



## Appendix K. SEPA Environmental Checklist

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# Preliminary Draft SEPA Environmental Checklist

Cascade Renewable Transmission

*The Dalles to Portland*

September 18, 2025

Prepared for  
Cascade Renewable Transmission, LLC

Submitted to  
Washington State Energy Facility Site  
Evaluation Council

# SEPA Environmental Checklist

## ***Purpose of checklist:***

Governmental agencies use this checklist to help determine whether the environmental impacts of your proposal are significant. This information is also helpful to determine if available avoidance, minimization or compensatory mitigation measures will address the probable significant impacts or if an environmental impact statement will be prepared to further analyze the proposal.

## ***Instructions for applicants:***

This environmental checklist asks you to describe some basic information about your proposal. Please answer each question accurately and carefully, to the best of your knowledge. You may need to consult with an agency specialist or private consultant for some questions. You may use "not applicable" or "does not apply" only when you can explain why it does not apply and not when the answer is unknown. You may also attach or incorporate by reference additional studies reports. Complete and accurate answers to these questions often avoid delays with the SEPA process as well as later in the decision-making process.

The checklist questions apply to all parts of your proposal, even if you plan to do them over a period of time or on different parcels of land. Attach any additional information that will help describe your proposal or its environmental effects. The agency to which you submit this checklist may ask you to explain your answers or provide additional information reasonably related to determining if there may be significant adverse impact.

## ***Instructions for Lead Agencies:***

Please adjust the format of this template as needed. Additional information may be necessary to evaluate the existing environment, all interrelated aspects of the proposal and an analysis of adverse impacts. The checklist is considered the first but not necessarily the only source of information needed to make an adequate threshold determination. Once a threshold determination is made, the lead agency is responsible for the completeness and accuracy of the checklist and other supporting documents.

## ***Use of checklist for nonproject proposals:***

For nonproject proposals (such as ordinances, regulations, plans and programs), complete the applicable parts of sections A and B plus the [SUPPLEMENTAL SHEET FOR NONPROJECT ACTIONS \(part D\)](#). Please completely answer all questions that apply and note that the words "project," "applicant," and "property or site" should be read as "proposal," "proponent," and "affected geographic area," respectively. The lead agency may exclude (for non-projects) questions in Part B - Environmental Elements –that do not contribute meaningfully to the analysis of the proposal.



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## A. Background

**1. Name of proposed project, if applicable:**

Cascade Renewable Transmission

**2. Name of applicant:**

Christopher Hocker, Vice President  
Cascade Renewable Transmission, LLC

**3. Address and phone number of applicant and contact person:**

501 Kings Highway East, Suite 300  
Fairfield, CT 06825  
(203) 416-5590

**4. Date checklist prepared:**

June 2025

**5. Agency requesting checklist:**

Washington Energy Facility Site Evaluation Council (EFSEC).

**6. Proposed timing or schedule (including phasing, if applicable):**

Anticipated construction start date is October 2026.

**7. Do you have any plans for future additions, expansion, or further activity related to or connected with this proposal? If yes, explain.**

There are no plans for future additions or expansion. The impacts of the proposed project are addressed in this preliminary SEPA checklist and are included in the Washington EFSEC Application for Site Certification (ASC).

**8. List any environmental information you know about that has been prepared, or will be prepared, directly related to this proposal.**

This Preliminary Draft SEPA Checklist is prepared to facilitate pre-application consultations with Washington EFSEC and does not contain all environmental information that would be required for an application for site certification. Table 1 lists the environmental studies and technical reports that have been prepared or will be prepared for this proposed project. All studies that are currently being developed will be made available to the appropriate agencies upon their completion.



**Table 1. Environmental Studies and Technical Reports**

<b>Environmental Resource (SEPA Checklist section)</b>	<b>Survey/Report</b>	<b>Extent of Area Addressed in Study/Report</b>	<b>Report Status</b>
General	Phase I Environmental Site Assessment	Eastern and western converter station locations	Not Completed
Earth	Preliminary Geotechnical Investigation Report	Surveys to include soil borings conducted both in river and at horizontal directional drilling (HDD) drilling areas	Not Completed
Earth	Final Geotechnical Investigation Report	Surveys to include soil borings conducted both in river and at HDD drilling areas	Not Completed
Wetlands	Wetlands and Other Waters Delineation Report	Surveys include field delineation identifying wetlands at converter station sites and land-based cable locations and evaluating potential temporary or permanent impacts to wetlands.	Completed
Plants	Botany and Habitat Survey Report	Surveys included site visits and general habitat assessment at land-to-water transition areas, near shore areas.	Completed
Plants and Animals	Site Characterization Study	Surveys were conducted in project area.	Completed
Socioeconomic Effects	Economic Impacts Assessment of the Cascade Renewable Transmission Project	Skamania County	Completed
Cultural / Historic	Cultural Resources Investigations	Surveys were conducted in project area.	Completed

**9. Do you know whether applications are pending for governmental approvals of other proposals directly affecting the property covered by your proposal? If yes, explain.**

The Applicant is not aware of any other pending proposals or unrelated government approvals (i.e., approvals not directly related to this Project) that could affect the project area.

**10. List any government approvals or permits that will be needed for your proposal, if known.**

The ASC includes a detailed list of pertinent federal, state, and local permits, requirements, and authorizations. The following summarizes the information provided in the ASC.

**Federal**

- Bonneville Power Administration (BPA), Interconnection Agreement
- U.S. Army Corps of Engineers (USACE), Record of Decision (ROD) / National Environmental Policy Act (NEPA) Compliance
- USACE/Oregon Department of Environmental Quality (ODEQ), Section 401 of the Clean Water Act (CWA), Water Quality Certification
- USACE Portland District, Section 404 of the CWA/ Section 10 of the Rivers and Harbors Act (RHA)
- USACE Portland District, Section 14 of the RHA (Section 408 Permission)



- USACE Archaeological Resources Protection Act (ARPA)
- USACE/National Marine Fisheries Service (NMFS) Magnuson-Stevens Fishery Conservation and Management Act
- USACE/NMFS/U.S. Fish and Wildlife Service (USFWS) Section 7 of the Endangered Species Act (ESA)
- U.S. Department of Transportation (USDOT), Maritime Administration (MARAD) Consultation
- U.S. Forest Service (USFS), Region 6 Special Use/Utility Permit

## State

- ODEQ Section 402 of the CWA, National Pollutant Discharge Elimination System (NPDES 1200-C)
- Oregon Department of State Lands (DSL), Removal-Fill Permit
- Oregon DSL, Waterway Authorization for submerged land leasing
- Oregon Energy Facility Siting Council (EFSC), Site Certification
- Oregon State Historic Preservation Office (SHPO), Scenic Waterways Approval
- Oregon SHPO, Archaeological Excavation Permit
- Oregon Department of Transportation (ODOT), Encroachment Permit – Utility
- Washington EFSEC, Energy Facility Site Certification
- Washington EFSEC, State Environmental Policy Act (SEPA)
- Washington State Department of Ecology (Ecology), Section 401 Water Quality Certification
- Ecology, Noise Control requirements
- Ecology, NPDES Construction Stormwater General Permit
- Ecology, Shoreline Substantial Development Permit
- Washington State Department of Archaeology and Historic Preservation (DAHP)/SHPO, National Historic Preservation Act (NHPA) Section 106 Review and Unanticipated Discovery Plan
- DAHP, Archaeological Sites and Resources, Archaeological Site Alteration and Excavation Permit
- Washington State Department of Fish and Wildlife (WDFW), Hydraulic Project Approval
- WDFW, State Protected Species
- Washington State Department of Natural Resources (WDNR), Aquatic Lands Use Authorization or Aquatic Lands Lease
- Washington State Department of Transportation (WSDOT), General Permit for work within right-of-way, Access Permit, Utility Permit, Oversize and Overweight Permit



- Washington Department of Labor and Industries (WDLI), Electrical Construction Permit

## County

- Skamania County, Washington, Shoreline Master Program – Shoreline Conditional Use Permit and Shoreline Substantial Development Permit
- Skamania County, Washington, Administrative Review for Public Facilities and Utilities in the Industrial (MG) zoning designation and NSA General Management Area Underground Utility Facilities in F-2 Large Woodland zone.
- Skamania County Public Works Department, Right-of-Way Permit and Resolution No. 2010-15 Approval
- Wasco County, Oregon, Conditional Use Permit for an Energy Facility
- Wasco County, Oregon, Grading Permit
- Wasco County, Oregon, Structural Permit
- Wasco County, Oregon, Electrical Permit

## City

- City of Stevenson, Washington, Grading Permit
- City of Portland, Oregon, Greenway Review (Type II Procedure)
- City of Portland, Oregon, Site Development Review and Building Permit
- City of Portland, Oregon, Mechanical Permit
- City of Portland, Oregon, Electrical Permit
- City of Portland, Oregon, Utility Street Opening Permit
- City of The Dalles, Oregon, Conditional Use Permit
- City of The Dalles, Oregon, Physical Constraints Permit
- City of The Dalles, Oregon, Right-of-Way Construction Permit
- City of The Dalles, Oregon, Building Permit
- City of The Dalles, Oregon, Grading Permit

**11. Give brief, complete description of your proposal, including the proposed uses and the size of the project and site. There are several questions later in this checklist that ask you to describe certain aspects of your proposal. You do not need to repeat those answers on this page. (Lead agencies may modify this form to include additional specific information on project description.)**

The proposed project, Cascade Renewable Transmission (Project), is proposed within both Washington and Oregon.

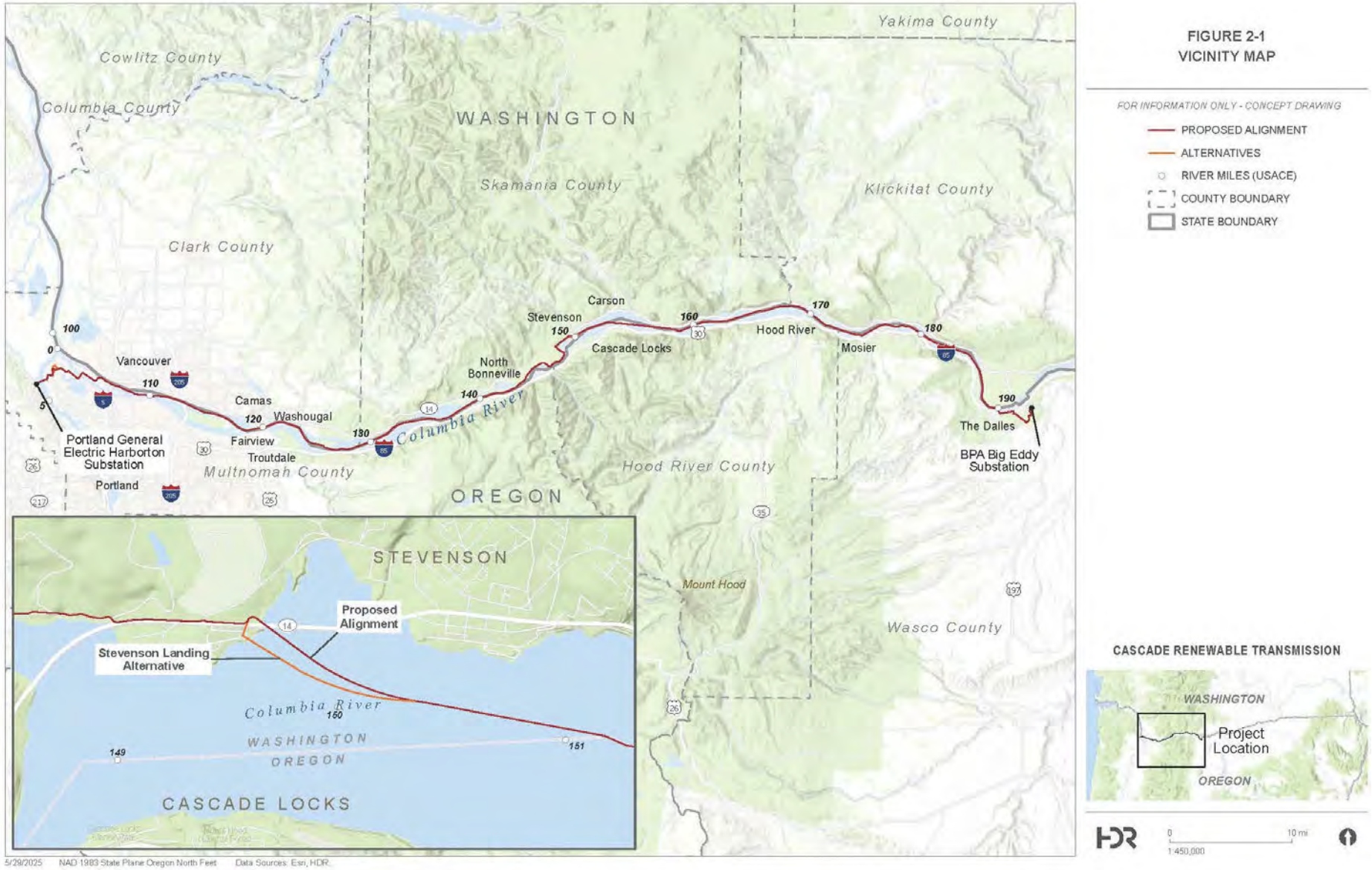
The Project is a (320 to 400-kilovolt [kV]) high-voltage direct current (HVDC) 1,100-megawatt (MW) electric transmission facility. The facility would interconnect the existing BPA Big Eddy 500- kV alternating current (AC) substation located near The Dalles, Oregon (Eastern Interconnection), and the existing Portland General Electric (PGE) Harborton 230-kV AC substation located in Portland, Oregon (Western Interconnection) (Figure 1).



From the interconnections, the cable bundle would be buried underground in Oregon to the edge of the Columbia River on each end and buried in the bed of the Columbia River in Oregon and Washington. Most terrestrial Project components, including all visible structures, are proposed in Oregon. The terrestrial Project component in Washington includes approximately 7.5 miles of underground buried cable to bypass the dam, locks, juvenile fish passage, and tribal fishing areas at the Bonneville Dam.

The facility would be comprised of the following major components and structures.

**Figure 1. Facility Vicinity Map**





## Converter Stations

Two voltage source conversion (VSC) HVDC technology converter stations would be required, each located near the respective interconnection points at the BPA Big Eddy 500-kV substation near The Dalles, Oregon, and the PGE Harborton 230-kV substation in northwest Portland, Oregon. The eastern converter station would convert AC power from Big Eddy substation to direct current (DC) for transmission on the Project's 320-kV or 400-kV cable system to the western converter station, where it would be converted back to AC for injection at Harborton substation.

The converter stations would be sited on approximately 5 acres each, graveled and fenced with minimal parking, and installed with appropriate site-specific drainage. These converter stations would include conventional design converter transformers and protective circuit breakers and include a control room for operating the facility as well as basic facilities for staff (bathroom/kitchen). Final design at each converter station will be in accordance with approved site plans that account for local zoning requirements.

## High Voltage Alternating Current Transmission

The converter stations would be connected to the respective substations by high voltage alternating current (HVAC) cables. The eastern converter station near The Dalles would be connected to the existing Big Eddy substation with approximately 500 feet of overhead 500-kV AC transmission line. The western converter station in Portland would be connected to the existing Harborton substation with approximately 3.1 miles of underground three-phase, 230-kV transmission cable; 0.25 mile would be installed under and across the bed of the Columbia Slough via HDD, 2.3 miles would be trenched in road ROW to the edge of the Willamette River, and 0.5 miles of transmission cable would be installed under and across the bed of the Willamette River by horizontal directional drilling (HDD). HDD or comparable trenchless technology, such as HAB, would also be used to cross under railroads and sensitive areas, and would not be visible.

The underground cables would be placed in a 9-foot-wide concrete casing, housing two sets of three 8-inch-diameter HDPE conduits for transmission cables and a 2-inch-diameter HDPE conduit for fiber optic cable with 2 feet of separation between the sets. Under the Willamette River and Columbia Slough, each HVAC HDD location would have two 34-inch-diameter bores with 12 feet of separation. Each bore would hold three 8-inch-diameter and one 2-inch-diameter HDPE conduits. Link box vaults (vaults) would be placed behind roadway curbing in sidewalks for access to conduct testing of the AC system every other year. The vaults would be placed on either side of the Willamette River, and then at approximately every 2,000 feet along the HVAC route back to the western converter station; 12 vaults are anticipated. The underground AC transmission would not be visible, with the exception of the vault boxes placed in and flush with the sidewalks.

## High Voltage Direct Current Transmission

The converter stations would be connected by 320-kV or 400-kV (1,100-MW) HVDC transmission cable bundled with associated fiber optic communications cable in underground conduits to the edge of the Columbia River on either end in Oregon and buried in the bed of the Columbia River in Oregon and Washington.

In the Columbia River, the HVDC line would be installed using a hydroplow, which uses pressurized water jets, temporarily suspending sediments in the water column that resettle on top of the cable.



On land, the HVDC transmission line would include three segments of underground cable, one located from each converter station in Oregon to the edge of the Columbia River and one segment to bypass the Bonneville Lock and Dam in Washington.

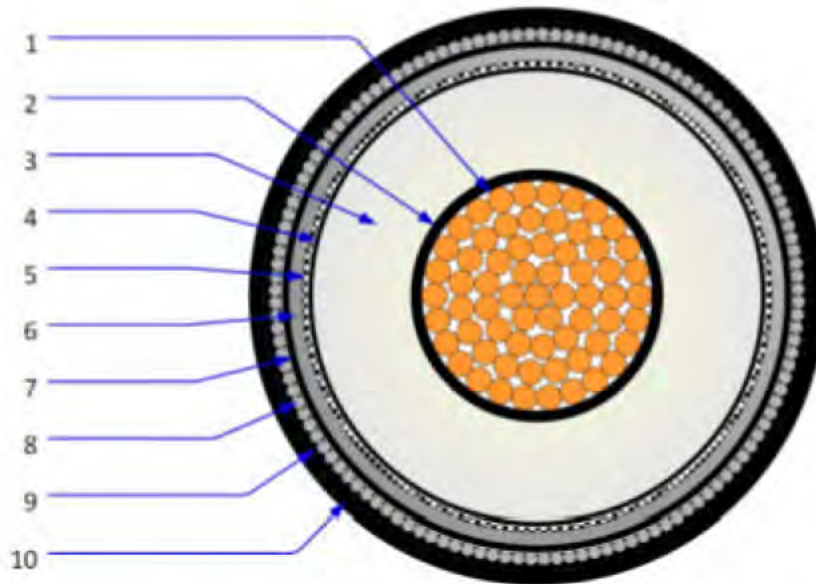
To bypass the dam, locks, juvenile fish passage, and tribal fishing areas at the Bonneville Dam, the HVDC cable would be brought on land east of the dam complex via HDD, buried underground on the Washington side of the Columbia River for approximately 7.4 miles, then re-enter the river west of the dam complex, also via HDD. Underground vaults at the river entry and exit points would be installed to join the underwater cable to the underground cable. For the purposes of installing the cable at the river exit and re-entry points, cofferdams would be installed in the riverbed near the shore east and west of the dam; these would be removed after installation. The trench for underground HVDC transmission line would be approximately 3 feet wide by 4.5 feet deep. The transmission cables would be placed in the casing in individual conduits spaced approximately 20 inches apart; two 8-inch-diameter conduits containing 5-inch-diameter conductor cables (one positive and one negative) and one 2-inch-diameter conduit containing a 1-inch-diameter fiber optic cable for communication. HDD would be used to transition the in-river cables to land. To cross railroads, or sensitive areas, the transmission cable would be placed with HDD or similar trenchless technology, such as HAB. No elements of the HVDC transmission cable bundle would be visible once construction is complete.

### **HVDC In-River Transmission Cable**

For the in-river transmission cable, the conductor would be of a compacted circular design, constructed from annealed copper wires and filled with a water blocking material to limit water propagation in case of cable severance, as seen in Figure 2. The conductor has a nominal cross-sectional area of 2,500 square millimeters. The conductor design meets the requirements laid down by Class 2 stranding per International Electrotechnical Commission (IEC) 60228.

The in-river transmission cables would be bundled together, the bundle being approximately 12 inches in diameter, consisting of two 6-inch-diameter conductor cables (one positive and one negative) and two approximately 1-inch-diameter fiber optic cables for communication and would be installed along approximately 78.9 miles of the Columbia River. The placement of the cable in the river has been determined based on such considerations as the nature of the sediment, topography of the river bottom, the presence of underwater obstacles, and need to avoid sensitive habitats and cultural resources. As a preliminary estimate, subject to further studies, approximately 33 of the 79.5 in-river miles would be on the Washington side of the river in various locations (see Figure 1).

Figure 2. Cross Section of HVDC In-River Transmission Cable

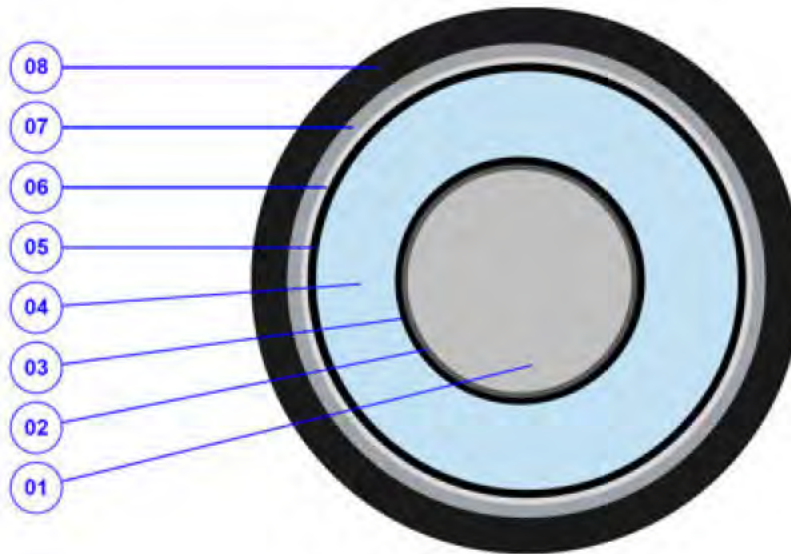


Item#	Description#
1#	Conductor#
2#	Semi-conductive-water-swelling-tape#
3#	Semi-conductive-extruded-layer#
4#	Insulation#
5#	Semi-conductive-extruded-layer+Longitudinal-water-penetration-barrier#
6#	Metallic-Sheath#
7#	Anti-corrosion-sheath#
8#	Bedding-tape#
9#	Armour-wires#
10#	Serving#

### HVDC Underground Transmission Cable

For the underground transmission cable, the conductor is of a compacted circular design, constructed from annealed aluminum wires, as seen in Figure 3. The conductor has a nominal cross-sectional area of 3,000 square millimeters. The conductor design meets the requirements laid down by Class 2 stranding per IEC 60228. The underground conductor cable diameter would be approximately 5 inches. The underground transmission cables would not be bundled but would be placed in concrete casing in individual conduits spaced approximately 20 inches apart; two 8-inch-diameter conduits each containing 5-inch-diameter conductor cables (one positive and one negative) and one 4-inch-diameter conduit containing two 1-inch-diameter fiber optic cables for communication. Approximately 4.8 miles of underground transmission cable would be installed in a trench in road ROW from the eastern converter station to the edge of the Columbia River and approximately 4.1 miles of underground transmission cable would be installed from the river to the western converter station. Another 7.4 miles of underground transmission cable would be installed in Washington to bypass the Bonneville Lock and Dam.

Figure 3. Cross section of HVDC Underground Transmission Cable



Diagrammatic Only - Not To Scale

Item#	Description#
1#	Conductor#
2#	Semi-conductive-water-swelling-tape#
3#	Semi-conductive-extruded-layer#
4#	Insulation#
5#	Semi-conductive-extruded-layer#
6#	Longitudinal-water-penetration-barrier#
7#	Metallic-Sheath#
8#	Outer-PE-Layer#

### Fiber Optic Communications Cable

In order to provide the required remote monitoring telemetry, station control, and voice communications, a fiber optic cable would be installed along with the HVDC and HVAC cables.

**12. Location of the proposal. Give sufficient information for a person to understand the precise location of your proposed project, including a street address, if any, and section, township, and range, if known. If a proposal would occur over a range of area, provide the range or boundaries of the site(s). Provide a legal description, site plan, vicinity map, and topographic map, if reasonably available. While you should submit any plans required by the agency, you are not required to duplicate maps or detailed plans submitted with any permit applications related to this checklist.**

The facility would be located near The Dalles, Wasco County, Oregon, in the bed of the Columbia River (Oregon and Washington), in Stevenson and Skamania County, Washington, and in Portland and under the Willamette River, Multnomah County, Oregon (Figure 1).

Following are the legal descriptions (townships, ranges, and sections) of components located in Washington:

T02N R07E S01



T02N R07E S02  
T02N R07E S10  
T02N R07E S11  
T02N R07E S14  
T02N R07E S15  
T02N R07E S16  
T02N R07E S20  
T02N R07E S21  
T02N R07E S22  
T02N R07E S29

The location of the Project specific to Washington would include the HVDC transmission line

- in the bed of the Columbia River where it would cross into Washington jurisdiction;
- where the transmission line would exit the water and onshore near Stevenson and be buried in a trench in road ROW along Washington State Route 14 (SR 14), and Ash Lake Road to the southwest to Fort Cascades Drive on USACE parcel; and
- where the transmission line would reenter the Columbia River below the Bonneville Lock and Dam.

## B. Environmental Elements

### 1. Earth

The ASC provides a detailed analysis of soil, geology, and “Earth” related information.

**a. General description of the site:**

(circle one): Flat, rolling hilly, steep slopes, mountainous, other \_\_\_\_\_

**b. What is the steepest slope on the site (approximate percent slope)?**

The HVDC transmission line would be buried in a trench within road ROWs in Washington; the slopes on the site would be slight (<15 percent).

**c. What general types of soils are found on the site (for example, clay, sand, gravel, peat, muck)? If you know the classification of agricultural soils, specify them and note any agricultural land of long-term commercial significance and whether the proposal results in removing any of these soils.**

The soils and geology along the route in Washington are generally poorly indurated coarse sand and gravel stream terrace deposits; Quaternary mass-wasting deposits; primarily landslide deposits, but locally includes talus, colluvium, protalus ramparts, and rock glaciers; and Quaternary unconsolidated or semiconsolidated alluvial clay, silt, sand, gravel, and (or) cobble deposits (WDNR 2022).



***d. Are there surface indications or history of unstable soils in the immediate vicinity? If so, describe.***

There is a Quaternary mass wasting deposit (i.e., landslide) identified along most of the route from Stevenson to just east of North Bonneville. The North Bonneville area is characterized by Quaternary alluvium comprised of unconsolidated or semiconsolidated alluvial clay, silt, sand, gravel, and (or) cobble deposits (WDNR 2022).

The HVDC transmission line would be buried in a trench within road ROWs, which are comprised of road base materials designed to support local roadways and a state highway.

***e. Describe the purpose, type, total area, and approximate quantities and total affected area of any filling, excavation, and grading proposed. Indicate source of fill.***

For the underground cable installation, the purpose of trenching/excavation is to place a concrete casing with individual conduits spaced approximately 20 inches apart; two 8-inch-diameter conduits each containing 5-inch-diameter conductor cables (one positive and one negative) and one 4-inch-diameter conduit containing two 1-inch-diameter fiber optic cables for communication to house the HVDC cables. It is expected that any materials excavated would be placed back into the trench to the extent possible. The volume of material excavated during trenching would depend on the final design(s) of the facilities. Specific fill and grade volumes and locations would be determined as engineering design advances, and detailed drawings and cut/fill quantities would be submitted as part of the building permit application submittals. It is anticipated that no fill would be brought in from off site.

***f. Could erosion occur as a result of clearing, construction, or use? If so, generally describe.***

Construction activities can introduce the potential for increased erosion due to soil disturbance, compaction, and changes to drainage patterns. Erosion can be caused by increasing exposure to wind and water. Potential impacts from erosion would be minimal and addressed through the implementation of mitigation measures (to be described in the ASC) such as the compliance requirement of the State Water Pollution Control Act with the NPDES, which would be handled through a Construction Stormwater General Permit (CSGP) from Ecology. The NPDES permit would be required as well as an erosion and sediment control plan (ESCP) and a stormwater pollution prevention plan (SWPPP).

***g. About what percent of the site will be covered with impervious surfaces after project construction (for example, asphalt or buildings)?***

It is anticipated that no new impervious surfaces would result from construction of the Project in Washington, as the materials moved as part of the trenching activities would be replaced to their previous state prior to construction and the surface would be restored to its previous condition.

***h. Proposed measures to reduce or control erosion, or other impacts to the earth, if any:***

See response to question “f” above. The ASC will describe mitigation measures.



## 2. Air

**a. What types of emissions to the air would result from the proposal during construction, operation, and maintenance when the project is completed? If any, generally describe and give approximate quantities if known.**

The facility would not emit air pollution. During construction, air pollutant combustion emissions would be generated from diesel and gasoline engines in the various vehicles and construction equipment. Fugitive dust may be generated from vehicle traffic on paved and unpaved roads and from equipment during construction activities. The Applicant will implement best management practices (BMPs), including applying dust control measures that are described in the ASC. The emissions and fugitive dust from these vehicles and equipment would be minor and not exceed state emissions thresholds. As such, these emissions are not quantified and do not require a permit from Ecology.

**b. Are there any off-site sources of emissions or odor that may affect your proposal? If so, generally describe.**

No off-site sources or emissions or odor are expected.

**c. Proposed measures to reduce or control emissions or other impacts to air, if any:**

See response to question “a” above. The ASC describes BMPs the Applicant will implement, including applying dust control measures.

## 3. Water

The analysis area for water quality would be the Columbia River plus 500 feet for upland areas; this would capture indirect effects to fish and wildlife from runoff, visual, and noise disturbances. As part of the USACE, ODEQ Section 401, and Ecology permitting, water quality has been evaluated by using the Particle Tracking Model (PTM) developed by the USACE Engineer Research and Development Center Environmental Laboratory. The PTM is designed to simulate particle transport processes and was developed for application to dredging and coastal projects to represent transport, settling, deposition, mixing, and resuspension processes in nearshore wave/current conditions (USACE 2022). In addition, sediment sampling occurred every river mile along the proposed alignment profile and in locations where the transmission cable transitions in and out of the water at the cofferdam locations. The modeling and analysis are inclusive of all areas that include in-river work.

Sediment sampling, modeling and analysis was conducted in coordination with the Portland Sediment Evaluation Team (PSET). The PSET is a consortium of state and federal agencies that work together to assess and characterize sediment to determine the suitability of dredged material for unconfined, aquatic disposal; determine the suitability of post-dredge surfaces; and predict effects on water quality during dredging. Represented agencies include USACE, U.S. Environmental Protection Agency (USEPA), National Oceanic and Atmospheric Administration (NOAA Fisheries), U.S. Fish and Wildlife Service (USFWS), ODEQ; Idaho Department of Environmental Quality (IDEQ); Ecology, and WDNR. The PSET reviewed and provided input into the proposed sediment sampling and analysis plan (SAP). Sampling was conducted in the Columbia River in November 2024. The sediment analysis identified the sediments as primarily coarse, heavy sand and sediment modeling shows the sand is not expected to drift or stay suspended in the water column. In addition, laboratory analysis results show that the sediment samples do not contain contaminants above agency thresholds. This indicates that the hydroplow activity will have minimal impacts to water quality in the Columbia River. The Project



was sited to avoid known contaminated sites; therefore, temporary or permanent changes to toxic compounds or concentrations within the Columbia River are not expected.

PSET reviewed sampling results, model assumptions and hydraulic scenario, model results, and analysis based on these results and provided a Sediment Determination Memo. The combination of existing information, sampling, and model results were used as the basis to evaluate water quality changes and related effects on aquatic life, including species listed under the Endangered Species Act (ESA), and inform the analysis for the 401 Water Quality Certification review.

Placing temporary cofferdams and installing the cable via hydroplow in the Columbia River would cause temporary suspension of sediments. Potential impacts to water quality include temporarily increased turbidity. The USACE has previously conducted sediment sampling in the navigation channel, with the results showing sediments dominated by coarse-grained materials with fines in the range of 0.1 to 2.5 percent. Sediments sampled for this Project have similar physical characteristics, which would indicate that rapid redeposition would occur with minimal fines suspended in the water column. Therefore, impacts to water quality from turbidity are expected to be low.

The proposed cable alignment would avoid known areas of contamination as identified by USEPA on its National Priorities List (NPL), which include Bradford Island, Reynolds Metal Company, McCormick & Baxter, and Portland Harbor (USEPA 2023). Bradford Island bisects the Columbia River and includes a large portion of the Bonneville Lock and Dam complex, including the fish ladder and visitor center. The cable alignment would bypass the Bonneville Dam, including Bradford Island. The former Reynolds Metals Company is located adjacent to the Columbia and Sandy rivers in Troutdale, Oregon. While the boundary of this site extends into the Sandy River, it does not extend into the Columbia River; therefore, it would have no relationship to the proposed cable alignment. The Portland Harbor site is inclusive of the Willamette River and adjacent shorelines from River Mile 1.9 to 11.8. The McCormick & Baxter Creosoting site is located within the same reach/physical limits of the Portland Harbor site but is addressed as a separate USEPA action. The cable would avoid the capped sediments from both sites by using HDD technology to route the cable underneath the sediments. Therefore, impacts to water quality from disturbance of contaminated sediments are expected to be low.

The potential impact of heat produced by underwater cable systems has been shown to be minimal and confined to sediments in immediate proximity to the cables (Exponent 2015). The potential heat generated by the cable would primarily be a function of burial depth and the nature of the sediment, as shown by predictive modeling. Anticipated impacts are expected to be low.

The ASC includes a detailed analysis of water quality and potential Project-related impacts to this resource. The water quality analysis has been completed to address both Ecology's antidegradation policy (Washington Administrative Code [WAC] 173-201-300 through -330) and ODEQ's antidegradation policy (Oregon Administrative Rule [OAR] 340-041-0004), which are intended to protect and maintain existing and designated beneficial uses in surface waters of the states. The analysis provides information to allow reviewers to determine if the Project is in alignment with Ecology's and ODEQ's policies and guidance. Outside of sediment modeling and related turbidity, analysis is based on existing, available water quality data, and anticipated water quality changes, which are evaluated qualitatively.



**a. Surface Water:**

**1) Is there any surface water body on or in the immediate vicinity of the site (including year-round and seasonal streams, saltwater, lakes, ponds, wetlands)? If yes, describe type and provide names. If appropriate, state what stream or river it flows into.**

The Project would be located within and adjacent to the Columbia River. Also, in Washington, the underground HVDC transmission cable would be placed adjacent to SR 14, which is adjacent to the Columbia River and Ice House Lake, and Ash Lake Road, which is adjacent to Ash Lake and Wacoma Lake.

**2) Will the project require any work over, in, or adjacent to (within 200 feet) the described waters? If yes, please describe and attach available plans.**

See answer above. Detailed plans will be provided upon further design.

**3) Estimate the amount of fill and dredge material that would be placed in or removed from surface water or wetlands and indicate the area of the site that would be affected. Indicate the source of fill material.**

In-river work would require placing four temporary cofferdams in the Columbia River to facilitate the transition from HDD to hydroplow and vice-versa, which would require dredging; two of the four cofferdams would be in Washington.

To support installation, the project would require the following:

- Four temporary land-to-water transition areas that facilitate transition from uplands to the water. Three-sided wet cofferdams (70 feet x 300 feet) would be used to isolate the work area and riverbed substrate would be removed from inside the wet cofferdam totaling up to 32,644 cubic yards. The proposal is to side cast channel substrate adjacent to the cofferdams.
- Pre-installation dredging of material over a length of 1,650 linear feet and 24 feet wide to facilitate required depths of cable installation in the navigation channel prism. This material would be side cast outside the navigation channel prism.
- Eight geotechnical borings totaling 48 cubic yards removal for off-site sampling and analysis.
- Temporary disturbance of 40 square feet of emergent palustrine wetland near Stevenson, Washington. It is anticipated that no fill would be brought in from off site. The Project has been designed to avoid and minimize impacts to wetlands and other surface waters to the extent possible.

**4) Will the proposal require surface water withdrawals or diversions? Give general description, purpose, and approximate quantities if known.**

No surface water withdrawals or diversions would be required for the Project.

**5) Does the proposal lie within a 100-year floodplain? If so, note location on the site plan.**

The Project would lie within the 100-year floodplain where it exits and re-enters the Columbia River as well as in the Columbia River itself.



**6) Does the proposal involve any discharges of waste materials to surface waters? If so, describe the type of waste and anticipated volume of discharge.**

No waste materials would be discharged to surface waters.

**b. Ground Water:**

**1) Will groundwater be withdrawn from a well for drinking water or other purposes? If so, give a general description of the well, proposed uses and approximate quantities withdrawn from the well. Will water be discharged to groundwater? Give general description, purpose, and approximate quantities if known.**

No groundwater would be withdrawn and used on site. The Project is not expected to cause any discharges to groundwater in Washington.

**2) Describe waste material that will be discharged into the ground from septic tanks or other sources, if any (for example: Domestic sewage; industrial, containing the following chemicals...; agricultural; etc.). Describe the general size of the system, the number of such systems, the number of houses to be served (if applicable), or the number of animals or humans the system(s) are expected to serve.**

No waste material would be discharged into the ground from septic tanks or other sources in Washington.

**c. Water runoff (including stormwater):**

**1) Describe the source of runoff (including storm water) and method of collection and disposal, if any (include quantities, if known). Where will this water flow? Will this water flow into other waters? If so, describe.**

Runoff on the site would come from rainfall and, potentially, from snowstorm events. Given the expected high permeability and depth of soils on the site, surface water is anticipated to infiltrate into the ground or away from the roadway, as designed. Infiltrated water would ultimately drain into the Columbia River. The ASC describes how surface water runoff and erosion will be controlled during construction and operation to ensure compliance with state water quality standards.

**2) Could waste materials enter ground or surface waters? If so, generally describe.**

See responses to questions "a.6" and "b.2" above. The proposed Project does not involve any discharges of waste material to surface waters or groundwater.

**3) Does the proposal alter or otherwise affect drainage patterns in the vicinity of the site? If so, describe.**

There may be temporary impacts to drainage patterns during construction. These impacts would be addressed through BMPs identified in the ESCP such as water bars and check dams that are meant to minimize erosion and the transport of sediment from the construction area. The Project's operation is not expected to change current stormwater drainage patterns.



**4) Proposed measures to reduce or control surface, ground, and runoff water, and drainage pattern impacts, if any:**

Potential impacts during construction from erosion would be minimal and be addressed through the implementation of mitigation measures (to be described in the ASC) such as the compliance requirement of the State Water Pollution Control Act with the NPDES, which would be handled through a CSGP from Ecology. The NPDES permit will be required as well as an ESCP and SWPPP.

## 4. Plants

The ASC includes a detailed analysis of vegetative communities and potential Project-related impacts to this resource.

**a. Check the types of vegetation found on the site:**

- deciduous tree: alder, maple, aspen, other*
- evergreen tree: fir, cedar, pine, other*
- shrubs*
- grass*
- pasture*
- crop or grain*
- Orchards, vineyards or other permanent crops.*
- wet soil plants: cattail, buttercup, bullrush, skunk cabbage, other*
- water plants: water lily, eelgrass, milfoil, other*
- other types of vegetation*

**b. What kind and amount of vegetation will be removed or altered?**

The vegetation that would be removed in the area where the HVDC would exit the river near Stevenson would be mainly grass in a previously disturbed area adjacent to SR 14. In the SR 14, Ash Lake, and Fort Cascades Drive road ROWs, grass and some small shrubs may be removed or altered to allow for trenching equipment to operate adjacent to the roads. The vegetation that would be removed in the area where the HVDC would re-enter the Columbia River would be grass and small shrubs.

**c. List threatened and endangered species known to be on or near the site.**

The ASC reports results of biological surveys conducted for the Project, including lists of threatened and endangered species known to be on or near the site.

**d. Proposed landscaping, use of native plants, or other measures to preserve or enhance vegetation on the site, if any:**

Because the on-land portion of the cable would be trenched and placed in road ROWs, the landscaping and/or vegetation preservation or enhancement will be conducted in accordance with WSDOT and county requirements. The ASC identifies measures to preserve or enhance vegetation on site.



**e. List all noxious weeds and invasive species known to be on or near the site.**

The ASC reports results of noxious weed surveys (species observed, designation, and frequency of observation) conducted for the Project.

## 5. Animals

The ASC includes results of biological surveys conducted for the Project and a detailed analysis of wildlife and potential Project-related impacts to these resources.

**a. List any birds and other animals which have been observed on or near the site or are known to be on or near the site.**

**Examples include:**

**Birds:** hawk, heron, eagle, songbirds, other: \_\_\_\_\_

**Mammals:** deer, bear, elk, beaver, other: \_\_\_\_\_

**Fish:** bass, salmon, trout, herring, shellfish, other: \_\_\_\_\_

The Applicant conducted desktop review of species and critical habitat protected under the federal ESA, essential fish habitat (EFH), potential presence of marine mammals protected under the Marine Mammal Protection Act (MMPA), and Oregon and Washington special status habitats and species. The Applicant also reviewed preliminary work windows, including the USACE Approved Work Windows for Fish Protection for Waters Within National Park Boundaries, Columbia River, Snake River, and Lakes by Watercourse (USACE ND), the ODFW Oregon Guidelines for Timing of In-Water Work to Protect Fish and Wildlife Resources (ODFW 2008), and the WDFW Times when Spawning or Incubating Salmonids are Least Likely to be within Washington State Freshwaters (WDFW 2018). In-water work windows on the Columbia River are generally from November 15 to February 15 in Oregon and January 1 to March 31 in Washington.

Fish and wildlife habitat surveys were conducted to identify potential impacts from the facility's construction on fish and wildlife. The purpose of the surveys was to preliminarily identify vegetation communities, wildlife habitat types, and any signs of special-status species or unique habitat features.

Potential impacts to fish and wildlife habitat include water quality degradation. Water quality was evaluated as discussed above in the Surface Water and Ground Water subsections of *Section 3. Water*. Additional information in regard to fish studies and analyses is discussed below.

The cables are designed to shield against electric fields. Magnetic fields decline in strength in proportion to distance from their source, so are not likely to be detectable except in the immediate vicinity of the cables. Therefore, potential impacts from electric and magnetic fields to aquatic species would be minimal. Studies of underwater cable systems comparable to this facility indicate minimal to no impact on the behavior of aquatic species (BOEM 2016). Additional information regarding the impacts of electric and magnetic fields is provided in the ASC.

Projects with state nexuses such as transmission lines subject to the Oregon EFSC and the Washington EFSEC processes are required to abide by the ODFW and WDFW habitat mitigation policies. This requires assessing impacts and seeking ODFW and WDFW approval of a habitat mitigation plan. On the basis of the completed biological reconnaissance survey and additional biological surveys, the Applicant provides a site-specific habitat analysis in the ASC.



***b. List any threatened and endangered species known to be on or near the site.***

Data from various resources were considered to determine the threatened, endangered, and sensitive species that may occur within the site boundary, including the following:

- USFWS IPaC
- USFWS Critical Habitat for Threatened and Endangered Species Online Mapper, Environmental Conservation Online System
- NOAA Fisheries Protected Resources Application for ESA-listed species' ranges and critical habitat designations, managed by NOAA Fisheries' West Coast Region
- NOAA Fisheries GIS Data for Essential Fish Habitat
- ODFW Compass
- ORBIC

A list of special-status species with potential to occur within the site boundary was determined through a desktop analysis and is shown in Table 2.

The Applicant is conducting informal consultation with National Marine Fisheries Service (NMFS; informally known as NOAA Fisheries), USFWS, ODFW, WDFW, and Columbia River Intertribal Fish Commission to obtain input into species distribution, preliminary feedback on impacts and minimization methods, and discuss in-water work timing to gain concurrence with the biological assessments as part of the ESA Section 7 consultation process. The biological assessment document addresses potential effects to listed species such as behavioral changes (i.e., avoidance) as a result of the Project.

Generally, in-water work windows on the Columbia River are from November 15 to February 15 in Oregon and January 1 to March 31 in Washington. In addition, an EFH assessment compliant with the requirements of the Magnuson-Stevens Act has been prepared.

Potential impacts to sensitive, threatened, and endangered species could include permanent or temporary loss of habitat, changed behavior for those in the animal kingdom (e.g., avoidance), or degraded water quality parameters such as turbidity. Water quality was evaluated as discussed above in the Surface Water and Ground Water subsections of *Section 3. Water*. In addition, field surveys were conducted to assess habitat conditions. In the ASC, the Applicant provides an analysis of potential impacts to sensitive, endangered, and threatened species and opportunities to avoid or minimize impacts to those resources.



Table 2. Special-Status Animal Species with Potential to Occur within the Site Boundary

Common Name	Scientific Name	Federal Status	State Status
<b>Birds</b>			
American Peregrine Falcon	<i>Falco peregrinus anatum</i>	DL	S
Golden eagle	<i>Aquila chrysaetos</i>	--	--
Purple martin	<i>Progne subis</i>	--	SC
Streaked horned lark	<i>Eremophila alpestris strigata</i>	LT	SC
Tricolored blackbird	<i>Agelaius tricolor</i>	SOC	--
<b>Fish</b>			
Chinook salmon	<i>Oncorhynchus tshawytscha pop. 21</i>	LT	SC
Chum salmon	<i>Oncorhynchus keta pop. 3</i>	LT	SC
Coastal cutthroat trout	<i>Oncorhynchus clarkii pop. 2</i>		S
Coho Salmon	<i>Oncorhynchus kisutch pop. 1</i>	T	LE
Eulachon	<i>Thaleichthys pacificus</i>	LT	--
Green sturgeon	<i>Acipenser medirostris</i>	SOC	--
Pacific lamprey	<i>Entosphenus tridentatus</i>	SOC	S
Steelhead	<i>Oncorhynchus mykiss pop. 27</i>	LT	SC
<b>Mammals</b>			
Townsend's big-eared bat	<i>Corynorhinus townsendii</i>	No status	SC
<b>Reptiles</b>			
California mountain kingsnake	<i>Lampropeltis zonata</i>	SOC	S
Cope's giant salamander	<i>Dicamptodon copei</i>	--	S
Northern red-legged frog	<i>Rana aurora</i>	--	S
Oregon slender salamander	<i>Batrachoseps wrighti</i>	SOC	S
Painted turtle	<i>Chrysemys picta</i>	--	SC
<b>Invertebrate Animals</b>			
A caddisfly	<i>Farula constricta</i>	--	--
Broadwhorl tightcoil (snail)	<i>Pristiloma johnsoni</i>	--	--
California floater (mussel)	<i>Anodonta californiensis</i>	SOC	--
Columbia pebblesnail	<i>Fluminicola fuscus</i>	SOC	--
Dalles juga (snail)	<i>Juga hemphilli dallesensis</i>	--	--
Johnson's waterfall carabid beetle	<i>Pterostichus johnsoni</i>	--	--
Lost River springsnail	<i>Pyrgulopsis sp. 7</i>	--	--
Nerite ramshorn (snail)	<i>Vorticifex neritoides</i>	--	--
Olympia pebblesnail	<i>Fluminicola virens</i>	--	--
Oregon floater (mussel)	<i>Anodonta oregonensis</i>	--	--
Puget oregonian (snail)	<i>Cryptomastix devia</i>	--	--
Shortface lanx (=Giant Columbia River limpet)	<i>Fisherola nuttalli</i>	--	--
Western ridged mussel	<i>Gonidea angulata</i>	UR	--
Winged floater (mussel)	<i>Anodonta nuttalliana</i>	SOC	--

Federal status codes:  
DL = Delisted  
LT = Listed Threatened  
SOC = Species of Concern  
T = Threatened  
UR = Under Review

State status codes:  
C = Candidate  
LE = Listed Endangered  
S = Sensitive Species  
SC = Critical Sensitive Species



**c. Is the site part of a migration route? If so, explain.**

The Project lies in the Pacific Flyway, which runs through the portions of the United States west of the Continental Divide. Most birds that move along the Pacific Flyway during the fall migration season travel from Alaska and Canada south to Mexico and South America. The Project vicinity has stopover habitat along the Columbia River (i.e., habitat where migratory species may stop to rest, drink, and refuel) for raptors, songbirds, waterfowl, and shorebirds. High-quality riparian/wetland and forest stopover habitat may occur in the Project vicinity; however, it is absent from the existing road ROW where the Project would be located on land underground. The Project is not located within a migration route for big game species. The Columbia River is a migration corridor for fish species such as salmon, steelhead, trout, bull trout, and sturgeon.

**d. Proposed measures to preserve or enhance wildlife, if any:**

Projects with state nexuses such as transmission lines subject to the Oregon EFSC and the Washington EFSEC processes are required to abide by the ODFW and WDFW habitat mitigation policies. This requires assessing impacts and seeking ODFW and WDFW approval of a habitat mitigation plan. On the basis of the completed biological reconnaissance survey and additional biological surveys, the Applicant provides a site-specific habitat analysis in the ASC. In addition, construction work will be conducted during the approved in-water work windows.

The ASC identifies measures used to avoid, minimize, and otherwise mitigate impacts to habitat, vegetation, fish, and wildlife based on the results of the wildlife surveys.

**e. List any invasive animal species known to be on or near the site.**

A review of the Washington Invasive Species Council invasive species list was conducted and biological surveys for the Project surveyed for invasive species. The ASC reports the results of the biological surveys.

## 6. Energy and Natural Resources

The ASC includes a detailed analysis of the Project's potential effects on energy and natural resources.

**a. What kinds of energy (electric, natural gas, oil, wood stove, solar) will be used to meet the completed project's energy needs? Describe whether it will be used for heating, manufacturing, etc.**

Operation of the Project would require electric energy from external sources (e.g., local electric utilities) for the service to the converter stations to be located in Oregon. No electric service would be required for Project components in Washington.

**b. Would your project affect the potential use of solar energy by adjacent properties? If so, generally describe.**

The Project would not affect the potential for solar energy use by adjacent properties.

**c. What kinds of energy conservation features are included in the plans of this proposal? List other proposed measures to reduce or control energy impacts, if any:**



Operation of the Project would have minimal demands on energy supplies. High-efficiency electrical fixtures and equipment would be incorporated into the design of the Project converter stations where possible. None of the Project components in Washington would require ongoing energy use. No additional conservation measures are necessary or proposed.

## 7. Environmental Health

The ASC includes an analysis of the Project's potential effects on environmental health.

**a. Are there any environmental health hazards, including exposure to toxic chemicals, risk of fire and explosion, spill, or hazardous waste, that could occur as a result of this proposal? If so, describe.**

**1) Describe any known or possible contamination at the site from present or past uses.**

Phase I environmental site assessments will be performed for the two converter station locations in Oregon. Because the on-land portion of the cable would be trenched and placed in road ROWs, the Applicant conferred with WSDOT regarding the possibility of known or possible contamination of the on land portions in Washington.

**2) Describe existing hazardous chemicals/conditions that might affect project development and design. This includes underground hazardous liquid and gas transmission pipelines located within the project area and in the vicinity.**

According to the USDOT's Pipeline and Hazardous Materials Safety Administration (PHMSA) online locator (2022), no interstate hazardous liquid or gas transmission pipelines occur within the Project vicinity.

**3) Describe any toxic or hazardous chemicals that might be stored, used, or produced during the project's development or construction, or at any time during the operating life of the project.**

The Project would require the use of diesel fuel, gasoline, and lubricant oils for construction equipment, which could pose a risk for release or potential release into the environment if handled improperly. Fuel would be delivered to the construction area by a licensed specialized vehicle on an as-needed basis. There would be no substantial quantities of lubricating oils, hydraulic fluid for construction equipment, or other hazardous materials maintained on site during construction. Lubricating oil or hydraulic fluids for construction equipment would be brought on site on an as-needed basis for equipment maintenance by a licensed contractor using a specialized vehicle, and waste oils removed by the same maintenance contractor. During the HDD, to transition the cables from land to water, drill cuttings and HDD drilling mud solids would be contained within a confined area within the temporary work area and shipped to an appropriate waste site.

The Applicant's construction contractor would prepare a spill control and countermeasures (SPCC) plan, which would be implemented during construction and describe the preventative measures and practices to be used during construction to reduce the likelihood of an accidental release of a hazardous or regulated liquid. The SPCC Plan would describe the methods used in the event of a release to expedite the response to the release and the associated remediation of such a release. The plan would restrict locations of fuel storage, fueling activities and equipment maintenance activities, and provide procedures for these activities. The plan would also describe required training,



key roles and responsibilities of key Applicant personnel and contractors, and establish lines of communications to facilitate the prevention, response, containment, and cleanup of any spills. Due to the procedures established in the SPCC Plan and the limited fuels, oils, or chemicals that would be kept on-site during construction, the Project is not expected to result in impacts to soils from chemical spills during construction. In addition, the SPCC Plan would help prevent discharge of oil into navigable waters or adjoining shorelines.

In addition, bore pits would be set back from the shoreline and an inadvertent return (i.e., frac-out) plan would be developed to monitor and manage drilling fluids. Drilling fluids are mostly water, but can have additives that help stabilize the bore, such as bentonite, an absorbent clay or soda ash

**4) Describe special emergency services that might be required.**

No special emergency services are anticipated to be required. Potential regular emergency services that could be required would include police, medical, and fire services.

**5) Proposed measures to reduce or control environmental health hazards, if any:**

The Applicant and their contractors will comply with applicable federal, state, and local health and safety standards. In addition, the Applicant will prepare and submit a SPCC plan for construction and a SWPPP for construction as discussed in “1.f.” above.

**b. Noise**

The ASC includes an analysis of the Project’s potential effects on noise.

**1) What types of noise exist in the area which may affect your project (for example: traffic, equipment, operation, other)?**

A wide range of noises occur within the area. Variations in acoustic environment are due in part to existing land uses and proximity to transportation corridors. The communities in the area are small and rural in nature. Elevated existing ambient sound levels in the area are likely to occur near the transportation corridor with SR 14 and the Burlington Northern Santa Fe (BNSF) railroad.

**2) What types and levels of noise would be created by or associated with the project on a short-term or a long-term basis (for example: traffic, construction, operation, other)? Indicate what hours noise would come from the site.**

The Project would create noise during construction, which may occur during daytime hours over a standard 8-hour workday during trenching and a 10 to 12-hour workday during HDD. The sources of Project noise would be from HDD drilling techniques and from the trenching equipment. Given that the work would occur primarily in the ROW of SR 14 and adjacent to the BNSF railway, the Project would likely add very little to the overall sound levels during a standard workday. However, WSDOT has indicated that work on SR 14 may need to occur at nighttime to minimize traffic impacts due to one lane being closed. The Applicant conducted desktop analysis of ambient noise levels, conduct acoustical modeling of potential impacts to sensitive receptors, as identified in city/county ordinances, to determine potential impacts during construction and operation; results are presented in the ASC. The Project would not generate any operational noise in Washington once construction is complete.



**3) Proposed measures to reduce or control noise impacts, if any:**

The ASC presents proposed measures to reduce or control noise impacts during construction based on the results of the noise analysis.

## 8. Land and Shoreline Use

The ASC includes a detailed analysis of the Project's potential effects on land and shoreline use.

**a. What is the current use of the site and adjacent properties? Will the proposal affect current land uses on nearby or adjacent properties? If so, describe.**

The Project would be located within WSDOT SR 14 ROW, cross BNSF/UPRR Rail ROW and Dam Access Road and Fort Cascade Drive ROW on USACE owned land, Ash Lake Road ROW in unincorporated Skamania County and a private parcel on the City of Stevenson. Adjacent land use includes the BNSF railroad, natural areas (undeveloped), and developed areas on each side of SR 14. During construction, the proposal could temporarily interrupt traffic patterns. During operation, the proposal would not affect current land use as the use of the site would return to pre-construction conditions. The proposal would not affect current nearby or adjacent properties.

**b. Has the project site been used as working farmlands or working forest lands? If so, describe. How much agricultural or forest land of long-term commercial significance will be converted to other uses as a result of the proposal, if any? If resource lands have not been designated, how many acres in farmland or forest land tax status will be converted to nonfarm or nonforest use?**

The Project site has not been used as working farmlands or working forest lands because it has been previously developed for roadways, including SR 14, Ash Lake Road, and Fort Cascades Drive. No agricultural or forest land of long-term commercial significance would be converted as a result of the Project.

**1) Will the proposal affect or be affected by surrounding working farm or forest land normal business operations, such as oversize equipment access, the application of pesticides, tilling, and harvesting? If so, how:**

During construction, the proposal could temporarily interrupt traffic patterns. If surrounding working farm or forest land use SR 14 for their operations, then the Project could interfere; impacts to surrounding farm or forest land business operations would be avoided or mitigated through permitting approvals. The Project operation would not affect or be affected by surrounding working farm or forest land normal business operations, as it will be buried in a trench along existing roadways with no aboveground features in Washington.

**c. Describe any structures on the site.**

Existing structures on the site primarily include SR 14, Ash Lake Road, Dam Access Road, and Fort Cascades Drive.

**d. Will any structures be demolished? If so, what?**

No structures would be demolished due to the Project. Once the HVDC cable is buried in the road ROWs, the roadway profiles would be re-established to Skamania County Public Works Department, USACE and WSDOT standards and any other requirements identified.



***e. What is the current zoning classification of the site?***

In Unincorporated Skamania County, portions of the Project are in Industrial (MG), Skamania County Road ROW, F-2 Large Woodland (NSA General Management Area), and Natural Environment and High Intensity Environment (Shoreline Master Program).

In the City of Stevenson, Public Use and Recreation (PR) zone.

***f. What is the current comprehensive plan designation of the site?***

Skamania County is not subject to comprehensive planning under the Growth Management Act. Skamania County's Comprehensive Plan (2018) includes critical areas goals and policies, designation of natural resource lands and their preservation. Analysis of the Project's consistency with the relevant goals and policies of the Skamania Comprehensive Plan are in the ASC.

***g. If applicable, what is the current shoreline master program designation of the site?***

In Skamania County, Natural Environment and High Intensity Environment (Shoreline Master Program).

The Project is not within the City of Stevenson's Shoreline Jurisdiction.

***h. Has any part of the site been classified as a critical area by the city or county? If so, specify.***

There are wetlands in the Project vicinity, but impacts would be avoided to the maximum extent practicable; a critical areas assessment was performed as part of the permitting process, including a wetland delineation. The project area is wholly within Critical Aquifer Recharge Areas. Portions of the Project are within severe erosion hazard areas, landslide deposit areas, and low to moderate and moderate to high seismic hazard areas. Portions of the project area also abut or pass through priority habitats, as mapped by WDFW. However, because this Project would be installed in a trench in road ROWs, the area has been previously disturbed and impacts to critical areas are expected to be minimal. The ASC includes a detailed analysis of the Project's potential effects on critical areas.

***i. Approximately how many people would reside or work in the completed project?***

The Project would employ approximately 12 people full-time to operate the converter stations in Oregon.

***j. Approximately how many people would the completed project displace?***

The completed Project would not displace any people in Washington or Oregon.

***k. Proposed measures to avoid or reduce displacement impacts, if any:***

Because there would be no displacement impacts from the Project, no measures are proposed.

***l. Proposed measures to ensure the proposal is compatible with existing and projected land uses and plans, if any:***

In Washington, the Project would be compatible with the existing and proposed land uses and plans because it is a utility buried within an existing roadway ROW.



***m. Proposed measures to reduce or control impacts to agricultural and forest lands of long-term commercial significance, if any:***

Because there would be no impacts to agricultural and forest lands of long-term significance, no measures are proposed.

## **9. Housing**

***a. Approximately how many units would be provided, if any? Indicate whether high, middle, or low-income housing.***

No housing would be provided as part of the Project in Washington.

***b. Approximately how many units, if any, would be eliminated? Indicate whether high, middle, or low-income housing.***

No housing units would be eliminated as part of the Project in Washington.

***c. Proposed measures to reduce or control housing impacts, if any:***

Because there are no housing impacts, no measures are proposed to reduce or control housing impacts.

## **10. Aesthetics**

***a. What is the tallest height of any proposed structure(s), not including antennas; what is the principal exterior building material(s) proposed?***

There would be no aboveground structures in Washington as part of this Project.

***b. What views in the immediate vicinity would be altered or obstructed?***

No views in the immediate vicinity would be altered or obstructed because there are no aboveground structures in Washington as part of this Project.

***c. Proposed measures to reduce or control aesthetic impacts, if any:***

Because there would be no aboveground structures in Washington as part of this Project, no measures are proposed to reduce or control aesthetic impacts.

## **11. Light and Glare**

***a. What type of light or glare will the proposal produce? What time of day would it mainly occur?***

The Project would not produce light or glare once it is operational.

***b. Could light or glare from the finished project be a safety hazard or interfere with views?***

Because no light or glare would be produced by the Project, no safety hazards or views interferences will occur in Washington.

***c. What existing off-site sources of light or glare may affect your proposal?***

The Project would not produce light or glare.



***d. Proposed measures to reduce or control light and glare impacts, if any:***

Because no light or glare would be produced by the Project, no measures to reduce or control light and glare impacts are proposed.

## **12. Recreation**

The ASC includes a detailed analysis of the Project's potential effects on recreation.

***a. What designated and informal recreational opportunities are in the immediate vicinity?***

Designated and informal recreation activities in the immediate vicinity include hiking, camping, birdwatching, and water-dependent recreation such as boating, fishing, swimming, and windsurfing areas, either on shore or within the Columbia River. Additionally, there are high-intensity recreational use areas around the Bonneville Lock and Dam, Hood River, and The Dalles Lock and Dam.

***b. Would the proposed project displace any existing recreational uses? If so, describe.***

It is expected that there may be temporary impacts to recreation activities in the river during construction while the transmission cable is brought on shore and being placed in the Columbia River and then in Washington.

Impacts to recreation are expected to be minimal because work would be conducted during a time of year when recreation use is at its lowest (in-water work timing to reduce impacts to aquatic species). The high season for visiting boat ramp facilities and fishing, swimming, and windsurfing recreation opportunities is May to September. Recreational fishing in the Columbia River by foot (from fishing spots along the shore) or by boat can be year-round (depending on what is being fished) but mostly occurs outside of the winter months. Boats are required to follow U.S. Coast Guard (USCG) navigation requirements for safety and navigation on water.

In-river construction would be completed by one working vessel (barge or ship) with a support vessel near or adjacent to the existing navigation channel. The barge or ship used for Project construction would be one of many barges and ships that navigate on the Columbia River. The hydroplow would operate continuously when allowed and could place up to 1.5 miles of cable per day depending upon the sediment type, current circulation patterns, and river bottom conditions. Temporary cofferdams would be placed to facilitate the transition from HDD to hydroplow and vice-versa.

During construction, potential in-water interference or safety issues between Project construction and in-water or onshore recreation activities would be minimized through compliance with existing recreation, navigation, and barge interaction requirements. All vessel traffic would be coordinated through the USCG local notices to mariners. Temporary impacts would occur to recreational users of the Pacific Crest Trail during construction along the section of SR 14 that the Pacific Crest Trail crosses; however, impacts would be temporary, as users would be transient. Minimal impacts to other onshore recreation activities are anticipated because the converter stations would be placed within areas currently used for agricultural production and in an industrial park, and the cables would be placed within roads ROWs, none of which are recreational areas. Impacts to recreation during construction are anticipated to be minimal and temporary, occurring during low recreation use.

During operation, the cable would be buried below the river bottom and no impacts to recreation activities would occur. The ASC includes a more detailed analysis of the potential impacts to recreation resources.



***c. Proposed measures to reduce or control impacts on recreation, including recreation opportunities to be provided by the project or applicant, if any:***

The Project construction and operation will follow site-specific BMPs to minimize potential impacts to noise, traffic, and the visual surroundings, to minimize impacts to recreational users as described in the resource section of the ASC.

## 13. Historic and Cultural Preservation

The ASC includes a detailed analysis of the Project's potential effects on historic and cultural preservation.

***a. Are there any buildings, structures, or sites, located on or near the site that are over 45 years old listed in or eligible for listing in national, state, or local preservation registers? If so, specifically describe.***

HDR cultural resources specialists completed a desktop review of existing cultural resources records within 0.25-mile of the Project alignment within Washington that included a review of the DAHP Washington Information System for Architectural and Archaeological Records Data (WISAARD), and publicly available online resources such as historical society websites, online newsprints, academic peer-reviewed journals and essays, historic aerial images, and historical maps (e.g., General Land Office, Metsker, and U.S. Geological Survey [USGS] topographic maps). The results of this review indicate that there are buildings, structures, and sites located on or near the Project alignment that are over 45 years in age and listed or eligible for listing in local preservation registers and/or as landmarks, Washington Heritage Register (WHR), and National Register of Historic Places (NRHP). The cultural resources inventory is summarized in the ASC.

***b. Are there any landmarks, features, or other evidence of Indian or historic use or occupation? This may include human burials or old cemeteries. Are there any material evidence, artifacts, or areas of cultural importance on or near the site? Please list any professional studies conducted at the site to identify such resources.***

The cultural resources desktop review indicated there are landmarks, features, and/or other evidence of Indian or historic use or occupation within or near the Project alignment. These include artifacts, archaeological features, and ethnographically known places, as well as usual and accustomed (U&A) and in-lieu fishing, hunting, and gathering areas. Many of these types of resources are listed in archaeological site forms and in reports for previous cultural resources surveys conducted within or in close vicinity to the Project alignment. A review of tribal historic preservation office records was conducted, as permitted by each tribe, to identify additional culturally important areas, ethnographically known places, and traditional cultural properties (TCPs) within or near the Project alignment that the tribes wish to share and otherwise are not listed in DAHP or publicly available records. The cultural resources inventory is summarized in the ASC.

***c. Describe the methods used to assess the potential impacts to cultural and historic resources on or near the project site. Examples include consultation with tribes and the department of archeology and historic preservation, archaeological surveys, historic maps, GIS data, etc.***

The Project's area of potential effects (APE) has been defined by the lead federal agency, and tribal consultation initiated as part of the Section 106 of the NHPA process. Under Section 106, the lead



federal agency must consider the effects of their undertakings on historic properties, which includes consultation among the agency official and other parties with an interest in the effects of the undertaking on historic properties. Historic properties are those cultural resources that are listed in, or eligible for listing in, the NRHP. The HDR technical report will also include a summary of those cultural resources that do not qualify as historic properties but that may be considered significant under SEPA.

Evaluations of NRHP eligibility and preliminary project effects are on-going. The USACE will consult with the NHPA Section 106 parties regarding its determinations of eligibility and project effects, which will be provided to WA EFSEC in the future

***d. Proposed measures to avoid, minimize, or compensate for loss, changes to, and disturbance to resources. Please include plans for the above and any permits that may be required.***

Efforts were made during project siting to avoid and/or minimize impacts to known cultural resources. Additionally, the cable was sited to minimize work in historic shorelines (i.e., areas inundated by the dams), which may have a higher potential for cultural resources. In addition, the Applicant will develop a project-specific monitoring and inadvertent discovery plan, which will be implemented during construction. Archaeological and Tribal monitoring will be performed during project construction to avoid and/or minimize impacts to cultural resources.

Mitigation measures for impacts to cultural resources will be developed after the USACE consults on its determinations of NRHP eligibility and project effects with the NHPA Section 106 parties pursuant to 36 CFR Part 800.4 and 800.5. If project effects are determined to adverse, the USACE will consult with the NHPA Section 106 parties to identify appropriate mitigation measures pursuant to 36 CFR Part 800.6.

## 14. Transportation

The ASC includes a detailed analysis of the Project's potential effects on transportation.

***a. Identify public streets and highways serving the site or affected geographic area and describe proposed access to the existing street system. Show on site plans, if any.***

The transmission line would exit the water and be placed on shore near Stevenson. It would be buried in a trench within road ROW along SR 14 and Ash Lake Road to the southwest and along Fort Cascades Drive. Because there would be no aboveground facilities in Washington, there are no public streets and highways serving the Project or access needed for the Project once it is constructed.

***b. Is the site or affected geographic area currently served by public transit? If so, generally describe. If not, what is the approximate distance to the nearest transit stop?***

No public transit currently serves the area.



**c. Will the proposal require any new or improvements to existing roads, streets, pedestrian, bicycle or state transportation facilities, not including driveways? If so, generally describe (indicate whether public or private).**

No improvements to existing roads, streets, pedestrian, bicycle or state transportation facilities, not including driveways, would be needed as part of the Project in Washington. Once the Project is constructed, the road ROWs would be reconstructed to current standards.

**d. Will the project or proposal use (or occur in the immediate vicinity of) water, rail, or air transportation? If so, generally describe.**

The Project would occur in the immediate vicinity of water and rail transportation because it would be placed within the Columbia River and within the ROW of SR 14 which, in places, would be adjacent to or cross under the BNSF railway.

**e. How many vehicular trips per day would be generated by the completed project or proposal? If known, indicate when peak volumes would occur and what percentage of the volume would be trucks (such as commercial and nonpassenger vehicles). What data or transportation models were used to make these estimates?**

No vehicular trips per day would be generated by the completed Project in Washington.

**f. Will the proposal interfere with, affect or be affected by the movement of agricultural and forest products on roads or streets in the area? If so, generally describe.**

The Project would not affect or be affected by the movement of agricultural and forest products on roads or streets once it is constructed because it would be buried underground in Washington.

**g. Proposed measures to reduce or control transportation impacts, if any:**

Prior to beginning construction, the Applicant will consult with WSDOT and Skamania County on the necessary measures to reduce or control transportation impacts during construction. Because there would be no impacts to transportation once the Project is constructed, no measures are proposed to reduce or control transportation impacts.

## 15. Public Services

The ASC includes a detailed analysis of the Project's potential effects on public services.

**a. Would the project result in an increased need for public services (for example: fire protection, police protection, public transit, health care, schools, other)? If so, generally describe.**

The Project would not result in an increased need for public services in Washington.

**b. Proposed measures to reduce or control direct impacts on public services, if any.**

Because the Project would not result in an increased need for public services, no measures are proposed to reduce or control direct impacts on public services.



## 16. Utilities

**a. Circle utilities currently available at the site:**

***electricity, natural gas, water, refuse service, telephone, sanitary sewer, septic system, other***

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No utilities are currently available at the site within the ROW of SR 14, Ash Lake Road, or Fort Cascades Drive.

**b. Describe the utilities that are proposed for the project, the utility providing the service, and the general construction activities on the site or in the immediate vicinity which might be needed.**

No utilities would be needed for the Project. The Project itself would be part of the electric transmission system serving parts of Oregon and Washington.

## References

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- Oregon Department of Fish and Wildlife (ODFW). 2008. *Oregon Guidelines for Timing of In-Water Work to Protect Fish and Wildlife Resources*. Available online at: [https://www.fs.usda.gov/Internet/FSE\\_DOCUMENTS/stelprd3825743.pdf](https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/stelprd3825743.pdf)
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- USACE. ND. *Approved Work Windows for Fish Protection for Waters Within National Park Boundaries, Columbia River, Snake River, and Lakes by Watercourse*.
- U.S. Department of Transportation Pipeline and Hazardous Materials Safety Administration. 2022. Available at: <https://pvnpm.phmsa.dot.gov/PublicViewer/>
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- Washington Department of Fish and Wildlife (WDFW). 2018. *Times When Spawning or Incubating Salmonids are Least Likely to be Within Washington State Freshwaters*. Available online at: [https://wdfw.wa.gov/sites/default/files/2019-02/freshwater\\_incubation\\_avoidance\\_times.pdf](https://wdfw.wa.gov/sites/default/files/2019-02/freshwater_incubation_avoidance_times.pdf)
- Washington Department of Natural Resources (WDNR). 2022. *Washington Geological Information Portal*. Available at: <https://geologyportal.dnr.wa.gov/2d-view#wigq?-13620832,-13526585,5699042,5745593>.



## C. Signature

The above answers are true and complete to the best of my knowledge. I understand that the lead agency is relying on them to make its decision.

Signature

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Name of signee

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Position and Agency/Organization

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Date Submitted

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