduction in visual quality. Based on the limited extent of possible views of the Project features, the small user population that might experience such views, and the moderate degree of visual contrast, the visual impacts of the Project for visitors to the Table Rocks ACEC and the Table Rocks SNHA would not be significant.

(vi) Visual impacts from air emissions resulting from facility construction or operation, including, but not limited to, impacts on Class 1 Areas as described in OAR 340-204-0050.

OAR 345-021-0010(1)(L)(C)(vi) requires an assessment of “visual impacts from air emissions resulting from facility construction or operation, including, but not limited to, impacts on Class I Areas as described in OAR 340-204-0050.” Class I areas, as defined in OAR 340-204-0050, consist of the 12 federally-designated Wilderness Areas in Oregon, none of which are located within the Analysis Area. The Project would not generate any emissions plumes, so would not cause any visual impacts from air emissions.

5.0 Conclusions

As noted above, the transmission line and associated access roads crosses two protected areas: the Table Rocks SNHA and the Table Rocks ACEC. The transmission line will be located within 500 feet of the existing PacifiCorp 115-kV transmission line for its entirety. Therefore, per OAR 345-022-0040(3), the provisions of OAR 345-022-0040(1) do not apply to the transmission line and EFSC may issue the amendment even though the Project is in protected areas.

Most protected areas would experience no direct or indirect impacts from the Project, as they are too far away for Project noise to be audible, construction traffic would not be routed near them, views of the Project would be blocked by terrain or vegetation, and there would be no water or wastewater impacts. The only protected areas that may experience impacts would be Table Rocks SNHA and Table Rocks ACEC. Based on the analyses documented in Section 4, there will be no significant adverse impacts to protected areas, including the Table Rocks SNHA and the Table Rocks ACEC, as a result of the Project. However, PacifiCorp will comply with the condition suggested in Section 2.

6.0 References

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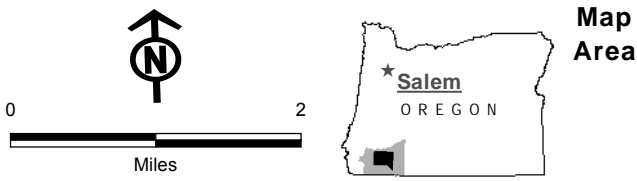
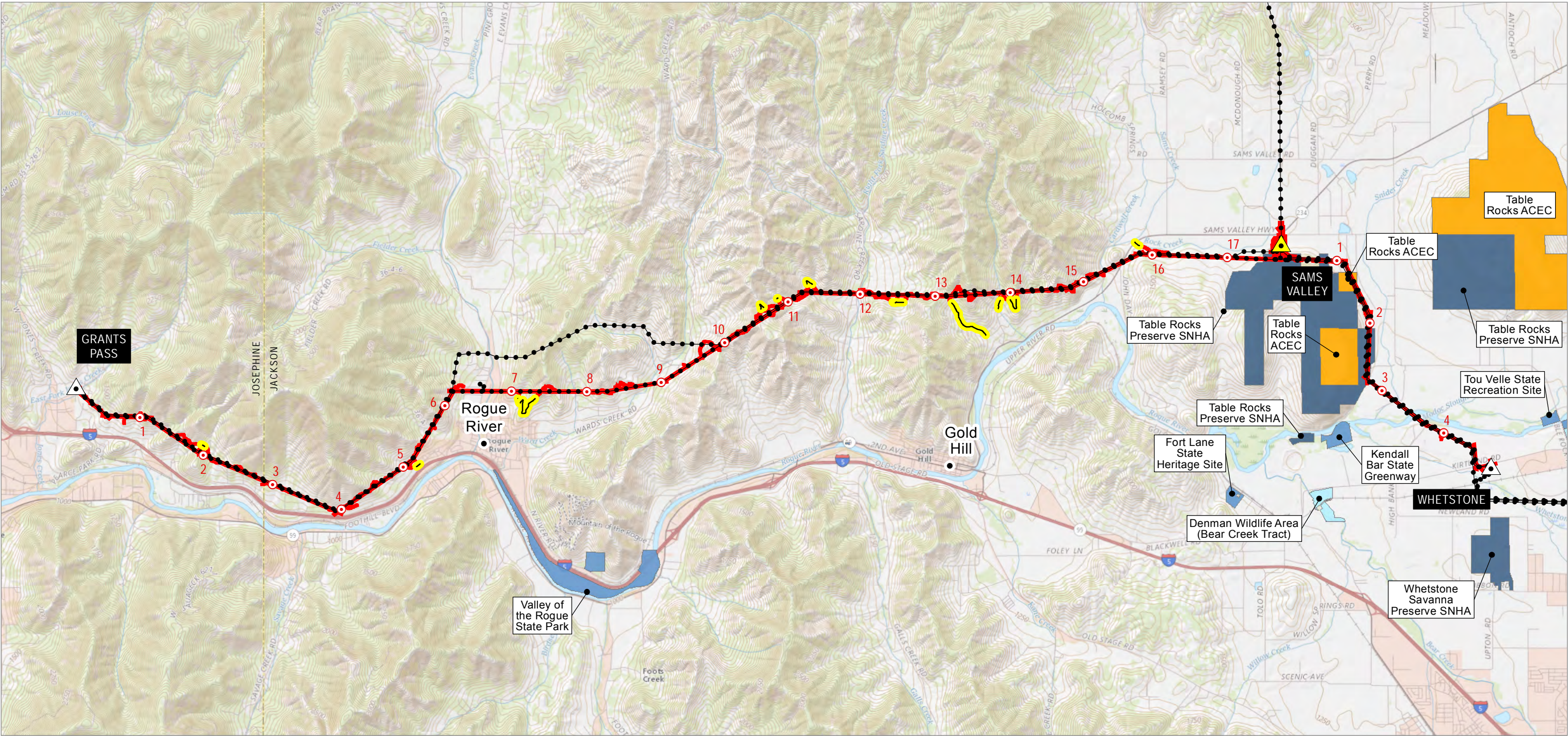
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Figures

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Source(s): BLM, Esri, PacifiCorp, ODFW, ODOT, OPRD, NPS, USFWS, USGS

Disclaimer: No warranty is made as to the accuracy or completeness of the data shown, and its use is not intended for other than the stated purpose.

Z:\UtilServ\Sams Valley\Reports\Exhibit L_Protected Areas\FIG L-1 Access Roads.mxd
December 2017

- Project Features**

 - Site Boundary
 - Substations
 - Proposed
 - Existing
- Access Roads in Relation to Existing Transmission Lines (115 kV or Greater)**

 - Existing Transmission Lines (115 kV or Greater)
 - Access Road Improvement More Than 500 feet from Existing 115 kV or Greater Transmission Line Rights-of-Way
- Protected Areas**

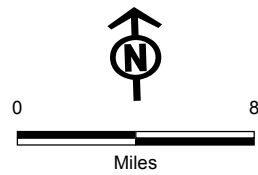
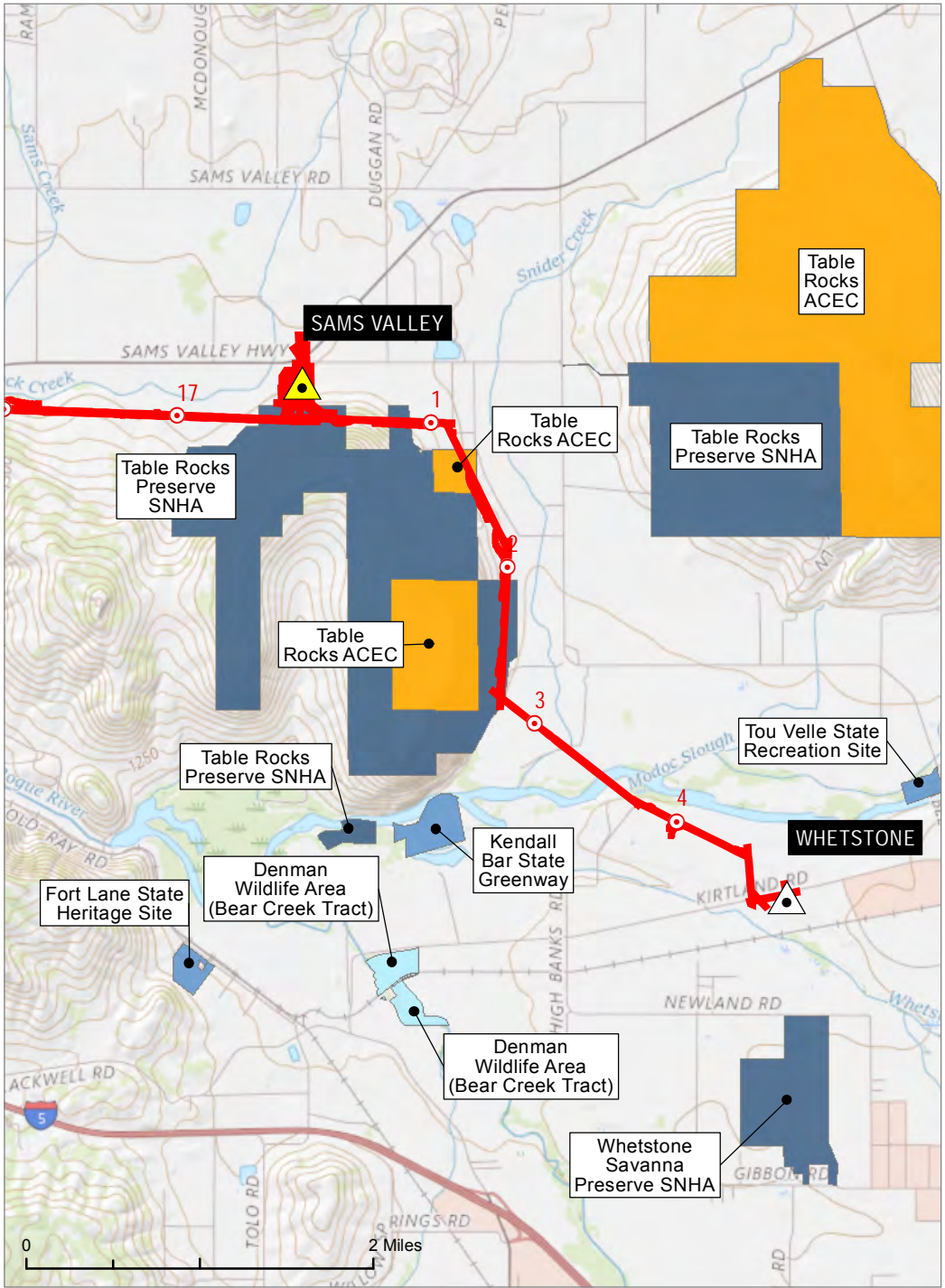
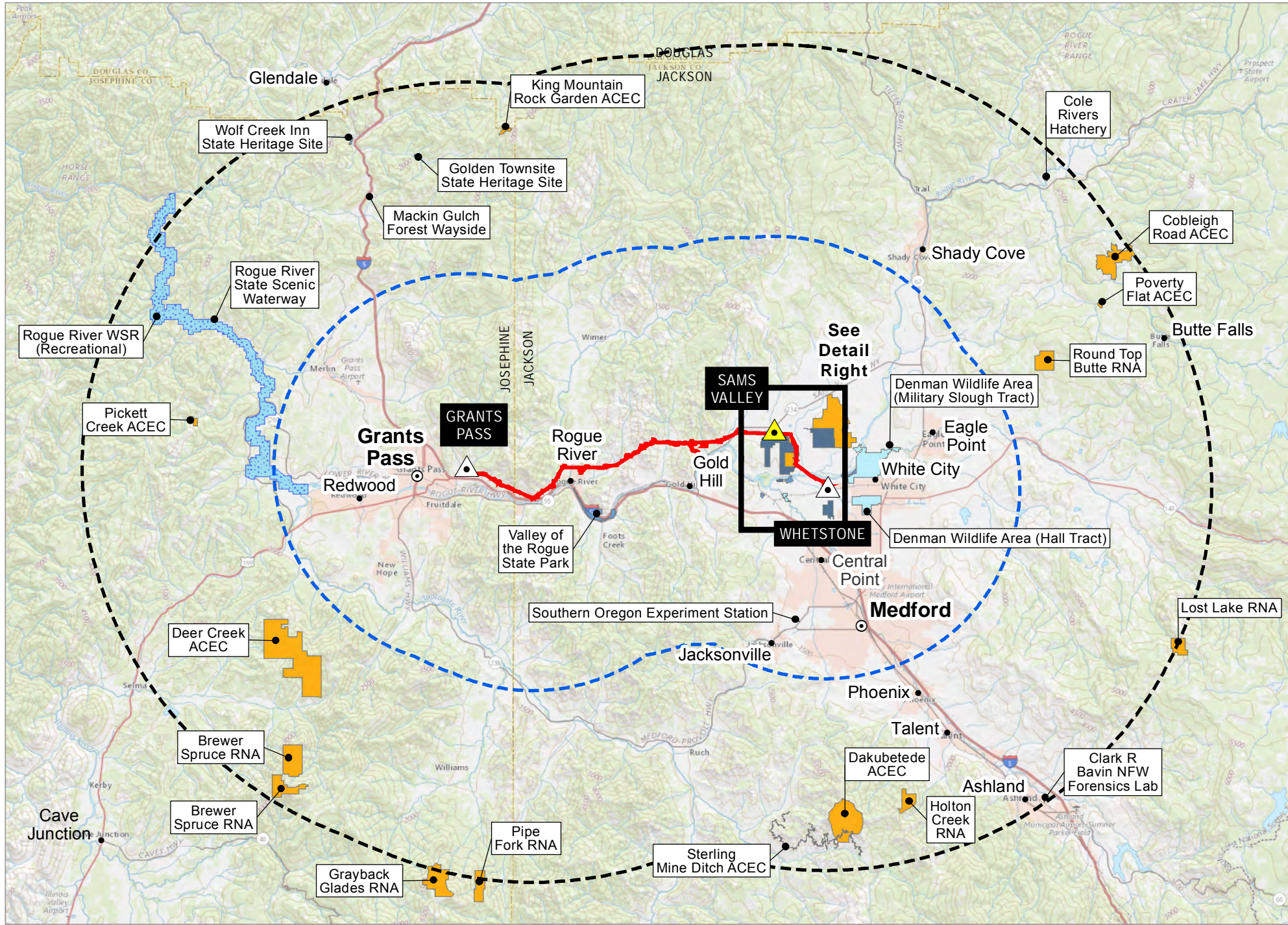
 - Areas of Critical Environmental Concern, Outstanding Natural Areas, and Research Natural Areas (BLM)
 - State Natural Heritage Areas
 - State Parks and Waysides
 - State Wildlife Areas and Management Areas



Sams Valley Reinforcement Projects
Josephine and Jackson Counties
Amendment #4

Access Roads in Relation to Existing Transmission Lines (115 kV or Greater)

Figure L-1



Protected Areas

Analysis Areas

Protected Areas (20-mile buffer of Site Boundary)

Scenic Resources (10-mile buffer of Site Boundary)

Protected Areas within 20-miles of Project Site Boundary

Agricultural Experimental Stations

Areas of Critical Environmental Concern, Outstanding Natural Areas, and Research Natural Areas (BLM)

- National and State Fish Hatcheries
- National and State Wildlife Refuges
- Scenic Waterways, Wild and Scenic Rivers, and Rivers Listed as Potential for Designation
- State Natural Heritage Areas
- State Parks and Waysides
- State Wildlife Areas and Management Areas

Project Features

Site Boundary

Mile Marker (Inset)

Substations

Proposed

Existing

Source(s): BLM, Esri, PacifiCorp, ODFW, ODOT, OPRD, NPS, USFWS, USGS

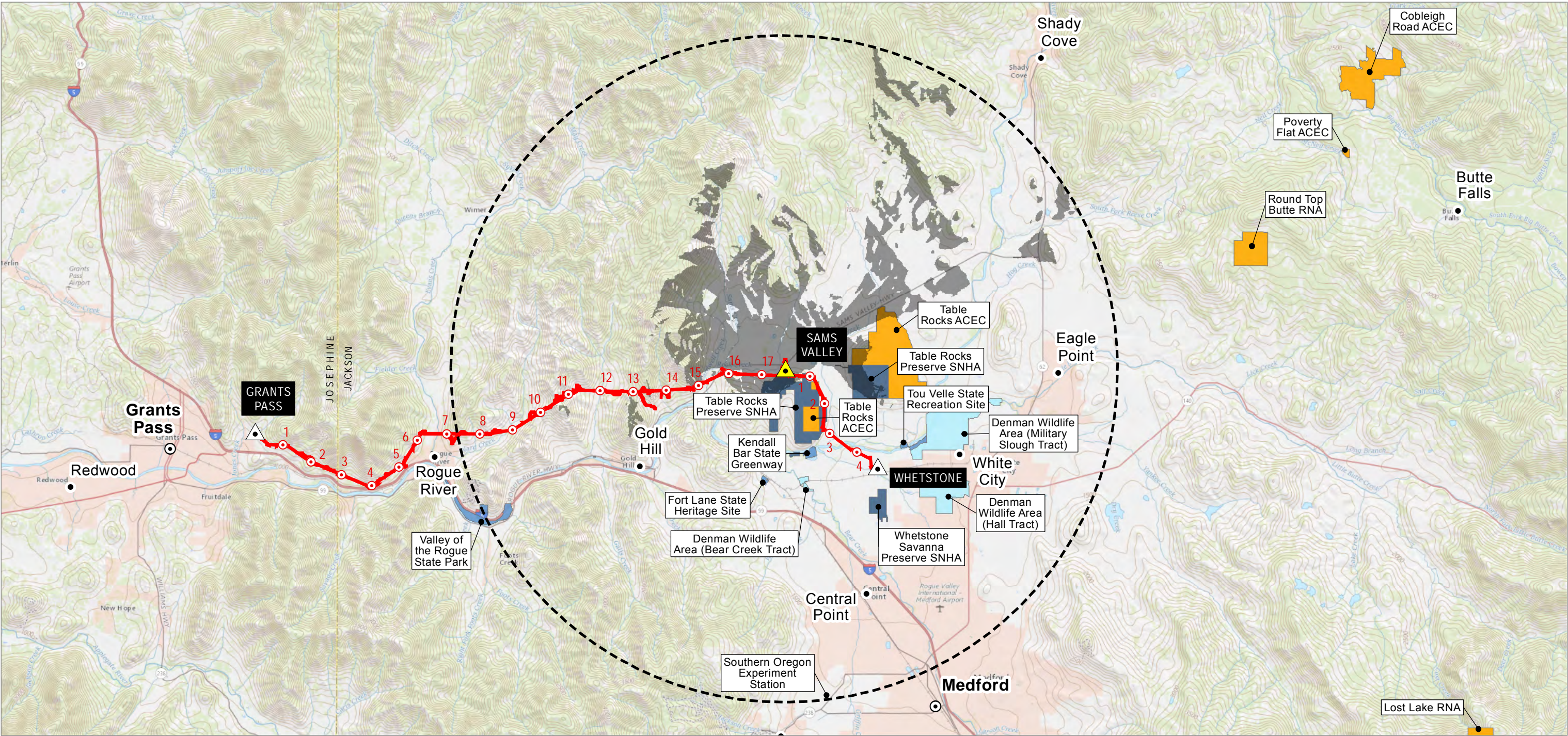
Disclaimer: No warranty is made as to the accuracy or completeness of the data shown, and its use is not intended for other than the stated purpose.

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December 2017



Sams Valley Reinforcement Projects
Josephine and Jackson Counties
Amendment #4

Protected Areas
Figure L-2



Source(s): BLM, Esri, PacifiCorp, ODFW, ODOT, OPRD, NPS, USFWS, USGS

Disclaimer: No warranty is made as to the accuracy or completeness of the data shown, and its use is not intended for other than the stated purpose.

Z:\UtilServ\Sams Valley\Reports\Exhibit L_Protected Areas\FIG L-3 Sams Valley Substation_Viewshed.mxd December 2017

- Potential Visibility**
- Viewshed Extent (10-mile buffer of Substation Footprint)
 - Potentially Visible Areas to 10-miles
 - Potentially Visible
 - Not Visible
- Protected Areas within 20-miles of Project Site Boundary**
- Agricultural Experimental Stations
 - Areas of Critical Environmental Concern, Outstanding Natural Areas, and Research Natural Areas (BLM)
 - State Natural Heritage Areas
 - State Parks and Waysides
 - State Wildlife Areas and Management Areas
- Project Features**
- Site Boundary
 - Mile
 - Substations
 - Proposed
 - Existing

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Sams Valley Reinforcement Projects
Josephine and Jackson Counties
Amendment #4

Potential Visibility
Sams Valley 500/230 kV Substation
Figure L-3

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Exhibit M

Applicant's Financial Capability

**Sams Valley Reinforcement Projects
December 2017**

Prepared for



PacifiCorp

Prepared by



Tetra Tech, Inc.

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Information supporting Oregon Administrative Rule (OAR) 345-021-0010(1)(m) has been included in the *Written Request for Amendment #4 Eugene–Medford 500 kV Transmission Line*.

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Attachment M-1. Opinion of Legal Counsel

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October 18, 2017

OPINION OF COUNSEL

Oregon Department of Energy
Energy Facility Siting Council
c/o: Sarah T. Esterson, Analyst
550 Capitol St. NE, 1st Floor
Salem, Oregon 97301

Background Facts

Pursuant to Oregon Administrative Rule (OAR) 345-027-0050 and the Energy Facility Siting Council's (EFSC) Declaratory Order issued in April 2013, PacifiCorp, an Oregon corporation *dba* Pacific Power proposes to amend the Eugene-Medford 500-kilovolt (kV) Transmission Line Site Certificate (Site Certificate) for its transmission facilities in Jackson, Douglas, and Lane counties, Oregon, through the Sams Valley Reinforcement Project (as supplemented below, the Project). In its Request for Amendment No. 4 (Request), PacifiCorp seeks to expand the EFSC-certificated facility boundary to include the Grants Pass-Sams Valley transmission line and the Sams Valley Substation. In its Request, PacifiCorp proposes to expand the Site Boundary to include a new 18 mile double-circuit 230 kV and 115 kV transmission line, the new Sams Valley Substation, the 4.7-mile reconductored 230 kV transmission line, the upgraded Grants Pass Substation, and other related and supporting facilities.

More specifically, PacifiCorp proposes to construct, operate, and maintain a new 230/115 kV double circuit transmission line, which would run from the existing Grants Pass Substation in Josephine County near Grants Pass, Oregon, east to a proposed new 500/230 kV substation in Jackson County, Oregon, north of Medford, Oregon. The new transmission line would be approximately 18 miles long, and would be constructed as a double circuit with the existing Grants Pass-Lone Pine 115 kV line. This double circuit line would carry both the existing 115 kV line and the new 230 kV line on new structures, and take advantage of the existing right-of-way to the greatest extent possible. As part of the Project, PacifiCorp would also reconductor an additional 4.7 miles of the existing 230 kV Grants Pass-Meridian line between the new Sams Valley Substation and the Whetstone Substation, as well as install new equipment within the Grants Pass Substation to accommodate the termination of the new transmission line.

The new Sams Valley 500/230 kV substation would be located at the intersection of the new 230 kV line and existing Dixonville-Meridian 500 kV and 115 kV Grants Pass-Lone Pine transmission lines.

The Project would be located on BLM-managed and private lands. Approximately 13.4 miles of the transmission line would be located on private lands and 4.6 miles on BLM-managed land. A right-of-way width of approximately 135 feet would be needed for the new double circuit line to maintain electrical clearances and meet safety requirements. PacifiCorp currently has an existing right-of-way of 100 feet for the 115 kV transmission line across both private and public lands. PacifiCorp is requesting approximately 35 feet of additional right-of-way to accommodate the new double circuited line. The new substation would be located on private land owned by PacifiCorp.

Opinion of Counsel

As legal counsel to PacifiCorp on corporate governance matters, I have examined the proposed Amendment No. 4 pertaining to the Request for the Project.

In addition to my examination of the Amendment No. 4, I have made such legal and factual examinations and inquiries as I have deemed advisable or necessary for the purpose of rendering this opinion. I have participated in interviews of various officers and employees of the Company and have received from them representations concerning various facts underlying the opinions set forth below. As to certain matters of fact bearing upon the opinions expressed herein, I have, to the extent I deemed necessary, relied on information in certificates issued by government officials, offices and agencies concerning an entity's property or status.

Based on the examinations stated herein, as of the date hereof I am of the opinion that PacifiCorp has the legal authority to construct and operate the Project in accordance with Amendment No. 4 without violating its bond indenture provisions, articles of incorporation, or common or preferred stock covenants.

This opinion is rendered only to you and is solely for your benefit in connection with the Request. This opinion may not be relied upon by or disclosed to any other person for any purpose without my prior written consent.

Very truly yours,

PACIFICORP

By: 

Jeffery B. Erb

Chief Corporate Counsel and Corporate
Secretary

Exhibit N

Non-generating Facility Information

**Sams Valley Reinforcement Projects
December 2017**

Prepared for



PacifiCorp

Prepared by



Tetra Tech, Inc.

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Acronyms and Abbreviations

DSM	demand side management
EFSC	Energy Facility Siting Council
FERC	Federal Energy Regulatory Commission
kV	kilovolt
MVA	Megavolt amperes
MW	Megawatts
NERC	North American Reliability Corporation
OAR	Oregon Administrative Rule
PacifiCorp	PacifiCorp dba Pacific Power
Project	Sams Valley Reinforcement Projects
SAE	Statistically Adjusted End-use
WECC	Western Electricity Coordinating Council

1.0 Introduction

Exhibit N was prepared to meet the Sams Valley Reinforcement Projects' (Project) requirements under Oregon Administrative Rule (OAR) 345-021-0010(n), as well as under the system reliability rule for transmission lines, OAR 345-023-0030. This Exhibit only references the sections of OAR 345-021-0010(n) deemed relevant to the discussion of need for the Project.

2.0 Regulatory Environment

The system reliability rule, OAR 345-023-0030, provides:

The Council shall find that the applicant has demonstrated need for an electric transmission line that is an energy facility under the definition in ORS 469.300 if the Council finds that:

(1) The facility is needed to enable the transmission system of which it is to be a part to meet firm capacity demands for electricity or firm annual electricity sales that are reasonably expected to occur within five years of the facility's proposed in-service date based on weather conditions that have at least a 5 percent chance of occurrence in any year in the area to be served by the facility;

(2) The facility is consistent with the applicable mandatory and enforceable North American Reliability Corporation (NERC) Reliability Standards in effect as of September 18, 2015 as they apply either internally or externally to a utility system; and

(3) Construction and operation of the facility is an economically reasonable method of meeting the requirements of sections (1) and (2) compared to the alternatives evaluated in the application for a site certificate.

3.0 Demonstration of Need under the System Reliability Rule

PacifiCorp chooses to demonstrate the need for the Project under the system reliability rule. For the following reasons, the Energy Facility Siting Council (EFSC or Council) may find the Project need is sufficiently demonstrated under the system reliability rule.

3.1 Load-Resource Balance Tables – OAR 345-021-0010(n)(F)(i)

OAR 345-021-0010(n)(F) If the applicant chooses to demonstrate need for a proposed electric transmission line under OAR 345-023-0030, the system reliability rule:

(i) Load-resource balance tables for the area to be served by the proposed facility. In the tables, the applicant shall include firm capacity demands and existing and

committed firm resources for each of the years from the date of submission of the application to at least five years after the expected in-service date of the facility.

The Project need is demonstrated through power flow analysis conducted as part of PacifiCorp's annual North American Reliability Corporation (NERC) TPL-001-4 system assessment. Power flow cases used in the annual NERC TPL-001-4 system assessment are based on approved Western Electricity Coordinating Council (WECC) seasonal base cases, which are consistent with load, resource, and system topology data provided in accordance with the NERC MOD-032-1 standard by each utility in the affected area. The affected area includes both PacifiCorp and non-PacifiCorp loads.

Loads in PacifiCorp's southern Oregon area were updated in the cases to represent inputs from the transmission customer real and reactive load projections, provided in the 10-year load and resource data submitted to PacifiCorp, as well as all known commitments for firm transmission service and interchange. These loads were then verified and updated as necessary, using historical data and regional coincidence factors.

The annual load and resource process is necessary in order to comply with PacifiCorp's Federal Energy Regulatory Commission (FERC) approved Open Access Transmission Tariff Sections 28.2, 28.3 and 31.6, and to provide details regarding PacifiCorp's planning requirements and contractual obligations in order to provide safe, reliable, adequate, and efficient transmission service. Table N-1 provides a summary of loads in PacifiCorp's southern Oregon and northern California service area.

Table N-1. PacifiCorp Southern Oregon Load Forecast

Area Name	Forecasted Megawatts by Year									
	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
Summer										
Roseburg, Oregon	216	218	220	221	223	225	227	229	231	233
Grant Pass, Oregon	228	229	230	232	233	234	235	236	238	239
Medford, Oregon	499	501	503	505	507	509	512	514	516	518
Yreka, California	99	100	100	100	100	101	101	101	101	101
Crescent City, California	38	38	38	38	38	38	38	38	38	38
Klamath Falls, Oregon	190	190	190	190	190	190	190	190	191	191
Klamath Falls, California	47	47	47	47	47	47	48	48	48	48
Alturas, California	12	12	12	12	12	12	12	12	12	12
Total Summer	1,329	1,334	1,340	1,345	1,351	1,357	1,363	1,368	1,374	1,380
Winter										
Roseburg, Oregon	237	239	241	243	244	246	248	250	252	254
Grant Pass, Oregon	248	249	251	252	254	255	256	258	259	260
Medford, Oregon	483	485	488	491	494	497	500	503	506	509
Yreka, California	111	111	111	112	112	112	112	113	113	113

Table N-1. PacifiCorp Southern Oregon Load Forecast

Area Name	Forecasted Megawatts by Year									
	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
Crescent City, California	56	56	56	56	56	56	56	56	56	56
Klamath Falls, Oregon	190	190	190	190	190	190	190	190	190	190
Klamath Falls, California	16	16	16	16	16	16	16	16	16	16
Alturas, California	14	14	14	14	14	14	14	14	14	14
Total Winter	1,355	1,361	1,367	1,374	1,380	1,386	1,393	1,399	1,406	1,413

3.2 Firm Capacity Demand and Firm Annual Electricity Sales Forecasts – OAR 345-021-0010(n)(F)(ii)

(ii) Within the tables described in subparagraph (i), a forecast of firm capacity demands for electricity and firm annual electricity sales for the area to be served by the proposed facility. The applicant shall separate firm capacity demands and firm annual electricity sales into loads of retail customers, system losses, reserve margins and each wholesale contract for firm sale. In the forecast, the applicant shall include a discussion of how the forecast incorporates reductions in firm capacity demand and firm annual electricity sales resulting from:

(I) Existing federal, state or local building codes, and equipment standards and conservation programs required by law for the area to be served by the proposed facility;

(II) Conservation programs provided by the energy supplier, as defined in OAR 345-001-0010;

(III) Conservation that results from responses to price; and

(IV) Retail customer fuel choice;

Power flow cases used in the annual NERC TPL-001-4 system assessment are based on approved WECC seasonal base cases, which are consistent with data provided in accordance with the NERC MOD-032-1 standard by each utility in the affected area. The NERC TPL-001-4 system assessments are performed on peak and off-peak load cases representing system demands, not annual energy sales. The loads and resources in the PacifiCorp southern Oregon system represent inputs from the transmission customer real and reactive load projections, provided in the 10-year load and resource data submitted to PacifiCorp, as well as all known commitments for firm transmission service and interchange.

Reductions in Firm Capacity Demand and Firm Annual Electricity Sales

PacifiCorp's NERC TPL-001-4 system assessment includes a power flow contingency analysis performed on cases representing seasonal peak loads from WECC-approved base cases. Peak loads and system flow conditions in the cases are representative of load forecasts provided by each utility contributing to the cases. Because the power flow analysis is performed on stressed system condition snapshot cases, these load projections are informed by the load forecasts developed using annual electricity sales, but represent more specifically the loading expected to be seen through a subset of substation transformers during a specific seasonal peak load event. In WECC power flow cases, system loads are represented on Bulk Electric System transmission buses. Projected changes in peak demand at these bus-level load representations on PacifiCorp buses between the 2-year, 5-year and 10-year power flow cases are informed by the PacifiCorp load forecast.

Per OAR 345-021-0010(1)(n)(F)(ii)(I), PacifiCorp's load forecast reflects "Existing federal, state or local building codes, and equipment standards and conservation programs required by law for the area to be served by the proposed facility". PacifiCorp models sales per customer for the residential class using the Statistically Adjusted End-use (SAE) model, which combines the end-use modeling concepts with traditional regression analysis techniques. The SAE model reflects the US Department of Energy's Energy Information Administration (EIA) assumptions for changes in energy efficiency of each appliance category, which are updated annually to take into consideration for new codes and standards including lighting standards from the Energy Independence and Security Act of 2007.

Per OAR 345-021-0010(1)(n)(F)(ii)(II), PacifiCorp's forecast reflects "Conservation programs provided by the energy supplier" based on a system-wide study of demand side management (DSM) potential in its service territory, which is then used within the IRP cost effective portfolio selection process. PacifiCorp produces a system-wide study every two to three years to identify the potential of demand-side management resources and their related costs over a 20-year horizon. The results of this study are used in the development of the IRP to model Class 2 DSM as a resource option to be selected as part of a cost-effective portfolio resource mix using the Company's capacity expansion optimization model (System Optimizer). The cost-effective Class 2 DSM selected by the optimization model is then deducted from load forecast in order to reflect the impact of these conservation programs over the 20-year planning horizon.

Per OAR 345-021-0010(1)(n)(F)(ii)(III), PacifiCorp's forecast reflects "Conservation that results from responses to price". Changes in electricity prices and their effect on the load forecast are accounted for within the SAE model as price elasticity. Over the 2018 to 2020 timeframe, PacifiCorp's load forecasting models assume that electricity prices will remain constant.

Per OAR 345-021-0010(1)(n)(F)(ii)(IV), PacifiCorp's forecast reflects "Retail customer fuel choice" within the SAE model. The SAE model incorporates the Energy Information Administration's estimates on end-use saturation over time due to changes in customer appliance choices. In turn, appliance choice decisions are driven by appliance costs, efficiency options and standards, natural gas availability and fuel prices for electricity, natural gas and other competing end-uses.

3.3 Firm Resources to be Used to Meet Demands – OAR 345-021-0010(n)(F)(iii)

(iii) Within the tables described in subparagraph (i), a forecast of existing and committed firm resources used to meet the demands described in subparagraph (ii). The applicant shall include, as existing and committed firm resources, existing generation and transmission facilities, firm contract resources and committed new resources minus expected resource retirements or displacement. In the forecast, the applicant shall list each resource separately.

As described in Section 3.2, power flow cases used in the annual NERC TPL-001-4 system assessment are based on approved WECC seasonal base cases, which are consistent with data provided in accordance with the NERC MOD-032-1 standard by each utility in the affected area. The loads and resources in the PacifiCorp southern Oregon system represent inputs from the transmission customer real and reactive load projections, provided in the 10-year load and resource data submitted to PacifiCorp, as well as all known commitments for firm transmission service and interchange.

A sensitivity analysis was performed as part of the NERC TPL-001-4 system assessment to evaluate potential impacts from future retirement of the Klamath River hydroelectric resources. The Project need is not dependent on retirement of the Klamath River projects and does not cause retirement or displacement of the Klamath River projects.

3.4 Retirement or Displacement of Resources – OAR 345-021-0010(n)(F)(iv)

(iv) A discussion of the reasons each resource is being retired or displaced if the forecast described in subparagraph (iii) includes expected retirements or displacements.

No resource will be retired or displaced by the Project.

3.5 Assumed Annual Capacity Factors – OAR 345-021-0010(n)(F)(v)

(v) A discussion of the annual capacity factors assumed for any generating facilities listed in the forecast described in subparagraph (iii).

The Project is not a generation facility.

3.6 Reliability Criteria Demonstrating Need for the Project – OAR 345-021-0010(n)(F)(vi)

(vi) A discussion of the reliability criteria the applicant uses to demonstrate the proposed facility is needed, considering the load carrying capability of existing transmission system facilities supporting the area to be served by the proposed facility.

PacifiCorp conducts an annual system assessment to evaluate the performance of the PacifiCorp Bulk Electric System and to identify system deficiencies based on NERC Standard TPL-001-4 and

WECC Criterion TPL-001-WECC-CRT-3. The annual system assessment is comprised of steady-state, stability, and short circuit analyses.

The planning assessment develops a corrective action plan when the analysis identifies an inability of the system to meet the required level of performance, as established in NERC TPL-001-4, WECC Criterion, and PacifiCorp's Engineering Handbook (sections 1B.4 "Reliability Criteria for System Planning" and 1B.3 "Planning Standards for Transmission Voltage"). The corrective action plan lists identified system deficiencies, associated system reinforcements necessary to meet the required performance and the anticipated time frame within which these improvements would be incorporated into the system.

As a result of the annual system assessments, the Project was recommended to resolve several deficiencies of the NERC TPL-001-4 requirements and eliminate a variety of situations in which transmission outages would require load shedding in the southern Oregon region. The Project was first identified in the 2010 system assessment, and the need has been validated in subsequent annual assessments:

- Maintain compliance with NERC TPL-001-4 P2-3, and P4 event requirements (loss of two transmission elements as a result of an internal breaker fault or stuck breaker): a failure of the Meridian 230-kilovolt (kV) breaker 1R49 will cause the loss of the Meridian–Whetstone 230 kV line and the Meridian–Lone Pine 230 kV line No.2 causing an overload of the Meridian–Lone Pine No.1.
- Avoid consequential load loss resulting from a TPL-001-4 P2-2, P2-3, P4, or P6 event: a 230 kV bus fault at Grants Pass Substation, 230 kV internal breaker fault or stuck breaker at Grants Pass Substation, or an outage of both 230 kV transmission lines supplying the Grants Pass Substation causes the loss of all Grants Pass and Crescent City load, approximately 230 megawatts (MW) at peak load.
- Avoid load shedding presently necessary through use of an automatic remedial action scheme after a TPL-001-4 P6 event: a loss of both 500 kV transmission lines supplying Meridian or a loss of both Meridian 500-230 kV transformer banks causes low voltage on the 230 kV system and requires significant load shedding, up to 310 MW in Medford and Grants Pass.
- Avoid complex operating procedures under various transmission line and transformer outage conditions to sectionalize the 115 kV and 230 kV systems in southern Oregon. As part of the operating procedures, large areas of southern Oregon and northern California are served by separate radial transmission feeds. Such configuration sets up the system for consequential load loss to large parts of the system, including the Roseburg, Grants Pass, Crescent City, Medford, Klamath Falls, and Yreka areas for the second outage, in order to meet NERC TPL-001-4 requirements.
- Maintain compliance with NERC TPL-001-4 P1 and P2-1 event requirements (loss of a single transmission element such as a line or transformer) when the Medford area 115 kV system is operated in a radial configuration:

- An outage of the Dixonville–Grants Pass 230 kV line will overload the 230 kV Meridian–Whetstone line.
- An outage of the Meridian–Whetstone 230 kV line will cause a voltage collapse in Grants Pass, Crescent City, and portions of the Medford area.

3.7 The Project is an Economically Reasonable Alternative – OAR 345-021-0010(n)(F)(vii)

(vii) A discussion of reasons why the proposed facility is economically reasonable compared to the alternatives described below. In the discussion, the applicant shall include a table showing the amounts of firm capacity and firm annual electricity available from the proposed facility and each alternative and the estimated direct cost, as defined in OAR 345-001-0010, of the proposed facility and each alternative. The applicant shall include documentation of assumptions and calculations supporting the table. The applicant shall evaluate alternatives to construction and operation of the proposed facility that include, but are not limited to:

(I) Implementation of cost-effective conservation, peak load management and voluntary customer interruption as a substitute for the proposed facility.

(II) Construction and operation of electric generating facilities as a substitute for the proposed facility.

(III) Direct use of natural gas, solar or geothermal resources at retail loads as a substitute for use of electricity transmitted by the proposed facility.

(IV) Adding standard sized smaller or larger transmission line capacity.

The Project would construct a new 500-230 kV substation, the Sams Valley Substation, near Table Rock, Oregon, with one, 650-megavolt amperes (MVA) transformer bank. In addition, the following work is required to correct NERC TPL-001-4 deficiencies in the local area, and integrate the new substation into the 230 kV system:

- **The Grants Pass–Sams Valley Transmission Line:** A new 230/115 kV double circuit transmission line, which will run from the existing Grants Pass Substation in Josephine County near Grants Pass, Oregon, east approximately 18 miles to the proposed 500/230 kV Sams Valley Substation in Jackson County approximately 10 miles northwest of Medford, Oregon. The new transmission line will be sited in the existing right-of-way of the 115 kV Grants Pass–Lone Pine transmission line, creating the new 230/115 kV double circuit line on new 230 kV structures. In most areas, an additional 35 feet of ROW (135 feet total) will be required to provide a safe operating system per National Electrical Safety Code.
- **The Sams Valley Substation:** The proposed Sams Valley Substation would be a 500/230 kV substation constructed in Sams Valley, Jackson County, Oregon, approximately 6 miles northwest of Medford, Oregon. The substation will join the 230 kV circuit of the new 230/115 kV double circuit Grants Pass–Sams Valley Transmission Line (the 115 kV circuit

of this line will continue on directly to the existing Whetstone Substation), the existing 230 kV Grants Pass–Whetstone Transmission Line, and the existing 500 kV Dixonville–Meridian Transmission Line. The Sams Valley Substation will be sited entirely on land owned by PacifiCorp. Tap lines would be constructed for the existing 230 and 500 kV transmission lines as part of the Project.

- **Sams Valley–Whetstone Reconductoring:** Approximately 4.9 miles of the existing 230 kV Grants Pass–Meridian Transmission Line will be reconducted between the proposed Sams Valley Substation and the existing Whetstone Substation, which is approximately 6 miles north of Medford, Oregon. Up to 16 new 230 kV structures will be required as part of the reconductoring process. No new rights-of-way will be required.

The Project and all listed alternatives also include replacing three 230-115 kV, 125 MVA transformers at Grants Pass Substation with two 230-115 kV, 250 MVA transformers to resolve a separate NERC TPL-001-4 deficiency.

The estimated cost of the Project is \$78.4 million.

Alternatives Evaluated

PacifiCorp’s economic analysis of alternatives included evaluation of “implementation of cost effective conservation, peak load management and voluntary customer interruption as a substitute for the proposed facility,” as required by OAR 345-021-0010(1)(n)(F)(vii)(I).

Conservation, peak load management, and voluntary customer interruption are not practical alternatives to the Project. A minimum of 100 MW of conservation or peak load management would be required in the Grants Pass and Crescent City areas, representing as much as one third of the total customer load in those areas, to resolve NERC TPL-001-4 category P1 and P2 events. To put this 100 MW value in context, PacifiCorp’s 2017 IRP identified a total of 85 MW of cost-effective conservation from 2018-2020 across PacifiCorp’s California, Oregon, and Washington service territories combined.¹ Given the share of PacifiCorp’s load across these three states represented by the Grants Pass and Crescent City areas, only a fraction of this conservation is available in the area of interest. Additionally, the 2017 IRP did not identify any new peak load management products as cost-effective by 2020. Thus, conservation and load management are not viable options to cost-effectively meet the 100 MW need.

Use of voluntary or involuntary (i.e., via a remedial action scheme) non-consequential customer interruption is not permitted for the applicable P1 and P2 events under the NERC standard.

Additionally, involuntary customer interruption of up to 310 MW through use of operating procedures, remedial action, and under voltage load shedding schemes is currently in place to resolve category P6 N-1-1 deficiencies, as permitted by the NERC standard. Customer exposure to involuntary customer interruption will be greatly reduced by the Project.

¹ 2017 Integrated Resource Plan, Volume I, Table 8.18. The 2018-2020 impact of West conservation is calculated as the cumulative value in 2020 (118 MW) less the value in 2017 (33 MW).

The requirements under OAR 345-021-0010(1)(n)(F)(vii)(II) are not applicable to the Project, which is a NERC reliability, peak load driven project. This is a project needed to meet compliance with NERC reliability standards for operation of the transmission system under various system contingencies. While reliable, directly controllable, and fully dispatchable electric generating facilities can help to support the transmission system with elements out of service, the lead time associated with building new generating facilities would not meet compliance timelines.

The requirements under OAR 345- 021-0010(1)(n)(F)(vii)(III) are not applicable to the Project, which is a NERC reliability, peak load driven project. As discussed above, this is a reliability standards compliance project to address various transmission system contingencies. Intermittent resources like solar would not meet the NERC reliability standard. There is no resource need in the area for new natural gas or geothermal resources, and any generating facility alternative would need to be dispatchable and controllable by the grid operator to meet the system reliability requirements.

PacifiCorp evaluated “adding standard sized smaller or larger transmission line capacity,” as required by OAR 345-021-0010(1)(n)(F)(vii)(IV). The 230 kV transmission line capacity is sized to provide the capacity needed to meet NERC TPL-001-4 reliability standards for various N-1, N-1-1 and N-2 contingency events through the long term planning horizon. Additionally, the conductor size provides a similar impedance to parallel 230 kV transmission to avoid overburdening one parallel line over the other. A smaller conductor would cause more power to flow on a parallel line, and would not maximize usage of the parallel system. A larger conductor size is not necessary to meet compliance requirements, and would not provide a significant benefit to system transfer capability due to being in parallel with smaller conductors on the existing 230 kV transmission lines.

Two alternatives could potentially provide reinforcement for the 500-230 kV source outage deficiencies:

1. Meridian 500-230 kV transformer #3 – This alternative would require the longer 230 kV line construction described above, and would provide the same benefit as the selected alternative. This alternative has a higher estimated cost due to the need for approximately 11 miles of additional 230 kV line construction. The estimated total cost of this alternative is \$91 million which is \$12.6 million more than the Project.
2. Construct new 230 kV line between the Snow Goose and Meridian substations – A Snow Goose–Meridian 230 kV line of approximately 60 miles, in addition to the 35-mile 230 kV line between Meridian, Whetstone, and Grants Pass substations, would likely mitigate the majority of the 500-230 kV source outage deficiencies. However, the estimated cost of this alternative is \$114.6 million which is \$36.2 million more than the Project.

3.8 Earliest and Latest Expected In-Service Dates – OAR 345-021-0010(n)(F)(viii)

(viii) The earliest and latest expected in-service dates of the facility and a discussion of the circumstances of the energy supplier, as defined in OAR 345-001-0010, that determine these dates.

The earliest the line would expected to be in service is June 1, 2020, and the latest it would be in service would be November 20, 2020.

4.0 Conclusion

Exhibit N includes the application information required by OAR 345-021-0010(1)(n), and provides the evidence necessary to show the need for the Project under the system reliability rule for transmission lines (OAR 345-023-0030). The system reliability rule requires a showing that the Project is: (1) needed to allow PacifiCorp to meet its projected firm capacity demands or firm annual sales; (2) consistent with applicable NERC reliability standards; and (3) an economically reasonable method of meeting these requirements as compared to other alternatives.

First, the Project is required to meet projected loads. PacifiCorp has a statutory obligation to ensure that facilities are in place to prevent any occurrence that may violate compliance with NERC standards. The Project will increase capacity and improve reliability to the Southern Oregon region as part of the NERC reliability standards and the WECC system operating standards. The additional line will help meet new power demands due to regional growth and act as a redundant path for power in the event another local transmission line is damaged or experiences disruption of service. It will improve and strengthen the power grid for the entire region, including the more than 88,000 Jackson County and 41,000 Josephine County customers of PacifiCorp.

Second, the Project is consistent with the applicable mandatory and enforceable NERC Reliability Standards in effect as of September 18, 2015. The Project is required to meet NERC TPL-001-4 system performance requirements. The NERC TPL-001-4 annual system assessments are performed using power flow analysis on WECC regional cases. The WECC cases are developed using NERC MOD-032-1 load and resource data submittals from registered Transmission Planners in WECC, including Load and Resource forecasts submitted to PacifiCorp.

PacifiCorp's NERC TPL-001-4 system assessments have demonstrated the need for the Project to meet system performance requirements. Through the construction of the Project, PacifiCorp is conforming to reliability standards established by WECC and NERC under the authority of FERC.

Third, the Project is an economically reasonable approach to meeting the identified system performance deficiencies. The two other alternatives considered to meet system performance requirements are 14 and 32 percent more expensive to build than the Project.

Exhibit O

Water Requirements

**Sams Valley Reinforcement Projects
December 2017**

Prepared for



PacifiCorp

Prepared by



Tetra Tech, Inc.

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Acronyms and Abbreviations

EFSC	Energy Facility Siting Council
OAR	Oregon Administrative Rule
PacifiCorp	PacifiCorp dba Pacific Power
Project	Sams Valley Reinforcement Projects

1.0 Introduction

The Energy Facility Siting Council (EFSC; Council) previously approved the Eugene-Medford 500 kV Transmission Line Project¹ and found that PacifiCorp dba Pacific Power (PacifiCorp) adequately addressed water resources. In this Request for Amendment No. 4, PacifiCorp seeks to expand the EFSC-certificated facility boundary to include the Grants Pass-Sams Valley Transmission Line and the Sams Valley Substation for the Sams Valley Reinforcement Projects (Project). The analysis in this exhibit focuses on the Project described in the *Written Request for Amendment #4 Eugene–Medford 500 kV Transmission Line*.

Exhibit O was prepared to meet the Project's submittal requirements per Oregon Administrative Rule (OAR) 345-021-0010(1)(o), related to Project water use requirements. PacifiCorp will require the use of water for construction related activities such transmission line structure foundations and substation foundations, dust control during right-of-way clearing and access road improvement, substation grading and site work, and re-seeding restoration work upon Project completion. No water will be required for operations of the transmission lines and substation.

2.0 Description of Water Use – OAR 345-021-0010(1)(o)(A)

OAR 345-021-0010(1)(o) Information about anticipated water use during construction and operation of the proposed facility. The applicant shall include:

(A) A description of the use of water during construction and operation of the proposed facility.

2.1 Construction

Construction of the Project will require water for transmission line structure foundations and substation foundations, dust control during right-of-way clearing and access road improvement, substation grading and site work, and re-seeding restoration work upon Project completion. Some water would need to be used for potable and sanitary uses. Drilling and fire prevention also may require minor amounts of water.

Structures will either be set on concrete foundations or directly embedded into the ground. In addition, up to 16 structures will be replaced along the Sams Valley–Whetstone Reconductoring portion of the Project. The exact number of structure replacements will be identified during detailed engineering. Replacement structures will most likely be directly embedded into the ground so no water will be required for the purposes of construction for this effort. Foundation installation includes reinforcing the steel rebar cage set in the hole, setting the anchor bolt cage, and pouring

¹ EFSC (Energy Facility Siting Council). 1990. Third Amended Site Certification Agreement for the Eugene-Medford 500 kV Transmission Line. October 26.

concrete. The finished grade of the concrete foundation is typically 1 foot above the ground elevation.

In the construction of the transmission line concrete and substation foundations, the concrete will be obtained from commercial sources. Other water uses during foundation construction include water to prepare drilling slurry required to maintain excavations for drilled shaft foundation construction, if required due to soil conditions. Construction of the transmission lines and related facilities will generate a temporary increase in fugitive dust. Water may be applied to disturbed areas and unpaved roadways using water trucks as needed to minimize dust.

Water usage for the new Sams Valley Substation construction will be primarily for dust control during site preparation work. During this period, construction equipment will be cutting, moving, and compacting the subgrade surface. As a result, water will be used to compact the subgrade material prior to foundation construction, and trucks providing dust control will make as many as one pass per hour over the station site. Once site preparation work is complete, concrete for the placement of foundations will become the largest use of water, and dust control will be minimal.

During construction, a minor amount of water will be needed for potable and sanitary purposes. Construction workers will need to have access to potable water for drinking and hand-washing purposes. Local, licensed sanitary service providers will provide sanitary services, such as porta potties. Sanitary service providers will be responsible for legally obtaining any water needed for their services on the Project.

Water usage for restoration will include the water needed to prepare and apply hydro mulch to help stabilize disturbed slopes and reseeded of disturbed work areas after construction activities are complete.

2.2 Operation

Normal operations and maintenance of the transmission line and substation will not require water, as the Project facilities will be unmanned.

3.0 Water Sources – OAR 345-021-0010(1)(o)(B)(C)

(B) A description of each source of water and the applicant's estimate of the amount of water the facility will need during construction and during operation from each source under annual average and worst-case conditions.

(C) A description of each avenue of water loss or output from the facility site for the uses described in (A), the applicant's estimate of the amount of water in each avenue under annual average and worst-case conditions and the final disposition of all wastewater.

Approximately 50,000 gallons of water will be required for total Project use under worst-case conditions. The construction contractors will obtain water for construction from local water

providers. These sources may also include local municipalities but no direct connection to any water line will be made at any point in the construction effort.

Water used during construction for dust control (approximately 15,000 gallons) and restoration will infiltrate into the ground or evaporate into the atmosphere. The amount of water used for dust control will be sufficiently small that runoff will not occur outside of the Site Boundary. Water used for foundations (approximately 5,000 gallons) will remain in the concrete mix. Management and handling of concrete truck washout areas and disposal of excess or degraded drilling slurry are addressed in Exhibit V. No Project wastewater will be discharged into wetlands, lakes, rivers, or streams. No water use or discharges are anticipated during operations.

4.0 Thermal Power Plants – OAR 345-021-0010(1)(o)(D)

(D) For thermal power plants, a water balance diagram, including the source of cooling water and the estimated consumptive use of cooling water during operation, based on annual average conditions.

The Project is not a thermal power plant. Thus, OAR 345-021-0010(1)(o)(D) is not applicable.

5.0 Explanation of Lack of Need for Groundwater/Surface Water Permit or Water Right Transfer – OAR 345-021-0010(1)(o)(E)

(E) If the proposed facility would not need a groundwater permit, a surface water permit or a water right transfer, an explanation of why no such permit or transfer is required for the construction and operation of the proposed facility.

The Project's need for water occurs during construction of the Project. Water will be procured from municipal suppliers along the Project, and no groundwater permit, surface water permit, or water right transfer will be required. The municipal water rights will allow use for industrial purposes such as a transmission line project. Because no new water rights will be necessary for the Project, neither a limited license for construction use, nor other water right permits will be required.

6.0 Information to Support Issuance of Groundwater/Surface Water Permit or Water Right Transfer – OAR 345-021-0010(1)(o)(F)

(F) If the proposed facility would need a groundwater permit, a surface water permit or a water right transfer, information to support a determination by the Council that the Water

Resources Department should issue the permit or transfer of a water use, including information in the form required by the Water Resources Department under OAR chapter 690, divisions 310 and 380.

As described in the previous section, water will be procured from municipal suppliers along the Project, and no groundwater permit, surface water permit, or water right transfer will be required. As a result, this standard is not applicable.

7.0 Mitigation Measures – OAR 345-021-0010(1)(o)(G)

(G) A description of proposed actions to mitigate the adverse impacts of water use on affected resources.

PacifiCorp does not propose mitigation as no adverse impacts are expected to result from water use at the Project during construction.