Environmental Assessment

Centralia Coal Mine, Minor Permit Revision for Permit No. WA-0001E

Lewis County, Washington
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1 PURPOSE AND NEED

1.1 Introduction

This Environmental Assessment (EA) has been prepared by the U.S. Department of the Interior (DOI), Office of Surface Mining Reclamation and Enforcement (OSMRE). TransAlta Centralia Mining LLC (TCM) is the Permittee and Operator of the Centralia Mine, which is located at 1015 Big Hanaford Road in Centralia, Washington. TCM has filed a minor permit revision application with OSMRE. The minor permit revision application pertains to TCM's coal mining operation under OSMRE Permit No. WA-0001E, issued on November 21, 1985, and under subsequent permit renewals, in accordance with regulations promulgated by the Surface Mining Control and Reclamation Act of 1977, at 30 Code of Federal Regulations (CFR) Section 773.4 and 30 CFR 774.15. TCM ceased active coal mining operations at Centralia Mine in 2006 and has since been conducting reclamation-only activities.

TCM is proposing the following minor revision of the existing surface coal mining permit and Permit Application Package (PAP): The proposed minor permit revision would change the land use of approximately 81 acres within the Centralia Mine permit area that is currently designated 79 acres for upland forestry use and 2 acres for industrial land use. The industrial land use includes the northern edge of the Limited Purpose Landfill, which is an industrial land use area. This landfill is under the jurisdiction of Lewis County, Washington State Department of Ecology, and the U.S. Environmental Protection Agency. The purpose of the land use change is to allow for a 150-foot-wide powerline corridor through the Centralia Mine permit area for the Skookumchuck Wind Energy Project. Section 1.2 describes the purpose and need for the project. The Centralia Mine is located within Sections 31-35, Township 15 North, Range 1 West, W.M., Lewis County, Washington.

This EA evaluates and discloses the potential for direct, indirect, and cumulative impacts to the environment from revision of TCM's permit allowing for the powerline crossing the Centralia Mine permit area, referred to hereafter as the project (Figures 1-1 and 1-2 in Appendix A).

The EA review has been conducted in accordance with the National Environmental Policy Act (NEPA) and with the Council on Environmental Quality (CEQ) regulations for implementing NEPA (40 CFR 1500-1508); the Department of the Interior's (DOI's) regulations for implementation of NEPA (43 CFR 46); the DOI's Departmental Manual Part 516; and OSMRE's Directive REG-1, *Handbook on Procedures for Implementing the National Environmental Policy Act* (OSMRE 1989). This EA incorporates prior analysis included in the *Skookumchuck Wind Energy Project Environmental Impact Statement* (Skookumchuck 2019), prepared in accordance with the State Environmental Policy Act (SEPA) by Lewis County, Washington, and the *U.S. Fish and Wildlife Service Proposed Habitat Conservation Plan and Incidental Take Permit for Marbled Murrelet, Bald Eagle, and Golden Eagle in Lewis and Thurston Counties, Washington*, which analyzed the potential impacts of the Skookumchuck Wind Energy Project.[1] A NEPA EIS is also being prepared in support of the USFWS Habitat Conservation Plan and Incidental Take Permit. This EA only addresses the impacts of the proposed minor permit revision that would allow for the powerline corridor through the Centralia Mine permit area.

[1] The SEPA EIS is available online at: https://lewiscountywa.gov/skookumchuck-wind-energy-project. The NEPA DEIS is available online at: https://www.fws.gov/wafwo/documents/SWEP/Final_SWEP_DEIS_20181109_508Compliant.pdf

NEPA requires federal agencies to disclose to the public the potential environmental impacts of projects they authorize and to make a determination as to whether the analyzed actions would "significantly" affect the environment. The term "significantly" is defined in 40 CFR 1508.27. If OSMRE determines, based on the analysis in the EA, that the proposed minor permit revision would have significant impacts, an environmental impact statement (EIS) would be prepared for the proposed minor permit revision. If OSMRE determines that the potential impacts would not be significant, OSMRE would prepare a Finding of No Significant Impact (FONSI) to document this finding, and, accordingly, would not prepare an EIS.

1.2 Purpose and Need

In September 2018 TCM entered into an easement agreement with Skookumchuck Wind Energy Project, LLC, which would allow a 150-foot-wide powerline corridor easement and access for construction and maintenance within the Centralia Mine. As such, the need for the minor permit revision is to allow Skookumchuck Wind Energy Project, LLC, to exercise their rights under the easement agreement to construct the powerline through the mine permit area. The purpose of the Proposed Action, described in detail in Section 2.2, is to respond to the proposed minor permit revision from TCM to change the use of approximately 81 acres within the Centralia Mine permit area to allow the powerline corridor easement. The powerline easement is needed to connect the Skookumchuck Wind Energy Project to the Tono substation west of the Centralia Mine. If approved, the minor permit revision would allow a land use change to support the powerline corridor within the Centralia Mine permit area. As the regulatory authority for Washington State, OSMRE's responsibility is to analyze potential impact results from the powerline corridor and to administer Federal Mine Permit No. WA-0001E as established under the Surface Mining Control and Reclamation Act of 1977 (SMCRA) and NEPA.

1.3 Existing Reclamation Permit Activities

Under OSMRE Permit No. WA-0001E, TCM is reclaiming 7,158 disturbed acres to the following pre-mine land uses: upland forestry, lowland forestry (wetland/fish and wildlife habitat), and pastureland. TCM has also developed plans for two additional land use categories: permanent impoundments of water (fish and wildlife habitat) and industrial. In general, all areas disturbed by mining-related activities would be reclaimed to a productive land use while environmental values, including surface and ground water, soils, vegetation, wildlife, and air quality, would be maintained or returned to productive states. The long-term appearance and usefulness of the permit area would be enhanced or at least equivalent to that which existed prior to mining.

1.4 Regulatory Framework and Necessary Authorizations

The following key laws, as amended, establish the primary authorities, responsibilities, and requirements for developing federal coal resources:

- National Environmental Policy Act of 1969 (NEPA)
- Surface Mining Control and Reclamation Act of 1977 (SMCRA)
- Endangered Species Act of 1973 (ESA)
- Clean Air Act, as amended (CAA)
- Safe Drinking Water Act, as amended (SDWA)
- National Historic Preservation Act, as amended (NHPA)
- Migratory Bird Treaty Act of 1918, as amended (MBTA)

In addition, this EA follows guidance in DOI 516 DM (DOI 2004), which, as outlined in 43 CFR Part 46 (GPO 2011), is the DOI manual guiding the implementation of the NEPA process.

1.5 Public Involvement

A robust public involvement process, including scoping, was conducted part of the SEPA and NEPA environmental review for the Skookumchuck Wind Energy Project (Section 1.5.1); OSMRE is using outreach from those environmental documents to inform this EA.

As required under NEPA, OSMRE solicited public comments on the EA. OSMRE published a public notice in *The Chronicle* newspaper, published a public notice on OSMRE's electronic bulletin board, and sent outreach letters to adjacent property owners, stakeholders, and Tribes. OSMRE requested comments within the 30-day public comment period. The mailing list can be found in Appendix C. Three letters were received from the Cowlitz Indian Tribe, Washington Department of Ecology, and Washington Department of Ecology – Water Quality Program. Within the three letters there were eleven individual comments. Appendix F includes the comments received and OSMRE's responses to the comments. .

1.5.1 Summary of Previous Public Involvement

SEPA Review

The SEPA environmental review process for the Skookumchuck Wind Energy Project required the evaluation of probable significant adverse impacts, which required the preparation of a draft and final environmental impact statement (DEIS and FEIS, respectively).

Between May 1 and May 31, 2018, Lewis County conducted a public scoping process to solicit input from the public on the issues that should be addressed in the environmental review. Nineteen comment letters were received and considered from the public, state and local agencies, and tribes. In addition, one person presented oral comments at the public scoping meeting held on May 9, 2018.

On October 30, 2018, the DEIS was issued with public notice of availability and the comment period appearing in local newspapers. Notice of its availability was also mailed to all adjacent property owners and those who submitted scoping comments and requested notice. Copies of the DEIS were sent to all agencies with jurisdiction and the following tribes: Nisqually Indian Tribe, Squaxin Island Tribe, Chehalis Tribe, Cowlitz Tribe, Steilacoom Tribe, and the Quinault Indian Nation. A copy of the DEIS was also made available on the Lewis County website. The DEIS comment period closed on November 29, 2018. The FEIS was issued on February 21, 2019.

In addition to the SEPA-related public processes described above, Lewis County made the Skookumchuck Wind Energy Project, LLC application and the DEIS and FEIS available for public review at the Lewis County Planning Department.

NEPA Review

USFWS issued a Notice of Intent (NOI) on May 3, 2018, to announce preparation of a Draft EIS and to solicit public comments on the scope of the NEPA Draft EIS. The Draft EIS evaluates the issuance of a Habitat Conservation Plan and Incidental Take Permit. The public scoping process and comment period was held between May 7 and June 4, 2018. Seventeen comment letters were received from federal and state agencies, non-governmental organizations, and the public during this period. USFWS conducted outreach to agencies, tribes, and organizations.

The NEPA Draft EIS was published in the Federal Register for public review on November 30, 2018 in accordance with requirements set forth in the NEPA (42 USC 4321 et seq.) and its implementing regulations (40 CFR 1500–1508). Public comments were accepted for a 45-day period following publication of the Federal Register Notice of Availability. Two public information meetings were held during the comment period. The NEPA Final EIS was issued on May 16, 2019.

2 PROPOSED ACTION AND ALTERNATIVES

2.1 Introduction

Under NEPA requirements, an agency must evaluate the environmental impacts of a reasonable range of alternatives. The DOI's NEPA-implementing regulations define reasonable alternatives as those that are "technically and economically practicable or feasible and meet the purpose and need of the proposed action" (43 CFR 46.420). Because of the nature of this action, this EA considers a Proposed Action and No Action Alternative. Both are considered and analyzed in detail in this EA. This section provides information on the existing reclamation activities at the Centralia Mine and how those activities may change if a revised permit is issued.

2.2 Proposed Action

Ongoing surface mining and reclamation operations have been conducted at the Centralia Mine site since 1967, prior to the passage of the SMCRA. The reclamation plan outlined in this section has been developed to be fully compliant with SMCRA and other applicable legislation. Under the proposed action, OSMRE would issue a minor permit revision to the existing reclamation permit (Permit No. WA-0001E).

The minor permit revision would change the use of approximately 81 acres within the Centralia Mine permit area to allow a 150-foot-wide powerline corridor through the permit area for the Skookumchuck Wind Energy Project. If the minor permit revision is approved, the powerline would transect approximately 4.4 miles of the mine permit area with a temporary and permanent impact in the area of the easement (approximately 81 acres). Temporary impacts consists of temporary access roads (approximately 0.85 miles), vegetation removal along the powerline corridor, and the 25-square-foot area required for pole installation. Permanent impacts include pole footprints (approximately 10 square feet per pole), vegetation management within the easement, and permanent access roads (approximately 0.99 acres).

The easement would cross 53.5 acres of land that has been previously disturbed by mining and 27.2 acres of undisturbed land. Approximately 2 acres of the easement crosses the northern edge of the Limited Purpose Landfill, which is an industrial land use area. This landfill is under the jurisdiction of Lewis County, Washington State Department of Ecology, and the US Environmental Protection Agency.

Powerline poles within the mine permit boundary would consist of approximately 36 monopoles or H-frame structures, not exceeding 110 feet in height (see Figure 2-1 in Appendix A). The exact placement of the poles has not been determined; however, each location would require geotechnical borings for foundation design prior to local permitting and construction.

2.2.1 Construction

Construction access to the powerline alignment would be provided using existing private roads where available. In locations without existing road access, approximately 0.85 mile of temporary dirt access roads would be established for installation of the powerline poles and overhead lines, avoiding streams or other waterbodies if present. Construction laydown areas would be located outside of the TCM permit boundary. However, equipment used during installation of poles at each location may remain at the pole site within the easement area. Generally, work at each pole

location would be complete within one work day. After construction, a 150-foot-wide cleared corridor would be required for vegetation clearance required for transmission lines and access during operations. Within the 150-foot-wide corridor, an approximately 16- to 20-foot-wide, two-track dirt road would be maintained for access to conduct inspection and maintenance activities.

The construction sequence for the powerline would include the following activities:

- ***Access.*** Constructing new access roads, if necessary.
- ***Establishing a 150-foot construction right-of-way for the powerline.*** Vegetation within the right-of-way would be cleared and ground surface levelled to allow access of construction equipment except at wetlands or waterbodies, including stream crossings, where no roads would be built. Temporary stormwater control best management practices (BMPs) would be utilized, including silt fences and straw wattles.
- ***Siting and Construction of Poles.*** Poles would be sited and constructed within the powerline corridor right-of-way.
- ***Stringing conductors/static wires.*** Conductor stringing involves a sequence of running pilot lines through pre-positioned pulleys located on each pole. A truck-mounted, spooled conductor would be positioned at the beginning of the segment to be strung. Take-up spools, also truck mounted, would be located at the end of the segment to be installed. Pilot lines would be pulled through with tension maintained and the conductors follow and left in position on the poles. Installation would be completed by connecting the conductors to the individual insulators, while adjusting the conductors' sag between poles to predetermined dimensions. In some locations, static wires also would be installed for protection of the powerline. The static wires would be installed in a manner similar to the conductors. The conductor stringing operation primarily involves the movement of wheeled vehicles along the access road.
- ***Restoration.*** Following construction all residual construction debris would be removed and disturbed areas would be restored or revegetated where appropriate.

2.2.2 Operations and Maintenance

The powerline would have an initial inspection after construction is complete and an annual inspection program would be put in place. Access roads would be maintained as needed; this work may occur once or twice per year over the life of the project.

Once construction and testing of the powerline is complete, Skookumchuck Wind Energy Project, LLC, would initiate long-term operation and maintenance of the project. The change in land use requested in the minor permit revision for the powerline easement would be for the 30-year service life of the Skookumchuck Wind Energy Project.

2.2.3 Decommissioning and Reclamation

At the end of the planned 30-year life, the powerline and supporting poles would be disconnected and removed from the project area. Skookumchuck Wind Energy Project, LLC, would prepare and submit a decommissioning plan for TCM's approval. Once approved by TCM, decommissioning of the powerline facilities would commence in accordance with the approved

plan, which at a minimum shall include the removal of all poles, the removal of all other above-grade facilities to not less than 3 feet below-grade or as otherwise required by any applicable governmental authority and applicable laws. TCM would still be responsible for reclaiming all areas disturbed by mining related activities to a productive land use while environmental values including surface and ground water, soils, vegetation, wildlife, and air quality would be maintained or returned to productive states for the Centralia Mine.

2.3 No Action Alternative

The No Action Alternative would deny the application for the minor permit revision of OSMRE Permit No. WA-0001E. Under this alternative, there would be no change of use for the 81 acres of the Centralia Mine and the powerline corridor would not be constructed within the permit boundary. TCM would continue reclamation activities in accordance with their current permit.

3 AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

This chapter discusses the existing conditions of the environment that would be affected by the implementation of the alternatives described in Chapter 2 as they relate to the approval or disapproval of the minor permit revision. For each element or resource analyzed in this EA, a study area is identified as an area that encompasses potential direct and indirect impacts that may affect the resource. Best Management Practices (BMPs) listed for each resource are voluntary from Skookumchuck Wind Energy Project, LLC to minimize potential impacts of the project and would not be imposed to reduce significant impacts by the Agency.

This EA incorporates prior analysis included in the *Skookumchuck Wind Energy Project Environmental Impact Statement* (Skookumchuck 2019), prepared in accordance with the State Environmental Policy Act (SEPA) by Lewis County, Washington and the *U.S. Fish and Wildlife Service Proposed Habitat Conservation Plan and Incidental Take Permit for Marbled Murrelet, Bald Eagle, and Golden Eagle in Lewis and Thurston Counties, Washington*, which analyzed the potential impacts of the Skookumchuck Wind Energy Project.[1]

The term "project area" is used to reference the approximately 81-acre powerline corridor. This chapter also discusses the potential impacts of the alternatives.

An impact, or effect, is defined as a modification to the environment brought about by an outside action. Impacts vary in significance from no change, or only slightly discernible change, to a full modification or elimination of the resource. Impacts can be beneficial (positive) or adverse (negative). Impacts are described by their level of significance (i.e., significant, moderate, minor, negligible, or no impact). For purposes of discussion and to enable use of a common scale for all resources, resource specialists considered the following impact levels in qualitative terms.

Significant Impact: Impacts that potentially could cause irretrievable loss of a resource; significant depletion, change, or stress to resources; or stress within the social, cultural, and economic realm.

Moderate Impact: Impacts that potentially could cause some change or stress to an environmental resource but the impact levels are not considered significant.

Minor Impact: Impacts that potentially could be detectable but slight.

Negligible Impact: Impacts in the lower limit of detection that potentially could cause an insignificant change or stress to an environmental resource or use.

No Impact: No discernible or measurable impacts.

Direct impacts are defined as those impacts which are caused by the action and occur at the same time and place (40 CFR 1508.8(a)). Indirect impacts are those that are caused by the action and occur later in time or are farther removed in distance, but are still reasonably foreseeable (40 CFR 1508.8(b)). Cumulative impacts are those impacts that result from incremental effects of an action when added to other past and present actions, and reasonably foreseeable future actions

[1] The SEPA EIS is available online at: https://lewiscountywa.gov/skookumchuck-wind-energy-project.

regardless of what agency or other entity undertakes such other actions (40 CFR 1508.7). Cumulative impacts occur over a given time period. The time period for cumulative effects includes the time period when the impacts of past and present actions and reasonably foreseeable future actions overlap with the time period when project impacts would occur (including construction, operation, and reclamation phases).

Impacts can be short term meaning these impacts generally occur over a short period during a specific point in the construction or operation process and these changes generally revert to pre-disturbance conditions at or within a few years after the ground disturbance has taken place. Long-term impacts are defined as those that substantially would remain beyond short-term ground-disturbing activities. Long-term impacts would generally last the life of the minor permit revision approval and beyond.

Cumulative effects are discussed in Chapter 4.

3.1 Earth Resources

The study area for earth resources are areas in close proximity to the powerline corridor (i.e., within 200 feet to either side of the corridor). This study area was chosen because it comprised the area of potential effect of the minor permit modification on soils as well as geological hazards that could affect the proposed powerline.

3.1.1 Affected Environment

3.1.1.1 *Geology*

The project area lies within Lewis County, Washington, approximately 20 miles southeast of Olympia, Washington. The project area is located within the Puget Lowland and South Cascades geologic provinces (DNR 2017a). A review of geologic maps of the project area indicate that the area is underlain by upper Eocene volcanic rocks and marine sedimentary rocks, and Quaternary alluvium, glacial deposits, and mass-wasting deposits (DNR 2017b).

3.1.1.2 *Soils*

The easement crosses 53.5 acres of land that has been previously disturbed by mining and 27.2 acres of undisturbed land. Soils within the project area consist mostly of loams. Loams are soils composed of a mixture of clay, silt, and sand particles exhibiting the properties of those separates in approximately equal proportions (USDA 2017). Modifiers are used to describe soils where a particular particle size is dominant (e.g., silt loam). The project area also contains small amounts of gravelly loam. However, reclaimed soils used for growth medium are typically a combination of unconsolidated suitable topsoil material and/or topsoil removed from the site pre-mining. For example, a suitable growing medium totaling 48-inches comprised of suitable topsoil substitute material and/or salvaged topsoil is placed during final reclamation. The following soil types were mapped (pre-mining) within the TCM project area corridor by the NRCS (2019):

- Centralia loam (8 to 15 percent slopes, and 15 to 30 percent slopes)
- Buckpeak silt loam (30 to 65 percent slopes)
- Melbourne loam (8 to 30 percent slopes)
- Schneider very gravelly silt loam (30 to 60 percent slopes)

- Reed silty clay loam
- Xerorthents, spoils
- Galvin Silt load (8 to 15%)
- Galvin Silt load (0 to 8%)

3.1.1.3 *Geologic Hazards*

Erosion

According to the Natural Resources Conservation Service (NRCS) soils data, Buckpeak silt loam (30 to 65 percent slopes) and Schneiger series consisting of gravelly silt loam (30 to 60 percent slopes), which are mapped within the project area, are considered severe erosion hazard areas.

Seismic Hazard

Seismic hazards include earthquake-induced ground shaking, soil liquefaction, and tsunamis. Soil liquefaction occurs when the shaking of a strong earthquake causes soil to rapidly lose its strength and behave like quicksand. One known northwest-southeast trending fault crosses the project area just west of Hanaford Creek, and several known faults are mapped adjacent to the project area, including five northwest-southeast or east-west trending faults approximately one to two miles south of the powerline corridor (PNSN 2017). Figure 3-1 in Appendix A shows the location of faults mapped adjacent to the project area and liquefaction susceptibility.

Landslide Hazard

A review of DNR mapping of landslide certainty did not indicate landslide hazards near the powerline easement.

Volcanic Hazard

Volcanic hazards in Lewis County are imposed by the two nearby volcanic peaks, Mount St. Helens and Mount Rainier, which lie sufficiently far from Lewis County that risks of lava flows, pyroclastic flows, and volcanic ashfall deposits are minimal.

Mine Hazard

The project is located within the TCM permit boundary. However, mining operations ceased in 2006, and the area is undergoing reclamation.

3.1.2 Effects of the Proposed Action

3.1.2.1 *Construction*

Geology and Soils

Construction would result in minor impacts to the surface geology, topography, and soils. Soil removal, grading, and clearing necessary to complete construction of permanent facilities would cause permanent alterations. The project would alter approximately 81 acres of ground surface during both construction of the project.

Erosion Hazard

As identified above, some of the soils in the area have the potential for erosion. Clearing of vegetation and soil disturbance would expose soils to erosion by water and wind. Minor impacts associated with ground disturbance would occur mostly during and immediately after construction until revegetation, drainage, and erosion controls are established.

Seismic Hazard

There is the potential for earthquakes in the study area; however, the project would not affect the likelihood of an earthquake occurring. Surface rupture occurs when a fault breaks to the land surface during an earthquake and are usually associated with moderate to large earthquakes (6.5 magnitude or greater) or rarely during smaller, very shallow events. Earthquakes can also cause ground acceleration, which in turn can impact the stability of structures and natural slopes (Nofal 2018). Because there is only one mapped fault that crosses the powerline corridor, the potential for primary surface rupture is small and the impact on the project negligible.

Volcanic Hazard

Minor impacts from ashfall could include ash accumulation on the powerline and poles and cause a disruption of transportation routes. No impacts are anticipated from a lahar[2] due to a volcanic eruption.

Mine Hazard

The project is located within the TCM permit boundary. However, mining operations ceased in 2006 and the area is undergoing reclamation. Construction effects associated with reclamation activities are discussed in Section 3.5, Health and Safety.

3.1.2.2 *Operation*

Operation and maintenance activities could increase erosion potential in the project area. Maintenance would involve vehicles and equipment traveling on graveled access roads. However, anticipated erosion rates are expected to remain at or near current levels once site revegetation or stabilization has occurred.

Soils and Geology

No grading or regrading is planned during operation; therefore, surface geology and topography would not be affected in the project area.

Erosion Hazard

No additional ground disturbance would occur during operation of the powerline; therefore, erosion would not occur.

[2] A lahar is a hot or cold mixture of water and rock fragments that flows quickly down the slopes of a volcano.

Seismic Hazard

There is the potential for earthquakes in the study area; however, the operation of project would not affect the likelihood of an earthquake occurring. If an earthquake did occur in the project area, there would be the potential for damage to the constructed project components, especially the portion that would pass through an area classified as having moderate to high liquefaction susceptibility.

Mine Hazard

The project is located within the TCM permit boundary. However, mining operations ceased in 2006 and the area is undergoing reclamation. Operational effects associated with reclamation activities are discussed in Section 3.5, Health and Safety.

3.1.2.3 *Decommissioning*

Decommissioning activities would be similar to those anticipated for the construction phase. Slopes would be regraded to restore them to their original or other usable grade, as reasonably possible.

3.1.3 Effects of the No Action Alternative

The No Action Alternative would deny the application for the minor permit revision of OSMRE Permit No. WA-0001E. Under this alternative, there would be no change of use for the 81 acres of the Centralia Mine and the powerline corridor would not be constructed within the permit boundary. Reclamation activities would continue within the mine permit boundary, and the risks of geologic hazards in the study area would remain unchanged. TCM would follow provisions for post-mine topography, soil salvage, and replacement as set forth in their Reclamation Plan.

3.1.4 Best Management Practices

Best management practices (BMPs) proposed for construction will reduce soil disturbance and erosion and reduce the potential for impacts associated with geologic hazards. Approximately 25 square feet of disturbance is required for pole installation. Pole locations will be drilled and soil piles will be used to regrade the site of each pole location following installation. General BMPs will include:

- Vegetation removal will be limited to the extent possible during construction, which will preserve vegetation cover to shield the soils from the elements, slowing runoff velocity, increasing infiltration time, and holding soils in place.
- Clearing and grading will not be conducted during the wet season unless adequate provisions for wet season erosion have been identified and implemented.
    - A Construction Stormwater Pollution Prevention Plan (SWPPP) will be implemented. The SWPPP will include measures for temporary erosion and sediment control and will identify a regular inspection and maintenance schedule for all erosion control features and will be implemented at the beginning of construction. Measures will include, but are not limited to, installation of a stabilized construction entrance, wheel wash, silt fences, seeding, mulching, and dust control. Additional erosion control supplies, including sandbags and channel-lining materials, may be stored onsite for emergency use.

Construction areas will be monitored for erosion on a weekly basis and after large rainfall events, and corrective action taken as needed. Soil stockpiles will be stabilized and protected from erosion. Soils will also be stabilized before a holiday or weekend if needed based upon forecasts of precipitation. Temporary erosion control measures will be maintained until vegetation is reestablished and/or permanent erosion control measures are put in place.

- Heavy equipment and vehicles will only be operated on access roads and within approved construction footprints. Off-road construction will be limited to the extent feasible during wet conditions.
- A geotechnical engineer licensed in Washington State will be retained to review and approve all grading, erosion, and drainage control plans prior to construction to assist in reducing liquefaction risks from and to the project.

3.2 Water Resources

The study area for water resources are areas in close proximity to the powerline corridor (i.e., within 200 feet to either side). This study area was chosen because it comprised the area of potential effect of the project on water resources.

3.2.1 Affected Environment

3.2.1.1 *Surface Water Resources*

The area affected by a modification to the mine permit is located within Hydrologic Unit Code (HUC) 17100103 Upper Chehalis. The area is located within Water Resources Inventory Area (WRIA) 23 Upper Chehalis (Ecology 2019a). Based on review of DNR hydrology data, there are 38 mapped streams that occur within the study area, including named and unnamed streams (note that these have not all be field-verified). Surface water resources are shown on Figure 3-2 in Appendix A.

3.2.1.2 *Water Quality*

No 303(d) listed streams are within or adjacent to the study area in WRIA 23 Upper Chehalis (Ecology 2019b). In general, removal of trees and other vegetation along much of the upper Chehalis River, outside of the study area, has reduced shading, contributing to high dry-season temperatures.

3.2.1.3 *Groundwater Resources*

Review of Washington State Department of Ecology's (Ecology's) well report shows approximately 19 wells within the same Township/Range/Sections as the project area. This includes 13 resource protection wells (such as monitoring wells and observation wells) and 6 multiple well types (Ecology 2019c). No public water supplies occur within the study area. Depth to groundwater is between approximately 4 feet to 58 feet at monitoring wells associated with the Limited Purpose Landfill (LPLF) (CH2M 2019).

Critical aquifer recharge areas (CARAs) are mapped by each county and include areas with a critical recharging effect (rain or snowmelt that infiltrates soil) on aquifers used for potable (drinking) water. Aquifer recharge areas range from Class I – Severe to Class III – Slight; the

study area primarily occurs within slight and moderate (Category II and III) CARAs and does not occur within any severe Category I CARAs. CARAs are shown on Figure 3-3 in Appendix A.

3.2.1.4 *Wetlands*

The powerline corridor traverses mapped riparian vegetation communities, and emergent, scrub-shrub, and forested wetlands. Based on a desktop analysis and field inventory, wetlands were inventoried and mapped per Lewis County, Ecology, and the NWI, documenting approximately 5 wetlands within 200 feet of the powerline.

3.2.1.5 *Floodplains*

Several short sections of the powerline corridor cross or run adjacent to the 100-year floodplain of Packwood Creek and other unnamed streams; however, no poles would be placed within the floodplain. Figure 3-4 in Appendix A shows flood hazard areas for the project area.

3.2.2 Effects of the Proposed Action

3.2.2.1 *Construction*

Surface Water

Construction of the project would result in minor impacts to surface waters. All construction activities would avoid work within streams, and no surface waters would be filled as a result of project construction. The powerline corridor would aerially cross Packwood Creek.

Construction of the powerline would require vegetation clearing along the easement in order to ensure safe operation of the line. Only emergent grasses and low-growing shrubs would be allowed to regrow within the easement. This is required as a safety precaution because any downed trees have the potential to interfere with an active transmission line, with the potential of attendant fire risk. With the exception of vegetation clearing, construction work in the vicinity of these streams would be limited to construction vehicles accessing the creek's shoreline area in order to aerially string the powerline across, most likely using a line gun. New powerline poles would be placed outside of the regulated streams and stream buffers, as well as more than 200-feet from Packwood Creek.

The project powerline has been designed and sited to avoid wetland impacts; however, if impacts cannot be avoided, a USACE Section 404 Nationwide Permit and Ecology Section 401 water quality certification may be required.

Water Quality

Impacts to water quality as a result of project construction activities is expected to be minor since vegetation removal would not occur within stream buffers, except for minimal removal near Packwood Creek to allow for safe operation of the powerline. Construction impacts could degrade water quality if erosion and subsequent stream sedimentation are not appropriately controlled.

Potential water pollutants that would be used and transported onsite include diesel fuels and gasoline, lubricating and mineral oils, and chemical cleaners. Leaks or spills resulting from the

transportation, storage, or use of fuel or chemicals during construction activities could occur and may affect water quality, depending on the size of the spill/leak and proximity to surface waters. These impacts would be minimized by adherence to the BMPs listed in Section 3.2.4.

Groundwater

No impacts to regional groundwater availability are anticipated from construction. During construction, water for project activities would be supplied by the City of Yelm, in Thurston County. The City has indicated that they have the appropriate water rights and adequate supply to meet the project's requirements without affecting other users (Bedlington 2017).

Groundwater may be encountered during project excavation activities conducted in low-lying areas but likely would not be in sufficient quantities to affect surface resources (such as by causing erosion or increased runoff). If groundwater is encountered during excavation and construction activities and dewatering is required, the water generated from dewatering would be discharged to upland areas through a hose, allowing distribution of the water over a large surface area to facilitate evaporation and/or infiltration. In addition, dissipaters, sediment basins, and/or fabric bags would be used, if necessary, to avoid transport of silt into adjacent areas. No direct discharge to surface waters or riparian areas would occur during dewatering; upland discharge would be done away from surface waterbodies. No wellhead protection areas or source water protection areas would be affected during construction of the project.

Minor impacts to groundwater quality could result from infiltration of stormwater runoff. Groundwater quality degradation could also result from fuel or chemical spills during construction activities.

3.2.2.2 *Operations*

Minor impacts to surface water, water quality, or groundwater are anticipated from the project. Approximately 81 acres would be permanently impacted from the poles, vegetation maintenance, and permanent access roads. Some of this permanently disturbed area would include impervious surfaces such as compacted gravel. Impervious surfaces repel water and prevent precipitation from infiltrating soils. These areas are surrounded by pervious surfaces, including gravel and vegetated/forested lands, which generally allow for stormwater to infiltrate but could experience altered patterns of infiltration or stormwater runoff as a result of permanent vegetation clearing or grade changes. The creation of preferential pathways for stormwater flows by access roads would be minimized through the use of existing roads and BMPs for most of the project's access routes. Thus, the project would generate little stormwater runoff, and the runoff that is generated is anticipated to infiltrate naturally into adjacent areas.

Operation of the project would have negligible or no impacts to groundwater. The primary operational impact of concern is the potential of an accidental release of toxic materials to the environment (such as a vehicle fuel spill). However, considering the small volume of hazardous materials which may be present during operations, the risk of contamination is very low.

No groundwater withdrawals would occur for the project and the amount of new impervious surface created is minor, and risk of spills/contamination is low; therefore, impacts to designated CARAs are negligible.

Project operation would not require water use. Therefore, no effects to public or domestic water supplies are anticipated.

3.2.2.3 *Decommissioning*

Decommissioning activities would be similar in type to those anticipated during construction. Water would be used primarily for dust suppression. Surface water runoff and erosion would be the impact of greatest concern during decommissioning when soil is disturbed.

3.2.3 Effects of the No Action Alternative

The No Action Alternative would deny the application for the minor permit revision of OSMRE Permit No. WA-0001E. Under this alternative, there would be no change of land use for the 81 acres of the Centralia Mine and the power line corridor would not be constructed within the permit boundary. TCM would follow provisions for hydrologic reclamation and stream reconstruction as set forth in their Reclamation Plan.

3.2.4 Best Management Practices

Erosion and sediment control will be standard practice during the construction, restoration, and cleanup stages of the construction process, along with decommissioning.

Stormwater pollutants will be managed by effective source control. All pollutants, including waste materials and demolition debris, will be handled and disposed of in a manner that does not result in contamination of stormwater. Potential water pollutants that will be used and transported onsite (including fuels) will be handled and stored according to the SWPPP and the Spill Prevention, Control and Countermeasure Plan (SPCC Plan). Maintenance, fueling, and repair of heavy equipment and vehicles will be conducted using spill prevention and control measures. Onsite fueling tanks will include secondary containment. Fuel tank and truck storage as well as vehicle fueling will be at least 100 feet from all streams, dry or flowing.

3.3 Biological Resources

The study area to analyze vegetation for the project is within 200 feet to either side of the powerline corridor. The study area used to determine the initial potential for wildlife species occurrence is a 5-mile buffer from the powerline easement.

3.3.1 Affected Environment

The project area is located in southwestern Washington in the Puget Lowland. The project area generally occurs within the Cascades Ecological Region (Tier III ecoregion), which stretches from the central portion of western Washington and south through the Cascade Range of Oregon, and includes a disjunct area around Mt. Shasta in northern California (USEPA 2013) ecoregions. Vegetation within the ecoregion is characterized by highly productive coniferous forests with Douglas fir (*Pseudotsuga menziesii*), western hemlock (*Tsuga heterophylla*, western red cedar (*Thuja plicata*), big leaf maple (*Acer macrophyllum*), and red alder (*Alnus rubra*) at lower elevations. Managed forests, development, and agriculture have substantially changed the historic vegetation in this ecoregion.

The climate is influenced by the proximity of the project area to the Puget Sound, Pacific Ocean, and Cascade Mountains, producing seasonally frequent fog and drizzle and high annual precipitation averaging 46.5 inches, mainly during winter months. Summer months are relatively dry. Topography in the region ranges from relatively flat riverine floodplain valleys to steep, mountainous terrain.

3.3.1.1 *Vegetation*

The following major land cover categories were identified within 200 feet of the powerline in the National Land Cover Database (NLCD) (Figure 3-5 in Appendix A) (MRLC 2019): Barren Land (Rock/ Sand/ Clay), Developed, Emergent Herbaceous Wetlands, Evergreen Forest, Grassland/Herbaceous, Mixed Forest, Open Water, Shrub/Scrub, and Woody Wetlands.

None of the habitats mapped within the study area occur on the Washington Department of Fish and Wildlife (WDFW) Priority Habitat and Species (PHS) list (WDFW 2019a), with the exception of riparian areas that are defined as the "…area adjacent to flowing or standing freshwater aquatic systems" (WDFW 2008).

3.3.1.2 *Special Status Plant Species*

OSMRE conducted a U.S. Department of Fish and Wildlife (USFWS) Information for Planning and Consultation (IPaC) search for federally-listed species with potential to occur within the project area on March 6, 2019 (Consultation Code: 01EWFW00-2019-SLI-0645) (Appendix D). Three federally-listed threatened plant species have the potential to occur within the vegetation study area: Golden paintbrush (*Castilleja levisecta*), Kincaid's lupine (*Lupinus sulphureus ssp. kincaidii*) and Nelson's Check-Mallow *(Sidalcea nelsoniana).* Due to the ongoing reclamation operations at the project site, the presence of special status species is not expected.

3.3.1.3 *Wildlife*

Birds

The area affected by the project is located in the Pacific flyway, one of the main north-south migratory routes utilized by a variety of bird species. The Pacific flyway extends from the arctic regions of Alaska and Canada to South America and is bounded on the west by the Pacific Ocean. The study area is approximately 30 miles from Puget Sound at Olympia where numerous shorebirds and waterfowl stop over during migration and winter (Page et al. 1999).

Baseline avian use surveys were completed in 2014 and 2015 in support of the Skookumchuck Wind Energy Project EIS. In general, bird use of the project area (i.e., species diversity and number of birds observed) is typical for the geographic region and habitat local to the project. Passerines were the most abundant species group, followed by raptors and woodpeckers.

The following bird species of special status were observed within the overall Skookumchuck Wind Energy Project area, not necessarily within the powerline corridor, during the surveys: bald eagle (*Haliaeetus leucocephalus*; federal species of concern, state sensitive species); peregrine falcon (*Falco peregrinus*; federal species of concern, state sensitive species); pileated woodpecker (*Dryocopus pileatus*; state candidate); and Vaux's swift (*Chaetura vauxi*; state candidate). A single Northern goshawk (*Accipiter gentilis*; state candidate, federal species of concern) was observed outside of the project area.

Bats

Eleven species of bats are known to occur in the Washington Coast Range. Of these, the long-legged myotis (*M. volans*) is listed as a state-monitor species by WDFW (WDFW 2017b).

Mammals

The project is located within habitats designated by WDFW as winter range for the South Rainier herd of Roosevelt elk (*Cervus elaphus roosevelti*), a hunted game species in Washington (WDFW 2017a) (Figure 3-6 in Appendix A). Ideal elk habitat includes productive grasslands, meadows, or clearcut, interspersed with closed-canopy forests. The current population of the South Rainier elk herd is estimated to be 1,700 animals, and the population range objective is 2,500 animals in Washington (WDFW 2002). State conservation plans specifically seek to maintain the current amount of elk winter range along the Hanaford Creek area.

Several species of large and medium-sized mammals may also occur within the biological resources study area including mountain lion (*Puma concolor*), bobcat (*Felis rufus*), black-tailed deer (*Odocoileus hemionus columbianus*), black bear (*Ursus americanus*), coyote (*Canis latrans*), and raccoon (*Procyon lotor*). Smaller mammalian species include a variety of mice and shrews and tree and flying squirrels.

Fish

Unnamed stream 1228292467503 and Packwood Creek in the project area have documented presence of the Coho salmon (*Oncorhynchus kisutch*), winter steelhead (*O. mykiss*), and resident coastal cutthroat (*O. clarki*). Rainbow trout (*O. mykiss*) are presumed to be present in the project area (WDFW 2019b). However, Packwood Creek within the permit boundary has been disturbed by historic mining operations and reclamation activities. Therefore, this portion of Packwood Creek is not considered suitable fish habitat for the Coho Salmon. Anadromous Fish Habitat is shown on Figure 3-7 in Appendix A. The National Marine Fisheries Service designates the area within the permit boundary as Essential Fish Habitat.

Reptiles and Amphibians

Several species of amphibians have been documented in stream surveys adjacent to the project area (WDFW 2017a), such as the Cascade torrent salamander (*Rhyacotriton cascadae*), Cope's giant salamander (*Dicamptodon copei*), Columbia torrent salamander (*Rhyacotriton kezeri*), Van Dyke's salamander (*Plethodon vandykei*), Dunn's salamander (*Plethodon dunni*), tailed frog (*Ascaphus truei*), and the Western toad (*Anaxyrus boreas*). The Oregon spotted frog, a Washington State special status species, is discussed in the section below and is not anticipated within the area affected by the project.

Special Status Species

OSMRE conducted a USFWS IPaC search for federally-listed species with potential to occur within the project area on March 6, 2019 and the WDFW species of concern (Consultation Code: 01EWFW00-2019-SLI-0645) (Appendix D). Special status wildlife species and habitats include the following:

- Federally proposed, candidate, threatened, and endangered species and critical habitat, and species that are managed by the Endangered Species Program of the USFWS.
- State Endangered, Threatened, Sensitive, and Candidate species; animal aggregations (e.g., bat colonies) considered vulnerable; and species of recreational, commercial, or tribal importance that are vulnerable.

The ESA defines critical habitat for threatened or endangered species as specific area(s) within the geographic range of a species where physical or biological features are found that are essential to the conservation of the species and which may require special management consideration or protection (USFWS 2017). Critical habitat is a specific geographic area designated by the USFWS for a particular species' recovery. Under the ESA, it is unlawful to adversely modify designated critical habitat.

Table 3-1 in Appendix B provides a list of special status wildlife species and candidates for future protection, and designated critical habitat, and assessment of their likelihood of occurring within the project area. Golden eagles and bald eagles are known to occur in the project area and are protected under the Bald and Golden Eagle Protection Act (BGEPA).

3.3.2 Effects of the Proposed Action

3.3.2.1 *Construction*

Plants

Construction of the project could cause minor impacts to vegetation communities and could facilitate the introduction and spread of noxious weeds in the area. Temporary impacts would generally occur due to clearing and related to ground disturbance for construction. No special status plant species are known to occur in the project area; therefore, no impacts from construction activities are anticipated.

Noxious and invasive plant species, in general, are aggressive, opportunistic species that often invade and have a competitive advantage over other species on disturbed sites. Ground disturbance and disturbance to intact vegetation communities could occur during construction of the project, increasing the risk of noxious weed introduction and spread. The abundance and diversity of non-native and noxious weed species tends to be highest near road edges. Movement of vehicles, such as construction and maintenance equipment, can facilitate the introduction and spread of existing and new weed species. Depending on the species, degree of invasion, and control measures implemented, negative impacts of noxious weeds can include loss of wildlife habitat, alteration of riparian functions, displacement of native plant species, and reduction in plant diversity.

Special Status Plant Species

An evaluation of the potential impacts from the proposed action support a no effect determination for the golden paintbrush, Kincaid's lupine, and Nelson's checker-mallow.

Wildlife

Construction of the project would result in minor impacts to wildlife. Less mobile wildlife species that are not able to move away from construction activities during clearing and site

preparation for the powerline and access roads could experience direct mortality. More mobile species would likely be displaced from the site during active construction; but are likely to return when construction activities cease

Birds

Construction of the project has the potential to have minor impacts to birds through the direct loss of habitat from vegetation clearing, potential fatalities from construction equipment, and displacement or disturbance from the construction area. The potential for mortality of bird species may occur when vegetation is cleared that contains bird nests with young or eggs still in the nest. There is also the potential for collision mortality as construction crews drive onsite between locations. There would be numerous equipment deliveries over the construction period, increasing the truck traffic on designated roads; however, due to heavy loads, these trucks are not expected to be moving at high speeds.

The noise and activity associated with construction crews and equipment may displace birds from the immediate area. Numerous equipment deliveries would occur over the course of construction, creating noise and dust disturbance for birds. The increased road traffic disturbance may alter bird foraging behavior or disrupt breeding birds in the area. If similar habitats are in the vicinity, however, birds would likely move to areas with less disturbance.

Bats

Given that construction activities would take place during the day when there is minimal bat activity, no construction-related direct impacts to bats are expected to occur from the project.

Mammals

Construction of the project would have a minor impact on mammals from either direct mortality from construction vehicles or loss of habitat from vegetation clearing. During the construction period, it is expected that mammals might be temporarily displaced from the site due to the presence of humans, heavy construction equipment, and associated disturbance (e.g., noise). The black-tailed deer and Roosevelt elk that occur in or near the project area may avoid areas with large machinery and human traffic. Displaced elk that have moved into areas away from construction activity disturbance would likely return to the area once construction has been completed, especially if the revegetation of disturbed areas includes plant species palatable to elk and deer. If construction is completed in the fall, wintering Roosevelt elk would not incur impacts from construction activities.

Large predators such as mountain lions and black bears, which have large home ranges, would likely avoid the construction area altogether.

Reptiles and Amphibians

Minor impacts to reptiles and amphibians from construction may occur through loss of habitat or water quality changes to streams or direct mortality from construction vehicles or ground disturbing activities in riparian areas. However, given the location of the project, impacts to reptiles and amphibians are unlikely.

Fish

Water quality and water quantity alterations are the potential sources of minor impacts to fish or aquatic habitat associated with construction of the project. Construction of the project could potentially affect fish-bearing streams through erosion and sedimentation. Sediment that is delivered to streams could carry excess nutrients and chemicals which can impair stream water quality, potentially leading to reduced dissolved oxygen levels. Reduced oxygen in streams and impaired water quality negatively impact the health of fish and aquatic species.

With the exception of vegetation clearing, construction work in the vicinity and Packwood Creek and the unnamed stream would be limited to construction vehicles accessing the creek's shoreline area in order to aerially string the powerline across, most likely using a line gun. No other activities, excavation or grading, etc. would occur. Because Packwood Creek within the permit boundary is not suitable fish habitat as a result of historic mining operations, impacts to Coho salmon are not anticipated.

Special Status Wildlife Species

An evaluation of the potential effects from the project support a no effect determination on special status species in the project area. Appendix D details the determination of effects for the project.

Other Birds

The merlin (*Falco columbarius*) and pileated woodpecker (*Dryocopus pileatus*) are state candidate species, and the western bluebird (*Sialia Mexicana*) and turkey vulture (*Cathartes aura*) are both state monitor species. Minor impacts from construction may occur to these species from project construction. Turkey vultures had the highest observed use of the study area during surveys; however, they tend to fly at high altitudes during the day and are unlikely to be disturbed by construction activities. The merlin, pileated woodpecker, and western bluebird may be disturbed by construction activities during the breeding season or are at risk of mortality due to the potential destruction of a nest with eggs or nestlings. Breeding and foraging may be affected for the period of construction.

3.3.2.2 *Operations*

Plants

Minor impacts to plants would occur from operation of the project. Vegetation, including trees, would be permanently impacted by operation of the project. Only emergent grasses and low-growing shrubs would be allowed to regrow within the powerline corridor during project operations following construction. This is required as a safety precaution because any downed trees have the potential to interfere with an active transmission line, with the potential of attendant fire risk. No impacts to special status plant species would occur.

Birds and Bats

Operation of the project would result in moderate impacts to birds and bats. Birds and bats have been identified as a group potentially at risk because of collisions with powerlines and displacement due to the presence of the associated poles (Erickson et al. 2005; Drewitt and

Langston 2006; Arnett et al. 2007; Loss et al. 2013, 2014). Potential injury or mortality rates would be similar to other transmission lines in the Pacific Northwest.

Flight diverters would be installed on the powerline to minimize collision risk according to Avian Power Line Interaction Committee (APLIC) suggested practices (APLIC 2012). Technological advancements in line-marking systems now include diverters that are visible to birds in low-light conditions. In addition, conductor-spacing requirements for newly built transmission lines reduces the chances for electrocution.

No impacts to special status bird species would occur.

Mammals

No impacts to mammals, including special status species, are expected during the operations phase, although some collision-related mortality could occur during maintenance activities.

Reptiles and Amphibians

No impacts to amphibians or reptiles are expected during the operations phase.

Fish

No direct impacts to fish or their aquatic habitat, or special status species, are anticipated as a result of operation of the project as there will be no activities conducted within areas of aquatic fish habitat or associated riparian zones.

3.3.2.3 *Decommissioning*

Decommissioning activities would result in the similar impacts to biological resources as construction activities.

3.3.3 Effects of the No Action Alternative

The No Action Alternative would deny the application for the minor permit revision of OSMRE Permit No. WA-0001E. Under this alternative, there would be no change of land use for the 81 acres of the Centralia Mine and the powerline corridor would not be constructed within the permit boundary. TCM would follow provisions for revegetation and riparian plantings as set forth in their Reclamation Plan.

3.3.4 Best Management Practices

Impacts to vegetation and wildlife during construction and decommissioning would be minimized by the implementation of BMPs required as part of the NPDES Construction Stormwater Permit, CWA Section 404 Nationwide Permit (may be required), CWA Section 401 Water Quality Certification (may be required), and Hydraulic Project Approval (HPA). In addition, a habitat conservation plan has been prepared for the Skookumchuck Wind Energy Project that establishes the methods and measures of success required to meet the conservation needs of the listed species and other covered species (marbled murrelet, golden eagle and bald eagle) potentially impacted by the project.

3.4 Energy and Natural Resources

The study area for energy and natural resources includes the powerline corridor for locally impacted resources.

3.4.1 Affected Environment

Coal mining operations ceased at the Centralia Mine in 2006. Reclamation activities are ongoing within the mine permit boundary. A 1,340-megawatt coal burning plant (Centralia Coal Plant) is located within the mine permit boundary, with coal for the plant delivered from the Powder River Basin in Wyoming and Montana. Energy generated at the plant is currently sold to Puget Sound Energy. One burner at the power plant is scheduled to go offline in 2020, with the second burner scheduled to go offline in 2025.

Lewis County Public Utility District (PUD) provides electric service to Lewis County. Bonneville Power Administration's (BPA's) 230 kilovolt (kV) Chehalis-to-Covington No. 1 line crosses the project area from the southwest to the northeast (BPA 2017).

Within the study area, the BP Olympic refined petroleum products pipeline and the Williams Northwest natural gas pipeline are located roughly parallel to the BPA transmission line through Lewis County (WUTC 2017) (Figure 3-8 in Appendix A). Both of these pipelines are installed underground in their respective rights-of-way. The powerline would have a new overhead crossing of both pipeline rights-of-way.

3.4.2 Effects of the Proposed Action

3.4.2.1 *Construction*

Construction of the project would result in minor impacts to energy and natural resources. The powerline and associated access roads would be constructed of manufactured materials (such as concrete, aggregate, and steel) that would require energy to produce. Energy resources are also consumed in the transport of these materials to and from the project area. Further, energy sources would be used to operate onsite construction equipment. The direct energy consumption would be predominantly in the form of electricity and fuels such as gasoline and diesel.

Electricity required onsite during construction would be minor and generated by diesel-powered portable generators or acquired from the Lewis County PUD electrical utility system. The amount of electricity consumed during construction of the powerline would not affect other users or locally available energy supplies.

During construction of the powerline corridor, it is estimated that up to 6,900 gallons of diesel and 1,400 gallons of gasoline would be consumed;[3] this fuel would be used to power construction equipment, vehicles, and generators. Fuel would be supplied by licensed fuel distributors or local gas stations to fill construction vehicles or to provide fuel for onsite fuel

[3] This estimate was generated assuming approximately 18 percent of total energy usage from the Skookumchuck Wind Energy Project EIS, as the powerline corridor represents about 18 percent of total disturbed acreage for construction.

storage tanks. The amount of fuel products consumed during project construction is not expected to adversely affect locally available resources.

Up to 1.2 million gallons of water would be consumed during construction.[3] Water would be supplied by the City of Yelm. The city has indicated that they have adequate supply to meet the project's requirements without affecting other users (Bedlington 2017). Water would be used for dust suppression and to the extent feasible would be reclaimed (non-potable) water. Water needs for dust suppression during construction would vary depending on the weather. Hence, the above estimate for construction water consumption is highly conservative.

3.4.2.2 *Operations*

Operation of the project would have negligible impacts to energy and natural resources. The amount of energy consumed during operation of the powerline would be minimal and would be limited to fuel consumption of vehicles for access and maintenance activities and would be obtained from local gas stations. The power line would not consume energy during operations.

3.4.2.3 *Decommissioning*

Decommissioning activities would be similar in type compared to those anticipated for construction. Energy in the form of fuel would be required to operate the equipment used in decommissioning/demolition. Electricity requirements would be small and could be met with onsite generators without affecting local energy or fuel supplies. Some water may also be required for dust control and other purposes. No new raw construction materials would be consumed during decommissioning.

3.4.3 Effects of No Action Alternative

The No Action Alternative would deny the application for the minor permit revision of OSMRE Permit No. WA-0001E. Under this alternative, there would be no change of use for the 81 acres of the Centralia Mine and the power line corridor would not be constructed within the permit boundary. Reclamation activities would continue within the mine permit boundary, which would continue to consume fuel and energy during those activities.

3.4.4 Best Management Practices

During construction and decommissioning, BMPs will include construction waste recycling when possible, and carpooling will be encouraged to reduce consumption of refined petroleum products and their resulting emissions. Since operation of the power line would have a minimal effect on energy and natural resources, no best management practices are proposed.

3.5 Health and Safety

The study area for health and safety is the powerline corridor. The study area is characterized by reclamation activities at the Centralia Mine.

3.5.1 Affected Environment

Any work or activities conducted within the mine permit boundary must comply with all applicable mine safety and health administration (MSHA) requirements. Other health and safety hazards in the study area include electrical, mechanical, and release of hazardous materials (see

Section 3.9 for more information on Hazardous Materials and Waste). Existing occupational hazards are mainly associated with mine reclamation activities, including working in proximity to large equipment and exposure to dust during reclamation activities. The LPLF is located within the TCM permit boundary and is used for industrial waste and coal-combustion byproduct disposal from TransAlta Centralia Generation LLC. The facility consists of solid waste disposal cells and surface impoundments for the management of leachate generated at the disposal cells and was constructed in 2009 (Ecology 2014). However, no project poles would be located within the LPLF.

Wildfires are also a concern as this area is hot and dry during the summer. Wildfire season generally runs from April 15 through October 15 in the state of Washington, depending on snow pack and drought conditions. Lewis County has a moderate fire danger rating and burn risk (DNR 2017b). According to DNR's online fire statistic records that date back to 2008, no natural and human caused fires have occurred within the study area.

3.5.2 Effects of the Proposed Action

3.5.2.1 *Construction*

Health and safety risks and impacts associated with the project are minor and include occupational health and safety hazards due to location within a mine permit boundary site where ongoing reclamation activities are occurring, machinery hazards from construction equipment, and potential fire and electrical hazards.

Reclamation Activities

The project would be located within the TCM permit boundary. TCM ceased coal mining operations in 2006. However, ongoing reclamation activities occur within the mine permit boundary which may expose construction workers to hazards. Reclamation activities within the mine permit boundary include using heavy equipment for backfilling, grading, and re-contouring of the land to its final post-mine topography and reestablishing the surface drainage patterns, and select demolition activities and equipment maintenance. Reclamation activities are expected to be completed by 2030, which is before the lifespan of the project.

Machinery Hazards

Derricks, hoists, and other heavy construction equipment would be used to construct the powerline. Hazards associated with the operation of this equipment include the potential for load line, or load to accidentally come in contact with nearby powerlines.

Fire

Risk of fire and explosion may occur during construction of powerlines as a result of both human activities and natural events. Fires could start from wildland fires and lightning strikes, from an electrical fire or explosion resulting from construction equipment failure, or from the use of combustible materials during construction. The risk of unintentional fire or explosion from human activities can occur when electrical generating equipment, electric cables, and combustibles such as fuels, hydraulic fluids, lubricants, plastics, textiles, insulation, and metal are exposed to heated equipment. The highest expected fire risks are from dry grass fires during the hot, dry summer season.

Electrical Hazards

Electrical hazards present during construction of the project may include both human-caused activities and natural events resulting in electrocution from arc flashes, electric shock, falls due to shock, thermal burn hazards, and lightning strikes. The risk of electric shock from human activities can be caused by accidents, human error, or tampering of equipment by unauthorized persons.

3.5.2.2 *Operations*

Reclamation Activities

Impacts during operation would be minor and similar to those during construction, described above.

Machinery Hazards

Heavy construction equipment is not anticipated to be used during operations, except in the unlikely event that entire pole need replacement. In this case, impacts during operations would be similar to those during construction.

Fire

The same environmental and human-caused sources of fire and explosion described for construction activities could occur during operation of the project. These include wildland fires, lightning strikes, electrical explosions caused from maintenance equipment failure, and the use of combustible materials such as lubricants. Other risks of fire and explosion may be caused by improper energizing and de-energizing of equipment, faulty wiring, exposure of a heat source to combustibles, mechanical friction, and lightning strikes to equipment.

Electrical Hazards

During operations, electrical hazards associated with the project may include electrocution, arc flashes, thermal burns, and exposure to electric and magnetic fields (EMFs).

Exposure to EMFs are common to areas where electrical power is used and in the presence of lightning. EMFs are generated by all types of electrical devices, appliances, utility transmission lines, distribution lines, and substations. Electric fields are produced by the difference in electrical potential (voltage); and the movement of charges (current). This movement of charges produces magnetic fields. EMFs are invisible and are also referred to as radiation.

Potential sources of EMFs would be from the 115 kV powerline. The powerline would be on average 61 feet above ground. EMFs produced from powerlines depend on several factors, including the number of currents carried by the line, the arrangement of those currents, and the height above ground. 115 kV powerlines generate low levels of EMFs which diminish further from the line (WHO 2007). According to the National Institute of Environmental Health Sciences (NIEHS), scientific evidence suggests that any health risk due to exposure from EMFs are weak (NIEHS 2017). The powerline area is located in a rural, lightly populated area with limited access. Therefore, the project would not pose significant EMF hazards to project workers, or TCM workers.

3.5.2.3 *Decommissioning*

Decommissioning activities would result in the same health and safety risks associated with project construction, including potential fire and explosions, electrical hazards, and mechanical hazards.

3.5.3 Effects of the No Action Alternative

The No Action Alternative would deny the application for the minor permit revision of OSMRE Permit No. WA-0001E. Under this alternative, there would be no change of use for the 81 acres of the Centralia Mine and the powerline corridor would not be constructed within the permit boundary. Reclamation activities would continue onsite, and TCM activities onsite would continue to comply with applicable MSHA requirements.

3.5.4 Best Management Practices

The following BMPs will be implemented to reduce impacts to health and safety resulting from construction, operations, and decommissioning the project. A project Health and Safety Plan (HSP) will be prepared prior to construction of the project. The HSP will be implemented to manage and control safety risks, as well as guide responses in the case of emergency situations at the project. Prior to commencing any onsite work, and on a daily basis, a list of onsite workers will be provided to TCM.

As part of the easement agreement with TCM, project workers will comply with all applicable MSHA regulations and Federal Coal Mine Safety Standards related to surface mines during construction, operation, and decommissioning of the project. These requirements include up to four hours of site specific training and 24 hours of new miner training. Training will be provided by MSHA instructors with an approved Coal Mine Training Plan.

Danger signs, place barricades, or other devices warning against the hazards created by reclamation activities will be located onsite. In addition, the construction and O&M workers will abide by all TCM safety rules and MSHA training, including the use of personal protective equipment, vehicle and equipment safety requirements such as seat belt use, equipping with back up alarms and fire extinguishers. The TCM cell phone use standard requires personal cell phones be left in personal vehicles and not carried while performing work activities. Employees who have company issued phones for work related business may have them on their person during work but the employee must ensure it is safe for them and their co-workers prior to use.

The powerline will be cleared and maintained to a 75-foot minimum cleared area from centerline, 150-foot total width, which will be regularly monitored. If a conductor does come in contact with the ground through failure, project operational staff will respond immediately to mitigate the situation. Operational staff will be trained and comply with a fire safety plan for the powerline. O&M staff will be available 24 hours a day, 7 days a week for any emergency related to the project operations and components.

3.6 Noise

Construction noise levels were calculated based on the typical noise levels for standard construction equipment. The noise study area is areas within 1,000 feet of the powerline corridor.

3.6.1 Noise Terminology

Sound is made up of tiny fluctuations in air pressure. Sound is characterized by its amplitude (how loud it is), frequency (or pitch), and duration. Sound, within the range of human hearing, can vary in amplitude by over one million units. Therefore a logarithmic scale, known as the decibel (dB) scale, is used to quantify sound intensity and to compress the scale to a more manageable range. The human ear does not hear all frequencies equally. In fact, the human hearing organs of the inner ear deemphasize low and very high frequencies. The most common weighting scale used to reflect this selective sensitivity of human hearing is the A-weighted sound level (dBA). The range of human hearing extends from approximately 3 dBA to around 140 dBA.

The existing level of environmental noise at a given location is the composite of noises from multiple noise sources located at varying distances from the location where a noise measurement is made. Noise levels are generally measured using a sound level meter using the A-weighted filter network.

3.6.2 Affected Environment

The project area is in a land use managed for mining reclamation. There are no residences located adjacent to the powerline corridor. Sources of noise within the project area are typical of similar rural areas, primarily related to reclamation activities and traffic on local roads and highways. Background noise levels are always fluctuating, but rural areas typically experience daytime noise levels of 40 dBA and nighttime noise levels of 34 dBA (ANSI/ASA S12.9-2013/Part 3). In more remote areas, noise levels could at times drop below 30 dBA or even lower. The existing noise levels are expected to vary with distance from the typical sources, as well as with local wind speeds. When the local wind speed is low or calm, the noise levels are expected to be less than when the winds are elevated. In addition, BPA transmission lines (Section 3.4) are located within the project area and likely generate corona noise.

3.6.3 Effects of the Proposed Action

3.6.3.1 *Construction*

Construction activities would result in short-term, minor noise impacts due to construction equipment (e.g., trucks, dozers, graders, portable generators, and haul trucks). Table 3-2 in Appendix B contains construction noise levels for typical equipment that could be used on this project at distances of 50, 200, 500, and 1,000 feet from the center of a construction site.

The construction noise levels shown in Appendix B were calculated assuming free field conditions, which represents an environment that is free from obstructions that could affect the way sound travels away from the noise source. Areas shielded by terrain or other features could receive lower noise levels. These assumptions, therefore, result in conservative over-estimates of the noise levels that may be experienced in the vicinity of the construction activities by workers at the Centralia Mine. However, construction noise would be similar to noise generated by reclamation activities occurring within the project area. Birds and other wildlife may be disturbed by construction noise and might move away from the area site; however, this is unlikely. Reclamation activities have similar impacts and are ongoing in the project area.

3.6.3.2 *Operation*

Impacts from operational noise generated by the project would be negligible. Operational noise would consist of corona noise associated with the powerline, and noise generated by maintenance vehicles onsite. Corona is the electrical ionization of the air that occurs near the surface of the energized conductor and suspension hardware due to very high electric field strength. Corona is typically a design concern at voltages above 345 kV. During wet or foul weather conditions, the conductor would produce the greatest amount of corona noise, generally characterized as a crackling, hissing, or humming sound. However, during heavy rain the noise generated by the falling rain drops hitting the ground would typically be greater than the noise generated by corona and thus would mask the audible noise from the powerline that may be audible to workers at the Centralia Mine.

3.6.3.3 *Decommissioning*

Noise impacts from decommissioning of the project would be minor and similar to noise effects during construction.

3.6.4 Effects of the No Action Alternative

The No Action Alternative would deny the application for the minor permit revision of OSMRE Permit No. WA-0001E. Under this alternative, there would be no change of use for the 81 acres of the Centralia Mine and the power line corridor would not be constructed within the permit boundary. Reclamation activities and the existing BPA transmission line would continue to generate noise within the permit mine boundary.

3.6.5 Best Management Practices

The following practices are recommended to minimize the effects of construction noise in the project area:

- Implement construction and maintenance work-hour controls so that most noise- generating activities occur between 7:00 AM and 6:00 PM, which will reduce the impact during sensitive nighttime hours
- Minimize the number of heavy-duty haul trucks traveling through the area during nighttime hours
- Maintain equipment in good working order and use adequate mufflers and engine enclosures to reduce equipment noise during operation
- Limit vehicle idling
- Use the quietest available construction equipment and techniques.

3.7 Land Use and Recreation

3.7.1 Affected Environment

Coal mining operations ceased at the Centralia Mine in 2006. Reclamation activities continue within the mine permit boundary. TCM is reclaiming 7,158 disturbed acres to the following pre-mine land uses: upland forestry, lowland forestry (wetland/fish and wildlife habitat), and

pastureland. TCM has also developed plans for two additional land use categories: permanent impoundments of water (fish and wildlife habitat) and industrial. In general, all areas disturbed by mining related activities would be reclaimed to a productive land use while environmental values including surface and ground water, soils, vegetation, wildlife, and air quality would be maintained or returned to productive states. In general, the long-term appearance and usefulness of the permit area would be enhanced or at least equivalent to that which existed prior to mining. Since 1967, approximately 2,000 acres of the 7,158 disturbed acres has been reclaimed (TransAlta 2019).

The forestry post-mine land use category supports the long-term production of wood, wood fiber, or wood-derived products. Upland forestry land use is consistent with the present forestry and subsequent logging operations being conducted on lands in the adjacent and general areas. Upland forestry land use also supports future forestry, recreation, and subsequent wildlife use. Per TCM's current reclamation plan, following the completion of reclamation activities, several access roads would be left in place to ensure adequate accessibility for future access requirements.

Disturbances that occurred at the Centralia Mine, including mining dating back to the turn of the century and other disturbances that took place prior to the passage of the 1977 SMCRA, are categorized as Pre-Law. These lands had previously been disturbed at the time TCM's mining permit was first issued by OSMRE and the pre-mine land use could not be confirmed. These areas would be reclaimed to one of the post-mine land use categories, thereby increasing the value and distribution of the post-mine land use from the pre-mine land use condition.

The 81-acre easement crosses 53.5 acres of land that has been previously disturbed by mining and 27.2 acres of undisturbed land. Approximately 2 acres of the easement crosses the northern edge of the LPLF which is an industrial land use under the jurisdiction of Lewis County, Washington State Department of Ecology, and the U.S. Environmental Protection Agency. Figure 3-9 in Appendix A shows the land uses within the TCM. The LPFL permitted area covers approximately 57 acres with the waste disposal area footprint covering approximately 18 acres (CH2M 2019). The pre-mine land use for the area encompassed by the LPLF was predominately upland forest.

3.7.2 Effects of the Proposed Action

3.7.2.1 *Construction*

The project would have minor impacts on land use within the TCM permit boundary. The project would convert 79 acres of land within the mine permit boundary to industrial land use from upland forestry land uses. Two acres of the 81-acre easement would remain as industrial land use (the area occupied by the LPLF). However, following completion of construction, all temporary roadways would be removed and restored to approximately the same condition that the land was in immediately preceding the construction of the temporary roadway. Restoration would include the replacement of suitable top soil disturbed by the construction of the temporary roadway.

3.7.2.2 *Operations*

Operation of the project would have negligible impacts on land use within the TCM permit boundary. Operation of the powerline would not affect adjacent land uses within the TCM permit

boundary. Any grading, drainage, mitigation or reclamation activities required within the mine permit boundary would continue, including within the powerline easement. Future recreation use of the greater Centralia Mine reclamation site would not be precluded by the powerline.

3.7.2.3 *Decommissioning*

At the end of the project lifetime, project facilities would be removed. At that time, the areas where project components were located could be used for other industrial land uses.

3.7.3 Effects of the No Action Alternative

The no action alternative would reject the application for a mining plan modification for OSMRE Permit No. WA-0001E. Therefore, there would be no change of use for the approximately 81 acres of the Centralia Mine, and the powerline would not be constructed within the permit boundary. The 79 acres would be reclaimed as upland forestry land use. The 2-acre industrial land use would remain the same.

3.7.4 Best Management Practices

No BMPs are proposed for land use.

3.8 Socioeconomics

The potential socioeconomic impacts of the project would occur at several geographic scales, so multiple study areas are used in the socioeconomic analysis:

- The **regional study area** captures the economic impacts (e.g., employment and income) associated with construction and operation of the project. The analysis area that would capture the majority of this economic activity is the combined statistical area (CSA), which includes Lewis County and the counties to the north where the region's economic centers of Olympia, Tacoma, and Seattle are located.
- The **local study area** captures the impacts on population and housing, government revenue, and the use and value of property. This area is made up of Lewis County because these categories of impact are more localized.

3.8.1 Affected Environment

3.8.1.1 *Population*

The project is located in a rural, sparsely populated area of western Washington, in Lewis County. Lewis County had a population of about 75,000 in 2016 (U.S. Census Bureau 2016). Centralia is the largest city in Lewis County, with a population of almost 17,000 in 2016 (U.S. Census Bureau 2016). The town of Bucoda in Thurston County (approximately 4 miles north of the powerline easement) is the closest named community to the project.

While the Seattle-Tacoma CSA kept pace or exceeded statewide population growth between 2010 and 2016, the population of Lewis County and Centralia have not increased as much. Lewis County is projected to continue to grow more slowly than the state as a whole over the next 20 years, with population increasing by 16 percent versus 30 to 40 percent (Washington State Office of Financial Management 2017a, 2017b). The area affected by the minor permit revision is

entirely located on and surrounded by the Centralia Mine, indicating that population would not increase directly within or adjacent to the project site in the near future.

3.8.1.2 *Housing*

There are several types of temporary accommodations located within the local study area, including rental housing, hotels and motels, and campgrounds. Centralia's occupied housing in 2016 was 49 percent renter-occupied, with about 3,251 renter-occupied units (U.S. Census Bureau 2016). Vacancy rates for rental properties in Lewis County are higher than the Washington average, but rates for the nearby town of Centralia are lower than the state average (U.S. Census Bureau 2016) with a vacancy rate of 3.4 percent compared to a statewide vacancy rate of 4.1 percent.

3.8.1.3 *Employment*

In 2016, almost 3 million people age 16 years and older were employed either full-time or part-time in the regional study area (U.S. Bureau of Economic Analysis 2016). Employment in Lewis County—about 35,000 in 2016—represents about 1 percent of the total employment in the regional study area. Employment opportunities have grown throughout the region since 2010, but employment in the Seattle-Tacoma-Bellevue Metropolitan Statistical Area (MSA) increased more than Lewis County, where the number of employed people increased by less than 1 percent per year.

On average in 2017, Lewis County's unemployment rate was 6.5 percent (Washington State Employment Security Department 2017). This rate represents the lowest levels since the recession began in 2008. At the peak of the recession, the unemployment rate was around 13 percent in Lewis County. Employment in Lewis County is concentrated in government, wholesale and retail trade, and education, health care and social assistance.

3.8.1.4 *Government Revenues*

Washington's principal source of tax revenue is the retail sales and use tax, which yielded over $10 billion in fiscal year 2016. The sales tax is paid for goods and services purchased within Washington. The use tax is paid when goods and services are purchased outside of Washington, but used within the state. The statewide sales tax rate is 6.5 percent. Local jurisdictions can also assess a local retail sales and use tax. In Lewis County this ranges from a high of 1.7 percent in Centralia and Chehalis to a low of 1.3 percent in unincorporated Lewis County.

Real and personal property are subject to property tax in Washington. Real property includes land and any improvements, such as buildings attached to the land. It also includes transmission line rights-of-way, if established by an easement because the property owner retains ownership of the land, and pays property tax on it. Personal property is not affixed to the land, and the Washington State Department of Revenue has determined that energy project infrastructure that can be removed from the land is considered to be personal property. In Washington, local governments administer the property tax. $76 million in property tax was collected in 2015 in Lewis County (Washington State Department of Revenue 2016a).

The Business and Operations/Utility tax is assessed on the gross income derived from the operation of a business or utility. The Public Utility Tax is charged in lieu of the Business and

Occupation (B&O) tax. The tax rate on generation/distribution of electrical power is 3.872 percent (Washington Department of Revenue 2018b).

3.8.2 Effects of the Proposed Action

3.8.2.1 *Construction*

Employment

Construction workers would most likely be drawn from the labor force in the local or regional study areas. While the employment opportunities may be important (though temporary) to any one worker that receives employment, the overall number of jobs represent a very small percentage of the overall employment levels in the local and regional study areas. Lewis County continues to have higher unemployment rate than the statewide rate (about 6 percent versus 4.5 percent in 2017), so new employment opportunities are relatively more valuable (or perceived to be more valuable) in the local study area than within the regional study area as a whole.

It is anticipated that the workers for construction of the powerline would be drawn from the local workforce; therefore, negligible impacts on employment, population, or housing are anticipated.

Government Revenue

State and local jurisdictions would collect sales tax revenues during construction from purchases of fuel, lodging, and from indirect and induced purchases subject to the retail sales and use tax. There is insufficient data to estimate these tax collections, however they would have negligible impact relative to Fiscal Year 2016 sales and use tax collections.

Property Tax

Construction of the project would result in an increase in assessed value and property tax collections during the construction period, commensurate with the investment cost value at the time of assessment. This would be a minor impact, and the amount would be less than the assessed value and resulting property tax revenue collected once the project becomes operational.

3.8.2.2 *Operations*

Employment

Operating the entire Skookumchuck Wind Project, for which the proposed powerline would be constructed, would employ 4 to 6 permanent full-time employees. This represents a very small increase in employment, relative to total employment in either the local or regional study areas, resulting in a negligible impact to employment.

Population and Housing

Workers for the Skookumchuck Wind Project would be hired locally, or brought in from outside the region to fill the positions. If they come from outside the region, they would relocate their families to the local study area. Even assuming each employee is hired from outside the region and brings three additional family members, the total increase in population in the study area would be very small relative to the current population of the local study area, resulting in a negligible impact.

Government Revenue

As described in the Skookumchuck Wind Project EIS, the wind energy project, for which the powerline would be constructed, would lead to an increase in government revenues.

3.8.2.3 *Decommissioning*

Socioeconomic impacts resulting from decommissioning would also be similar to those described for construction: activities may generate temporary employment opportunities. These negligible impacts are likely to be smaller in scale than those described for construction, and likely would be even smaller relative to the size of the economy assuming current trends continue until decommissioning occurs.

3.8.3 Effects of the No Action Alternative

The No Action Alternative would deny the application for the minor permit revision of OSMRE Permit No. WA-0001E. Under this alternative, there would be no change of use for the 81 acres of the Centralia Mine and the powerline corridor would not be constructed within the permit boundary. The local population, employment, housing conditions, and revenue would remain similar to current conditions during reclamation activities at the Centralia Mine.

3.8.4 Best Management Practices

Impacts of the project would result from increases in income for local businesses and increased employment opportunities primarily during project construction, and increased tax collections during construction and operation. Therefore, no BMPs are proposed.

3.9 Environmental Justice

A 0.5 mile and 1-mile study area from the powerline easement was reviewed for environmental justice populations.

3.9.1 Affected Environment

A review of the U.S. Environmental Protection Agency (USEPA) Environmental Justice Screening Tool showed no households located within 0.5 mile of the powerline easement. Twelve households with a population of 26 residents are located within one mile of the powerline easement. Of these 26 residents, three are listed as minority population (USEPA 2019a).

3.9.2 Effects of the Proposed Action

No environmental justice populations are located near the area that would be affected by the project. Therefore, there would be no disproportionate impacts on environmental justice populations. The powerline would not cross over any residential properties within the mine permit boundary.

3.9.3 Effects of the No Action Alternative

The No Action Alternative would deny the application for the minor permit revision of OSMRE Permit No. WA-0001E. Under this alternative, there would be no change of use for the 81 acres of the Centralia Mine and the powerline corridor would not be constructed within the permit boundary. As there are no environmental justice populations nearby, no disproportionate impacts would occur from reclamation activities.

3.9.4 Best Management Practices

No BMPs are proposed since there would be no impacts to environmental justice populations.

3.10 Hazardous Materials and Waste

The study area for hazardous materials and waste is a 0.25 mile area on either side of the powerline easement.

3.10.1 Affected Environment

A survey of existing contaminated sites near the study area was conducted using the Department of Ecology's online system (Ecology 2019). No existing contaminated sites of concern were identified in the study area.

Within the study area, the BP Olympic refined petroleum products pipeline and the Williams Northwest natural gas pipeline are constructed underground, located parallel to the BPA transmission line through Lewis County (WUTC 2017). The powerline corridor would result in an overhead crossing of both pipelines.

The LPLF is located within the TCM mine permit boundary and is used for industrial waste and coal-combustion byproduct disposal from TCM.

3.10.2 Effects of the Proposed Action

3.10.2.1 *Construction*

Construction of the project requires the use of some hazardous materials. Types of hazardous materials that may be present include fuels and lubricant oils from construction vehicles and equipment. Diesel fuel is the primary potentially hazardous substance that would be used in any significant quantity during construction for operating equipment and vehicles. A leak or spill of these materials may create a risk to environmental or worker health depending on the volume released and the spill containment measures implemented at the storage or equipment fueling location. Exposure to these hazardous materials would be temporary in nature and would be limited to project construction sites located within the study area boundary, resulting in a minor impact. A review of Ecology's online system showed no contaminated sites within the study

area; therefore, no impacts are anticipated from contaminated sites. The powerline would cross the northern portion of the approximately 57-acre LPLF area. However, no poles would be placed within the LPLF boundary.

3.10.2.2 *Operations*

Operation of the project requires limited use of hazardous materials, with fuel and lubricants in O&M vehicles being the primary potential hazardous substance. Exposure to these hazardous materials would be temporary in nature and would be limited to the project corridor within the study area boundary.

3.10.2.3 *Decommissioning*

Decommissioning activities would result in the similar impacts as project construction activities.

3.10.3 Effects of the No Action Alternative

The No Action Alternative would deny the application for the minor permit revision of OSMRE Permit No. WA-0001E. Under this alternative, there would be no change of use for the 81 acres of the Centralia Mine and the powerline corridor would not be constructed within the permit boundary. The LPLF would continue operation during reclamation activities. No impacts from hazardous materials and waste are anticipated.

3.10.4 Best Management Practices

Implementation of appropriate spill prevention and control measures will ensure that the risk of an accidental release of hazardous materials remains low throughout construction and decommissioning of the project. Skookumchuck Wind Energy Project, LLC will develop and implement an SPCC Plan in accordance with applicable local, state, and federal requirements prior to commencing construction. Furthermore, TCM implements its own SPCC at the Centralia Mine. Maintenance, fueling, and repair of heavy equipment and vehicles will be conducted using spill prevention and control measures. Onsite fueling tanks will include secondary containment. Fuel tank and truck storage as well as vehicle fueling will be at least 100 feet from all streams, dry or flowing.

3.11 Aesthetics

The study area for aesthetics is the area from which the powerline easement may be visible from nearby roads and lands. The Bureau of Land Management’s Visual Resource Management system was used as a framework for reviewing aesthetics.

3.11.1 Affected Environment

Each landscape has a specific quality that gives a geographic area its visual and cultural image, and consists of the combination of physical, biological, and cultural attributes that make each landscape identifiable or unique. The character of an existing landscape may range from a predominantly natural landscape to landscapes that are heavily culturally influenced. The existing scenic quality of an existing landscape includes the natural scenic attributes of the landscape in combination with the existing land use patterns. The sensitivity of a landscape or

view of that landscape is based on the scenic integrity of the landscape and the types of viewers. Both the natural and built features contribute to the public's appreciation of the environment.

The project area is characterized by several types of visual disturbance, which include:

- Existing electrical transmission and utility lines, the existing TransAlta Centralia Coal Power Plant, various mining-related disturbed areas, and cell towers.
- Scattered rural residential and commercial development.

The local landscape visual appearance has average levels of vividness (memorability), intactness (freedom from visual encroachment), and unity within the broader landscape.

3.11.2 Effects of the Proposed Action

3.11.2.1 *Construction*

Construction of the project would result in negligible impacts to aesthetics in the project area. During construction, heavy equipment would be highly visible from public roads as deliveries are made to the project construction site. The public would be excluded during construction activities on private lands, such as access roads and the powerline corridor within the mine permit boundary. These construction activities would only be visible to project construction workers and other workers associated with activities at the same locations.

At certain times, small, localized clouds of dust created by road building and other grading activities may be visible in the project area. Because of construction-related grading activities, areas of exposed soil and fresh gravel that contrast with the colors of the surrounding undisturbed landscape would be visible. Since most of the public views of such occurrences are from distant locations, the visual effects of construction dust emissions and contrast of newly cleared areas would be relatively minor and would have little to no impact on the quality of the views.

New and modified access roads required for construction and maintenance of the project would require additional forest clearing, grading, and construction of gravel roadway surfaces. The new road segments would have the same appearance as the existing network of access roads. These road features would be visible only at relatively close distances and by people traveling within the locations where the roads are constructed, and would have minimal visual impact.

3.11.2.2 *Operations*

Views of the powerline corridor in the mine permit boundary would be limited to workers and, after certain areas are fully reclaimed, potential future recreation users. The powerline would be similar in character to other transmission lines running through the project area, resulting in a negligible impact to the project area. Powerline poles for the project would typically between 85 feet to 110 in height depending on the structure used. Figure 2-1 in Appendix A depicts typical powerline poles and their dimensions. The degree of contrast would be a minor (weak) change and would be in line with the existing aesthetics.

3.11.3 Effects of the No Action Alternative

The No Action Alternative would deny the application for the minor permit revision of OSMRE Permit No. WA-0001E. Under this alternative, there would be no change of use for the 81 acres of the Centralia Mine and the powerline corridor would not be constructed within the permit boundary. Reclamation activities involving large equipment would still be visible but limited to persons located in the vicinity of the Centralia Mine.

3.11.4 Best Management Practices

BMPs will be incorporated into the construction and decommissioning practices to minimize adverse visual impacts as follows:

- During construction, active dust suppression will be implemented to minimize the creation of dust clouds
- When construction is complete, areas disturbed during the construction process will be restored to conditions specified in the Skookumchuck Wind Project's Temporary Construction Restoration Plan, and in accordance with agreements with TCM.

3.12 Historical and Cultural Resources

For this resource, the study area includes the maximum area of disturbance for the project features and associated ground disturbance, as well as a 150-foot survey area surrounding the features. Much of the information presented is for the entire powerline for the Skookumchuck Wind Energy Project, and is not necessarily specific to the mine permit boundary. On April 3, 2019, State Historic Preservation Officer (SHPO) concurred that the project would have no adverse effect on historic and cultural resources.

3.12.1 Tribal Consultation

Outreach efforts with local Native American tribal representatives were initiated during the SEPA process for the Skookumchuck Wind Energy EIS. Project information was provided to the Confederated Tribes of the Chehalis Reservation and the Nisqually Indian Tribe to identify any potential tribal concerns related to the proposed project actions and location. Emphasis was made to determine whether any Traditional Cultural Properties or other properties of cultural significance are present within the study area.

3.12.2 Affected Environment

3.12.2.1 *Powerline Corridor and Buffer*

A cultural resources investigation was conducted in July and August 2018 for the powerline corridor. The general conditions throughout the powerline corridor were observed as highly disturbed from activities related to the mining and logging industry. No cultural resources were observed during the survey effort.

3.12.3 Effects of the Proposed Action

3.12.3.1 *Construction*

Project construction activities have the potential to have a minor impact cultural resources as a result of ground disturbance. Although no National Registry of Historic Places (NRHP)-listed resources were found within the survey area, ground-disturbing activities have the potential to impact unidentified cultural resources. In addition, potential impacts to cultural resources may result from increased traffic to the study area associated with construction activities.

3.12.3.2 *Operations*

Project operations are not expected to require excavation or ground disturbance in areas which have not been previously disturbed. Project operations are not expected to result in impacts to historical or cultural resources.

3.12.4 Effects of the No Action Alternative

The No Action Alternative would deny the application for the minor permit revision of OSMRE Permit No. WA-0001E. Under this alternative, there would be no change of use for the 81 acres of the Centralia Mine and the powerline corridor would not be constructed within the permit boundary. Reclamation activities would involve previously disturbed areas within the Centralia Mine and would likely not affect cultural resources.

3.12.5 Best Management Practices

The following BMPs will be followed during construction of the project to limit impacts to cultural resources.

- Cultural resources sensitivity training for personnel working on project construction will be conducted. The purpose of this training will be to instruct project personnel on the sensitivity of cultural resources in the project area, protocols for stopping work and notification in the event of findings, and to provide an overview of the laws that govern cultural resources, as well as to introduce them to the Tribe's perspective on potential impacts. Individuals from potentially affected tribes will be invited to contribute to this training.
- A professional cultural resources archaeologist will monitor vegetation clearing and ground-disturbing decommissioning activities that go beyond the previously disturbed areas during. If cultural resources are uncovered during decommissioning, work shall halt until a professional archaeologist can determine the significance of the find, as described per the Unanticipated Discovery Plan (UDP).
- The UDP for the Skookumchuck Wind Energy Project will be developed and reviewed by the Washington State Department of Archaeology and Historic Preservation (DAHP) and any affected tribes prior to beginning of construction activities and will be implemented during construction and decommissioning of the project. If archaeological deposits are encountered during construction, the provisions of the UDP shall be followed.
- If any previously unidentified cultural resources are encountered during construction, all work activities shall cease in the immediate vicinity of the site until a professional archaeologist can assess the find and consult with DAHP to identify appropriate BMPs such

as avoidance or scientific data recovery. No further construction activities will occur within the vicinity of the discovery until a professional archaeologist, in concert with tribal representatives and local and state agency representatives, is able to evaluate the significance of the find.

- Should human remains be discovered during project activities, all work within 200 feet shall stop. Additionally, DAHP (360-586-3065), the Lewis County planning office, the affected Tribes, and the respective county coroner (if human remains are uncovered) shall be contacted within 24 hours to help assess the situation and determine how to preserve the resource(s) (Chapters 27.44, 68.50, and 68.60 RCW).
- If human remains are determined to be associated with an archaeological site, DAHP and any affected Tribes shall be notified. Appropriate measures will be taken to ensure the site is protected from further disturbance until a treatment plan is agreed upon by all involved parties.
- Compliance with all applicable laws pertaining to archaeological resources will be observed and permits obtained (RCW 27.53 and 27.44 and WAC 25-48) as required.

3.13 Air Quality

The study area for air quality is the area within an approximately 20-mile radius from the area affected by the project. Potential impacts due to construction and decommissioning were determined by analyzing anticipated emissions from construction vehicles, equipment, and fugitive dust (blown dust from exposed soils, including construction sites). Potential impacts to air quality due to operation were determined by analyzing the contribution from use of maintenance worker vehicles.

3.13.1 Affected Environment

3.13.1.1 *Regional Climate and Precipitation*

The study area is located in Lewis County, on the eastern edge of the Puget Trough ecoregion. This ecoregion is characterized by a maritime climate with warm, relatively dry summers and mild, wet winters. Annual precipitation ranges from 25 to over 60 inches. (WDFW 2005). Prevailing winds within the study area are primarily from the west, in an area with winter peaking winds. The region experiences moderate temperatures throughout the year with maximum temperatures ranging from 40–78.8 degrees Fahrenheit (°F) and minimum temperatures ranging from 34.0–52.2 °F (WRCC 2010).

Temperature and precipitation data were obtained from the Western Regional Climate Center (2012) for Centralia, the weather station nearest to the project. The coldest average monthly temperatures, from a low of around 33 °F to a high of around 46 °F, occur in January. The warmest average monthly temperatures, from a low of around 51 °F to a high of around 78 °F, occur in July and August. The maximum recorded temperature in Centralia was 107 °F (recorded in July 2009), while the minimum recorded temperature was -4 °F (recorded in January 1930). Average annual precipitation is 45.9 inches with 6.8 inches of snowfall at lower elevations and greater snowfall at higher elevations (WRCC 2012).

3.13.2 Air Quality

3.13.2.1 *Ambient Air Quality Standards*

In the early 1970s the USEPA established National Ambient Air Quality Standards (NAAQS) to define levels of air quality that protect public health and welfare from the known adverse effects of air pollutants. Ecology establishes the Washington Ambient Air Quality Standards, referred to as WAAQS (Chapter 173-476-900 WAC). The NAAQS and WAAQS are shown in Table 3-3 in Appendix B.

Local air quality is measured against these national and state air quality standards. If measured data indicates that an area meets the standards, the area is designated by USEPA as an "attainment area." Areas that do not meet the standards are designated as "nonattainment areas." After air monitoring shows that a nonattainment area is meeting health-based air quality standards and has a 10-year plan for continuing to meet and maintain air quality standards, USEPA re-designates the areas as maintenance areas (Ecology 2017). In addition to Ecology, local clean air agencies protect air quality in Washington. The Southwest Clean Air Agency (SWCAA) regulates emissions sources within Lewis County. Lewis County is currently designated as in attainment for all criteria pollutants (Ecology 2018).

3.13.2.2 *Existing Conditions*

The closest air quality monitoring station to the study area is the Ecology Chehalis-Market Boulevard station (350 North Market Boulevard) in Chehalis, approximately 7.4 miles to the southwest. This monitoring station measures particulate matter with an aerodynamic radius of 2.5 microns or less ($PM_{2.5}$). The monitoring station is located in an urban commercial area, with vehicles the typical emission source. Since the station was established in December 2009, the average reading has been 5.7 $\mu g/m^3$ with a standard deviation of 3.3 (Ecology 2017).

Generally, emissions within the study area are produced by vehicle and mobile equipment emissions. Vehicle emissions occur along transportation corridors such as the I-5 corridor and in communities adjacent to them, and to a lesser degree in the less populated areas within the study area. Emissions are also generated within the study area from ongoing reclamation activities at the Centralia Mine.

The Clean Air Act provides for special air quality and visibility protection to national parks larger than 6,000 acres and national wilderness areas larger than 5,000 acres that were in existence when it was amended in 1977. These areas are considered are Class I areas. Mount Rainier National Park (approximately 40 miles east), Olympic National Park (approximately 45 miles northwest), and Goat Rocks Wilderness (65 miles east-south-east) are the nearest Class I areas to the project (USEPA 2019c).

3.13.2.3 *New Source Review*

In general, if potential emissions from the operation of stationary sources exceed certain thresholds, approval from the appropriate permitting authority is required before construction can begin. SWCAA administers permits through their air discharge permit process for projects within Lewis County (SWCAA 400-109 and 110) (SWCAA 2016). Operation of the project would not cause such air pollutant emissions that would trigger the requirements of new source review in Lewis County.

3.13.2.4 *Prevention of Significant Deterioration*

Prevention of Significant Deterioration (PSD) regulations apply to proposed new or modified sources located in an attainment area that have the potential to emit criteria pollutants in excess of predetermined *de minimis* values (40 CFR Part 51). For new generation facilities, these values are 100 tons per year of criteria pollutants for 28 specific source categories, or 250 tons per year for sources not included in the 28 categories. Operation of the project would not cause such air pollutant emissions that would trigger the requirements of PSD review.

3.13.3 Effects of the Proposed Action

3.13.3.1 *Construction*

Construction would require the use of a variety of machinery and equipment, as well as from vehicles used by workers to commute to the site that would result in greenhouse gases (GHG) and criteria pollutant emissions. In addition, GHG and criteria pollutant emissions would be generated during the transport of construction materials to the site.

Emissions of criteria air pollutants (those affecting compliance with National Ambient Air Quality Standards) and GHG were estimated for project construction, using the following sources of information:

- Equipment types, numbers, and construction worker days for the various construction activities, as provided by the project sponsor.
- EPA's version 2014b MOVES emissions model output for calendar year 2019, including emission factors of construction equipment (NONROAD module of MOVES) and emission factors for paved highway travel, both for worker commuting, and for delivery of material to the construction locations in the project corridor.
- EPA's emission factor publication AP-42, for emission factors from fugitive dust associated with earthmoving/ground disturbance, and highway vehicle travel on paved roads.

Using the above information, the project construction-related emissions were calculated for the various activities and in total as shown in Table 3-4 in Appendix B. Table 3-5 in Appendix B shows a comparison of estimated emissions from project construction and total estimated emissions in Lewis County. The 2014 calendar year data are presented because this is the most recent year with comprehensive criteria pollutant emissions data from EPA's National Emission Inventory (NEI) database. As shown in Table 3-5 in Appendix B, project construction would represent approximately 0.003 percent a fraction of county-wide emissions. Therefore, construction activities are not expected to cause a measurable impact on local air quality.

3.13.3.2 *Operations*

Impacts to air quality from operation of the project would be negligible. Emissions would not be generated from the operation of the powerline as it would not burn fossil fuels to produce energy. Emissions during operations would occur from infrequent onsite vehicular travel in association with project site maintenance. Potential emissions generated by worker vehicles arriving and departing from the site would be small and localized.

3.13.3.3 *Decommissioning*

Decommissioning activities would result in similar impacts as described for project construction activities.

3.13.4 Effect of the No Action Alternative

The No Action Alternative would deny the application for the minor permit revision of OSMRE Permit No. WA-0001E. Under this alternative, there would be no change of use for the 81 acres of the Centralia Mine and the powerline corridor would not be constructed within the permit boundary. Emissions and dust generated from equipment and vehicles associated with reclamation activities would continue to occur within the mine permit boundary.

3.13.5 Best Management Practices

The following BMPs will be implemented to reduce or avoid impacts to air quality include the following:

- All vehicles and equipment used during construction and decommissioning will comply with applicable federal and state air quality regulations for exhaust emissions.
- Vehicles and equipment used during construction and decommissioning will be in good working condition and properly maintained to minimize exhaust emissions and odors.
- Idling will be minimized, and equipment will be shut down when not in use.
- Carpooling among construction workers will be encouraged.
- Speed limits on project un-paved access roads will be a maximum of 25 mph to minimize fugitive dust emissions.
- Truck beds will be covered in accordance with local, state, and federal requirements when transporting dirt or soil on public roads.
- No cleared woody material will be burned, either on or offsite.
- A fugitive dust plan will be implemented, which outlines monitoring and control measures that will reduce fugitive dust during construction:
    - Construction materials that could be a source of dust will be managed to minimize fugitive dust emissions.
    - Dust-suppressant chemicals will be applied only when needed, and the application will be timed to avoid or minimize wash-off by rainfall.
    - Dust will be controlled as needed by spraying water on dry, exposed soil.
    - If located at the project construction site within Lewis County, operation of the portable rock crusher will follow applicable requirements of SWCAA, including notifying the agency prior to commencing operations and submitting an emission inventory report to the agency.
    - Soil stockpiles will be monitored for wind erosion and treated if necessary to minimize surface losses.

- Project access roads will be constructed and surfaced to DNR Forest Practices Act standards.
- Following construction, areas disturbed during construction and not occupied by permanent project facilities will be restored in a manner to prevent future erosion which may release fugitive dust.
- After decommissioning, disturbed areas will be restored to prevent future erosion and fugitive dust.

3.14 Climate Change

3.14.1 Affected Environment

Global warming refers to the ongoing rise in global average temperature near the Earth's surface. It is caused mostly by increasing concentrations of GHGs (primarily CO_2, methane, nitrous oxide [N_2O], and fluorinated gases) in the atmosphere, and it is changing climate patterns. *Climate change* refers to any significant change in the measures of climate (e.g., temperature, precipitation, and wind patterns) lasting for an extended period of time (USEPA 2016b). Other than GHG emissions, factors that contribute to global warming include aerosols, changes in land use, and variations in cloud cover and solar radiation which affect the absorption, scattering, and emissions of radiation within the atmosphere and at the Earth's surface. The average global temperature increased 0.85° Celsius from 1880-2012; during the period from 1901 to 2012, almost the entire planet experienced higher surface temperatures. Because temperature is a part of climate, the phenomenon of global warming is both an element of and a driving force behind climate change (IPCC 2014).

3.14.2 Effects of the Proposed Action

3.14.2.1 *Construction*

Construction would require the use of a variety of machinery and equipment, as well as from vehicles used by workers to commute to the site that would result in GHG emissions. In addition, GHG emissions would be generated during the transport of construction materials to the site.

Tables 3-4 and Table 3-5 in Appendix B list the GHG emissions anticipated from project construction as well as construction GHG emissions to other GHG sources in Lewis County. Project construction would represent a fraction of county-wide emissions. Therefore, construction activities are not expected to cause a measurable impact on climate change. The Washington State Department of Ecology estimates that statewide CO_2e emissions in 2014 were 94.1 tons, so Lewis County represented slightly under 10 permit of the statewide inventory, due in large part to the large coal-fired power plant. Nationally, EPA estimated that nationwide GHG emissions in 2014 were 6,870 metric tons, or approximately 7,573 short tons of CO_2e (USEPA 2016a).

3.14.2.2 *Operation*

GHG emissions would be negligible resulting only from vehicles used during maintenance of the powerline. The operation of the powerline itself would not result in GHG emissions and would therefore not impact climate change.

Given that the project would help to move wind-generated electricity to market, it is likely that shortly after startup, the proposed project operation would prevent GHG emissions from fossil fueled electricity that would far exceed the small amount of GHG generated by project construction activities.

3.14.2.3 *Decommissioning*

Decommissioning activities would result in similar impacts as construction of the project.

3.14.3 Social Cost of Carbon

A protocol to estimate what is referenced as the "social cost of carbon" (SCC) associated with GHG emissions was developed by a federal Interagency Working Group (IWG), to assist agencies in addressing Executive Order (EO) 12866, which requires federal agencies to assess the cost and the benefits of proposed regulations as part of their regulatory impact analyses. The SCC is an estimate of the economic damages associated with an increase in carbon dioxide emissions and is intended to be used as part of a cost-benefit analysis for proposed rules. As explained in the Executive Summary of the 2010 SCC Technical Support Document "the purpose of the [SCC] estimates…is to allow agencies to incorporate the social benefits of reducing carbon dioxide (CO_2) emissions into cost-benefit analyses of regulatory actions that have small, or 'marginal,' impacts on cumulative global emissions." Technical Support Document: Social Cost of Carbon for Regulatory Impact Analysis under Executive Order 12866 February 2010 (withdrawn by EO13783). While the SCC protocol was created to meet the requirements for regulatory impact analyses during rulemakings, there have been requests by public commenters or project applicants to expand the use of SCC estimates to project-level NEPA analyses.

The decision was made not to expand the use of the SCC protocol for this EA for a number of reasons. Most notably, this action is not a rulemaking for which the SCC protocol was originally developed. Second, on March 28, 2017, the President issued EO 13783 which, among other actions, withdrew the Technical Support Documents upon which the protocol was based and disbanded the earlier Interagency Working Group on Social Cost of Greenhouse Gases. The Order further directed agencies to ensure that estimates of the social cost of greenhouse gases used in regulatory analyses "are based on the best available science and economics" and are consistent with the guidance contained in OMB Circular A-4, "including with respect to the consideration of domestic versus international impacts and the consideration of appropriate discount rates" (EO 13783, Section 5(c)). In compliance with OMB Circular A-4, interim protocols have been developed for use in the rulemaking context. However, the Circular does not apply to project decisions, so there is no Executive Order requirement to apply the SCC protocol to project decisions.

Further, NEPA does not require a cost-benefit analysis (40 CFR § 1502.23), although NEPA does require consideration of "effects" that include "economic" and "social" effects (40 CFR 1508.8(b)). Without a complete monetary cost-benefit analysis, which would include the social benefits of the project to society as a whole and other potential positive benefits, inclusion solely of an SCC cost analysis would be unbalanced, potentially inaccurate, and not useful in supporting a decision. Any increased economic activity, in terms of revenue, employment, labor income, total value added, and output, that is expected to occur with the project is simply an economic impact, rather than an economic benefit, inasmuch as such impacts might be viewed

by another person as negative or undesirable impacts due to potential increase in local population, competition for jobs, and concerns that changes in population would change the quality of the local community. Economic impact is distinct from "economic benefit" as defined in economic theory and methodology, and the socioeconomic impact analysis required under NEPA is distinct from cost-benefit analysis, which is not required.

Finally, the SCC, protocol does not measure the actual incremental impacts of a project on the environment and does not include all damages or benefits from carbon emissions. The SCC protocol estimates economic damages associated with an increase in carbon dioxide emissions - typically expressed as a one metric ton increase in a single year - and includes, but is not limited to, potential changes in net agricultural productivity, human health, and property damages from increased flood risk over hundreds of years. The estimate is developed by aggregating results "across models, over time, across regions and impact categories, and across 150,000 scenarios" (Rose et al. 2014). The dollar cost figure arrived at based on the SCC calculation represents the value of damages avoided if, ultimately, there is no increase in carbon emissions. But the dollar cost figure is generated in a range and provides little benefit in informing the decision for project level analyses. Given the uncertainties associated with assigning a specific and accurate SCC resulting from the Centralia Coal Mine Permit Revision additional years of operation under the mining plan modification, and that the SCC protocol and similar models were developed to estimate impacts of regulations over long time frames, this EA quantifies direct and indirect GHG emissions and evaluates these emissions in the context of U.S. and State/County GHG emission inventories as discussed in Section 3.14 of the EA.

To summarize, this EA does not undertake an analysis of SCC because 1) it is not engaged in a rulemaking for which the protocol was originally developed; 2) the IWG, technical supporting documents, and associated guidance have been withdrawn; 3) NEPA does not require cost-benefit analysis; and 4) the full social benefits of coal-fired energy production have not been monetized, and quantifying only the costs of GHG emissions but not the benefits would yield information that is both potentially inaccurate and not useful.

3.14.4 Effects of the No Action Alternative

The No Action Alternative would deny the application for the minor permit revision of OSMRE Permit No. WA-0001E. Under this alternative, there would be no change of use for the 81 acres of the Centralia Mine and the powerline corridor would not be constructed within the permit boundary. Reclamation activities would require the use of a variety of machinery and equipment, as well as from vehicles used by workers to commute to the site that would result in GHG emissions. GHG emissions associated with coal mining would not occur since mining operations ceased in 2006.

3.14.5 Best Management Practices

The following BMPs will be implemented to reduce or avoid impacts during construction and decommissioning:

- All vehicles and equipment used during construction and decommissioning will comply with applicable federal and state air quality regulations for exhaust emissions.

- Vehicles and equipment used during construction and decommissioning will be in good working condition and properly maintained to minimize exhaust emissions and odors.
- Idling will be minimized, and equipment will be shut down when not in use.
- No cleared woody material will be burned, either on or offsite.
- Carpooling will be encouraged to reduce consumption of refined petroleum products and their resulting emissions.

3.15 Transportation

The study area for road transportation is the public and private surface road network in and around the project area, as well as the broader transportation network within western Washington (Figure 3-10 in Appendix A).

3.15.1 Affected Environment

3.15.1.1 *Road Network*

The project would be located to the east of the main I-5 north-south transportation corridor and south of State Route (SR) 507. Access to the location of the project from this main corridor would occur mainly from Big Hanaford Road and Tono Road accessed from SR 507.

SR 507 is the nearest main highway located approximately 2.4 miles northwest of the project Area. It consists of a two-lane asphalt road. SR 507 traverses Thurston and Lewis counties northeast to southwest, from Yelm to Centralia via Tenino and Bucoda. Big Hanaford Road and Tono Road are paved two-lane roads maintained by Lewis County, which extends from SR 507 and terminates at the TCM property. WSDOT sets the level of service standards for state highways of statewide significance as stated in RCW 47.06.140. The local road network currently meets level of service standards set by WSDOT.

To provide access into the reclaimed upland forestry areas for management and fire protection purposes, several permanent access roads are located within the Centralia Mine. Access haul roads would be left in place following reclamation activities to provide access to other areas of approved land uses, including but not limited to forestry, industrial, and fish and wildlife habitat. The development of the post-mine topography in the forest areas as well as leaving several access roads would ensure that there would be adequate accessibility for future land management and recreational access requirements.

3.15.1.2 *Rail Transportation*

Class 1 rail is available generally paralleling the I-5 corridor south from Olympia through Centralia and Chehalis and then towards Vancouver (WSDOT 2014). This corridor accommodates AMTRAK passenger rail overseen by Washington State Department of Transportation (WSDOT 2019), as well as freight rail carried by Union Pacific Rail Road and Burlington Northern Santa Fe (BNSF). A dedicated spur off of the BNSF main line adjacent to Big Hanaford Road serves the Centralia Power plant and is used to deliver coal to the plant (Pacific International Engineering, PLLC 2010).

3.15.2 Effects of the Proposed Action

3.15.2.1 *Construction*

Construction of the project would result in negligible impacts to transportation on the local road network and the Centralia Mine haul roads. It is anticipated that worker commuting and material delivery to the project area would result in up to 6 round trips per day to the project area during construction. These additional trips would not decrease the current level of service on the local road network. Construction access to the powerline corridor would be provided using existing private roads and temporary access roadways constructed for access to the powerline corridor. During construction, approximately 0.85 mile of access road would be established within the 200-foot right-of-way. It would be cleared for installation of the powerline poles and overhead lines, It would be continuous along the powerline easement, with the exception that the access roads would dead-end prior to within 200-feet of Packwood Creek. Temporary access roads would be approximately 20 feet wide.

Impacts to the TCM rail loop during project construction are not anticipated. The rail loop is located north and outside of the powerline easement.

3.15.2.2 *Operation*

Operation of the project would result in negligible impacts to transportation. Access to the powerline corridor would occur via existing permanent roads within the Centralia Mine. Centralia Mine roads would only be utilized intermittently for maintenance activities and emergency repairs. The rail loop is located north of the powerline easement and would not be affected during operations.

3.15.2.3 *Decommissioning*

Decommissioning of the project would involve similar activities as during construction.

3.15.3 Effect of the No Action Alternative

The No Action Alternative would deny the application for the minor permit revision of OSMRE Permit No. WA-0001E. Under this alternative, there would be no change of use for the 81 acres of the Centralia Mine and the powerline corridor would not be constructed within the permit boundary. The local road network and permanent haul routes within the mine permit boundary would continue to be utilized for reclamation activities.

3.15.4 Best Management Practices

Following completion of construction, temporary roadways will be removed and restored to pre-construction conditions to the extent feasible. Restoration will include the restoration and fill of top soil disturbed by the construction of the temporary roadway.

3.16 Public Service and Utilities

The study area for public services and utilities consists of the service areas near the project area that could be affected by construction, operation, and decommissioning. Information from the Lewis County website and from public services and utility providers in the study area were used to evaluate the potential impacts. This section also reports on findings from public service

providers that they have adequate facilities to support integration of the project into their service areas.

3.16.1 Affected Environment

3.16.1.1 *Public Services*

Fire protection near the project area is provided by the Riverside Fire Authority (a consolidated district including Fire Protection District #12 and the City of Centralia Fire Department) and (Centralia Regional Fire Protection Service Authority 2007 and Lewis County 2012). Riverside Fire Authority has eight fire stations with a total of nine fire engines, five water tenders, one tower ladder truck, two wildland fire engines, and five ambulances. In a typical year, they respond to approximately 4,000 incidents, including responses to fires and emergency medical service (EMS) (Riverside Fire Authority 2017). In addition, TCM has local fire agreements in place, and contractors coordinate with TCM to activate an emergency response.

Fire Protection District #6 houses two divisions: EMS and Fire Protection. Fire District #6 has four unstaffed fire stations placed throughout the fire district that volunteer staff can respond to from their homes when a call for service is generated. These stations can also be placed in service by volunteer staff to provide additional responses when multiple calls for service are active simultaneously.

Riverside Fire Authority has been contacted by Skookumchuck Wind Energy, LLC to evaluate the capacity of the district to assist in containment of fires within their jurisdiction. Riverside Fire Authority has signed an adequate facilities letter stating that it has capacity to serve the project area.

The nearest hospital to the project area is the Providence Centralia Hospital in Centralia, Washington, approximately 10 miles west of the project area. The Providence Centralia Hospital is a full service hospital with an emergency room, as well as diagnostic and surgical services.

3.16.1.2 *Utilities*

Water for construction purposes would be provided by the City of Yelm and would be transported via truck to the project area. Water for operations would consist of water needed for fire suppression, located in water trucks kept onsite.

Solid waste services in Lewis County are provided under contract by Waste Connections, Inc. and LeMay, Inc. Solid waste collected in Lewis County is transported to either the Central Transfer Station in Centralia or the East Lewis County Transfer Station near Morton, Washington. From the transfer station, solid waste is transported by truck to the Wasco County Landfill in The Dalles, Oregon (Lewis County 2019).

3.16.2 Effects of the Proposed Action

3.16.2.1 *Construction*

Construction of the project would have minor impacts because construction activities may increase the potential for a fire to result over baseline conditions. Construction activities, including clearing and use of flammable materials such as fuels, present an increased fire risk. In

addition, if not disposed of in a timely manner, accumulation of construction waste such as woody debris and erosion control materials could create a fuel hazard.

In the event of an unanticipated disaster event affecting the project (e.g., earthquake or wildfire), emergency response plans would be activated by the powerline operator (Skookumchuck Wind Energy, LLC).

During project construction, the local demand for EMS could increase slightly due to construction accidents that could occur at the project site. Project construction workers would be exposed to occupational hazards or environmental conditions resulting from natural disasters that could result in personal injuries that would require the services of local emergency response units to provide initial treatment and transportation to a local medical facility and the services of emergency rooms in the receiving facility.

Construction would have a minor impact on water utilities. During the construction period, up to 1.2 million gallons of water may be consumed. Water would be delivered to the project area via water trucks and obtained from the City of Yelm, in Thurston County. The City has indicated that they have adequate supply to meet the project's requirements without affecting other users (Lowe 2017).

Construction of the project would have a minor impact on solid waste facilities. The primary wastes generated during construction would be solid construction debris such as scrap metal, cable, and wire. This waste would be accumulated onsite in drop boxes until hauled away to a licensed transfer station, recycling center, or landfill by the waste hauling contractor. Hazardous materials such as fuels and lubricant oils, used during construction that require disposal would be disposed of in accordance with all applicable state and federal laws and regulations.

3.16.2.2 *Operations*

During operations, the project may increase the risk of fire in the project area along the powerline route resulting from contact between vegetation and the powerline, resulting in a minor impact to public services. Regular maintenance activities could increase the risk of a fire in the project area (e.g., sparks resulting from vehicular travel or spot welding activities); however, adherence to BMPs would minimize the potential risk, as described below.

Fire protection would be provided under the conditions of the fire service agreement and a fire would be responded to in accordance with the Fire Service Agreement. Outreach with the applicable fire service providers is underway for fire service agreements. The fire services agreements would include an emergency response and fire prevention plan that addresses notification and coordination protocols and requirements for the Project. Skookumchuck Wind Energy, LLC and Lewis County are continuing discussions with local fire agencies to ensure that response plans are in place prior to construction. Prior to construction, Skookumchuck Wind Energy will submit such fire response plans to Lewis County, completed with local fire agencies and TCM, with confirmation of concurrence with such plans.

Skookumchuck Wind Energy, LLC is required to have equipment in-place at all times to respond to fires and will be the first responder. This equipment includes but not limited to, onsite water trucks, portable fire suppression equipment such as extinguishers in each vehicle, and hand tools. Each worker and subcontractor will be trained in emergency response protocol prior to gaining

access to the project site and associated project features. TCM also has onsite fire suppression equipment for existing operations. Local fire districts will be notified of all fires and will be asked to support only if necessary in accordance with the fire service agreements.

3.16.2.3 *Decommissioning*

Impacts from decommissioning of the project would be similar to those described for construction.

3.16.3 Effects of the No Action Alternative

The No Action Alternative would deny the application for the minor permit revision of OSMRE Permit No. WA-0001E. Under this alternative, there would be no change of use for the 81 acres of the Centralia Mine and the powerline corridor would not be constructed within the permit boundary. If emergency response were needed as a result of reclamation activities or incidents within the mine permit boundary, emergency response from public services would still be required.

3.16.4 Best Management Practices

The following measures will be implemented to prevent the occurrence of conditions which may result in impacts to worker and public health and safety.

- Construction crews will have health and safety plans in place that will identify the location of fire extinguishers, local hospitals, and other relevant information that will minimize the health and safety risk.
- An Emergency Response Plan will address actions in the event of major natural disasters affecting the project.
- As part of the Emergency Response Plan, a Fire Prevention and Protection Plan will be developed by Skookumchuck Wind Energy, LLC. All construction work will follow the guidelines and commitments of the plan. At a minimum, the plan will include an inventory of fire suppression resources; stipulations for stopping construction during elevated industrial fire precaution levels or as dictated by DNR and the local emergency management organizations; stipulations for providing crews with radio or cellular telephone access to immediately report a fire; provide training for construction crew members on extinguishing small fires; and stipulations for the availability of water to fight fires.
- Skookumchuck Wind Energy, LLC will ensure that access for firefighting crews and equipment to all construction sites is maintained. This will include ensuring that personnel and construction equipment do not create obstructions to firefighting equipment or crews.
- In order to easily communicate immediate fire incidence during construction and decommissioning of the project, all construction crews and site construction management personnel will be equipped with operational communication equipment and open communication pathways will be established.
- During a fire, the powerline will be immediately de-energized. Information for a contact person who has the authority to authorize the shutdown will be provided to response agencies.

- In order to easily communicate immediate fire incidence during construction, operation, or maintenance of the project, all crews and inspectors will be equipped with operational communication equipment and open communication pathways will be established.

4 CUMULATIVE EFFECTS

This chapter identifies past, present, and reasonably foreseeable actions planned in the vicinity of the project area. It includes an analysis of potential cumulative impacts that could result from the project, when combined with these actions for each element of the environment described in Chapter 3.

The duration for analysis completed for this chapter is based on the anticipated project development schedule. Most impacts identified below relate to the construction phase of the project. Certain impacts would occur during operation of the project and continue until the project end of life; others would only occur temporarily based on the duration of concurrent activities.

Generally, the geographical area for consideration of cumulative impacts focuses on the area surrounding the project area, including north central Lewis County eastwards from the I-5 corridor. However, because certain impacts can be of a broader regional nature, such regions are identified on a case-by-case basis to analyze such cumulative impacts.

Decommissioning impacts were considered in this analysis where possible. However, because the anticipated lifespan of the project is approximately 30 years, these impacts are speculative for detailed consideration in this analysis. It is anticipated that decommissioning impacts would be similar to construction impacts because they require the removal and disposal of the components of the project and restoration.

The project area itself is characterized by reclamation activities at the Centralia Mine. There are no foreseeable residential uses within or adjacent to the project area where the powerline would be constructed. The project area would be located in an area historically used for coal mining and is currently undergoing reclamation.

4.1 Past Actions

In general, urbanized uses in the Centralia and Chehalis areas and along the I-5 corridor have been developed since the late 19th century. Development in this area is historically oriented around the timber-related industries, such as harvesting and milling. Industrial timber harvest remains active on adjoining Weyerhaeuser lands and on other nearby lands, although harvest levels are not as intense as they were in the 1960s to 1980s. Other major industrial facilities in the region were established in the Centralia and Chehalis areas. Power generation was established based on the presence of locally-extracted coal, and the Skookumchuck Dam was developed to provide water to both industrial and urban users.

The project area itself is characterized by activities associated with the forestry industry and some industrial activity, including historic mining of coal, power generation, and other manufacturing. Surrounding areas are predominantly designated for commercial forestry. There are no residential uses within the project area where the transmission line would be constructed on TCM property. Further away, rural residential uses are also present, with a higher density in the vicinity of local communities close to the I-5 corridor. The cities of Centralia and Chehalis are the nearest urban areas with developed urban and commercial uses, in addition to the major industrial uses identified above.

4.2 Present Projects

Within the project area, TCM is conducting reclamation activities. Commercial forestry activities occur on Weyerhaeuser property immediately adjoining the project area. Where zoning permits, rural residential uses continue to be developed in Lewis County in locations outside the project area.

TCM is focused on reclamation of the Centralia Mine in order to return the mined area to a condition and productivity consistent with the approved post-mine land use. Reclamation activities are expected to be completed by 2030. The initial objectives of all reclamation projects are to reclaim disturbed lands to their post-mine topography; stabilize the soils; reestablish healthy, vigorous vegetative cover; and protect the hydrologic and wildlife resources.

4.3 Reasonably Foreseeable Actions

In general, given the Lewis County Comprehensive Plan and current zoning designations, development within the study area is likely to include the continuation of past and present activities associated with industrial and forestry uses, additional rural residential development outside of urbanized centers, and residential and commercial development within and around urbanized centers. Various types of smaller local residential, commercial, and industrial land use proposals may occur within the cumulative impact study area and occur concurrently with project development; however, the impacts of such activities will be limited to their immediate vicinity. Lewis County staff reviewed and confirmed the reasonably foreseeable actions identified below as part of the SEPA EIS conducted for the Skookumchuck Wind Energy Project (Witherspoon 2018).

Reasonably foreseeable industrial development within the project area is expected to occur with respect to ongoing power generation at the Centralia Coal Plant and ongoing mine site reclamation activities. As a result of the 2011 TransAlta Energy Transmission Bill, TransAlta will transition away from coal power in Washington State by closing the Centralia facility's two boiler units, the first in 2020 and the other in 2025 (Washington State Legislature 2011; TransAlta 2019). TransAlta may redevelop the Centralia plant as a gas plant after this point (TransAlta 2019).

Coal mining operations ceased at the Centralia Mine in 2006. Reclamation activities continue within the mine permit boundary. TCM is reclaiming 7,158 disturbed acres to the following pre-mine land uses: upland forestry, lowland forestry (wetland/fish and wildlife habitat), and pastureland. TCM has also developed plans for two additional land use categories: permanent impoundments of water (fish and wildlife habitat) and industrial. In general, all areas disturbed by mining-related activities would be reclaimed to a productive land use while environmental values including surface and ground water, soils, vegetation, wildlife, and air quality would be maintained or returned to productive states. Since 1967, approximately 2,000 acres of the 7,158 disturbed acres have been reclaimed (TransAlta 2019).

The majority of the permit area would be reclaimed with a post-mine land use of upland forestry supporting the long-term production of wood, wood fiber, or wood-derived products and is consistent with the present forestry and subsequent logging operations being conducted on lands in the adjacent areas. Present upland forestry land use supports future forestry, and any potential recreation and wildlife use.

In October 2017, a Master Application for a pre-submission conference for the Tono Solar project was submitted to Thurston County (TransAlta 2017). The proposal includes an up 180-megawatt photovoltaic solar project to be built in the northern portion of the Centralia Mine in Thurston County, north of the project area. At its largest size, the project would be situated on 1,000 acres of reclaimed mine land. . Currently, construction of the project is planned for later in 2019 through 2020, with an operational goal of 2020.

4.4 Cumulative Impacts of the Project

The following sections summarize the cumulative effects that the project, in combination with the past, present, and reasonably foreseeable future actions identified above, would have on the various environmental resources discussed in this EIS.

4.4.1 Earth Resources

4.4.1.1 Geology and Soils

Past coal mining operations and present reclamation activities within the project area and its surrounding area have resulted in moderate cumulative impacts to topography through grading and to soils through increased erosion from wind or rain exposure and compaction. As the reasonably foreseeable future actions are developed, these actions would likely contribute to the same type of geological, topographical and soil impacts. The project would result in limited topographical changes from the construction of access roads and powerline installation.

Additional topographical modification is not expected during project operations as disturbed areas would have been vegetated. Therefore, operation of the project would not result in a cumulative topographical impact. Following the operational life of the project, the area would be restored to its original or other usable grade, as reasonably possible.

On a broader regional scale, although the impacts resulting from the project and other existing or reasonably foreseeable future actions would cumulatively increase permanent ground disturbance, the impacts of each proposal would be limited to its footprint and immediate vicinity. Projects considered together would not cause any cumulative impacts to soils or from changes to topography.

4.4.1.2 Erosion Hazard

Project construction and construction of reasonably foreseeable future actions could result in cumulative erosion impacts resulting from disturbance of existing vegetation. However, compliance with local, state, and federal requirements is required to minimize erosion resulting from stormwater and runoff events. During operation, use of existing haul roads by both O&M workers and TCM employees could result in increased erosion rates of road surfaces.

4.4.1.3 Mine Hazard

Mining operations ceased at the Centralia Mine in 2006 and the area is undergoing reclamation. Therefore, no cumulative impacts from mine hazards are anticipated.

4.4.1.4 Seismic Hazards

Neither the project, nor other reasonably foreseeable actions, would increase the risk or probability of a seismic event. Should a seismic event occur within the project vicinity, it would impact the project, as well as any reasonably foreseeable future actions located within the

seismic event impact area. The negligible cumulative effect that the project would have on the seismic event's impact to the general region as a whole would be low since the project would not involve a high level of seismic risk in terms of structural damage, hazardous materials, or human health and safety concerns; therefore, the project would not noticeably affect the region's ability to respond to emergencies in a seismic event, and would not noticeably contribute to an increase in regional seismic susceptibility or seismic risk factors.

4.4.1.5 Volcanic Hazards

Neither the project, nor other reasonably foreseeable actions, would increase the risk or probability of a volcanic event. Should a volcanic event occur within the project vicinity, it would impact the project as well as any reasonably foreseeable future actions located within the volcanic event impact area to varying degrees. The cumulative effect that the project would have on the volcanic event's impact to the general region as a whole would be negligible since the project would not involve a high level of risk in terms of structural damage, hazardous materials, or human health and safety concerns; therefore, the project would have a negligible effect on the region's ability to respond to emergencies in a volcanic event.

4.4.2 Water Resources

4.4.2.1 Surface Water, Water Quality, and Stormwater Runoff

Past and present development and activities have cumulatively caused various impacts to waterbodies and streams in the general vicinity of the project. Portions of some of these waterbodies have been channelized or filled. Others have been affected by pollutants from stormwater runoff, wastewater discharges, and other sources.

When considered with past, present and reasonably foreseeable future actions, the project could result in cumulative impacts to surface water, water quality, and stormwater runoff in association primarily with ongoing reclamation activities within the project area. Roadway construction and maintenance in the project area and vicinity could increase stormwater runoff, and increase sedimentation and turbidity if construction equipment crosses drainages or if erosion control BMPs are insufficient or fail. The project could incrementally contribute to cumulative impacts to waterbodies and streams in the general project vicinity. However, BMPs implemented to minimize such impacts would reduce the project's contribution to a potential cumulative impact.

In the project vicinity, wetlands likely were previously impacted by construction of a variety of activities, including development of roads and railroads, agricultural activities, and past coal mining activities. Reasonably foreseeable future actions may also affect wetlands in the project vicinity or a region-wide basis, but it is expected that these future projects would be required to avoid, minimize, and compensate for any potential impacts to wetlands from filling or other activities as required by local, state, and federal permitting requirements. The project has been designed and sited to avoid wetland impacts. However, implementation of the project would not contribute to cumulative impacts to wetlands as impacts (if any) would be permitted and mitigated as part of compliance with the state and federal Clean Water Act and local critical area ordinances.

4.4.2.2 Groundwater

When considered with past, present, and reasonably foreseeable future actions, the project may result in minor cumulative impacts to groundwater quality if multiple sources of pollutants were

released to the ground surface, which infiltrate into groundwater. Spills of materials could occur during both construction and operation of the project. However, considering the small volume of hazardous materials which may be present during operations, the risk of contamination is very low.

4.4.2.3 Floodplains

The project does not involve construction within regulated floodplains. Therefore, there would be no cumulative impacts to floodplain resources.

4.4.3 Biological Resources

4.4.3.1 Vegetation and Habitat

Past coal mining activities and present reclamation activities have resulted in a change in the composition of vegetation and habitat types in the project vicinity. Past and present uses have resulted in habitat conversion and an ongoing pattern of habitat fragmentation. Reasonably foreseeable future actions, such as ongoing reclamation activities, would alter this trend. While forestry activities would occur in areas reclaimed as upland forest and at the Tono solar farm, areas reclaimed within the TCM permit boundary as lowland forest, riparian forest, and wetlands would provide habitat. By removing trees and other vegetation, development of the project and other reasonably foreseeable actions would contribute incrementally, though in a relatively minor and temporally limited way, to minor cumulative impacts.

Special-Status Plant Species

The project would not affect any threatened or endangered or other special status plant species; therefore, no cumulative impacts on special-status plant species are anticipated.

4.4.3.2 Habitat and Wildlife

Terrestrial Wildlife Species

Past and present development and other activities have had a moderate impact on terrestrial wildlife species and their habitat in the general project vicinity. The clearing and conversion of land since approximately the 19th century has resulted in the loss of wildlife habitat. Reasonably foreseeable future actions which may involve highway improvements, residential, commercial, agricultural, and other development and logging would be expected to incrementally add to these cumulative impacts. Reclamation activities within the TCM permit boundary includes lowland forest, riparian forest, and wetland land uses, which would provide for wildlife habitat.

Some terrestrial wildlife species may be disturbed by project construction activities or avoid the project area temporarily during construction. The project thus would contribute incrementally, though in a minor way, to the cumulative impact on terrestrial wildlife species and their habitat. As revegetation of the corridor would consist of herbaceous species and shrubs, habitat suitability would be expected to increase over time for some species such as black-tail deer and elk.

Bird and Bat Species

Past and present development and other activities have had an adverse impact on birds and bats, due to permanent alteration and loss of their habitat in the general project vicinity. The clearing

and conversion of land for home sites, utility infrastructure, and other uses since approximately the 19th century has resulted in a loss of habitat for birds and bats. Habitat for birds and bats has also been modified through activities such as logging and coal mining activities, which have altered and fragmented habitat. This habitat loss and modification has resulted in the displacement and mortality of these wildlife species.

Some bird and bat species may be disturbed by project construction activities or avoid the project area temporarily during construction. Reasonably foreseeable future actions, when coupled with the project, would continue to contribute to habitat loss from construction and maintenance activities; therefore, the project would have a moderate impact on bird and bat species.

Fish Species

Past and present activities have had an impact on fish species, including the alteration and loss of their habitat in the general project vicinity. Impacts to fish and other aquatic resources from past development in the region include the alteration of streams and rivers by the introduction of dams, loss of riparian habitat, increased sediment loading, increased stream temperatures, pollution from herbicide and insecticide use, changes in peak and low stream flows, fragmentation of fish habitat, decreases in streambank stability, altered nutrient supply, and stormwater runoff from roads and bridges.

As BMPs to protect water quality from construction and operations related stormwater runoff would be implemented, the project would not result in direct impacts to surface water where fish habitat may be present. Other reasonably foreseeable actions would also be subject to similar BMPs. Therefore, cumulative impacts are not anticipated.

4.4.4 Energy and Natural Resources

Electricity required onsite for the project during construction would be minor and generated by diesel-powered portable generators. Reasonably foreseeable actions would likely be constructed in a similar fashion. Natural resources would be consumed in small quantities for project construction and operations. However, the amount of these resources needed is small compared with the available supply. Reasonably foreseeable actions would likely consume similar amounts of energy and natural resources.

4.4.5 Health and Safety

Past and present development and other activities have included health and safety risks, mostly related to past mining and current reclamation activities on a former mine site. During construction of the project, there could be a slight increase in the risk of traffic or worker accidents during the construction period, as additional workers would be present temporarily. Given the anticipated low number of incidents and the available capacity of the local emergency responders and hospitals to respond to those incidents, the cumulative impact would be relatively minor and would be reduced once construction is completed. Reasonably foreseeable actions constructed in a similar manner would likely have a relatively minor impact with reduced impacts during operations.

Response to regional fire incidents can result in emergency providers from one fire district temporarily providing assistance to another district through mutual aid agreements. However, minor impacts to service providers would only occur if response was needed for a region-wide event; in such cases, broader intervention by state and out of region local resources would be coordinated.

4.4.6 Noise

In order for a cumulative noise impact to occur, noise emissions from the project, past and present actions, and from other reasonably foreseeable actions must occur within the same relative vicinity and at the same time. The reasonably foreseeable actions are located approximately 0.70 to 2 miles from the project, and their noise levels would attenuate to background levels before they reach the vicinity of project activities. Therefore, cumulative impacts are not expected.

4.4.7 Land Use and Recreation

The project would convert 79 acres of land within the mine permit boundary to industrial land use from upland forestry land use. Two acres of the 81-acre easement would remain as industrial land use (the area occupied by the LPLF). The project would allow for the construction of the powerline within the permit boundary. The project would not conflict with ongoing reclamation activities occurring adjacent to project facilities. The project would convert only a small portion of the 7,158 disturbed acreage that is expected to be reclaimed by TCM by 2030.

Presently, there are no expected recreational uses proposed for the Centralia Mine following reclamation. However, the powerline within the TCM permit boundary would not preclude recreational activities. Therefore, no cumulative impacts to land use or recreation are anticipated.

4.4.8 Socioeconomics

Cumulative socioeconomic impacts may occur when more than one future foreseeable project has an overlapping construction schedule that creates a demand for workers that cannot be met by local labor, resulting in an influx of non-local workers and their dependents and resulting in excessive demand on public services.

The Tono Solar project is the only future foreseeable project whose construction schedule could overlap with the project and thus could compete with the project for skilled labor. However, since the construction schedule for both Tono Solar and the project are relatively short, and the two projects are estimated to collectively employ less than 1 percent of the regional workforce, most of which would likely already reside within commuting distance, no impacts to local employment, population, or housing are anticipated.

Socioeconomic impacts to the area would not dramatically alter the area as a result of the project and would not contribute to any cumulative socioeconomic impacts since all other planned and future projects would result in similar minor impacts that would not dramatically affect the overall socioeconomic environment. Therefore, no cumulative impacts to socioeconomics are anticipated from either the construction or operation of the project.

4.4.9 Environmental Justice

No environmental justice populations are located within 0.5 mile of the project area. Therefore, there would be no cumulative impacts to environmental justice.

4.4.10 Aesthetics

Past coal mining and present reclamation activities have changed the visual landscape in the immediate project vicinity by altering the natural landscape. During project construction, the project would result in visible construction activities. However, if other reasonably foreseeable

actions are constructed at the same time, these activities would happen at other locations, and a cumulative impact to viewers is unlikely and would be negligible. Travelers along local roads adjacent to both the Tono solar project and the project powerline may catch temporary glimpses of both projects being constructed. Such views would be of short duration and of a temporary nature. The potential impacts would be inherently subjective when considered in the context of an altered landscape that includes reclamation activities for former coal mining operations and existing powerline infrastructure. Cumulative impacts for any specific viewers are not anticipated.

Views of the powerline corridor in the Centralia Mine permit boundary would be limited to workers and, after certain areas are fully reclaimed, potential future recreation users. The powerline would be similar in character to other transmission lines running through the project area.

4.4.11 Historical and Cultural Resources

Cultural and historic resources in the project vicinity have been and are being affected because of past, present, and current development and activities. These impacts include the use of the project area for historical coal mining activities. Although the project would not affect any known archaeological or historic resources, there is the potential for the project to have a minor impact on previously undiscovered cultural resources or artifacts. Although other reasonably foreseeable actions could result in impacts to historic and cultural resources, prior to development, investigation to identify potential impacts would need to be completed. Therefore, cumulative impacts to archeological or historical resources would be avoided. BMPs proposed to address these impacts are identified in Section 3.12, Historic and Cultural Resources.

4.4.12 Air Quality

Past and present development and activities have cumulatively contributed to emissions in the regional air shed. The contributions of these activities are captured in the existing conditions air quality discussion in Chapter 3.13.

Construction of the project would result in emissions from construction vehicles and equipment and from fugitive dust resulting from ground-disturbance activities. With other reasonably foreseeable future actions, these emissions would contribute to the cumulative emissions in the air shed. Although the impacts resulting from the project and other existing or reasonably foreseeable actions could increase air emissions, the impacts of each proposal would be limited to its immediate vicinity and to the time when construction occurs. Therefore, cumulative impacts to air quality resulting from construction would be minor.

Operation of the project would result in minor emissions from infrequent onsite vehicular travel in association with project site maintenance. Potential emissions generated by worker vehicles arriving and departing from the site would be small and localized. Because of the minimal nature of project air emissions, and the rural nature of the project location, the project would result in minor cumulative air quality impacts within the air shed where the project is located. In addition, the Centralia Coal Plant retirement of existing coal-fired burners in 2020 and 2025 would result in a net benefit for air quality in in the study area.

4.4.13 Climate Change

The most recent findings and predictions about climate change and its effects are presented in IPCC's report titled *Climate Change 2014: Synthesis Report and the US Global Change*

Research Program's Fourth National Climate Assessment (USGCRP 2017). Recent conditions and trends are expected to continue. Projected effects of climate change are discussed in each of these documents at varying scale, covering a variety of topics and resources.

Projected global climate conditions and effects identified by IPCC (2014) include the following.

- Cumulative emissions of CO2 largely determine global mean surface warming by the late 21st century and beyond. Projections of GHG emissions vary over a wide range, depending on both socio-economic development and climate policy.
- Continued emission of GHGs will cause further warming and long-lasting changes in all components of the climate system, increasing the likelihood of severe, pervasive, and irreversible impacts for people and ecosystems.
- Surface temperature is projected to rise over the 21st century under all assessed emission scenarios. It is very likely that heat waves will occur more often and last longer, and that extreme precipitation events will become more intense and frequent in many regions. The ocean will continue to warm and acidify, and global mean sea level to rise.
- Climate change will amplify existing risks and create new risks for natural and human systems. Risks are unevenly distributed and are generally greater for disadvantaged people and communities in countries at all levels of development. Increasing magnitudes of warming increase the likelihood of severe, pervasive, and irreversible impacts for people, species, and ecosystems. Continued high emissions (globally) would lead to mostly negative impacts for biodiversity, ecosystem services, and economic development and amplify risks for livelihoods and for food and human security.
- Many aspects of climate change and its associated impacts will continue for centuries, even if anthropogenic emissions of GHGs are stopped. The risks of abrupt or irreversible changes increase as the magnitude of the warming increases.

The Fourth National Climate Assessment (USGCRP 2017) projects changes in temperature and precipitation, increased frequency of droughts, floods, wildfires, and extreme storms, changes in land cover and terrestrial biogeochemistry, changes in arctic conditions, sea level rise, and ocean acidification (and other ocean changes). EPA (2016a) identifies potential subsequent effects to health and society and ecosystems such as heat-related deaths and illness, disease spread, changes in growing seasons. Examples of projected effects identified by USGCRP (2017) include the following.

- Over the next few decades (2021–2050), annual average temperatures are expected to rise by about 2.5°F for the US, relative to the recent past (average from 1976-2005), under all plausible future climate scenarios.
- Global average sea levels are expected to continue to rise by at least several inches in the next 15 years and by 1 to 4 feet by 2100. A rise of as much as 8 feet by 2100 cannot be ruled out. Sea level rise will be higher than the global average on the East and Gulf Coasts of the US.
- The magnitude of climate change beyond the next few decades will depend primarily on the amount of GHGs (especially CO2) emitted globally. Without major reductions in emissions, the increase in annual average global temperature relative to preindustrial times could reach 9°F (5°C) or more by the end of this century. With significant reductions in emissions, the increase in annual average global temperature could be limited to 3.6°F (2°C) or less.

- Under higher scenarios, and assuming no change to current water resources management, chronic, long-duration hydrological drought is increasingly possible before the end of this century.
- Continued growth in CO2 emissions over this century and beyond would lead to an atmospheric concentration not experienced in tens to hundreds of millions of years. There is broad consensus that the further and the faster the Earth system is pushed towards warming, the greater the risk of unanticipated changes and impacts, some of which are potentially large and irreversible.

Potential effects from climate change specific to the Pacific Northwest were presented in the University of Washington Climate Impacts Group's *State of Knowledge: Climate Change in Puget Sound* (Mauger et al. 2015). Examples of potential effects included the following:

- The Puget Sound region has warmed, with the average annual temperature in lowland areas increasing 1.3°F over the last century. All but six years from 1980-2014 were above the century's average. Puget Sound's frost-free season has lengthened by 30 days (between 1920 and 2014), and nighttime temperatures have increased nearly 2°F. This trend is consistent with the observed warming over the Pacific Northwest as a whole.
- The region is expected to see rising temperatures continue throughout the 21st century. Models project the change in average temperature to be at least double what was observed in the 20th century, and potentially ten times that amount by 2100. In the shorter term, average annual temperature is likely to increase 4° to 6°F by the 2050s, with extreme heat events becoming more common and extreme cold events less frequent.
- Summers in the Pacific Northwest will likely be drier, with climate models projecting an average of 22 percent less rain during summer months by the 2050s. Conversely, the majority of climate models project an increase in winter, spring, and autumn precipitation. However, projected changes in seasonal and total annual rainfall are small relative to the large year-to-year and decade-to-decade variations in precipitation that already occur here as a result of natural variability.
- Heavy rainfall events (often caused by "atmospheric rivers") are expected to become more intense in future years. Climate models show that the heaviest 24-hour rain events in the Pacific Northwest will intensify by an average of 22 percent by the 2080s. The frequency of today's heaviest 24-hour rain events also increases, occurring seven days per year by the 2080s, on average, compared to two days per year historically (1970-1999). This increased frequency and intensity will escalate flood risks in many watersheds.
- Over the last century, sea level rose at most locations in Puget Sound; at the Seattle tide gauge, one of the longest-running gauges in the region, sea level rose about eight inches between 1900 and 2008. This trend is projected to continue over the coming century, with sea level projected to increase by an average of 24 inches by 2100 in the Puget Sound region (range: 4-56 inches). Changes in local land motion, weather patterns, and ocean currents can amplify or mask regional trends in sea level.
- Warming will cause a greater proportion of winter precipitation to fall as rain rather than snow. Snowpack is project to decline, causing the spring peak in streamflow to occur earlier in the year. Winter streamflow is projected to increase in snow-influenced watersheds, while most locations are projected to experience a decline in summer streamflow.

As noted in Section 3.14, the project and No Action Alternative would provide minor contributions to GHG concentrations in the atmosphere relative to all other past and present global emission sources. Cumulative long-term effects of all construction and operation emissions on climate change and subsequent effects on all resources are expected to be minor, but long-term, as emissions would persist in the atmosphere after construction and operations are complete.

4.4.14 Transportation

Past and present development and activities have cumulatively contributed to traffic levels in the study area. The contributions of these activities are captured in the existing conditions transportation discussion in Chapter 3. Localized and regional traffic would continue to fluctuate based on economic conditions and regional development. The project and reasonably foreseeable future projects would cause minor impacts primarily to traffic during the construction. Therefore, there could be some traffic congestion for travelers along major haul routes and local roads during periods when project construction coincides with planned road maintenance activities. However, construction traffic management protocols would be implemented to identify possible conflicts with local and regional transportation systems and would provide measures to minimize project contributions to such conflicts.

4.4.15 Public Services and Utilities

Past and present development and activities have resulted in an incremental increase in demand for public services and utilities. The current demand for these services based on current conditions is described in Chapter 3. Construction of the project could result in a minor and temporary increase in the demand for public services and utilities. If other reasonably foreseeable actions are constructed at the same time, there may be a minor cumulative increase in demand for public services and utilities. However, this demand would be short term as it would occur during the construction period. The temporary increased demand for services during the construction period week would be substantially reduced during operation for the permanent workforce of nine full-time workers.

5 COORDINATION AND CONSULTATION

5.1 Summary of Public Participation

A robust public involvement process, including scoping, was conducted as part of the SEPA environmental review for the Skookumchuck Wind Energy Project (described in more detail in Section 1.5.1 of this EA); OSMRE is using outreach from that EIS to inform this EA. In addition, this EA was published and made available for public comment during a 30-day review period. This EA is available on the OSMRE webpage at https://www.wrcc.osmre.gov/initiatives/centraliaMine.shtm.

5.2 Persons, Groups, and Agencies Consulted

As part of this EA process, OSMRE initiated consultation regarding the Proposed Action with the following agencies and Tribes:

- Washington DAHP
- USFWS
- Chehalis Tribe
- Cowlitz Indian Tribe
- Nisqually Indian Tribe
- Puyallup Tribe of Indians
- Quinault Indian Nation
- Squaxin Indian Tribe
- Steilacoom Tribe

Tribes are offered an opportunity to identify cultural or religious concerns, or Traditional Cultural Properties through direct government-to-government consultation with OSMRE. Thus far, no cultural or religious concerns or Traditional Cultural Properties have been identified through consultation with the Tribes.

5.3 List of Preparers

A list of OSMRE personnel that contributed to the development of this EA is included in Table 5-1 in Appendix B.

A list of third party contractors who contributed to the development of this EA is included in Table 5-2 in Appendix B.

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APPENDICES

Appendix A – Figures

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Appendix C – Outreach and Coordination

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Appendix F – EA Public Comments and Responses

APPENDIX A

Figures

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3–8. Existing Pipeline Transmission
3–9. Land Use
3-10. Local Transportation Network

FIGURE 1.1
PROJECT OVERVIEW

Centralia Mine Permit Revision

- Centralia Mine Permit Boundary

Skookumchuck Wind Project

- Gen-Tie Line Corridor
- Proposed Turbine Location
- Meteorological Tower
- Collector System Cable
- Turbine Micrositing Corridor
- Work Area
- Existing Access Road

SOURCES: CHAMBERS GROUP 2017, LEWIS CO. 2016, THURSTON CO. 2016, USGS NHD 2017, WSDOT 2017

0 1 2 Miles

0 1 2 Kilometers

4/24/2019

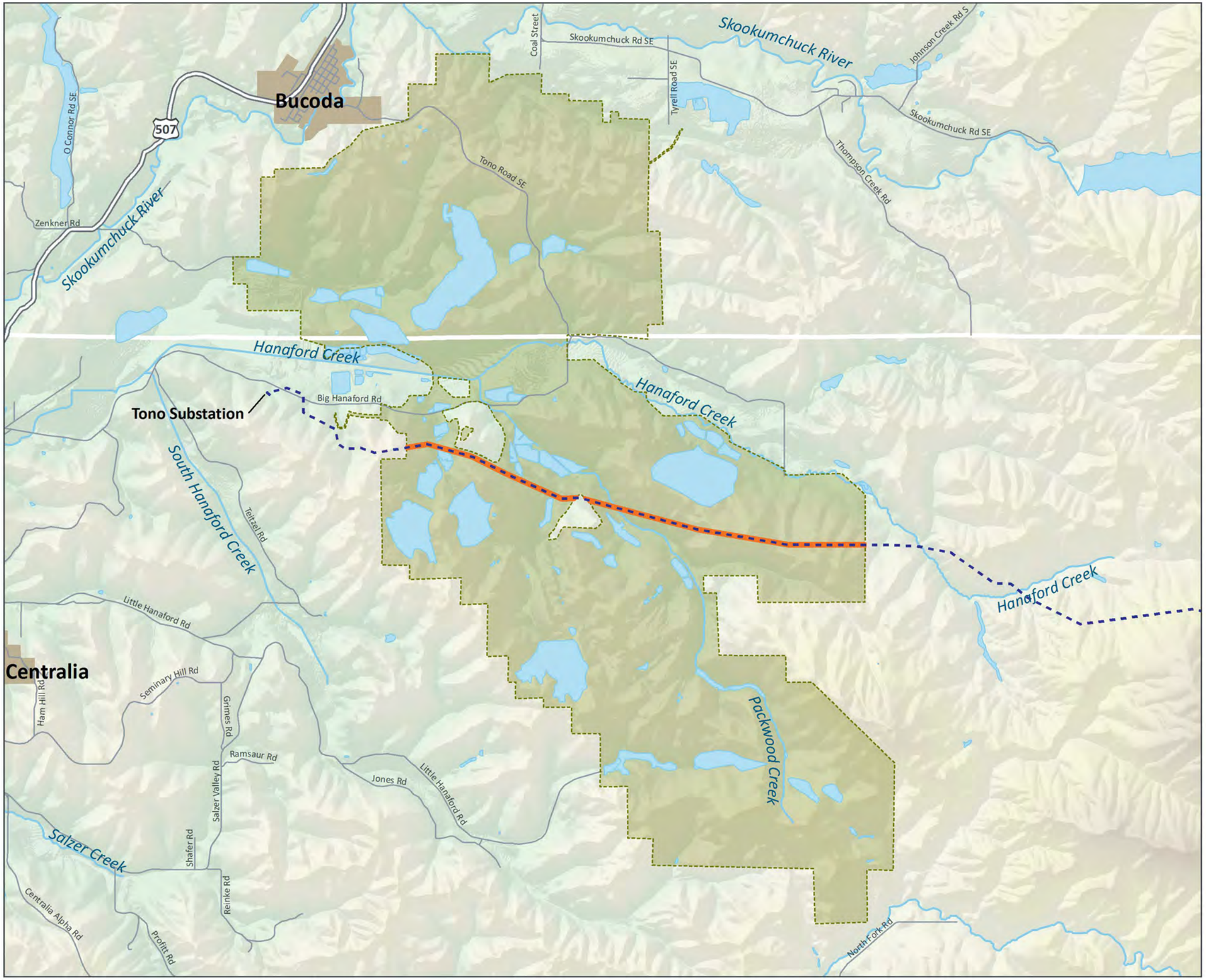


FIGURE 1.2
PROJECT AREA

- Centralia Mine Permit Boundary
- Powerline Corridor
- Powerline Easement

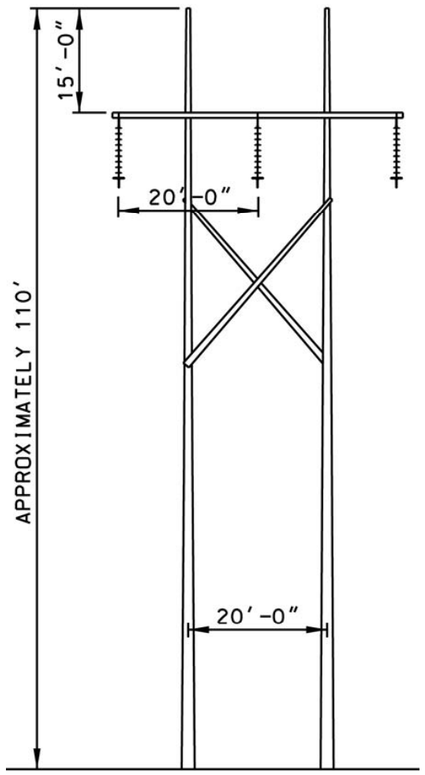
SOURCES: CHAMBERS GROUP 2017, LEWIS CO. 2016, THURSTON CO. 2016, USGS NHD 2017, WSDOT 2017

0 0.6 1.2 Miles

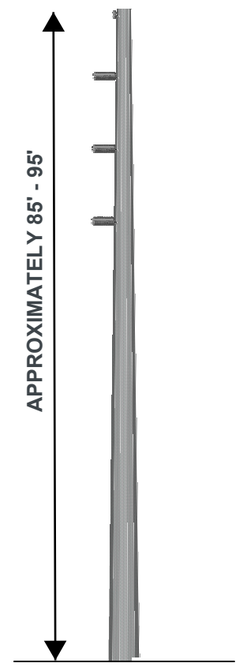
0 0.55 1.1 Kilometers

4/24/2019

FIGURE 2.1
TYPICAL POWERLINE STRUCTURES AND THEIR DIMENSIONS



TYPICAL 115kV
H-FRAME



TYPICAL
MONOPOLE

SOURCE: CH2MHILL

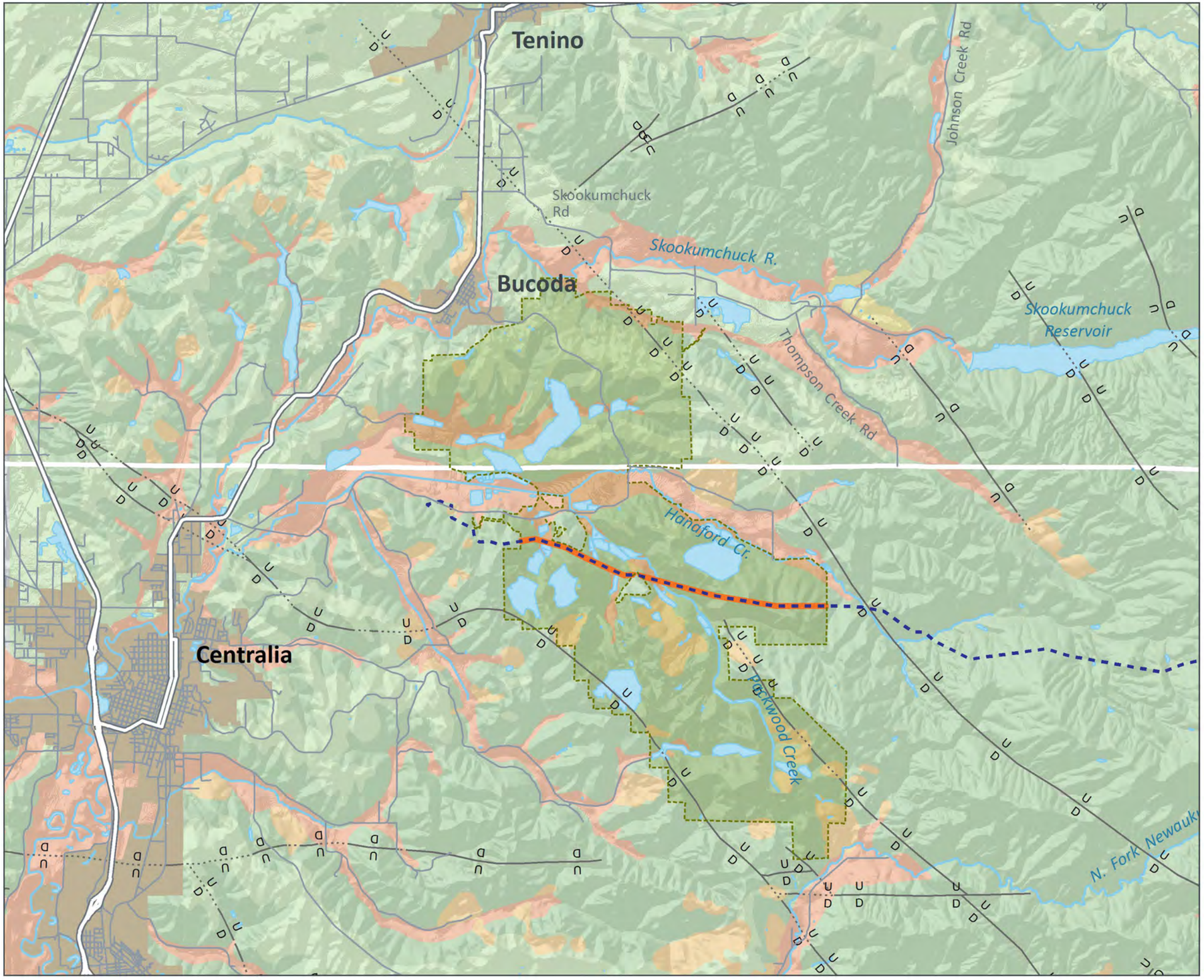


FIGURE 3-1
LIQUEFACTION SUSCEPTIBILITY

Liquefaction Susceptibility

- Moderate to high
- Low to moderate
- Very low to low
- Very low
- Bedrock

Fault - Dip-Slip Movement

- (B) Normal, certain accurate
- (C) High-angle, certain accurate
- (C) High-angle, certain concealed

- Powerline Corridor
- Powerline Easement
- Centralia Mine Permit Boundary

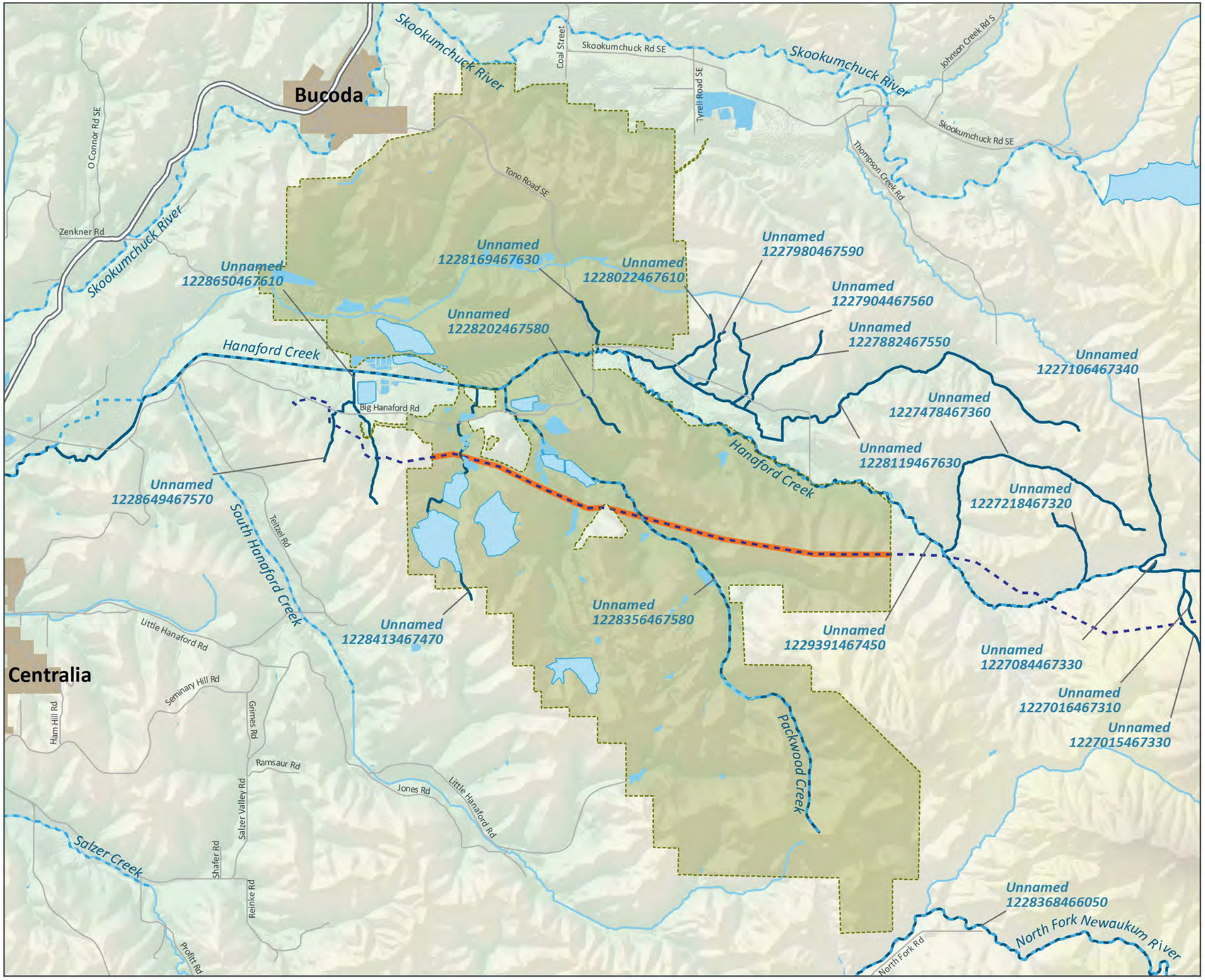
SOURCES: CHAMBERS GROUP 2017, LEWIS CO. 2016, THURSTON CO. 2016, USGS NHD 2017, WDNR 2017, WSDOT 2017

0 1 2 Miles

0 0.85 1.7 Kilometers

4/24/2019

FIGURE 3-2
SURFACE WATER RESOURCES



WADNR Streams / Rivers in Study Area
Stream / River
Lake
WADNR Lake / Pond
NWI Wetland
Powerline Corridor
Powerline Easement
Centralia Mine Permit Boundary

SOURCES: CHAMBERS GROUP 2017, LEWIS CO. 2016, THURSTON CO. 2016, USFWS 2017, USGS NHD 2017, WADNR 2015, WSDOT

0 0.6 1.2 Miles

0 0.55 1.1 Kilometers

4/24/2019

FIGURE 3-3
AQUIFER SENSITIVITY AREAS

Critical Aquifer Recharge Area

- I - Severe
- II - Moderate
- III - Slight
- Powerline Corridor
- Powerline Easement
- Centralia Mine Permit Boundary

SOURCES: CHAMBERS GROUP 2017, LEWIS CO. 2016, THURSTON CO. 2016, USFWS 2017, USGS NHD 2017, WADNR 2015, WSDOT

0 0.6 1.2 Miles

0 0.55 1.1 Kilometers

4/24/2019

FIGURE 3-4
FLOOD HAZARD AREAS

- FEMA 100-year Floodplain
- Stream / River
- Powerline Corridor
- Powerline Easement
- Centralia Mine Permit Boundary

SOURCES: CHAMBERS GROUP 2017, LEWIS CO. 2016, THURSTON CO. 2016, USFWS 2017, USGS NHD 2017, WADNR 2015, WSDOT

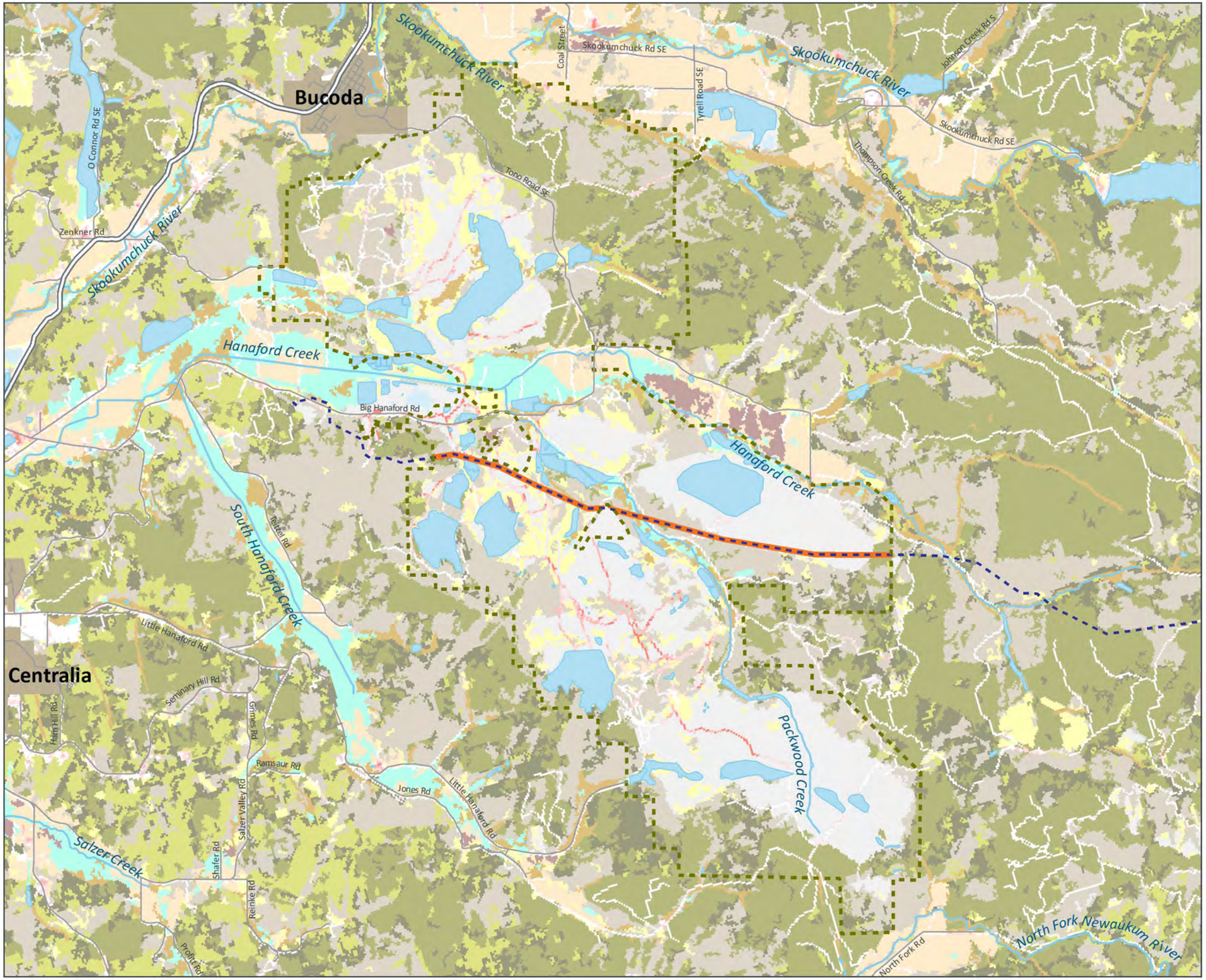
0 0.6 1.2 Miles

0 0.55 1.1 Kilometers

N

4/24/2019

FIGURE 3-5
LAND COVER TYPES



National Land Cover Database Classification

- Barren Land (Rock/ Sand/ Clay)
- Cultivated Crops
- Deciduous Forest
- Developed, High Intensity
- Developed, Low Intensity
- Developed, Medium Intensity
- Developed, Open Space
- Emergent Herbaceous Wetlands
- Evergreen Forest
- Grassland/ Herbaceous
- Mixed Forest
- Open Water
- Pasture/ Hay
- Shrub/ Scrub
- Woody Wetlands
- Powerline Corridor
- Powerline Easement
- Centralia Mine Permit Boundary

SOURCES: CHAMBERS GROUP 2017, LEWIS CO. 2016, THURSTON CO. 2016, USFWS 2017, USGS NHD 2017, WADNR 2015, WSDOT

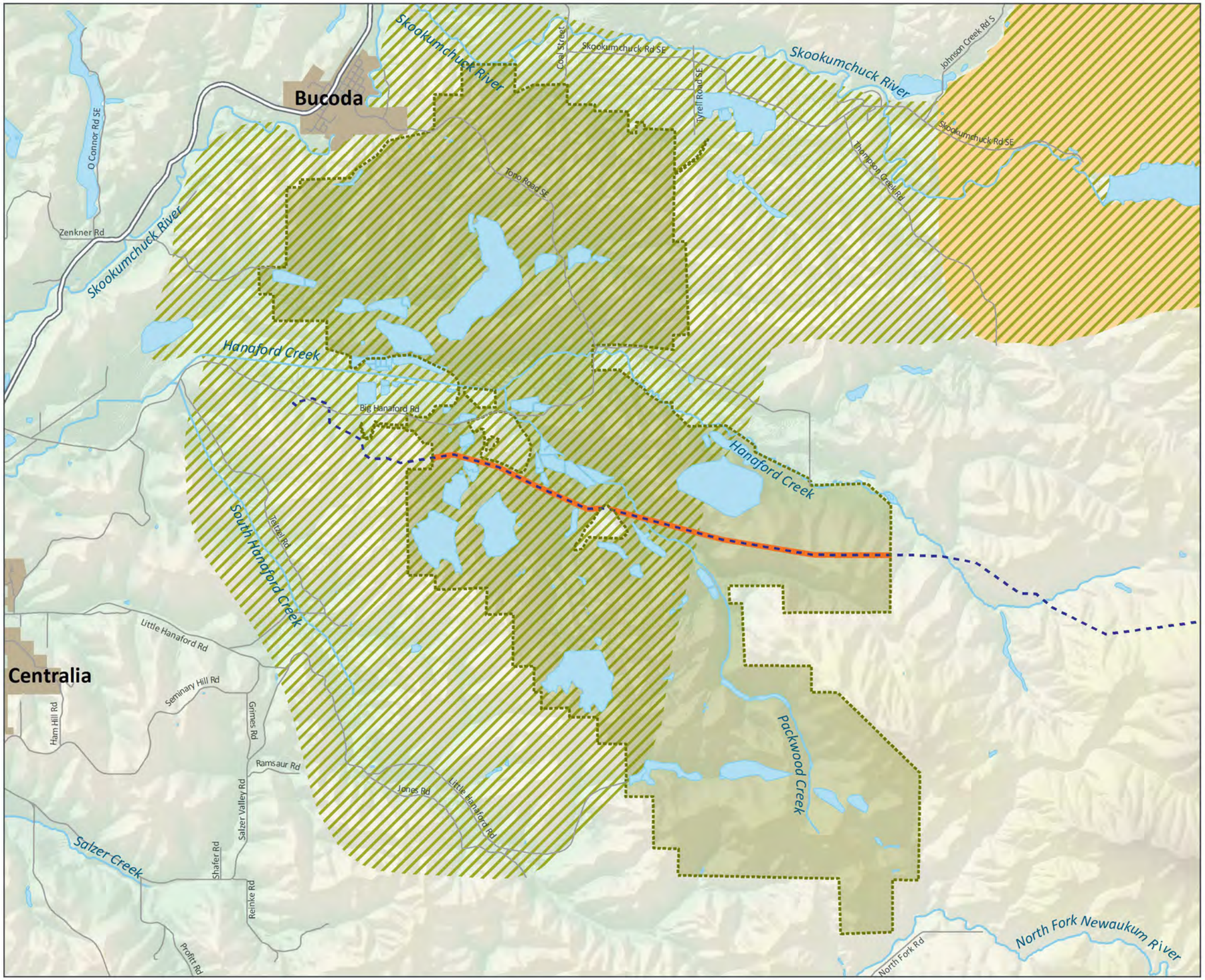
0 0.6 1.2 Miles

0 0.55 1.1 Kilometers

N

4/24/2019

FIGURE 3-6
WDFW ELK HABITAT



Centralia Mine Herd
Skookumchuck Herd
Silver Springs Herd
Powerline Corridor
Powerline Easement
Centralia Mine Permit Boundary

SOURCES: CHAMBERS GROUP 2017, LEWIS CO. 2016, THURSTON CO. 2016, USFWS 2017, USGS NHD 2017, WADNR 2015, WSDOT

0 0.6 1.2 Miles

0 0.55 1.1 Kilometers

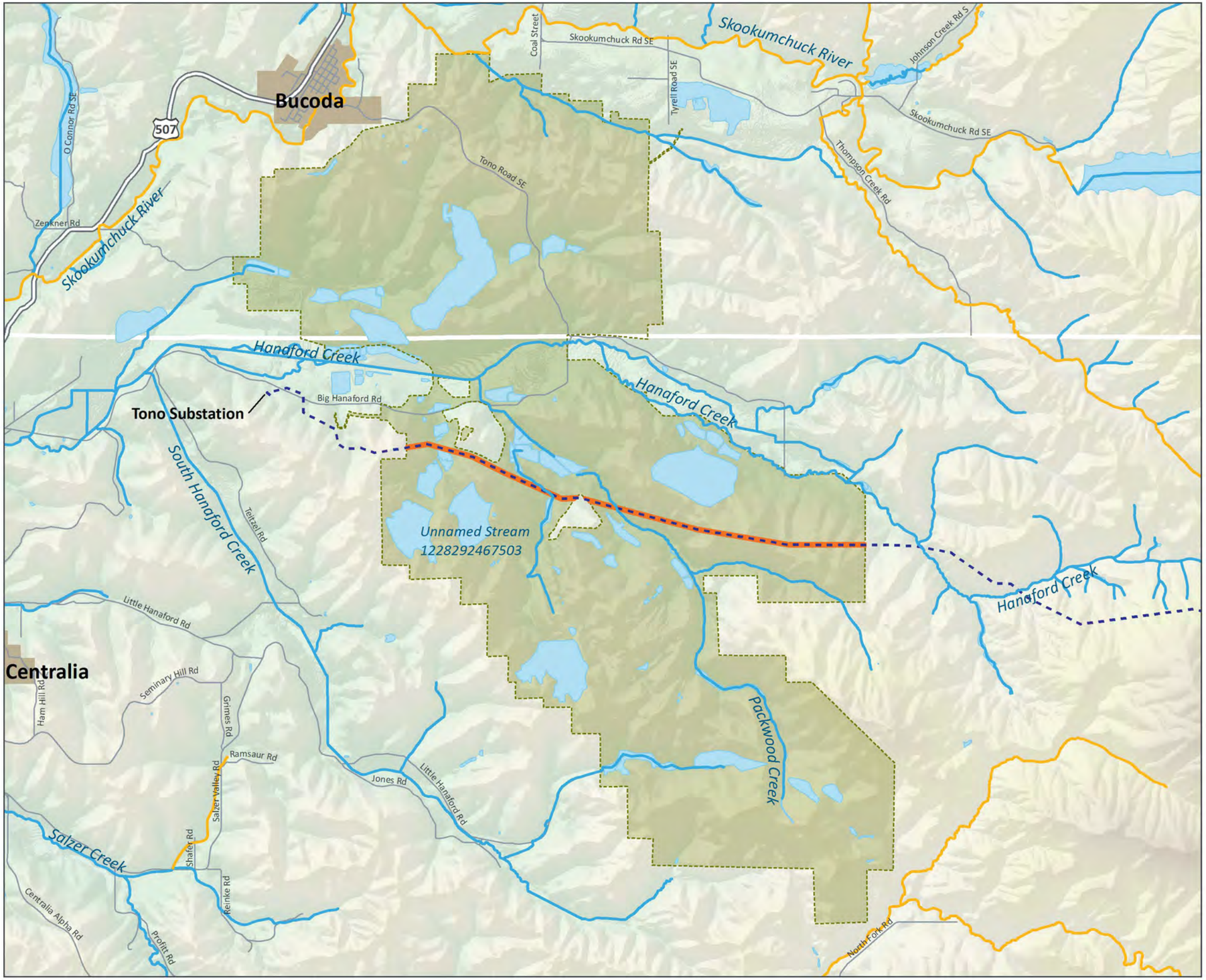
4/24/2019

FIGURE 3.7
ANADROMOUS FISH HABITAT

Coho, Chinook, and Winter Steelhead Habitat

- Migration only
- Spawning and rearing

- Centralia Mine Permit Boundary
- Powerline Corridor
- Powerline Easement



SOURCES: CHAMBERS GROUP 2017, LEWIS CO. 2016, THURSTON CO. 2016, USGS NHD 2017, WDFW 2018, WSDOT 2017

0 0.6 1.2 Miles

0 0.55 1.1 Kilometers

4/24/2019

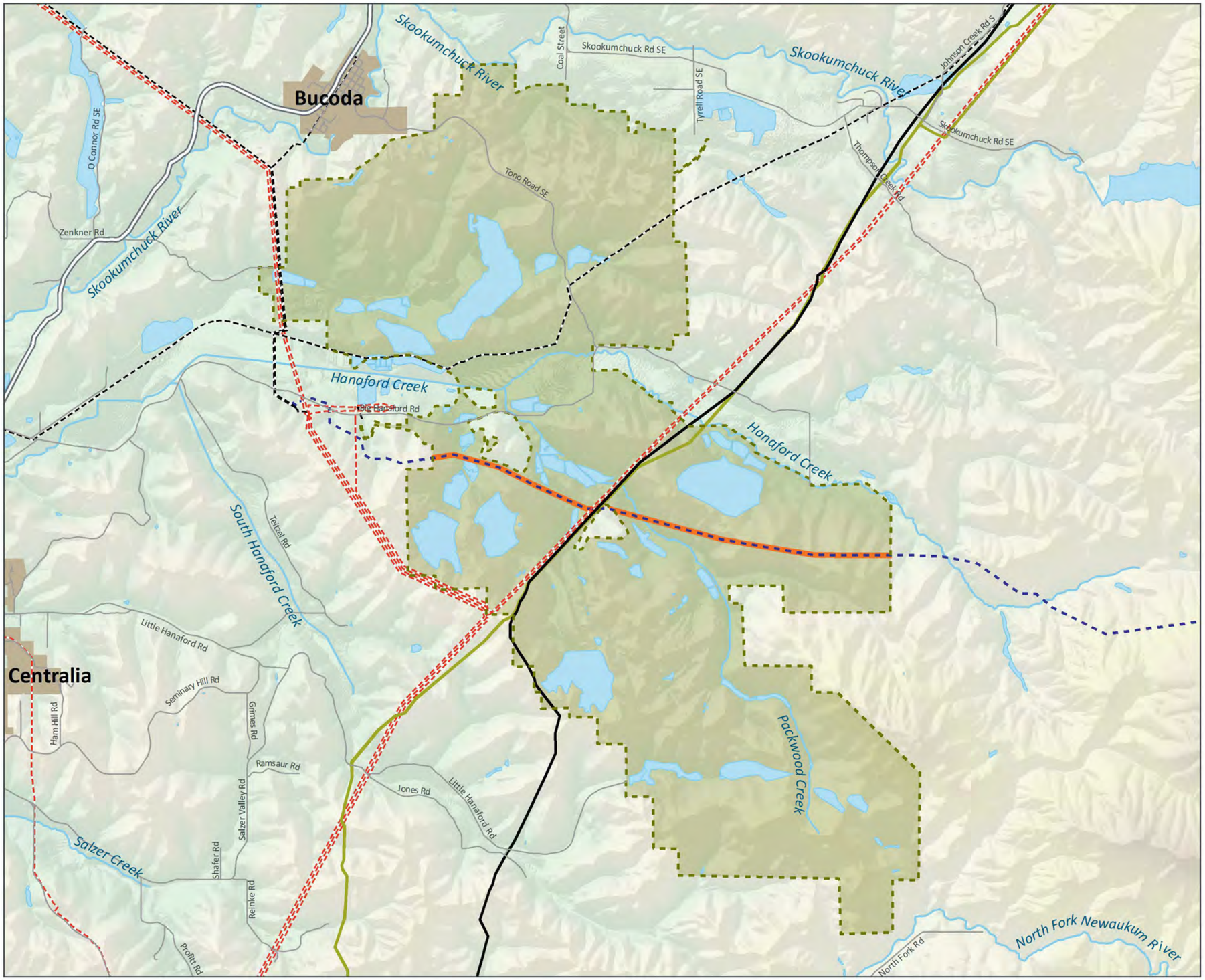


FIGURE 3-8
EXISTING PIPELINES AND TRANSMISSION LINES

Existing Transmission Line
- Bonneville Power Administration
- Unknown Owner

Existing Pipeline
- Northwest Pipeline LLC
- Olympic Pipe Line Company

Proposed Action
- Powerline Corridor
- Powerline Easement
- Centralia Mine Permit Boundary

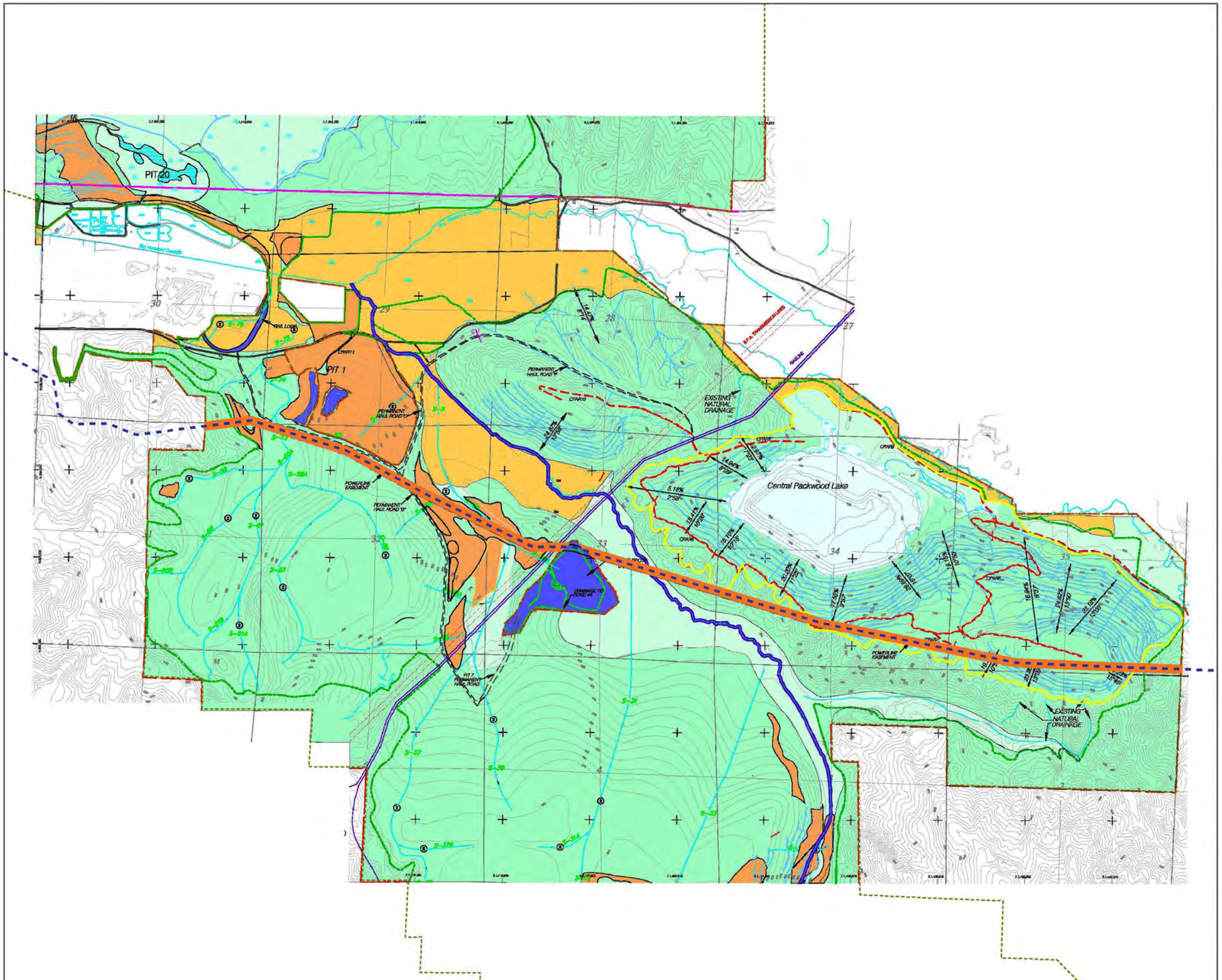
SOURCES: CHAMBERS GROUP 2017, LEWIS CO. 2016, THURSTON CO. 2016, USFWS 2017, USGS NHD 2017, WADNR 2015, WSDOT

0 0.6 1.2 Miles

0 0.55 1.1 Kilometers

4/24/2019

FIGURE 3.9
LAND USE



Proposed Action

- Powerline Corridor
- Powerline Easement
- Centralia Mine Permit Boundary

SOURCES: CHAMBERS GROUP 2017, LEWIS CO. 2016, THURSTON CO. 2016, USGS NHD 2017, WSDOT 2017

0 0.3 0.6 Miles

0 ¼ ½ Kilometers

N

4/24/2019

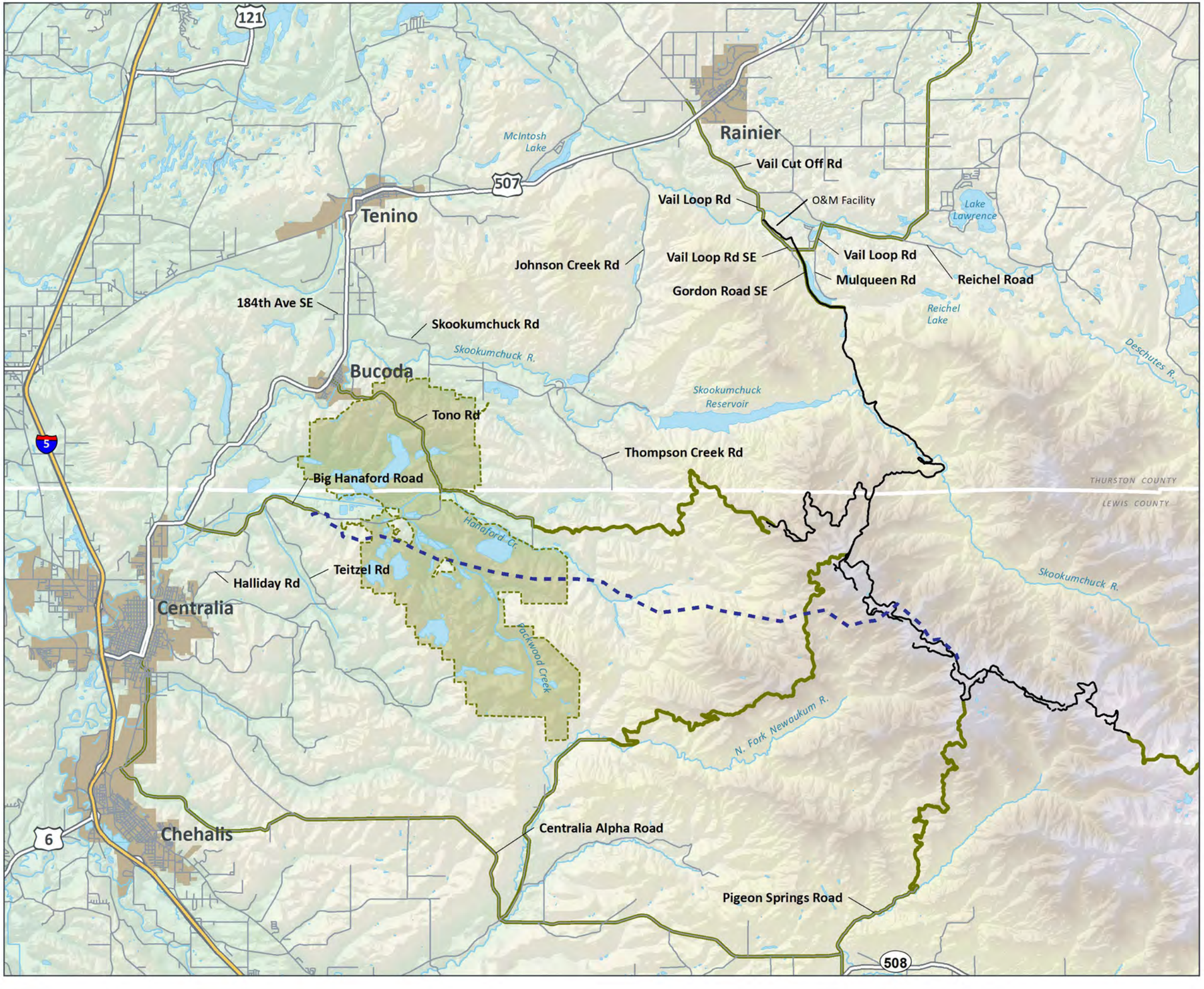


FIGURE 3-10
LOCAL TRANSPORTATION NETWORK

- Interstate
- Highway
- Local Road
- Fire Access Route
- Powerline Corridor
- Existing Access Road
- Centralia Mine Permit Boundary

SOURCES: CHAMBERS GROUP 2017, LEWIS CO. 2016, THURSTON CO. 2016, USGS NHD 2017, WSDOT 2017

0 1½ 3 Miles

0 1½ 3 Kilometers

N

4/24/2019

APPENDIX B

Tables

3-1. Special Status Wildlife Species that may occur near Project Area
3-2. Typical Construction Noise Levels
3-3. NAAQS and WAAQS
3-4. Estimated Emissions in Washington from Project Construction
3-5. Comparison of Project Construction and Lewis County Emissions for 2014 (tons)
5-1. OSMRE Personnel
5-2. Third Party Contractor Personnel

Table 3-1. Special Status Wildlife Species that may occur near Project Area

Species	Status	Potential Occurrence near Project Area
Birds		
marbled murrelet *(Brachyramphus marmoratus*)	Federal Threatened State Threatened	Known – Critical habitat is designated but does not occur within the project area.
yellow-billed cuckoo (*Coccyzus americanus)*	Federal Threatened State Candidate	Unlikely – This species has potential to pass through the project area in migration. None were observed during avian surveys. The project is not located in suitable habitat.
streaked horned lark (*Eremophila alpestris strigata*)	Federal Threatened	Unlikely – This species has potential to pass through the project area in migration. None were observed during avian surveys. The project is outside the range of the species.
bald eagle (*Haliaeetus leucocephalus*)	Species protected by the BGEPA	Known – Observed in the project area during baseline avian use surveys
golden eagle (*Aquila chrysaetos*)	Species protected by the BGEPA	Known
Fish		
Bull trout (*Salvelinus confluentus*)	Federal Threatened	Unlikely - This species it is not documented in the waters in and around the project.
Mammals		
North American wolverine (*Gulo gulo luscus*)	Proposed Threatened	None – The population of wolverine in Washington is still limited in its range. It is typically a species of elevations higher than the project area and is known to be sensitive to human-related activities.
Gray wolf (*Canis lupus*)	Proposed Endangered	Unlikely – There are no confirmed wolf packs in the Cascades south of Interstate 90 or in Western Washington.
Olympia Pocket Gopher (*Thomomys mazama pugetensis*)	Federal Threatened	Unlikely - Populations appear to be located north of Centralia in Thurston County and the project area does not contain native prairie habitat required by the Mazama pocket gopher.
Tenino Pocket Gopher (*Thomomys mazama tumuli*)	Federal Threatened	Unlikely - the species has been observed in prairie grasslands in the project vicinity; however, the project area does not contain native prairie habitat required by the Mazama pocket gopher.
Yelm Pocket Gopher (*Thomomys mazama yelmensis*)	Federal Threatened	Unlikely - The project area does not contain native prairie habitat required by the Mazama pocket gopher.

Table 3-2. Typical Construction Noise Levels

Construction Activity	Construction Equipment	Usage Factor, %	L_{max} at 50 ft, dBA	Hourly L_{eq} at 50 ft, dBA	Activity Total Hourly L_{eq} at Distance (ft), dBA			
					50	200	500	1,000
Site Preparation	Dozer	40	85	81	82	70	62	56
	Compactor	20	80	73				
Erection	Man Lift	20	85	78	83	71	63	57
	Flat Bed Truck	40	84	80				

Source: U.S. Department of Transportation (2006), "FHWA Highway Construction Noise Handbook"
Notes:
Usage Factor = percentage of time that the equipment is in use
L_{max} = maximum sound level

Table 3-3. NAAQS and WAAQS

Pollutant	Averaging Time	NAAQS[1]	WAAQS[2]
Particulate Matter (PM_{10})	24 hour	150 µg/m^3	150 µg/m^3
Particulate Matter ($PM_{2.5}$)	Annual Arithmetic Mean	15 µg/m^3 (Primary) 12.0 µg/m^3 (secondary)	12.0 µg/m^3
	24 hour	35 µg/m^3	35 µg/m^3
Ozone (O_3)	8 hour	0.070 ppm	0.070 ppm
Carbon Monoxide (CO)	8 hour	9 ppm	9 ppm
	1 hour	35 ppm	35 ppm
Sulfur Dioxide (SO_2)	Annual	0.03 ppm	0.02 ppm
	24 hour	0.14 ppm	0.14 ppm
	3 hour	0.5 ppm	0.5 ppm
	1 hour	75 ppb	75 ppb
Nitrogen Dioxide (NO_2)	1 hour	0.100 ppm	100 ppb
	Annual	0.053 ppm	53 ppb
Lead (Pb)	Quarterly	0.15 µg/m^3	0.15 µg/m^3

1. USEPA 2019b
2. WAC 173-476-900

µg/m^3 – micrograms per cubic meter
ppm – parts per million
ppb – parts per billion

Table 3-4. Estimated Emissions (tons) in Washington from Project Construction

Pollutant	Offroad Exhaust	Commuting Exhaust	Matl. Delivery Exhaust	Paved Road Fugitive Dust	General Const. Fugitive Dust	Total
CO	0.14	0.07	0.02	NA	NA	0.2
NO_x	0.49	0.01	0.07	NA	NA	0.6
PM_{10}	0.02	0.00	0.00	0.98	1.84	2.8
$PM_{2.5}$	0.02	0.00	0.00	0.24	0.18	0.4
SO_2	0.00	0.00	0.00	NA	NA	0.0
VOC	0.06	0.00	0.00	NA	NA	0.1
CO_2e	221.5	9.7	28.0	NA	NA	259.2

Table 3-5. Comparison of Project Construction and Lewis County Emissions for 2014 (tons)

Pollutant	Project Construction	Lewis County
CO	0.2	42,524
NO_x	0.6	12,983
PM_{10}	28.	8,650
$PM_{2.5}$	0.4	3,179
SO_2	0	3,233
VOC	0.1	33,638
CO_2e	272	8,953,213

Table 5-1. OSMRE Personnel

Name	Agency	Project Responsibility
Matthew Hulbert	OSMRE	Centralia Project Coordinator
Gretchen Pinkham	OSMRE	NEPA Project Lead
Glenn Waugh	OSMRE	Senior Regulatory Program Specialist
Dr. Edward Vasquez	OSMRE	Endangered Species Act Consultation

Table 5-2. Third Party Contractor Personnel

Name	Organization	Project Responsibility
Sandy Cody	HDR	NEPA writer, document preparation
Marissa Gifford, AICP	HDR	NEPA writer, document preparation
Ruth Ellen Hughes	HDR	Section 508 formatting
Kelsey Rudd	HDR	Technical editor
Rona Spellecacy, CEP, AICP	HDR	NEPA Project Manager
Adam Teepe	HDR	Technical review, QA/QC
Michelle Victor	HDR	GIS and mapping

APPENDIX C

Outreach and Coordination

Public Notice
Stakeholder Outreach Letter
Tribal Outreach Letter
Mailing List

PUBLIC NOTICE
Centralia Coal Mine
Minor Permit Revision
Environmental Assessment
Unsigned Finding of No Significant Impact

The U.S. Department of the Interior, Office of Surface Mining Reclamation and Enforcement (OSMRE), Western Region Office, has prepared an Environmental Assessment (EA) and unsigned Finding of No Significant Impact (FONSI) for TransAlta Centralia Mining LLC's Centralia Mine minor permit revision for Permit No. WA-0001E.

TransAlta Centralia Mining LLC (TCM) owns and operates the Centralia Mine. TCM ceased active coal mining operations at Centralia Mine in 2006 and has since been conducting reclamation-only activities. The mine is located in Lewis County approximately six miles northeast of Centralia, Washington.

The OSMRE is responsible for reviewing plans to conduct coal mining and reclamation operations on lands containing leased Federal coal. OSMRE is announcing that the EA and an unsigned FONSI are available online and is requesting public comments on the documents.

TCM is proposing the following minor revision of the existing surface coal mining permit and Permit Application Package (PAP): The proposed minor permit revision would change the land-use designation of approximately 81 acres within the Centralia Mine permit area. The purpose of the land use change is to allow for a 150-foot-wide powerline corridor through the Centralia Mine permit area for the Skookumchuck Wind Energy Project.

If no action is taken, TCM would continue reclamation activities in accordance with their current permit.

Interested persons may view the EA and the unsigned FONSI on the OSMRE website at:

https://www.wrcc.osmre.gov/initiatives/centraliaMine.shtm.

This notice initiates the public comment process on the EA and unsigned FONSI. To ensure consideration of your comments, we must receive your electronic or written comments by **May 28, 2019.** Comments may be submitted in writing or by e-mail. At the top of your letter or in the subject line of your e-mail message, please indicate that the comments are "Centralia Coal Mine EA Comments."

- E-mail comments should be sent to: gpinkham@osmre.gov

- Comments delivered by U.S. Postal Service Express Mail or by courier service must be delivered by **May 28, 2019** and should be sent to:

  OSMRE-Western Region
  ATTN: Gretchen Pinkham, Centralia Mine
  1999 Broadway, Suite 3320
  Denver, CO 80202-3050

Comments received, including names and addresses of those who comment, will be considered part of the public record for this project and will be available for public inspection. By including

your address, phone number, email address, or other personally identifying information in your comment, you should be aware that your entire comment, including your personally identifying information, may be made publicly available at any time. While you can ask us in your comment to withhold your personal identifying information from public review, we cannot guarantee that we will be able to do so.

For further information about the Project, NEPA Process, or to have your name added to the mailing list, contact: Gretchen Pinkham, OSMRE Project Manager, at 303-293-5088 or gpinkham@osmre.gov.

United States Department of the Interior
OFFICE OF SURFACE MINING
RECLAMATION AND ENFORCEMENT
Western Region Office
1999 Broadway, Suite 3320
Denver, CO 80202-3050

April 26, 2019

RE: Availability of an Environmental Assessment for a Proposed Federal Minor Permit Revision for the Centralia Coal Mine

Dear Interested Party,

The U.S. Department of the Interior, Office of Surface Mining Reclamation and Enforcement (OSMRE), Western Region Office, has prepared an Environmental Assessment (EA) for TransAlta Centralia Mining LLC's (TCM's) Centralia Coal Mine minor permit revision for OSMRE Permit No. WA-0001E. See Figure 1 for the location of the Mine and the Amendment area.

The OSMRE is responsible for reviewing plans to conduct coal mining and reclamation operations on lands containing leased Federal coal. OSMRE is announcing that the EA is available online and is requesting public comments on the document.

The proposed minor permit revision would change the land use designation of approximately 81 acres within the Centralia Mine permit area, to allow for a 150-foot-wide powerline corridor for the Skookumchuck Wind Energy Project. The Centralia Mine is located within Sections 31-35, Township 15 North, Range 1 West, W.M., Lewis County, Washington. In September 2018 TCM entered into an easement agreement with Skookumchuck Wind Energy Project, LLC, which would allow the proposed powerline corridor easement and access for construction and maintenance.

If no action is taken, TCM would continue to conduct reclamation activities per their current permit.

Interested persons may view the EA on the OSMRE website at: https://www.wrcc.osmre.gov/initiatives/centraliaMine.shtm.

This notice initiates the public comment process on the 2019 EA. To ensure consideration of your comments, we must receive your electronic or written comments by **May 28, 2019.** Comments may be submitted in writing or by e-mail. At the top of your letter or in the subject line of your e-mail message, please indicate that the comments are "Centralia Coal Mine EA Comments."

- E-mail comments should be sent to: gpinkham@osmre.gov
- Comments delivered by U.S. Postal Service Express Mail or by courier service must be delivered by **May 28, 2019** and should be sent to:

  OSMRE-Western Region
  ATTN: Gretchen Pinkham, Centralia Coal Mine EA
  1999 Broadway, Suite 3320
  Denver, CO 80202-3050

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OFFICE OF SURFACE MINING
RECLAMATION AND ENFORCEMENT
Western Region Office
1999 Broadway, Suite 3320
Denver, CO 80202-3050

Comments received, including names and addresses of those who comment, will be considered part of the public record for this project and will be available for public inspection. By including your address, phone number, email address, or other personally identifying information in your comment, you should be aware that your entire comment, including your personally identifying information, may be made publically available at any time. While you can ask us in your comment to withhold your personal identifying information from public review, we cannot guarantee that we will be able to do so.

For further information about the Project, NEPA Process, or to have your name added to the mailing list, contact: Gretchen Pinkham, OSMRE Project Manager, at 303-293-5088.

Mychal Yellowman
OSMRE

Enclosure

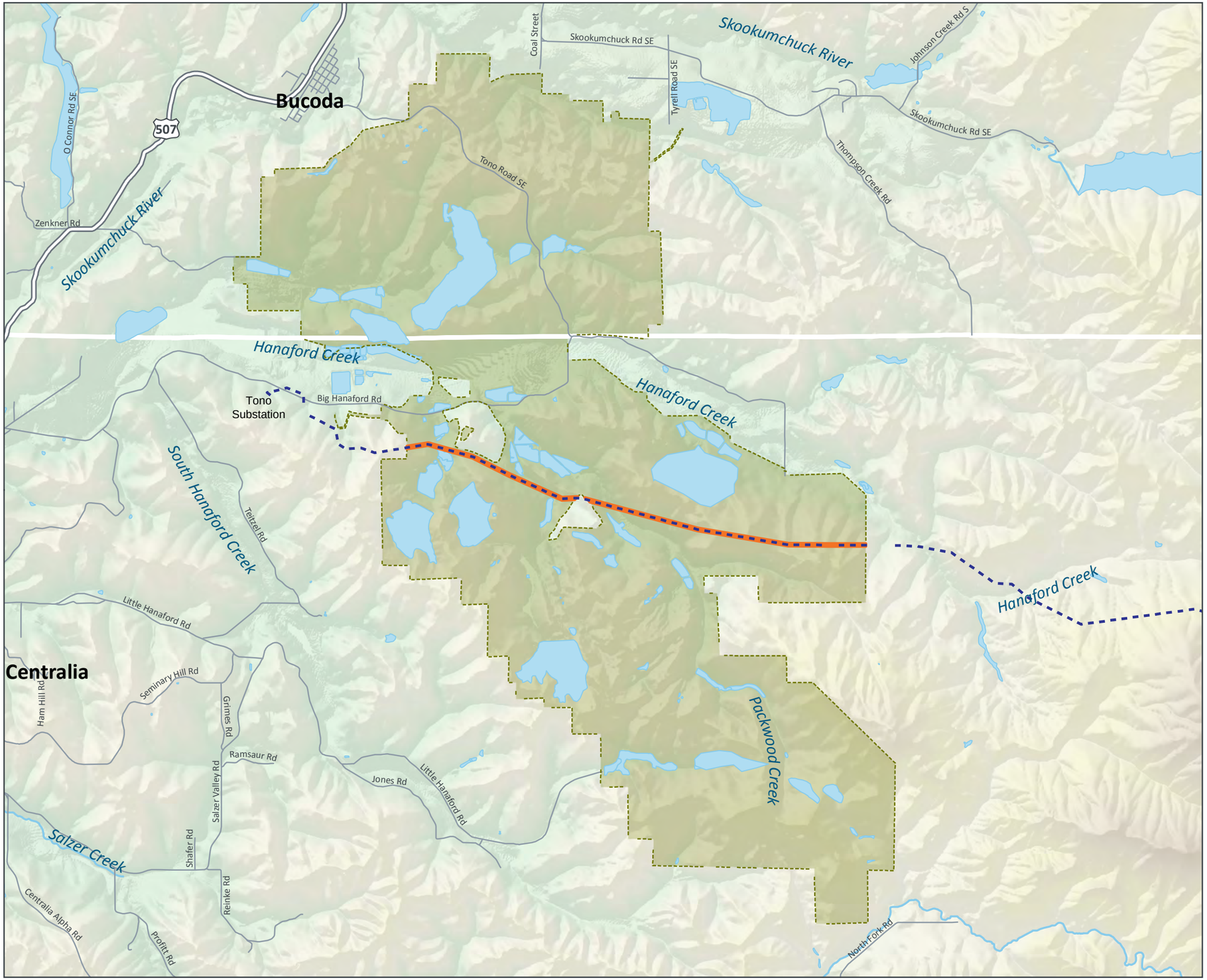

FIGURE 1
PROJECT AREA

- Centralia Mine Permit Boundary
- Powerline Corridor
- Powerline Easement

SOURCES: CHAMBERS GROUP 2017, LEWIS CO. 2016, THURSTON CO. 2016, USGS NHD 2017, WSDOT 2017

0 0.6 1.2 Miles

0 0.55 1.1 Kilometers

2/27/2019

United States Department of the Interior
OFFICE OF SURFACE MINING
RECLAMATION AND ENFORCEMENT
Western Region Office
1999 Broadway, Suite 3320
Denver, CO 80202-3050

April 26, 2019

Certified Mail Return Receipt Requested

Tribal Chairman
Tribe
Address
City, State Zip Code

RE: Availability of an Environmental Assessment for a Proposed Federal Minor Permit Revision for the Centralia Coal Mine

Dear Tribal Chairman,

The U.S. Department of the Interior, Office of Surface Mining Reclamation and Enforcement (OSMRE), Western Region Office, has prepared an Environmental Assessment (EA) and unsigned Finding of No Significant Impact (FONSI) for TransAlta Centralia Mining LLC's (TCM's) Centralia Coal Mine minor permit revision for OSMRE Permit No. WA-0001E. See Figure 1 for the location of the Mine and the Amendment area.

The OSMRE is responsible for reviewing plans to conduct coal mining and reclamation operations on lands containing leased Federal coal.

The purpose of this letter is to formally invite the _____ Tribe to consult with the OSMRE on the EA for TCM's Centralia Coal Mine minor permit revision for OSMRE Permit No. WA-0001E, pursuant to the US Department of Interior's policy for Government-to-Government consultations [Executive Order 13175, Secretarial Order 3317, and Presidential Memorandum on Tribal Consultation (November 9, 2009)] and 36 CFR Part 800.2(c)(2)(ii), the regulations implementing Section 106 of the National Historic Preservation Act of 1966 (as amended [NHPA]). The goal of the Government-to-Government process is to create effective collaboration and promote enhanced communication that emphasizes trust, respect, and shared responsibility. OSMRE requests input your tribe may have regarding the Centralia Mine Minor Permit Revision EA and the unsigned FONSI.

About the Project

The proposed minor permit revision would change the land use designation of approximately 81 acres within the Centralia Mine permit area, to allow for a 150-foot-wide powerline corridor for the Skookumchuck Wind Energy Project. The Centralia Mine is located within Sections 31-35, Township 15 North, Range 1 West, W.M., Lewis County, Washington. In September 2018 TCM entered into an easement agreement with Skookumchuck Wind Energy Project, LLC, which would allow the proposed powerline corridor easement and access for construction and maintenance.

If no action is taken, TCM would continue to conduct reclamation activities per their current permit.

If you believe that the proposed action listed above may affect your tribe or resources related to your tribe, including concerns under the NHPA, please submit a written request to gpinkham@osmre.gov or Gretchen Pinkham at 1999 Broadway, Suite 3320, Denver, CO 80202-

3050. The _____ Tribe may request a Government-to-Government consultation at any time during the NEPA process. In addition to Government-to-Government and Section 106 consultation, the _____ Tribe may also participate in the formal NEPA process by providing comments on the 2019 EA and unsigned FONSI. Comments may be submitted in writing or by e-mail. At the top of your letter or in the subject line of your e-mail message, please indicate that the comments are "TCM Centralia Mine EA Comments."

Interested persons may view the EA and the unsigned FONSI on the OSMRE website at:

https://www.wrcc.osmre.gov/initiatives/centraliaMine.shtm

The website also contains information related TCM's proposed mining plan modification project, the public comment period, and the NEPA process.

To ensure consideration of your comments, we must receive your electronic or written comments by **May 28, 2019.** Comments may be submitted in writing or by e-mail. At the top of your letter or in the subject line of your e-mail message, please indicate that the comments are "TCM Centralia Coal Mine EA Comments."

- E-mail comments should be sent to: gpinkham@osmre.gov
- Comments delivered by U.S. Postal Service Express Mail or by courier service must be delivered by **May 28, 2019** and should be sent to:

  OSMRE-Western Region
  ATTN: Gretchen Pinkham, Centralia Coal Mine EA
  1999 Broadway, Suite 3320
  Denver, CO 80202-3050

Comments received, including names and addresses of those who comment, will be considered part of the public record for this project and will be available for public inspection. By including your address, phone number, email address, or other personally identifying information in your comment, you should be aware that your entire comment, including your personally identifying information, may be made publically available at any time. While you can ask us in your comment to withhold your personal identifying information from public review, we cannot guarantee that we will be able to do so.

For further information about the Project, NEPA Process, or to have your name added to the mailing list, contact: Gretchen Pinkham, OSMRE Project Manager, at 303-293-5088 or gpinkham@osmre.gov.

Mychal Yellowman
OSMRE

Enclosure

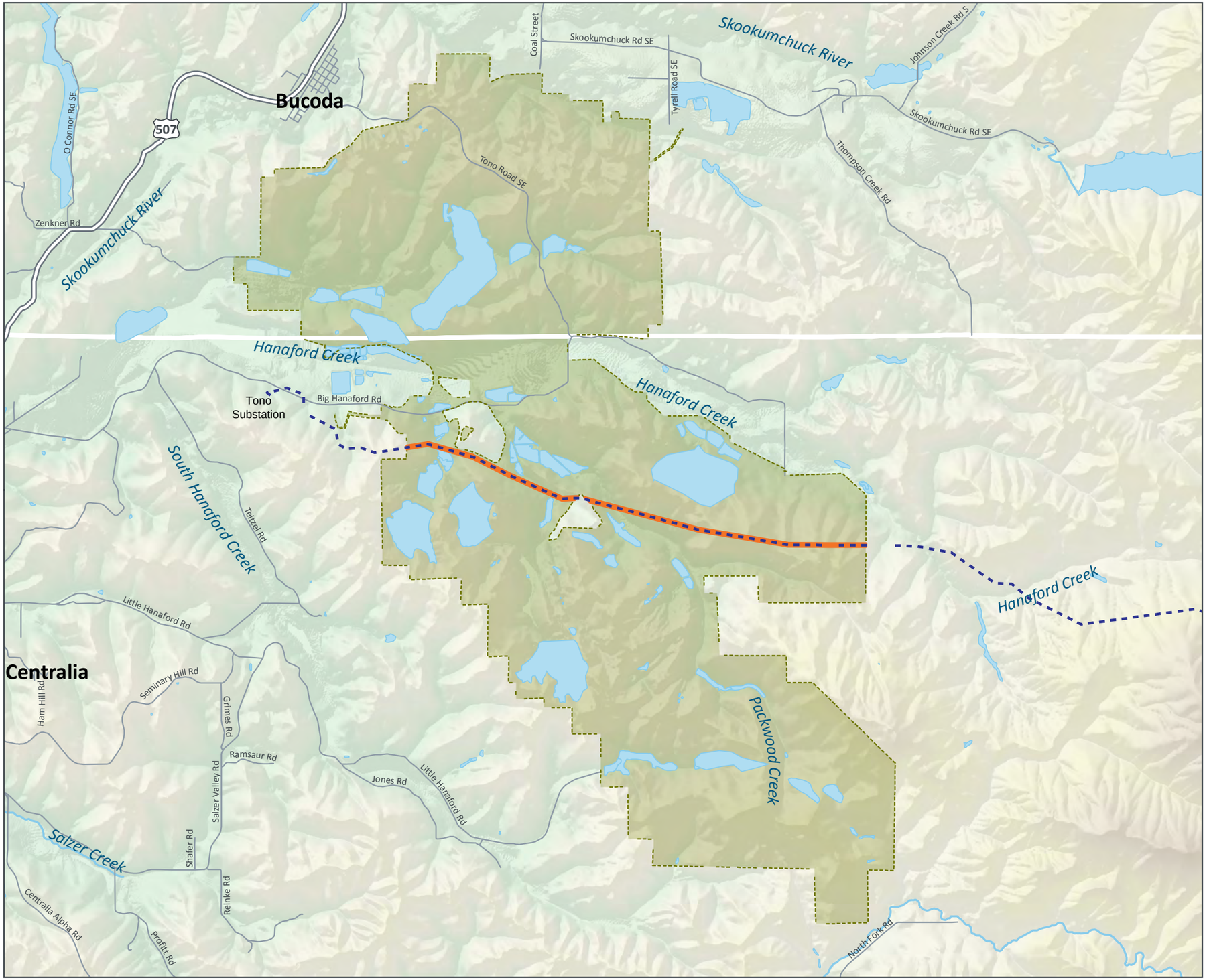

FIGURE 1
PROJECT AREA

- Centralia Mine Permit Boundary
- Powerline Corridor
- Powerline Easement

SOURCES: CHAMBERS GROUP 2017, LEWIS CO. 2016, THURSTON CO. 2016, USGS NHD 2017, WSDOT 2017

0 0.6 1.2 Miles

0 0.55 1.1 Kilometers

2/27/2019

Project Mailing List

Last Name	First Name	Agency
Tribal		
Connelly	Glen	Chehalis Tribe
Penn	Dan	Chehalis Tribe
Loudermilk	Amy	Chehalis Tribe
Iyall	William	Cowlitz Tribe
Reynolds	Nathan	Cowlitz Tribe
Gordon	James	Cowlitz Tribe
Troutt	David	Nisqually Indian Tribe
Sterud	Bill	Puyallup Tribe of Indians
Sharp	Fawn	Quinault Indian Nation
Cooper	Arnold	Squaxin Island Tribe
Marshall	Danny	Steilacoom Tribe
State and Local Agencies		
		Washington Department of Fish & Wildlife – SEPA Desk
Brummer	Scott	Washington Department of Fish & Wildlife
Allegro	Justin	Washington Department of Fish & Wildlife
Ritter	Michael	Washington Department of Fish & Wildlife
McLain	Kelly	Washington State Department of Agriculture
Jolivette	Stephanie	Washington State Department of Archaeology & Historic Preservation
Whitlam	Rob	Washington State Department of Archaeology & Historic Preservation
Kaehler	Gretchen	Washington State Department of Archaeology & Historic Preservation
		Washington State Department of Commerce
Heinitz	Eric	Washington State Department of Corrections
SEPA Unit		Washington State Department of Ecology
Morrison	Scott	Washington State Department of Ecology – Mining
Meyer	Zach	Washington State Department of Ecology – Shorelines
Middleton	Thomas	Washington State Department of Ecology – Toxic Clean up
Cline	Vicki	Washington State Department of Ecology – Water Resources
Kasperski	Joseph	Washington State Department of Ecology – Water Quality
Montague-Breakwell	Chris	Washington State Department of Ecology – Water Quality
Cooper	Kelly	Washington State Department of Health
Sampson	Scott	Washington State Department of Revenue

Last Name	First Name	Agency
SEPA Center		Washington State Department of Natural Resources
O'neal	Elizabeth	Washington State Department of Natural Resources – legal affairs
Gillum	Carrie	Washington State Department of Natural Resources – Mining
Skov	Rian	Washington State Department of Natural Resources – Mining
Holt	Jasa	Washington State Department of Natural Resources – Washington Natural Heritage Program
Morgan	Cayla	Washington State Department of Transportation & Washington State Patrol – Aviation Division
		Washington State Department of Transportation (Olympic Region)
Barsness	Jeff	Washington State Department of Transportation (Southwest Region)
Logan	Jessica	Washington State Parks & Recreation Commission
Sinclair-Olson	Terri	Washington State Department of Social and Health Services
Reynolds	Deborah	Washington Utilities & Transportation Commission
Posner	Stephen	State of Washington Energy Facility Site Evaluation Council
Papish	Uri	Southwest Clean Air Agency
Witherspoon	Karen	Lewis County Community Development
Eisenberg	Eric	Lewis County Prosecutor's Office
Martin	Erik	Lewis County Manager
Napier	Lee	Lewis County Community Development
Teitzel	Bill	Lewis County Public Health
Alexander	Tiffany	Lewis County Public Works
Roy	Martin	Lewis County Public Works
Sanford	Doyle	Lewis County Building Division
Dorey	Dianne	Lewis County Assessor's Office
Amrine	Bob	Lewis County Conservation District
Martin	Andrew	Chief, Lewis County Fire District 1
Kytta	Mike	Riverside Fire Authority #99
Kinder	Tim	Fire Chief, Lewis County Fire District #6
Harmanson	Alicia	Lewis County PUD
Samuelson	Matt	Lewis County PUD
Hoke	Hillary	City of Centralia
King	Deborah	City of Chehalis
Morris	Bryan	City of Napavine
Whitten	Michelle	City of Toledo
Cooper	Gary	City of Vader

Last Name	First Name	Agency
Dodd	Cris	City of Winlock
Federal Agencies		
		Federal Energy Regulatory Commission
Strom	Mark	NOAA Fisheries
Connally	Kevin	U.S. Fish and Wildlife Service
Carnes	Evan	U.S. Army Corps of Engineers
		Federal Aviation Administration – obstruction evaluation airport airspace analysis
Holbrook	Kelsea	Mount Rainier National Park Service
		National Association of Regulatory Utility Commissioners
Brank	John	Bonneville Power Administration
Gilliland	Kimberly	Bonneville Power Administration
Jackson	Melanie	Bonneville Power Administration
Watts	Kirsten	Bonneville Power Administration
Landowners		
		Alco Holdings LLC
		Arcadia Land & Timber LLC
		Fruit Growers Supply Co
		Puget Sound Energy
Chavez	Anthony	Weyerhaeuser Company
Gellatly	Scott	
Teitzel	Richard	
Roe	Allyn	Industrial Park at TransAlta
Scheer	Bill	TransAlta Central Mining
Smith	Tom	
Jackson	Ronald	
Wesselius	Allen	
Interested Groups and Businesses		
Merrill	Sam	Black Hills Audubon
Ruth	Maria	Black Hills Audubon
Budine	Nicole	Cascade Forest Conservancy
Robinson	Jan	Chehalis River Basin Land Trust
Read	Quinn	Defenders of Wildlife
Rauzon	Mark	Pacific Seabird Group
Friesen	Megan	Seattle Audubon
Pirak	Marya	VanNess Feldman
Whittaker	Kara	Washington Forest Law Center

Last Name	First Name	Agency
Heaton	Kyle	Port of Centralia
Rouse	Rich	Port of Chehalis
Davalos	Mark	Superintendent, Centralia School District 401
Davis	Jeff	Superintendent, Onalaska School District 300
		Chehalis School District 302
		Burlington Northern Santa Fe (BNSF) Railway Company

APPENDIX D

Endangered Species Act (ESA) Section 7 Determination of Effects

OSMRE – ESA Section 7 Determination of Effects
List of Threatened and Endangered Species

United States Department of the Interior

OFFICE OF SURFACE MINING
RECLAMATION AND ENFORCEMENT
Western Region
1999 Broadway St., Suite 3320
Denver, CO 80202-3050

DATE: March 6, 2019
TO: TransAlta Centralia Mining: Powerline Corridor EA File
FROM: Ed Vasquez, Ph.D., Ecologist

RE: Endangered Species Act Section 7 Determination of Effects for TransAlta LLC - Centralia Mine: powerline corridor proposed project.

I. Background

TransAlta Centralia Mining LLC (TCM) is the Permittee and Operator of the Centralia Coal Mine, which is located at 1015 Big Hanaford Road in Centralia, Washington. TCM has filed a permit revision application with OSMRE. The Centralia Mine is located within Sections 31-35, Township 15 North, Range 1 West, W.M., Lewis County, Washington. OSMRE conducted a USFWS Information for planning and consultation (IPaC) search for federally listed species with potential to occur within the project area on March 6, 2019 (Consultation Code: 01EWFW00-2019-SLI-0645).

II. Proposed Action

Under the proposed action, OSMRE would issue a permit revision to the existing reclamation permit (Permit No. WA-0001E). The permit revision would change the use of approximately 81 acres within the Centralia Mine permit area to allow a 150-foot-wide power line corridor through the Centralia Mine for the Skookumchuck Wind Energy Project. If the permit revision is approved, the power line would transect approximately 4.4 miles of the mine permit area with a temporary impact of approximately 53 acres and a permanent impact of 21 acres. The approximately 81-acre easement would cross 53.5 acres of land that has been previously disturbed by mining and 27.2 acres of undisturbed land. Of the 53.5 acres previously disturbed, approximately 41.3 acres of Upland Forest and 12.2 acres of Pre-Law Land would be converted by this easement. Approximately 2 acres of the easement crosses the northern edge of the Limited Purpose Landfill which is an industrial land use.

III. Effects Determinations

As required by the Endangered Species Act (ESA), one of three possible effects determinations was chosen for each listed species based on the best available scientific and commercial data, a thorough analysis of the Project's potential effects, and the professional judgment of the ecologists who completed the evaluation. The three possible determinations included:

- **No effect** – where no effect to the species is expected.
- **May affect, not likely to adversely affect** – where effects to the species are expected to be beneficial, insignificant (immeasurable), or discountable (extremely unlikely).
- **May affect, likely to adversely affect** – where effects to the species are expected to be adverse or detrimental. In the event that the overall effect of a reclamation activity is beneficial to the listed species, but also is likely to cause some adverse effects, a

reclamation activity is likely to adversely affect the listed species. This determination requires formal Section 7 consultation.

IV. Endangered Species Act Species

Mammals

- **Gray Wolf (*Canis lupus*) – Proposed Endangered**

The gray wolf is an upland species known to occur in Lewis County, Washington (ECOS 2019a). No critical habitat has been designated for this species. Wolves will readily scavenge and can utilize smaller mammals, birds, and fish. Territory size of wolf packs is a function of prey density and can range from 25 – 1,500 square miles (ECOS 2019a). Essentially all naturally vegetated lands are considered potential habitat for this species, with the most suitable habitats being those that support dense ungulate populations, such as deer and elk in remote areas (WDNR 1998). Although wolves in the eastern third of Washington are no longer federally protected, wolves in the western two-thirds of the state continue to be protected under the provisions of the Endangered Species Act and are presently classified as an endangered species under federal law (WDFW et al. 2017). The state's first fully documented wolf pack in many years was confirmed in Okanogan County in 2008, and the population has continued to expand since then. In December 2011, the Washington Fish and Wildlife Commission formally adopted the Wolf Conservation and Management Plan for Washington to guide recovery and management of gray wolves as they re-colonize Washington. The population of gray wolves in Washington has been steadily increasing and they've been delisted in the eastern third of the state (WDFW 2013). During 2016, wolves continued to inhabit a mix of both public and private lands from eastern Washington to the east slopes of the Cascade Mountains (WDFW et al. 2017). There remain no confirmed wolf packs in the Cascades south of Interstate 90 or in Western Washington. An evaluation of the potential habitat and disturbance impacts, and consideration of the above conservation measures for the proposed action support a **no effect determination for the grey wolf**.

- **North American Wolverine (*Gulo gulo luscus*) – Proposed Threatened**

The North American wolverine (*Gulo gulo luteaus*) is a "state candidate" and federally "proposed Threatened" listed species with no designate critical habitat (LCCDD 2018; ECOS 2019b). The denning requirements of the wolverine primarily determine the limits of its range of suitable habitat; reproductive dens occur at sites with persistent spring snow cover (Copeland et al. 2010). The Southern Cascade Range in Washington appears to represent the southernmost extent of current North American wolverine range along the Pacific coast of North America (Aubry et al. 2007; Conservation Northwest 2017). Individual wolverines have been documented near Mount Adams in Washington's South Cascades.

The North American wolverine prefers cold and remote mountainous areas occupying habitat at high elevations, generally above 2,100 m (6,888 ft), in the mountains of the contiguous United States. General site elevations at wolverine live-traps used in studies by Aubry et al. (2016) in the North Cascades Ecosystems in Washington ranged between 823 to 1890 meters in elevation. Intervening valleys in these areas may be dominated by ecosystems that are unsuitable for long-term wolverine presence, but may serve as routes for wolverine movement between suitable

habitat patches. Thus, they appear to be specialists at exploiting a cold, unproductive niche that limits competition from other carnivores (Inman et al. 2012).

Surface elevations within the Centralia Mine permit area are below 2,100 meters. USGS (2019) climate change models suggest a decreasing trend in annual mean snow levels in Washington's Cascade Mountains. In addition, the wolverine is known to avoid people and developed areas. Thus, it is unlikely the Centralia Mine site characteristics would be suitable habitat for the North American wolverine in terms of denning requirements (LCCDD 2018). Because of the low elevation of the Centralia Mine, the project is located outside the range of this species. An evaluation of the potential impacts from the proposed action support a **no effect determination for NA wolverine**.

- **Olympia Pocket Gopher (*Thomomys mazama pugetensis*) – Threatened Wherever Found**

The USFWS designated critical habitat in 2014 for three subspecies of the Mazama pocket gopher (the Olympia pocket gopher, *Thomomys mazama pugetensis;* the Tenino pocket gopher, *T. m. tumuli;* and the Yelm pocket gopher, *T. m. yelmensis*) (USFWS 2014; (ECOS 2019c)). However, the project area is outside the critical habitat. The Olympia and Tenino pocket gophers occur in well-drained, easily-crumbled soil constant of the prairie soils that were deposited in Thurston and Pierce Counties after the last glacial retreat (LCCDD 2018; WDFW 2019). The Olympia and Tenino pocket gophers are found in prairie-like habitat. Because of the difficulty of digging and potentially not be permeable to water, pocket gophers do not typically use soils that have a high clay content. In addition, pocket gophers avoid extremely sandy soils that won't hold the structure of a tunnel (WDFW 2019). Pocket gophers inhabit areas that are relatively open, with short-statured vegetation and few woody plants. Reclaimed mine land in a grass-dominated stage is not expected to provide Mazama pocket gopher habitat because the window of habitat suitability in these areas is short and the species has a limited ability to disperse (Jones and Stokes 2004).

A draft Habitat Conservation Plan for the Olympia subspecies of the Mazama pocket gopher, Thurston County, Washington has been developed (USFWS 2018a). Populations appear to be located north of Centralia in Thurston County (ECOS 2019c). The closest known or historic site is approximately 4 miles north of the mine at Rock Prairie where a previously unidentified population was found. An evaluation of the potential impacts from the proposed action support a **no effect determination for the Mazama pocket gopher**. The project area does not contain native prairie habitat required by the Mazama pocket gopher. An evaluation of the potential effects from the proposed action support a **no effect determination on designated Mazama pocket gopher critical habitat**. The project area does not lie within federally designated pocket gopher critical habitat.

- **Tenino Pocket Gopher (*Thomomys mazama tumuli*) – Threatened** (ECOS 2019d).

The Tenino pocket gopher is thought to only occur in Thurston County, WA. There is final critical habitat for this species; however, the project location is outside the critical habitat. The WDFW Priority Species and Habitats database contains no records for the Mazama pocket gophers in the mine permit area (WDFW 2019). However, the species has been observed in prairie grasslands in the project vicinity. The closest known or historic site is approximately 4 miles north of the mine at Rock Prairie where a previously unidentified population was found (Jones and Stokes 2004). An evaluation of the potential impacts from the proposed action

support a **no effect determination for the Mazama pocket gopher**. The project area does not contain native prairie habitat required by the Mazama pocket gopher. An evaluation of the potential effects from the proposed action support a **no effect determination on designated Mazama pocket gopher critical habitat**. The project area does not lie within federally designated pocket gopher critical habitat.

- **Yelm Pocket Gopher (*Thomomys mazama yelmensis*) - Threatened**

  The current range appears to be largely in Thurston County to the north of the Centralia mine. (ECOS 2019e; USFWS 2018b; WDFW 2019). There is final critical habitat for this species; however, the project location is outside the critical habitat. The resolution on ECOS (2019) showing the current range for the Yelm pocket gopher ends on the southern border of Thurston County. Satellite populations may exists further south into the Centralia mine permit boundary in recently reclaimed grassland meadows along the corridor. These pocket gophers are restricted by the kinds of soils they can use and soil types are naturally patchy in distribution (WDFW 2019). Mazama pocket gophers may invade an area following the removal forest cover; as grass and forbs increase gophers can become abundant for a few years unless or until the area regenerates to forest (Stenson 2005).

  Project activities are designed to avoid all impacts to soils suitable for the Mazama pocket gopher (LCCDD 2018). Project activities near soils suitable for the Mazama pocket gopher have been limited to soils that are previously disturbed and do not support the potential for occupancy by the Mazama pocket gopher. An evaluation of the potential impacts from the proposed action support a **no effect determination for the Mazama pocket gopher**. The project area does not contain native prairie habitat required by the Mazama pocket gopher. An evaluation of the potential effects from the proposed action support a **no effect determination on designated Mazama pocket gopher critical habitat**. The project area does not lie within federally designated pocket gopher critical habitat.

Birds

- **Marbled Murrelet (*Brachyramphus marmoratus*) – Threatened with Critical Habitat**

  The marbled murrelet is a Federal endangered species and State threatened species, have the unique behavior of foraging in marine waters and flying inland to nest in large conifer trees (ECOS 2019f). There is final critical habitat for this species. Nesting behavior has been detected as far as 55 mi (88 km) from the ocean in Washington. Murrelets nest mostly on large branches or other suitable platforms in large trees, with a preference for mature and old forest in Washington, Oregon, and California. Marbled murrelets prey primarily on near-shore forage fish (WDFW 2013). Because of the lack of suitable nesting habitat, there is no anticipated use by murrelets; and therefore, no anticipated exposure to effects.

  In coordination with USFWS and WDFW, avoidance, minimization, and mitigation measures are to be incorporated into the Project (LCCDD 2019). An evaluation of the potential habitat and disturbance impacts, and consideration of the above conservation measures for the proposed project support a **no effect determination for the marbled murrelet**. No suitable marbled murrelet nesting habitat remains within the TCM permit area. There are no known marbled murrelet detections from the project vicinity (Jones and Stokes 2004). An evaluation of the potential effects from the proposed action support a **no effect determination on designated**

marbled murrelet critical habitat. The project area does not lie within federally designated marbled murrelet critical habitat.

- **Streaked Horned Lark (*Eremophila alpestris strigata*) – Threatened With Critical Habitat**

  The streaked horned lark is a Federal threatened species, and state endangered species, is a rare endemic subspecies found only in western Washington and Oregon (ECOS 2019g). There is final critical habitat for this species. It is perhaps the most distinct subspecies of the horned lark, a small common ground-dwelling passerine that prefers open grassland habitat. The project area does not contain open shortgrass prairie, the historical habitat of the streaked horned lark. This species does have potential to pass through the project area (LCCDD 2018). However, the project site is outside the range of the species and therefore would have no effect on the species. An evaluation of the potential impacts from the proposed action support a **no effect determination for the streaked horned lark**. The project area does not contain open shortgrass prairie habitat required by the streaked horned lark. Potential habitat created by mining and reclamation is considered inconsequential because the window of habitat suitability is short and the likelihood that streaked horned lark would occupy this area is small (Jones and Stokes 2004). An evaluation of the potential effects from the proposed action support a **no effect determination on designated streaked horned lark critical habitat**. The project area does not lie within federally designated streaked horned lark critical habitat.

- **Yellow-billed Cuckoo (*Coccyzus americanus*) – Threatened with Proposed Critical Habitat**

  The yellow-billed cuckoo is a Federal threatened species and State candidate species, prefer open lowland deciduous woodlands with clearings and shrubby vegetation, especially those near rivers and streams (LCCDD 2018; ECOS 2019h). There is proposed critical habitat for this species. In western North America, there is a strong preference for large continuous riparian zones with cottonwoods and willows. The yellow-billed cuckoo nests in large, contiguous, blocks of riparian habitat (greater than 50 acres), particularly woodlands with cottonwoods (*Populus fremontii*) and willows (*Salix* sp.). A dense multi-layered canopy of understory foliage appears to be an important factor in nest site selection. The multilayered canopy provides shade and traps moisture to create the relatively cooler and more humid streamside conditions that are believed to be important for nesting success. Cuckoos appear to avoid nesting in isolated patches of about 1 to 2 acres in size or in narrow, linear riparian habitats that are less than 33 to 66 ft (10 to 20 m) wide (Halterman et al. 2015). Single birds have been detected in isolated habitat patches or linear riparian corridors during migration or the early breeding season (mid to late June). Diet consists mainly of large insects such as caterpillars, grasshoppers, katydids, beetles, and crickets; small frogs and lizards, bird eggs, and nestling birds are also occasionally eaten.

  Migrating yellow-billed cuckoos also have been found in coastal scrub, second-growth forests, and woodlands, hedgerows, forest edges, and in smaller riparian patches than those used for breeding (USFWS – Federal Register 2014).The project is not located in suitable habitat and therefore it is not anticipated to contain yellow billed cuckoos and would have no effect on cuckoos. An evaluation of the potential impacts from the proposed action support a **no effect determination for the yellow-billed cuckoo**. An evaluation of the potential effects from the proposed action support a **no effect determination on proposed yellow-billed cuckoo critical habitat**. The project area does not lie within federally designated yellow-billed cuckoo critical habitat.

Fishes

- **Bull trout (*Salvelinus confluentus*) – Threatened With Critical Habitat**

The bull trout is a Federal threatened species and State candidate species (ECOS 2019i). Bull trout require cold clean water and normally reside at much higher elevations. There is final critical habitat for this species. Bull trout require cold water to survive, so they're seldom found in waters where temperatures exceed 59 to 64 degrees (F). They also require stable stream channels, clean spawning and rearing gravel, complex and diverse cover, and unblocked migratory corridors (USFWS 2019i). These char require very cold, clean water in relatively pristine streams for the spawning and rearing phases of their life history, thus limiting the distribution of this species largely to higher elevations (King County Department of Natural Resources 2002). This species is highly unlikely to occur, as it is not documented in the waters in and around the Project (LCCDD 2018). The maximum elevation of the sub-basins and the high temperatures observed in the upper and lower reaches of the project area indicate that bull trout could not inhabit the Hanaford drainage (Baber and Fisher 2000). This exclusion of bull trout from the watershed results in a determination of **no effect** for the proposed action on bull trout. An evaluation of the potential effects from the proposed action support a **no effect determination on bull trout critical habitat**. The project area does not lie within federally designated bull trout critical habitat.

Flowering Plants

- **Golden Paintbrush (*Castilleja levisecta*) - Threatened**

Golden paintbrush is a stout perennial herb, which grows to over 12 inches in height (ECOS 2019j). Golden paintbrush historically occurred in low elevation (below 300 feet) wet meadow and prairie habitats west of the Cascade Mountains. In Washington, the species occurs in isolated remnants of open prairie grassland that developed on glacial outwash around the periphery of the Puget Trough. The Washington Natural Heritage Program database contains no records for the golden paintbrush in the Centralia Mine permit area (WNHP 2018). The southern-most population known for golden paintbrush is at Rocky Prairie (Jones and Stokes 2004; WNHP 2018), approximately 7 miles north of the mine permit area. The project area does not contain the native open prairie grassland habitat required by golden paintbrush. An evaluation of the potential impacts from the proposed action support a **no effect determination for the golden paintbrush**.

- **Kincaid's Lupine (*Lupinus sulphureus ssp. kincaidii*) - Threatened**

Kincaid's lupine is a long-lived perennial herb found in native upland prairies characterized by heavier soils and mesic to slightly xeric soil moisture levels (Jones and Stokes 2004; ECOS 2019k). This species is restricted primarily to the Oregon Willamette Valley (Jones and Stokes 2004). A disjunct population is known from two nearby sites in Lewis County, Washington. These sites are about 20 miles southwest of the mine. The Washington Natural Heritage Program database contains no records for Kincaid's lupine in the TCM permit area (WNHP 2018). Activities associated with the proposed project are not expected to impact Kincaid's lupine or its habitat. The project area does not contain open prairie grassland habitat required by the Kincaid's lupine (Stokes and Jones 2004). An evaluation of the potential impacts from the proposed action support a **no effect determination for Kincaid's lupine**.

- **Nelson's Checker-mallow (*Sidalcea nelsoniana*) - Threatened**

  Nelson's checker-mallow (*Malvaceae* - hibiscus family) is a perennial herb with stout taproots and short rootstocks. Stems are upright and range to 3 feet in height (Jones and Stokes 2004; ECOS 2019l). The species generally occurs in or along the margins of seasonally wet prairie habitat interspersed with oak and ash woodlands, and coniferous forests, usually where native prairie and grassland remnants persists (Jones and Stokes 2004, WNHP 2019). The Washington Natural Heritage Program database contains no records for Nelson's checker-mallow in the TCM permit area (WNHP 2019). An evaluation of the potential impacts from the proposed action support a **no effect determination for Nelson's checker-mallow**.

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United States Department of the Interior

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In Reply Refer To: March 06, 2019
Consultation Code: 01EWFW00-2019-SLI-0645
Event Code: 01EWFW00-2019-E-01330
Project Name: TransAlta Centralia Mining LLC (TCM) - Powerline Cooridor Section 7

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, and proposed species, designated and proposed critical habitat, and candidate species that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 et seq.).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. The species list is currently compiled at the county level. Additional information is available from the Washington Department of Fish and Wildlife, Priority Habitats and Species website: http://wdfw.wa.gov/mapping/phs/ or at our office website: http://www.fws.gov/wafwo/species_new.html. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 et seq.), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether or not the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species, and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:
http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 et seq.). You may visit our website at http://www.fws.gov/pacific/eagle/for information on disturbance or take of the species and information on how to get a permit and what current guidelines and regulations are. Some projects affecting these species may require development of an eagle conservation plan: (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Also be aware that all marine mammals are protected under the Marine Mammal Protection Act (MMPA). The MMPA prohibits, with certain exceptions, the "take" of marine mammals in U.S. waters and by U.S. citizens on the high seas. The importation of marine mammals and marine mammal products into the U.S. is also prohibited. More information can be found on the MMPA website: http://www.nmfs.noaa.gov/pr/laws/mmpa/.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Related website:
National Marine Fisheries Service: http://www.nwr.noaa.gov/protected_species/species_list/species_lists.html

Attachment(s):

- Official Species List

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Washington Fish And Wildlife Office
510 Desmond Drive Se, Suite 102
Lacey, WA 98503-1263
(360) 753-9440

Project Summary

Consultation Code: 01EWFW00-2019-SLI-0645

Event Code: 01EWFW00-2019-E-01330

Project Name: TransAlta Centralia Mining LLC (TCM) - Powerline Cooridor Section 7

Project Type: MINING

Project Description: Background

TransAlta Centralia Mining LLC (TCM) is the Permittee and Operator of the Centralia Coal Mine, which is located at 1015 Big Hanaford Road in Centralia, Washington. TCM has filed a permit revision application with OSMRE.
The Centralia Mine is located within Sections 31-35, Township 15 North, Range 1 West, W.M., Lewis County, Washington.

Proposed Action

Under the proposed action, OSMRE would issue a permit revision to the existing reclamation permit (Permit No. WA-0001E). The permit revision would change the use of approximately 81 acres within the Centralia Mine permit area to allow a 150-foot-wide power line corridor through the Centralia Mine for the Skookumchuck Wind Energy Project. If the permit revision is approved, the power line would transect approximately 4.4 miles of the mine permit area with a temporary impact of approximately 53 acres and a permanent impact of 21 acres. The approximately 81-acre easement would cross 53.5 acres of land that has been previously disturbed by mining and 27.2 acres of undisturbed land. Of the 53.5 acres previously disturbed, approximately 41.3 acres of Upland Forest and 12.2 acres of Pre-Law Land would be converted by this easement. Approximately 2 acres of the easement crosses the northern edge of the Limited Purpose Landfill which is an industrial land use.

Construction

Constructed is to be conducted in year 2019 between June and November. Construction access to the powerline alignment would be provided using existing private roads where available. In locations without existing road access, a temporary dirt access road would be established for installation of the powerline towers and overhead lines, avoiding streams or other water bodies if present. After construction, a 150-foot-wide cleared corridor would be required for vegetation clearance required for

transmission lines and access during operations. Within the 150-foot-wide corridor, an approximately 16 to 20-foot wide two-track dirt road would be maintained for access to conduct inspection and maintenance activities.

Decommissioning and Reclamation

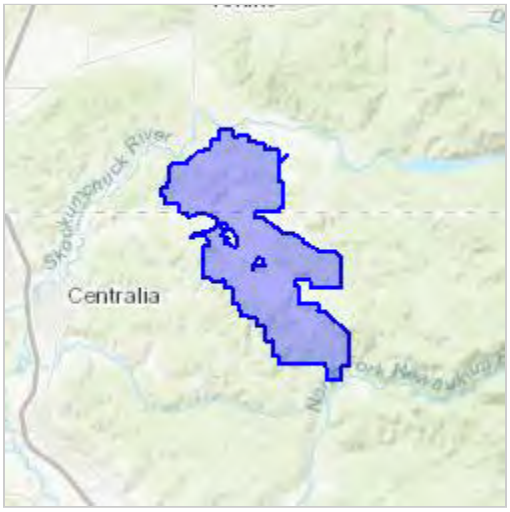
At the end of the planned 30-year life, the powerline and supporting structures will be disconnected and removed from the mine permit boundary area. Skookumchuck Wind Energy Project, LLC, will prepare and submit a decommissioning plan for TCM's approval. Once approved by TCM, decommissioning of the power line facilities will commence in accordance with the approved plan, which at a minimum shall include the removal of all poles and towers, the removal of all other above-grade facilities to not less than three feet below-grade or as otherwise required by any applicable governmental authority and applicable laws, and the burying of all tower foundations and the reseeding of areas where the tower pads were located.

No Action Alternative

The No Action Alternative would reject the application for a mining plan modification for OSMRE Permit No. WA-0001E. Under this alternative, there would be no change of use for the 80 acres of the TCM and the powerline corridor would not be constructed within the permit boundary.

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/46.74310663562267N122.8088353869118W



Counties: Lewis, WA | Thurston, WA

Endangered Species Act Species

There is a total of 12 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME	STATUS
Gray Wolf *Canis lupus* Population: Western Distinct Population Segment No critical habitat has been designated for this species.	Proposed Endangered
North American Wolverine *Gulo gulo luscus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/5123	Proposed Threatened
Olympia Pocket Gopher *Thomomys mazama pugetensis* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/6713	Threatened
Tenino Pocket Gopher *Thomomys mazama tumuli* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/6290	Threatened
Yelm Pocket Gopher *Thomomys mazama yelmensis* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/7257	Threatened

Birds

NAME	STATUS
Marbled Murrelet *Brachyramphus marmoratus* Population: U.S.A. (CA, OR, WA) There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/4467	Threatened
Streaked Horned Lark *Eremophila alpestris strigata* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/7268	Threatened
Yellow-billed Cuckoo *Coccyzus americanus* Population: Western U.S. DPS There is **proposed** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/3911	Threatened

Fishes

NAME	STATUS
Bull Trout *Salvelinus confluentus* Population: U.S.A., conterminous, lower 48 states There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/8212	Threatened

Flowering Plants

NAME	STATUS
Golden Paintbrush *Castilleja levisecta* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/7706	Threatened
Kincaid's Lupine *Lupinus sulphureus ssp. kincaidii* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/3747	Threatened
Nelson's Checker-mallow *Sidalcea nelsoniana* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/7340	Threatened

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

APPENDIX E

Acronyms

Acronyms and Abbreviations

amps	amperes
APLIC	Avian Power Line Interaction Committee
BGEPA	Bald and Golden Eagle Protection Act
BMPs	best management practices
BNSF	Burlington Northern Santa Fe
B&O	Business and Occupation
BPA	Bonneville Power Administration
CAA	Clean Air Act
CARA	critical aquifer recharge area
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CO	carbon monoxide
CO_2	carbon dioxide
CSA	combined statistical area
DAHP	Washington State Department of Archaeology and Historic Preservation
dB	decibel
dBA	A-weighted sound level
DEIS	Draft Environmental Impact Statement
DNR	Washington State Department of Natural Resources
DOI	Department of the Interior
EA	Environmental Assessment
EIS	Environmental Impact Statement
EMFs	electric and magnetic fields
EMS	emergency medical service
EO	Executive Order
ESA	Endangered Species Act of 1973
°F	degrees Fahrenheit
FEIS	Final Environmental Impact Statement
FONSI	Finding of No Significant Impact
ft	feet
GDP	Gross Domestic Product
GHGs	greenhouse gases
HPA	Hydraulic Project Approval
HSP	Health and Safety Plan
HUC	Hydrologic Unit Code
IPaC	Information for Planning and Consultation
IWG	Interagency Working Group
kV	kilovolt
LPLF	Limited Purpose Landfill
$\mu g/m^3$	micrograms per cubic meter
MBTA	Migratory Bird Treaty Act of 1918, as amended

MSA	Metropolitan Statistical Area
MSHA	Mine Safety and Health Administration
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NIEHS	National Institute of Environmental Health Sciences
NLCD	National Land Cover Database
NO_2	nitrogen dioxide
NOI	Notice of Intent
NRCS	Natural Resources Conservation Services
NRHP	National Registry of Historic Places
NWI	National Wetlands Inventory
O_3	ozone
O&M	Operation and Maintenance
OSMRE	Office of Surface Mining Reclamation and Enforcement
PAP	Permit Application Package
Pb	lead
PHS	Priority Habitat and Species
ppm	parts per million
$PM_{2.5}$	fine particulates less than 2.5 microns
PM_{10}	fine particulates less than 10 microns
PNSN	Pacific Northwest Seismic Network
PSD	Prevention of Significant Deterioration
PUD	Lewis County Public Utility District
SCC	social cost of carbon
SDWA	Safe Drinking Water Act
SEPA	State Environmental Policy Act
SMCRA	Surface Mining Control and Reclamation Act of 1977
SO_2	sulfur dioxide
SPCC Plan	Spill Prevention, Control, and Countermeasure Plan
SR	State Route
SWCAA	Southwest Clean Air Agency
SWPPP	Stormwater Pollution Prevention Plan
TCM	TransAlta Centralia Mining LLC
UDP	Unanticipated Discovery Plan
USACE	U.S. Army Corps of Engineers
USDA	U.S. Department of Agriculture
USFWS	U.S. Department of Fish and Wildlife
WAAQS	Washington Ambient Air Quality Standards
WDFW	Washington Department of Fish and Wildlife
W.M.	West Meridian
WRIA	Water Resources Inventory Area
WSDOT	Washington State Department of Transportation

Appendix F

EA Public Comments and Responses

Public Comments and Responses on Draft Environmental Assessment

Comment Number	Commenter	Comment	Response
1	Washington State Department of Ecology – Water Quality Program	The Department of Ecology (Ecology) has reviewed an Environmental Assessment (EA) of April 26, 2019 regarding an easement through TransAlta Centralia Mine, LLC (TCM) permit boundaries to connect the Skookumchuck Wind Energy Project to the Tono Substation west of the Centralia Mine. The EA report states that in September 2018, TCM entered into an easement agreement with Skookumchuck Wind Energy Project, LLC to use 81 acres of the TCM mined permitted area, which is currently being reclaimed. Before an initiation of the project the applicant (Skookumchuck Wind Energy Project, LLC) must assure that the beneficial uses of the waters of state are protected and it is in compliance with surface and groundwater quality standards (https://apps.leg.wa.gov/WAC/default.aspx?cite=173-201a and https://apps.leg.wa.gov/WAC/default.aspx?cite=173-200). This will require the submittal of the engineering report/plans for their review/approval and issuance of the permit coverage before the start of the project.	As discussed in Section 3.1.4 of the EA, Skookumchuck Wind Energy Project, LLC will implement a Construction Stormwater Pollution Prevention Plan (SWPPP) that satisfies the requirements of the NPDES General Permit. The SWPPP will include BMPs consistent with Ecology's 2012 Stormwater Management Manual for Western Washington (as amended in December 2014) and consistent with Lewis and Thurston counties' stormwater regulations. In addition, Skookumchuck Wind Energy Project, LLC is submitting a NPDES Notice of Intent for the project.
2	Washington State Department of Ecology	All potential impacts to wetlands, including permanent conversion of vegetation from forested to shrub or emergent, should be avoided to the fullest extent practicable. The applicant will need to provide compensatory mitigation for any unavoidable wetland fill or permanent vegetation conversion.	Skookumchuck Wind Energy Project, LLC is continuing to refine the Project's design to avoid impacts to wetlands to the greatest extent practicable, including avoiding road and transmission tower construction within wetlands and deploying minimization measures to avoid dredge or fill within Waters of the United States. Skookumchuck Wind Energy Project, LLC acknowledges in the SEPA EIS prepared for the Project that should impacts be identified which cannot be avoided, Skookumchuck Wind Energy Project, LLC will contact the Corps and Ecology.
3	Washington State Department of Ecology	All grading and filling of land must utilize only clean fill. All other materials may be considered solid waste and permit approval may be required from your local jurisdictional health department prior to filling. All removed debris resulting from this project must be disposed of at an approved site. Contact the local jurisdictional health department for proper management of these materials.	Skookumchuck Wind Energy Project, LLC acknowledges that the SEPA EIS prepared for the Project requires that clean fill will be used for grading and filling of land. Additionally, debris removed for this Project will be disposed of appropriately.
4	Washington State Department of Ecology	If contamination is suspected, discovered, or occurs during the proposed action, testing of the potentially contaminated media must be conducted. If contamination of soil or groundwater is readily apparent, or is revealed by testing, Ecology must be notified. Contact the Environmental Report Tracking System Coordinator for the Southwest Regional Office (SWRO) at (360) 407-6300.	There are no known soil or groundwater contaminants within the Project area; however, if found during construction, appropriate information will be submitted to Ecology and other agencies as required.
5	Washington State Department of Ecology	Erosion control measures must be in place prior to any clearing, grading, or construction. These control measures must be effective to prevent stormwater runoff from carrying soil and other pollutants into surface water or storm drains that lead to waters of the state. Sand, silt, clay particles, and soil will damage aquatic habitat and are considered to be pollutants. Any discharge of sediment-laden runoff or other pollutants to waters of the state is in violation of Chapter 90.48 RCW, Water Pollution Control, and WAC 173-201A, Water Quality Standards for Surface Waters of the State of Washington, and is subject to enforcement action.	See response to comment number 1.

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6	Washington State Department of Ecology	Construction Stormwater General Permit: The following construction activities require coverage under the Construction Stormwater General Permit: 1. Clearing, grading and/or excavation that results in the disturbance of one or more acres **and** discharges stormwater to surface waters of the State; and 2. Clearing, grading and/or excavation on sites smaller than one acre that are part of a larger common plan of development or sale, if the common plan of development or sale will ultimately disturb one acre or more **and** discharge stormwater to surface waters of the State. a) This includes forest practices (including, but not limited to, class IV conversions) that are part of a construction activity that will result in the disturbance of one or more acres, **and** discharge to surface waters of the State; and 3. Any size construction activity discharging stormwater to waters of the State that Ecology: a) Determines to be a significant contributor of pollutants to waters of the State of Washington. b) Reasonably expects to cause a violation of any water quality standard.	Skookumchuck Wind Energy Project, LLC will seek coverage under the Construction Stormwater General Permit from Ecology for applicable construction activities. See response to comment number 1.
7	Washington State Department of Ecology	If there are known soil/ground water contaminants present on-site, additional information (including, but not limited to: temporary erosion and sediment control plans; stormwater pollution prevention plan; list of known contaminants with concentrations and depths found; a site map depicting the sample location(s); and additional studies/reports regarding contaminant(s)) will be required to be submitted.	See response to comment number 4.
8	Washington State Department of Ecology	You may apply online or obtain an application from Ecology's website at: http://www.ecy.wa.gov/programs/wq/stormwater/construction/ - Application. Construction site operators must apply for a permit at least 60 days prior to discharging stormwater from construction activities and must submit it on or before the date of the first public notice.	Skookumchuck Wind Energy Project, LLC will seek coverage under the Construction Stormwater General Permit from Ecology for applicable construction activities.
9	Cowlitz Indian Tribe	Page 43 of the Environmental Assessment states “qualified archaeologist.” This needs to state “professional archaeologist.”	“Qualified archaeologist” has been edited to state “professional archaeologist” in EA text.
10	Cowlitz Indian Tribe	The Cowlitz Indian Tribe recommends an Inadvertent Discovery Plan be attached to the permit; we have included language for your consideration.	Skookumchuck Wind Energy Project, LLC acknowledges that the SEPA EIS prepared for the Project requires that, an unanticipated Discovery Plan (UDP) will be developed and reviewed by the County, DAHP, and any affected Tribes prior to beginning of construction activities and will be implemented during construction and decommissioning of the Project. If archaeological deposits are encountered during construction, the provisions of the UDP shall be followed.
11	Cowlitz Indian Tribe	In addition, we recommend Consultation with additional interested Tribes.	As part of this EA process, OSMRE initiated consultation regarding the Proposed Action with the following Tribes: • Chehalis Tribe • Cowlitz Indian Tribe • Nisqually Indian Tribe • Puyallup Tribe of Indians • Quinault Indian Nation • Squaxin Indian Tribe • Steilacoom Tribe Tribes are offered an opportunity to identify cultural or religious concerns, or Traditional Cultural Properties through direct government-to-government consultation with OSMRE. Thus far, no cultural or religious concerns or Traditional Cultural Properties have been identified through consultation with the Tribes.