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Electronically filed February 20, 2023

Douglas L. Johnson, P.E., Regional Engineer
Federal Energy Regulatory Commission
805 SW Broadway, Suite 550
Portland, OR 97205

Subject: Lower Klamath Hydroelectric Project (FERC No. P-14803)
J.C. Boyle, Copco No. 1, and Iron Gate Developments
Pre-Existing Environmental Conditions: Site Investigation Work Plan
Supplement No. 1

Dear Mr. Johnson:

On December 1, 2022, the Klamath River Renewal Corporation (Renewal Corporation) became the licensee for the Lower Klamath Project. On December 2, 2022, the Renewal Corporation filed a letter with the Federal Energy Regulatory Commission (FERC) formally accepting PacifiCorp's Owners Dam Safety Program for the Lower Klamath Project, designating PacifiCorp as the Chief Dam Safety Coordinator, and designating Brent Sullivan of PacifiCorp as the Chief Dam Safety Coordinator with the responsibility for routine communication, coordination, and reporting with FERC staff to PacifiCorp for the Lower Klamath Project. Functioning as the Chief Dam Safety Coordinator, this filing is made directly by PacifiCorp to FERC with copies being provided to the Renewal Corporation and its Chief Dam Safety Engineer.

PacifiCorp retained Jacobs Engineering Group Inc. (Jacobs) to develop two Site Investigation Work Plan (SIWPs) for the Lower Klamath Hydroelectric Project (FERC No. P-14803) (Project). The SIWPs were completed in November 2021 and investigations associated with them took place in 2022. One site that was not addressed in the SIWPs were the high-voltage switchyards and substations. Since publication of the SWIPs, PacifiCorp has developed a protocol to allow investigations to proceed within the switchyards and substations. This process is identified in Supplement No. 1 to the SWIPs. The purpose of SIWPs Supplement No. 1 is to further investigate potential contamination at the J.C. Boyle Substation, Copco No. 1 Switchyard, and the Iron Gate Substation. No work is proposed for substations that PacifiCorp will continue operating following dam removal (i.e., Copco 2 230 kV Substation and Copco 2 115/69 kV Substation). SWIP Supplement No. 1 does the following:

- Establishes the data needs for the further evaluation of each location.
- Identifies data quality objectives to determine the type and extent of potential contamination at each location.
- Sets a sampling approach for each site, with figures showing sampling locations and tables showing media to be sampled, sample collection depths, and analyses to be performed.
- Describes how the data collected will be used for decision-making.
- Outlines general procedures and protocols for sample collection and handling in the Sampling and Analysis Plan (Appendix A to the November 2021 SIWP).

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The proposal investigation site locations in the SIWPs are a distance away from any water retaining structures as such the J.C. Boyle Dam, Copco No. 1 Dam, Copco No. 2 Dam, and Iron Gate Dam (Table 1). The Iron Gate Substation is located adjacent to the generator at the Iron Gate Powerhouse. Because the penstock enters the powerhouse in a sub-basement dozens of feet below the sampling location, the deck that the substation is anchored to is entirely concrete, and maximum possible sample depth is 1 foot, there is no risk to the facility from the sampling at this location. Hence, PacifiCorp considers the proposed investigations to not influence the dam safety of those water retaining structures. All teams conducting sampling within substations will be accompanied by an electrically qualified PacifiCorp staff member. The SIWPs are enclosed in this letter for your review and concurrence. Your prompt attention in this matter is appreciated as PacifiCorp would like to initiate sampling as soon as possible.

Table 1. Approximate distances from the J.C. Boyle, Copco No. 1, and Iron Gate substations to the powerhouse and penstock and dam associated with that facility.

Investigation Location	Distance to Powerhouse/Penstock (feet)	Distance to Dam (feet)
J.C. Boyle Substation	120	11,800
Copco No. 1. Substation	250	180
Iron Gate Substation	0	180

This letter has been filed electronically. The security classification of each component in this packet is shown in the enclosure tables. If you have any questions concerning these documents, please contact Demian Ebert at (503) 813-6625 or Brent Sullivan at (503) 813-6415.

Sincerely,

William C. Shallenberger
Vice President, Renewable Resources

WCS:BS:DAE:DS

Encl:	Letter – Public
	Supplement No. 1 to the Oregon Site Investigation Work Plan, January 2023 – Public
	Supplement No. 1 to the California Site Investigation Work Plan, January 2023 – Public

eFile:	Douglas L. Johnson, P.E., Regional Engineer, FERC-PRO Via eLibrary at www.ferc.gov
cc	Mark Bransom, Klamath River Renewal Corporation
	Rick Scott, Chief Dam Safety Engineer, Lower Klamath Project

Lower Klamath Hydroelectric Project (FERC No. P-14803)

Oregon Site Investigation Work Plan Supplement No. 1

Final

January 2023

Prepared by:

Jacobs

Prepared for:

PACIFICORP

Lower Klamath Hydroelectric Project
(FERC No. P-14803)

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Acronyms and Abbreviations

AECOM	AECOM Technical Services, Inc.
Agreement	Property Transfer Agreement entered into by PacifiCorp and Klamath River Renewal Corporation
COPC	constituent of potential concern
EPA	U.S. Environmental Protection Agency
ESA	environmental site assessment
FERC	Federal Energy Regulatory Commission
Jacobs	Jacobs Engineering Group Inc.
KRRC	Klamath River Renewal Corporation
ODEQ	Oregon Department of Environmental Quality
PCB	polychlorinated biphenyl
PEC	pre-existing environmental condition
Project	Lower Klamath Hydroelectric Project
REC	recognized environmental condition
Oregon SIWP	Oregon Site Investigation Work Plan
Oregon Supplement	Oregon Site Investigation Work Plan Supplement No. 1
UST	underground storage tank

1. Introduction

As part of the Lower Klamath Hydroelectric Project (FERC No. P-14803), PacifiCorp and the Klamath River Renewal Corporation (KRRC) have entered into a legally-binding Property Transfer Agreement (Agreement) that identifies 17 pre-existing environmental conditions (PECs) located in the states of California and Oregon. All of the PECs are identified in Exhibit C of the Agreement.

While the Agreement and specifically Exhibit C discuss the resolution of PECs, the *Oregon Site Investigation Work Plan* (Oregon SIWP) (Jacobs 2021a) and this *Oregon Site Investigation Work Plan Supplement No. 1* (Oregon Supplement) refer to the Exhibit C items generically as recognized environmental conditions (RECs). Not all PECs in Exhibit C have been formally identified as a REC in a Phase I environmental site assessment (ESA).

PacifiCorp submitted the Oregon SIWP to the State of Oregon and the KRRC on November 16, 2021. On November 17, 2021, PacifiCorp submitted the Oregon SIWP to the Oregon Public Utilities Commission, as required in Order No. 21-242. The Oregon SIWP described the sampling activities to be performed to confirm the presence or absence of constituents of potential concern (COPCs) at concentrations greater than identified screening levels at the one REC located in Oregon – the J.C. Boyle Dispersed Recreation Area.

1.1 Purpose and Objectives

PacifiCorp retained Jacobs Engineering Group Inc. (Jacobs) to develop this Oregon Supplement and identify the process by which the remaining (i.e., not addressed in the Oregon SIWP) Exhibit C RECs located in Oregon will be brought forward for site assessment and closure. This Oregon Supplement incorporates the Oregon SIWP by reference and provides specific information necessary to address remaining RECs in accordance with the Oregon SIWP, which was approved by the KRRC (Lowy, pers. comm. 2021) and the State of Oregon (Matthews, pers. comm. 2021) and which was implemented when assessing the J.C. Boyle Dispersed Recreation Area (Jacobs 2021a).

The primary objective of this Oregon Supplement is to establish the means by which the remaining Exhibit C RECs located in Oregon will be assessed and closed per the Agreement. Secondary objectives are to identify the key environmental data that will support closure of the remaining seven RECs and outline the various sampling approaches for each REC so that as much analytical and field observational data as possible can be collected for REC closure under a single mobilization.

The field and analytical data will be used to determine and delineate the vertical and horizontal extent of potentially impacted soil, groundwater, or both, as needed, for REC closure. Waste characterization data will also be collected to help in planning a remedial action at a site. These data will be used to determine offsite disposal requirements and onsite waste segregation and management requirements for hazardous and nonhazardous waste, if encountered.

1.2 Recognized Environmental Conditions Addressed in This Oregon Supplement

The following seven Exhibit C RECs are addressed in this Oregon Supplement:[1]

- Condition 5 – Undiscovered Impacted Soil and Groundwater at the four Powerhouses

[1] The REC names in this list are verbatim from Exhibit C. Elsewhere in this Oregon Supplement, "high-voltage" is hyphenated when referencing Condition 8.

- Condition 6 – Underground Storage Tanks (USTs)
- Condition 8 – High voltage switchyards
- Condition 9 – Undiscovered Impacted Soil and Groundwater at the 4 Dam Developments
- Condition 15 – Inaccessible areas
- Condition 16 – Retained easement areas
- Condition 17 – Undiscovered Impacted Soil and Groundwater outside the removal work zone

These RECs (Figure 1-1) were not included in the Oregon SIWP because during Oregon SIWP development, the RECs were unknown, undiscoverable, or inaccessible or because REC-specific investigations could not be completed. For example: (1) Access to the J.C. Boyle switchyard (Figure 1-2) was determined to be especially hazardous since the high-voltage switchyard is active; and (2) Unknown areas remain unknown until decommissioning and demolition of the dam commences. To satisfy Agreement Section 3.5(c), this Oregon Supplement presents PacifiCorp's proposed approach to address the remaining Exhibit C RECs in a manner that will minimize disruption or delay of dam removal efforts by the KRRC and that will allow for expedited remediation or disposal of potential contaminants if identified during dam removal.

This Oregon Supplement proposes a sampling approach for the J.C. Boyle switchyard (REC 8) that includes a figure illustrating planned soil sample locations and a table identifying media to be sampled, sample collection depths, and laboratory analyses to be performed.

The RECs identified in this Oregon Supplement will be assessed by following the same processes, procedures, and standards that were approved for the Oregon SIWP.

1.3 Background

The Oregon SIWP (Jacobs 2021a) provides a detailed background of the J.C. Boyle Development, a complete list of the Exhibit C RECs, and a discussion of the surrounding lands and historical practices. The Oregon SIWP content is incorporated in this Oregon Supplement by reference.

Pertinent to the RECs addressed in this Oregon Supplement are the two Phase I ESAs conducted for the Oregon and California hydroelectric developments (AECOM 2018, 2020). Of the RECs identified by AECOM and documented in Exhibit C of the Agreement, PacifiCorp prepared an Oregon SIWP for the J.C. Boyle Dispersed Recreation Area (Jacobs 2021a). The RECs associated with Copco No. 1, Copco No. 2, and Iron Gate dams in California were addressed separately in a California SIWP (Jacobs 2021b).

The dams and associated powerhouses have been and continue to be operated to generate and distribute electricity until dam removal activities begin. Hazardous materials that have been used onsite include diesel fuel, leaded and unleaded gasoline, non-polychlorinated biphenyls (non-PCBs), and governor, transformer, and motor oils. Battery banks and oils are stored within secondary containment systems. As noted in the Phase I ESA conducted by AECOM, the powerhouses appeared to be in good operating condition, with proper housekeeping and hazardous materials management practices (AECOM 2018).

1.4 Investigative Standard and Future Uses

Notwithstanding any specific process or procedure identified in this Oregon Supplement, the work performed under this Oregon Supplement will be carried out in accordance with the Investigative Standard, as defined in Section 1.5 of the Oregon SIWP (Jacobs 2021a). Unlike the Oregon SIWP, this Oregon Supplement addresses multiple RECs, necessitating the identification of intended future uses and

exposure pathways at the remaining RECs (Table 1-1). The exposure pathways will be used to determine the screening levels that were developed in Section 3.3 of the Oregon SIWP (Jacobs 2021a). The analytical results from investigations at a REC will be evaluated against these screening levels to determine if the REC can be closed or if further assessment, remediation, risk assessment, or a combination are required.

Table 1-1. Site Future Uses and Exposure Pathways

Exhibit C REC No.	Site/REC	Site Future Use	Exposure Pathways
8	High-voltage switchyards (and substations)	Active recreation	Residential/leaching to groundwater
16	Retained Easements	Active Recreation	Residential/leaching to groundwater
15	Inaccessible Areas	Passive recreation/natural habitat	Residential/ecological/leaching to groundwater
6	Underground Storage Tanks	Active recreation	Residential/leaching to groundwater
5	Undiscovered Impacted Soil and Groundwater at the Four Powerhouses	Active recreation	Residential/leaching to groundwater
9	Undiscovered Impacted Soil and Groundwater at the Four Dam Developments	Active recreation	Residential/leaching to groundwater
17	Undiscovered Impacted Soil and Groundwater Outside the Removal Work Zone	Passive recreation/natural habitat	Residential/ecological/leaching to groundwater

The Investigative Standard includes preparation of a Site Investigation Report to document the investigation and assessments performed, as described in Section 4 of the Oregon SIWP (Jacobs 2021a).

Except as may be otherwise expressly approved in writing by PacifiCorp, KRRC, the State of California, and the State of Oregon, the implementation of any work under this Oregon Supplement and any updates or follow-up will constitute Jacobs' representation to PacifiCorp, KRRC, and the State of Oregon, that such work complies with the Investigative Standard as presented in the Oregon SIWP (Jacobs 2021a).

1.5 Oregon Supplement Organization

This Oregon Supplement is organized into three sections and two appendices. Supporting tables and figures are located in text (Table 1-1) and at the end of text (all others). The sections and appendices are summarized as follows:

- **Section 1 – Introduction**: Describes the Oregon Supplement purpose and objectives, identifies the RECs to be addressed, provides background information on the evolution of the RECs, and touches on investigative standards and future site uses. See Section 1 of the Oregon SIWP (Jacobs 2021a) for complete descriptions of the program organization, program timeline, and investigative standards.
- **Section 2 – Site Evaluation and Investigation**: Describes the evaluation process for addressing the seven remaining RECs not included in the Oregon SIWP.
- **Section 3 – References**: Provides a bibliographic listing of documents cited in this Oregon Supplement.

- **Appendix A – Underground Storage Tank Registration and Decommissioning Documents**: Contains documents associated with the Oregon Department of Environmental Quality (DEQ) UST registration and decommissioning.
- **Appendix B – Consolidated Comment Matrix**: Contains consolidated review comments and responses from the KRRC and Oregon related to this Oregon Supplement.

2. Site Evaluation and Investigation

This section presents the results of the site investigations and evaluations conducted for the seven RECs listed in Section 1. The Sampling and Analysis Plan (Appendix A of the Oregon SIWP) will be followed for each REC.

The High-voltage switchyards and Retained Easement RECs are evaluated because: 1) the substation, switchyard, and easement locations are known; 2) they are accessible to some degree; and 3) their environmental conditions can be reasonably evaluated in the near-term. The USTs REC is evaluated should an unknown UST be discovered during dam decommissioning or demolition. Because evaluation of undiscovered RECs is not possible at this time, this Oregon Supplement presents a process to be implemented should impacted soil or groundwater be encountered in the subject areas during dam decommissioning and demolition.

2.1 High-voltage Switchyards (REC 8)

High-voltage switchyards and substations (collectively called switchyards here for ease of use) are connected directly to PacifiCorp's electrical generation, transmission, and distribution systems. Switchyards are integral for distributing power and maintaining stability of the local electrical grid. An abundance of high-voltage elements makes work within switchyards restricted without specialized planning. However, following further review and discussions with PacifiCorp substation operations, environmental sampling within the energized switchyards is considered possible with appropriate safety measures. Consequently, this Oregon Supplement identifies the means and methods by which the J.C. Boyle switchyard will be assessed.

2.1.1 Findings from Previous Investigations

The J.C. Boyle Development has one approximate 150- by 150-foot switchyard that was noted by AECOM (2018, 2020) to contain "electrical transformers, substations, transmission poles, and lines within a fenced gravel area. The majority of the transmission pole footings, substations, and transformers are on top of cement pads. It was noted that the 'yellow glass portion' of the high-voltage transformer bushings may potentially contain Polychlorinated Biphenyl (PCBs) in the oil." There is a potential for PCBs to be present within the switchyard because the J.C. Boyle Development and original supporting structures were completed in 1958 (AECOM 2020) and because use of PCBs was not banned under the Toxic Substances Control Act until 1979.

2.1.2 Sampling Plan

Of note is that there are no records of spills or releases at the switchyards. The environmental sampling activities are being performed to confirm the presence or absence of PCBs within the switchyard. If analytical results from the initial sampling event indicate the presence of PCBs, then additional sampling at the switchyard may be performed within identified areas of concern as per 40 *Code of Federal Regulations* Part 761, Subpart N. Concrete sampling will additionally be performed for PCBs at the switchyard, and the analytical results will be used to help determine disposal options for concrete.

Prior to collecting soil samples, field staff will use Global Positioning System software to lay out a 25- by 25-foot sampling grid (Figure 2-1). Field staff will note facility structures, topography, and drainage in the area and will adjust the planned sample locations as necessary. The planned sample locations will be marked for approval by the PacifiCorp substation operations group and for utility clearance prior to sampling.

The COPCs for the switchyard and substation are PCBs and transformer oil. Consequently, soil samples will be analyzed for PCBs by U.S. Environmental Protection Agency (EPA) Method SW846 8082A and for oil and grease by EPA Method 1664. Should PCBs be detected in soil samples, EPA Method 1668 (PCB homologue method) with EPA Extraction Method SW846 3540C may be performed on select soil samples. If groundwater is encountered when collecting soil samples at the switchyards, unfiltered grab groundwater samples will be collected for submittal to the analytical laboratory. Surface gravel will be removed to allow sampling of fine-grained native soil or fine import material. Soil samples from a depth of 0.5 to 1.0 foot below native surface grade will be collected (Table 2-1, Oregon SIWP Appendix A [Jacobs 2021a]). The soil samples will be advanced via hand auger. Soil borings will be extended if visual observations indicate that transformer oil has migrated deeper than near surface grade.

Because the J.C. Boyle switchyard is located in a relatively flat area immediately adjacent to the Klamath River in an otherwise steep, access-limited canyon (Figures 1-2 and 2-1), the most likely future use for the switchyard is active recreation (Table 1-1). Such a use will set the applicable soil and groundwater screening levels as described in Oregon SIWP Section 1.5 and developed in Oregon SIWP Section 3.3 (Jacobs 2021a). The validated analytical data will be evaluated against the applicable screening levels, and a site assessment report will be prepared in accordance with Section 4 of the Oregon SIWP (Jacobs 2021a).

Data collection for the switchyard is anticipated to occur in the spring of 2023.

2.2 Retained Easement Areas (REC 6)

2.2.1 Description

Retained easement areas have been identified in Exhibit C as a PEC and are further described in that exhibit as “Any conditions in retained easement areas relating to the presence or operations of retained transmission facilities.” Per the Agreement, PacifiCorp-owned property in Oregon will be conveyed to the KRRC and eventually the State of Oregon. As this process occurs, PacifiCorp will retain easements for the existing transmission and distribution system. Existing easements on privately- or federally-owned property are not included in this REC. Therefore, retained easements, for the purpose of this Oregon Supplement, are defined as the right-of-way on PacifiCorp-owned property in Oregon containing PacifiCorp electrical transmission and distribution system and all other ancillary infrastructure and related access roads. The retained easements are used for accessing, maintaining, operating, repairing, replacing, enlarging, reconstructing, or removing PacifiCorp’s electrical transmission and distribution facilities.

Also included are related electrical transmission facilities such as towers, poles, pads, anchors, supports, transformers, switchyards, vaults, substations, communications facilities, fiber optic or other communications equipment, and any other improvements or facilities associated with the management of these facilities. The retained easement area is the current physical location of the transmission facilities along with an additional area of 100 feet, as measured on the surface of the property and from each side of the transmission or distribution facility.

Aside from incidental observations relating to power poles near J.C. Boyle Dam, retained easements were not assessed under the Phase 1 ESAs that were performed for the J.C. Boyle Development (AECOM 2018; AECOM 2020), and because the retained easement was not assessed, there is potential for PECs to be present within the easement.

There are approximately 10,200 linear feet of retained easements (approximately 52 acres) over four parcels (Figure 2-2).

2.2.2 Assessment Process

The assessment process for the retained easement areas is as follows:

- Perform a review of reasonably obtainable historical documents for the retained easement areas including aerial photographs, historical topographic maps, or other available property records.
- Perform a site reconnaissance survey. Qualified staff will walk accessible parts of the retained easement areas.
- Based on the evaluation and findings of the document review and site reconnaissance by a qualified environmental professional, potential new PECs may be identified. For newly identified PECs within the retained easements, determine the potential COPCs for the PEC(s), perform a site assessment(s) according to the Oregon SIWP (Jacobs 2021a), and evaluate the analytical results against the screening levels for the future uses and exposure pathways established in Table 1-1.
- Document findings in a Site Investigation Report for PEC closure in accordance with Section 4 of the Oregon SIWP (Jacobs 2021a). If new PECs are not identified, the Site Investigation Report will contain a recommendation for REC closure per the terms of the Agreement and the process developed with the KRRC and the State of Oregon.

2.3 Inaccessible Areas (REC 15)

Agreement Exhibit C contains a REC for Inaccessible Areas, without further elaboration adequate to allow investigation. The draft Phase I ESA for the J.C. Boyle Development and other California dam developments contained aerial photographs with points of interest, which at the time, were inaccessible for field reconnaissance due to either locked gates or unsafe road conditions (AECOM 2020). In response to inquiries from PacifiCorp, in April 2022, the KRRC provided further definition of the inaccessible areas (AECOM, pers. comm. 2022). The supplemental information included identification of ten specific locations, none of which are in Oregon. Because there are no inaccessible areas in Oregon identified as part of this REC, PacifiCorp is recommending that this REC be closed per the terms of the Agreement and the process developed with the KRRC and the State of Oregon.

2.4 Underground Storage Tanks (REC 16)

2.4.1 Description

Seven USTs were identified during a Phase I ESA for the Iron Gate Fish Hatchery and the J.C. Boyle, Copco No. 1, Copco No. 2, and Iron Gate developments (AECOM 2018). One of the seven USTs was identified to be associated with the J.C. Boyle Powerhouse. However, the Environmental Database Report for the J.C. Boyle Powerhouse contained no additional information regarding the UST and its location. Because no additional information regarding the UST and its location could be identified, the UST is not mappable and is consequently considered to be an unregistered, "orphan site" (AECOM 2018). No USTs were identified in the area around the J.C. Boyle Powerhouse during ground-penetrating radar surveys conducted by the KRRC, as described in *Draft Buried Structures Site Investigation* (KPC 2020).

2.4.2 Assessment Process

Because no specific USTs have been identified and investigated for this Oregon Supplement, the following assessment process will be observed if the KRRC identifies a UST or suspected UST when removing the J.C. Boyle Development:

- The KRRC will immediately notify PacifiCorp of the discovery. PacifiCorp will: 1) confirm that the UST is located within the Lower Klamath Project FERC boundary; 2) oversee partial exposure of the UST to determine its approximate size; and 3) determine the approximate volume of any residual contents.
- PacifiCorp will determine the potential COPCs for the UST, perform a site assessment according to the Oregon SIWP (Jacobs 2021a), and evaluate the analytical results against the screening levels for the future uses and exposure pathways established in Table 1-1.
- PacifiCorp will coordinate UST removal actions with the Oregon DEQ UST Program. PacifiCorp will additionally initiate and follow the UST registration and decommissioning process outlined in Appendix B.
- General UST removal activities by a licensed contractor will include: 1) full exposure of the UST and preparation of the UST for removal; 2) removal and containment of residual UST contents; 3) cleaning of the UST and containment of decontamination water; 4) upon confirmation by a Certified Industrial Hygienist that the UST is inert, removal of the UST; and 5) offsite disposal of the cleaned UST.
- Upon removal of the UST PacifiCorp will collect soil confirmation samples from the excavation floor and sidewalls and, if required, from expanded excavation floor and sidewalls.
- PacifiCorp will analyze confirmation samples for COPCs related to the former UST contents, and the analytical results from confirmation sampling will be compared against screening levels as described in Oregon SIWP Section 1.5 and developed in Oregon SIWP Section 3.3 (Jacobs 2021a).
- When excavating the UST and if expanding the excavation to obtain additional confirmation soil samples, PacifiCorp will segregate identified impacted soil from unimpacted soil; stockpile all excavated soil on plastic sheeting; and inspect and manage stockpiled soil per regulatory requirements.
- PacifiCorp will properly transport and dispose stockpiled soil and decontamination wastes.
- Upon completion of excavation and confirmation sampling, and if the KRRC requests, PacifiCorp will have the excavation backfilled and compacted with an approved fill material.
- Upon completion of UST excavation, removal, disposal, and confirmation sampling, PacifiCorp will prepare a removal report to document UST removal activities and formally request UST case closure from the Oregon DEQ.
- PacifiCorp recognizes that if a UST is found, it is likely to be in one of the KRRC's active construction areas. Because discovery of a UST has the potential to disrupt the dam removal or restoration timelines, PacifiCorp will actively coordinate with the KRRC and its contractors throughout the investigation and removal process to minimize any disruption to the dam removal process.

2.5 Undiscovered Impacted Soil and Groundwater (RECs 5, 9, and 17)

2.5.1 Description

Three RECs are collectively identified as undiscovered and have the potential to contain impacted soil and groundwater. These RECs are divided into three areas: (1) the powerhouses (REC 5); (2) the dam developments (REC 9); and (3) areas outside the removal work zone (REC 17). Portions of these areas may never be fully evaluated because they are inaccessible or cannot be accessed (for example, soil or groundwater beneath the powerhouse foundation left in place by the KRRC). Because these RECs all address the same potential issue, but at different locations, they are consolidated into a single discussion in this Oregon Supplement.

The objective for these RECs presented in this Oregon Supplement is to establish a process whereby impacted soil and groundwater within the RECs can be addressed if such impacts are encountered. With the standardized approach described in the next section, PacifiCorp will be able to minimize delays related to characterizing and remediating a PEC so that REC closure can be obtained in a timely manner. The approach will be employed if potential contamination associated with these three RECs is identified during dam removal.

If impacted soil or groundwater is encountered within these areas, PacifiCorp will establish whether the impacted soil and groundwater is localized or representative of a contaminant plume. PacifiCorp will then determine if there is a complete migration pathway for the contaminant to a surface water; dilution factors will additionally be assessed on a case-by-case basis if potential contamination is identified. Upon completion of a site investigation, analysis and evaluation of samples, and a risk assessment, PacifiCorp will determine if there is a requirement to implement some type of clean-up, containment, or monitoring program for the REC.

2.5.2 Assessment Process

This section establishes an assessment process whereby PacifiCorp will address impacted soil and groundwater if encountered by the KRRC when decommissioning and demolishing structures at these locations. The reasons for establishing such a process are to help ensure that:

- There is a standardized approach acceptable to the KRRC and the State of Oregon.
- With a standardized approach in place, assessment or remediation of impacted soil and groundwater can be initiated in an expeditious manner to minimize delays associated with dam removal.
- With a standardized approach in place, PacifiCorp can minimize schedule delays and satisfactorily complete required investigative or remedial actions to obtain closure should any PECs come to light.

The stepwise approach will be formalized in a contingency plan to be developed by KRRC and PacifiCorp in advance of construction. The stepwise approach will be used when managing the undiscovered PECs, as follows:

1) **Identification of Potential Contamination**

   The KRRC will have qualified environmental staff onsite during dam removal activities. Such staff will be qualified to collect environmental samples and perform site-specific assessments. Such staff will also be responsible for observing general site conditions and documenting if groundwater appears to be impacted or if soil has a chemical odor, is stained, or has elevated photoionization detector readings greater than 50 parts per million by volume. Should such conditions arise, such staff will report the observations and provide relevant data to PacifiCorp in writing. PacifiCorp will, in turn, mobilize a qualified team-member to further evaluate site conditions.

2) **Sampling and Evaluation of Analytical Results against Established Screening Levels**

   Upon notification by the KRRC of impacted soil or groundwater and a PEC, PacifiCorp will enlist an environmental professional who will additionally evaluate the potential impacts.

   Soil and groundwater samples will be collected as appropriate and in accordance with the Oregon SIWP and Appendix A of the Oregon SIWP (Jacobs 2021a). Field sampling and PEC evaluation will be coordinated with the KRRC with respect to ongoing dam removal activities to ensure that any impacts to ongoing dam removal work are minimized.

Upon receipt of the validated analytical results from sampling, the analytical results will be compared against the established screening levels for the determined future use, and recommendations will be made for PEC closure or further assessment, remediation, risk assessment, or a combination.

3) Remediation and Removal of Impacted Media

PacifiCorp recognizes that assessment and evaluation of impacted soil or groundwater may delay ongoing dam removal work at some locations. Because of this potential for delay, at PacifiCorp's discretion and in coordination with the KRRC, PacifiCorp may proceed directly to site remediation to minimize impacts on dam removal activities and progress.

Removal action in advance of testing means that PacifiCorp would manage impacted materials as outlined in the contingency plan. Potentially impacted soil or groundwater will be excavated and hauled to an approved waste staging area identified by the KRRC and as outlined in the contingency plan. Impacted soil will be segregated from unimpacted soil, and water will be properly containerized within secondary containment. Soil stockpiles will be placed on and covered with plastic sheeting, and stockpiles and containerized wastes will be inspected weekly and actively managed by PacifiCorp. Upon evaluation of the analytical results for the soil stockpiles, PacifiCorp will identify which stockpiles can be reused or disposed onsite by the KRRC and which soil stockpiles will be disposed of offsite by PacifiCorp. Containerized water will be disposed of offsite by PacifiCorp or may be reused onsite for dust suppression by the KRRC depending on the analytical results.

As part of a removal action, PacifiCorp will collect confirmation samples from excavation floors and sidewalls and will also collect soil samples from the floor and sidewalls of an expanded excavation should that be required. The confirmation samples will be analyzed for COPCs and will be evaluated against the screening levels as described in Oregon SIWP Section 1.5 and developed in Oregon SIWP Section 3.3 (Jacobs 2021a). Upon evaluation of the analytical results from confirmation sampling, PacifiCorp will identify if the removal action is incomplete and additional excavation is required or if the removal action is complete and the excavation can be backfilled and compacted (if necessary).

4) Site Investigation Report and PEC Closure

Upon completion of site assessment or remedial activities, PacifiCorp will prepare a Site Investigation Report for PEC closure in accordance with Section 4 of the Oregon SIWP (Jacobs 2021a). The PEC will also be recommended for closure by PacifiCorp per the terms of the Agreement and the process developed with the KRRC and the State of Oregon. If impacted soil and groundwater are not observed at completion of facilities removal for RECs 5 and 9 (dams and powerhouses) and at the completion of restoration for REC 17, then the RECs will be recommended for closure by PacifiCorp per the terms of the Agreement and the process developed with the KRRC and the State of Oregon.

3. References

AECOM Technical Services, Inc. (AECOM). 2018. J.C. Boyle Dam, Copco No. 1 Dam, Copco No. 2 Dam, Iron Gate Dam, and Iron Gate Fish Hatchery Phase I Environmental Site Assessments. Prepared for Klamath River Renewal Corporation. November.

AECOM Technical Services, Inc. (AECOM). 2020. *Draft Phase I Environmental Site Assessment of the Parcel B Lands*. Prepared for Klamath River Renewal Corporation. March.

AECOM Technical Services, Inc. (AECOM). 2022. Personal communication (email) with Demian Ebert, PacifiCorp. April 18.

Jacobs. 2021a. *Oregon Site Investigation Work Plan.* Prepared for PacifiCorp. November.

Jacobs. 2021b. *California Site Investigation Work Plan.* Prepared for PacifiCorp. November.

Knight Piesold Consulting (KPC). 2020. *Draft Buried Structures Site Investigation*. April.

Lowy, Lloyd, Klamath River Renewal Corporation. 2021. Personal communication (email) with Demian Ebert, PacifiCorp. November 5.

Matthews, Chris, Oregon Department of Justice. 2021. Personal communication (email) with Demian Ebert, PacifiCorp. November 5.

Table

Table 2-1. Proposed Sampling and Analysis Plan for Soil at J.C. Boyle Substation and Switchyard

Lower Klamath Hydroelectric Project: Oregon Site Investigation Work Plan Supplement No. 1

Location Description	Boring Location	Sample ID	Depth (ft bgs)	Title 22 metals total (EPA Method 6010B), Mercury by (SW7471A)	Volatile Organic Compounds (EPA Method SW8260B)	Semivolatile Organic Compounds (EPA Method SW8270C)	Dioxins and Furans (EPA Method SW846 8290A)	Benzene, Toluene, Ethylbenzene, Xylenes (BTEX) (EPA Method SW8260B)	Total Petroleum Hydrocarbons as Gasoline (NWTPH-Gx)	Total Petroleum Hydrocarbons as Diesel and Motor Oil (NWTPH-Dx)	Polynuclear Aromatic Hydrocarbons (EPA Method SW8270C-SIM)	Oil and Grease (EPA Method SW846 1664)	Polychlorinated Biphenyls (PCBs) (EPA Method SW846 8082A)	STLC* (when TTLC results are 10x STLC limit)	TCLP* (when TTLC results are 20x TCLP limit)	Ignitability (EPA Method 1030), Reactivity (SW 846 CH7), Corrosivity (SW-846 9045)
J.C. Boyle Dispersed Recreation Area - 2	JBSY-A1	JBSY-A1-0.0-YYYYMMDD	Surface									X	X			
		JBSY-A1-1.0-YYYYMMDD	0.5-1.0									X	X			
	JBSY-A2	JBSY-A2-0.0-YYYYMMDD	Surface									X	X			
		JBSY-A2-1.0-YYYYMMDD	0.5-1.0									X	X			
	JBSY-A3	JBSY-A3-0.0-YYYYMMDD	Surface									X	X			
		JBSY-A3-1.0-YYYYMMDD	0.5-1.0									X	X			
	JBSY-A4	JBSY-A4-0.0-YYYYMMDD	Surface									X	X			
		JBSY-A4-1.0-YYYYMMDD	0.5-1.0									X	X			
	JBSY-A5	JBSY-A5-0.0-YYYYMMDD	Surface									X	X			
		JBSY-A5-1.0-YYYYMMDD	0.5-1.0									X	X			
	JBSY-A6	JBSY-A6-0.0-YYYYMMDD	Surface									X	X			
		JBSY-A6-1.0-YYYYMMDD	0.5-1.0									X	X			
	JBSY-A7	JBSY-A7-0.0-YYYYMMDD	Surface									X	X			
		JBSY-A7-1.0-YYYYMMDD	0.5-1.0									X	X			
	JBSY-A8	JBSY-A8-0.0-YYYYMMDD	Surface									X	X			
		JBSY-A8-1.0-YYYYMMDD	0.5-1.0									X	X			
	JBSY-A9	JBSY-A9-0.0-YYYYMMDD	Surface									X	X			
		JBSY-A9-1.0-YYYYMMDD	0.5-1.0									X	X			
	JBSY-B1	JBSY-B1-0.0-YYYYMMDD	Surface									X	X			
		JBSY-B1-1.0-YYYYMMDD	0.5-1.0									X	X			
	JBSY-B2	JBSY-B2-0.0-YYYYMMDD	Surface									X	X			
		JBSY-B2-1.0-YYYYMMDD	0.5-1.0									X	X			
	JBSY-B3	JBSY-B3-0.0-YYYYMMDD	Surface									X	X			
		JBSY-B3-1.0-YYYYMMDD	0.5-1.0									X	X			
	JBSY-B4	JBSY-B4-0.0-YYYYMMDD	Surface									X	X			
		JBSY-B4-1.0-YYYYMMDD	0.5-1.0									X	X			
	JBSY-B5	JBSY-B5-0.0-YYYYMMDD	Surface									X	X			
		JBSY-B5-1.0-YYYYMMDD	0.5-1.0									X	X			
	JBSY-B6	JBSY-B6-0.0-YYYYMMDD	Surface									X	X			
		JBSY-B6-1.0-YYYYMMDD	0.5-1.0									X	X			
	JBSY-B7	JBSY-B7-0.0-YYYYMMDD	Surface									X	X			
		JBSY-B7-1.0-YYYYMMDD	0.5-1.0									X	X			
	JBSY-B8	JBSY-B8-0.0-YYYYMMDD	Surface									X	X			
		JBSY-B8-1.0-YYYYMMDD	0.5-1.0									X	X			
	JBSY-B9	JBSY-B9-0.0-YYYYMMDD	Surface									X	X			
		JBSY-B9-1.0-YYYYMMDD	0.5-1.0									X	X			
	JBSY-C1	JBSY-C1-0.0-YYYYMMDD	Surface									X	X			
		JBSY-C1-1.0-YYYYMMDD	0.5-1.0									X	X			
	JBSY-C2	JBSY-C2-0.0-YYYYMMDD	Surface									X	X			
		JBSY-C2-1.0-YYYYMMDD	0.5-1.0									X	X			
	JBSY-C3	JBSY-C3-0.0-YYYYMMDD	Surface									X	X			
		JBSY-C3-1.0-YYYYMMDD	0.5-1.0									X	X			
	JBSY-C4	JBSY-C4-0.0-YYYYMMDD	Surface									X	X			
		JBSY-C4-1.0-YYYYMMDD	0.5-1.0									X	X			
	JBSY-C6	JBSY-C6-0.0-YYYYMMDD	Surface									X	X			
		JBSY-C6-1.0-YYYYMMDD	0.5-1.0									X	X			
	JBSY-C7	JBSY-C7-0.0-YYYYMMDD	Surface									X	X			
		JBSY-C7-1.0-YYYYMMDD	0.5-1.0									X	X			
	JBSY-C9	JBSY-C9-0.0-YYYYMMDD	Surface									X	X			
		JBSY-C9-1.0-YYYYMMDD	0.5-1.0									X	X			

Table 2-1. Proposed Sampling and Analysis Plan for Soil at J.C. Boyle Substation and Switchyard

Lower Klamath Hydroelectric Project: Oregon Site Investigation Work Plan Supplement No. 1

Location Description	Boring Location	Sample ID	Depth (ft bgs)	Title 22 metals total (EPA Method 6010B), Mercury by (SW7471A)	Volatile Organic Compounds (EPA Method SW8260B)	Semivolatile Organic Compounds (EPA Method SW8270C)	Dioxins and Furans (EPA Method SW846 8290A)	Benzene, Toluene, Ethylbenzene, Xylenes (BTEX) (EPA Method SW8260B)	Total Petroleum Hydrocarbons as Gasoline (NWTPH-Gx)	Total Petroleum Hydrocarbons as Diesel and Motor Oil (NWTPH-Dx)	Polynuclear Aromatic Hydrocarbons (EPA Method SW8270C-SIM)	Oil and Grease (EPA Method SW846 1664)	Polychlorinated Biphenyls (PCBs) (EPA Method SW846 8082A)	STLC* (when TTLC results are 10x STLC limit)	TCLP* (when TTLC results are 20x TCLP limit)	Ignitability (EPA Method 1030), Reactivity (SW 846 CH7), Corrosivity (SW-846 9045)
J.C. Boyle Dispersed Recreation Area - 2+A105	JBSY-D2	JBSY-D2-0.0-YYYYMMDD	Surface									X	X			
		JBSY-D2-1.0-YYYYMMDD	0.5-1.0									X	X			
	JBSY-D3	JBSY-D3-0.0-YYYYMMDD	Surface									X	X			
		JBSY-D3-1.0-YYYYMMDD	0.5-1.0									X	X			
	JBSY-D4	JBSY-D4-0.0-YYYYMMDD	Surface									X	X			
		JBSY-D4-1.0-YYYYMMDD	0.5-1.0									X	X			
	JBSY-D5	JBSY-D5-0.0-YYYYMMDD	Surface									X	X			
		JBSY-D5-1.0-YYYYMMDD	0.5-1.0									X	X			
	JBSY-D6	JBSY-D6-0.0-YYYYMMDD	Surface									X	X			
		JBSY-D6-1.0-YYYYMMDD	0.5-1.0									X	X			
	JBSY-D7	JBSY-D7-0.0-YYYYMMDD	Surface									X	X			
		JBSY-D7-1.0-YYYYMMDD	0.5-1.0									X	X			
	JBSY-D8	JBSY-D8-0.0-YYYYMMDD	Surface									X	X			
		JBSY-D8-1.0-YYYYMMDD	0.5-1.0									X	X			
	JBSY-D9	JBSY-D9-0.0-YYYYMMDD	Surface									X	X			
		JBSY-D9-1.0-YYYYMMDD	0.5-1.0									X	X			
	JBSY-E2	JBSY-E2-0.0-YYYYMMDD	Surface									X	X			
		JBSY-E2-1.0-YYYYMMDD	0.5-1.0									X	X			
	JBSY-E3	JBSY-E3-0.0-YYYYMMDD	Surface									X	X			
		JBSY-E3-1.0-YYYYMMDD	0.5-1.0									X	X			
	JBSY-E4	JBSY-E4-0.0-YYYYMMDD	Surface									X	X			
		JBSY-E4-1.0-YYYYMMDD	0.5-1.0									X	X			
	JBSY-E5	JBSY-E5-0.0-YYYYMMDD	Surface									X	X			
		JBSY-E5-1.0-YYYYMMDD	0.5-1.0									X	X			
	JBSY-E6	JBSY-E6-0.0-YYYYMMDD	Surface									X	X			
		JBSY-E6-1.0-YYYYMMDD	0.5-1.0									X	X			
	JBSY-E7	JBSY-E7-0.0-YYYYMMDD	Surface									X	X			
		JBSY-E7-1.0-YYYYMMDD	0.5-1.0									X	X			
	JBSY-E8	JBSY-E8-0.0-YYYYMMDD	Surface									X	X			
		JBSY-E8-1.0-YYYYMMDD	0.5-1.0									X	X			
	JBSY-E9	JBSY-E9-0.0-YYYYMMDD	Surface									X	X			
		JBSY-E9-1.0-YYYYMMDD	0.5-1.0									X	X			
	JBSY-F2	JBSY-F2-0.0-YYYYMMDD	Surface									X	X			
		JBSY-F2-1.0-YYYYMMDD	0.5-1.0									X	X			
	JBSY-F3	JBSY-F3-0.0-YYYYMMDD	Surface									X	X			
		JBSY-F3-1.0-YYYYMMDD	0.5-1.0									X	X			
	JBSY-F4	JBSY-F4-0.0-YYYYMMDD	Surface									X	X			
		JBSY-F4-1.0-YYYYMMDD	0.5-1.0									X	X			
	JBSY-F5	JBSY-F5-0.0-YYYYMMDD	Surface									X	X			
		JBSY-F5-1.0-YYYYMMDD	0.5-1.0									X	X			
	JBSY-F6	JBSY-F6-0.0-YYYYMMDD	Surface									X	X			
		JBSY-F6-1.0-YYYYMMDD	0.5-1.0									X	X			
	JBSY-F7	JBSY-F7-0.0-YYYYMMDD	Surface									X	X			
		JBSY-F7-1.0-YYYYMMDD	0.5-1.0									X	X			
	JBSY-F8	JBSY-F8-0.0-YYYYMMDD	Surface									X	X			
		JBSY-F8-1.0-YYYYMMDD	0.5-1.0									X	X			
	JBSY-F9	JBSY-F9-0.0-YYYYMMDD	Surface									X	X			
		JBSY-F9-1.0-YYYYMMDD	0.5-1.0									X	X			

Table 2-1. Proposed Sampling and Analysis Plan for Soil at J.C. Boyle Substation and Switchyard

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Location Description	Boring Location	Sample ID	Depth (ft bgs)	Title 22 metals total (EPA Method 6010B), Mercury by (SW7471A)	Volatile Organic Compounds (EPA Method SW8260B)	Semivolatile Organic Compounds (EPA Method SW8270C)	Dioxins and Furans (EPA Method SW846 8290A)	Benzene, Toluene, Ethylbenzene, Xylenes (BTEX) (EPA Method SW8260B)	Total Petroleum Hydrocarbons as Gasoline (NWTPH-Gx)	Total Petroleum Hydrocarbons as Diesel and Motor Oil (NWTPH-Dx)	Polynuclear Aromatic Hydrocarbons (EPA Method SW8270C-SIM)	Oil and Grease (EPA Method SW846 1664)	Polychlorinated Biphenyls (PCBs) (EPA Method SW846 8082A)	STLC* (when TTLC results are 10x STLC limit)	TCLP* (when TTLC results are 20x TCLP limit)	Ignitability (EPA Method 1030), Reactivity (SW 846 CH7), Corrosivity (SW-846 9045)
J.C. Boyle Dispersed Recreation Area - 2	JBSY-G3	JBSY-G3-0.0-YYYYMMDD	Surface									X	X			
		JBSY-G3-1.0-YYYYMMDD	0.5-1.0									X	X			
	JBSY-G4	JBSY-G4-0.0-YYYYMMDD	Surface									X	X			
		JBSY-G4-1.0-YYYYMMDD	0.5-1.0									X	X			
	JBSY-G6	JBSY-G6-0.0-YYYYMMDD	Surface									X	X			
		JBSY-G6-1.0-YYYYMMDD	0.5-1.0									X	X			
	JBSY-G7	JBSY-G7-0.0-YYYYMMDD	Surface									X	X			
		JBSY-G7-1.0-YYYYMMDD	0.5-1.0									X	X			
	JBSY-G9	JBSY-G9-0.0-YYYYMMDD	Surface									X	X			
		JBSY-G9-1.0-YYYYMMDD	0.5-1.0									X	X			
	JBSY-H3	JBSY-H3-0.0-YYYYMMDD	Surface									X	X			
		JBSY-H3-1.0-YYYYMMDD	0.5-1.0									X	X			
	JBSY-H4	JBSY-H4-0.0-YYYYMMDD	Surface									X	X			
		JBSY-H4-1.0-YYYYMMDD	0.5-1.0									X	X			
	JBSY-H5	JBSY-H5-0.0-YYYYMMDD	Surface									X	X			
		JBSY-H5-1.0-YYYYMMDD	0.5-1.0									X	X			
	JBSY-H6	JBSY-H6-0.0-YYYYMMDD	Surface									X	X			
		JBSY-H6-1.0-YYYYMMDD	0.5-1.0									X	X			
	JBSY-H7	JBSY-H7-0.0-YYYYMMDD	Surface									X	X			
		JBSY-H7-1.0-YYYYMMDD	0.5-1.0									X	X			
	JBSY-H8	JBSY-H8-0.0-YYYYMMDD	Surface									X	X			
		JBSY-H8-1.0-YYYYMMDD	0.5-1.0									X	X			
	JBSY-H9	JBSY-H9-0.0-YYYYMMDD	Surface									X	X			
		JBSY-H9-1.0-YYYYMMDD	0.5-1.0									X	X			
	JBSY-I4	JBSY-I4-0.0-YYYYMMDD	Surface									X	X			
		JBSY-I4-1.0-YYYYMMDD	0.5-1.0									X	X			
	JBSY-I5	JBSY-I5-0.0-YYYYMMDD	Surface									X	X			
		JBSY-I5-1.0-YYYYMMDD	0.5-1.0									X	X			
	JBSY-I6	JBSY-I6-0.0-YYYYMMDD	Surface									X	X			
		JBSY-I6-1.0-YYYYMMDD	0.5-1.0									X	X			
	JBSY-I7	JBSY-I7-0.0-YYYYMMDD	Surface									X	X			
		JBSY-I7-1.0-YYYYMMDD	0.5-1.0									X	X			
	JBSY-I8	JBSY-I8-0.0-YYYYMMDD	Surface									X	X			
		JBSY-I8-1.0-YYYYMMDD	0.5-1.0									X	X			
	JBSY-I9	JBSY-I9-0.0-YYYYMMDD	Surface									X	X			
		JBSY-I9-1.0-YYYYMMDD	0.5-1.0									X	X			
	ALL	JBSY-WC-YYYYMMDD	Composite	X	X							X	X	X	X	X

Notes:

* Hold extractions for metals, SVOCs, and dioxins/furans pending total results (TTLC).

EPA = U.S. Environmental Protection Agency

ft bgs = feet below ground surface

NA = not applicable

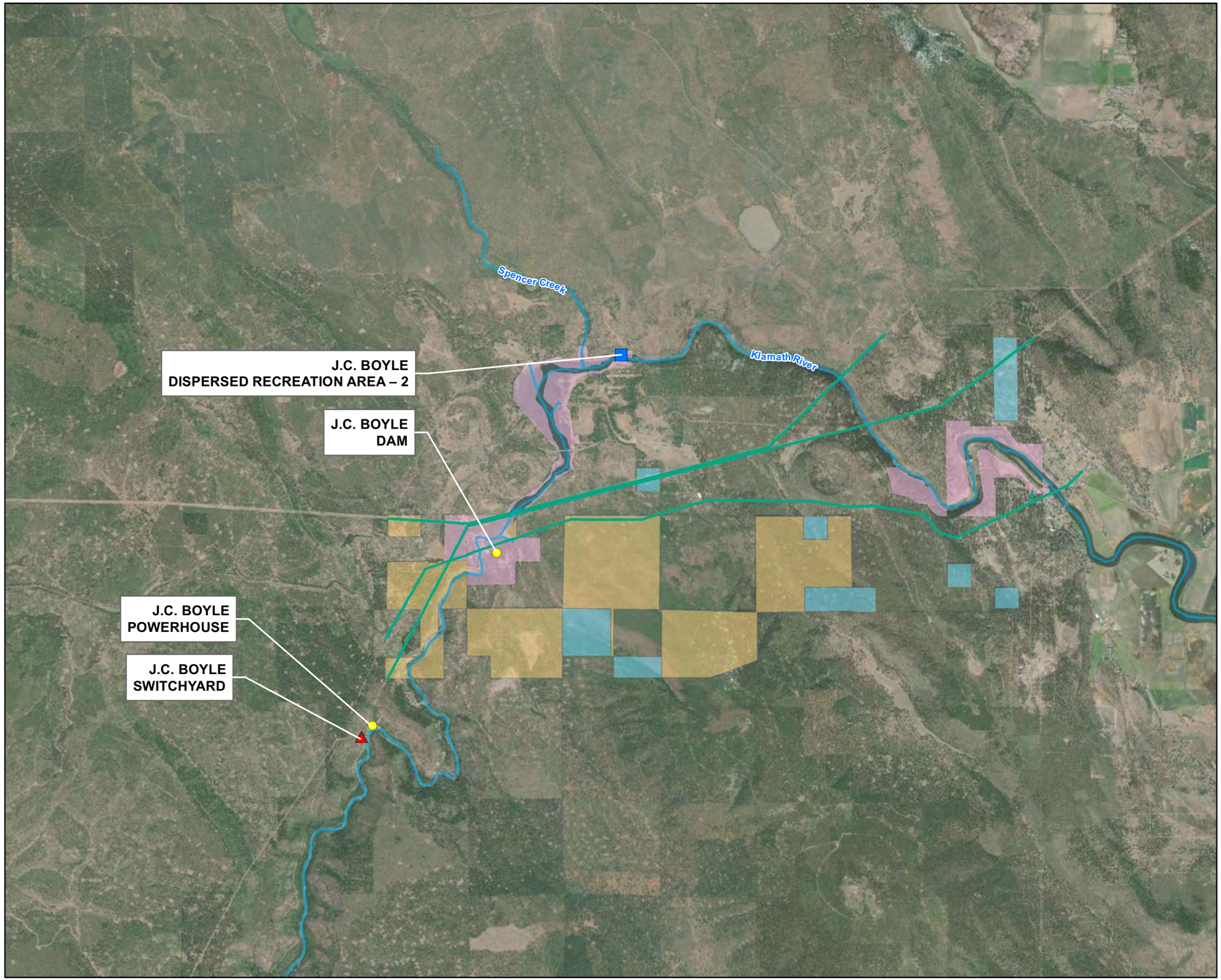
STLC = soluble threshold limit concentration

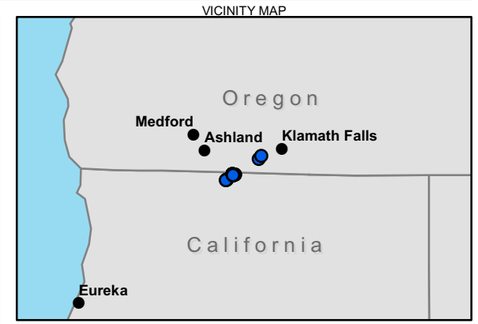
TCLP = toxicity characteristic leaching procedure

TTLC = total threshold limit concentration

X = sample to be analyzed

Figures





LEGEND

- Dam Infrastructure to be Removed
- Recognized Environmental Condition (REC)
- Previously Assessed REC (Jacobs 2021a)
- PacifiCorp Ownership
- BLM
- USFS
- STATE
- County Boundary
- Retained Easement (Transmission Line on PacifiCorp Property)
- River/Creek

N

0 0.5 1
Miles

FIGURE 1-1
Site Investigation Work Plan Supplement No. 1
Recognized Environmental Conditions
Lower Klamath Hydroelectric Project

Jacobs

LEGEND

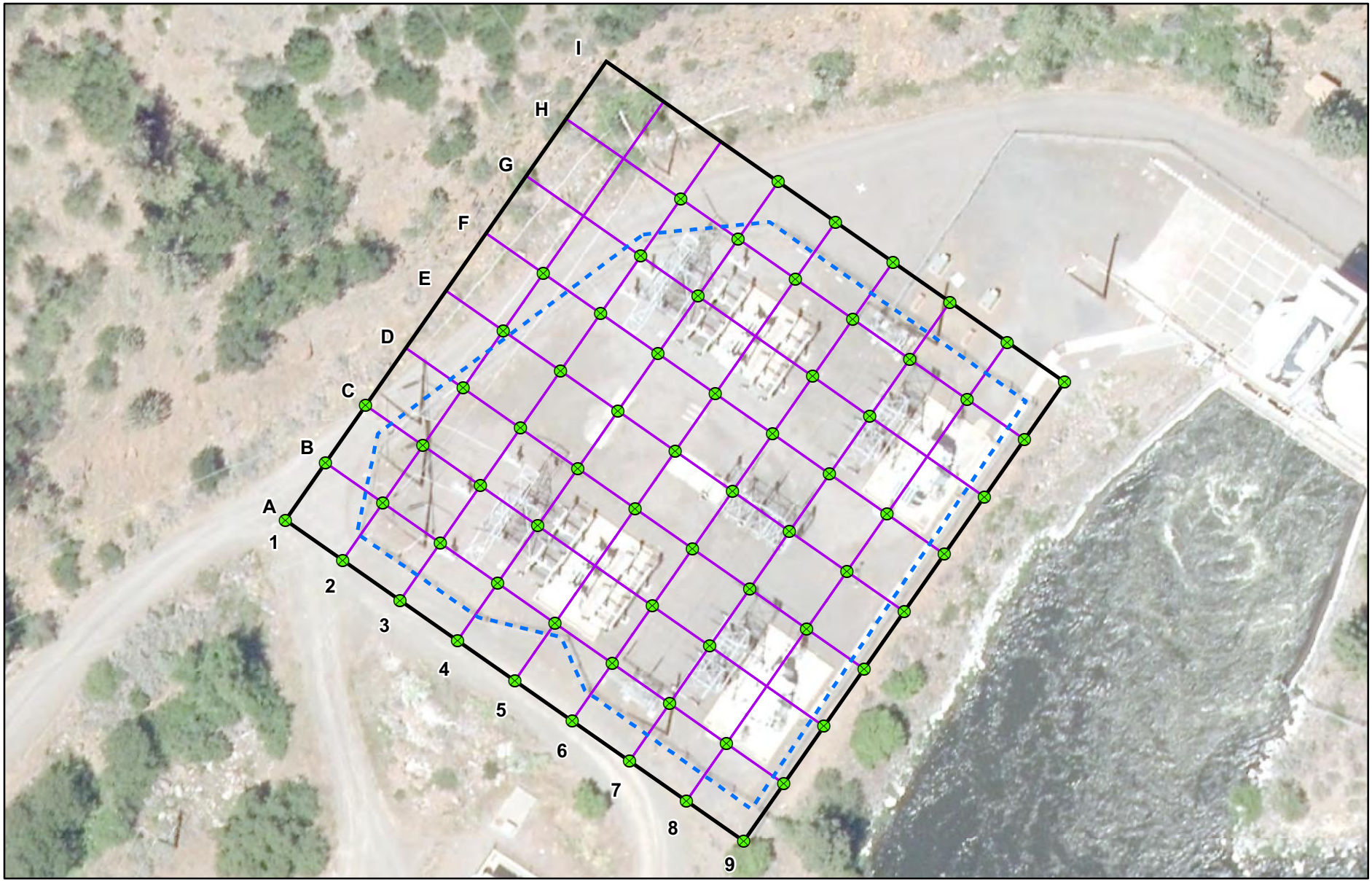
- Dam Infrastructure to be Removed
- Recognized Environmental Condition (REC)

N

0 50 100

Feet

FIGURE 1-2
J.C. Boyle Substation and Switchyard
Lower Klamath Hydroelectric Project



LEGEND

- Limits of SIWP Supplement No. 1
- Switchyard Boundary
- Sampling Grid
- Proposed Shallow Soil Boring Location

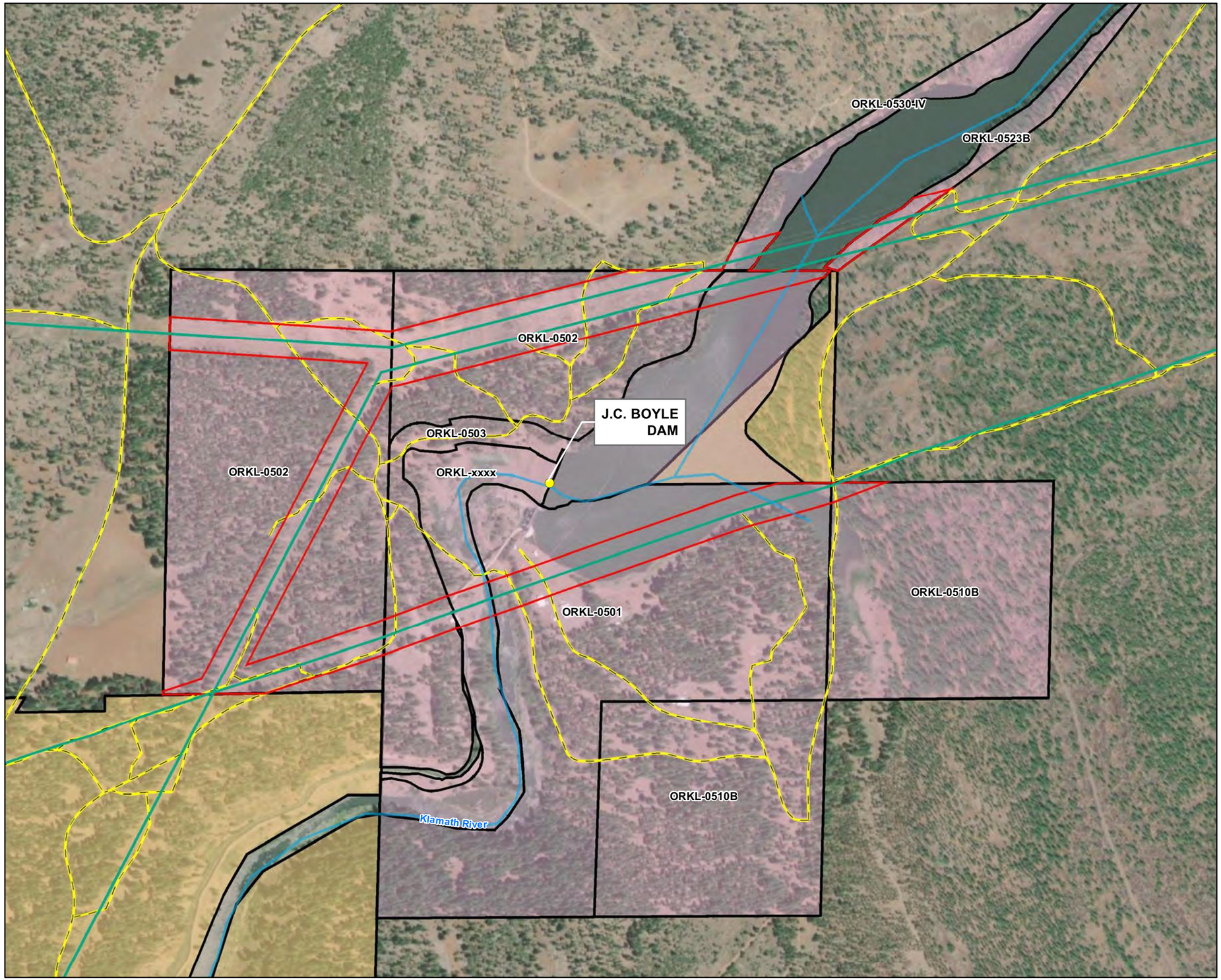
N

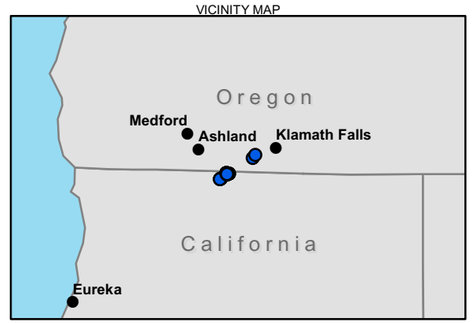
0 25 50

Feet

FIGURE 2-1
J.C Boyle Substation and Switchyard Sampling Grid
Lower Klamath Hydroelectric Project

Jacobs





LEGEND

- Dam Infrastructure to be Removed
- Parcel B Lands
- PacifiCorp Ownership
- BLM
- Retained Easements (~ 52 Acres, 10,200 Linear Ft)
- County Boundary
- Transmission Line
- Access Roads
- River/Creek

N

0 300 600
Feet

FIGURE 2-2
Retained Easement
Recognized Environmental Conditions
Lower Klamath Hydroelectric Project

Jacobs

Appendix A
Underground Storage Tank Registration and Decommissioning Documents

State of Oregon
Department of
Environmental
Quality

OREGON DEPARTMENT OF ENVIRONMENTAL QUALITY
UNDERGROUND STORAGE TANK PROGRAM

GENERAL PERMIT REGISTRATION FORM TO DECOMMISSION EXISTING UNREGISTERED TANKS

and

30-DAY NOTICE OF INTENT TO DECOMMISSION USTS

- This form for registration of existing tanks that have never been reported to DEQ should be submitted at least 30-days before beginning decommissioning by permanent closure.
- To register existing tanks you must submit pages 4 through 8 of this registration form and a check for the amount of the required registration fee. See page 4 to calculate the required fee.
- If you are registering more than five (5) tanks, please make a copy of pages 7 and 8. List the additional tanks on the copy.
- You must call your regional office to receive authorization to proceed with the decommissioning at least 72 hours prior to beginning work. See page 3 for phone numbers.
- You must submit the Underground Storage Tank Decommissioning Checklist and Site Assessment Report to your local Regional Office within 30 days following completion of the tank decommissioning or change-in-service **regardless if cleanup work is ongoing.**

CHECKLIST

1. Be sure signatures are provided for the tank owner, permittee and property owner, **even where one person fills all three roles**.
2. Complete the registration form for all tanks being registered at the facility.
3. Make copies for your records.
4. Enclose your check payable to:
   Oregon Department of Environmental Quality
5. Please return the general permit registration form and applicable registration fee to:

   Department of Environmental Quality
   Attn: Revenue Section
   700 NE Multnamah St.
   Portland, Oregon 97232

INSTRUCTION PAGE

DESCRIPTION OF GENERAL PERMIT PROGRAM

In lieu of issuing individual permits, Oregon's UST permitting program has adopted a general permit by rule to decommission USTs that identifies the conditions and requirements for temporary and permanent closure or completing a change-in-service. By signing the registration forms, you are certifying that you will comply with all the conditions and requirements of the general permit to decommission USTs.

DEFINITIONS

Facility – the place where the tank is located.

Decommission – means temporary or permanent closure, including temporary or permanent removal from operation, filling in-place, removal from the ground or change-in-service to non-regulated status.

Owner – means a person who currently owns an UST or owned an UST during the tanks operational life. If registered with the Secretary of State, Corporations Division, the UST owner is the legal business name.

Permittee – means the owner or person designated by the owner, who is in control or has responsibility for daily UST system operation and maintenance, financial responsibility and UST operator training requirements under a general permit pursuant to OAR 340-150-0160 through 340-150-0168. If registered with the Secretary of State, Corporations Division, the permittee is the legal business name. The permittee is mailed the annual compliance fee invoice.

Property owner – means the legal owner of the real property on which an UST is located (the name that appears on the County deed records).

GENERAL PERMIT REGISTRATION FORM

1. Please fill in the name, address and phone number of the facility. If this facility is registered with DEQ please include the DEQ facility number.
2. Please fill in the number of tanks in the space provided in the general permit registration fee section. For existing tanks not previously registered, back fees are required by OAR 340-150-0110 (6). Calculate the total amount due.
3. Please fill in the tank owner's legal name, address and phone number. The legal name is the name of the tank owner as filed with the Secretary of State, Corporations Division, if applicable. The tank owner must sign the registration form.
4. The tank owner can designate a permittee for each facility. Please ask the permittee in charge of the facility to fill in their legal name, address and phone number. The legal name is the name of the permittee as filed with the Secretary of State, Corporations Division, if applicable. The permittee must sign the registration form.
5. Please fill in the property owner's name, address and phone number. The property owner's name should be the name in the county deed records. The property owner must sign the registration form.
6. There must be three signatures for each completed registration form – the tank owner, permittee and property owner. **IF ONE PERSON FILLS ALL THREE ROLES, THAT PERSON MUST SIGN THREE TIMES.**
7. Complete all sections and pages of the form.

LICENSED SERVICE PROVIDERS AND SUPERVISORS

ORS 466.750 and OAR 340 – Division 160 requires that licensed service providers perform tank decommission work. If contaminated soil is discovered during decommissioning, and a decision is made to remediate the site using the soil matrix rules, ORS 466.750 and OAR 340 – Division 162 requires that licensed service providers perform soil matrix cleanup work. During certain critical phases as specified in the rules, a licensed supervisor must be present on site to monitor the work. A list of licensed service providers and supervisors is available upon request by calling (503) 229-6652 or toll-free in Oregon 1-800-742-7878 (a message answering machine). **NOTE: AN OWNER OR PERMITTEE MAY PERFORM UST SERVICES ONLY IF THEY HAVE TAKEN AND PASSED THE APPROPRIATE UST SUPERVISOR EXAMINATION OFFERED BY A NATIONAL TESTING SERVICE (OAR 340-150-0156)**.

INSTRUCTION PAGE

HELP WITH THIS REGISTRATION FORM

If you have any questions about this registration form, please phone the DEQ UST Program at (503) 229-6652. You can also phone the UST Program's toll-free Oregon number, 1-800-742-7878. This is a message answering machine for calls made in Oregon. Underground Storage Tank Program staff will return your call within 24 hours (one business day). You can also send an e-mail to tanks.info@deq.state.or.us. Our regional staff is also available to answer questions regarding the general permit program and this general permit registration form (see below for telephone numbers).

COPIES OF GENERAL PERMIT CONDITIONS AND REQUIREMENTS AND UST PROGRAM RULES

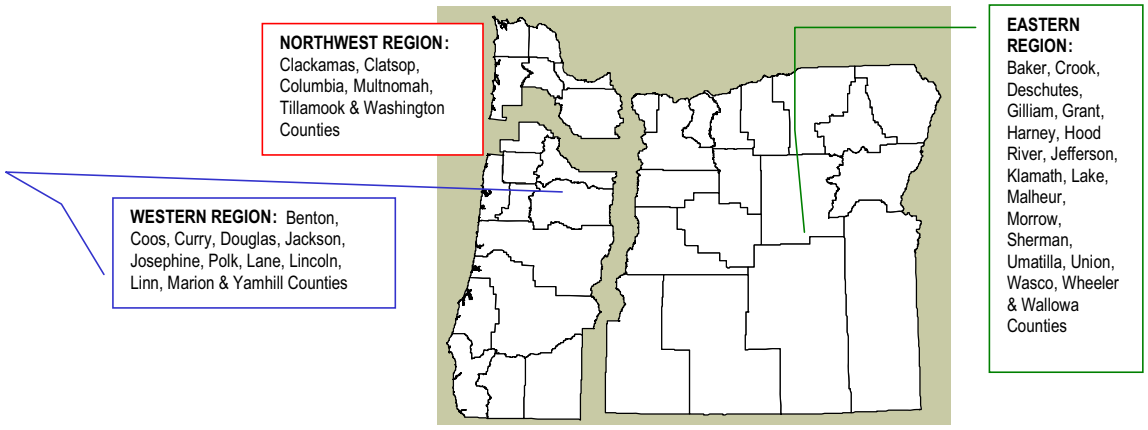
Copies of the general permit to decommission conditions and requirements and UST Program rules and laws can be obtained from:

1. Any of the DEQ offices listed below,
2. By calling the UST HELPLINE at 1-800-742-7878,
3. Send an e-mail to tanks.info@deq.state.or.us, or
4. Downloading from the UST home page at:

http://www.deq.state.or.us/lq/tanks/ust/index.htm

View Oregon Administrative Rules (OAR) and open Division 150 to OAR 34-150-0166 & 340-150-0168.

View Oregon Revised Statutes (ORS) and open Chapter 466 to ORS 466.706 to 466.845



EASTERN REGION / BEND Phone: 541-388-6146	WESTERN REGION / MEDFORD Phone: 541-776-6010
NORTHWEST REGION / PORTLAND Phone: 503-229-5263	WESTERN REGION / COOS BAY Phone: 541-269-2721
UST HELPLINE: 1-800-742-7878 (toll free in Oregon)	WESTERN REGION / EUGENE Phone: 541-686-7838

GENERAL PERMIT REGISTRATION FORM

TO DECOMMISSION UNREGISTERED USTs

PLEASE PRINT

FACILITY NAME: _____

FACILITY ADDRESS: _____

_____

_____

CITY, STATE & ZIP: _____

PHONE: _____ **FACILITY NUMBER:** _____
(If known)

GENERAL PERMIT REGISTRATION FEE

For existing tanks installed in 1988 or earlier the registration fee is $500 per tank.

Number of existing tanks being registered ____ x $500 = $_____Total Fee Due

Note: If an existing tank was installed after 1988 please contact the Department at 503-229-6652 or 1-800-742-7878 for assistance in calculating the fee.

For existing tanks not previously registered and permitted, back fees are due and payable with this general permit registration form in accordance with OAR 340-150-0110 (6).

30-DAY NOTICE OF INTENT TO DECOMMISSION INFORMATION

Work To Be Performed By: _____
(Name of Permittee, Tank Owner, Property Owner or Licensed Service Provider)

If performed by Service Provider: License # _____

Contact Phone: _____ Contact Mobile Phone: _____

Will tank removal or potential cleanup affect adjacent property or right-of-way property?
Yes ☐ No ☐

Date decommissioning is scheduled to begin: _____

GENERAL PERMIT REGISTRATION FORM

TO DECOMMISSION UNREGISTERED USTs

1. TANK OWNER* as registered with the Secretary of State, Corporations Division

Mailing Address (***Please Print***)

Name of Official (***Please Print***)

City, State and Zip Code

Signature of Official Date

Area Code and Telephone Number

I will decommission the USTs described on the *Notification and Description of Underground Storage Tank Systems* pages in accordance with the conditions and requirements of the general permit to decommission.

2. PERMITTEE* as registered with the Secretary of State, Corporations Division

Mailing Address (***Please Print***)

Name of Official (***Please Print***)

City, State and Zip Code

Signature of Official Date

Area Code and Telephone Number

I will decommission the USTs described on the *Notification and Description of Underground Storage Tank Systems* pages in accordance with the conditions and requirements of the general permit to decommission.

3. PROPERTY OWNER is name that appears on the County deed record for this property.

Mailing Address (***Please Print***)

Name of Official (***Please Print***)

City, State and Zip Code

Signature of Official Date

Area Code and Telephone Number

* If this facility or tanks are owned by a person, or operated by a permittee that is a business registered with the Secretary of State, Corporations Division, you must use that legal business name for purposes of registering these USTs with the Department. Please make sure that your business registration with the Oregon Corporations Division (503-986-2200) is active or your application may be placed on hold until your registration has been renewed.

Return Completed Form to: Department of Environmental Quality
Attn:.Revenue.Section
700 NE Multnomah St.
Portland, OR 97232

Notification and Description of Underground Storage Tank Systems

TYPE OF OWNER

- ☐ Federal Government
- ☐ State Government
- ☐ Local Government
- ☐ Commercial
- ☐ Private

INDIAN COUNTRY

- ☐ Tanks are located on land within an Indian Reservation or on trust lands outside reservation boundaries.
- ☐ Tanks are owned by a Native American nation or tribe.

Tribe or Nation:

TYPE OF FACILITY

- ☐ Gas Station
- ☐ Petroleum Distributor
- ☐ Air Taxi (Airline)
- ☐ Aircraft Owner
- ☐ Auto Dealership
- ☐ Railroad
- ☐ Federal - Non-Military
- ☐ Federal - Military
- ☐ Industrial
- ☐ Contractor
- ☐ Trucking/Transport
- ☐ Utilities
- ☐ Residential
- ☐ Farm
- ☐ Other (Explain)

FINANCIAL RESPONSIBILITY

☐ I will meet the financial responsibility requirements in accordance with OAR 340 – Division 151

Check All that Apply

- ☐ Pollution Liability Insurance
- ☐ Self Insurance
- ☐ Exempt (Federal or State Government
- ☐ Letter of Credit
- ☐ Surety Bond
- ☐ Guarantee
- ☐ Local Government

The financial responsibility requirements are designed to make sure that the tank owner, property owner or permittee can pay the costs of cleaning up leaks and compensating third parties for bodily injury and property damage caused by leaking USTs. A plain language summary of the financial responsibility requirements can be downloaded from the Internet at http://www.epa.gov/swerust1/pubs/dollars.htm. For a list of known insurance providers go to http://www.epa.gov/swerust1/pubs/inslist.htm.

CONTACT PERSON IN CHARGE OF TANKS

Name:	Job Title:	Address:	Phone Number (Include Area Code):

CERTIFICATION (Read and sign after completing all section)

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete.

Name and official title of owner or owner's authorized representative (Print)	Signature	Date Signed
Name: Title:		

NOTIFICATION AND DESCRIPTION OF UNDERGROUND STORAGE TANK SYSTEMS (Complete for each tank at this location)					
Tank Identification Number	**Tank No.**	**Tank No.**	**Tank No.**	**Tank No.**	**Tank No.**
1. Status of Tank (Check (√) only one)					
Currently in Use					
Temporarily Out of Use					
Permanently Out of Use					
2. Date of Installation (month & year)					
3. Estimated Total Capacity (gallons)					
4. Material of Construction (Check (√) all that apply)					
Asphalt Coated or Bare Steel					
Cathodically Protected Steel					
Epoxy Coated Steel					
Composite (Steel with Fiberglass)					
Fiberglass Reinforced Plastic					
Lined Interior					
Double Walled					
Polyethylene Tank Jacket					
Concrete					
Excavation Liner					
Unknown					
Other Material, Please Specify					
Has Tank been Repaired? Check (√) Box if Yes					
Date of Repairs					
5. Piping – Material (Check (√) all that apply					
Bare Steel					
Bare Steel Wrapped					
Galvanized Steel					
Fiberglass Reinforced Plastic					
Copper					
Cathodically Protected					
Double Walled					
Secondary Containment					
Unknown					
Not in Contact with Soil					
Other Material, Please Specify					
6. Piping – Type (Check (√) all that apply)					
Suction – No Valve at Tank					
Suction – Valve at Tank					
Pressure					
Gravity Feed					
Has Piping been Repaired? Check (√) Box if Yes					
Date of Repair					

NOTIFICATION AND DESCRIPTION OF UNDERGROUND STORAGE TANK SYSTEMS

(Complete for each tank at this location)

Tank Identification Number	Tank No.	Tank No.	Tank No.	Tank No.	Tank No.
7. Substance Currently or Last Stored in Greatest Quantity by Volume Check (√) Only One Substance per Tank)					
Gasoline	☐	☐	☐	☐	☐
Diesel	☐	☐	☐	☐	☐
Gasohol	☐	☐	☐	☐	☐
Kerosene	☐	☐	☐	☐	☐
Heating Oil	☐	☐	☐	☐	☐
Used Oil	☐	☐	☐	☐	☐
Hazardous Substance	☐	☐	☐	☐	☐
CERCLA Name and/or					
CAS Number					
Mixture of Substances	☐	☐	☐	☐	☐
Please Specify Mixture					
Other	☐	☐	☐	☐	☐
Please Specify Other					

8. Release Detection (Check (√) all that Apply	Tank	Pipe	Tank	Pipe	Tank	Pipe	Tank	Pipe	Tank	Pipe
Manual Tank Gauging	☐		☐		☐		☐		☐	
Tank Tightness Testing	☐		☐		☐		☐		☐	
Inventory Control	☐		☐		☐		☐		☐	
Automatic Tank Gauging	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Vapor Monitoring	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Groundwater Monitoring	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Secondary Containment	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Automatic Line Leak Detector		☐		☐		☐		☐		☐
Line Tightness Testing		☐		☐		☐		☐		☐
No Release Detection Required (Emergency Generator // Field Constructed Tanks)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Other Method Allowed by Department	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Other Method, Please Specify										

9. Spill and Overfill Protection					
Overfill Device Installed	☐	☐	☐	☐	☐
Spill Device Installed	☐	☐	☐	☐	☐

Appendix B
Consolidated Comment Matrix

COMMENT MATRIX for the External Review Draft Dated August 2022
Lower Klamath Hydroelectric Project Site Investigation Work Plan Supplement No. 1
FERC No. P-14803
January 2023

No.	Reviewer Initials*	Item Under Review	Section and Page No.	Comment	Response to Comment
California Department of Water Resources / California Department of Fish and Wildlife - Office of Spill Prevention and Response (Comments on the California Site Investigation Work Plan Supplement)					
CA-General	KT	General		CDFW-OSPR would like to conduct a site visit during the fieldwork, which PacifiCorp/Jacobs indicates will occur in the fall and winter of 2022-23. CDFW-OSPR requests PacifiCorp/Jacobs provide a schedule for fieldwork to be conducted, which will allow CDFW-OSPR to determine appropriate dates for a site visit to observe fieldwork activities and assess the effectiveness of avoidance and minimization measures that have been implemented.	If CDFW-OSPR staff are available when the PacifiCorp team is conducting this work, a site visit can be arranged. The implementation schedule has not been set, but once it is there will be limited flexibility.
CA-1	KT	High-Voltage Switchyards (REC 8)	Section 2.1, page 2-1	High Voltage Switchyards (REC 8). CDFW would like additional documentation of PacifiCorp's obligation to assess conditions prior to extinguishing the easement or otherwise terminating the use. Perhaps include text in the REC closure form and include text in the retained easement.	In the Property Transfer Agreement (Agreement) Section 3.5(a) requires that PacifiCorp resolve all pre-existing environmental conditions at its sole cost and expense to the reasonable satisfaction of the KRRC in consultation with the respective State. The sites PacifiCorp will not be able to address at closing will all have to be in the Post-Closing Environmental Resolution Agreement as a Retained Environmental Obligation (per Agreement Exhibit F). Section 2.2 of the Post-Closing Environmental Resolution Agreement repeats Agreement Section 3.5(a). Additionally, Agreement Exhibit H-1, Section B.1 states that "*Grantor shall, at its sole cost and expense, maintain the Substation Easement Areas and the Retained Substation Facilities in an orderly and safe condition and comply with all laws, including all regulatory, environmental, and safety requirements, applicable to Grantor and its activities under the Substation Easement including the use and management of the Retained Substation Facilities and the Substation Easement Areas.*" PacifiCorp interprets this as requiring PacifiCorp to do the necessary investigation and clean-up if an easement is released. No edits to Supplement No. 1 are necessary.
CA-2	KT		Section 2.1.2 Sampling Plan and Table 2-1, Page 2-2	The Supplement #1 states: "The COPCs for the switchyards are PCBs and transformer oil." Filtering is not considered appropriate for water samples to be analyzed for PCBs because contaminants that sorb to particulates are removed when filtered. We recommend that PacifiCorp/Jacobs perform a risk assessment using unfiltered data.	Section 2.1.2 of Supplement No. 1 has been modified to state the following: "If groundwater is encountered when collecting soil samples at the switchyards, unfiltered grab groundwater samples will be collected for submittal to the analytical laboratory." The groundwater samples will be analyzed for the same COPCs as the soil samples.
CA-3	KT		Section 2.1.2 Sampling Plan, Page 2-2	The Supplement #1 states: "Consequently, soil samples will be analyzed for PCBs by U.S. Environmental Protection Agency (EPA) Method SW846 8082A…" CDFW-OSPR strongly recommends that homologue analysis be used to estimate total PCBs concentrations in soil and groundwater samples. It is unclear if Aroclor-based methods or PCB congener-specific and PCB homologue methods will be used in analytical testing services for samples. The analytical method described in Valoppi et al. (2000) should be used for assessing risk of the 28 PCB congeners that exhibit dioxin-like toxicity.	The methods in Supplement No. 1 reflect current guidance from EPA and DTSC. Specifically, as recommended by DTSC in HERO guidance, *Human Health Risk Assessment Note Number 8: Recommendations for Evaluating Polychlorinated Biphenyls (PCBs) at Contaminated Sites in California* (DTSC/HERO 2020) and the *PCB Evaluation Quick Reference Guide* (DTSC 2023), soil samples will be analyzed for PCBs per EPA Method SW846 8082A. The PCB Evaluation Quick Reference Guide specifically states, "DTSC and U.S. EPA require Method 8082 for PCB analysis, and recommend Method 1668 or 680 on select samples to provide a detailed specification of PCBs in certain situations." Section 2.1.2 of Supplement No. 1 has been modified to state the following: "Should PCBs be detected in soil samples, EPA Method 1668 (PCB homologue method) with EPA Extraction Method SW846 3540C may be performed on select soil samples." This edit has also been made to OR Supplement No. 1.

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No.	Reviewer Initials*	Item Under Review	Section and Page No.	Comment	Response to Comment
CA-4	KT		Section 2.4.2 Assessment Process, Page 2-4	Please verify the assessment process can be accomplished without interfering with dam removal. For example, some of the bulleted actions could affect schedule (e.g. acquiring a removal permit from the CUPA [Certified Unified Program Agency]) and we're wondering if dam removal activities can proceed while the assessment process is implemented.	Whether dam removal activities could proceed should an undocumented UST (or other issue) be discovered will depend on the location and size of the UST and how quickly the CUPA would respond with issuance of a UST Removal Permit, approval of the UST Removal Work Plan, and concurrence with planned removal schedule. PacifiCorp presumes that the UST would minimally be cordoned with temporary fencing, etc., and that dam removal activities would resume while permitting and the approvals process for UST removal proceeds. Per discussion with the CUPA on October 5, 2022, the turnaround time for UST removal upon discovery and under purview by the CUPA is approximately 1 week from submittal of a proper UST removal permit application with proper UST removal work plan. No edits to Supplement No. 1 are necessary.
CA-5	KT		Section 2.5 Undiscovered Impacted Soil and Groundwater (RECs 5, 9, and 17), Page 2-4	The Supplement #1 indicates: "*The objective for the RECs presented in this California Supplement is to establish a process whereby impacted soil and groundwater within the RECs can be addressed if such impacts are encountered.*" CDFW-OSPR requires PacifiCorp/Jacobs ensure contaminants which may enter State waters are not at levels deleterious to fish, mammals, plant life or bird life (Fish and Game Code section 5650). The California Fish and Game Code identifies "*Fish*" as "*a wild fish, mollusk, crustacean, invertebrate, amphibian, or part, spawn, or ovum of any of these animals.*" CDFW-OSPR suggests that the PacifiCorp/Jacobs continue to monitor contaminant concentrations in surface water if PacifiCorp/Jacobs detects concentrations over the project action limit in ground water.	PacifiCorp is currently not required to monitor contaminant concentrations in surface water within the dam developments as they exist now. Before performing such monitoring, impacted soil or groundwater would first have to be encountered within features associated with REC 5, 9, or 17. Section 2.5.1 of Supplement No. 1 has been modified to read as follows: "If impacted soil or groundwater is encountered within these areas, PacifiCorp will establish whether the impacted soil and groundwater is localized or representative of a contaminant plume. PacifiCorp will then determine if there is a complete migration pathway for the contaminant to a surface water; dilution factors will additionally be assessed on a case-by-case basis if potential contamination is identified. Upon completion of a site investigation, evaluation of analytical results, and a risk assessment, PacifiCorp will determine if there is a requirement to implement some type of clean-up, containment, or monitoring program for the REC." This same edit has been made to OR Supplement No. 1.
CA-6	KT		Section 2.5 Undiscovered Impacted Soil and Groundwater (RECs 5, 9, and 17), Page 2-4	Once potential contamination is identified, please provide dilution factors for transport between groundwater and surface water. If sufficient validation is not available for a specific dilution factor, please make the conservative assumption that there is no dilution of contaminants between ground and surface waters.	Please see the response to CA-5.
CA-7	KT		Section 2.5.2 Assessment Process, Page 2-5	Same comment as #4 [CA-4] above. CDFW notes that PacifiCorp acknowledge in the Supplement that assessment and evaluation of impacted soil or groundwater may delay ongoing dam removal work at some locations. Is there other contingency planning that could occur with KRRC?	PacifiCorp is fully aware of the potential implications from any discovered issues to affect the overall project schedule. Item 3 on page 2-5 indicates that PacifiCorp may proceed directly to clean-up of a suspect location, stockpile the material, and then do the assessment and evaluation necessary to determine the scope of the issue, if any. Rapid removal in close coordination with the KRRC team is the best way to minimize potential effects on the dam removal work schedule. PacifiCorp has confirmed that the KRRC will have a plan to address this issue should it occur (Morton D. McMillen, McMillen Jacobs Associates, to Demian Ebert, PacifiCorp, on October 31, 2022, at 6:19 AM). Section 2.5.2 of Supplement No. 1 has been modified to read as follows: "The stepwise approach will be formalized in a contingency plan to be developed by KRRC and PacifiCorp in advance of construction. The stepwise approach will be used when managing the undiscovered PECs, as follows:..."

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No.	Reviewer Initials*	Item Under Review	Section and Page No.	Comment	Response to Comment
CA-8	KT		Section 2.5.2 (1) Identification of Potential Contamination, Page 2-5	Please confirm PacifiCorp's assumption is correct that KRRC will have environmental staff onsite that can identify hazardous materials.	McMillan Jacobs Associates is the KRRC's representative for removal. McMillan Jacobs Associates confirmed that they will have environmental staff onsite during all removal work and a contractual relationship with a firm qualified to collect samples and do a site-specific assessment (Morton D. McMillen, McMillen Jacobs Associates, to Demian Ebert, PacifiCorp, on October 31, 2022, at 6:19 AM). Section 2.5.2 (1) of Supplement No. 1 has been modified to read as follows: "The KRRC will have qualified environmental staff onsite during dam removal activities. Such staff will be qualified to collect environmental samples and perform site-specific assessments."
CA-9	KT		Section 2.5.2 (3) Remediation and Removal of Impacted Media, Page 2-5	Please confirm that KRRC has identified an approved waste staging area. If possible, please also confirm that the waste staging area can accommodate the potential materials that could be discovered. Please also determine if RES intends to use a certain amount of soil for restoration such that any contaminated soil that can't be reused would impact restoration plans. We're wondering what sort of adjustments, if any, RES (or the team) would need to make if all the soil can't be reused onsite.	Because these particular RECs are currently unknown and unknowable, clean-up actions cannot be developed, and selection of specific stockpile locations or potential uses of excess material have not been developed. However, PacifiCorp expects that development of a detailed contingency plan (see response to CA-7) will be developed before the start of construction. That plan would be coordinated with the KRRC's team to identify waste staging areas, stockpile management, soil reuse, backfill and compaction, and offsite disposal requirements all with an eye toward reducing potential conflicts and schedule impacts on the dam removal project. Section 2.5.2 (3) of Supplement No. 1 has been modified to read as follows: "Removal action in advance of testing means that PacifiCorp would manage impacted materials as outlined in the contingency plan. Potentially impacted soil or groundwater will be excavated and hauled to an approved waste staging area identified by the KRRC and as outlined in the contingency plan." The corresponding edit has been made to OR Supplement No. 1.
CA-10	KT		Section 2.5.2 (4) Site Investigation Report and PEC Closure, Page 2-6	CDFW requests that RECs not be closed by default. Instead, PacifiCorp should acquire CDFW's and KRRC's concurrence prior to closing the REC.	Section 2.5.2 (4) of Supplement No. 1 has been modified to read as follows: "If impacted soil and groundwater are not observed at completion of facilities removal for RECs 5 and 9 (dams and powerhouses) and at the completion of restoration for REC 17, then the RECs will be recommended for closure by PacifiCorp per the terms of the Agreement and the process developed with the KRRC and the State of California."

* KT = Kevin Takei

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No.	Reviewer Initials*	Item Under Review	Section and Page No.	Comment	Response to Comment
Klamath River Renewal Corporation (Comments on the California and Oregon Site Investigation Work Plan Supplements)					
KRRC-General	LL			I should add, as a general matter, that KRRC incorporates the States' comments.	Acknowledged.
KRRC-1	LL	CA Supplement	Section 1.2, last paragraph	Please rephrase as "The RECs identified in this California Supplement will be assessed by following the same processes, procedures, and standards provided for in the California SIWP."	The KRRC and State of California approvals of the California SIWP are recommended in the document in order to establish precedence for use of the same processes, procedures, and standards when assessing the RECs identified in the California Supplement. The last sentence of the first paragraph in Section 1.1 in Supplement No. 1 now reads as follows: "This California Supplement incorporates the California SIWP by reference and provides specific information necessary to address remaining RECs in accordance with the California SIWP, which was approved by the KRRC (Lowy, pers. comm. 2021) and the State of California and which was implemented when assessing the various RECs within the Copco No. 1, Copco No. 2, and Iron Gate developments (Jacobs 2021a)." The last paragraph of Section 1.2 in Supplement No. 1 now reads as follows: "The RECs identified in this California Supplement will be assessed by following the same processes, procedures, and standards that were approved for the California SIWP."
KRRC-2	LL	CA Supplement	Section 1.4	""Notwithstanding any specific process or procedure identified in this California Supplement, …"	This text has been incorporated into the document.
KRRC-3	LL	CA Supplement	Section 1.4, Table 1-1	What was the basis for determining the future uses of the different areas? For example, I question whether it's correct to refer to the future uses of all of the retained easements as industrial – certainly some areas are but outside of the exclusive easement areas I'm not sure that's the case.	The future uses listed in Table 1-1 were confirmed by the State of California on November 7, 2022 (Kevin Takei, State of California, to Demian Ebert, PacifiCorp, November 8, 2022, at 12:10 p.m.) and have been incorporated into Supplement No. 1.
KRRC-4	LL	CA Supplement	Section 2.1	Please state the methodology for quantity of samples and grid spacing etc. KRRC suggests the EPA methodology (40 CFR Part 761, Subpart N) for characterizing the media.	Section 2.1.2 of Supplement No. 1 has been modified to read as follows: "Of note is that there are no records of spills or releases at the switchyards. The environmental sampling activities are being performed to confirm the presence or absence of PCBs within the switchyards. If analytical results from the initial sampling event indicate the presence of PCBs, then additional sampling at the Copco No. 1 or Iron Gate switchyards may be performed within identified areas of concern as per 40 *Code of Federal Regulations* Part 761, Subpart N. Concrete sampling will additionally be performed for PCBs at the switchyards, and the analytical results will be used to help determine disposal options for concrete."
KRRC-5	LL	CA Supplement	Section 2.1, second paragraph	The assertion that the retained easement areas in the high-voltage switchyards will not be assessed at this time is not something that, as far as I know, has been discussed previously with KRRC. I understand the rationale and don't necessarily object but that discussion should take place. If that is, in fact, where we end up, then PacifiCorp's obligation to assess and remediate these easement areas at a much later date will need to be expressly identified in the Post-Closing Environmental Resolution Agreement and the reservation of easements, and carved out of any closure of any other retained easement areas.	Please see the response to CA-1.

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KRRC-6	LL	CA Supplement	Section 2.1.2, penultimate (second-to-last) paragraph	The likely future use of the switchyard areas should be determined at the relevant time in consultation with California and, if applicable, KRRC rather than being assumed by PacifiCorp.	Please see the response to KRRC-3.
KRRC-7	LL	CA Supplement	Section 2.2.1, second paragraph	I believe this acknowledges that the easement area extends 100 feet on each side of the transmission and distribution facilities – please confirm or rephrase accordingly.	The text of the California Supplement correctly states that the retained easements for the transmission and distribution system is the location of existing structures buffered by 100 feet on either side of the line. No edits to Supplement No. 1 are necessary.
KRRC-8	LL	CA Supplement	Section 2.4.2, second bullet	The likely future use of the areas within UST footprints should not be determined by PacifiCorp but rather by KRRC and California.	Please see the response to KRRC-3.
KRRC-9	LL	CA Supplement	Section 2.5.2, paragraph 1	There should be a discussion regarding the extent to which KRRC will have environmental staff onsite during dam removal and the process should be tailored around that.	Please see the response to CA-8.
KRRC-10	LL	CA Supplement	Section 2.5.2, paragraph 3	I'm not sure what "PacifiCorp's discretion in coordination with KRRC" means in this context; a decision to proceed to remediation without investigation should not be made by PacifiCorp without first consulting KRRC; same for deciding which soil stockpiles are to be reused or disposed of onsite.	The goal of this entire item is to reduce the potential for the overall dam removal project to be delayed by the need to investigate, analyze, and then clean-up a newly discovered potential contamination site. Instead, if contamination is identified as potentially present, PacifiCorp may at its discretion, and in consultation with the KRRC, proceed to clean-up a suspected site simply to expedite the overall removal project. Management of soil would be detailed in a contingency plan (see response to CA-9). Section 2.5.2 (3) of Supplement No. 1 has been modified to read as follows: "Because of this potential for delay, at PacifiCorp's discretion and in coordination with the KRRC, PacifiCorp may proceed directly to site remediation to minimize impacts on dam removal activities and progress."
KRRC-11	LL	OR Supplement	Section 1.2, last paragraph	Please rephrase as "The RECs identified in this Oregon Supplement will be assessed by following the same processes, procedures, and standards provided for in the Oregon SIWP."	The KRRC and State of Oregon approvals of the Oregon SIWP are recommended in the document in order to establish precedence for use of the same processes, procedures, and standards when assessing the RECs identified in the Oregon Supplement. The last sentence of the first paragraph in Section 1.1 of Supplement No. 1 now reads as follows: "This Oregon Supplement incorporates the Oregon SIWP by reference and provides specific information necessary to address remaining RECs in accordance with the Oregon SIWP, which was approved by the KRRC (Lowy, pers. comm. 2021) and the State of Oregon (Matthews, pers. comm. 2021) and which was implemented when assessing J.C. Boyle Dispersed Recreation Area - 2 (Jacobs 2021a)." The last paragraph of Section 1.2 in Supplement No. 1 now reads as follows: "The RECs identified in this Oregon Supplement will be assessed by following the same processes, procedures, and standards that were approved for the Oregon SIWP."

COMMENT MATRIX for the External Review Draft Dated August 2022
Lower Klamath Hydroelectric Project Site Investigation Work Plan Supplement No. 1
FERC No. P-14803
January 2023

No.	Reviewer Initials*	Item Under Review	Section and Page No.	Comment	Response to Comment
KRRC-12	LL	OR Supplement	Section 1.4, first paragraph	Please add the following at the beginning of the first sentence: ""Notwithstanding any specific process or procedure identified in this Oregon Supplement, …"	This text has been incorporated into the document.
KRRC-13	LL	OR Supplement	Section 1.4, Table 1-1	What was the basis for determining the future uses of the different areas? For example, I question whether it's correct to refer to the future uses of the retained easements as industrial as there are not any exclusive easement areas in Oregon.	The future uses listed in Table 1-1 were based on the uses for various areas as established in the SIWP. The review process for the draft Final Supplement was intended to ensure that future uses conformed with Oregon's ultimate vision for these locations. Per Oregon's recommendation, the future use for retained easements has been changed to Active Recreation per Oregon's comment (see Comment OR-1).
KRRC-14	LL	OR Supplement	Section 2.1	The Oregon Supplement only indicates sampling of the sub-surface soil. KRRC believes PacifiCorp should also sample the gravel and the concrete, as it will be relocated or disposed of.	Soil beneath gravel would be expected to be impacted by potential PCB or dielectric fluid spills. If PCBs were present in potential spills, the PCBs would have been washed through the gravel and attached to the fines in the soil. The gravel is not expected to contain much fine material and those fine materials are needed to run the analytical tests. The following text has been added to Section 2.1 of Supplement No. 1: "Concrete sampling will additionally be performed for PCBs at the switchyard, and the analytical results will be used to help determine disposal options for concrete."
KRRC-15	LL	OR Supplement	Section 2.2.2, third bullet	Again, future uses of that portion of the property should be determined by consulting KRRC and Oregon.	The future site uses as shown in Table 1-1 have been approved by the KRRC and Oregon. The second sentence of this bullet has been modified to read: "For newly identified PECs within the retained easements, determine the potential COPCs for the PEC(s), perform a site assessment(s) according to the Oregon SIWP (Jacobs 2021a), and evaluate the analytical results against the screening levels for the future uses and exposure pathways established in Table 1-1." The corresponding edit has been made to CA Supplement No. 1.
KRRC-16	LL	OR Supplement	Section 2.4.2, second bullet	Same comment as 2.2.2 [KRRC-15].	The future site uses as shown in Table 1-1 have been approved by the KRRC and Oregon. The text of this bullet has been modified to read: "PacifiCorp will determine the potential COPCs for the UST, perform a site assessment according to the Oregon SIWP (Jacobs 2021a), and evaluate the analytical results against the screening levels for the future uses and exposure pathways established in Table 1-1." The corresponding edit has been made to CA Supplement No. 1.
KRRC-17	LL	OR Supplement	Section 2.5.2, paragraph 1	There should be a discussion regarding the extent to which KRRC will have environmental staff onsite during dam removal and the process should be tailored around that.	Please see the response to CA-8. The corresponding edit has been made to Oregon Supplement No. 1.
KRRC-18	LL	OR Supplement	Section 2.5.2, paragraph 3	A decision to proceed to remediation without investigation should not be made by PacifiCorp without first consulting KRRC; same for deciding which soil stockpiles are to be reused or disposed of onsite	Please see the response to KRRC-10. The corresponding edit has been made to Oregon Supplement No. 1.

* LL = Lloyd Lowy

COMMENT MATRIX for the External Review Draft Dated August 2022
Lower Klamath Hydroelectric Project Site Investigation Work Plan Supplement No. 1
FERC No. P-14803
January 2023

No.	Reviewer Initials*	Item Under Review	Section and Page No.	Comment	Response to Comment
Oregon Department of Justice (Comments on the Site Investigation Work Plan Supplements)					
OR-1	CM		General	Oregon joins in the comments by KRRC and the Golden State. Our only specific comment is that we believe the future uses described for the retained easement areas in Oregon are incorrect – the land is not "industrial" as the likely exposure pathway will actually be "active recreation" (as none of the areas are exclusively for use by PacifiCorp – these are transmission line easements). Therefore those areas will need to be remediated (as necessary) to the higher standard.	The future use for the retained easements has been changed to Active Recreation. Also, please see the response to KRRC-13.

* CM = Chris Matthews

References

California Department of Toxic Substances Control (DTSC). 2023. *Polychlorinated Biphenyl (PCB) Evaluation Quick Reference Guide*. https://dtsc.ca.gov/brownfields/polychlorinated-biphenyl-pcb-evaluation-quick-reference-guide/.

California Department of Toxic Substances Control Human and Ecological Risk Office (DTSC HERO). 2020. *Human Health Risk Assessment Note Number 8: Recommendations for Evaluating Polychlorinated Biphenyls (PCBs) at Contaminated Sites in California*. June.

Valoppi, L., M. Petreas, R. M. Donohoe, L. Sullivan, and C.A. Callahan. 2000. "Use of PCB Congener and Homologue Analysis in Ecological Risk Assessment." *Environmental Toxicology and Risk Assessment: Recent Achievements in Environmental Fate and Transport*. Ninth Volume, ASTM STP 1381, F. T. Price, K. V. Brix, and N. K. Lane, Eds., American Society for Testing and Materials, West Conshohochen, PA. 9:147-160.

Lower Klamath Hydroelectric Project (FERC No. P-14803)

California Site Investigation Work Plan Supplement No. 1

Final

January 2023

Prepared by:

Jacobs

Prepared for:

PacifiCorp

Lower Klamath Hydroelectric Project
(FERC No. P-14803)

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Client Name:	PacifiCorp, Demian Ebert, Klamath Program Manager, 503-813-6625
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Contents

Acronyms and Abbreviations

AECOM	AECOM Technical Services, Inc.
Agreement	Property Transfer Agreement entered into by PacifiCorp and Klamath River Renewal Corporation
COPC	constituent of potential concern
CUPA	Certified Unified Program Agency
EPA	U.S. Environmental Protection Agency
ESA	environmental site assessment
FERC	Federal Energy Regulatory Commission
Jacobs	Jacobs Engineering Group Inc.
KRRC	Klamath River Renewal Corporation
PCB	polychlorinated biphenyl
PEC	pre-existing environmental condition
Project	Lower Klamath Hydroelectric Project
REC	recognized environmental condition
California SIWP	California Site Investigation Work Plan
California Supplement	California Site Investigation Work Plan Supplement No. 1
UST	underground storage tank

1. Introduction

As part of the Lower Klamath Hydroelectric Project (FERC No. P-14803), PacifiCorp and the Klamath River Renewal Corporation (KRRC) have entered into a legally-binding Property Transfer Agreement (Agreement) that identifies 17 pre-existing environmental conditions (PECs) located in the states of California and Oregon. All of the PECs are identified in Exhibit C of the Agreement.

While the Agreement and specifically Exhibit C discuss the resolution of PECs, the *California Site Investigation Work Plan* (California SIWP) (Jacobs 2021a) and this *California Site Investigation Work Plan Supplement No. 1* (California Supplement) refer to the Exhibit C items generically as recognized environmental conditions (RECs). Not all PECs in Exhibit C have been formally identified as a REC in a Phase I environmental site assessment (ESA).

PacifiCorp submitted the California SIWP to the State of California and the KRRC on November 16, 2021. The California SIWP described the sampling activities to be performed to confirm the presence or absence of constituents of potential concern (COPCs) at concentrations greater than selected screening levels at the RECs located in California, as identified in Section 1.3 and depicted on Figures 1-1 through 1-4.

1.1 Purpose and Objectives

PacifiCorp retained Jacobs Engineering Group Inc. (Jacobs) to develop this California Supplement and identify the process by which the remaining (i.e., not addressed in the California SIWP) Exhibit C RECs located in California will be brought forward for site assessment and closure. This California Supplement incorporates the California SIWP by reference and provides specific information necessary to address remaining RECs in accordance with the California SIWP, which was approved by the KRRC (Lowy, pers. comm. 2021) and the State of California and which was implemented when assessing the various RECs within the Copco No. 1, Copco No. 2, and Iron Gate developments (Jacobs 2021a).

The primary objective of this California Supplement is to establish the means by which the remaining Exhibit C RECs located in California will be assessed and closed per the Agreement. Secondary objectives are to identify the key environmental data that will support closure of the remaining seven RECs and outline the various sampling approaches for each REC so that as much analytical and field observational data as possible can be collected for REC closure under a single mobilization.

The field and analytical data will be used to determine and delineate the vertical and horizontal extent of potentially impacted soil, groundwater, or both, as needed, for REC closure. Waste characterization data will also be collected to help in planning a remedial action at a site. These data will be used to determine offsite disposal requirements and onsite waste segregation and management requirements for hazardous and nonhazardous waste, if encountered.

1.2 Recognized Environmental Conditions Addressed in This California Supplement

The following seven Exhibit C RECs are addressed in this California Supplement:[1]

- Condition 5 – Undiscovered Impacted Soil and Groundwater at the four Powerhouses

[1] The REC names in this list are verbatim from Exhibit C. Elsewhere in this California Supplement, "high-voltage" is hyphenated when referencing Condition 8.

- Condition 6 – Underground Storage Tanks (USTs)
- Condition 8 – High voltage switchyards
- Condition 9 – Undiscovered Impacted Soil and Groundwater at the 4 Dam Developments
- Condition 15 – Inaccessible areas
- Condition 16 – Retained easement areas
- Condition 17 – Undiscovered Impacted Soil and Groundwater outside the removal work zone

These RECs (Figure 1-1) were not included in the California SIWP because during SIWP development, the RECs were unknown, undiscoverable, or inaccessible or because REC-specific investigations could not be completed. For example: (1) Access to the Copco No. 1 and Iron Gate switchyards (Figure 1-2) was determined to be especially hazardous since the high-voltage switchyards are active; and (2) Unknown areas remain unknown until decommissioning and demolition of the dam commences. To satisfy Agreement Section 3.5(c), this California Supplement presents PacifiCorp's proposed approach to address the remaining Exhibit C RECs in a manner that will minimize disruption or delay of dam removal efforts by the KRRC and that will allow for expedited remediation or disposal of potential contaminants if identified during dam removal.

This California Supplement proposes a sampling approach for the switchyards (REC 8) that includes a figure illustrating planned soil sample locations and a table identifying media to be sampled, sample collection depths, and laboratory analyses to be performed.

The RECs identified in this California Supplement will be assessed by following the same processes, procedures, and standards that were approved for the California SIWP.

1.3 Background

The California SIWP (Jacobs 2021a) provides detailed background information on the Copco No. 1, Copco No. 2, and Iron Gate developments, a complete list of the Exhibit C RECs, and a discussion of the surrounding lands and historical practices. The California SIWP content is incorporated into this California Supplement by reference.

Pertinent to the RECs addressed in this California Supplement are the two Phase I ESAs conducted for the Oregon and California hydroelectric developments (AECOM 2018, 2020). Of the RECs identified by AECOM and documented in Exhibit C of the Agreement, PacifiCorp prepared an Oregon SIWP for the J.C. Boyle Dispersed Recreation Area (Jacobs 2021b) and a California SIWP (Jacobs 2021a) for the following RECs:

- Copco No. 1 Dynamite Cave
- Copco No. 1 Debris Piles/Scrap Yard (Parcel B REC 4)
- Wood-Stave Penstock
- Copco No. 2 Wood Pile (Parcel B REC 7)
- Copco No. 2 Powerhouse Transformer Fire (not included in Exhibit C of the Agreement)
- Copco No. 2 Former Mobile Oil Containment Building
- Underground Storage Tanks (USTs)
- Copco No. 2 Burn Pit (Parcel B REC 6)
- Iron Gate Shooting Range (Parcel B REC 9)

- Iron Gate Hatchery Burn Pit
- Iron Gate Hatchery Settling Ponds

The dams and associated powerhouses have been and continue to be operated to generate and distribute electricity until dam removal activities begin. Hazardous materials that have been used onsite include diesel fuel, leaded and unleaded gasoline, non-polychlorinated biphenyls (non-PCBs), and governor, transformer, and motor oils. Battery banks and oils are stored within secondary containment systems. As noted in the Phase I ESA conducted by AECOM, the powerhouses appeared to be in good operating condition, with proper housekeeping and hazardous materials management practices (AECOM 2018).

1.4 Investigative Standard and Future Uses

Notwithstanding any specific process or procedure identified in this California Supplement, the work performed under this California Supplement will be carried out in accordance with the Investigative Standard, as defined in Section 1.5 of the California SIWP (Jacobs 2021a). This California Supplement addresses multiple RECs, necessitating the identification of intended future uses and exposure pathways at the remaining RECs (Table 1-1). The exposure pathways will be used to determine the screening levels that were developed in Section 3.3 of the California SIWP (Jacobs 2021a). The analytical results from investigations at a REC will be evaluated against these screening levels to determine if the REC can be closed or if further assessment, remediation, risk assessment, or a combination are required.

Table 1-1. Site Future Uses and Exposure Pathways

Exhibit C REC No.	Site/REC	Site Future Use	Exposure Pathways
8	High-voltage switchyards (and substations)	Active recreation	Residential/leaching to groundwater
16	Retained Easements	Industrial	Industrial/ecological/leaching to groundwater
15	Inaccessible Areas	Passive recreation/natural habitat	Residential/ecological/leaching to groundwater
6	Underground Storage Tanks	Active recreation	Residential/leaching to groundwater
5	Undiscovered Impacted Soil and Groundwater at the Four Powerhouses	Active recreation	Residential/leaching to groundwater
9	Undiscovered Impacted Soil and Groundwater at the Four Dam Developments	Active recreation	Residential/leaching to groundwater
17	Undiscovered Impacted Soil and Groundwater Outside the Removal Work Zone	Passive recreation/natural habitat	Residential/ecological/leaching to groundwater

The Investigative Standard includes preparation of a Site Investigation Report to document the investigation and assessments performed, as described in Section 4 of the California SIWP (Jacobs 2021a).

Except as may be otherwise expressly approved in writing by PacifiCorp, KRRC, the State of California, and the State of Oregon, the implementation of any work under this California Supplement and any updates or

follow-up will constitute Jacobs' representation to PacifiCorp, KRRC, and the State of California that such work complies with the Investigative Standard as presented in the California SIWP (Jacobs 2021a).

1.5 California Supplement Organization

This California Supplement is organized into three sections and one appendix. Supporting tables and figures are located in text (Table 1-1) and at the end of text (all others). The sections and appendix are summarized as follows:

- **Section 1 – Introduction**: Describes the California Supplement purpose and objectives, identifies the RECs to be addressed, provides background information on the evolution of the RECs, and touches on investigative standards and future site uses. See Section 1 of the California SIWP (Jacobs 2021a) for complete descriptions of the program organization, program timeline, and investigative standards.
- **Section 2 – Site Evaluation and Investigation**: Describes the evaluation process for addressing the seven remaining RECs not included in the California SIWP.
- **Section 3 – References**: Provides a bibliographic listing of documents cited in this California Supplement.
- **Appendix – Consolidated Comment Matrix**: Contains consolidated review comments and responses from the KRRC and California related to this California Supplement.

2. Site Evaluation and Investigation

This section presents the results of the site investigations and evaluations conducted for the seven RECs listed in Section 1. The Sampling and Analysis Plan (Appendix A of the California SIWP) will be followed for each REC.

The High-voltage switchyards and Retained Easement RECs are evaluated because: 1) the substation, switchyard, and easement locations are known; 2) they are accessible to some degree; and 3) their environmental conditions can be reasonably evaluated in the near-term. The USTs REC is evaluated should an unknown UST be discovered during dam decommissioning or demolition. Because evaluation of undiscovered RECs is not possible at this time, this California Supplement presents a process to be implemented should impacted soil or groundwater be encountered in the subject areas during dam decommissioning and demolition.

2.1 High-voltage Switchyards (REC 8)

High-voltage switchyards and substations (collectively called switchyards here for ease of use) are connected directly to PacifiCorp's electrical generation, transmission, and distribution systems. Switchyards are integral for distributing power and maintaining stability of the local electrical grid. An abundance of high-voltage elements makes work within switchyards restricted without specialized planning. However, following further review and discussions with PacifiCorp substation operations, environmental sampling within the energized switchyards is considered possible with appropriate safety measures. Consequently, this California Supplement identifies the means and methods by which the Copco No. 1 and Iron Gate switchyards will be assessed.

The two Copco No. 2 switchyards (more precisely the Copco No. 2 230 kV Substation and the Copco No. 2 115/69 kV Substation) are not addressed in this California Supplement. PacifiCorp does not consider either of these to be a REC that need to be addressed at this time because both will remain in service for the foreseeable future and PacifiCorp retains exclusive easements per the Agreement to operate and maintain these facilities. At such time that PacifiCorp terminates operations of either facility, an assessment of conditions will be conducted consistent with the Agreement in coordination with the KRRC and California (as appropriate) and prior to extinguishing the easement.

2.1.1 Findings from Previous Investigations

The Copco No. 1 and Iron Gate switchyards were noted to contain at least one electrical transformer, substations, transmission poles, and lines within a fenced gravel area. The majority of the transmission pole footings, substations, and transformers were on top of concrete pads, and in the case of the Iron Gate substation, on top of a gravel-filled concrete catch basin. It was noted that the "yellow glass portion" of the high-voltage transformer bushings may potentially contain PCBs in the oil (AECOM 2020). PCBs could potentially be present within each of the switchyards because the Copco No. 1 Development and original supporting structures were constructed between 1911 and 1922, because the Iron Gate Development and original supporting structures were constructed between 1961 and 1962 (AECOM 2020), and because use of PCBs was not banned under the Toxic Substances Control Act until 1979.

2.1.2 Sampling Plan

Of note is that there are no records of spills or releases at the switchyards. The environmental sampling activities are being performed to confirm the presence or absence of PCBs within the switchyards. If analytical results from the initial sampling event indicate the presence of PCBs, then additional sampling

at the Copco No. 1 or Iron Gate switchyards may be performed within identified areas of concern as per 40 *Code of Federal Regulations* Part 761, Subpart N. Concrete sampling will additionally be performed for PCBs at the switchyards, and the analytical results will be used to help determine disposal options for concrete.

Prior to collecting soil samples at the Copco No. 1 switchyard, field staff will use Global Positioning System software to lay out a 25- by 25-foot sampling grid (Figure 2-1). The Iron Gate switchyard samples will be collected at the locations specifically associated with the oil-filled transformers (Figure 2-2). Field staff will note facility structures, topography, and drainage in the area and will adjust the planned sample locations as necessary. The planned sample locations will be marked for approval by the PacifiCorp substation operations group and for utility clearance prior to sampling.

The COPCs for the switchyards are PCBs and transformer oil. Consequently, soil samples will be analyzed for PCBs by U.S. Environmental Protection Agency (EPA) Method SW846 8082A and for oil and grease by EPA Method 1664. Should PCBs be detected in soil samples, EPA Method 1668 (PCB homologue method) with EPA Extraction Method SW846 3540C may be performed on select soil samples. If groundwater is encountered when collecting soil samples at the switchyards, unfiltered grab groundwater samples will be collected for submittal to the analytical laboratory. Surface gravel will be removed to allow sampling of fine-grained native soil or fine import material. Soil samples from a depth of 0.5 to 1.0 foot below native surface grade will be collected (Table 2-1 and California SIWP Appendix A [Jacobs 2021a]). The soil samples will be advanced via hand auger. Soil borings will be extended if visual observations indicate that transformer oil has migrated deeper than near surface grade.

Because the switchyards are located in a relatively flat areas immediately adjacent to the Klamath River in an otherwise steep, access-limited canyon (Figures 1-2, 1-3, 2-1, and 2-2), the most likely future use for the switchyards is active recreation (Table 1-1). Such a use will set the applicable soil and groundwater screening levels as described in California SIWP Section 1.5 and developed in California SIWP Section 3.3 (Jacobs 2021a). The validated analytical data will be evaluated against the applicable screening levels, and a site assessment report will be prepared in accordance with Section 4 of the California SIWP (Jacobs 2021a).

Data collection for the switchyard is anticipated to occur in the spring of 2023.

2.2 Retained Easement Areas (REC 6)

2.2.1 Description

Retained easement areas have been identified in Exhibit C as a PEC and are further described in that exhibit as “Any conditions in retained easement areas relating to the presence or operations of retained transmission facilities.” Per the Agreement, PacifiCorp-owned property in California will be conveyed to the KRRC and eventually the State of California. As this process occurs, PacifiCorp will retain easements for the existing transmission and distribution system. Existing easements on privately- or federally-owned property are not included in this REC. Therefore, retained easements, for the purpose of this California Supplement, are defined as the right-of-way on PacifiCorp-owned property in California containing PacifiCorp electrical transmission and distribution system and all other ancillary infrastructure and related access roads. The retained easements are used for accessing, maintaining, operating, repairing, replacing, enlarging, reconstructing, or removing PacifiCorp’s electrical transmission and distribution facilities.

Also included are related electrical transmission facilities such as towers, poles, pads, anchors, supports, transformers, switchyards, vaults, substations, communications facilities, fiber optic or other communications equipment, and any other improvements or facilities associated with the management of

these facilities. The retained easement area is the current physical location of the transmission facilities along with an additional area of 100 feet, as measured on the surface of the property and from each side of the transmission or distribution facility.

Retained easements were not assessed under the Phase 1 ESAs that were performed for the Copco No. 1, Copco No. 2, and Iron Gate developments (AECOM 2018; AECOM 2020), and because the retained easements were not assessed, there is potential for RECs to be present within the easements.

There are approximately 74,600 linear feet of retained easements (approximately 320 acres) over seventeen parcels (Figure 2-3).

2.2.2 Assessment Process

The assessment process for the retained easement areas is as follows:

- Perform a review of reasonably obtainable historical documents for the retained easement areas including aerial photographs, historical topographic maps, or other available property records.
- Perform a site reconnaissance survey. Qualified staff will drive through and walk accessible parts of the retained easement areas.
- Based on the evaluation and findings of the document review and site reconnaissance by a qualified environmental professional, potential new PECs may be identified. For newly identified PECs within the retained easements, determine the potential COPCs for the PEC(s), perform a site assessment(s) according to the California SIWP (Jacobs 2021a), and evaluate the analytical results against the screening levels for the future uses and exposure pathways established in Table 1-1.
- Document findings in a Site Investigation Report for PEC closure in accordance with Section 4 of the California SIWP (Jacobs 2021a). If new PECs are not identified, the Site Investigation Report will contain a recommendation for REC closure per the terms of the Agreement and the process developed with the KRRC and the State of California.

2.3 Inaccessible Areas (REC 15)

Agreement Exhibit C contains a REC for Inaccessible Areas, without further elaboration adequate to allow investigation. The draft Phase I ESA for the California and Oregon dam developments contained aerial photographs with points of interest, which at the time, were inaccessible for field reconnaissance due to either locked gates or unsafe road conditions (AECOM 2020). In response to inquiries from PacifiCorp, in April 2022, the KRRC provided further definition of the inaccessible areas (AECOM, pers. comm. 2022). The supplemental information included identification of ten specific locations within California that were subsequently summarized by PacifiCorp as requiring no further action (PacifiCorp 2022). The PacifiCorp (2022) review indicates that two of these locations are private property, one is a vehicle at a recreation site, four are rock outcroppings or vegetation, two are switchyards, and one is a vehicle parked on an access road (Table 2-2, located at the end of text). PacifiCorp is recommending that this REC be closed per the terms of the Agreement and the process developed with the KRRC and the State of California.

2.4 Underground Storage Tanks (REC 16)

2.4.1 Description

Seven USTs were identified during a Phase I ESA for the Iron Gate Fish Hatchery and the J.C. Boyle, Copco No. 1, Copco No. 2, and Iron Gate developments (AECOM 2018). One UST, potentially located near the Copco No. 2 Powerhouse, was further assessed under the California SIWP (Jacobs 2021a). The remaining

USTs, potentially located at the J. C Boyle, Copco No. 1, Copco No. 2, or Iron Gate developments, are either on private land or are considered "orphan sites" because there is insufficient information to physically locate the USTs, if still present (AECOM 2018). When ground-penetrating radar surveys were conducted by the KRRC, USTs were not identified near the Copco No. 1, Copco No. 2, and Iron Gate powerhouses or surrounding areas, as described in *Draft Buried Structures Site Investigation* (KPC 2020).

2.4.2 Assessment Process

When the KRRC is decommissioning or demolishing the Copco No. 1 Copco No. 2, and Iron Gate developments, the following assessment process will be observed if the KRRC identifies a UST or suspected UST:

- The KRRC will immediately notify PacifiCorp of the discovery. PacifiCorp will: 1) confirm that the UST is located within the Lower Klamath Project FERC boundary; 2) oversee partial exposure of the UST to determine its approximate size; and 3) determine the approximate volume of any residual contents.
- PacifiCorp will determine the potential COPCs for the UST, perform a site assessment according to the California SIWP (Jacobs 2021a), and evaluate the analytical results against the screening levels for the future uses and exposure pathways established in Table 1-1.
- PacifiCorp will coordinate UST removal actions with the Siskiyou County Environmental Health Division, which serves as the Certified Unified Program Agency (CUPA) for UST removal and case closure.
- PacifiCorp will additionally prepare a removal work plan for the UST and will obtain a removal permit that will be approved by the CUPA.
- General UST removal activities by a licensed contractor will include: 1) full exposure of the UST and preparation of the UST for removal; 2) removal and containment of residual UST contents; 3) cleaning of the UST and containment of decontamination water; 4) upon confirmation by a Certified Industrial Hygienist that the UST is inert, removal of the UST for offsite disposal.
- Upon removing the UST and as an iterative process based on health and safety and equipment capacity concerns, PacifiCorp will collect soil samples from the excavation floor and sidewalls and, if required, from expanded excavation floor and sidewalls.
- When excavating the UST and if expanding the excavation to obtain additional confirmation soil samples, PacifiCorp will segregate identified impacted soil from unimpacted soil, stockpile excavated soil on plastic sheeting, and manage stockpiled soil per regulatory requirements.
- PacifiCorp will properly transport and dispose of the UST, stockpiled soil, and decontamination wastes.
- Upon completion of excavation and confirmation sampling, PacifiCorp will return the REC to the KRRC for backfilling and compaction with an approved fill material.
- Upon completion of excavating and confirmation sampling, PacifiCorp will additionally prepare a removal report for the UST and request REC closure from the CUPA. PacifiCorp will alternatively initiate remedial process if recommended in the UST removal report.

2.5 Undiscovered Impacted Soil and Groundwater (RECs 5, 9, and 17)

2.5.1 Description

Three RECs are collectively identified as undiscovered and have the potential to contain impacted soil and groundwater. These RECs are divided into three areas: (1) the powerhouses (REC 5); (2) the dam developments (REC 9); and (3) areas outside the removal work zone (REC 17). Portions of these areas may

never be fully evaluated because they are inaccessible or cannot be accessed (for example, soil or groundwater beneath the powerhouse foundation left in place by the KRRC). Because these RECs all address the same potential issue, but at different locations, they are consolidated into a single discussion in this California Supplement.

The objective for the RECs presented in this California Supplement is to establish a process whereby impacted soil and groundwater within the RECs can be addressed if such impacts are encountered. With the standardized approach described in the next section, PacifiCorp will be able to minimize delays related to characterizing and remediating a PEC so that REC closure can be obtained in a timely manner. The approach will be employed if potential contamination associated with these three RECs is identified during dam removal.

If impacted soil or groundwater is encountered within these areas, PacifiCorp will establish whether the impacted soil and groundwater is localized or representative of a contaminant plume. PacifiCorp will then determine if there is a complete migration pathway for the contaminant to a surface water; dilution factors will additionally be assessed on a case-by-case basis if potential contamination is identified. Upon completion of a site investigation, evaluation of analytical results, and a risk assessment, PacifiCorp will determine if there is a requirement to implement some type of clean-up, containment, or monitoring program for the REC.

2.5.2 Assessment Process

This section establishes a process whereby PacifiCorp will assess impacted soil and groundwater if encountered by the KRRC when decommissioning and demolishing structures at these locations. The reasons for establishing such a process are to help ensure that:

- There is a standardized approach acceptable to the KRRC and the State of California.
- With a standardized approach in place, assessment or remediation of impacted soil and groundwater can be initiated in an expeditious manner to minimize delays associated with dam removal.
- With a standardized approach in place, PacifiCorp can minimize schedule delays and satisfactorily complete required investigative or remedial actions to obtain closure should any PECs come to light.

The stepwise approach will be formalized in a contingency plan to be developed by KRRC and PacifiCorp in advance of construction. The stepwise approach will be used when managing the undiscovered PECs, as follows:

1) Identification of Potential Contamination

The KRRC will have qualified environmental staff onsite during dam removal activities. Such staff will be qualified to collect environmental samples and perform site-specific assessments. Such staff will also be responsible for observing general site conditions and documenting if groundwater appears to be impacted or if soil has a chemical odor, is stained, or has elevated photoionization detector readings greater than 50 parts per million by volume. Should such conditions arise, such staff will report the observations and provide relevant data to PacifiCorp in writing. PacifiCorp will, in turn, mobilize a qualified team-member to further evaluate site conditions.

2) Sampling and Evaluation of Analytical Results against Established Screening Levels

Upon notification by the KRRC of impacted soil or groundwater and a PEC, PacifiCorp will enlist an environmental professional who will additionally evaluate the potential impacts.

Soil and groundwater samples will be collected as appropriate and in accordance with the California SIWP and Appendix A of the California SIWP (Jacobs 2021a). Field sampling and PEC evaluation will be coordinated with the KRRC with respect to ongoing dam removal activities to ensure that any impacts to ongoing dam removal work are minimized.

Upon receipt of the validated analytical results from sampling, the analytical results will be compared against the established screening levels for the determined future use, and recommendations will be made for PEC closure or further assessment, remediation, risk assessment, or a combination.

3) Remediation and Removal of Impacted Media

PacifiCorp recognizes that assessment and evaluation of impacted soil or groundwater may delay ongoing dam removal work at some locations. Because of this potential for delay, at PacifiCorp's discretion and in coordination with the KRRC, PacifiCorp may proceed directly to site remediation to minimize impacts on dam removal activities and progress.

Removal action in advance of testing means that PacifiCorp would manage impacted materials as outlined in the contingency plan. Potentially impacted soil or groundwater will be excavated and hauled to an approved waste staging area identified by the KRRC and as outlined in the contingency plan. Impacted soil will be segregated from unimpacted soil, and water will be properly containerized within secondary containment. Soil stockpiles will be placed on and covered with plastic sheeting, and stockpiles and containerized wastes will be inspected weekly and actively managed by PacifiCorp. Upon evaluation of the analytical results for the soil stockpiles, PacifiCorp will identify which stockpiles can be reused or disposed onsite by the KRRC and which soil stockpiles will be disposed of offsite by PacifiCorp. Containerized water will be disposed of offsite by PacifiCorp or may be reused onsite for dust suppression by the KRRC depending on the analytical results.

As part of a removal action, PacifiCorp will collect confirmation samples from excavation floors and sidewalls and will also collect soil samples from the floor and sidewalls of an expanded excavation should that be required. The confirmation samples will be analyzed for COPCs and will be evaluated against the screening levels as described in California SIWP Section 1.5 and developed in California SIWP Section 3.3 (Jacobs 2021a). Upon evaluation of the analytical results from confirmation sampling, PacifiCorp will identify if additional excavation is required or if the removal action is complete and the excavation can be backfilled and compacted (if necessary).

4) Site Investigation Report and PEC Closure

Upon completion of site assessment or remedial activities, PacifiCorp will prepare a Site Investigation Report for PEC closure in accordance with Section 4 of the California SIWP (Jacobs 2021a). The PEC will also be recommended for closure by PacifiCorp per the terms of the Agreement and the process developed with the KRRC and the State of California. If impacted soil and groundwater are not observed at completion of facilities removal for RECs 5 and 9 (dams and powerhouses) and at the completion of restoration for REC 17, then the RECs will be recommended for closure by PacifiCorp per the terms of the Agreement and the process developed with the KRRC and the State of California.

3. References

AECOM Technical Services, Inc. (AECOM). 2018. J.C. Boyle Dam, Copco No. 1 Dam, Copco No. 2 Dam, Iron Gate Dam, and Iron Gate Fish Hatchery Phase I Environmental Site Assessments. Prepared for Klamath River Renewal Corporation. November.

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Jacobs. 2021a. *California Site Investigation Work Plan.* Prepared for PacifiCorp. November.

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Tables

Table 2-1. Proposed Sampling and Analysis Plan for Soil at Copco No. 1 and Iron Gate Switchyards

PacifiCorp, Lower Klamath Hydroelectric Project

Location Description	Boring Location	Sample ID	Depth (ft bgs)	Title 22 metals total (EPA Method 6010B), Mercury by (SW7471A)	Volatile Organic Compounds (EPA Method SW8260B)	Semivolatile Organic Compounds (EPA Method SW8270C)	Dioxins and Furans (EPA Method SW846 8290A)	Benzene, Toluene, Ethylbenzene, Xylenes (BTEX) (EPA Method SW8260B)	Total Petroleum Hydrocarbons as Gasoline (NWTPH-Gx)	Total Petroleum Hydrocarbons as Diesel and Motor Oil (NWTPH-Dx)	Polynuclear Aromatic Hydrocarbons (EPA Method SW8270C-SIM)	Oil and Grease (EPA Method SW846 1664)	Polychlorinated Biphenyls (PCBs) (EPA Method SW846 8082A)	STLC* (when TTLC results are 10x STLC limit)	TCLP* (when TTLC results are 20x TCLP limit)	Ignitability (EPA Method 1030), Reactivity (SW 846 CH7), Corrosivity (SW-846 9045)
Copco No. 1 Switchyard	C1SY-A1	C1SY-A1-0.0-YYYYMMDD	Surface									X	X			
		C1SY-A1-1.0-YYYYMMDD	0.5-1.0									X	X			
	C1SY-A2	C1SY-A2-0.0-YYYYMMDD	Surface									X	X			
		C1SY-A2-1.0-YYYYMMDD	0.5-1.0									X	X			
	C1SY-A3	C1SY-A3-0.0-YYYYMMDD	Surface									X	X			
		C1SY-A3-1.0-YYYYMMDD	0.5-1.0									X	X			
	C1SY-A4	C1SY-A4-0.0-YYYYMMDD	Surface									X	X			
		C1SY-A4-1.0-YYYYMMDD	0.5-1.0									X	X			
	C1SY-A5	C1SY-A5-0.0-YYYYMMDD	Surface									X	X			
		C1SY-A5-1.0-YYYYMMDD	0.5-1.0									X	X			
	C1SY-B1	C1SY-B1-0.0-YYYYMMDD	Surface									X	X			
		C1SY-B1-1.0-YYYYMMDD	0.5-1.0									X	X			
	C1SY-B2	C1SY-B2-0.0-YYYYMMDD	Surface									X	X			
		C1SY-B2-1.0-YYYYMMDD	0.5-1.0									X	X			
	C1SY-B3	C1SY-B3-0.0-YYYYMMDD	Surface									X	X			
		C1SY-B3-1.0-YYYYMMDD	0.5-1.0									X	X			
	C1SY-B4	C1SY-B4-0.0-YYYYMMDD	Surface									X	X			
		C1SY-B4-1.0-YYYYMMDD	0.5-1.0									X	X			
	C1SY-B5	C1SY-B5-0.0-YYYYMMDD	Surface									X	X			
		C1SY-B5-1.0-YYYYMMDD	0.5-1.0									X	X			
	C1SY-C1	C1SY-C1-0.0-YYYYMMDD	Surface									X	X			
		C1SY-C1-1.0-YYYYMMDD	0.5-1.0									X	X			
	C1SY-C2	C1SY-C2-0.0-YYYYMMDD	Surface									X	X			
		C1SY-C2-1.0-YYYYMMDD	0.5-1.0									X	X			
	C1SY-C3	C1SY-C3-0.0-YYYYMMDD	Surface									X	X			
		C1SY-C3-1.0-YYYYMMDD	0.5-1.0									X	X			
	C1SY-C4	C1SY-C4-0.0-YYYYMMDD	Surface									X	X			
		C1SY-C4-1.0-YYYYMMDD	0.5-1.0									X	X			
	C1SY-C5	C1SY-C5-0.0-YYYYMMDD	Surface									X	X			
		C1SY-C5-1.0-YYYYMMDD	0.5-1.0									X	X			
	C1SY-D1	C1SY-D1-0.0-YYYYMMDD	Surface									X	X			
		C1SY-D1-1.0-YYYYMMDD	0.5-1.0									X	X			
	C1SY-D2	C1SY-D2-0.0-YYYYMMDD	Surface									X	X			
		C1SY-D2-1.0-YYYYMMDD	0.5-1.0									X	X			
	C1SY-D3	C1SY-D3-0.0-YYYYMMDD	Surface									X	X			
		C1SY-D3-1.0-YYYYMMDD	0.5-1.0									X	X			
	C1SY-D4	C1SY-D4-0.0-YYYYMMDD	Surface									X	X			
		C1SY-D4-1.0-YYYYMMDD	0.5-1.0									X	X			
	C1SY-D5	C1SY-D5-0.0-YYYYMMDD	Surface									X	X			
		C1SY-D5-1.0-YYYYMMDD	0.5-1.0									X	X			
	C1SY-E2	C1SY-E2-0.0-YYYYMMDD	Surface									X	X			
		C1SY-E2-1.0-YYYYMMDD	0.5-1.0									X	X			
	C1SY-E3	C1SY-E3-0.0-YYYYMMDD	Surface									X	X			
		C1SY-E3-1.0-YYYYMMDD	0.5-1.0									X	X			
	C1SY-E4	C1SY-E4-0.0-YYYYMMDD	Surface									X	X			
		C1SY-E4-1.0-YYYYMMDD	0.5-1.0									X	X			
	C1SY-E5	C1SY-E5-0.0-YYYYMMDD	Surface									X	X			
		C1SY-E5-1.0-YYYYMMDD	0.5-1.0									X	X			
	ALL	C2SY-WC-YYYYMMDD	Composite	X	X							X	X	X	X	X

Table 2-1. Proposed Sampling and Analysis Plan for Soil at Copco No. 1 and Iron Gate Switchyards

PacifiCorp, Lower Klamath Hydroelectric Project

Location Description	Boring Location	Sample ID	Depth (ft bgs)	Title 22 metals total (EPA Method 6010B), Mercury by (SW7471A)	Volatile Organic Compounds (EPA Method SW8260B)	Semivolatile Organic Compounds (EPA Method SW8270C)	Dioxins and Furans (EPA Method SW846 8290A)	Benzene, Toluene, Ethylbenzene, Xylenes (BTEX) (EPA Method SW8260B)	Total Petroleum Hydrocarbons as Gasoline (NWTPH-Gx)	Total Petroleum Hydrocarbons as Diesel and Motor Oil (NWTPH-Dx)	Polynuclear Aromatic Hydrocarbons (EPA Method SW8270C-SIM)	Oil and Grease (EPA Method SW846 1664)	Polychlorinated Biphenyls (PCBs) (EPA Method SW846 8082A)	STLC* (when TTLC results are 10x STLC limit)	TCLP* (when TTLC results are 20x TCLP limit)	Ignitability (EPA Method 1030), Reactivity (SW 846 CH7), Corrosivity (SW-846 9045)
Iron Gate Switchyard	IGSY-01	C1SY-01-0.0-YYYYMMDD	Surface									X	X			
		C1SY-01-1.0-YYYYMMDD	0.5-1.0									X	X			
	IGSY-02	C1SY-02-0.0-YYYYMMDD	Surface									X	X			
		C1SY-02-1.0-YYYYMMDD	0.5-1.0									X	X			
	IGSY-03	C1SY-03-0.0-YYYYMMDD	Surface									X	X			
		C1SY-03-1.0-YYYYMMDD	0.5-1.0									X	X			
	ALL	IGSY-WC-YYYYMMDD	Composite	X	X							X	X	X	X	X

Notes:

* Hold extractions for metals, SVOCs, and dioxins/furans pending total results (TTLC).

ft bgs = feet below ground surface

NA = not applicable

STLC = soluble threshold limit concentration

TCLP = toxicity characteristic leaching procedure

TTLC = total threshold limit concentration

USEPA = U.S. Environmental Protection Agency

X = sample to be analyzed

Table 2-2. Summary of Inaccessible Area RECs

PacifiCorp, Lower Klamath Hydroelectric Project

Site Number	Conditions	AECOM Brief Description	PacifiCorp Assessment
B.6.1	Pile or Hill (041-060-090_17)	Slight discoloration from surrounding areas at top of hill, potentially a rock outcrop	This is a bedrock outcrop.
B.6.2	Building (041-040-160_21)	Housing	Private property. The noted development is not on PacifiCorp property.
B.6.3	Buildings and Accessory Structures Appear b/w 2013-2016 (041-030-170_26)	Housing	This is a trailer parked on a right-of-way to private property and is not a fixed structure.
B.6.4	Electrical Structures (004-050-010_54)	Switchyard at Copco 2	Switchyards are addressed in REC 8 and California Supplement No. 1.
B.6.5	Electrical Structures (004-050-100_56)	Switchyard at Copco 2	Switchyards are addressed in REC 8 and California Supplement No. 1.
B.6.6	Discontinuous Feature (004-050-100_63)	Lighter color on side of hill	This is a rock outcropping.
B.6.7	Treeline shifts from 2005-2006 (004-050-100_64)	Treeline shift	PacifiCorp's on-the-ground assessment indicated no activity at this location.
B.6.8	Buildings and Accessory Structures appeared between 2013 and 2016 (004-040-060_79)	Building near Copco 1 lakeshore	This is a private truck with boat trailer that was parked in the recreation site when the 2016 image was taken.
B.6.9	House (004-040-060_80)	Building near Copco 1 lakeshore	This is a private house on private property.
B.6.10	Stockpile or Hill 2011 (004-050-100_122)	Unusual-looking feature on side of hill	This is shrubs and bedrock above Copco 2 Powerhouse.

Source: PacifiCorp. 2022. *Draft Evaluation of Recognized Environmental Condition 15 Inaccessible Areas* . July.

Figures

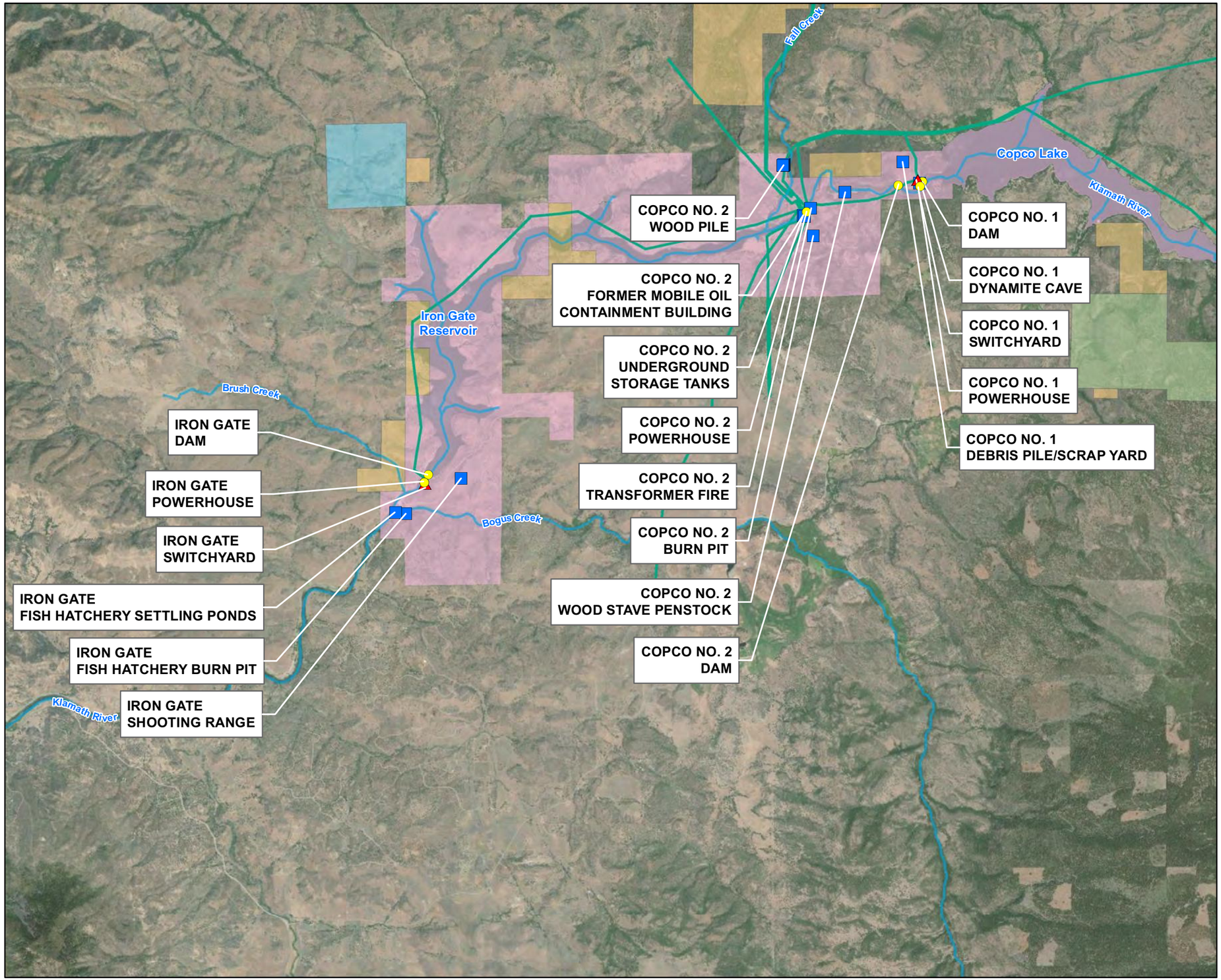

FIGURE 1-1
Site Investigation Work Plan Supplement No. 1
Recognized Environmental Conditions
Lower Klamath Hydroelectric Project

Jacobs

LEGEND

- Dam Infrastructure to be Removed
- Recognized Environmental Condition (REC)
- Previously Assessed REC (Jacobs 2021a)
- Klamath River

N

0 150 300

Feet

FIGURE 1-2
Copco No. 1 Dam
Recognized Environmental Conditions
Lower Klamath Hydroelectric Project

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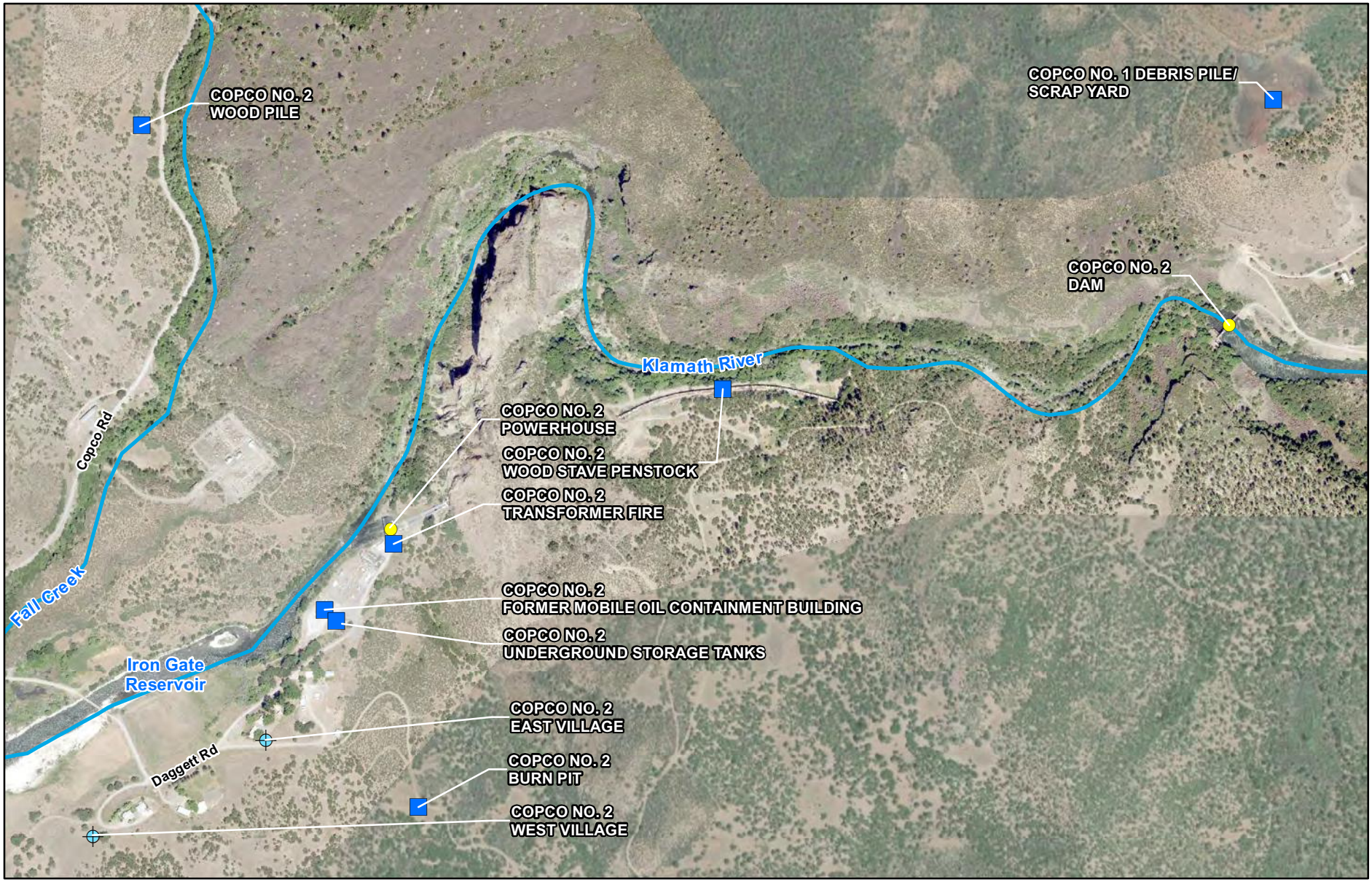
Jacobs



LEGEND

- Dam Infrastructure to be Removed
- Recognized Environmental Condition (REC)
- Previously Assessed REC (Jacobs 2021a)
- Village
- River/Creek

N

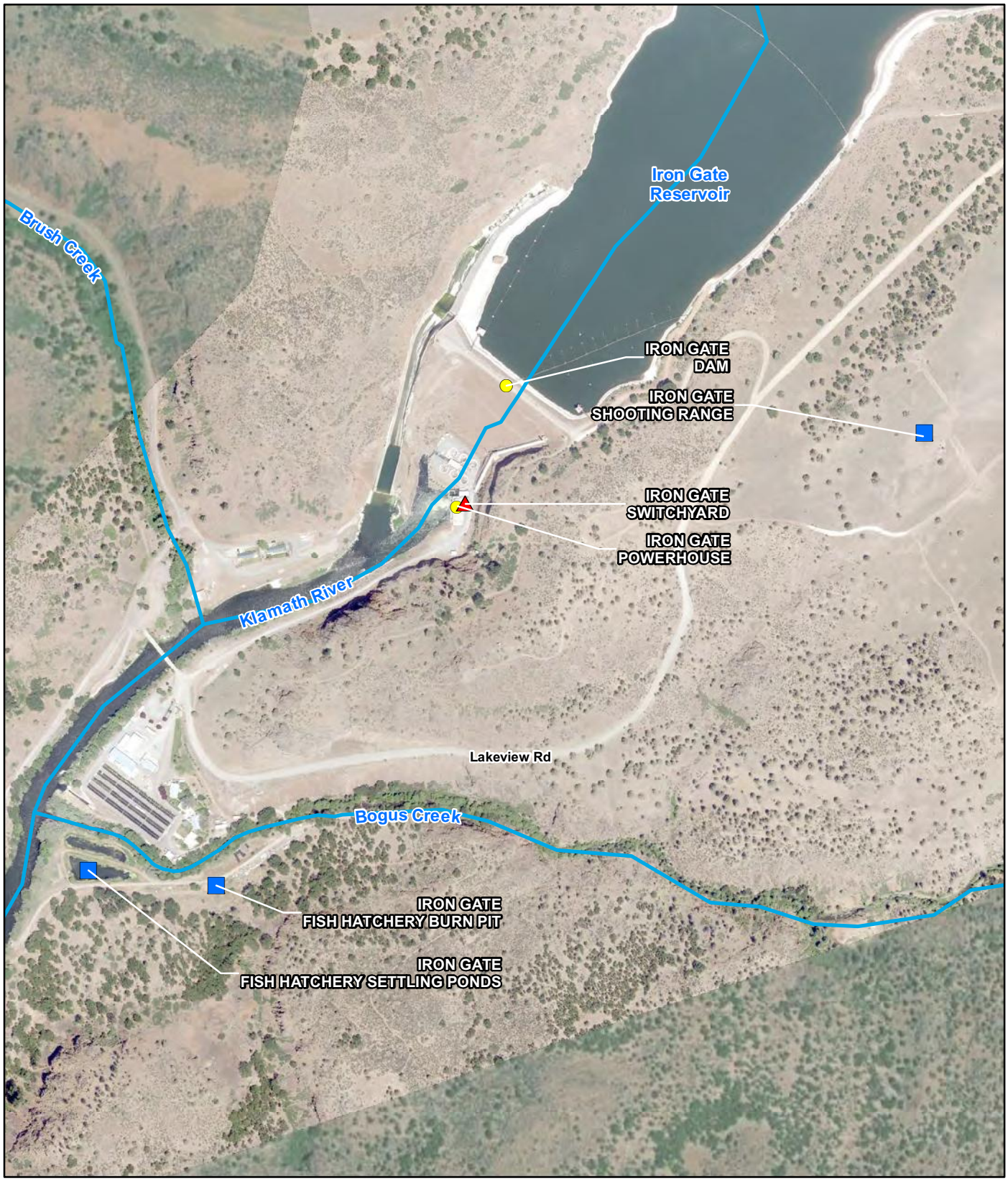
0 400 800

Feet

FIGURE 1-3
Copco No. 2 Dam
Recognized Environmental Conditions
Lower Klamath Hydroelectric Project

Jacobs

\\DC1VS01\GISPROJ\P\PACIFICORP\KLAMATH_DAM_REMOVAL_REMEDIATION\MAPFILES\WORKING\2022\CA_SUPPLEMENT\FIG1-3_COPCONO2DAM.MXD ED035443 8/15/2022 10:55:48 AM



LEGEND

- Dam Infrastructure to be Removed
- Recognized Environmental Condition (REC)
- Previously Assessed REC (Jacobs 2021a)
- River/Creek

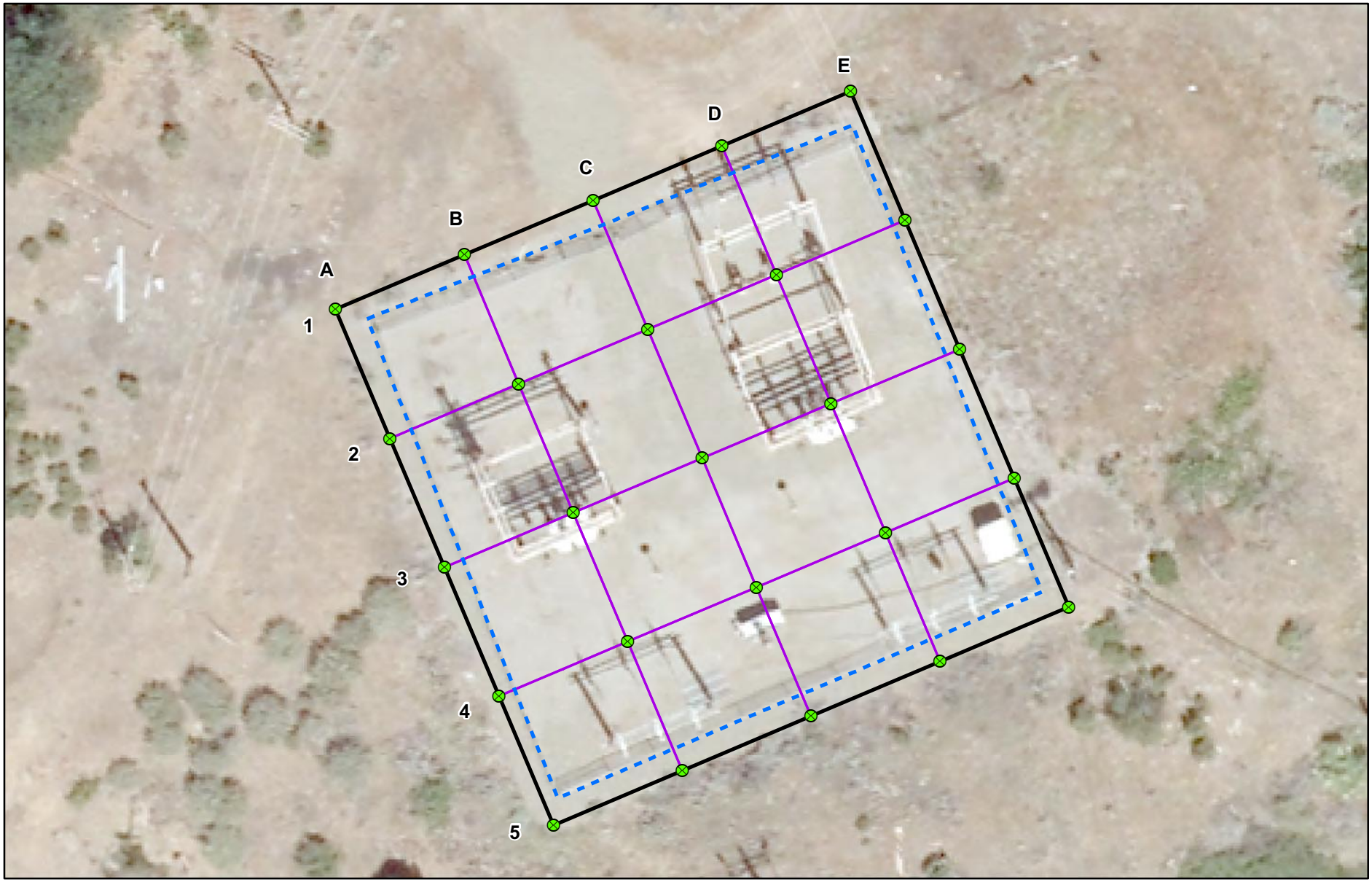
N

0 300 600

Feet

FIGURE 1-4
Iron Gate Dam
Recognized Environmental Conditions
Lower Klamath Hydroelectric Project

Jacobs



LEGEND

- Limits of SIWP Supplement No. 1
- Switchyard Boundary
- Sampling Grid
- Proposed Shallow Soil Boring Location

N

0 12.5 25

Feet

FIGURE 2-1
Copco No. 1 Switchyard and Sampling Grid
Lower Klamath Hydroelectric Project

Jacobs

LEGEND

Limits of SIWP Supplement No. 1

Swithyard Boundary

Proposed Shallow Soil Boring Location

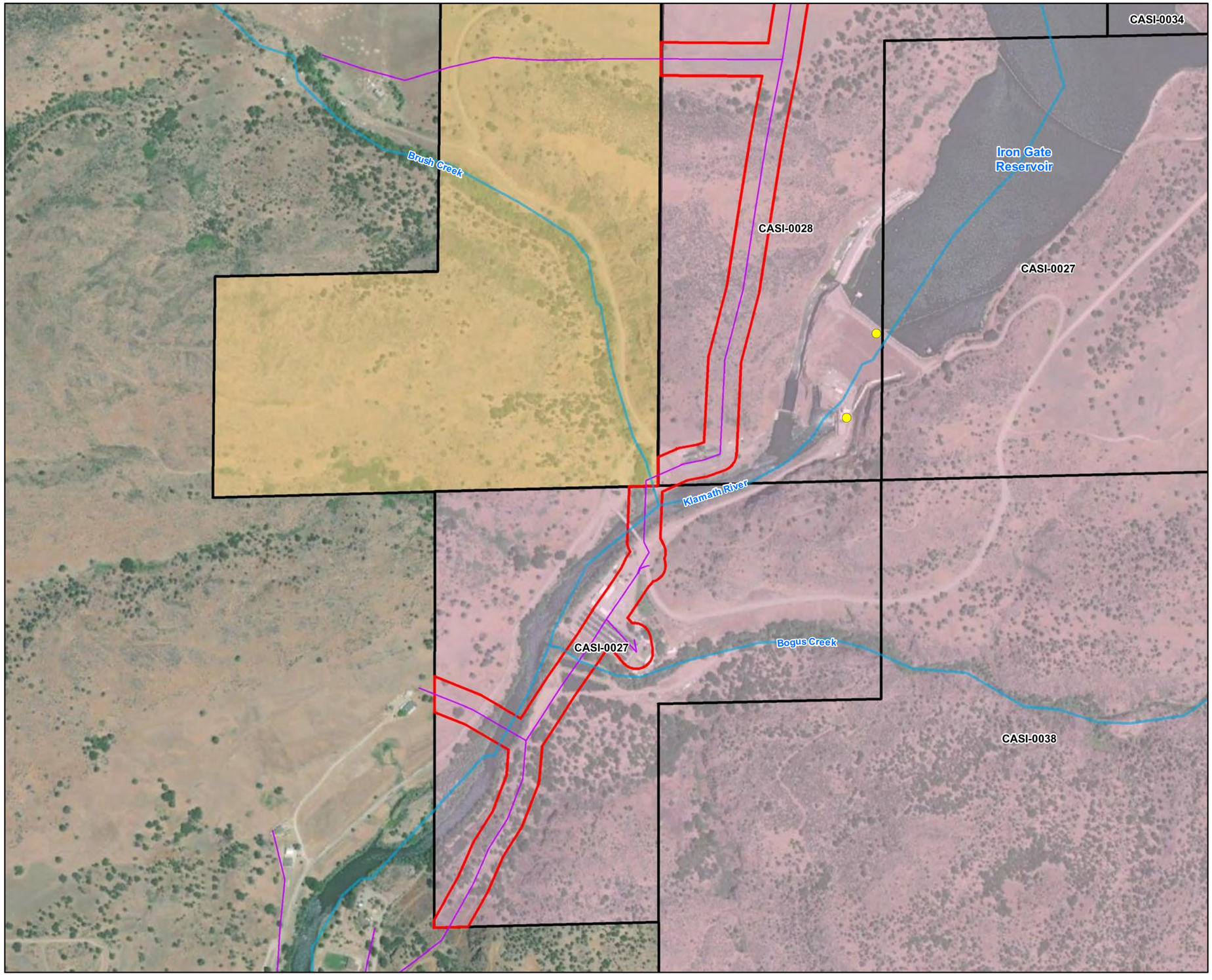
N

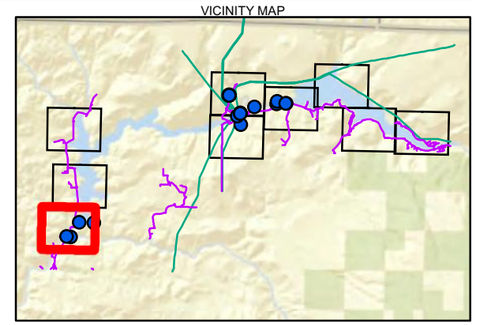
0 25 50

Feet

FIGURE 2-2
Iron Gate Swtichyard Sample Locations
Lower Klamath Hydroelectric Project

Jacobs





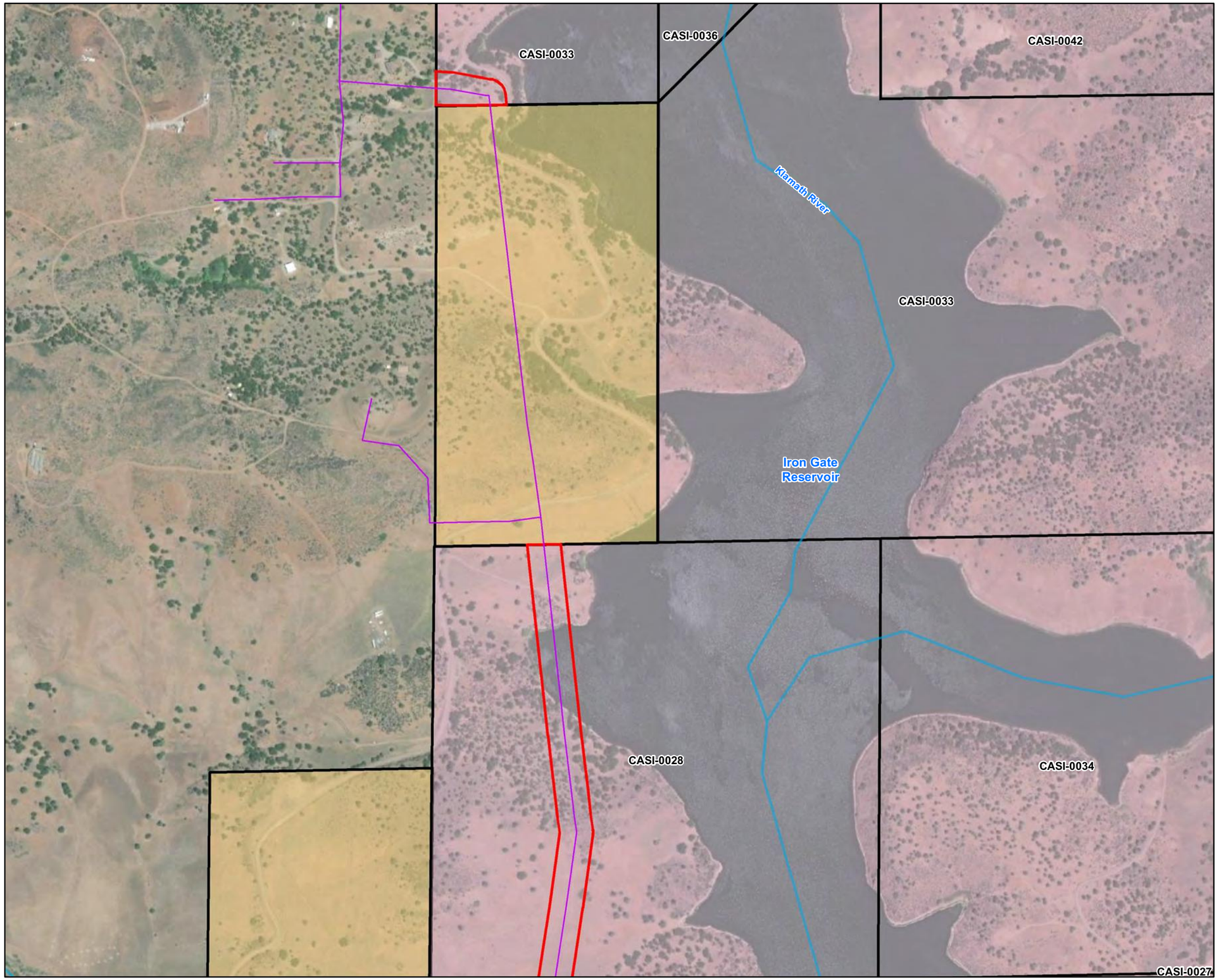
LEGEND
- Parcel B Lands
- PacifiCorp Ownership
- BLM
- Retained Easements (~ 320 Acres, 74,630 Linear Ft)
- Dam Infrastructure to be Removed
- River/Creek
- Distribution Line (Retain)

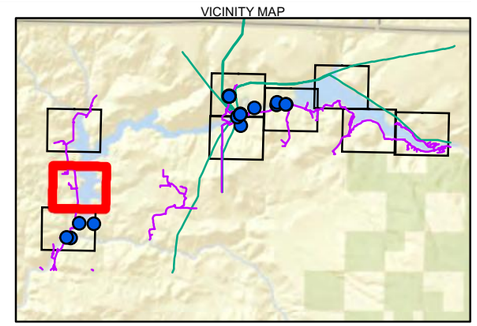
N

0 300 600
Feet

FIGURE 2-3
Sheet 1 of 9
Retained Easement
Recognized Environmental Conditions
Lower Klamath Hydroelectric Project

Jacobs





LEGEND

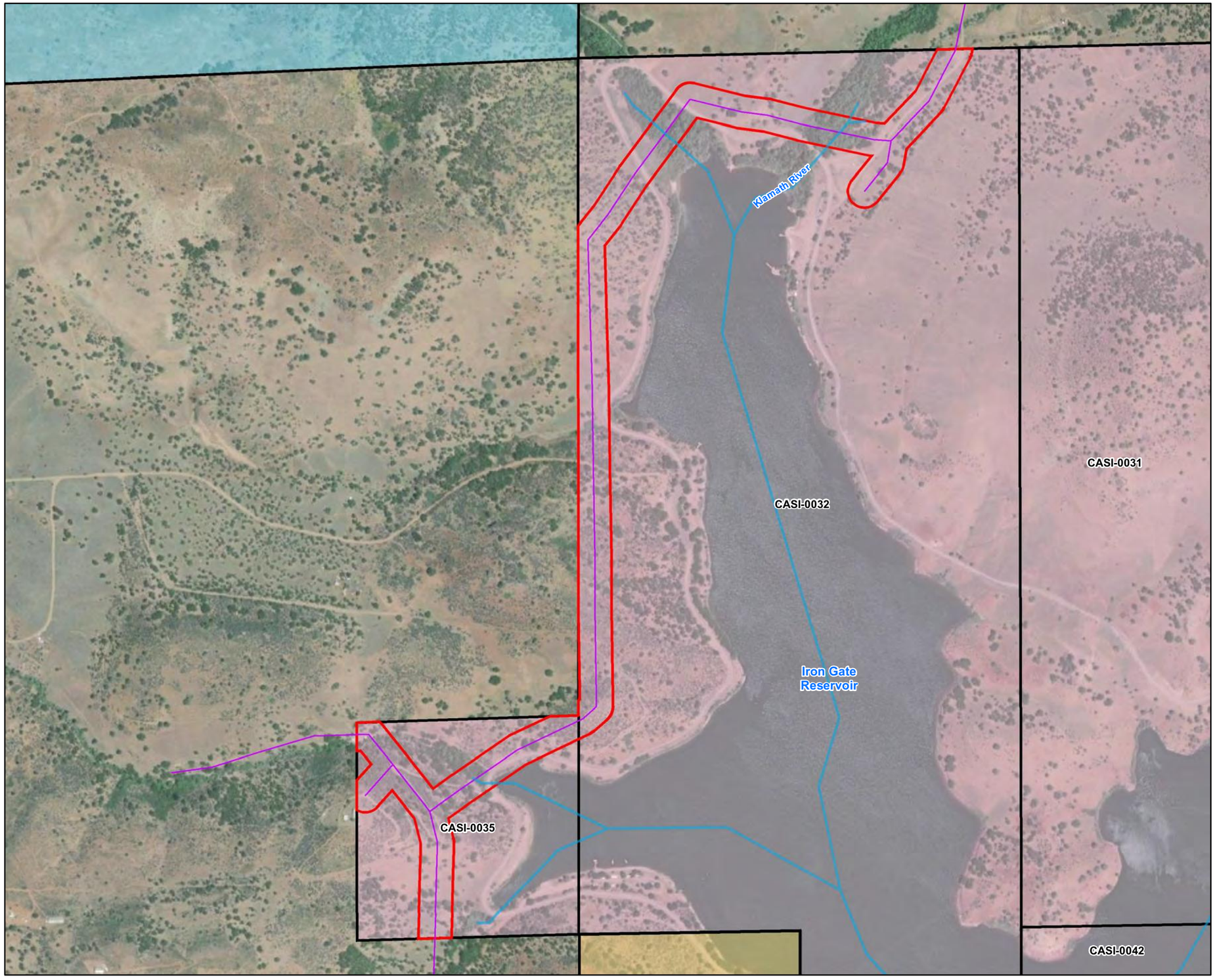
- Parcel B Lands
- PacifiCorp Ownership
- BLM
- Retained Easements (~ 320 Acres, 74,630 Linear Ft)
- River/Creek
- Distribution Line (Retain)

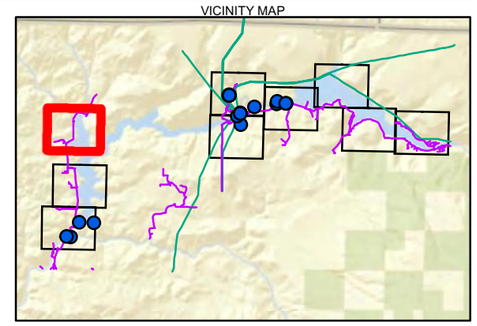
N

0 300 600
Feet

FIGURE 2-3
Sheet 2 of 9
Retained Easement
Recognized Environmental Conditions
Lower Klamath Hydroelectric Project

Jacobs





LEGEND

- Parcel B Lands
- PacifiCorp Ownership
- BLM
- STATE
- Retained Easements (~ 320 Acres, 74,630 Linear Ft)
- River/Creek
- Distribution Line (Retain)

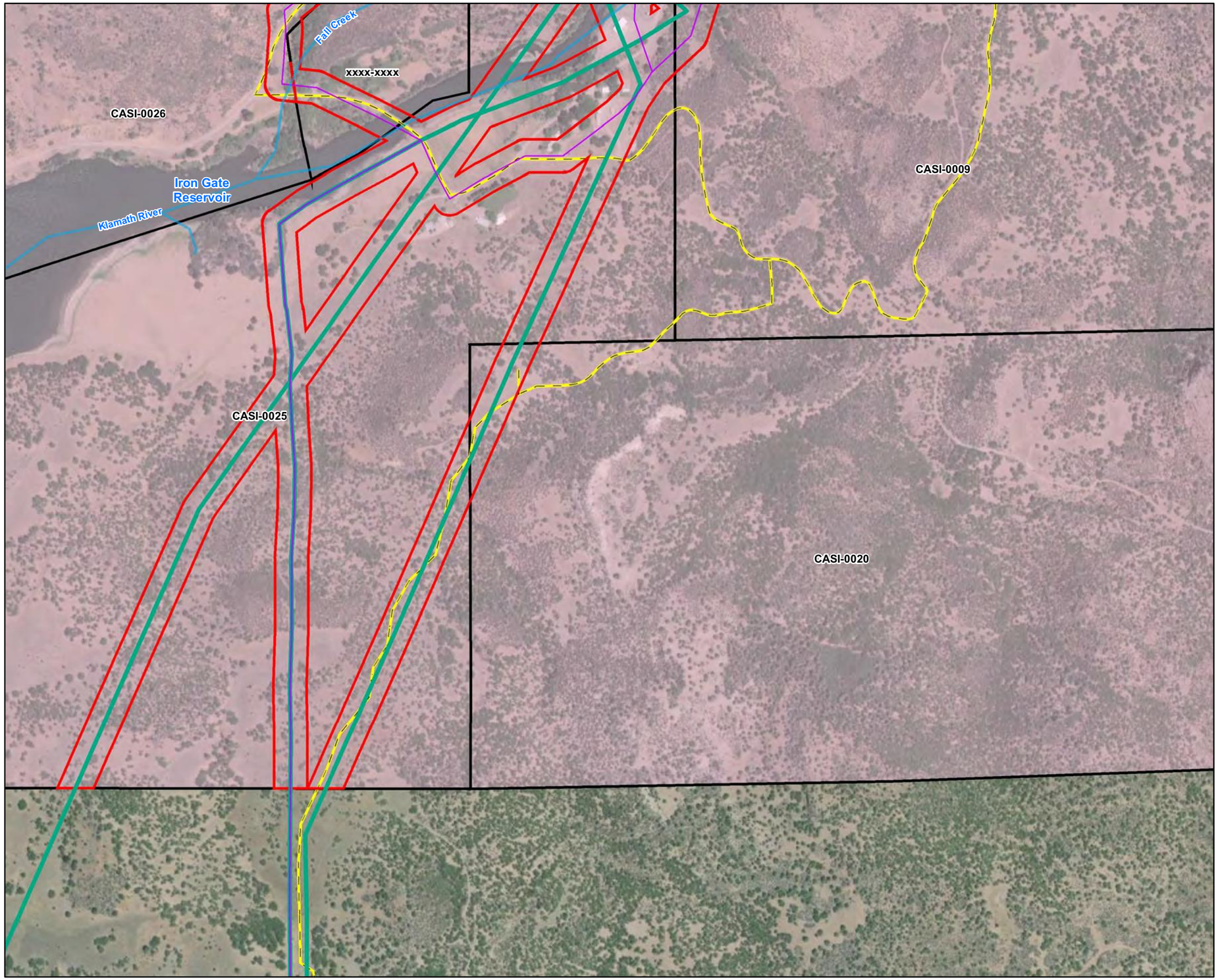
N

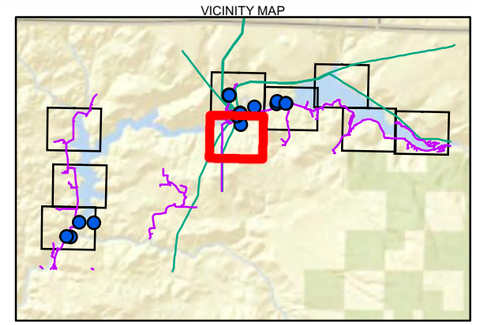
0 300 600

Feet

FIGURE 2-3
Sheet 3 of 9
Retained Easement
Recognized Environmental Conditions
Lower Klamath Hydroelectric Project

Jacobs





LEGEND

- PacifiCorp Ownership
- Retained Easements (~ 320 Acres, 74,630 Linear Ft)
- Access Roads
- River/Creek
- Distribution Line (Retain)
- Transmission Line (Retain)

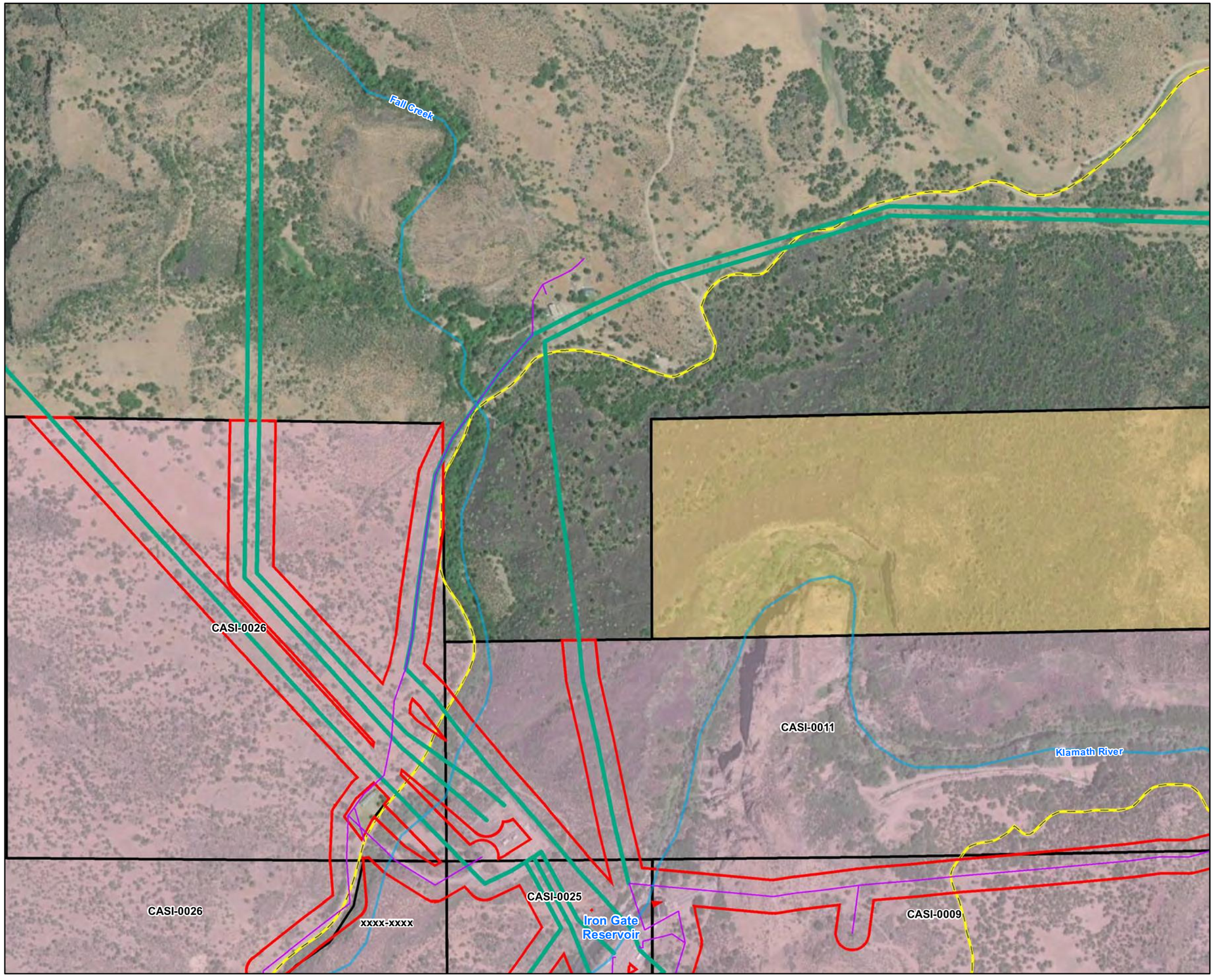
N

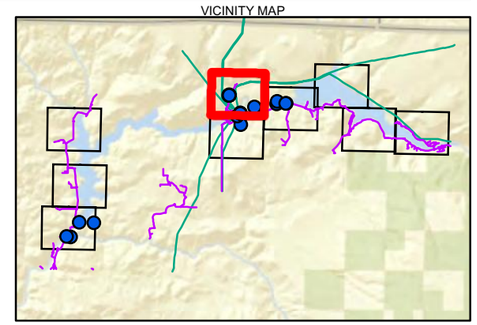
0 300 600

Feet

FIGURE 2-3
Sheet 4 of 9
Retained Easement
Recognized Environmental Conditions
Lower Klamath Hydroelectric Project

Jacobs





LEGEND

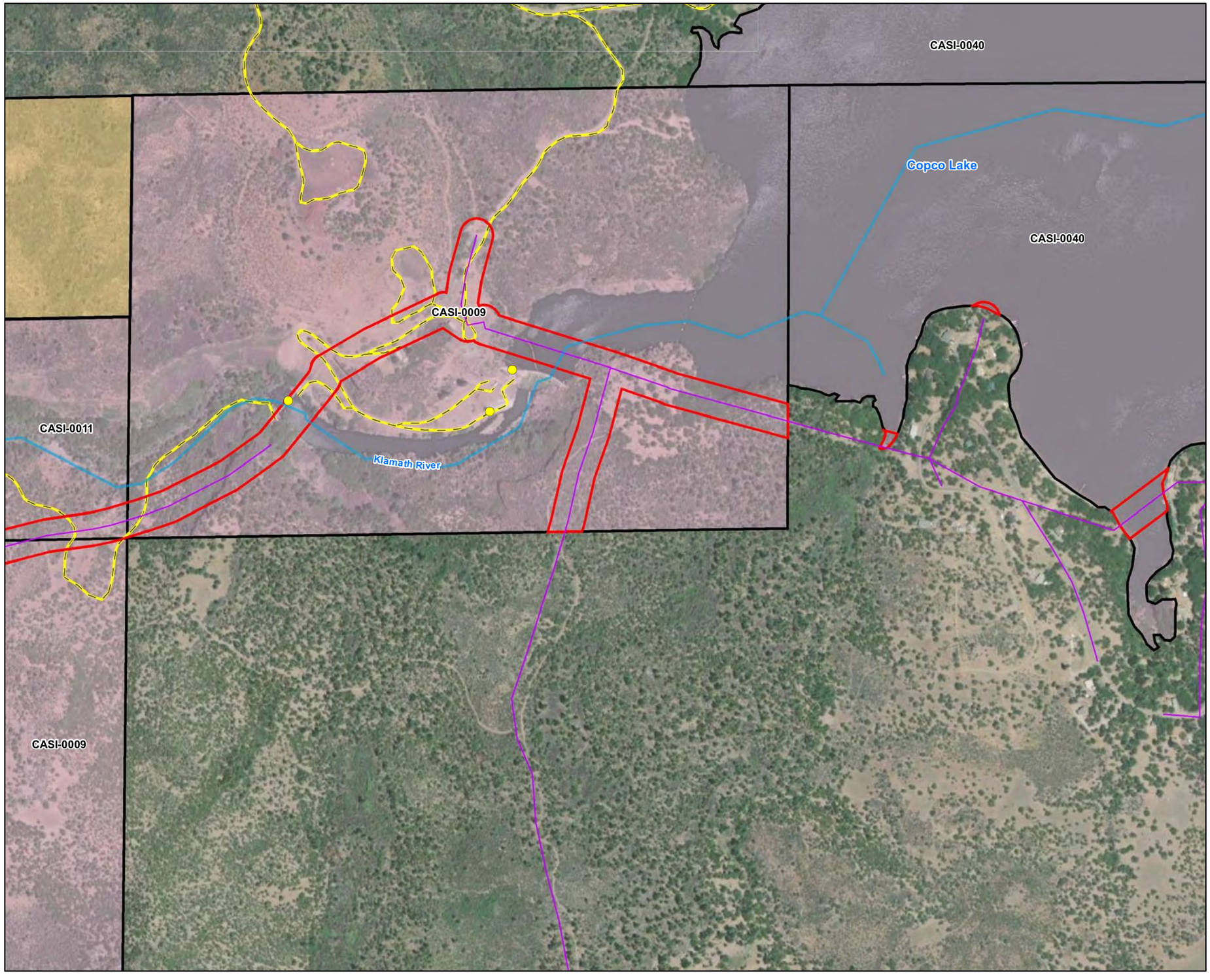
- Parcel B Lands
- PacifiCorp Ownership
- BLM
- Retained Easements (~ 320 Acres, 74,630 Linear Ft)
- Access Roads
- River/Creek
- Distribution Line (Retain)
- Transmission Line (Retain)

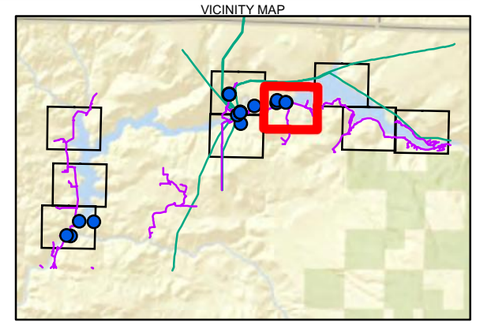
N

0 300 600
Feet

FIGURE 2-3
Sheet 5 of 9
Retained Easement
Recognized Environmental Conditions
Lower Klamath Hydroelectric Project

Jacobs





LEGEND

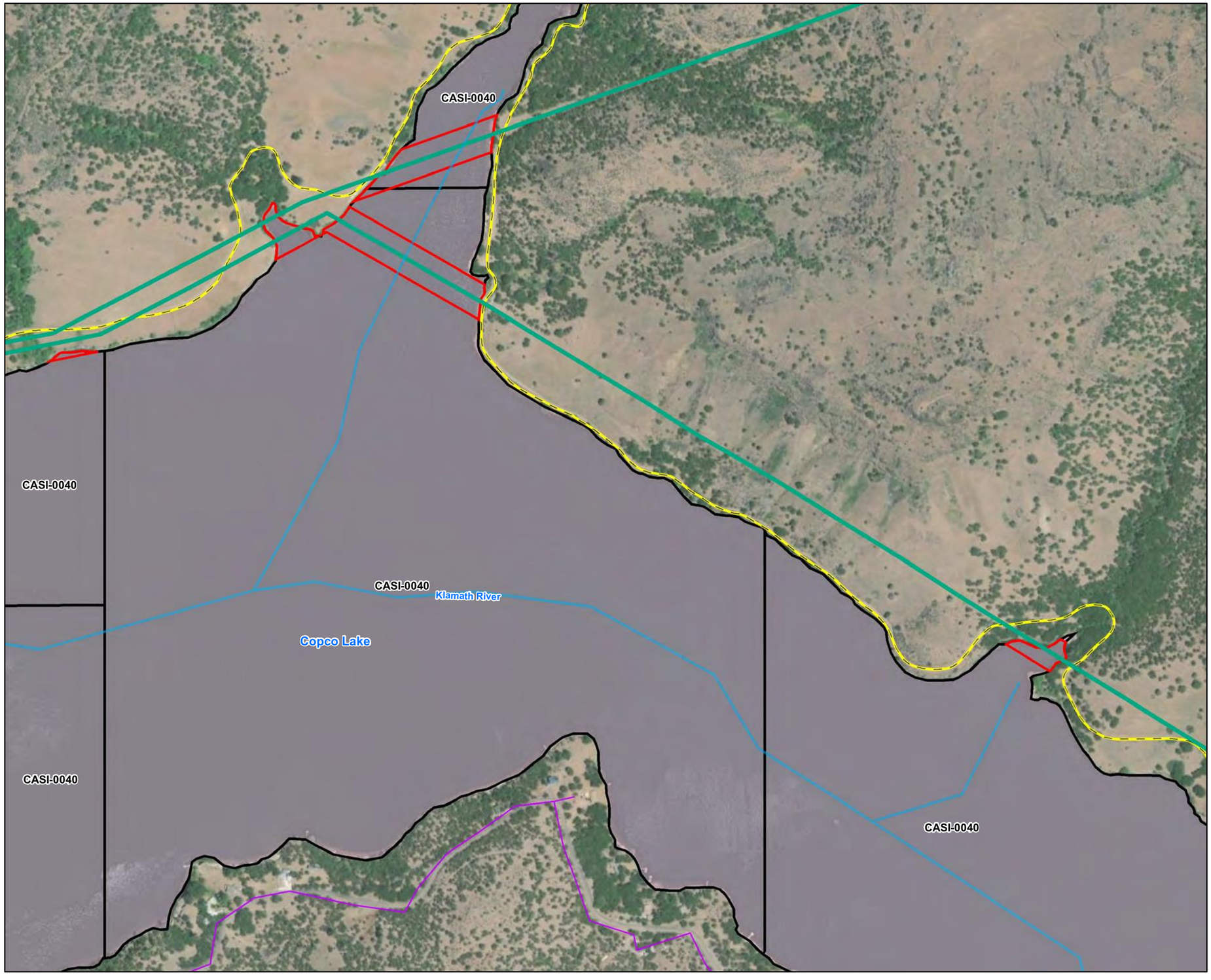
- Parcel B Lands
- PacifiCorp Ownership
- BLM
- Retained Easements (~ 320 Acres, 74,630 Linear Ft)
- Dam Infrastructure to be Removed
- Access Roads
- River/Creek
- Distribution Line (Retain)

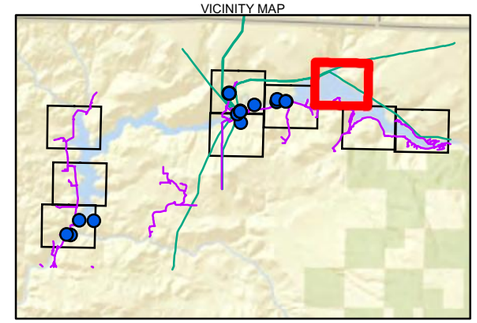
N

0 300 600
Feet

FIGURE 2-3
Sheet 6 of 9
Retained Easement
Recognized Environmental Conditions
Lower Klamath Hydroelectric Project

Jacobs





LEGEND

- PacifiCorp Ownership
- Retained Easements (~ 320 Acres, 74,630 Linear Ft)
- Access Roads
- River/Creek
- Distribution Line (Retain)
- Transmission Line (Retain)

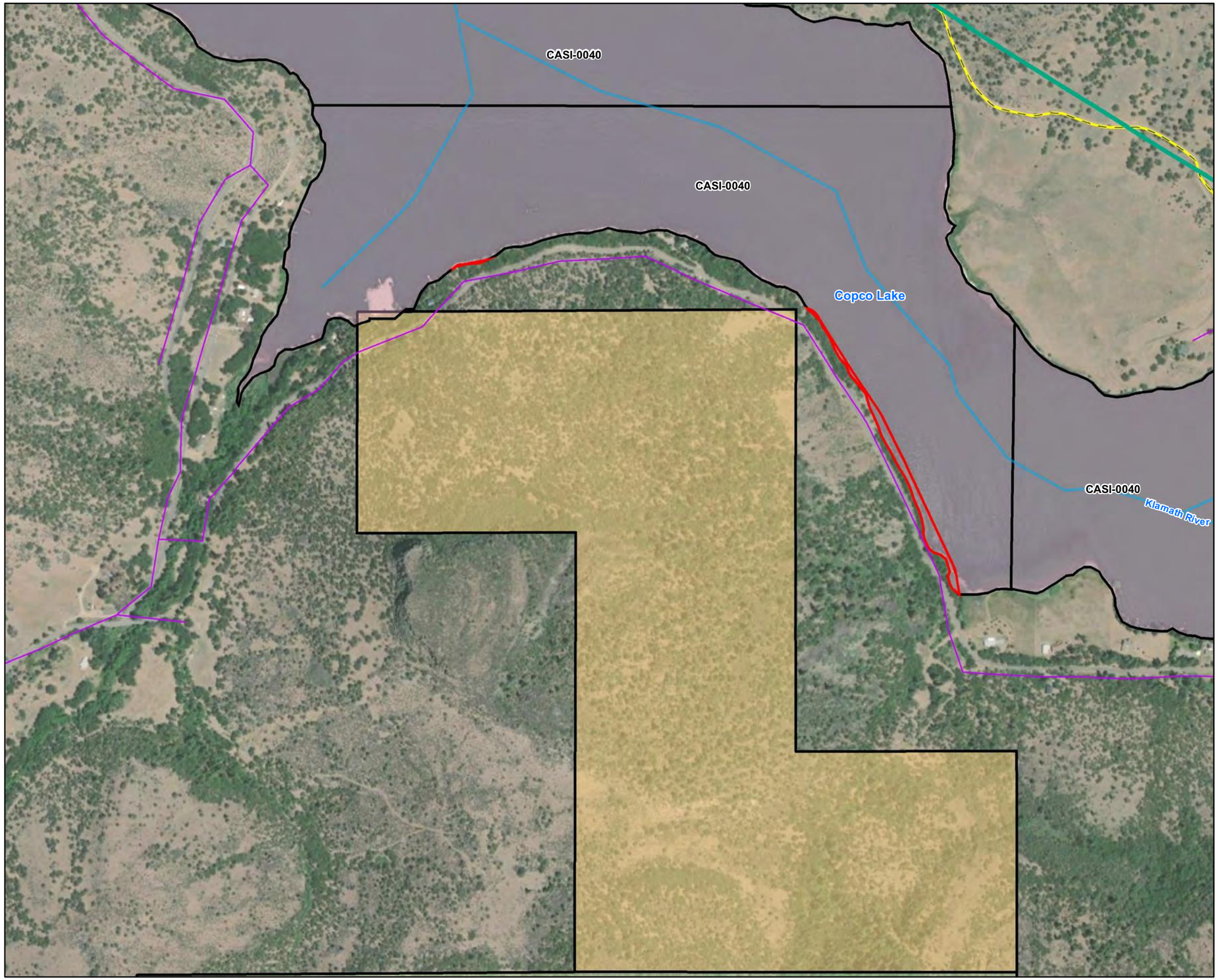
N

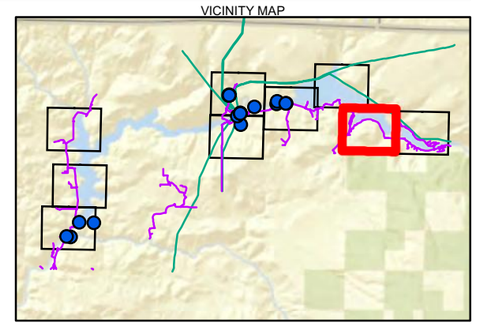
0 300 600

Feet

FIGURE 2-3
Sheet 7 of 9
Retained Easement
Recognized Environmental Conditions
Lower Klamath Hydroelectric Project

Jacobs





LEGEND

- Parcel B Lands
- PacifiCorp Ownership
- BLM
- USFS
- Retained Easements (~ 320 Acres, 74,630 Linear Ft)
- Access Roads
- River/Creek
- Distribution Line (Retain)
- Transmission Line (Retain)

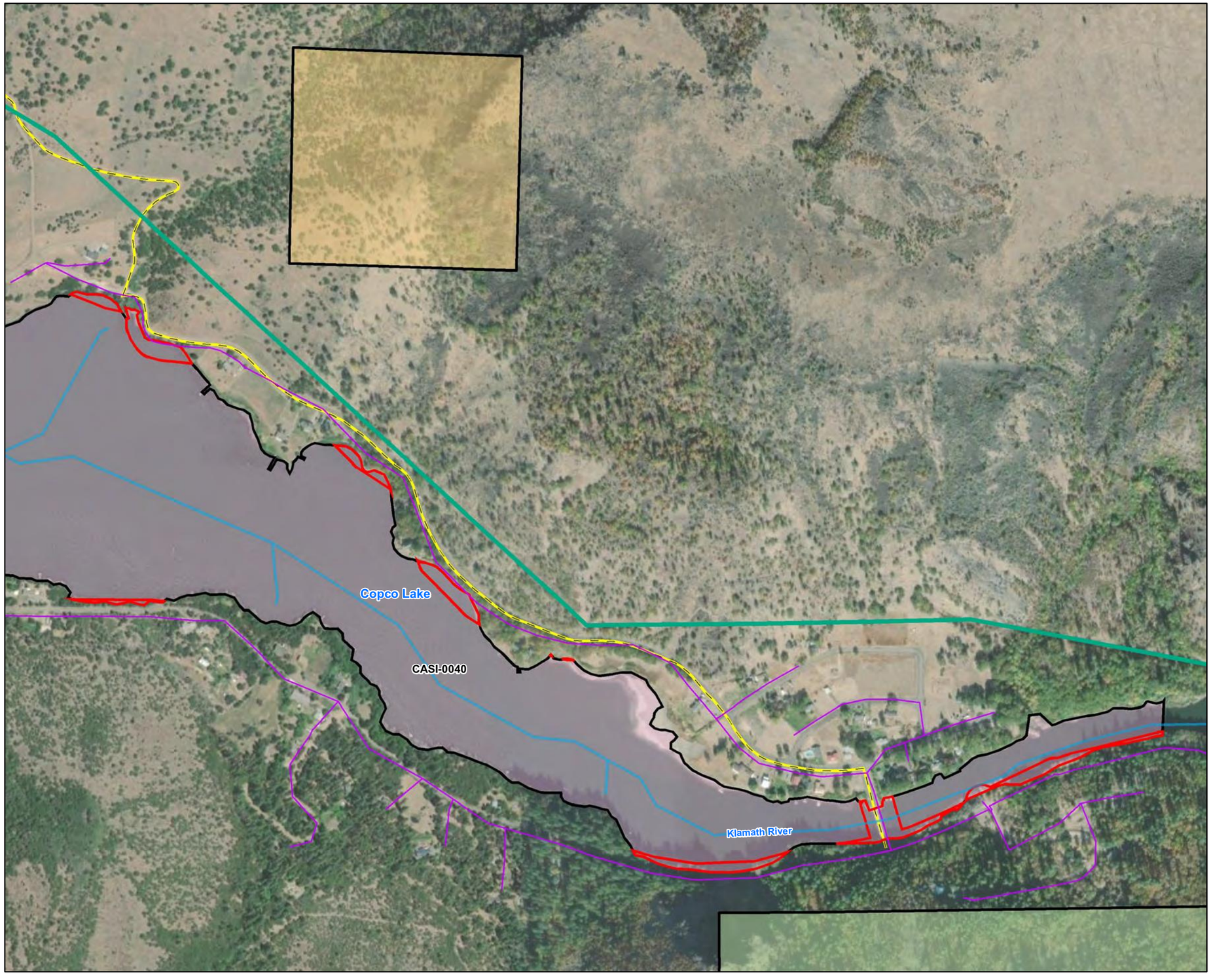
N

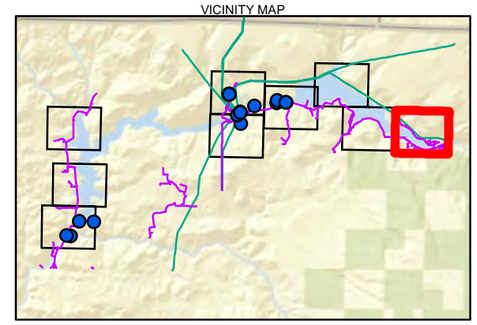
0 300 600

Feet

FIGURE 2-3
Sheet 8 of 9
Retained Easement
Recognized Environmental Conditions
Lower Klamath Hydroelectric Project

Jacobs





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N

0 300 600
Feet

FIGURE 2-3
Sheet 9 of 9
Retained Easement
Recognized Environmental Conditions
Lower Klamath Hydroelectric Project

Jacobs

Appendix
Consolidated Comment Matrix

COMMENT MATRIX for the External Review Draft Dated August 2022
Lower Klamath Hydroelectric Project Site Investigation Work Plan Supplement No. 1
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January 2023

No.	Reviewer Initials*	Item Under Review	Section and Page No.	Comment	Response to Comment
California Department of Water Resources / California Department of Fish and Wildlife - Office of Spill Prevention and Response (Comments on the California Site Investigation Work Plan Supplement)					
CA-General	KT	General		CDFW-OSPR would like to conduct a site visit during the fieldwork, which PacifiCorp/Jacobs indicates will occur in the fall and winter of 2022-23. CDFW-OSPR requests PacifiCorp/Jacobs provide a schedule for fieldwork to be conducted, which will allow CDFW-OSPR to determine appropriate dates for a site visit to observe fieldwork activities and assess the effectiveness of avoidance and minimization measures that have been implemented.	If CDFW-OSPR staff are available when the PacifiCorp team is conducting this work, a site visit can be arranged. The implementation schedule has not been set, but once it is there will be limited flexibility.
CA-1	KT	High-Voltage Switchyards (REC 8)	Section 2.1, page 2-1	High Voltage Switchyards (REC 8). CDFW would like additional documentation of PacifiCorp's obligation to assess conditions prior to extinguishing the easement or otherwise terminating the use. Perhaps include text in the REC closure form and include text in the retained easement.	In the Property Transfer Agreement (Agreement) Section 3.5(a) requires that PacifiCorp resolve all pre-existing environmental conditions at its sole cost and expense to the reasonable satisfaction of the KRRC in consultation with the respective State. The sites PacifiCorp will not be able to address at closing will all have to be in the Post-Closing Environmental Resolution Agreement as a Retained Environmental Obligation (per Agreement Exhibit F). Section 2.2 of the Post-Closing Environmental Resolution Agreement repeats Agreement Section 3.5(a). Additionally, Agreement Exhibit H-1, Section B.1 states that "*Grantor shall, at its sole cost and expense, maintain the Substation Easement Areas and the Retained Substation Facilities in an orderly and safe condition and comply with all laws, including all regulatory, environmental, and safety requirements, applicable to Grantor and its activities under the Substation Easement including the use and management of the Retained Substation Facilities and the Substation Easement Areas.*" PacifiCorp interprets this as requiring PacifiCorp to do the necessary investigation and clean-up if an easement is released. No edits to Supplement No. 1 are necessary.
CA-2	KT		Section 2.1.2 Sampling Plan and Table 2-1, Page 2-2	The Supplement #1 states: "The COPCs for the switchyards are PCBs and transformer oil." Filtering is not considered appropriate for water samples to be analyzed for PCBs because contaminants that sorb to particulates are removed when filtered. We recommend that PacifiCorp/Jacobs perform a risk assessment using unfiltered data.	Section 2.1.2 of Supplement No. 1 has been modified to state the following: "If groundwater is encountered when collecting soil samples at the switchyards, unfiltered grab groundwater samples will be collected for submittal to the analytical laboratory." The groundwater samples will be analyzed for the same COPCs as the soil samples.
CA-3	KT		Section 2.1.2 Sampling Plan, Page 2-2	The Supplement #1 states: "Consequently, soil samples will be analyzed for PCBs by U.S. Environmental Protection Agency (EPA) Method SW846 8082A…" CDFW-OSPR strongly recommends that homologue analysis be used to estimate total PCBs concentrations in soil and groundwater samples. It is unclear if Aroclor-based methods or PCB congener-specific and PCB homologue methods will be used in analytical testing services for samples. The analytical method described in Valoppi et al. (2000) should be used for assessing risk of the 28 PCB congeners that exhibit dioxin-like toxicity.	The methods in Supplement No. 1 reflect current guidance from EPA and DTSC. Specifically, as recommended by DTSC in HERO guidance, *Human Health Risk Assessment Note Number 8: Recommendations for Evaluating Polychlorinated Biphenyls (PCBs) at Contaminated Sites in California* (DTSC/HERO 2020) and the *PCB Evaluation Quick Reference Guide* (DTSC 2023), soil samples will be analyzed for PCBs per EPA Method SW846 8082A. The PCB Evaluation Quick Reference Guide specifically states, "DTSC and U.S. EPA require Method 8082 for PCB analysis, and recommend Method 1668 or 680 on select samples to provide a detailed specification of PCBs in certain situations." Section 2.1.2 of Supplement No. 1 has been modified to state the following: "Should PCBs be detected in soil samples, EPA Method 1668 (PCB homologue method) with EPA Extraction Method SW846 3540C may be performed on select soil samples." This edit has also been made to OR Supplement No. 1.

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CA-4	KT		Section 2.4.2 Assessment Process, Page 2-4	Please verify the assessment process can be accomplished without interfering with dam removal. For example, some of the bulleted actions could affect schedule (e.g. acquiring a removal permit from the CUPA [Certified Unified Program Agency]) and we're wondering if dam removal activities can proceed while the assessment process is implemented.	Whether dam removal activities could proceed should an undocumented UST (or other issue) be discovered will depend on the location and size of the UST and how quickly the CUPA would respond with issuance of a UST Removal Permit, approval of the UST Removal Work Plan, and concurrence with planned removal schedule. PacifiCorp presumes that the UST would minimally be cordoned with temporary fencing, etc., and that dam removal activities would resume while permitting and the approvals process for UST removal proceeds. Per discussion with the CUPA on October 5, 2022, the turnaround time for UST removal upon discovery and under purview by the CUPA is approximately 1 week from submittal of a proper UST removal permit application with proper UST removal work plan. No edits to Supplement No. 1 are necessary.
CA-5	KT		Section 2.5 Undiscovered Impacted Soil and Groundwater (RECs 5, 9, and 17), Page 2-4	The Supplement #1 indicates: "*The objective for the RECs presented in this California Supplement is to establish a process whereby impacted soil and groundwater within the RECs can be addressed if such impacts are encountered.*" CDFW-OSPR requires PacifiCorp/Jacobs ensure contaminants which may enter State waters are not at levels deleterious to fish, mammals, plant life or bird life (Fish and Game Code section 5650). The California Fish and Game Code identifies "*Fish*" as "*a wild fish, mollusk, crustacean, invertebrate, amphibian, or part, spawn, or ovum of any of these animals.*" CDFW-OSPR suggests that the PacifiCorp/Jacobs continue to monitor contaminant concentrations in surface water if PacifiCorp/Jacobs detects concentrations over the project action limit in ground water.	PacifiCorp is currently not required to monitor contaminant concentrations in surface water within the dam developments as they exist now. Before performing such monitoring, impacted soil or groundwater would first have to be encountered within features associated with REC 5, 9, or 17. Section 2.5.1 of Supplement No. 1 has been modified to read as follows: "If impacted soil or groundwater is encountered within these areas, PacifiCorp will establish whether the impacted soil and groundwater is localized or representative of a contaminant plume. PacifiCorp will then determine if there is a complete migration pathway for the contaminant to a surface water; dilution factors will additionally be assessed on a case-by-case basis if potential contamination is identified. Upon completion of a site investigation, evaluation of analytical results, and a risk assessment, PacifiCorp will determine if there is a requirement to implement some type of clean-up, containment, or monitoring program for the REC." This same edit has been made to OR Supplement No. 1.
CA-6	KT		Section 2.5 Undiscovered Impacted Soil and Groundwater (RECs 5, 9, and 17), Page 2-4	Once potential contamination is identified, please provide dilution factors for transport between groundwater and surface water. If sufficient validation is not available for a specific dilution factor, please make the conservative assumption that there is no dilution of contaminants between ground and surface waters.	Please see the response to CA-5.
CA-7	KT		Section 2.5.2 Assessment Process, Page 2-5	Same comment as #4 [CA-4] above. CDFW notes that PacifiCorp acknowledge in the Supplement that assessment and evaluation of impacted soil or groundwater may delay ongoing dam removal work at some locations. Is there other contingency planning that could occur with KRRC?	PacifiCorp is fully aware of the potential implications from any discovered issues to affect the overall project schedule. Item 3 on page 2-5 indicates that PacifiCorp may proceed directly to clean-up of a suspect location, stockpile the material, and then do the assessment and evaluation necessary to determine the scope of the issue, if any. Rapid removal in close coordination with the KRRC team is the best way to minimize potential effects on the dam removal work schedule. PacifiCorp has confirmed that the KRRC will have a plan to address this issue should it occur (Morton D. McMillen, McMillen Jacobs Associates, to Demian Ebert, PacifiCorp, on October 31, 2022, at 6:19 AM). Section 2.5.2 of Supplement No. 1 has been modified to read as follows: "The stepwise approach will be formalized in a contingency plan to be developed by KRRC and PacifiCorp in advance of construction. The stepwise approach will be used when managing the undiscovered PECs, as follows:..."

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CA-8	KT		Section 2.5.2 (1) Identification of Potential Contamination, Page 2-5	Please confirm PacifiCorp's assumption is correct that KRRC will have environmental staff onsite that can identify hazardous materials.	McMillan Jacobs Associates is the KRRC's representative for removal. McMillan Jacobs Associates confirmed that they will have environmental staff onsite during all removal work and a contractual relationship with a firm qualified to collect samples and do a site-specific assessment (Morton D. McMillen, McMillen Jacobs Associates, to Demian Ebert, PacifiCorp, on October 31, 2022, at 6:19 AM). Section 2.5.2 (1) of Supplement No. 1 has been modified to read as follows: "The KRRC will have qualified environmental staff onsite during dam removal activities. Such staff will be qualified to collect environmental samples and perform site-specific assessments."
CA-9	KT		Section 2.5.2 (3) Remediation and Removal of Impacted Media, Page 2-5	Please confirm that KRRC has identified an approved waste staging area. If possible, please also confirm that the waste staging area can accommodate the potential materials that could be discovered. Please also determine if RES intends to use a certain amount of soil for restoration such that any contaminated soil that can't be reused would impact restoration plans. We're wondering what sort of adjustments, if any, RES (or the team) would need to make if all the soil can't be reused onsite.	Because these particular RECs are currently unknown and unknowable, clean-up actions cannot be developed, and selection of specific stockpile locations or potential uses of excess material have not been developed. However, PacifiCorp expects that development of a detailed contingency plan (see response to CA-7) will be developed before the start of construction. That plan would be coordinated with the KRRC's team to identify waste staging areas, stockpile management, soil reuse, backfill and compaction, and offsite disposal requirements all with an eye toward reducing potential conflicts and schedule impacts on the dam removal project. Section 2.5.2 (3) of Supplement No. 1 has been modified to read as follows: "Removal action in advance of testing means that PacifiCorp would manage impacted materials as outlined in the contingency plan. Potentially impacted soil or groundwater will be excavated and hauled to an approved waste staging area identified by the KRRC and as outlined in the contingency plan." The corresponding edit has been made to OR Supplement No. 1.
CA-10	KT		Section 2.5.2 (4) Site Investigation Report and PEC Closure, Page 2-6	CDFW requests that RECs not be closed by default. Instead, PacifiCorp should acquire CDFW's and KRRC's concurrence prior to closing the REC.	Section 2.5.2 (4) of Supplement No. 1 has been modified to read as follows: "If impacted soil and groundwater are not observed at completion of facilities removal for RECs 5 and 9 (dams and powerhouses) and at the completion of restoration for REC 17, then the RECs will be recommended for closure by PacifiCorp per the terms of the Agreement and the process developed with the KRRC and the State of California."

* KT = Kevin Takei

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No.	Reviewer Initials*	Item Under Review	Section and Page No.	Comment	Response to Comment
Klamath River Renewal Corporation (Comments on the California and Oregon Site Investigation Work Plan Supplements)					
KRRC-General	LL			I should add, as a general matter, that KRRC incorporates the States' comments.	Acknowledged.
KRRC-1	LL	CA Supplement	Section 1.2, last paragraph	Please rephrase as "The RECs identified in this California Supplement will be assessed by following the same processes, procedures, and standards provided for in the California SIWP."	The KRRC and State of California approvals of the California SIWP are recommended in the document in order to establish precedence for use of the same processes, procedures, and standards when assessing the RECs identified in the California Supplement. The last sentence of the first paragraph in Section 1.1 in Supplement No. 1 now reads as follows: "This California Supplement incorporates the California SIWP by reference and provides specific information necessary to address remaining RECs in accordance with the California SIWP, which was approved by the KRRC (Lowy, pers. comm. 2021) and the State of California and which was implemented when assessing the various RECs within the Copco No. 1, Copco No. 2, and Iron Gate developments (Jacobs 2021a)." The last paragraph of Section 1.2 in Supplement No. 1 now reads as follows: "The RECs identified in this California Supplement will be assessed by following the same processes, procedures, and standards that were approved for the California SIWP."
KRRC-2	LL	CA Supplement	Section 1.4	""Notwithstanding any specific process or procedure identified in this California Supplement, …"	This text has been incorporated into the document.
KRRC-3	LL	CA Supplement	Section 1.4, Table 1-1	What was the basis for determining the future uses of the different areas? For example, I question whether it's correct to refer to the future uses of all of the retained easements as industrial – certainly some areas are but outside of the exclusive easement areas I'm not sure that's the case.	The future uses listed in Table 1-1 were confirmed by the State of California on November 7, 2022 (Kevin Takei, State of California, to Demian Ebert, PacifiCorp, November 8, 2022, at 12:10 p.m.) and have been incorporated into Supplement No. 1.
KRRC-4	LL	CA Supplement	Section 2.1	Please state the methodology for quantity of samples and grid spacing etc. KRRC suggests the EPA methodology (40 CFR Part 761, Subpart N) for characterizing the media.	Section 2.1.2 of Supplement No. 1 has been modified to read as follows: "Of note is that there are no records of spills or releases at the switchyards. The environmental sampling activities are being performed to confirm the presence or absence of PCBs within the switchyards. If analytical results from the initial sampling event indicate the presence of PCBs, then additional sampling at the Copco No. 1 or Iron Gate switchyards may be performed within identified areas of concern as per 40 *Code of Federal Regulations* Part 761, Subpart N. Concrete sampling will additionally be performed for PCBs at the switchyards, and the analytical results will be used to help determine disposal options for concrete."
KRRC-5	LL	CA Supplement	Section 2.1, second paragraph	The assertion that the retained easement areas in the high-voltage switchyards will not be assessed at this time is not something that, as far as I know, has been discussed previously with KRRC. I understand the rationale and don't necessarily object but that discussion should take place. If that is, in fact, where we end up, then PacifiCorp's obligation to assess and remediate these easement areas at a much later date will need to be expressly identified in the Post-Closing Environmental Resolution Agreement and the reservation of easements, and carved out of any closure of any other retained easement areas.	Please see the response to CA-1.

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KRRC-6	LL	CA Supplement	Section 2.1.2, penultimate (second-to-last) paragraph	The likely future use of the switchyard areas should be determined at the relevant time in consultation with California and, if applicable, KRRC rather than being assumed by PacifiCorp.	Please see the response to KRRC-3.
KRRC-7	LL	CA Supplement	Section 2.2.1, second paragraph	I believe this acknowledges that the easement area extends 100 feet on each side of the transmission and distribution facilities – please confirm or rephrase accordingly.	The text of the California Supplement correctly states that the retained easements for the transmission and distribution system is the location of existing structures buffered by 100 feet on either side of the line. No edits to Supplement No. 1 are necessary.
KRRC-8	LL	CA Supplement	Section 2.4.2, second bullet	The likely future use of the areas within UST footprints should not be determined by PacifiCorp but rather by KRRC and California.	Please see the response to KRRC-3.
KRRC-9	LL	CA Supplement	Section 2.5.2, paragraph 1	There should be a discussion regarding the extent to which KRRC will have environmental staff onsite during dam removal and the process should be tailored around that.	Please see the response to CA-8.
KRRC-10	LL	CA Supplement	Section 2.5.2, paragraph 3	I'm not sure what "PacifiCorp's discretion in coordination with KRRC" means in this context; a decision to proceed to remediation without investigation should not be made by PacifiCorp without first consulting KRRC; same for deciding which soil stockpiles are to be reused or disposed of onsite.	The goal of this entire item is to reduce the potential for the overall dam removal project to be delayed by the need to investigate, analyze, and then clean-up a newly discovered potential contamination site. Instead, if contamination is identified as potentially present, PacifiCorp may at its discretion, and in consultation with the KRRC, proceed to clean-up a suspected site simply to expedite the overall removal project. Management of soil would be detailed in a contingency plan (see response to CA-9). Section 2.5.2 (3) of Supplement No. 1 has been modified to read as follows: "Because of this potential for delay, at PacifiCorp's discretion and in coordination with the KRRC, PacifiCorp may proceed directly to site remediation to minimize impacts on dam removal activities and progress."
KRRC-11	LL	OR Supplement	Section 1.2, last paragraph	Please rephrase as "The RECs identified in this Oregon Supplement will be assessed by following the same processes, procedures, and standards provided for in the Oregon SIWP."	The KRRC and State of Oregon approvals of the Oregon SIWP are recommended in the document in order to establish precedence for use of the same processes, procedures, and standards when assessing the RECs identified in the Oregon Supplement. The last sentence of the first paragraph in Section 1.1 of Supplement No. 1 now reads as follows: "This Oregon Supplement incorporates the Oregon SIWP by reference and provides specific information necessary to address remaining RECs in accordance with the Oregon SIWP, which was approved by the KRRC (Lowy, pers. comm. 2021) and the State of Oregon (Matthews, pers. comm. 2021) and which was implemented when assessing J.C. Boyle Dispersed Recreation Area - 2 (Jacobs 2021a)." The last paragraph of Section 1.2 in Supplement No. 1 now reads as follows: "The RECs identified in this Oregon Supplement will be assessed by following the same processes, procedures, and standards that were approved for the Oregon SIWP."

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KRRC-12	LL	OR Supplement	Section 1.4, first paragraph	Please add the following at the beginning of the first sentence: ""Notwithstanding any specific process or procedure identified in this Oregon Supplement, …"	This text has been incorporated into the document.
KRRC-13	LL	OR Supplement	Section 1.4, Table 1-1	What was the basis for determining the future uses of the different areas? For example, I question whether it's correct to refer to the future uses of the retained easements as industrial as there are not any exclusive easement areas in Oregon.	The future uses listed in Table 1-1 were based on the uses for various areas as established in the SIWP. The review process for the draft Final Supplement was intended to ensure that future uses conformed with Oregon's ultimate vision for these locations. Per Oregon's recommendation, the future use for retained easements has been changed to Active Recreation per Oregon's comment (see Comment OR-1).
KRRC-14	LL	OR Supplement	Section 2.1	The Oregon Supplement only indicates sampling of the sub-surface soil. KRRC believes PacifiCorp should also sample the gravel and the concrete, as it will be relocated or disposed of.	Soil beneath gravel would be expected to be impacted by potential PCB or dielectric fluid spills. If PCBs were present in potential spills, the PCBs would have been washed through the gravel and attached to the fines in the soil. The gravel is not expected to contain much fine material and those fine materials are needed to run the analytical tests. The following text has been added to Section 2.1 of Supplement No. 1: "Concrete sampling will additionally be performed for PCBs at the switchyard, and the analytical results will be used to help determine disposal options for concrete."
KRRC-15	LL	OR Supplement	Section 2.2.2, third bullet	Again, future uses of that portion of the property should be determined by consulting KRRC and Oregon.	The future site uses as shown in Table 1-1 have been approved by the KRRC and Oregon. The second sentence of this bullet has been modified to read: "For newly identified PECs within the retained easements, determine the potential COPCs for the PEC(s), perform a site assessment(s) according to the Oregon SIWP (Jacobs 2021a), and evaluate the analytical results against the screening levels for the future uses and exposure pathways established in Table 1-1." The corresponding edit has been made to CA Supplement No. 1.
KRRC-16	LL	OR Supplement	Section 2.4.2, second bullet	Same comment as 2.2.2 [KRRC-15].	The future site uses as shown in Table 1-1 have been approved by the KRRC and Oregon. The text of this bullet has been modified to read: "PacifiCorp will determine the potential COPCs for the UST, perform a site assessment according to the Oregon SIWP (Jacobs 2021a), and evaluate the analytical results against the screening levels for the future uses and exposure pathways established in Table 1-1." The corresponding edit has been made to CA Supplement No. 1.
KRRC-17	LL	OR Supplement	Section 2.5.2, paragraph 1	There should be a discussion regarding the extent to which KRRC will have environmental staff onsite during dam removal and the process should be tailored around that.	Please see the response to CA-8. The corresponding edit has been made to Oregon Supplement No. 1.
KRRC-18	LL	OR Supplement	Section 2.5.2, paragraph 3	A decision to proceed to remediation without investigation should not be made by PacifiCorp without first consulting KRRC; same for deciding which soil stockpiles are to be reused or disposed of onsite	Please see the response to KRRC-10. The corresponding edit has been made to Oregon Supplement No. 1.

* LL = Lloyd Lowy

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Oregon Department of Justice (Comments on the Site Investigation Work Plan Supplements)					
OR-1	CM		General	Oregon joins in the comments by KRRC and the Golden State. Our only specific comment is that we believe the future uses described for the retained easement areas in Oregon are incorrect – the land is not "industrial" as the likely exposure pathway will actually be "active recreation" (as none of the areas are exclusively for use by PacifiCorp – these are transmission line easements). Therefore those areas will need to be remediated (as necessary) to the higher standard.	The future use for the retained easements has been changed to Active Recreation. Also, please see the response to KRRC-13.

* CM = Chris Matthews

References

California Department of Toxic Substances Control (DTSC). 2023. *Polychlorinated Biphenyl (PCB) Evaluation Quick Reference Guide*. https://dtsc.ca.gov/brownfields/polychlorinated-biphenyl-pcb-evaluation-quick-reference-guide/.

California Department of Toxic Substances Control Human and Ecological Risk Office (DTSC HERO). 2020. *Human Health Risk Assessment Note Number 8: Recommendations for Evaluating Polychlorinated Biphenyls (PCBs) at Contaminated Sites in California*. June.

Valoppi, L., M. Petreas, R. M. Donohoe, L. Sullivan, and C.A. Callahan. 2000. "Use of PCB Congener and Homologue Analysis in Ecological Risk Assessment." *Environmental Toxicology and Risk Assessment: Recent Achievements in Environmental Fate and Transport*. Ninth Volume, ASTM STP 1381, F. T. Price, K. V. Brix, and N. K. Lane, Eds., American Society for Testing and Materials, West Conshohochen, PA. 9:147-160.

Document Content(s)