

Appendix B3
Water Resources Protection Plan

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Acronyms and Abbreviations

B2H	Boardman to Hemingway Transmission Line Project
BLM	Bureau of Land Management
CIC	Compliance Inspection Contractor
CWA	Clean Water Act
EIS	Environmental Impact Statement
EPA	Environmental Protection Agency
ESA	Endangered Species Act
FEMA	Federal Emergency Management Agency
IDEQ	Idaho Department of Environmental Quality
IDWR	Idaho Department of Water Resources
IPDES	Idaho Pollutant Discharge Elimination System
IPC	Idaho Power Company
JPA	Joint Permit Application
NOAA	National Oceanic and Atmospheric Administration
NPDES	National Pollutant Discharge Elimination System
NWP	Nationwide Permit
OAR	Oregon Administrative Rules
ODEQ	Oregon Department of Environmental Quality
POD	Plan of Development
Project	Boardman to Hemingway Transmission Line Project
TMDL	Total Maximum Daily Load
U.S.	United States
USACE	United States Army Corps of Engineers
U.S.C.	United States Code
USFS	United States Forest Service
USFWS	United States Fish and Wildlife Service

APPENDIX B3 – WATER RESOURCES PROTECTION PLAN

B3.1 Introduction

The purpose of this Water Resources Protection Plan is to provide measures intended to protect hydrologic resources from potential impacts involving construction, operation, and maintenance activities undertaken by Idaho Power Company (IPC) associated with the Boardman to Hemingway Transmission Line Project (Project). Additional directives for the protection of water resources are contained in Appendix B7 – Erosion, Dust Control, and Air Quality Plan; Appendix C1 – Reclamation, Revegetation, and Monitoring Plan Framework; Appendix C2 – Stormwater Pollution Prevention Plan Framework; Appendix C3 – Spill Prevention, Containment, and Countermeasures Plan Framework; Appendix C4 – Hazardous Materials Management Plan Framework; and Appendix C6 – Blasting Plan Framework.

Compliance with the measures contained in this plan is required to:

- Control Project-related erosion throughout the Project Area, with particular emphasis on avoiding any sedimentation into streams and wetlands;
- Minimize disturbance and erosion of streambeds and banks;
- Protect springs and wells in the Project area from impacts due to blasting and hazardous materials contamination; and

Comply with terms and conditions of relevant permits and the Bureau of Land Management (BLM) right-of-way grant, and U.S. Forest Service (USFS) special-use authorization.

B3.1.1 Plan Updates

This plan will support the National Environmental Policy Act Plan of Development (POD) sufficiently to complete and execute the BLM and USFS Records of Decision. This plan will be updated and refined through the development of the POD, as detailed engineering design of the Project is completed, to meet any stipulations of the Records of Decision and BLM right-of-way grant and USFS special-use authorization before the issuance of the Notice(s) to Proceed and commencement of construction. IPC will be responsible for updating the Water Resources Protection Plan for the construction POD and the Construction Contractor(s) will be responsible for implementing the Water Resources Protection Plan and construction POD.

B3.2 Regulatory Overview and Framework

The construction, operation, and maintenance phases of the Project are subject to various regulations designed to protect environmental resources and the public. Regulations relevant to water resources are outlined in this section.

B3.2.1 Federal

The Water Pollution Control Act of 1948 was the first major United States (U.S.) law to address water pollution. Growing public awareness and concern for controlling water pollution led to sweeping amendments in 1972. As amended in 1977, the law became commonly known as the Clean Water Act (CWA), codified generally in 33 United States Code (U.S.C.) 1251 et. seq. The CWA's objective is to restore and maintain the chemical, physical, and biological integrity

of the nation's waters. The following sections of the CWA may influence construction and maintenance of the Project:

- Section 301: Effluent Limitations from Point Sources indicates the volume of pollutants generated by a known source or point source is limited by specific water resources as described in Section 303(d). These limitations may affect the Project if a construction-related activity discharges a controlled pollutant, such as sediment, into regulated waters, which would require a permit.
- Section 302: Water Quality Related Effluent Limitations designates water quality standards by the state set levels of allowable pollutants called Total Maximum Daily Load (TMDL). This pollutant allotment criterion is designated for a specific waterbody relative to its particular usage. A water quality criterion (numeric pollutant concentrations and narrative requirements) also is designated to protect particular resource uses. If the Project has the potential to add pollutants to a particular resource that is protected by a TMDL, it may be necessary to mitigate impacts and potentially require the Project to be included in the TMDL permit.
- Section 303: Water Quality Standards and Implementation Plans, Designation of Impaired Waters indicates water bodies not meeting state-mandated water quality standards are presented to the Environmental Protection Agency (EPA) for designation as Impaired Waters and issuance of federal protection under a TMDL. Impaired waters that may potentially be affected by the Project are subject to limitations set forth by the TMDL issued for the particular impaired water. If there is a high probability the Project will affect the impaired water, modification to the state construction general permit could be required.
- Section 311: Oil and Hazardous Substances Liability provides the framework for determining whether an oil spill to inland and coastal waters and/or their adjoining shorelines should be reported to the federal government. In particular, the regulation requires the person in charge of a facility or vessel responsible for discharging oil that may be "harmful to the public health or welfare" to report the spill to the federal government. The regulation establishes the criteria for determining whether an oil spill may be harmful to public health or welfare, thereby triggering reporting requirements.
- Section 319: Effluent Limitations from Nonpoint Sources was created following the 1987 amendments to the CWA for management of nonpoint-source pollution. Section 319 regulates the discharge of pollutants from various sources, which accumulate to reduce water quality standards set by the state. If the Project has the potential to add nonpoint-source pollutants to a particular resource protected by a TMDL, it may be necessary to mitigate impacts and may potentially require the Project to be included into the TMDL permit.
- Section 401: Water Quality Certification requires that an application for a federally permitted activity that may result in a discharge into a water of the U.S. must obtain a water quality certification from the state with jurisdiction, certifying the action will not violate state or federal water quality standards.
- Section 402: National Pollutant Discharge Elimination System (NPDES) regulates water-quality standards specifically by issuing and monitoring construction-related permits for discharges into waters of the State (described in more detail under the State Regulations section).
- Section 404: Dredge or Fill in waters of the United States regulates the dredging or filling of any material in a water of the U.S. under the regulatory jurisdiction of the U.S. Army Corps of Engineers (USACE). If the Project requires the dredge or fill in a water of the U.S. as defined in 33 Code of Federal Regulations Part 328.3 of the CWA, it may be necessary to obtain a federal permit to conduct the work. As a provision of the federal permitting process, mitigation for the permanent loss of jurisdictional wetlands or other waters of the U.S. may be required by the USACE and EPA.

- Safe Drinking Water Act was originally passed by Congress in 1974 to protect public health by regulating the quality of drinking water. The law was amended in 1986 and 1996, requiring many actions to protect drinking water and its sources, which include rivers, lakes, reservoirs, springs, and groundwater wells. Under the Safe Drinking Water Act, the EPA sets standards for drinking water quality and oversees the states, localities, and water suppliers who implement those standards, but does not regulate private wells that serve fewer than 25 individuals (EPA 2012b). The Safe Drinking Water Act also mandates a Groundwater Wellhead Protection Program be developed by each state to protect groundwater resources that serve as sources for public drinking water.
- National Flood Insurance Program is administered by the Federal Emergency Management Agency (FEMA), a component of the U.S. Department of Homeland Security. In support of the National Flood Insurance Program, FEMA identifies flood hazard areas throughout the U.S., including Special Flood Hazard Areas, which are defined as areas of land that would be inundated by a flood having a 1 percent chance of occurring in any given year (previously referred to as the base flood or 100-year flood). Development may take place in Special Flood Hazard Areas, provided development complies with local floodplain management ordinances, which must meet the minimum federal requirements. Not all jurisdictions along the route have been mapped for flood zones under the National Flood Insurance Program.
- BLM Resource Management Plan and Management Framework Plan for the Vale District Office, Oregon and Owyhee Field Offices in Idaho specify regulations and goals for the management of BLM-administered lands and set restrictions to protect fish and wildlife and the habitats on which they depend.
- USFS, Wallowa-Whitman Land and Resource Management Plan which specifies management direction and protections for fish and wildlife habitats.

B3.2.2 State

B3.2.2.1 Oregon

- Oregon Department of Environmental Quality (ODEQ), reviews and evaluates the water quality impacts of projects which require a federal permit or license to conduct any activity that may result in a discharge (including dredge and fill material) in waters of the United States under Section 401 of the Clean Water Act. Oregon's water quality standards specify the designated use of a waterbody (e.g., for water supply or recreation), pollutant limits necessary to protect the designated use (in the form of numeric or narrative criteria), and policies to ensure that existing water uses will not be degraded by pollutant discharges. USACE and ODEQ offer a joint permit applications (JPA) to secure Section 401 certification and a Section 404 permit.
- Oregon's Removal-Fill Law (ORS 196.795-990) requires people who plan to remove or fill material in waters of the state to obtain a permit from the Department of State Lands. The purpose of the law, enacted in 1967, is to protect public navigation, fishery and recreational uses of the waters. "Waters of the state" are defined as "natural waterways including all tidal and nontidal bays, intermittent streams, constantly flowing streams, lakes, wetlands and other bodies of water in this state, navigable and nonnavigable, including that portion of the Pacific Ocean that is in the boundaries of this state." The law applies to all landowners, whether private individuals or public agencies.
- Oregon Department of Environmental Quality, Water Quality Division, Water Quality Standards: Beneficial Uses, Policies, and Criteria for Oregon include stipulations for reclamation plan development; turbidity testing, reporting, and compliance in waters supporting municipalities with drinking water; and rules and regulations regarding spills of potentially hazardous liquids.

Oregon Administrative Rules (OAR) 340-041-0036 of this document sets limits for turbidity increases.

- Oregon is authorized by the EPA to implement a statewide stormwater program under the NPDES. ODEQ Stormwater Program has permits and requirements modeled after EPA's NPDES program. ODEQ will require adherence to NPDES stormwater requirements, submittal of a 1200-C construction stormwater permit application, and preparation of the Erosion and Sediment Control Plan that describes construction activities and methods proposed to comply with stormwater requirements.
- The 2012 Oregon Integrated Water Resources Strategy, the first of its kind in Oregon, provides a blueprint to help the state better understand and meet its instream and out-of-stream needs, taking into account water quantity, water quality, and ecosystem needs. The Strategy identifies the most critical water-related challenges facing communities throughout Oregon. It offers recommendations in 13 different issue areas to address these challenges. In the short term, the State will pursue those recommendations focused on improved surface water and groundwater data, local water planning, water supply development, instream protections, and funding options to help local communities and state agencies meet their water-related responsibilities.

B3.2.2.2 Idaho

- Idaho Department of Environmental Quality (IDEQ) is responsible for regulating Surface Water Quality Standards, Ground Water Quality Standards, Point Source Discharge Permits, CWA Section 401 Water Quality Certifications and Regulations, and Implementation of CWA Section 303(d) Requirements.
- In 2014, the Idaho Legislature revised Idaho Code to direct IDEQ to seek EPA authorization for a state-operated pollutant discharge elimination system permitting program. The current NPDES program is operated by EPA. Idaho program guidance development has been implemented. In order to gain approval of the program, IDEQ must have rules in place that meet the requirements of the Clean Water Act and federal regulations. These rules establish procedures for submitting permit applications, writing and issuing IPDES permits, filing appeals, fee structures, developing general permits, and other required components of an NPDES program.
- Idaho Department of Water Resources (IDWR) floodplain manager coordinates the National Flood Insurance Program in Idaho. Management involves reviewing city ordinances created to deal with floodplain problems, assisting communities to adopt floodplain ordinances and qualify for the National Flood Insurance Program, which makes it possible for citizens to qualify for FEMA flood insurance.
- IDWR also manages the Idaho Stream Channel Protection Act requires that the stream channels of the state and their environment be protected against alteration for the protection of fish and wildlife habitat, aquatic life, recreation, aesthetic beauty, and water quality. This means IDWR must approve in advance any work being done within the beds and banks of a continuously flowing stream. In general terms, the Stream Channel Protection Act applies to any type of alteration work, including recreational dredge mining, done inside the ordinary high water marks of a continuously flowing stream. The Act requires that you first get a stream channel alteration permit from IDWR before you begin any work that will alter the stream channel. A stream channel alteration is defined as any activity that will obstruct, diminish, destroy, alter, modify, relocate or change the natural existing shape or direction of water flow of any stream channel. This includes taking material out of the channel or placing material or structures in or across the channel where the potential exists to affect flow in the channel.

B3.3 Inventory of Water Resources

Field surveys to locate wetlands and waters of the United States will be conducted along the right-of-way, access roads, and other ancillary facilities. In addition to these surveys, information on the location of streams, wetlands, wells, riparian areas, and springs contained in this plan will be collected and refined from publically available data sets, through interpretation of aerial photography, and collected incidentally during other resources surveys.

B3.3.1 Wetlands and Waters of the United States

Waters of the United States include lakes, rivers, streams and their tributaries, and wetlands. In the arid western United States, many intermittent and ephemeral waterways also are regulated as waters of the United States. Wetlands are unique, important, and limited resources in the western U.S. Wetlands provide essential breeding, rearing, and feeding grounds for many species of fish and wildlife. In addition to affording valuable habitat resources, wetlands also perform important hydrologic functions, such as groundwater recharge, flood protection, and pollution control. Both collectively and individually, wetlands in the western United States represent a significant landscape-level resource depended upon by a variety of migratory birds and other wildlife.

Prior to completion of the POD, preparation of required permit applications, and initiation of construction activities, field surveys will be conducted to delineate wetlands and other waters of the United States that may be present along the right-of-way, access roads, work areas, and other facilities associated with the Project. Wetland delineations will follow the USACE Wetland Delineation Manual (USACE 1987), Arid West Regional Supplement (USACE 2008), and Western Mountains Supplement (USACE 2010). The USACE Wetland Delineation Manual provides standards, technical guidelines, and methods for a three-parameter approach to determine the location and boundaries of potential jurisdictional wetlands. Regional supplements are intended to provide additional guidance and updated delineation methods that address regional variations in wetland conditions. Wetlands delineations require positive indicators of hydrophytic vegetation, hydric soils, and wetland hydrology. Surveyors will gather wetland determination information on data forms in the field and map wetland boundaries using geographical positioning system technology. Geographic information system shapefiles or feature classes of inventoried wetlands will also be available for the mapped wetlands. Any water feature possessing wetland characteristics based on the USACE 1987 methods and appropriate supplements was assumed to be preliminarily jurisdictional at the state and at the federal level. All non-wetland water features that have characteristics of perennial or intermittent streams based on Oregon Streamflow Duration Assessment Model results, or non-wetland other waters, are also assumed to be preliminarily jurisdictional at the state and federal level.

B3.3.2 Wells and Springs

Water wells and springs were identified using data collected during the preparation of the Project Environmental Impact Statement (EIS). The locations of wells and streams will be shown in the map volume developed for the POD. Wells and springs in known blasting zones will be identified prior to construction by the Construction Contractor(s).

B3.3.3 Riparian Conservation Areas

Riparian Conservation Areas, as defined below in Section 3.5.1 under **Design Feature 15**, were identified using data collected during the preparation of the Project EIS. The locations of Riparian Conservation Areas will be shown in the map volume developed for the POD.

B3.4 Overview of Permitting Actions

Project construction, operation, and maintenance activities are anticipated to affect jurisdictional watercourses. Various permits will be required for specific activities conducted in association with jurisdictional watercourses. Acquisition of permits may vary based on Project stakeholder roles and responsibilities relative to activity type. Acquisition of certain permits will be the responsibility of IPC as a component of the general permitting actions, while certain permits will be the responsibility of the Construction Contractor(s) as a component of construction actions. Important permitting actions relevant to water resources are summarized in this section and additional permitting actions are reviewed in Section 3.2 – Regulatory Overview and Framework. In addition, an overview of permit requirements is located in POD Table 1-2 – Federal, State, and Local Permits.

B3.4.1 Section 404 of the Clean Water Act

A permit will be required for actions that may result in dredge or fill activities in jurisdictional waters and wetlands. The USACE and EPA regulate the placement of fill into waters of the United States under Section 404 of the CWA. The Project is anticipated to require dredge or fill activities in jurisdictional water and/or wetlands. Prior to completion of the POD and initiation of construction activities, wetland delineations and surveys for wetlands and other waters will be conducted. In areas where wetlands or other waters may be affected, IPC will seek permit coverage from USACE for these actions. It is anticipated these actions can be permitted under Section 404 Nationwide Permit (NWP) 12 for Utility Line Activities. The Project will need to meet the criteria for and fall within the thresholds of the NWP, including requirements for mitigation and Preconstruction Notification to the USACE. However, the USACE has ultimate authority on all wetland permitting issues.

B3.4.2 Additional Relevant Permits and Authorizations

In Oregon, a JPA is submitted for Removal-Fill and Section 404 Permitting. A Removal-Fill Permit will be required in Oregon to protect public navigation, fishery and recreational uses of the waters. The law applies to all landowners, whether private individuals or public agencies. IPC will submit a JPA to the Oregon Department of State Lands and USACE, applying for the relevant authorizations necessary to address the Project's impacts on wetlands and waterways.

Similarly, IDEQ will be notified by USACE when a JPA is submitted USACE and IDWR for Stream Alteration Permit, depending on the Construction Contractor(s)'s approach to constructing over or around streams.

IPC or their Construction Contractor(s) will submit a 1200-C construction stormwater permit application, and prepare an erosion and sediment control plan that describes construction activities and methods proposed to comply with stormwater requirements. Similar NPDES permits will be acquired in Idaho where needed.

All required permits not specifically identified in Section 3.4.1 – Section 404 of the Clean Water Act, and POD Table 1-2 – Federal, State, and Local Permits will be obtained by the Construction Contractor(s) prior to initiation of construction activities.

B3.5 Design Features and Mitigation Measures

IPC and the Construction Contractor(s) will adhere to the design features and mitigation measures discussed in the following sections. Mitigation measures are intended to minimize Project impacts to riparian areas and jurisdictional waters and wetlands, wells, and springs where they may occur along the Project. Other specific stipulations and methods presented in Appendix B7 – Erosion, Dust Control, and Air Quality Plan and Appendix C1 – Reclamation, Revegetation, and Monitoring Plan Framework are

designed to minimize the potential impacts on other nonjurisdictional drainages and dry swales found along the Project. This plan, along with the map volume developed for construction, is intended to provide guidance to the Construction Contractor(s) as to where and when these other specific stipulations and methods will be applied.

The Construction Contractor(s) will work cooperatively with the Compliance Inspection Contractor (CIC) and, as appropriate, USACE staff throughout construction to determine the most suitable site-specific measures to be implemented based on a number of factors, including site characteristics, construction techniques to be used, anticipated weather conditions, permit requirements, and other variables. The following water resource mitigation measures described below include design features of the Project for environmental protection, selective mitigation measures, and other specific stipulations and methods.

B3.5.1 Design Features of the Project for Environmental Protection

Applied Project-wide, design features for environmental protection have been developed in accordance with BLM and USFS standards and will address many of the concerns associated with hazardous substances and aquatic invasive species as pertaining to jurisdictional wetlands and other waters. Following is a description of design features that addresses both hazardous materials and aquatic invasive species during the construction and operation of Project facilities that may affect water resources.

- **Design Feature 5.** The spatial limits of construction activities, including vehicle movement, would be predetermined with activity restricted to and confined within those limits. No paint or permanent discoloring agents indicating survey or construction limits would be applied to rocks, vegetation, structures, fences, etc.
- **Design Feature 6.** In construction areas (e.g., staging areas, material laydown yards, fly yards, and wire pulling/splicing sites) where there is ground disturbance and where recontouring is required, surface reclamation would occur as required by the Reclamation, Revegetation, and Monitoring Plan or the landowner. The method of reclamation may consist of, but not be limited to, returning disturbed areas to their natural contour, replacement of displaced rocks and boulders in a manner that does not create strong edge conditions, reseeding, installing cross drains for erosion control, placing water bars in permanent roads, use of vertical pitting and mulching used for clearings in sage areas, and filling ditches where they were installed for temporary roads.

All areas disturbed as a part of the construction and/or maintenance of the proposed transmission line would be seeded with a seed mixture appropriate for those areas as identified in the Reclamation, Revegetation, and Monitoring Plan. The federal land-management agency or landowner(s) would approve a seed mixture that is compatible with the affected Ecological Site Description. Seeding methods typically would include drill seeding, where practicable; however, the federal land-management agency or landowner(s) may recommend broadcast seeding as an alternative method in some cases.

In construction areas where disturbing the existing contours is not required, vegetation would be left in place wherever possible, and original contours would be maintained to avoid excessive root damage and allow for resprouting in accordance with the Reclamation, Revegetation, and Monitoring Plan or landowner approval.

- **Design Feature 8.** Grading would be minimized by driving overland in areas approved in advance by the land-management agency and/or land owner in predesignated work areas (e.g., staging areas, material laydown yards, fly yards, and wire pulling/splicing sites) whenever possible.
- **Design Feature 9.** All vehicle movement outside the right-of-way would be restricted to predesignated access, contractor-acquired access, public roads, overland travel routes, or

crossings of streams approved in advance by the applicable land-management agency or landowner.

- **Design Feature 15.** Consistent with the BLM and USFS riparian management policies, surface-disturbing activities would be avoided in defined segments of Riparian Conservation Areas, using the following delineation criteria, unless exception criteria defined by the BLM are met or with agency approval of acceptable measures to protect riparian resources and habitats by avoiding or minimizing stormwater runoff, sedimentation, and disturbance of riparian vegetation, habitats, and wildlife species:
 - Fish-bearing streams: 300 feet slope distance on either side of the stream, or to the extent of additional delineation criteria, whichever is greatest.
 - Perennial non-fish bearing streams: 150 feet slope distance on either side of the stream, or to the extent of additional delineation criteria, whichever is greatest.
 - Ponds, lakes, reservoirs, and wetlands greater than 1 acre: 150 feet slope distance from the edge of the maximum pool elevation of constructed ponds and reservoirs, or from the edge of the wetland, pond or lake, or to the extent of additional delineation criteria, whichever is greatest.
 - Intermittent or seasonally flowing streams and wetlands less than 1 acre in watersheds that support ESA-listed fish species and /or designated critical habitat: 100 feet slope distance from the edge of the stream channel or wetland to the outer edge of riparian vegetation, whichever is greatest.
 - Intermittent or seasonally flowing streams and wetlands greater than 1 acre in watersheds that do not have current, documented presence of ESA-listed fish species and /or designated critical habitat: 50 feet slope distance from the edge of the stream channel or wetland to the outer edge of riparian vegetation, whichever is greatest.

Mitigation measures, such as micro-siting road locations, would be developed on a site-specific basis, in consultation and coordination with the BLM and other federal land-management agencies, and incorporated into the final POD.

- **Design Feature 16.** Based on biological resources surveys and results of Section 7 consultation (with USFWS and National Oceanic and Atmospheric Administration [NOAA] Fisheries), state and federally designated sensitive plants, fisheries, habitat, wetlands, riparian areas, springs, wells, water courses, or rare/slow regenerating vegetation communities would be flagged and structures would be placed to allow spanning of these features, where feasible, within the limits of standard structure design. Surveys for fish species are not anticipated; ESA-listed fish species would be presumed present in all watersheds that agency data indicate presence.
- **Design Feature 17.** If work were required during wet periods with saturated soil conditions, vehicles would not be allowed to travel when soils are moist enough for deep rutting (4 or more inches deep) to occur unless prefabricated equipment pads (matting) were installed over the saturated areas or other measures were implemented to prevent rutting. Equipment with low-ground-pressure tires, wide tracks, or balloon tires would be used when possible.
- **Design Feature 18.** Crossings of dry washes would be made during dry conditions, when possible. Repeated crossings would be limited to the extent possible but constrained to the same location with appropriate stabilization to reduce erosion potential.
- **Design Feature 20.** Interagency-developed methods of avoidance, inspection, and sanitization as described in the Operational Guidelines for Aquatic Invasive Species Prevention and Equipment Cleaning (USFS 2009) would be adhered to. If control of fugitive dust near sensitive water bodies is necessary, water would be obtained from treated municipal sources or drafted from sources known to contain no aquatic invasive species. Support vehicles, drill rigs, water trucks and

drafting equipment would be inspected and sanitized, as necessary, following interagency-approved operational guidelines.

- **Design Feature 21.** Hazardous material would not be discharged onto the ground or into streams or drainage areas. Enclosed containment would be provided for all waste. All construction waste (i.e., trash and litter, garbage, other solid waste, petroleum products, and other potentially hazardous materials) would be removed to a disposal facility authorized to accept such materials within 1 month of B2H Project completion, except for hazardous waste which would be removed within 1 week of B2H Project completion.

Refueling and storing potentially hazardous materials would not occur within a 200-foot radius of all identified private water wells, and a 400-foot radius of all identified municipal or community water wells. Spill prevention and containment measures would be incorporated as needed.

B3.5.2 Selective Mitigation

The selective mitigation measure to be applied on a site-specific basis to minimize potential adverse effects to water resources during construction, operation, and maintenance of the Project is included below. Implementation of these mitigation measures is required for compliance with the terms and conditions of relevant permits and the BLM right-of-way grant and USFS special-use authorization. If a mitigation measure identified below cannot be applied in a specific area, the Construction Contractor(s) will work with the CIC, appropriate land management agency, and USACE staff (if applicable) to determine a suitable alternative.

- **Selective Mitigation Measure 1 (Limit Widening of Existing Roads in Areas of Sensitive Soils, Vegetation and/or Stream Crossings).** In areas where soils, vegetation, and/or streams are sensitive to disturbance, existing roads to be used for construction access and/or B2H Project maintenance would not, as much as possible/practicable, be widened or otherwise upgraded except in areas necessary to make existing roads passable and safe.
- **Selective Mitigation Measure 2 (Use Existing Access or Stream Crossings, or both, for Sensitive Resources Avoidance).** Existing access or stream crossings, or both, would be used as much as possible or practicable for construction and maintenance to avoid disturbance of sensitive resources crossed by the B2H Project.
- **Selective Mitigation Measure 5 (Minimize Vegetation Clearing for Operational Clearances).** Removal of vegetation in the right-of-way would be minimized to limit disturbance to timber resources, reduce disturbance to agricultural production, reduce visual contrast, and protect sensitive habitat, subject to structure- and conductor-clearance requirements. Trees and other vegetation would be removed selectively (e.g., edge feathering) to blend the edge of the right-of-way into adjacent vegetation patterns, as practicable and appropriate. Refer to EIS Section 2.3.3.2 for more description of vegetation management.
- **Selective Mitigation Measure 8 (Span and/or Avoid Sensitive Features).** Within the limits of standard tower design, structures would be located to allow conductors to avoid identified sensitive features such as dwellings/buildings and span sensitive existing land uses, natural features, hazardous substance remediation sites, and cultural resource sites. This could be accomplished through methods such as selective tower placement, spanning sensitive features, or realigning the B2H Project centerline (micro-siting).

B3.5.2.1 Stream Crossing Methods

Streams that will need to be crossed by Project vehicles and equipment during construction will be identified in a map volume developed for construction. Section 3.1 – Introduction, POD Table 1-2 – Federal, State, and Local outlines federal, state, and local permits required for the Project, including permits required for crossings of streams and wetlands. These permits may impose additional stipulations,

monitoring requirements, or impact thresholds not included in the POD and must be used in conjunction with the other specific stipulations and methods described in the POD. It will be the responsibility of the Construction Contractor(s), in coordination with the CIC, to ensure all necessary permits are obtained and stipulations are followed for work conducted in and around streams and wetlands. If a stream or wetland cannot be avoided during construction, the CIC and Construction Contractor(s) will work together to identify the appropriate crossing strategy for vehicular access, which must comply with all permit and agency requirements. An overview of permit requirements is located in POD Table 1-2 – Federal, State, and Local Permits.

When implemented, these crossing methods will help protect water quality by minimizing stream channel disturbance, erosion, and sedimentation due to Project activities. If the chosen crossing method is not adequately preventing and/or minimizing sedimentation and erosion, the CIC may require additional sediment controls when circumstances warrant. The CIC and Construction Contractor will monitor the pattern, profile, and dimension of streams crossed by the Project throughout construction for signs of bed and/or bank degradation. If disturbance resulting from installation of erosion control devices across shallow swales outweighs the benefits of having the devices in place, then the CIC, in consultation with the Construction Contractor(s), will have the option of not prescribing any temporary stream crossing or erosion control method. The various types of crossing methods are discussed in detail below.

B3.5.2.2 Vehicular Stream Crossings

The crossings of streams will be limited to vehicular crossings along spur roads or access roads as described below:

Type 1 – Drive-through with or without minor grading and/or minimal fill to match existing stream profile

Crossing of a seasonally dry channel.

Type 2 – Hardened drive-through ford

Crossing of a channel that includes grading and stabilization. Stream banks and approaches would be graded to improve vehicle passage and would be stabilized with rock, geotextile fabric, or other erosion-control devices. The streambed would in some areas be reinforced with coarse rock material, where approved by the land-management agency, to support vehicle loads, prevent erosion, and minimize sedimentation into the waterway. Rock would be installed in the streambed such that it would not raise the level of the streambed, thus allowing continued movement of water, fish, and debris. Fords may be constructed in small, shallow streams (less than 2-foot stream depth and 20-foot active stream width) and rocky substrates. Fords also may be appropriate on wider streams that have a poorly defined channel that often changes course from excessive bedload. A ford crossing results in an average disturbance profile of 25 feet wide (along the waterbody) and 50 feet long (along the roadway) for 1,000 square feet, or 0.02 acre at each crossing. Disturbance amount is estimated based on the need to move equipment into the riparian area to build the 14-foot-wide operational surface, as well as to protect the area from erosion by adding armoring.

Type 3 – Culvert

Crossing of a stream or seasonal drainage that includes installation of a culvert and a stable road surface established over the culvert for vehicle passage. Culverts would be designed and installed under the guidance of a qualified engineer who, in collaboration with a hydrologist and aquatic biologist, where required by the land-management agency, would recommend placement locations; culvert gradient, height, and sizing; and proper construction methods. Culvert design would consider bedload and debris size and volume. The disturbance footprint for culvert installation is estimated to be 50 feet wide (along the waterbody) and 150 feet long (along the road) for 7,500 square feet, or 0.17 acre at each crossing.

Ground-disturbing activities would comply with agency-approved best management practices. Construction would occur during periods of low flow. The use of equipment in streams would be minimized. All culverts would be designed and installed to meet desired riparian conditions and fish passage requirements, as identified in applicable land-use-management plans. Culvert slope would not exceed stream gradient. Typically, culverts would be buried partially in the streambed to maintain streambed material in the culvert. Sandbags or other nonerosive material would be placed around the culverts to prevent scour or water flow around the culvert. Adjacent sediment control structures such as silt fences, check dams, rock armoring, or riprap may be necessary to prevent erosion or sedimentation. Stream banks and approaches may be stabilized with rock or other erosion control devices.

Type 4 – Channel-spanning structures including fish passage

Crossing of a waterbody identified as containing a sensitive fish species that includes installation of a large-diameter culvert, arch culvert or short-span bridge and a stable road surface established over the structure for vehicle passage. Channel-spanning structures would be designed and installed under the guidance of a qualified engineer who, in collaboration with a hydrologist and aquatic biologist would recommend placement locations; structure gradient, height, and sizing; and proper construction methods. The typical disturbance footprint for channel-spanning structures averages 60 feet wide (along the waterbody) and 150 feet long (along the road) for 9,000 square feet, or 0.2 acre at each crossing.

Flow of sediment into the stream will be prevented by installing waterbars on the travel route at or near the top of the bank (or other slope break) to redirect road runoff away from the stream. If necessary, downslope protection will be increased by extending properly installed and maintained silt fence from the down-gradient end of the waterbar.

Table B3-1 Provides vehicular stream crossing methods and construction details. For the purpose of this plan, streams have been divided into two categories: streams with dry crossing conditions and streams with wet crossing conditions.

Table B3-1 Vehicular Stream Crossing Methods and Construction Details	
Type of Watercourse	Suggested Vehicular Crossing Method
Stream – Dry Crossing Condition	Use existing bridges or established crossing where possible. If no existing crossing is present, establish a graded crossing or install rock armor in the channel. Graded crossings will not be used in streams with a discernible amount of flow.
Stream – Wet Crossing Condition	Use existing bridges or established crossing where possible. If crossing is unavoidable, use rock armor, temporary bridge, culverts, or prefabricated equipment pads. Span the entirety of the stream bed and banks where possible. Prefabricated equipment pads are not recommended for streams with high flow. If bank or bed degradation occurs due to Project activities, the CIC contractor may require installation of rock armor, silt fence, straw bale dike, or erosion control matting.
NOTE: This table is intended to provide general guidance and suggestions. The Construction Contractor(s) and CIC will work together to determine the appropriate measures for site-specific treatments and alternative approaches if needed. It is intended to provide flexibility and workable options for the Construction Contractor(s) to meet the goals of this plan and comply with permit requirements.	

In cases where it is impractical and highly disruptive to the environment to construct temporary crossings, such as over very large watercourses or deep canyons, vehicles will not attempt to cross the watercourse. The conductor will be strung across these resources by hand or other method and construction equipment will be routed around.

B3.5.2.3 Wetland Crossing Methods

Wetlands identified during field surveys will be identified in the map volume developed for construction of the Project. Several areas containing wetlands are located along the Project route and if vehicular access is required through wetlands, then the crossing methods discussed below will be implemented to avoid, minimize, and mitigate Project-related erosion, sedimentation, and other impacts. Vehicular crossing of wetlands may result in impacts on the wetland resources, and implementation of the measures described in this section is not likely to completely eliminate these impacts. It is the responsibility of the Construction Contractor(s) and CIC to ensure any wetland crossing complies with applicable law, regulation, policy, and permit requirements prior to conducting the work.

These crossing methods have been developed based on numerous factors, including slope, hydrological regime, presence or absence of bank, erodibility of substrate, soil surface disturbance, and disturbance of wetland plant communities.

B3.5.2.4 Vehicular Wetland Crossings

During construction and for routine and emergency operations, access across wetlands to individual structure locations may be necessary. Selection of final wetland crossing techniques would be based on final access road alignment and wetland characteristics. Techniques that will be considered include the following:

Constructing at-grade roads with geotextiles and road materials for water through-flow

This type of road would be below water during certain times of the year, which would make locating the roads difficult, and the depth of the water over the drivable surface may make travel over the submerged road surface impractical or not feasible.

Limiting structure access across wetlands to dry or frozen conditions, along with the use of lowground-pressure tires or specialized tracked vehicles

Construction of ice roads in wetlands involves using lightweight equipment such as snowmobiles to tamp down existing snow cover and vegetation to allow penetration of frost into the wetland soils. This operation would be followed by packing with heavier tracked equipment such as Bombardiers or widetracked dozers. The window of weather cold enough to allow for this technique is short, thereby restricting operation and maintenance activities to the winter season only.

Installing temporary matting materials to allow access for heavy vehicles and equipment

The mats typically come in the form of heavy timbers bolted together or interlocking pierced-steel planks. Mats spread the concentrated axle loads from equipment over a much larger surface area, thereby reducing the bearing pressure on fragile soils. However, mats are less effective when standing water is present.

Constructing raised fill embankments for permanent above-grade access roads in wetlands such that the travel surface is higher in elevation than the ordinary high-water level

The construction of above-grade access roads would accommodate the types of equipment described above and would be the most flexible for construction. All waterbody and wetland disturbances would be completed under the terms of a USACE Clean Water Act Section 404 permit, the National Pollutant Discharge Elimination System Construction Stormwater Permit (Clean Water Act 402), an Oregon Department of State Lands Removal-Fill Permit, and State 401 water quality certification requirements that govern activities within any waters of the United States. In Idaho, there is an additional requirement for a stream channel alteration permit.

Using helicopters for construction access to avoid wetlands

Transmission tower structures proposed for the B2H Project could be erected partially by helicopter, if needed. However, in each case, ground-based vehicles would still be needed and therefore would not eliminate the need for an access road to each structure to complete construction or to perform inspections and live-line maintenance activities. In sensitive resource areas, the agencies may require no access roads, access roads that are overland drive and crush only, or limited in the amount of improvement that will be allowed.

In addition, wetland soil will be temporarily stored either in the wetland or in upland areas close to the wetland boundaries and will be used to restore the site to preconstruction contours. Silt fencing will be installed around tower sites where necessary to minimize the potential for sediment discharge from excavated spoil into adjacent, undisturbed wetlands. Table B3-2 provides vehicular wetland crossing methods. For the purpose of this plan, wetlands have been divided into two categories: wetlands with dry crossing conditions and wetlands with wet crossing conditions.

Table B3-2 Vehicular Wetland Crossing Methods and Construction Details	
Type of Watercourse	Suggested Vehicular Crossing Method
Wetland – Dry Crossing Condition	Drive around wetland to avoid it or use an existing crossing, if possible. If crossing is unavoidable, restrict traffic corridor to 20 feet wide and minimize traffic to only the equipment necessary to do the
Wetland – Wet Crossing Condition	If crossing is unavoidable, use prefabricated equipment pads over saturated areas, restrict traffic corridor to 20 feet wide, and minimize traffic to only the equipment necessary to do the work. The CIC also may require a silt fence or straw bale if the potential for erosion exists.
NOTE: This table is intended to provide general guidance and suggestions. The Construction Contractor(s) and CIC will work together to determine the appropriate measures for site-specific treatments and alternative approaches if needed. It is intended to provide flexibility and workable options for the Construction Contractor(s) to meet the goals of this plan and comply with permit requirements.	

B3.5.3 Spill Prevention

To prevent potential spills or discharges from entering and affecting streams and wetlands, specific stipulations and methods will be developed for the construction POD. In addition, a Spill Prevention, Containment, and Countermeasures Plan is provided in Appendix C3.

B3.5.4 Erosion and Sedimentation

To limit erosion and sedimentation from affecting streams and wetlands, specific stipulations and methods will be developed for the construction POD. In addition, a Stormwater Pollution Prevention Plan Framework is provided in Appendix C2.

B3.5.5 Storage of Soil or Organic Debris Near Streams

Any soil or other organic debris piled by bulldozers and grading equipment near stream banks during construction will be stored at distances from the banks in accordance with Design Feature 15 and appropriately redistributed and stabilized to prevent sedimentation during rainfall events. The Construction Contractor(s) also will adhere to any additional soil storage measures as required by applicable Project permits, such as applicable State Department(s) of Water Quality construction general permits or a USACE NWP.

B3.5.6 Stream Obstruction and Flood Hazard

The placement of transmission towers in the channel of a stream, drainage, or flash flood area will be avoided to the extent possible. If placement in these areas is unavoidable, the towers will be engineered to withstand the force of flood flows and will be constructed according to all applicable permits. Where placement of a transmission tower or road is unavoidable in a stream channel, armoring for pole foundations, permanent diversion structures, and/or culverts sufficient to carry the stream's preconstruction conveyance capacity at the site will be constructed. Riprap or other erosion protection materials should be sufficient in size and placed in such a manner as to withstand peak flows comparable to a 100-year flood.

B3.5.7 Protection of Wells and Springs

All applicable laws and regulations will be followed in respect to the protection for drinking water sources. Wells and springs in known blasting zones will be identified prior to construction by the Construction Contractor(s).

For additional measures pertaining to the protections of wells and springs, refer to Appendix C3 – Spill Prevention, Containment, and Countermeasure Plan Framework; Appendix C4 – Hazardous Materials Management Plan Framework; and Appendix C6 – Blasting Plan Framework.

B3.6 Literature Cited

- USACE (U.S. Army Corps of Engineers). 1987. Corps of Engineers Wetland Delineation Manual On-line Edition: Wetlands Research Program Technical Report Y-87-1. Vicksburg, MS: U.S. Army Corps of Engineer Waterways Experiment Station.
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- USFS (U.S. Forest Service). 2009. Operational Guidelines for Aquatic Invasive Species Prevention and Equipment Cleaning. Interagency Guidance – Revised August 2009. Washington, D.C.