

**UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION**

**Klamath River Renewal Corporation
PacifiCorp**

**Project Nos. 14803-001;
2082-063**

**AMENDED APPLICATION FOR SURRENDER OF LICENSE
FOR MAJOR PROJECT AND REMOVAL OF PROJECT WORKS**

**EXHIBIT B
Construction Management Plan
(Amended December 15, 2021)**



**Lower Klamath Project
FERC Project No. 14803**

Construction Management Plan

**Klamath River Renewal Corporation
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December 2021

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1.0 Introduction

The Lower Klamath Project (FERC No. 14803) consists of four hydroelectric developments on the Klamath River: J.C. Boyle, Copco No. 1, Copco No. 2, and Iron Gate (Figure 1-1). Specifically, the reach between J.C. Boyle dam and Iron Gate dam is known as the Hydroelectric Reach. In September of 2016, the Klamath River Renewal Corporation (Renewal Corporation) filed an *Application for Surrender of License for Major Project and Removal of Project Works*, FERC Project Nos. 2082-063 & 14803-001 (License Surrender). The Renewal Corporation filed the License Surrender Application as the dam removal entity for the purpose of implementing the Klamath River Hydroelectric Settlement (KHSA). In November of 2020, the Renewal Corporation filed its Definite Decommissioning Plan (DDP) as Exhibits A-1 and A-2 to its Amended License Surrender Application (ALSA). The DDP is the Renewal Corporation's comprehensive plan to physically remove the Lower Klamath Project and achieve a free-flowing condition and volitional fish passage, site remediation and restoration, and avoidance of adverse downstream impacts (Proposed Action). The Limits of Work is a geographic area that encompasses dam removal and restoration related activities associated with the Proposed Action. The Limits of Work may extend beyond the Federal Energy Regulatory Commission (Commission) boundary associated with the Lower Klamath Project where specifically noted.

The Proposed Action includes the deconstruction of the J.C. Boyle Dam and Powerhouse (Figure 1-2), Copco No. 1 Dam and Powerhouse (Figure 1-3), Copco No. 2 Dam and Powerhouse (Figure 1-4), and Iron Gate Dam and Powerhouse (Figure 1-5), as well as associated features. Associated features vary by development, but generally include powerhouse intake structures, embankments and sidewalls, penstocks and supports, decks, piers, gatehouses, fish ladders and holding facilities, pipes and pipe cradles, spillway gates and structures, diversion control structures, aprons, sills, tailrace channels, footbridges, powerhouse equipment, distribution lines, transmission lines, switchyards, original cofferdams, portions of the Iron Gate Fish Hatchery, residential facilities, and warehouses. Facility removal will be completed within an approximately 20-month period.

This Construction Management Plan describes measures the Renewal Corporation will implement as part of the Proposed Action construction phase, specifically, measures related to traffic management, emergency response, disposition of Bureau of Land Management (BLM) lands, and construction camps. The Renewal Corporation has prepared 16 Management Plans for FERC's review and approval as conditions of a License Surrender Order. These Management Plans were developed in consultation with federal, state, and county governments and tribes.

In February 2021, the Renewal Corporation filed the 16 Management Plans with the Commission. Since that time, the Renewal Corporation has undertaken further consultation, resulting in material revisions. Table 2-2 herein shows the material revisions to the February 2021 version of this Construction Management Plan. An updated Consultation Record for the Construction Management Plan is included as Appendix F.

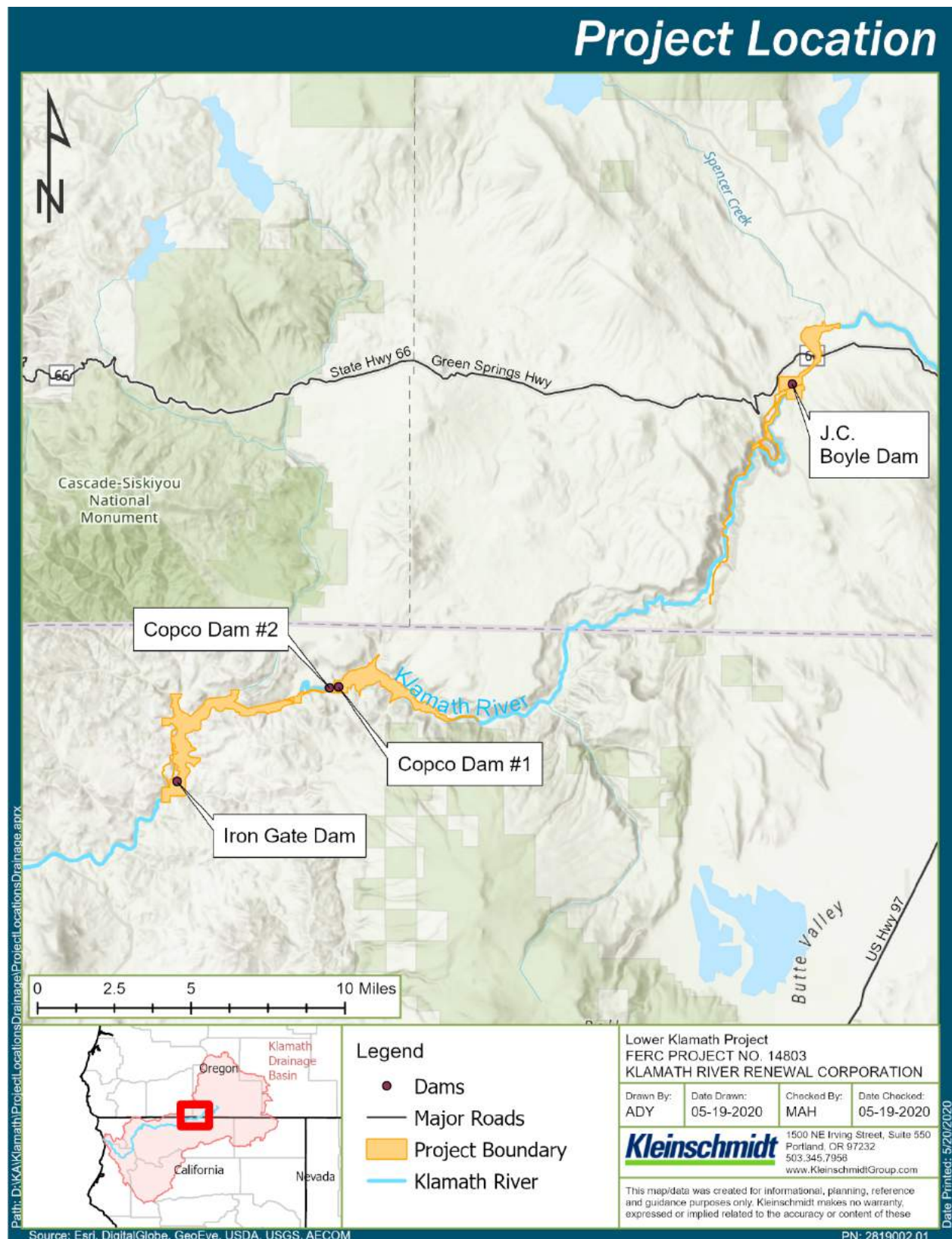


Figure 1-1. Lower Klamath Project Location

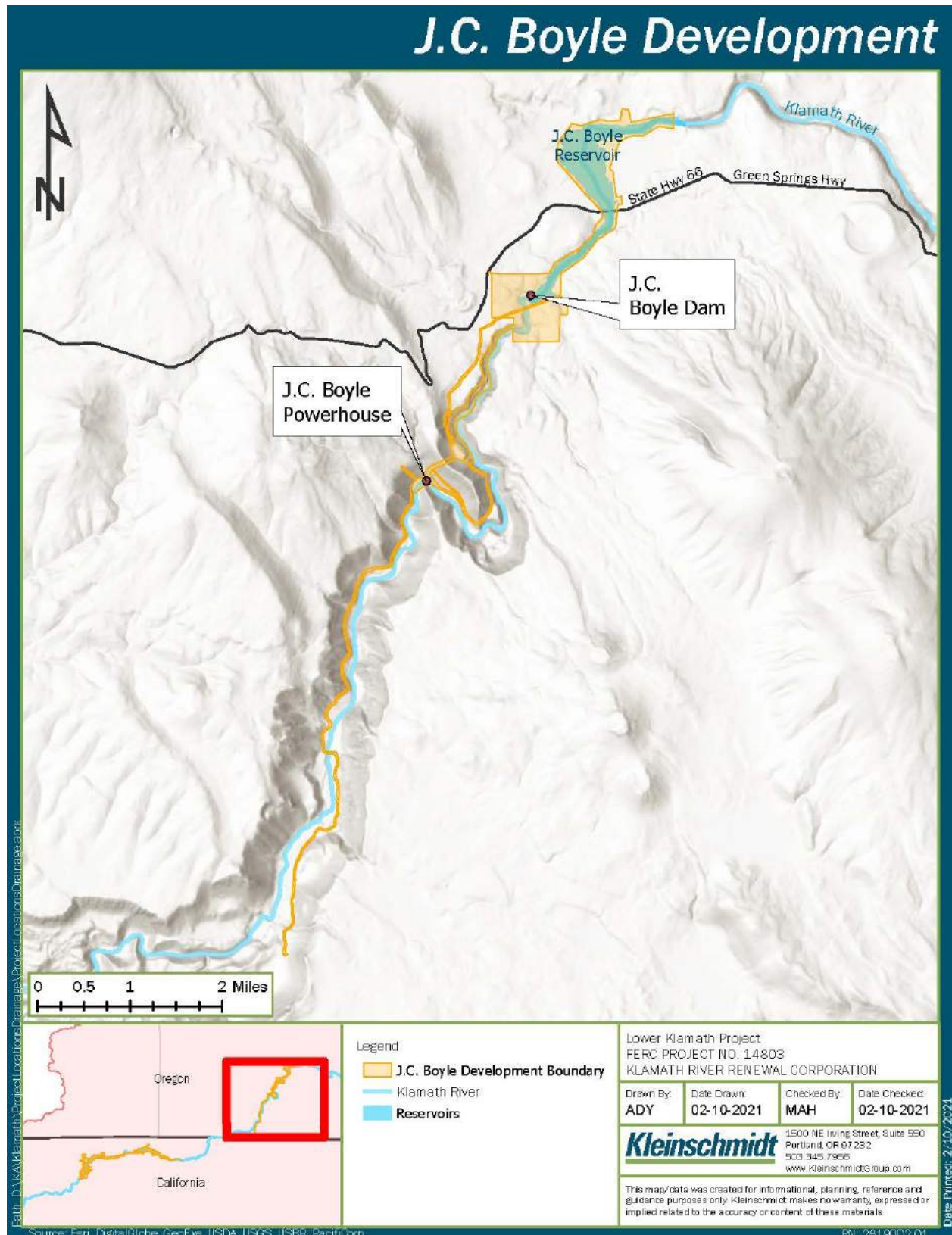


Figure 1-2. J.C. Boyle Development Facility Details

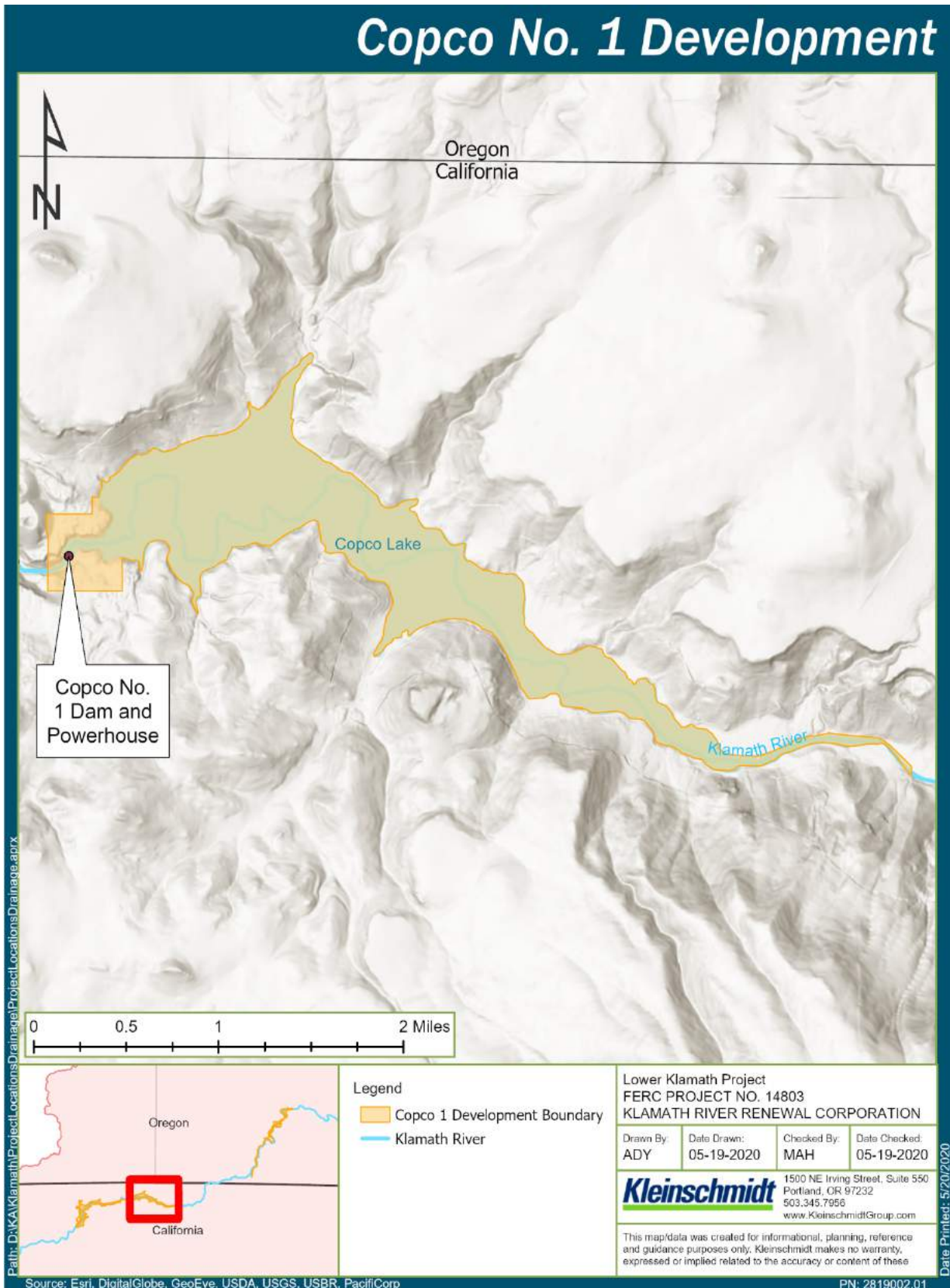


Figure 1-3. Copco No.1 Development Facility Details

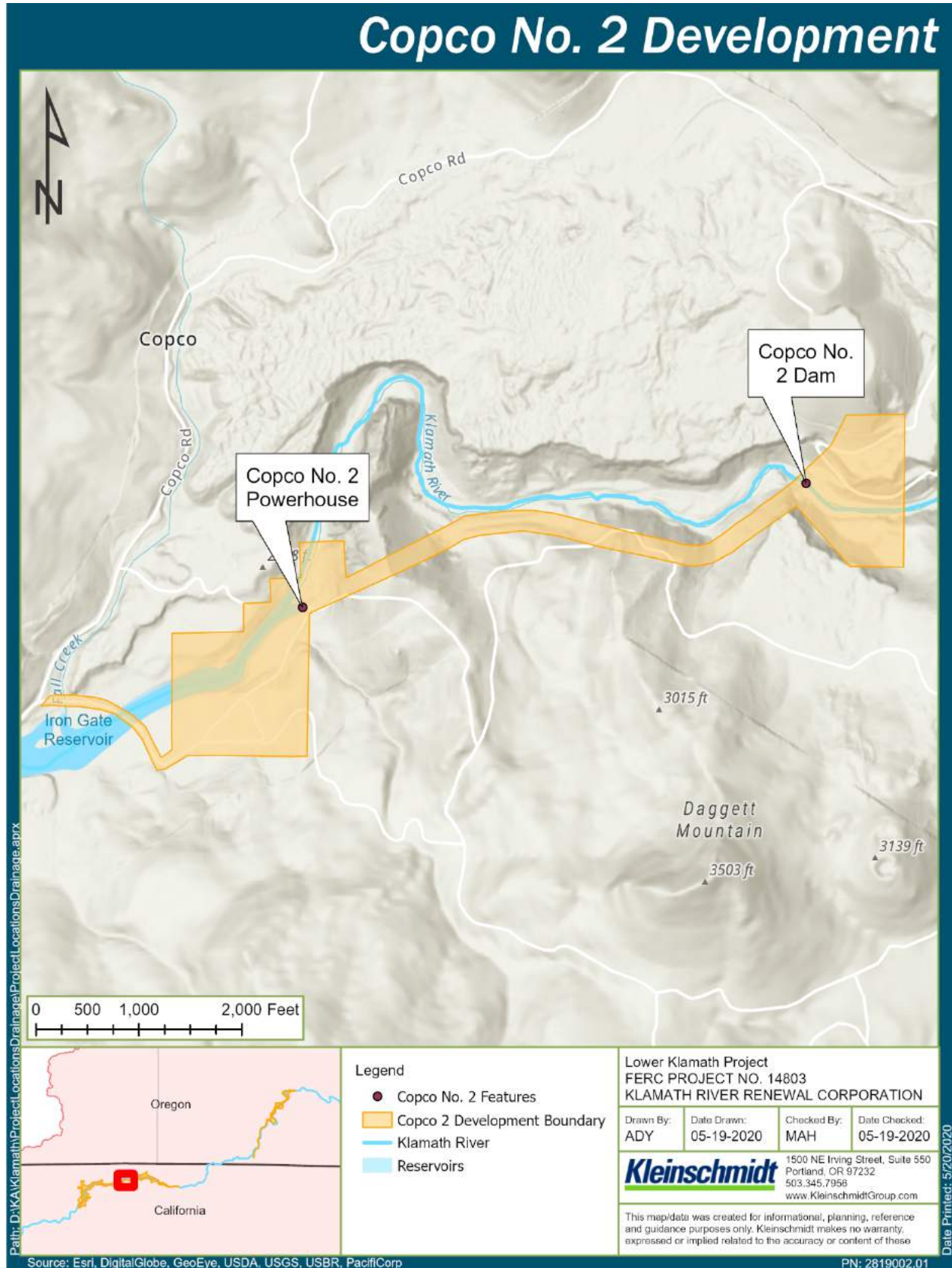


Figure 1-4. Copco No.2 Development Facility Details

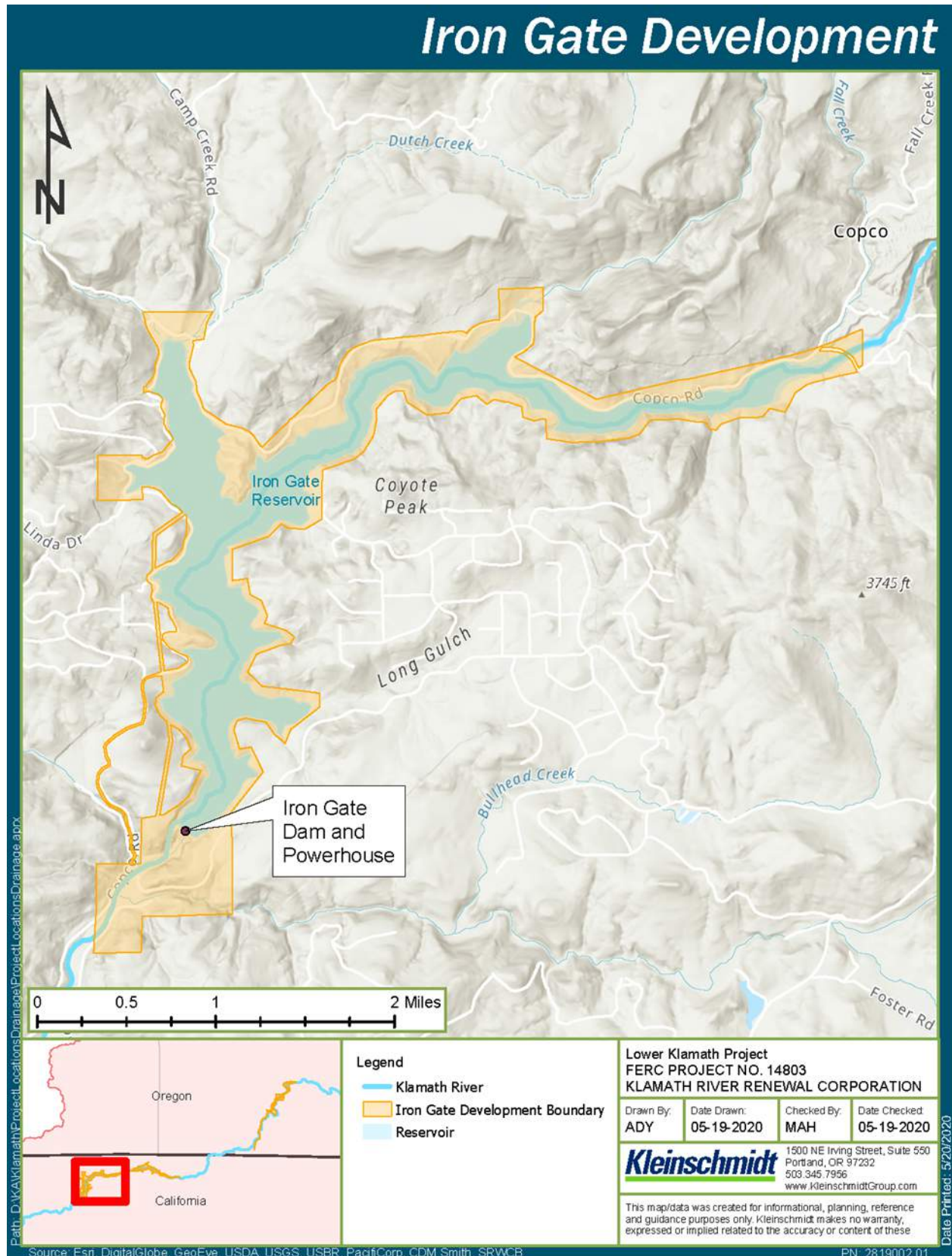


Figure 1-5. Iron Gate Development Facility Details

2.0 Regulatory Context

As described in Table 2-1, the Construction Management Plan is one of 16 Management Plans implementing the DDP.

Table 2-1. Lower Klamath River Management Plans

1. Aquatic Resources Management Plan	9. Remaining Facilities Plan
2. Construction Management Plan	10. Reservoir Area Management Plan
3. Erosion and Sediment Control Plan	11. Reservoir Drawdown and Diversion Plan
4. Hatcheries Management and Operations Plan	12. Sediment Deposit Remediation Plan
5. Health and Safety Plan	13. Terrestrial and Wildlife Management Plan
6. Historic Properties Management Plan	14. Waste Disposal and Hazardous Materials Management Plan
7. Interim Hydropower Operations Plan	15. Water Quality Monitoring and Management Plan
8. Recreation Facilities Plan	16. Water Supply Management Plan

2.1 Organization Structure

This Construction Management Plan describes measures the Renewal Corporation will implement as part of the Proposed Action construction phase, including measures related to traffic management, emergency response, disposition of BLM lands, and construction camps. Specifically, the Construction Management Plan includes an updated Consultation Record and five sub-plans, included amongst the Appendices identified below.

- Appendix A Oregon Traffic Management Plan
- Appendix B California Traffic Management Plan
- Appendix C Emergency Response Plan
- Appendix D Use and Occupancy Plan for Bureau of Land Management Lands
- Appendix E Construction Camp Plan
- Appendix F Consultation Record

2.2 Specific Regulatory Interests

The Renewal Corporation considered the following regulatory interests in the development of the Construction Management Plan:

- Klamath County Memorandum of Understanding
- California Department of Fish and Wildlife Memorandum of Understanding

- Siskiyou County Memorandum of Understanding
- California Environmental Quality Act, Final Environmental Impact Report
- Bureau of Land Management Resource Management Plan, Klamath Falls and Redding Districts

2.3 Results of Consultation since February 2021

The Renewal Corporation has revised the February 2021 version of this plan, on the basis of further consultation, in the following material respects.

Table 2-2. Results of Consultation

SUB-PLAN	CHANGES TO FEBRUARY 2021 VERSION
Appendix A: Oregon Traffic Management Plan	<ul style="list-style-type: none">• No material revisions.
Appendix B: California Traffic Management Plan	<ul style="list-style-type: none">• No material revisions.
Appendix C: Emergency Response Plan	<ul style="list-style-type: none">• No material revisions.
Appendix D: Use and Occupancy Plan for Bureau of Land Management Lands	<ul style="list-style-type: none">• This subplan is new. The Renewal Corporation has not previously submitted it to the Commission. The purpose of this plan is to define coordination requirements, responsibilities, and procedures to be followed in accordance with the Bureau of Land Management (BLM) during implementation of the Proposed Action.
Appendix E: Construction Camp Plan	<ul style="list-style-type: none">• This subplan is new. The Renewal Corporation has not previously submitted it to the Commission. This plan provides the work camp locations and arrangements planned as part of the Proposed Action.

2.3.1 Best Management Practices

The Renewal Corporation will develop necessary Best Management Practices for construction activities for use by onsite contractors. The Best Management Practices will be included in the construction work plans developed for specific construction activities. The Best Management Practices identified will supplement and not duplicate measures already contained in the Construction Management Plan, other management plans, design specifications, or permits. The Best Management Practices development will reflect continuing consultation with state and federal regulators, as well as the terms of any regulatory approvals. The Best Management Practices will inform the construction contractors of site-specific conditions that may not otherwise be identified on drawings, construction notes, trainings, design specifications, and permits. To further establish knowledge of protection measures, field supervisors will be provided a comprehensive compliance plan outlining the resource protection measures applicable at the time of construction. The compliance plan will be a real-time live information

resource recognizing the dynamic nature of the site conditions and uniqueness of the construction activity.

2.4 Regulatory Approval

The Renewal Corporation will implement the Construction Management Plan as approved by the Commission in the License Surrender Order. The Renewal Corporation will obtain and report any required approvals from other agencies.

3.0 Board of Consultants Recommended Measures

On June 18, 2021, Lower Klamath Project Independent Board of Consultants (BOC) provided a report (*Letter Report: Board of Consultants Mtg. No 3*) summarizing recommended measures for the Renewal Corporation to adopt with the respect to the Construction Potential Failure Modes Analysis Final Draft Report (CPFMA Report, May 2021) for the Lower Klamath Project. In a letter to the Commission on July 2, 2021, the Renewal Corporation formally accepted the BOC's recommendations. These recommendations focused on the need to address risk reduction measures related to worker training/awareness, stormwater management, slope stability, development of contingency plans, and monitoring of flow conditions. Documentation of these measures may be separated from the overall Project risk register. The Renewal Corporation's July 2, 2021, letter to the Commission identified the Construction Management Plan as the appropriate repository for the Renewal Corporation's recommendations in response to the BOC's request. Therefore, the information below includes a summary of the recommended measures as identified in the July 2, 2021, submittal. As appropriate, the information below refers to other source documents for a complete description of the Renewal Corporation's recommendation.

Response to Recommendation 1: Construction Potential Failure Modes

The Renewal Corporation will incorporate a status review of the Construction Potential Failure Modes (cPFMs) into the monthly construction progress meeting as well as into specific construction work task coordination meetings and workplan preparation. A summary of the cPFMA workshop is found in the Reservoir Drawdown and Diversion Plan.

Response to Recommendation 2: Risk Reduction Measures for Copco No. 1 Adit

The Renewal Corporation will prepare site-specific risk reduction measures for the Copco No. 1 adit work activities that outline construction work activities, implications, and associated risks (including a job hazard analysis). These measures are found in the overall Project risk register, and the job hazard analysis will be addressed as part of the Renewal Corporation contractor work plan.

Response to Recommendation 3: Erosion Control for Upslope Areas

The Renewal Corporation will incorporate measures to control erosion and gulying of upslope areas above waste fill placements during construction and post-construction into the Stormwater Pollution Prevention Plan (SWPPP) (California) and the Erosion Sediment Control Plan (Oregon) as required under the National Pollution Discharge Elimination System (NPDES) Construction General Permit in California and the NPDES General Permit No. 1200-C in Oregon. The measures for erosion and gulying of upslope areas have been incorporated into final construction documents.

Response to Recommendation 4: Site Investigations at J.C. Boyle Scour Hole

The Renewal Corporation will conduct site investigations of the existing scour hole in the drawdown year immediately following shutdown of the power generation flowline and overflow spillway. The Renewal Corporation will provide the BOC with a summary of the findings of these investigations and analyses on or before June 30 of the drawdown year.

Response to Recommendation 5: Preparation of Contingency Plans

The Renewal Corporation will prepare the recommended contingency plans addressing the potential failure modes, including blockage of conduits, tunnels, and adits during the initial drawdown and subsequent dam removal activities. Contingency plans are addressed in the overall project risk register, and the job hazard analysis will be addressed as part of the Renewal Corporation contractor work plan.

Response to Recommendation 6: Flow Monitoring at Iron Gate Tunnel

The Renewal Corporation will develop a milestone activity to be included in the construction schedule designed specifically to provide flow monitoring from the Iron Gate tunnel. Flow monitoring will be incorporated into the Renewal Corporation's contractor site-specific work plan including development of estimated rating curves for discharge out of the tunnel. Flow monitoring is addressed in the Reservoir Drawdown and Diversion Plan. The Renewal Corporation will use March 30 of the drawdown year as a milestone for providing the BOC with confirmation that the Iron Gate tunnel performance during the initial drawdown effort is sufficient for implementation of final reservoir drawdown.

4.0 Reporting

By April 15 of each year, the Renewal Corporation will prepare and submit an Annual to the Commission which will include information pertaining to implementation of the Construction Management Plan.

Appendix A

Oregon Traffic Management Plan



Lower Klamath Project FERC Project No. 14803

Oregon Traffic Management Plan

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December 2021

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Appendix B	Access and Security Maps

1.0 Introduction

The Oregon Traffic Management Plan described herein is a subplan of the Construction Management Plan that will be implemented as part of the Proposed Action for the Lower Klamath Project.

1.1 Purpose of Oregon Traffic Management Plan

The purpose of the Oregon Traffic Management Plan is to describe the measures the Renewal Corporation will implement to maintain efficient and safe movement of vehicles throughout the construction zones and construction activities at the J.C. Boyle facility. This Oregon Traffic Management Plan will prevent unreasonable traffic delays and maintain acceptable levels of service, traffic circulation, and safety on state, county, and private roadways used during construction at the J.C. Boyle Development.

2.0 Work Activities

2.1 Implementation

Renewal Corporation construction personnel at the J.C. Boyle Development will receive an initial orientation describing the details of this Oregon Traffic Management Plan. All related training will be documented by the Kiewit safety adviser. Personnel will be given a copy of the vehicle movement plan related to their role in the construction area and a copy of each vehicle movement plan will be posted and available at each entry gate and area for review.

The Oregon Traffic Management Plan will be updated as needed if additional risk areas are encountered or to improve best management practices.

2.2 Reporting

Inspection and reporting procedures will be followed consistent with the Renewal Corporation's discussions with Klamath County.

The Renewal Corporation will investigate public roads that may be potentially impacted by the Proposed Action. The Renewal Corporation will prepare and provide the County with a summary report of existing conditions of such public roads and identify repairs that are needed to maintain the efficient and safe movement of construction traffic.

The condition of existing road(s) that may be impacted by construction traffic will be inspected bi-annually by the Renewal Corporation (spring and fall) and a report will be completed. Following construction, the Renewal Corporation will complete a final road condition inspection and report which will be used to determine the need for tail end repairs.

2.3 ESAL Calculations

Based on Equivalent Single Axle Load (ESAL) calculations, an estimate of degradation to Klamath County rural, state highways, and interstate highways associated with the J.C. Boyle area is shown in Table 2-1. A calculation summary sheet is provided in Appendix A.

Table 2-1. ESAL Comparisons for Klamath County Roads

ROAD TYPE	EXISTING ESALS	ESALS DURING CONSTRUCTION	INCREASE IN NORMAL LOADING (%)
Rural Roads ⁽¹⁾	29,439	63,626	116
State Highways (Hwy 66)	72,486	106,673	47
Interstate Highway (Hwy 97)	6,220,885	6,255,072	1

¹Based on Topsy Grade Road traffic data.

3.0 Site Access and Traffic

3.1 Construction Access Improvements

The Renewal Corporation will provide adequate access and haul routes associated with the J.C. Boyle construction. An Overview Map is presented in Figure B1, Appendix B. Proposed improvements will be completed by the Renewal Corporation prior to drawdown. Access routes to access the dam for pre-drawdown improvements, dam removal, and channel restoration are provided in Table 3-1 below. The temporary access improvements in Table 3-1 are necessary to provide access to multiple portions of the Proposed Action area.

Table 3-1. Potential Roadway and Access Improvements

LOCATION	IMPROVEMENTS	CONSTRUCTION ACCESS	POST-DRAWDOWN EFFECTS ¹	ROAD REHABILITATION
Green Springs Highway (OR 66)	Potential pavement rehabilitation during or post-Proposed Action			X
Spencer Bridge	Monitor post-drawdown for a 2- year period for potential erosion or scour at the bridge embankments and intermediate piers		X	
Keno Worden Road	Potential pavement rehabilitation during or post-Proposed Action			X ⁽²⁾

LOCATION	IMPROVEMENTS	CONSTRUCTION ACCESS	POST-DRAWDOWN EFFECTS ¹	ROAD REHABILITATION
Keno Access Road	None			
Topsy Grade Road	Potential road surface rehabilitation during or post-Proposed Action			X (3)
J.C. Boyle Dam Access Road from OR 66	Regrading uneven or rutted areas	X		
Junction of OR 66 and J.C. Boyle Dam Access Road	Intersection widening	X		
	Tree removal	X		
	Signage	X		
J.C. Boyle Powerhouse Access Road (Spring Island Road)	Cut back of west slope to relocate the road away from scour hole	X		X
Timber Bridge at Klamath River	Remove post-Proposed Action completion	X		
J.C. Boyle Power Canal Access Road	None			
J.C. Boyle Disposal Access Road	Regrading Minor widening	X		

Notes:

Source: KRRC, 2020

Source: Information provided by KRRC (2020)

1. Sediment and erosion control measures for public access roads are defined in the Erosion and Sediment Control Subplan for the J.C. Boyle facilities (Knight Piésold, 2020A)
2. Road rehabilitation consists of patching A.C. pavement.
3. Road rehabilitation consists of aggregate base to repair road base and final grading rough road sections.

3.2 Access to Site

Figure B2 in Appendix B shows access roadways to the J.C. Boyle site and Table 3-2 distinguishes between public and private roadways. The two staging areas for construction works at the J.C. Boyle Dam will be accessed from the South. From the South, access, mobilization, and material hauling for the J.C. Boyle Development will occur via the J.C. Boyle Dam Access Road regionally accessed through Topsy Grade Road. The Proposed Action will not affect the culvert on Topsy Grade Road at unnamed creek therefore no monitoring is expected to be required. A left abutment access road will be built and connected to Topsy Grade Road to be used to convey excavated embankment fill to the left bank disposal area. From the North, construction access to the J.C. Boyle Dam site will be via the Access Road from OR 66 to the J.C. Boyle Facility. This roadway connects with the J.C. Boyle Disposal Access Roadway, which will also be used for material hauling during construction.

The J.C. Boyle Powerhouse Access Road (Spring Island Road) is the primary access route to the powerhouse area and the staging area adjacent to the powerhouse. The J.C. Boyle Power Canal Access Road is the primary access route to the power canal and the two staging areas adjacent to the forebay area. These two roads are accessed via OR 66. Both roads will require temporary maintenance during construction to ensure accessibility and both roads will be left in place after construction. The J.C. Boyle Power Canal Access Road will be used for construction access until the power canal work has been complete. At the powerhouse and penstock area of the J.C. Boyle Development, Kiewit will improve temporary access roads for construction access to the penstock and penstock anchor block and the roads will be left in place after the work is complete.

Table 3-2. Roadway Jurisdiction

ROAD	PUBLIC	PRIVATE
I-5	X	
OR 66	X	
Topsy Grade Road	X	
J.C. Boyle Dam Access Road		X
Access Road from OR 66 to J.C. Boyle Dam		X
J.C. Boyle Disposal Access Roadway		X
J.C. Boyle Powerhouse Access Road (Spring Island Road)		X
J.C. Boyle Power Canal Access Road		X

3.3 Existing Site Road and Traffic Characteristics

Consistent with the Renewal Corporation's discussions with Klamath County, the Renewal Corporation will perform an existing conditions assessment of roads to be utilized. In July 2019, a visual inspection of the roads in the J.C. Boyle area and continuous areas was completed (Knight Piésold, 2020B). The road inspection covered surface types, the frequency and severity of distresses, and listed the road conditions either as good (e.g., like new, structurally sound, and functionally adequate), fair (e.g., some deterioration, but structurally sound and functionally adequate) or poor (e.g., significant deterioration, requiring maintenance or repair).

OR 66 was inspected from I-5 in the west to US 97 to the east. The road surface is asphalt, in good condition, and areas of tight turns through steep terrain are common. Some rockfall protection measures are in place and pullouts are frequent. Keno Worden Road from OR 66 to US 97 has an asphalt road surface and is in good condition. The Topsy Grade Road from OR 66 to the J.C. Boyle Dam Road is in good condition and has an aggregate base road surface

with a small portion being hot mix asphalt near the Topsy Campground. The J.C. Boyle Access Road, J.C. Boyle Power Canal Road, and J.C. Boyle Powerhouse Access Road (Spring Island Road) have an aggregate base road surface. These roads are in fair to good condition and have areas of nearby vegetation, steep slopes, and tight turns.

The J.C. Boyle facility is located in a rural area and roadways have low traffic volumes. Estimated traffic counts for existing roads in the regional area from Oregon Department of Transportation and Caltrans are provided in Table 3-3. Construction related traffic counts per lane direction on Topsy Grade Road, OR 66, and US 97 in Oregon are provided in Table 3-4.

Table 3-3. Estimated Traffic Counts for Existing Conditions

ROAD SEGMENT	AADT	AADT DISTRIBUTION (%) ¹			AADT DISTRIBUTION			PHT DISTRIBUTION ³			PHT DISTRIBUTION FOR EACH DIRECTION ⁴		
		AUTO ²	MEDIUM TRUCKS ²	HEAVY TRUCKS ²	AUTO	MEDIUM TRUCKS	HEAVY TRUCKS	AUTO	MEDIUM TRUCKS	HEAVY TRUCKS	AUTO	MEDIUM TRUCKS	HEAVY TRUCKS
Topsy Grade Rd ⁵	200	58.82	34.85	6.33	118	70	13	12	7	2	6	4	1
OR 66	500	58.82	34.85	6.33	294	174	32	29	17	3	15	9	2
US 97	6,300	33.55	28.34	38.11	2,114	1,785	2,401	211	179	240	106	90	120

Notes:

Source: US DOI and CDFW, 2012

1. AADT distribution percentage provided by transportation engineers (J. Key, personal communication, December 13, 2010).
2. TNM vehicle classification: Auto = cars and light duty trucks, Medium Trucks = cargo vehicles with two axles and six tires; Heavy trucks - cargo vehicles with three or more axles. 3 PHT assumed to be 10% of AADT based on a review of published Caltrans and ODOT traffic counts (ODOT, 2010; Caltrans, 2010).
3. PHT for each direction assumed to be the same in both direction of traffic.
4. Traffic count estimated from field observations (CDM, field observations, October 17, 2010). 6 AADT at MP 48.73, 0.02 mile east of Hamaker Mountain Road (ODOT, 2010).
5. AADT at MP 273.92, 0.30 mile south of Nevada Avenue Interchange (ODOT, 2010).

Table 3-4. Estimated Peak Hour Traffic Counts per Direction

ROAD SEGMENT	DIRECTION	EXISTING CONDITIONS ¹			DURING CONSTRUCTION		
		Auto ²	Medium Trucks ²	Heavy Trucks ²	Auto	Medium Trucks	Heavy Trucks ³
Topsy Grade Road ⁴	North	6	4	1	6	4	5
	South	6	4	1	51	4	1
OR 66 ⁴	East	15	9	2	15	9	6
	West	15	9	2	60	9	2
sUS 97 ⁴	North	106	90	120	106	90	124
	South	106	90	120	151	90	120

Notes:

Source: Information provided by the Renewal Corporation (2020)

1. See Existing Conditions table for PHT distribution references.
2. TNM vehicle classification: Auto = cars and light duty trucks, Medium Trucks = all cargo vehicles with two axles and six tires; Heavy trucks - all cargo vehicles with three or more axles.
3. All haul trucks assumed to be Heavy Trucks (3 axles or more).
4. Workers for J.C. Boyle assumed to travel from Klamath Falls. Maximum number of construction workers for J.C. Boyle added to the Auto category for Topsy Grade Road, OR 66, and US 97

3.4 Construction Work Hours

Activities at the J.C. Boyle Development, including the arrival and departure of vehicles delivering or removing materials from or to the site, will be 24 hours a day, seven days a week.

3.5 Traffic Control Site Manager

At the J.C. Boyle facility, the Traffic Control Site Manager is the Kiewit Project Director. The Traffic Control Site Manager will be responsible for:

- Ensuring all traffic control measures are being carried out effectively and are in accordance with the approved plans,
- Conducting routine inspections and auditing traffic control measures,
- Revisiting the traffic control plans and adapting new measures in consultation with the County as the work progresses,
- Monitoring and determining if any additional road improvements are needed or if modifications to traffic management operations are needed, implement such improvements or modification in consultation with the County. The Renewal Corporation will monitor and make necessary improvements and/or repairs to roadway issues that pose site access and or safety concerns. The Renewal Corporation will consult with the County with regard to these repairs, as per the Memorandum of Understanding.
- Maintaining communication with all appropriate agencies, including but not limited to the Klamath County Police and Klamath County on traffic control measures for the J.C. Boyle Development, and

- Implementing traffic control awareness and conducted safety and logistics toolbox talks to personnel.

3.6 Roads Authority

The roads authority for non-private roads in the Proposed Action area is Oregon Department of Transportation (ODOT), Klamath County, and the Bureau of Land Management (BLM). This Oregon Traffic Management Plan meets applicable regulatory requirements, state, and local ordinances, as well as ODOT, Klamath County, and BLM requirements.

3.7 Access Points and Site Security

The J.C. Boyle dam area is protected on all sides by a chain link fence with barbed wire. Road access to the facility will be controlled by manned guard shacks with pipe gates and unmanned pipe gates as shown in Figure B3 in Appendix B.

3.8 J.C. Boyle Facility Users

An average workforce of 135 people is needed by the Renewal Corporation for the pre- and post-reservoir drawdown construction activities at the J.C. Boyle Development. The peak workforce required during excavation may reach 165 people. The estimated equipment that will be used for the removal of the dam and other facilities pre- and post-drawdown at the J.C. Boyle Development are shown in Table 3-5.

Table 3-5. Estimated Equipment at the J.C. Boyle Development

EQUIPMENT TYPE
Crawler-mounted lattice boom crane, 100 to 120 ton or 150 to 200 ton, 160- to 200-foot boom
Rough terrain hydraulic crane, 35 to 75 ton
Hydraulic track excavators, 65,000 to 120,000 lb, with Cat H120 hoe-ram, thumb, and shear attachments
Cat 966 (52,000-lb, 5-cy bucket) or Cat 988 (65,000-lb, 6-cy bucket) articulated wheel-loaders
Cat 725, Cat 730, or Cat 740 articulated rear dump trucks, 30 ton (22 cy)
D-6, D-7, D-8, or D-9 standard crawler dozers
Front-end wheel loader, integrated tool carrier, 25,000 lb
Cat TL943 rough terrain telescoping forklift
Rough terrain telescoping manlift
Truck-mounted seed sprayer, 2,500 gallons
On-highway, light duty diesel pickup trucks, ½-ton and 1-ton crew

EQUIPMENT TYPE
On-highway flatbed truck with boom crane, 16,000 lb
On-highway truck tractors, 45,000 lb
Off-highway water tanker, 5,000 gallons
Engine generators, 6.5 kW to 40 kW, diesel or gasoline
Air compressors, 100 psi, 185 to 600 cfm, diesel
Hand-held drilling, cutting, and demolition equipment
Portable welders and acetylene torches
4-inch submersible trash pumps, electric

Notes: Source: Information provided by the Renewal Corporation (2020)

3.8.1 Construction Users

Construction personnel at the J.C. Boyle Development will arrive on site at approximately the same times every workday to maintain efficiency and reduce unexpected traffic. Construction personnel will arrive at the staging area and are permitted to be at site during the construction hours. An estimated 135 to 165 vehicles associated with construction personnel will be on site daily and all vehicles must be parked in the designated parking locations within the staging areas.

Vehicle trips will be required to transport waste material from the J.C. Boyle Development for on-site and off- site disposal. Estimated quantities of materials generated during removal of J.C. Boyle Dam and Powerhouse, numbers of truck trips, and approximate haul distances for waste disposal are shown in Table 3-6.

Table 3-6. Estimated Volume of Waste Material from Removal of J.C. Boyle Facilities

WASTE MATERIAL	IN-SITU QUANTITY	BULK QUANTITY	DISPOSAL SITE	QUANTITY PER TRIP	TOTAL TRIPS
Dam Embankment - Earth	135,800CY	163,000CY	On-site - left and right banks upstream of the dam	40CY/Trip (unpaved road)	4,100 Trips (1- miles RT)
Powerhouse Tailrace - Earth	11,000CY	13,000CY	On-site powerhouse tailrace	N/A	On-site disposal

WASTE MATERIAL	IN-SITU QUANTITY	BULK QUANTITY	DISPOSAL SITE	QUANTITY PER TRIP	TOTAL TRIPS
Dam - Concrete	3,440 CY	4,470 CY	On-site scour hole	40CY/Trip (unpaved road)	110 trips(4 miles RT to scour hole)
Power Canal and Forebay Concrete (Option 1)	23,000CY	29,900CY	On-site scour hole		750 trips(2 miles RT)
Powerhouse and Miscellaneous foundation concrete	400 CY	520 CY	On-site tailrace		On-site Disposal
Dam Mech/Elec	440 tons	--	Salvaged, or landfill near Klamath Falls, or alternative permitted site	25 tons/trip (via Highway 66)	20 trips(44 miles RT)
Power Canal Mech/Elec	270 tons				10 trips(48 miles RT)
Powerhouse Mech/Elec	11,210 tons				50 trips(52 miles RT)
Timber Bridge	60 CY		Rock disposed on site; sheet piles, treated wood disposed off-site at permitted site	40CY/Trip (unpaved road)	2 trips (up to 52 miles RT)
Building Material Debris	10 buildings 17,300 ft ²		Landfill near Klamath Falls or alternative permitted site	25 tons/trip (Highway 66)	20 trips (44 miles RT)
Power Lines	2.9 miles of 12-kV and 230 kV lines				

Notes:

Source: Information provided by the Renewal Corporation (2020) CY – Cubic yards
RT – Round trip

3.8.2 Reservoir Operational Staff and Contractors

Reservoir operational staff and contractors will access the J.C. Boyle Development from the South via Topsy Grade Road. The J.C. Boyle powerhouse will be accessed through the J.C. Boyle Powerhouse Access Road. Two to six PacifiCorp personnel will be on site, depending on substation and transmission related activities.

3.8.3 Oversized and Heavy Vehicle Access

Drivers of oversized and heavy vehicles will be required to exercise conservative and defensive driving and follow all vehicle movement plans and site traffic rules. Drivers that do not comply with these rules will be dismissed. Oversized and heavy vehicles will access the J.C. Boyle Development from the South via Topsy Grade Road and will access the facility from the North via the Access Road from OR 66 to J.C. Boyle Dam. Oversized and heavy vehicles will travel on the J.C. Boyle Powerhouse Access Road (Spring Island Road) and the J.C. Boyle Power Canal Access Road. Oversized and heavy vehicles will not use the Timber Bridge on the private road (located just downstream of the J.C. Boyle dam) at Klamath River. A map showing access roads at the J.C. Boyle Facility is provided in Figure B2 in Appendix B.

3.9 Adjoining Private Property Access

Access to and from private property will be maintained at all times. If access to private property need to be temporarily limited, the Renewal Corporation will make these arrangements in advance with the effected private property owner. The Renewal Corporation will coordinate improvements property at the intersection of OR 66 and the access road to J.C. Boyle dam with Green Diamond Resource Company. There are no school zones within the work area. Renewal Corporation personnel will not use Topsy Grade Road beyond the J.C. Boyle Development access point.

3.10 Roadway Closures

There are no planned roadway closures during construction at the J.C. Boyle facility.

3.11 Temporary Roadways and Works

The Renewal Corporation will provide roadway maintenance on Topsy Grade Road including aggregate base, vegetation management, noxious weed control, replacing signs, dust control, pothole repair, snow plowing, and drainage/culvert repairs. The roadway will be left in place after construction. The Renewal Corporation will provide minor widening and tree removal at the intersection OR 66 and the access road to JC Boyle Dam to improve sight distance and accommodate truck turning. The Renewal Corporation will provide temporary advance warning signs at this intersection to notify the public of trucks entering/exiting OR 66 at the intersection. The Renewal Corporation will widen, regrade, and realign the J.C. Boyle Disposal Access Road to its pre-construction condition. No temporary traffic control will be used during construction and the road will be left in place post-construction.

The J.C. Boyle Powerhouse Access Road (Spring Island Road) and the J.C. Boyle Power Canal Access Road are the primary construction access routes to the J. C. Boyle powerhouse, penstock, and power canal facilities. The Renewal Corporation will realign the J.C. Boyle Powerhouse Access Road around the existing scour hole. These roads are accessed via OR 66. The Renewal Corporation will provide temporary maintenance of both roads during construction to maintain accessibility during construction and both roads will be left in place after construction. These two roads will be bi-annually (spring and fall) inspected by the Renewal Corporation for maintenance and construction improvements. At the powerhouse and penstock

area of the J.C. Boyle Development, four short access roads will be rehabilitated by the Renewal Corporation as needed for construction access to the penstock area. They will be left in place after construction.

3.12 Traffic Control Personnel

The Renewal Corporation will require that flaggers are a Certified Flagger in Oregon. All traffic control personnel will be required to follow the applicable requirements in the ODOT Oregon Standard Specifications for Construction (2021 - https://www.oregon.gov/ODOT/Business/Pages/Standard_Specifications.aspx). The Renewal Corporation's contractor will confirm that flaggers are able to satisfactorily demonstrate the following abilities:

- Ability to receive and communicate specific instructions clearly, firmly, and courteously,
- Ability to move and maneuver quickly to avoid danger from errant vehicles,
- Ability to control signaling devices (such as STOP/SLOW paddles) to provide clear and positive guidance to drivers approaching a work zone in frequently changing situations,
- Ability to understand and apply safe traffic control practices, sometimes in stressful or emergency situations,
- Ability to recognize dangerous traffic situations and warn workers in sufficient time to avoid injury, and
- Flaggers will be 18 years of age or older.

3.13 Signage

The Renewal Corporation will implement the following measures with respect to signage. Roadway signs will be used to inform the public where any road changes from construction works. Advanced warning signs (e.g., road work ahead, shoulder work, workers, etc.) will be used to indicate the type of work or activity the driver can expect. Sign spacing and placement will be in accordance with Oregon state law; spacing requirements per posted road speed are shown in Table 3-7. Signboards and variable message signs will be used as needed and will be placed at each end of access road used.

Table 3-7. Sign Spacing

POSTED SPEED (MPH)	SPACING BETWEEN SIGNS (FEET)
20	100
25	
30	
35	350
40	
45	
50	500
55	

Notes:

Source: ODOT, 2011

Adjust spacing as field conditions require; Small adjustments to sign spacing may be made to fit field conditions, but spacing will not exceed 1.5 times the dimensions shown.

If sign spacing needs to be adjusted, keep all the sign spacing distances similar to maintain driver expectancy

3.14 Monitoring of Traffic Control Measures

During each stage of construction at the J.C. Boyle Development, the Renewal Corporation will check daily all signs and required traffic control measures for compliance with the Oregon Traffic Management Plan.

3.15 Road Design

The Renewal Corporation will implement the following measures with respect to road design. All road designs will account for current traffic configuration, road safety, and traffic network impacts. All road designs will meet applicable safety, engineering, and design guidelines. The following road design criteria will be used for the design of temporary access roadways:

- Single-lane road, 15 ft wide with one 3-ft-wide safety berm,
- Safety berm when road segment is exposed to side slope,
- 35-foot minimum curve radius, and
- 15% maximum road grade.

An exception was made for portions of the lower penstock access road in which the maximum road grade was increased in some sections to minimize slope cuts.

4.0 Traffic Control Locations

Areas of traffic control have been identified for the J.C. Boyle Development as shown in Figure B2 in Appendix B. Traffic control measures to be provided by the Renewal Corporation in these areas are discussed below and will be updated as required.

The Renewal Corporation will provide temporary traffic control and warning signs to notify the public of construction works and flaggers equipped with warning signs for the removal of the Pioneer Park West and Pioneer Park East.

5.0 Site Traffic Rules

5.1 Site Speed Limits

The Renewal Corporation will implement the following measures with respect to speed limits. Signage indicating the appropriate speed limits will be posted on all roadways and all personnel are required to follow the speed limits at the J.C. Boyle Development. The speed limit of OR 66 is 35 to 45 mph, 15 mph on Topsy Grade Road, 35 mph on Keno Worden Road, and I-5 has a speed limit of 70 mph. On all other roads in the J.C. Boyle area, the speed limit is 15 mph

unless otherwise posted. Speed limits will be evaluated for effectiveness and adjusted to maintain and prioritize safety during construction works.

5.2 Access Roads/Haul Roads

The Renewal Corporation will implement the following measures with respect to access and haul roads. All personnel on site will be instructed to only use the access and haul roads and avoid traveling off the existing roadways, or on the shoulders of the road. Roadways will be delineated with markings such as windrows, bunting, or flagging. Haul roads will be constructed with the following design:

- Appropriate geotechnical materials will be used for all road construction,
- Bends, corners, and turns will be constructed to maintain equipment stability during regular use, and
- Haul roads will comply with Kiewit requirements and recommendations and will be inspected regularly.

5.3 Maximum Loads

The Renewal Corporation will implement the following measures with respect to maximum loads. Trucks will be loaded with a safe load distribution to avoid spillage and will follow weight restrictions: ORS 810.030. The driver must be in the vehicle throughout the loading process. Oversized, heavy vehicles, and vehicles with large loads will not cross the Timber Bridge at Klamath River.

5.4 Parking

The Renewal Corporation will implement the following measures with respect to parking. Parking will be restricted to specific designated areas as determined as the work progresses and will be chosen to avoid close proximity to existing waterways. All construction personnel will park in designated staging areas as shown in Figure B2 in Appendix B.

Private vehicles will be allowed to park only in designated parking areas and are not allowed on the construction site unless approved by the Kiewit Project Manager. If approved on site, private vehicles will adhere to all instructions and safety requirements designated in the Oregon Traffic Management Plan. If traveling through or to any operational areas, private vehicles will be escorted.

There are public access roads adjacent to the J.C. Boyle construction site. Public access will be maintained on these access roads.

6.0 Requirements for Site Access

6.1 Personnel

All personnel entering the J.C. Boyle Development are required to attend and complete an Induction (see Section 9.2). These Inductions must be scheduled in advance and will not be available on demand. Visitor inductions can always be arranged but require an inducted escort when at the site. Access to the site during non-regular hours can be gained through contact with Kiewit.

6.2 Light Vehicles

All light vehicles will follow all rules and regulations of this Oregon Traffic Management Plan. Light vehicles entering the Construction Works area are required to have a reversing alarm and while on haul roads have a flashing light.

7.0 Training and Awareness

7.1 Training, Awareness, and Competency

The Renewal Corporation will require training for all personnel prior to commencing on site. The level of training will be commensurate with the level of individual risk their works are likely to entail. Trainings will include (as appropriate):

- Environmental and safety policies, site management plans as well as environmental roles and responsibilities,
- The significance of environmental impacts caused by individual roles and activities,
- Incident management, and
- Potential consequences of non-conformance.

7.2 Inductions

The Renewal Corporation will require all personnel to undergo inductions to cover the key requirements of the Workplace Safety Management Plan and Oregon Traffic Management Plan.

7.2.1 Inductions

The Renewal Corporation will implement a program of Induction that covers safety, environment, community, and overview. This program will reinforce the responsibility of all personnel to adhere to the safety and traffic requirements of the Proposed Action. The Induction will include:

- Overview of the site Oregon Traffic Management Plan,
- PPE requirements,
- Contact details,
- Incident management and notification,

- Hours of work,
- Safety policies,
- Designated parking areas,
- Speed limits,
- Community protocol,
- Timetabled public transport and school bus, if applicable, and
- Emergency detour plans.

7.2.2 Visitor Inductions

The Renewal Corporation will require visitors to undergo a visitor's induction and their host is responsible for all actions and conduct of the visitor. During all times, visitors will be accompanied by personnel who have previously undergone Induction and safety training.

7.3 Toolbox Talks

Toolbox talks will be conducted regularly by the Renewal Corporation to improve on safety, health, quality, and environmental issues. Talks will focus on the current or most upcoming work and will highlight specific safety aspects and actions being undertaken as part of ongoing management, training, and development. In general, toolbox talks will cover:

- An overview of current works,
- Traffic and access,
- Entry/exit point location,
- Parking areas,
- If other persons are required to enter site that day, and
- Incidents, or potential incidents and possible implications.

8.0 References

Federal Energy Regulatory Commission (FERC). 2018. Order Amending License and Deferring Consideration of Transfer Application FERC Project Nos. 2082-062 and 14803-000. 162 FERC ¶ 61,236. Washington, DC, Federal Energy Regulatory Commission, Office of Energy Projects, Division of Hydropower Licensing.

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Oregon Department of Transportation (ODOT). 2011. Temporary Traffic Control Handbook. December 2011. <https://www.ci.oswego.or.us>

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Appendix A

ESAL Calculations Summary Sheet

Calculation Summary Sheet

Project Name: Klamath River Renewal
Project No.: VA103-00640/01
Task No.: 1103.0010: Klamath MOU Traffic Management Plan & Other Compliance Documents
Title: Klamath County Road Usage Supporting Calculations
Calc. Rev. No.: A

Description of Calculation:

This calculation estimates the potential impacts of the Klamath River Renewal Project (Project) on roads in Klamath County, Oregon. Due to increased Project-related loading on the roads this calculation aims to differentiate road usage occurring due to normal operating conditions vs. the projected construction period. As stated, in the Project Memorandum of Understanding (MOU) with Klamath County, the Project will be responsible for making any repairs due to construction-related activities.

Attachments and supplementary material:

Table 1	Estimated Existing Traffic
Table 2	Estimated Construction Haulage
Table 3	Total Trips from Construction ESALs Compared to Material Haulage Loads
Table 4	ESALs Rural Roads
Table 5	ESALs State Highways
Table 6	ESALs Interstate
Attachment 1	ODOT Traffic Volumes on State Highways

Calculation by: Kevin Howard	Date: August 14, 2020
Reviewed by: Cynthia Parnow	
Results included in (Deliverable):	KRRP Traffic Management Plan – Klamath County, Oregon
Or Superseded by (Calculation File):	N/A

1.0 EXISTING TRAFFIC - KLAMATH COUNTY

Baseflow average annual daily traffic (AADT) counts for highways were available for highways OR 66 and US 97 from the Oregon Department of Transportation (ODOT) in the Klamath Facilities Removal Final Environmental Impact Statement/Environmental Impact Report (US DOI & CDFW, 2012). In addition, traffic counts on Topsy Grade Road were performed in 2010 (US DOI & CDFW, 2012), which have been found to still be applicable by comparing these counts with surrounding road data available from ODOT between 2010 and 2020. Traffic count data for Topsy Grade Road was used for J.C. Boyle Powerhouse Road (Spring Island Road) as they are similar-sized rural collector/principal arterial roads.

Vehicle size distribution data were obtained from a Klamath County road analysis traffic noise model (USDOI and CDFW, 2012). The vehicle size classifications defined by the traffic noise model vary slightly from the inputs required for Equivalent Single Axle Loads (ESAL) calculations (discussed in Section 3.0).

2.0 CONSTRUCTION TRAFFIC AND MATERIAL HAULAGE

Increased traffic loadings were developed using construction traffic projections developed for the Copco Road Pavement Design (KP, 2020) and from estimated material haulage quantities developed for the currently planned dam removal activities at the J.C. Boyle Facility (KRRC, 2020). The current construction traffic includes a variety of vehicle types each with different loading factors with the goal of overestimating the increased traffic associated with the project.

These construction traffic loading calculations have been calculated with substantial conservatism. Table 3 shows the difference between the trips projected based on material quantities and the total trips based on construction loading calculated. It should also be noted that this table doesn't include the other vehicles estimate for the construction ESALs, which is another indication that construction loads have been developed very conservatively.

Local loads (those not utilizing highways) were split between the primary access roads, Topsy Grade Road and J.C. Boyle Powerhouse Road. However, to build in another level of conservatism it has been assumed that all materials will be applied to the ESAL calculation for each load.

3.0 PREDICTED NUMBER OF 18,000 LB ESALS

The 1993 AASHTO Flexible Pavement Structural Design method was used for guidance to develop a standard road degradation measurements equivalent single axel load (ESAL) anticipated over the construction period.

The predicted number of Equivalent Single Axle Loads (ESALs) is calculated for the existing traffic discussed in Section 2.0 and the additional construction traffic discussed in Section 3.0.

In addition to the base flow, a construction flow of average daily traffic over a 2.5-year construction period was estimated for the duration of the project, with an assumed construction heavy haul traffic of one Triple 16 trailer per day, several concrete trucks, dump trucks, and 18-wheel Tractor Semi Trailer Trucks. The pavement designs presented in this calculation use assumed loading at the maximum loads typically permitted by the state of California for heavy haul and oversize loads for the Triple 16 trailer. Assumed Annual Average Daily Traffic for cars and heavy vehicles are presented in the table below. Load Factors were calculated for each vehicle from the AASHTO 1993 guidelines, and ESALs were calculated for each vehicle using the following equation:

$$ESAL = AADT \times 365 \times GF \times TF$$

Where:

ESAL = Equivalent Single Axle Loads

AADT = Annual Average Daily Traffic

365 = Days in a year

GF = Growth Factor (Assumed to be 24.3, based on a 2% growth rate over 20 years)

TF = Truck Factor, or Load Factor for each vehicle type

4.0 RESULTS

As shown in Table 5.0, the additional loadings on rural county roads is expected to be roughly 116% percent of the normal loading, thus increasing the frequency of repairs required. The likely repairs and maintenance on these county roads will likely consist of regrading the aggregate base courses. The additional loadings on State Highways is expected to be roughly 47% percent of the normal loading, thus slightly increasing the frequency of repairs required. The additional loadings on the Interstate is expected to be only 1% percent of the normal loading, thus having a negligible effect on the expected degradation on the road.

Table 5.0 ESAL Comparisons for Klamath County Roads

Road Type	Existing ESALs	Construction Vehicle ESALs	Increase in Normal Loading (%)
Rural Roads	29,439	34,187	116
State Highways	72,486	34,187	47
Interstate	6,220,885	34,187	1

References

- American Association of State Highway and Transportation Officials. 1993. AASHTO Guide for Design of Pavement Structures. Technical Document. Washington, D.C.
- Guide for Mechanistic-Empirical Design of New and Rehabilitated Pavement Structures Appendix CC-1: Correlation of CBR Values with Soil Index Properties National Cooperative Highway Research Program, Transportation Research Board, National Research Council.
- Klamath River Renewal Corporation (KRRRC). 2020. Administrative Draft Biological Assessment.
- Knight Piésold Consulting (KP). August 2020a. 90% Design Submittal (Rev 0).
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- National Cooperative Highway Research Program (NCHRP). 2016. Culvert and Storm Drain System Inspection Manual. Technical Document.
- Oregon Department of Transportation. 2018. Traffic Volume Tables for State Highways 2018.
- Oregon Department of Transportation. 2010. Traffic Volume Tables for State Highways 2010.
- Pavement Tools Consortium. 2008. 1993 AASHTO Flexible Pavement Structural Design. "1993 AASHTO Flexible Pavement Structural Design" Accessed: August 2020. <https://pavementinteractive.org/reference-desk/design/structural-design/1993-aashto-flexible-pavement-structural-design/>
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- United States Department of National Resources Conservation Service Soil (USDA). Web Soil Surveys. Database. Accessed August 2020. <https://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/survey/>

Tables

Table 1
Estimated Existing Traffic

Road Segment	AADT	AADT Distribution (%) ⁽¹⁾			AADT ⁽²⁾		
		Auto	Medium Trucks	Heavy Trucks	Auto	Medium Trucks	Heavy Trucks
Topsy Grade Road ⁽³⁾	200	58.82	34.85	6.33	118	70	13
JC Boyle Powerhouse Road ⁽⁴⁾ (Spring Island Road)	200	58.82	34.85	6.33	118	70	13
OR 66 ⁽⁵⁾	500	58.82	34.85	6.33	294	174	32
US 97 ⁽⁶⁾	7400	33.55	28.34	38.11	2483	2097	2820

Notes:

1. AADT Distribution Estimates (US DOI & CDFW, 2012) using vehicle classifications based on the FHWA TNM: Auto = cars and light duty trucks, Medium Trucks = cargo vehicles with two axles and six tires; Heavy trucks - cargo vehicles with three or more axles.
2. Vehicle classifications have been converted from TNM classifications to the vehicles with loading factors identified in the ESAL calculation, where Auto = Passenger Cars, Medium Trucks = Panel & Pickup Trucks, and Heavy Trucks = Tractor Semi Trailer Trucks
3. Traffic count estimated from field observations from 2010 (US DOI & CDFW, 2012). These values are not expected to have increase as the ODOT traffic estimates from 2010-2020 (ODOT 2010 & ODOT 2018) on OR 66, which serves as the primary acces to Topsy Grade Road, have not increased over this time period.
4. It is assumed that traffic on JC Boyle Powerhouse Road is similar to Topsy Grade Road.
5. AADT at MP 48.73, 0.02 mile east of Hamaker Mountain Road (ODOT, 2018).
6. AADT at MP 273.92, 0.30 mile south of Nevada Avenue Interchange (ODOT, 2018).

Table 2
Estimated Construction Haulage

Waste Material	In-Situ Quantity ⁽¹⁾	Bulk Quantity ⁽¹⁾	Disposal Site ⁽¹⁾	Quantity per Trip ⁽¹⁾	Total Trips ⁽¹⁾	Road Usage ⁽²⁾	Vehicle Type
Dam Embankment - Earth	135,800 CY	163,000 CY	On-site - Left and Right Banks Upstream of the Dam	40 CY/Trip (unpaved road)	4,100 Trips (1-miles RT)	Rural County	Dump Truck
<i>Powerhouse Tailrace - Earth</i>	<i>11,000 CY</i>	<i>13,000 CY</i>	<i>On-Site Powerhouse Tailrace</i>	<i>N/A</i>	<i>On-site disposal</i>	<i>NA</i>	<i>NA</i>
Dam - Concrete	3,440 CY	4,470 CY	On-site Scour Hole	40 CY/Trip (unpaved road)	110 trips (4 miles RT to scour hole)	Rural County	Dump Truck
Power Canal and Forebay Concrete (Option 1)	23,000 CY	29,900 CY	On-site Scour Hole		750 trips (2 miles RT)	Rural County	Dump Truck
<i>Powerhouse and Miscellaneous foundation concrete</i>	<i>400 CY</i>	<i>520 CY</i>	<i>On-Site Tailrace</i>		<i>On Site Disposal</i>	<i>NA</i>	<i>NA</i>
Dam Mech/Elec	440 tons	--	Salvaged, or landfill near Klamath Falls, or alternative permitted site	25 tons/trip (via Highway 66)	20 trips (44 miles RT)	Highway and Rural County	Triple 16
Power Canal Mech/Elec	270 tons				10 trips (48 miles RT)	Highway and Rural County	Triple 16
Powerhouse Mech/Elec	11,210 tons				50 trips (52 miles RT)	Highway and Rural County	Triple 16
Timber Bridge	60 CY		Rock disposed on site; sheet piles, treated wood disposed off-site at permitted site	40 CY/Trip (unpaved road)	2 trips (up to 52 miles RT)	Highway and Rural County	Tractor Semi Trailer Truck
Building Material Debris	10 buildings 17,300 ft ²		Landfill near Klamath Falls or alternative permitted site	25 tons/trip (Highway 66)	20 trips (44 miles RT)	Highway and Rural County	Tractor Semi Trailer Truck
Power Lines	2.9 miles of 12-kV and 230-kV lines					Highway and Rural County	Tractor Semi Trailer Truck

Notes:

1. Material quantities, disposal sites and calculated trips were taken from the Administrative Draft Biological Assessment (KRRC 2020)

2. Hauling routes were estimated from the routes shown on the J.C. Boyle Facility Construction Access Key Map and J.C. Boyle Facility Construction Access Reservoir Area Roads (Drawings C1500 and C1501, respectively) include with the 90% Design Report (KP 2020b)

Table 3
Total Trips from Construction ESALs Compared to Material Haulage Loads

Vehicle	ADT	Total trips from vehicles estimated	Counts specific to Material Haulage	Remaining trips assumed after Material Haulage loads
<u>Rural County Construction Traffic:</u>				
Dump Trucks:	6	5,475	4,960	515
Tractor Semi Trailer Trucks:	10	9,125	42	9,083
Triple 16 Trailer - maximum permit weight	1	913	80	833
<u>State Highway and Interstate Construction Traffic:</u>				
Dump Trucks:	2	1,825	496	1,329
Tractor Semi Trailer Trucks:	2	1,825	80	1,745
Triple 16 Trailer - maximum permit weight	1	913	42	871

Table 4
Estimated ESALs
for Rural Roads in Klamath County, Oregon
Pavement Section Design Location: [KRRP, Klamath County, Oregon](#)

Average Daily Traffic Count: 402 All Lanes & Both Directions
Construction Period: 2.5 Years

Calculation of Design 18 kip ESALs

	Daily Traffic	Growth Rate	Load Factors	Design ESAL's
<u>Existing Traffic:</u>				
Passenger Cars:	118	2.0%	0.0008	87
Panel & Pickup Trucks:	70	2.0%	0.0122	791
Tractor Semi Trailer Trucks:	13	2.0%	2.3719	28,560
Average Daily Traffic in Design Lane:	201			
Existing Traffic 18 kip ESAL's:	29,439			
<u>Construction Traffic:</u>				
Panel & Pickup Trucks:	30	2.0%	0.0122	339
Concrete Trucks:	1	2.0%	4.4800	4,150
Dump Trucks:	2	2.0%	3.6300	6,724
Tractor Semi Trailer Trucks:	2	2.0%	2.3719	4,394
Double Trailer Trucks	2	2.0%	2.3187	4,295
Triple 16 Trailer - maximum permit weight	1	0.0%	15.6540	14,284
Average Daily Traffic in Design Lane:	38			
Construction Traffic 18 kip ESAL's:	34,187			

Table 5
Estimated ESALs
for State Highways in Klamath County, Oregon
Pavement Section Design Location: [KRRP, Klamath County, Oregon](#)

Average Daily Traffic Count: **1,000** All Lanes & Both Directions
Construction Period: **2.5** Years

Calculation of Design 18 kip ESALs

	Daily Traffic	Growth Rate	Load Factors	Design ESAL's
<u>Existing Traffic:</u>				
Passenger Cars:	294	2.0%	0.0008	218
Panel & Pickup Trucks:	174	2.0%	0.0122	1,966
Tractor Semi Trailer Trucks:	32	2.0%	2.3719	70,302
Average Daily Traffic in Design Lane:	500			
Exsiting Traffic 18 kip ESAL's:	72,486			
<u>Construction Traffic:</u>				
Panel & Pickup Trucks:	30	2.0%	0.0122	339
Concrete Trucks:	1	2.0%	4.4800	4,150
Dump Trucks:	2	2.0%	3.6300	6,724
Tractor Semi Trailer Trucks:	2	2.0%	2.3719	4,394
Double Trailer Trucks	2	2.0%	2.3187	4,295
Triple 16 Trailer - maximum permit weight	1	0.0%	15.6540	14,284
Average Daily Traffic in Design Lane:	38			
Construction Traffic 18 kip ESAL's:	34,187			

Table 6
Estimated ESALs
for Interstate in Klamath County, Oregon
Pavement Section Design Location: [KRRP, Klamath County, Oregon](#)

Average Daily Traffic Count: 14,800 All Lanes & Both Directions
Construction Period: 2.5 Years

Calculation of Design 18 kip ESALs

	Daily Traffic	Growth Rate	Load Factors	Design ESAL's
<u>Existing Traffic:</u>				
Passenger Cars:	2,483	2.0%	0.0008	1,840
Panel & Pickup Trucks:	2,097	2.0%	0.0122	23,696
Tractor Semi Trailer Trucks:	2,820	2.0%	2.3719	6,195,348
Average Daily Traffic in Design Lane:	7,400			
Existing Traffic 18 kip ESAL's:	6,220,885			
<u>Construction Traffic:</u>				
Panel & Pickup Trucks:	30	2.0%	0.0122	339
Concrete Trucks:	1	2.0%	4.4800	4,150
Dump Trucks:	2	2.0%	3.6300	6,724
Tractor Semi Trailer Trucks:	2	2.0%	2.3719	4,394
Double Trailer Trucks	2	2.0%	2.3187	4,295
Triple 16 Trailer - maximum permit weight	1	0.0%	15.6540	14,284
Average Daily Traffic in Design Lane:	38			
Construction Traffic 18 kip ESAL's:	34,187			

Attachment 1

ODOT – 2018 Traffic Volumes on State Highways

2018 TRAFFIC VOLUMES ON STATE HIGHWAYS

Milepoint	2018 AADT All Vehicles	ATR AVC	Location Description
			THE DALLES-CALIFORNIA HIGHWAY NO. 4 (Continued)
138.60	40000		0.15 mile north of SE Truman Avenue
138.90	41300		0.27 mile north of Reed Market Road Interchange
139.61	29700		0.44 mile south of Reed Market Road Interchange
139.80	29600		0.17 mile north of Powers Road Interchange
140.22	22400		0.08 mile north of Badger Road
140.45	21800	*	Bend-Pinebrook Automatic Traffic Recorder, Sta. 09-025, 0.07 mile north of Pinebrook Boulevard
140.65	16800		0.13 mile south of Pinebrook Boulevard
			Equation: MP 141.12 BK = MP 141.86 AH
142.41	26500	*	Lava Butte Automatic Traffic Recorder, Sta. 09-003, 0.17 mile south of China Hat Road
144.20	18900		0.75 mile south of Galen Baker Road
153.83	12000		0.75 mile south of South Century Drive
155.60	11000		0.10 mile south of Vandever Road
161.84	9900		0.10 mile south of Paulina Lake Road
167.48	9900		0.02 mile north of 1st Street in La Pine
169.58	8200		0.10 mile north of Fremont Highway (OR31)
169.88	6200		0.20 mile south of Fremont Highway (OR31)
183.84	5500		0.20 mile north of Mississippi Drive at Gilchrist
185.35	5800		0.02 mile north of Jones Street
194.75	4300		0.40 mile north of Willamette Highway (OR58)
195.55	5200		0.40 mile south of Willamette Highway (OR58)
204.65	6000	*	Chemult Automatic Vehicle Classifier, Sta. 18-006, 0.40 mile south of Chemult Dump Road
212.79	5200		0.30 mile north of North Umpqua Highway (OR138)
213.29	4700		0.20 mile south of North Umpqua Highway (OR138)
231.91	6200		0.02 mile north of Fuego Road
243.22	4700	*	Chiloquin Automatic Traffic Recorder, Sta. 18-023, 4.32 miles north of Chiloquin Highway No. 422
247.04	6300		0.50 mile north of Chiloquin Highway (North Jct.)
248.98	5800		0.10 mile north of Chiloquin Highway (South Jct.)
249.18	6200		0.10 mile south of Chiloquin Highway (South Jct.)
254.30	6600	*	Modoc Point Automatic Traffic Recorder, Sta. 18-022, 3.53 miles north of Modoc Point Road
258.03	6600		0.20 mile south of Old Modoc Point Road
265.76	6900		0.10 mile south of Algoma Road
268.95	7000		0.10 mile south of Shady Pine Road
271.27	7400		0.02 mile south of Wocus Road
272.28	9400		0.30 mile north of Klamath Falls-Malin Highway (OR39/US97 Bus./Crater Lake Parkway)
273.08	6000		0.50 mile south of Klamath Falls-Malin Highway (OR39/US97 Bus./Crater Lake Parkway)
273.92	7400		0.30 mile south of Nevada Avenue Interchange
276.48	8700		0.40 mile north of Green Springs Highway (OR66) and South Klamath Falls Highway (OR140)
277.43	6500		0.30 mile south of Green Springs Highway (OR66) and South Klamath Falls Highway (OR140)
			Equation: MP 277.61 BK = MP 278.03 AH
278.69	5100		On Klamath River Bridge
280.06	5100		0.10 mile north of Miller Island Road
282.82	5300		0.05 mile north of Cross Road
289.44	4300	*	Midland Automatic Vehicle Classifier, Sta. 18-019, 2.30 miles north of the Oregon-California State Line

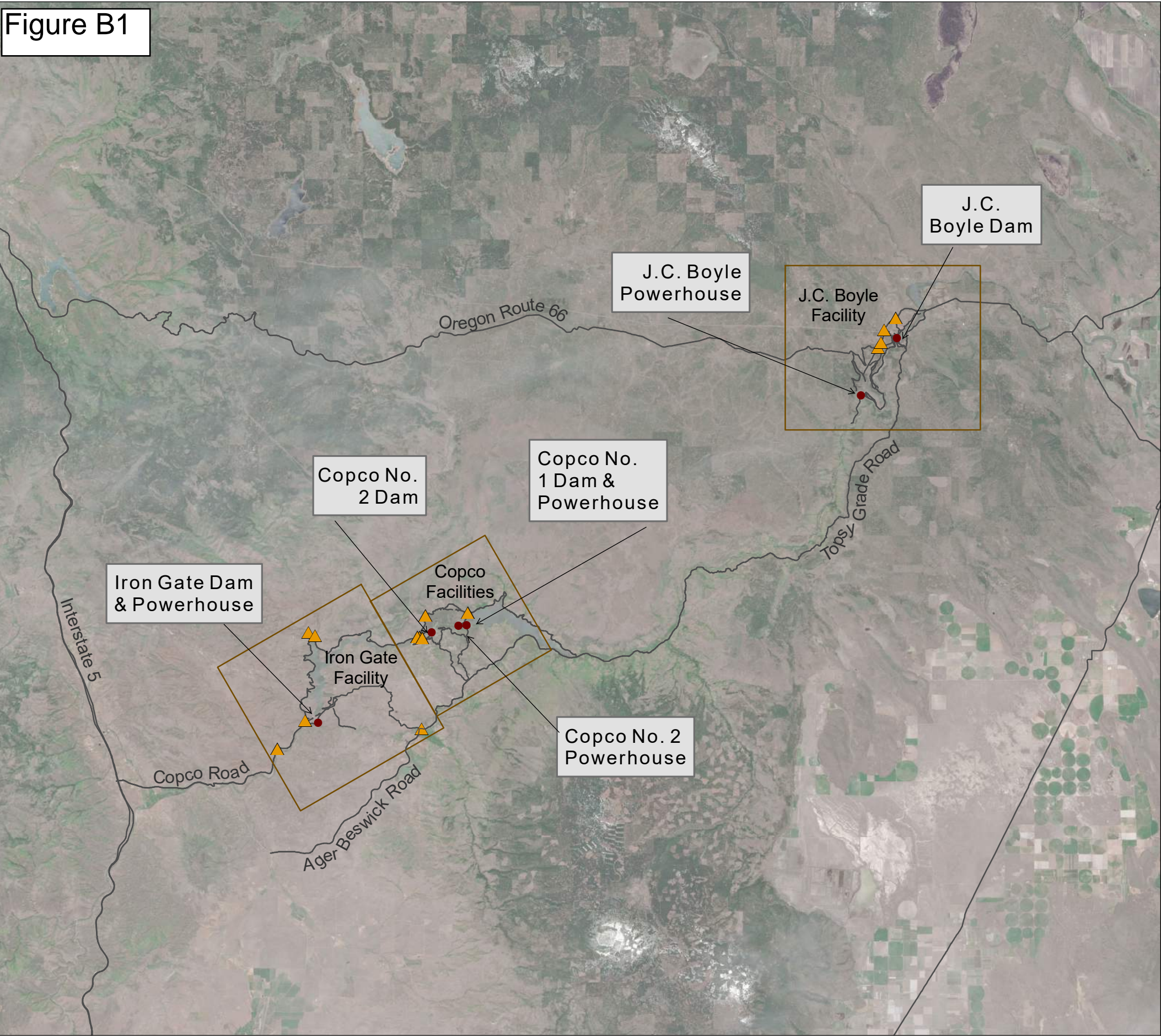
2018 TRAFFIC VOLUMES ON STATE HIGHWAYS

Milepoint	2018 AADT All Vehicles	ATR AVC	Location Description
			KLAMATH FALLS-LAKEVIEW HIGHWAY NO. 20 (Continued)
70.73	700		4.00 miles southeast of Quartz Mountain Pass Summit
88.96	1000		0.10 mile west of Tunnel Hill Road
89.16	1200		0.10 mile east of Tunnel Hill Road
92.43	1500		0.70 mile east of Westside Road at Maddock Corner
93.88	1900		0.02 mile west of road to Airport
95.39	2100		0.02 mile east of Roberta Avenue
95.72	2600		0.02 mile east of N "R" Street
			West city limits of Lakeview
96.03	3300		0.02 mile west of "L" Street
96.35	3600		0.02 mile west of Fremont Highway (US395)
			GREEN SPRINGS HIGHWAY NO. 21
			Milepoint indicates distance from OR99, in Ashland
1.02	12300		0.02 mile west of Tolman Creek Road
1.22	13400		0.12 mile west of Pacific Highway (I-5)
1.42	6600		0.08 mile east of Pacific Highway (I-5)
1.80	7300		0.07 mile east of E Main Street
2.04	5400		0.06 mile southeast of Dead Indian Memorial Road
2.49	4100		0.04 mile southeast of Crowson Road
4.61	2300		0.02 mile southeast Emigrant Lake Road
6.44	1500		0.02 mile northwest of Siskiyou Highway
6.61	1100	*	Siskiyou Junction Automatic Traffic Recorder, Sta. 15-007, 0.15 mile east of Siskiyou Highway No. 273 (OR273)
9.28	580		0.10 mile east of Buckhorn Spring Road
			Equation: MP 13.66 BK = MP Z13.00 AH
17.51	440		0.02 mile east of Eastside Hyatt Lake access road
23.42	340		On Jenny Creek Bridge
			Jackson - Klamath County Line, MP 27.87
48.73	500		0.02 mile east of Hamaker Mountain Road
49.89	1500		0.02 mile west of Keno-Worden Road (to US97)
49.93	2400		0.02 mile east of Keno-Worden Road (to US97)
50.68	3000		0.02 mile east of Clover Creek Road
54.46	5000		0.02 mile east of Round Lake Road
56.64	4400		0.10 mile southwest of Weyerhaeuser Corporation Road
56.79	5100		0.05 mile northeast of Weyerhaeuser Corporation Road
58.17	5700		0.10 mile west of Granite Street
58.84	7200		0.02 mile west of Lake of the Woods Highway (OR140)
			CRATER LAKE HIGHWAY NO. 22
			Milepoint indicates distance from Rogue Valley Highway (OR99), in Medford
0.20	35600		0.15 mile north of Rogue Valley Highway (OR99), Siskiyou Boulevard
0.84	31800		0.05 mile west of Poplar Drive
1.11	43300	*	North Medford Automatic Traffic Recorder, Sta. 15-017, 0.64 mile east of Pacific Highway No. 1 (I-5)
1.38	39200		0.02 mile southwest of Whittle Avenue
2.02	24200		0.15 mile south of Owen Drive
3.63	31700		0.02 mile south of East Vilas Road
3.67	29300		0.02 mile north of East Vilas Road
5.41	20000		Equation: MP 29.18 BK = MP Z29.16 AH

Appendix B

Access and Security Maps

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KLAMATH RIVER RENEWAL CORPORATION

Klamath River Restoration Project

Traffic Management Plan Overview Map

November 13, 2020

(At original document size of 11x17)
1:230,000

N

0 1.5 3 4.5 6 7.5 Miles

**PRELIMINARY DESIGN
(NOT FOR CONSTRUCTION)**

Figure Extents

Temporary Traffic Management

Project Features

Access Routes

Notes

1. Coordinate System: NAD 1983 2011 StatePlane California I FIPS 0401 Ft US

2. Data Sources:

Project Features: McMillen-Jacobs; Access Routes 100 Design: McMillen-Jacobs; Temporary Traffic Management: Knight Piesold;

3. Background Imagery: Copernical Sentinel data 2020, processed by ESA

4. Inset Background Imagery: National Geographic, Esri, Garmin, HERE, UNEP-WCMC, USGS, NASA, ESA, METI, NRCAN, GEBCO, NOAA, increment P Corp.

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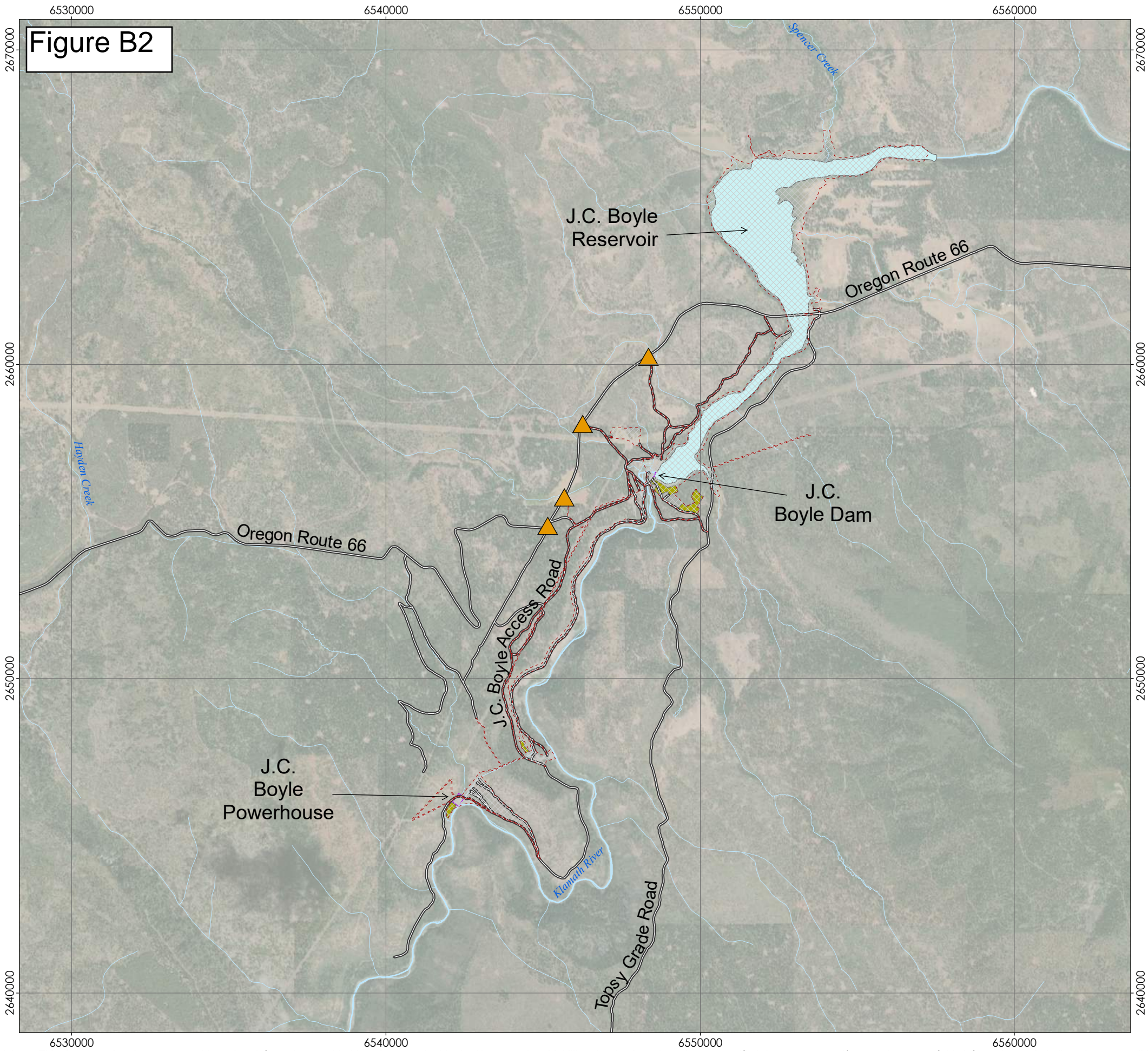


Figure B2



Klamath River Restoration Project
Access Map
J.C. Boyle Facility
November 12, 2020
(At original document size of 11x17)
1:39,660



0 0.25 0.5 0.75 1 1.25 Miles

**PRELIMINARY DESIGN
(NOT FOR CONSTRUCTION)**

- Temporary Traffic Management
- Limits of Work
- Project Features
- Staging Areas
- Access Routes
- Reservoir Boundaries
- Streams

Notes
1. Coordinate System: NAD 1983 2011 StatePlane California I FIPS 0401 Ft US
2. Data Sources:
Temporary Traffic Management: Knight Piesold; Limits of Work: McMillen-Jacobs, CAD 90 Design draft; Access Routes: Knight Piesold, 100 Design Drawings; Staging Areas: CDM, 60 Design; Streams and Reservoir: NHD.
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

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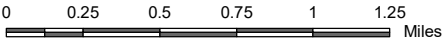
Klamath River Restoration Project

Security Map

J.C. Boyle Facility

November 13, 2020

(At original document size of 11x17)
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**PRELIMINARY DESIGN
(NOT FOR CONSTRUCTION)**

Legend



Security Pipe Gate and Guard Shack



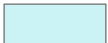
Security Unmanned Pipe Gate



Access Routes



Project Features



Reservoir Boundaries



Streams

Notes

1. Coordinate System: NAD 1983 2011 StatePlane California I FIPS 0401 Ft US

2. Data Sources:

Security Locations: Knight Piesold; Access Routes: Knight Piesold, 100 Design Drawings; Streams and Reservoir: NHD.

Background Imagery: Copernicus Sentinel data Nov. 5 2020, processed by ESA

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Appendix B

California Traffic Management Plan



**Lower Klamath Project
FERC Project No. 14803**

California Traffic Management Plan

**Klamath River Renewal Corporation
2001 Addison Street, Suite 317
Berkeley, CA 94704**

**Prepared by:
Knight Piésold
LGRP Project Office
4650 Business Center Drive
Fairfield, CA 94534**

December 2021

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Appendices

Appendix A Access and Security Maps

1.0 Introduction

The California Traffic Management Plan described herein is a subplan of the Construction Management Plan to be implemented as part of the Proposed Action for the Lower Klamath Project.

1.1 Purpose of California Traffic Management Plan

The purpose of the California Traffic Management Plan is to describe the measures the Renewal Corporation will implement to maintain efficient and safe movement of vehicles throughout the construction zones and construction activities at the Project construction works. This California Traffic Management Plan will prevent unreasonable traffic delays and maintain acceptable levels of service, traffic circulation, and safety on state, county, and private roadways.

The Renewal Corporation has negotiated a Memorandum of Understanding (MOU) with the County of Siskiyou which addresses the County's regulatory interests with respect to traffic control, roadway alignment and maintenance, and related topics.

2.0 Work Activities

2.1 Implementation

Renewal Corporation construction personnel will receive an initial orientation describing the details of this California Traffic Management Plan. All related training will be documented by the Kiewit safety adviser. Personnel will be given a copy of the vehicle movement plan related to their role in the construction area and a copy of each vehicle movement plan will be posted and available at each entry gate and area for review.

The California Traffic Management Plan will be updated as needed if additional risk areas are encountered or to improve best management practices.

2.1 Reporting

Inspection procedures will be followed consistent with the Renewal Corporation's discussions with Siskiyou County.

The Renewal Corporation will investigate public roads that may be potentially impacted by the Proposed Action. The Renewal Corporation will prepare and provide the County with a summary report of existing conditions of such public roads and identify repairs that are needed to maintain the efficient and safe movement of construction traffic.

The condition of existing road(s) that may be impacted by construction traffic will be inspected by the Renewal Corporation and a report will be completed. Following construction, the

Renewal Corporation will complete a final road condition inspection and report which will be used to confirm the final roadway condition.

3.0 Site Access and Traffic

3.1 Access to Site

3.1.1 Preconstruction Activities and Pre-Emptive Roadway Work

Prior to commencement of the Project work involving heavy loading, which will occur prior to reservoir drawdown, the Renewal Corporation will undertake repairs and apply and asphalt overlay to Copco Road. The quantities and locations are specified in the Preemptive Roadway Repair Plan presented in Table 3-1. The County and Renewal Corporation agree that the Renewal Corporation will fulfill its obligation to overlay 7500 tons of material over 7 miles with the County approving the locations in accordance. During the same period, the County will undertake repairs and apply single-chip seal to Copco Road, Ager Road, and Ager-Beswick Road in accordance with the quantities and locations presented in Table 3-1. The County and the Renewal Corporation will cooperate to schedule and execute their respective work to assure expeditious performance and completion of the work as a whole.

The County agrees that the Preemptive Roadway Work is sufficient to offset the expected damages to these County roads because of all Project work, including work involving heavy loading. Following completion of the Preemptive Roadway Work, the County will be responsible for maintenance of these roads in a good and serviceable condition consist with applicable maintenance standards and availability of funding.

Table 3-1 Preemptive Roadway Work

ITEM	SECTION OF ROADWAY	PREEMPTIVE ROADWAY WORK	RESPONSIBILITY OF PREEMPTIVE ROADWAY WORK	
			Siskiyou County	Renewal Corporation
1	Copco Road: I-5 to Ager Road (approx. 3 miles)	Single Chip Seal	X	
2	Copco Road: Ager Road to Mile Post 10 (approx. 7 miles)	Prep Road/Digout/Hand Patch: Crew/Equipment/Materials over multiple weeks to repair damaged sections of road.		X
		125' Asphalt Overlay: 22' wide x 0.125'thick x 5280'/mile x 7 miles = 7500 tons		X
3		Prep Road/Digout/Hand Patch: Crew/Equipment/Materials for approx. 1 week to repair damaged sections of road		X

ITEM	SECTION OF ROADWAY	PREEMPTIVE ROADWAY WORK	RESPONSIBILITY OF PREEMPTIVE ROADWAY WORK	
			Siskiyou County	Renewal Corporation
	Copco Road: Mile Post 10 to Fall Creek Road (approx. 9 miles)	Single Chip Seal: (approx. \$40,000 per mile x 9 miles)	X	
4	Ager Road: Copco Road to Ager-Beswick	Grader Blankets: (200 tons, approx. 2 weeks)	X	
5	Ager Beswick Road: Ager Road to Bogus Creek (approx. 8 miles)	Crack/Prep	X	
		Single Chip Seal: (\$30,000 per mile x 8 miles)	X	

Pre-Construction Activities

The Renewal Corporation will provide adequate access and haul routes associated with the Proposed Action. Proposed improvements will be completed by the Renewal Corporation prior to the start of reservoir drawdown and will include the Preemptive Roadway Work described in the previous section. Access routes in the dam sites to access the dams for pre-drawdown improvements, dam removal, and channel restoration are provided in Table 3-2. These temporary access improvements are necessary to provide access to multiple portions of the Proposed Action area. The Renewal Corporation will return roads used by project-related vehicles to the respective owners and users in a state that equals or exceeds existing condition/function, or as specified in the Preemptive Roadway Work specifications.

Table 3-2. Proposed Roadway and Access Improvements

LOCATION	IMPROVEMENTS	CONSTRUCTION ACCESS	POST-DRAWDOWN EFFECTS ¹	ROAD REHABILITATION
Copco Road (I-5 to Ager Road)	Potential pavement rehabilitation during or post Proposed Action.			Preemptive Roadway Work
Copco Road (Ager Road to Lakeview Road)	Potential pavement rehabilitation during or post Proposed Action.			Preemptive Roadway Work

LOCATION	IMPROVEMENTS	CONSTRUCTION ACCESS	POST-DRAWDOWN EFFECTS ¹	ROAD REHABILITATION
Dry Creek Bridge	Design a temporary bridge strengthening system to allow the existing bridge to accommodate the anticipated live loads.	X		
Copco Road (Lakeview Road to Daggett Road)	Pavement maintenance during construction. Potential pavement rehabilitation during or post Proposed Action.	X		Preemptive Roadway Work
Scotch Creek and Camp Creek Culvert	Existing culvert will be removed and replaced with a new concrete box culvert; for fish passage purposes only.	X		
Copco Road (Daggett Road to Copco Access Road)	Potential road surface maintenance during or post Proposed Action.			Preemptive Roadway Work
Fall Creek Bridge at Copco Road	Design a temporary bridge strengthening system to allow the existing bridge to accommodate the anticipated live loads.	X		
Copco Road Bridge (near the Copco Lake Fire Department on the eastern side of Copco Reservoir)	Monitor post-drawdown for a 2-year period for potential erosion or scour at the bridge embankments and intermediate piers. Potential abutment erosion protection.		X	
Copco Access Road	Clear, grub, and regrade. Minor widening into hillside if possible.	X		
Ager Beswick Road	Potential pavement rehabilitation during or post Proposed Action.			Preemptive Roadway Work
Mallard Cove Boat Ramp Access	Minor works to enable barge mobilization.	X		
Daggett Road	Minor grading improvements Potential Road surface maintenance during or post Proposed Action.	X		X

LOCATION	IMPROVEMENTS	CONSTRUCTION ACCESS	POST-DRAWDOWN EFFECTS ¹	ROAD REHABILITATION
Fall Creek Crossing at Daggett Road	Existing culvert will be removed and replaced with a new arch culvert	X		
Daggett Road Bridge	Construct permanent bridge upstream of existing bridge. Use a steel modular bridge constructed on a permanent drilled shaft foundation.	X		

Notes:

Source: KRRRC, 2020

1. The extent of repairs carried out will be determined on an as-needed basis with the Siskiyou County as per the Draft MOU.

In addition to the improvements listed in Table 3-2, construction improvement details for Copco Road are shown in Table 3-3. Copco Road will serve as the access route to construction activities for Copco No. 1 and Copco No. 2 Developments. Some degradation of the existing Copco Road from Highway 5 to Copco Access Road is expected due to the increased amount of use projected throughout the construction period.

Several bridges on Copco Road are not engineered for the projected loads, and construction improvements are required. Table 3-4 provides the existing bridge loading capacities and proposed actions for improvement, if necessary.

Table 3-3. Detailed Copco Road Potential Construction Improvements

TYPE	CONSTRUCTION TIME PERIOD	NAME	STRUCTURE PURPOSE	POTENTIAL IMPROVEMENTS¹	NOTES
Road	Pre, during, and post construction	Copco Road	Will serve as the access route to construction activities Copco No. 1 and Copco No. 2 Developments	Mill and overlay road repair, asphalt, and base course replacements, and pull-off location construction.	Preliminary review of GPR and road coring data suggests some of the existing asphaltic concrete is placed directly on the subgrade, with little-to no base course; will require pavement rehabilitation.
Road	Pre, during, and post construction	Copco Road from Ager Road to Lakeview Road	Used for haul and access	Improvements such as mill and overlay or asphalt and base course replacement will be performed by the Renewal Corporation	Copco Road from Ager Road to Lakeview Road is classified as a minor collector. The pavement is in poor condition. The Renewal Corporation will may improve this roadway for mobilization and hauling. The Renewal Corporation will use temporary traffic control for any pavement rehabilitation.
Road	Pre, during, and post construction	Copco Road from Lakeview Road to Daggett Road	Used for haul and access	Improvements such as mill and overlay or asphalt and base course replacement will be performed by the Renewal Corporation.	Pavement condition along this stretch is poor and may require pavement maintenance during construction. The Renewal Corporation will may improve this roadway for mobilization and hauling. The Renewal Corporation's's contractor will use temporary traffic control for any pavement rehabilitation. This portion of Copco Road includes Brush Creek Bridge (Caltrans No.2C0280) and Jenny Creek Bridge (Caltrans No.2C0280).

TYPE	CONSTRUCTION TIME PERIOD	NAME	STRUCTURE PURPOSE	POTENTIAL IMPROVEMENTS ¹	NOTES
Road	Pre, during and post construction	Copco Road from Daggett Road to Copco Access Road	Used for haul and access	Improvements of the asphalt sections will include mill and overlay and base course replacement. Portions of the aggregate base road will be improved by adding vehicle pull-out locations	The surface starts out as asphalt and transitions to aggregate base 1.2 miles east of the Daggett Road intersection and has very low traffic volume. The Renewal Corporation may improve the portions of this roadway for mobilization and hauling. This portion of Copco Road includes Fall Creek Bridge (Caltrans Bridge No.2C0198).
Road	Post-construction	Copco Road from Copco Access Road to Copco Road Bridge	KRRC's contractor will not use this portion of Copco Road for dam or powerhouse removal but will use it for construction access to various post-drawdown construction activities, such as culvert replacements, restoration work, and installing rock slope protection.	The Renewal Corporation will not be improving or upgrading this road for mobilization or hauling.	The road surface is primarily dirt and has very low traffic volume. No temporary traffic control will be required.
Bridge	Pre-construction	Fall Creek Bridge (Copco Road)	Bridge on Copco road - used for haul and access	Temporary strengthening structure will be installed at the existing bridge to accommodate anticipated projected vehicle loads	Current bridge is timber - will not withstand projected vehicle loads. Traffic volumes are low at Fall Creek bridge, with most of the traffic comprised of PacifiCorp staff. Construction will require temporary traffic control
Bridge	Pre-construction	Dry Creek Bridge (Copco Road)	Bridge on Copco road - used for haul and access	Temporary strengthening structure will be installed at the existing bridge to accommodate anticipated projected vehicle loads.	Current bridge is timber - will not withstand projected vehicle loads. Construction will require temporary traffic control

TYPE	CONSTRUCTION TIME PERIOD	NAME	STRUCTURE PURPOSE	POTENTIAL IMPROVEMENTS ¹	NOTES
Bridge	Post-drawdown	Jenny Creek Bridge (Copco Road)	Bridge on Copco road - used for haul and access	Monitor existing bridge for post-drawdown erosion at abutments.	No work planned. The Renewal Corporation will provide post-drawdown monitoring.
Bridge	Post- drawdown	Scotch Creek Bridge (Copco Road)	Bridge on Copco road - used for haul and access	Existing Scotch Creek culvert will be replaced by a concrete box culvert.	Construction improvement will require temporary traffic control.
Bridge	Post-drawdown	Camp Creek Bridge (Copco Road)	Bridge on Copco road - used for haul and access	Existing Camp Creek culvert will be replaced by a concrete box culvert.	Construction improvement will require temporary traffic control.

Notes:

Source: Knight Piésold, 2020a

1. The extent of repairs carried out will be determined on an as-needed basis with the Siskiyou County as per the communications with Siskiyou County.

Table 3-4. Existing Bridge Status and Proposed Actions

EXISTING BRIDGE	BRIDGE LOAD RATING ACCORDING TO AS-BUILT INFORMATION	ACTION
Lakeview Road Bridge	40 Ton, 4-axle truck	Proposed Action-related traffic exceeding the posted load limits will be routed to alternate access route via Ager Beswick/Lakeview private roads. Option to install a temporary modular bridge at this location will be maintained in the event that relocation of traffic is not achieved.
Daggett Road Bridge	17 Ton Load Limit for double axle 27 Ton Load limit for triple axle 29 Ton Load limit for 4-axle	Construct permanent modular steel truss bridge upstream of existing bridge. Remove following completion of the Proposed Action.
Dry Creek Bridge	No Rating Specified. Knight Piésold inspection deemed this bridge insufficient for anticipated projected loads.	Construct temporary strengthening structure to support existing bridge. Remove following completion of the Proposed Action.

Fall Creek Bridge at Copco Road	No Rating Specified. Knight Piésold inspection deemed this bridge insufficient for anticipated projected loads.	Construct temporary strengthening structure to support existing bridge. Remove following completion of the Proposed Action.
Copco Road Bridge	HS20-44 Alternate Design Load Permit Design Load	No modification required.
Jenny Creek Bridge	HL-93 Permit Design Load	No modification required.
Brush Creek Bridge	HS20-44 Alternate Design Load	No modification required.
Cottonwood Creek Bridge	HS20-44 Permit Design Load	No modification required.
Bogus Creek Bridge	HS20-44	No modification required. Visual inspection noted some cracks in the concrete deck and that RSP requires maintenance.
Willow Creek Bridge	HS20-44	No modification required.
Klamath on River Bridge	HS20-44 (National Bridge Inventory ([NBI])).	Not used for Construction Access Loads. Visual inspection noted cracking and excessive deflection in main central span.

NOTES:

HS20-44 = Vehicle with a front tractor axle weighing 4 tons, rear tractor axle weighing 16 tons, and semi- trailer axle weighing 16 tons (36 tons total).

AASHTO HL-93 vehicular live load is a combination of three different loads:

- HL-93 Design Truck = 32.7 tons
- HL-93 Design Tandem = 25 tons
- Design Lane Load = 0.95 tons/m uniformly distributed in the longitudinal direction

Data for bridge load capacities were taken from posted load limits, as-built drawings, and the Federal Highway Administrations' NBI Annual Inspection Reports.

This table was developed from publicly available data and should not be considered a comprehensive structural assessment for all project bridge load ratings.

Consistent with the Renewal Corporation's discussions with Siskiyou County, the Copco Road may be temporarily closed for up to 48 hours at Dry Creek and 72 hours at Fall Creek during construction activities. The intention is to not close these roads for any extended length of time, because most work will be conducted under the bridges. If closure is needed for short periods of time, flaggers will be used to direct traffic. If closure is required for a long period of time, a detour via Ager Road and Ager Beswick Road will be utilized to redirect traffic. These closures could occur twice at each location, once for preconstruction activities and once at the end of dam removal activities. The Renewal Corporation will provide signage and advanced notification prior to these works, and these closures will occur prior to May 1st of each calendar year. In addition, if the Renewal Corporation removes existing bridge railings and other conflicting features to allow adequate room for temporary bridge improvements, the Renewal Corporation will re-install existing bridge railings to the pre-existing condition. Removing bridge railings or other existing features will not constitute a need to rebuild or reinstall the railings or any other portion of the bridges to any updated code or standard.

At the Scotch Creek and Camp Creek culvert construction improvements, the Renewal Corporation will perform all legal and right-of-way transfer and mapping for the new alignment as required. The Renewal Corporation will construct a temporary shoe fly detour immediately adjacent to the existing roadway as per discussions with Siskiyou County. This detour will be of sufficient width to pass at least one lane of traffic at all times through the creek crossing construction area. Detour embankments will be capped with temporary gravel surfacing and a 100-foot maintenance easement at both upstream and downstream of new Scotch Creek and Camp Creek right of way alignments will be developed. This will allow the County to trim and cut any vegetation interrupting flow in the new roadway and structure locations.

During construction improvements on Copco Road, the Renewal Corporation will provide temporary traffic control as needed, including but not limited to the following measures:

- Temporary advance warning signs to notify the public of construction improvements,
- Flaggers equipped with warning signs,
- Temporary construction personnel directing traffic safely through the construction improvement zone.

3.1.2 Copco No. 2 Development Access

The Copco No. 2 dam area will be accessed by Copco Access Road, which is regionally accessed via Copco Road to the North as shown in Figure C1 in Appendix A. Table 3-5 distinguishes between public and private roadways.

Access to Copco No. 2 powerhouse facilities and the Copco Village will be via Daggett Road. Daggett Road is regionally accessed via Copco Road. Daggett Road Bridge crosses the Klamath River just downstream of the Copco No. 2 powerhouse facilities. The culvert located at Fall Creek at Daggett Road requires construction improvements. At this location, the Renewal Corporation will remove the existing culvert and replace it with a new arch culvert; road and

embankment design improvements will be made by the Renewal Corporation to support the new arch culvert.

The existing Daggett Road Bridge is not engineered for the Proposed Action loads. A new permanent 20-foot-wide steel truss bridge will be constructed by the Renewal Corporation upstream of the existing Daggett Road Bridge to provide construction as well as permanent access to the Copco No. 2 powerhouse facilities and substation. The north approach to the construction access bridge at Daggett Road will direct construction vehicles to the permanent y construction access bridge, located upstream of the existing Daggett Road Bridge. The approach geometry provides the turning space required to accommodate a low-boy type vehicle to line up with the permanent bridge. Approach road surfaces will be gravel base and appropriate signage will be posted to clearly designate the permanent bridge access and closure of the existing bridge. The new Daggett Road Bridge will not encroach on wetlands area to the west. Following construction, the new permanent bridge will serve as the river crossing and the existing bridge closed.

3.1.3 Iron Gate Development Access

Construction access to Iron Gate Development will be taken through Ager Beswick Road and Lakeview Road and a network of private roads as shown in Figure C2 in Appendix A. The Renewal Corporation is maintaining the option of installing a temporary modular bridge adjacent to the existing Lakeview Bridge to provide construction access. The temporary bridge options would be utilized if access through private property is not available during construction. Table 3-5 distinguishes between public and private roadways. Lakeview Road via Ager Beswick Road provides access to the site on the south bank of the Klamath River. The Renewal Corporation will coordinate with local landowners to maintain and modify the private roads, as required between Ager Beswick Road/Crest Lane intersection and the Iron Gate Dam Development. This portion of the route includes approximately 5.8 miles of private gravel road. The Renewal Corporation will perform temporary traffic control as needed during potential Lakeview Road construction access improvements and pavement rehabilitation. Figure C2 provided in Appendix A shows the general route map to the Iron Gate Development. Potential improvement actions along this route include:

- Gravel re-surfacing as needed in preparation for construction vehicles (approx. length of unsurfaced road = 4.35 miles).
- Widening of tighter turns.
- Potential replacement of some culverts noted as being in poor condition.
- Some sections of Ager Beswick Road showed evidence of differential settlement, indicating weak subgrade conditions.
- Temporarily widening of Ager Beswick Road to the South at Crest Lane.

Private vehicles and construction vehicles with small loads will also access the Iron Gate Development through Lakeview Road via Copco Road. This route will not be used by construction vehicles with large loads because the Lakeview Road Bridge is not designed to withstand heavier loads.

Table 3-5. Roadway Jurisdiction

ROAD	PUBLIC	PRIVATE
I-5	X	
Copco Road	X	
Ager Beswick Road	X	
Ager Road	X	
Daggett Road	X	
Lakeview Road	X	
Crest Lane		X
Copco Access Road		X

3.2 Existing Site Traffic Characteristics

In July 2019, a visual inspection of the roads in the Proposed Action area was completed (Knight Piésold, 2020b). The road inspection evaluated surface types, the frequency and severity of distresses, and listed the road conditions either as good (e.g., like new, structurally sound, and functionally adequate), fair (e.g., some deterioration, but structurally sound and functionally adequate) or poor (e.g., significant deterioration, requiring maintenance or repair).

In spring 2021, prior to mobilization and construction activities, the Renewal Corporation will document existing condition of Ager Road, Copco Road, and Ager Beswick Road using a video survey and associated plan markup documentation. This survey and documentation will serve as the base roadway condition.

Copco Road was inspected from I-5 to the intersection of Copco Road and Ager Beswick Road. The road has varying conditions from good to poor, and has multiple surface types, distresses, lane widths, shoulder availability, and levels of previous repair. The road is generally winding in nature and narrow areas are frequent. For Copco Road construction access improvements, refer to Table 3-3.

Ager Road from Copco Road to the intersection of Ager Beswick Road has an asphalt pavement surface and is in good condition. Ager Beswick Road from Ager Road to Copco Road also has an asphalt pavement surface and is in good condition. Lakeview Road from Copco Road to the end of the public roadway is composed of aggregate base and is in good condition. Copco Access Road has an aggregate base pavement surface and is in fair condition. Areas of nearby vegetation, steep slopes and tight turns exist on Copco Access Road.

Roadways for site access are primarily low-trafficked roads in a rural setting. Estimated traffic counts for existing roads in the regional area from Oregon Department of Transportation and

Caltrans are provided in Table 3-6. Estimated peak hour traffic counts per direction for existing conditions as well as during construction activities are provided in Table 3-7.

Table 3-6. Estimated Traffic Counts for Existing Conditions

ROAD SEGMENT	AADT	AADT DISTRIBUTION (%) ¹			AADT DISTRIBUTION			PHT DISTRIBUTION ³			PHT DISTRIBUTION FOR EACH DIRECTION ⁴		
		AUTO ²	MEDIUM TRUCKS ²	HEAVY TRUCKS ²	AUTO	MEDIUM TRUCKS	HEAVY TRUCKS	AUTO	MEDIUM TRUCKS	HEAVY TRUCKS	AUTO	MEDIUM TRUCKS	HEAVY TRUCKS
Ager- Beswick Rd ⁶	200	58.82	34.85	6.33	117.64	69.7	12.66	12	7	2	6	4	1
Copco Rd ⁵	250	71.34	0	28.66	178	0	72	18	0	7	9	0	4

Notes:

Source: US DOI and CDFW, 2012 AADT: Average Annual Daily Traffic PHT: Peak Hour Traffic

1. AADT distribution percentage provided by transportation engineers (J. Key, personal communication, December 13, 2010).
2. TNM vehicle classification: Auto = cars and light duty trucks, Medium Trucks = cargo vehicles with two axles and six tires; Heavy trucks - cargo vehicles with three or more axles.
3. PHT assumed to be 10% of AADT based on a review of published Caltrans and ODOT traffic counts (ODOT, 2010; Caltrans, 2010).
4. PHT for each direction assumed to be the same in both direction of traffic.
5. Traffic count estimated from field observations (CDM, field observations, October 17, 2010).
6. Assume Ager-Beswick Rd is similar to Topsy Grade Rd in Oregon (J. Key, personal communication, February 8, 2011).

Table 3-7. Estimated Peak Hour Traffic Counts per Direction

ROAD SEGMENT	DIRECTION	EXISTING CONDITIONS ¹			DURING CONSTRUCTION ESTIMATES		
		AUTO ²	MEDIUM TRUCKS ²	HEAVY TRUCKS ²	AUTO	MEDIUM TRUCKS	HEAVY TRUCKS ³
Ager Rd	North	6	4	1	6	4	1
	South	6	4	1	6	4	2
Copco Rd ⁴	East	9	0	4	125	0	4
	West	9	0	4	9	0	13

Notes:

Source: US DOI and CDFW, 2012

1. See Existing Conditions table for PHT distribution references.
2. TNM vehicle classification: Auto = cars and light duty trucks, Medium Trucks = all cargo vehicles with two axles and six tires; Heavy trucks - all cargo vehicles with three or more axles.
3. All haul trucks assumed to be Heavy Trucks (3 axles or more).
4. Workers for Copco No. 1, Copco No. 2, and Iron Gate assumed to travel from Medford or Yreka. Maximum number of construction workers for the three facilities added to the Auto category for Copco Rd and I-5. Construction workers are double counted in the California segment of I-5 for conservative estimate.

3.3 Construction Work Hours

All activities at the Copco No. 1, Copco No. 2, and Iron Gate facilities, including the arrival and departure of vehicles delivering or removing materials from or to the site, will be carried out 24 hours a day, seven days a week.

3.4 Roads Authority

The roads authority for non-private roads in the Proposed Action area is Siskiyou County. The private network of roads leading to the Iron Gate Development via Ager Beswick Road have a private roads authority. Iron Gate Estates manages and maintains the private roads located within the route through Ager Road, Ager Beswick Road, and Lakeview Road, as well as other local private roads. The Renewal Corporation is currently working with the private authority for this network of roads and consulting them while conducting a construction improvement review of these roadways. This California Traffic Management Plan meets applicable regulatory permit requirements, state and local ordinances, and Siskiyou County requirements.

3.5 Site Security

The Renewal Corporation will implement the following measures with respect to site security. All security guardhouses are shown in Figure C4 and C5 in Appendix A. At the Copco No. 1, Copco No. 2, and Iron Gate facilities, temporary fences and gates will be installed and maintained at all times.

Barbed wire fences will be installed around the perimeter of the construction areas to surround staging areas/construction entrances and protect mobile offices, fuel tanks, equipment, and supplies.

3.5.1 Copco No. 1 Development

Construction access to the Copco No. 1 Development is shown in Figure C2 in Appendix A. Access is through Copco Access Road, which is regionally accessed via Copco Road, located north of the facility. A guard shack and security pipe gate will be temporary installed on Copco Access Road to prevent unauthorized access to site.

3.5.2 Copco No. 2 Development

Copco No. 2 Development access points are divided into dam access and powerhouse access. Copco No. 2 dam access will be through Copco Access Road regionally access via Copco Road from the north, similar to Copco No. 1 Development (Section 4.6.2). In addition, the dam will be accessed via a temporary spillway apron access track to be built during construction. A guard shack and security pipe gate will be installed on Copco Access Road to prevent unauthorized access to site.

Copco No. 2 powerhouse facilities will be accessed through Daggett Road, which is regionally accessed via Copco Road. A guard shack and security pipe gate and a will be installed on Daggett Road at the intersection of Copco Road and Daggett Road to prevent unauthorized access to site. In addition, an unmanned pipe gate will be installed on Daggett Road southeast of the site to prevent unauthorized access.

3.5.3 Iron Gate Development

Construction access at the Iron Gate Development is shown in Figure C3 in Appendix A. Construction access is through Lakeview Road accessed via Ager Beswick Road southeast of the facility. Construction access will not be available from Lakeview Road via Copco Road for vehicles with heavy loads. The Renewal Corporation is maintaining the option of installing a temporary modular bridge adjacent to the existing Lakeview Bridge to provide construction access. The temporary bridge options would be utilized if access through private property is not available during construction. Several unmanned security pipe gates will be installed on Lakeview Road to prevent unauthorized access to the facility. In addition, a guard shack and security pipe gate will be installed between Lakeview Road Bridge and Copco Road to prevent unauthorized access to site.

PacifiCorp reservoir operational staff and contractors will access the Iron Gate Development from Lakeview Road via Copco Road using the Lakeview Road Bridge.

3.6 Facility Users

A workforce of 105 people is needed by the Renewal Corporation for the pre- and post-reservoir drawdown construction activities at the Copco No. 1, Copco No. 2, and Iron Gate

Developments. The peak workforce required during excavation of the dams may reach 165 people at each facility, depending on subcontractor and the Renewal Corporation personnel requirements. The estimated equipment that will be used by the Renewal Corporation for the removal of the dams and other facilities pre- and post-drawdown are shown in Table 3-8.

Table 3-8. Estimated Equipment at Copco No. 1, Copco No. 2, and Iron Gate Developments

NAME OF EQUIPMENT	IRON GATE	COPCO NO. 1	COPCO NO. 2
Crawler-mounted lattice boom crane, 100 to 120 ton or 150 to 200 ton, 160- to 200-foot boom	X	X	X
Rough terrain hydraulic crane, 35 to 75 ton	X	X	X
Hitachi hydraulic excavator, 180,000 to 240,000 lb, 6- to 8-cy bucket	X		
Mid-size hydraulic excavator, 28,000 to 60,000 lb, 1- to 2-cy bucket		X	X
Cat 336 hydraulic track excavator, 80,000-lb, 3.5-cy bucket	X	X	X
Hydraulic track excavators, 65,000 to 120,000 lb, with Cat H120 hoe-ram, thumb, and shear attachments	X	X	X
Cat 966 (52,000-lb, 5-cy bucket) or Cat 988 (65,000-lb, 6-cy bucket) articulated wheel-loaders	X	X	X
Cat 725, Cat 730, or Cat 740 articulated rear dump trucks, 30 ton (22 cy)	X	X	X
D-6, D-7, D-8, or D-9 standard crawler dozers	X	X	X
Front-end wheel loader, integrated tool carrier, 25,000 lb	X	X	X
D-8 support and knockdown dozer	X		
Cat TL943 rough terrain telescoping forklift	X	X	X
Rough terrain telescoping manlift	X	X	X
Cat 140, 14, or 16 motor-grader	X	X	
Flexifloat sectional barges	X	X	
Truck-mounted seed sprayer, 2,500 gallons	X	X	
On-highway, light duty diesel pickup trucks, ½-ton, and 1-ton crew	X	X	X
On-highway flatbed truck with boom crane, 16,000 lb	X	X	X
On-highway truck tractors, 45,000 lb	X	X	X
Off-highway water tanker, 5,000 gallons	X	X	X

NAME OF EQUIPMENT	IRON GATE	COPCO NO. 1	COPCO NO. 2
On-highway water truck, 4,000 gallons		X	X
Wheel-mounted asphalt paver	X		
Self-propelled rubber tire and drum vibratory compactor, 5 to 15 ton	X		
Engine generators, 6.5 kW to 40 kW, diesel or gasoline	X	X	X
Air compressors, 100 psi, 185 to 600 cfm, diesel	X	X	X
Airtrack drill or hydraulic track drill		X	X
Hand-held drilling, cutting, and demolition equipment	X	X	X
Portable welders and acetylene torches	X	X	X
4-inch submersible trash pumps, electric	X	X	X
Light plants, 2,000 to 6,000 watt, 10 to 25 hp, diesel	X	X	

Notes:

Source: Information provided by KRRC (2020).t

3.6.1 Copco No. 1 Development

The estimated number of vehicle trips (VT), bulk quantity and load quantity per trip at the Copco No. 1 Development during construction are shown in Table 3-9.

Table 3-9. Copco No. 1 Development Vehicle Trip Estimation Summary

WASTE MATERIAL	IN SITU QUANTITY	BULK QUANTITY ¹	DISPOSAL SITE	QUANTITY PER TRIP	TOTAL TRIPS ²
Dam & Powerhouse Concrete	53,000 cy	69,000 cy	On-site	40 cy/trip (unpaved road)	1,750 trips (2 miles RT) ³
Dam & Powerhouse Mechanical/electrical	1,175 tons	--	Transfer station near Yreka	25 ton/trip (Copco Road)	50 trips (62 miles RT)
Building Material Debris	2 buildings 5,000 SF	--	Transfer station near Yreka	25 ton/trip (Copco Road)	5 trips (62 miles RT)
Power lines ²	2.7 miles of 12-kV and 69-kV	--	Transfer station near Yreka	--	--

Notes:

Source: Information provided by the Renewal Corporation (2020).

1. Volumes increased 30 percent for concrete rubble, 20 percent for loose earth materials.
2. Total trips of concrete assume off-highway articulated trucks with a nominal load capacity of 40 cy. Total trips for hauling mechanical and electrical items and building material debris using truck tractor-trailers is based on 25 tons per trip. Truck trips for concrete disposal will only travel on project lands and private roads.
3. These trips will not occur on public roads

3.6.1.1 Construction Users

Construction personnel at the Copco No. 1 Development will arrive on site at approximately the same times every workday to maintain efficiency and reduce unexpected traffic. Construction personnel will arrive at the staging area and are permitted to be at site during the construction hours. A total of 105 vehicles associated with construction personnel will be on site daily, with up to 165 vehicles during peak construction.

3.6.1.2 Reservoir Operational Staff and Contractors

Reservoir operational staff and contractors will access Copco No. 1 through Copco Access Road via Copco Rd from the north. Two to four PacifiCorp personnel will be on site daily.

3.6.1.3 Oversized and Heavy Vehicle Access

Oversized and heavy vehicles will access the Copco No. 1 Development through Copco Access Road via Copco Road. Oversized and heavy vehicle access will not use roadways at the Copco No. 1 Development. An access map for the Copco No. 1 Development is provided in Figure C2 in Appendix A.

3.6.2 Copco No. 2 Development

The estimated number of vehicle trips (VT), bulk quantity and load quantity per trip at the Copco No. 2 Development during construction are shown in Table 3-10.

Table 3-10. Copco No. 2 Development Vehicle Trip Estimation Summary

WASTE MATERIAL	IN SITU QUANTITY	BULK QUANTITY ¹	DISPOSAL SITE	QUANTITY PER TRIP	TOTAL TRIPS ²
Dam Embankment Earth	8,840 cy	9,650 cy	On-site disposal area	40 cy/trip (unpaved road)	240 trips (2 miles RT) ³
Dam Concrete	4,800 cy	6,240 cy	On-site disposal area		160 trips (2 miles RT) ³
Powerhouse Concrete	1,850 cy	2,405 cy	On-site tailrace area	Dispose at site (no hauling)	0
Dam & Powerhouse Mechanical/ Electrical	260 tons 1,120 tons	--	Transfer station near Yreka	25 ton/trips (Copco Road)	6 trips (62 miles RT) 45 trips (56 miles RT)
Building Material Debris	9 residential buildings 26,400 SF	--	Transfer station near Yreka	20 cy/trips (Copco Road)	20 trips (56 miles RT)

WASTE MATERIAL	IN SITU QUANTITY	BULK QUANTITY ¹	DISPOSAL SITE	QUANTITY PER TRIP	TOTAL TRIPS ²
Treated wood (wood- stave penstock)	550 tons	--	Landfill near Anderson, CA	20 cy/trip (Interstate 5)	55 trips (140 miles RT)
Power lines ²	1.6 miles of 12-kV and 69-kV lines	--	Transfer station near Yreka	--	--

Notes:

Source: Information provided by the Renewal Corporation (2020)

1. Volumes increased 30 percent for concrete rubble, 20 percent for loose earth materials.
2. Total trips of earth fill or concrete assume off-highway articulated trucks with a nominal load capacity of 40 cy. Total trips for hauling mechanical and electrical items using truck tractor-trailers is based on 25 tons per trip. Truck trips for earth and concrete disposal will only travel on project lands and private roads.
3. These trips will not occur on public roads.

3.6.2.1 Construction Users

Construction personnel at the Copco No. 2 Development will arrive on site at approximately the same times every workday to maintain efficiency and reduce unexpected traffic. Construction personnel will arrive at the staging area and are permitted to be at site during the construction hours. A total of 105 vehicles associated with construction personnel will be on site daily, with up to 165 vehicles during peak construction.

3.6.2.2 Reservoir Operational Staff and Contractors

Reservoir operational staff and contractors will access Copco No. 2 dam through Copco No. 2 Access Road via Copco Access Road and Copco Road from the north.

Reservoir operational staff and contractors will access the Copco No. 2 powerhouse facilities by Daggett Road via Copco Road. Two to six PacifiCorp personnel will be on site, depending on substation and transmission related activities.

3.6.2.3 Oversized and Heavy Vehicle Access

Oversized and heavy vehicles will access the Copco No. 2 dam through Copco No. 2 Access Road via Copco Access Road and Copco Road. In addition, oversized and heavy vehicles will access the construction site at Copco No. 2 dam via a temporary spillway apron access track. For the diversion dam, access will be through Copco Road via Copco No. 1 Village. An access map for the Copco No. 2 Development is provided in Figure C2 in Appendix A.

Oversized and heavy vehicles will access the Copco No. 2 powerhouse facilities via Daggett Road. This route includes traveling across the newly constructed Daggett Road Bridge which will be strengthened for heavy loads.

3.6.3 Iron Gate Development

The estimated number of vehicle trips (VT), bulk quantity and load quantity per trip at the Iron Gate Development during construction are shown in Table 3-11.

Table 3-11. Iron Gate Development Vehicle Trip Estimation Summary

WASTE MATERIAL	IN-SITU QUANTITY	BULK QUANTITY ¹	DISPOSAL SITE	QUANTITY PER TRIP	TOTAL TRIPS ²
Dam Embankment Earth	193,000 cy	232,000 cy	On-site spillway	60 cy/ trip (unpaved road)	3,900 trips(0.5 mile RT) ³
Dam Embankment Earth	916,000 cy	1,100,000 cy	On-site disposal area	20 cy/ trip (unpaved road)	18,300 trips(2 miles RT) ³
Concrete	6,500 cy	7,800 cy	On-site disposal area	20 cy/trip (unpaved road)	390 trips (2 miles RT)
Mechanical/ Electrical	1,200 tons	--	Transfer station near Yreka, CA	25 ton/trip (Copco Road)	50 trips (54 miles RT)
Building Material Debris	4 buildings 2,700 SF	--			10 trips (54 miles RT)
Power lines	7.2 miles of 12-kV and 69- kV line			--	--

Notes:

Source: Information provided by the Renewal Corporation (2020).

1. Volumes increased 30 percent for concrete rubble, 20 percent for loose earth materials.
2. Peak daily trips for each site are based on the number of vehicles (units) shown, operating in one 10-hour shift.
3. Total trips of earth fill assume off-highway articulated trucks with a nominal load capacity of 60 cy. Total trips of concrete assume off-highway articulated trucks with a nominal load capacity of 20 cy. Total trips for hauling mechanical and electrical items using truck tractor-trailers is based on 25 tons per trip.

3.6.3.1 Construction Users

Construction personnel at the Iron Gate Development will arrive on site at approximately the same times every workday to maintain efficiency and reduce unexpected traffic. Construction personnel will arrive at the staging area and are permitted to be at site during the construction hours. A total of 105 vehicles associated with construction personnel will be on site daily, with up to 165 vehicles during peak construction.

3.6.3.2 Reservoir Operational Staff and Contractors

Reservoir operational staff and contractors will access the Iron Gate Development through Lakeview Road via Copco Road. Two to four PacifiCorp personnel will be on site daily, with up to 12 depending on fish related activities.

3.6.3.3 Oversized and Heavy Vehicle Access

Oversized and heavy vehicles will access the Iron Gate Development through Lakeview Road via Ager Beswick Road. Oversized and heavy vehicles will not travel across the Lakeview Road Bridge at Klamath River. An access map for the Iron Gate Development is provided in Figure C2 in Appendix A. The Renewal Corporation will be subject to a single comprehensive Project-level permit with specific documented routes rather than individual per load permits. Load weights are anticipated to carry up to 60,000 lbs per tandem axle. The Renewal Corporation will provide a forecast schedule of the anticipated oversize hauling so that the County can witness loads passing on the roadway and inspect for roadway damage at the County's discretion. The Renewal Corporation will maintain a log of all loads that are greater than or equal to a fully loaded 18-wheel truck and trailer with an approximate overall weight of 80,000 lbs. hauled on Copco Road, Ager Road, Yreka Ager Road, and/or Ager Beswick Road.

3.7 Adjoining Private Property Access

Access to and from private property will be maintained at all times. If access to private property need to be limited on a temporarily basis, the Renewal Corporation will make these arrangements in advance with the effected private property owner.

3.8 Roadway Closures

The Renewal Corporation may close Copco Road during construction improvements at the bridges and culverts (Table 3-3). These closures, if necessary, will be of limited duration. Prior to road closure there will be a 72-hour public notice.

3.9 Temporary Roadways and Works

3.9.1 Copco No. 1 Development

At the Copco No. 1 Development, Copco Access Road is a dirt road with a hairpin bend. The lower side of access road is very steep with no barrier protection. The Renewal Corporation will re-grade the Copco Access Road by clearing and grubbing the available space between the toe of the higher hillside and the existing edge of the dirt/gravel road to provide a wider road section for construction and hauling trucks. The access road will be limited to one-way traffic with turnouts. Turnarounds for haul trucks will be provided at the staging areas for the powerhouse and the disposal site.

Ager Beswick Road at the Copco No. 1 site may be used by the Renewal Corporation for barge access to the reservoir. The road is not anticipated to be used for hauling but may be used for mobilization of a barge existing boat ramp at Mallard Cove on the southern shore. Access to the boat ramp is likely to require minor improvements by the Renewal Corporation to Ager Beswick Road. This may require the Cove to be temporarily closed for a few days for specific hours for dredging access to enable placing a barge mounted crane in the reservoir.

3.9.2 Copco No. 2 Development

At the Copco No. 2 Development, Copco Access Road will be improved by the Renewal Corporation as described in Section 4.2. In addition, the Renewal Corporation will construct a temporary spillway apron access track that will provide access to a temporary work platform during construction at Copco No. 2 dam.

Mobilization and hauling at the Copco No. 2 powerhouse facilities will be through Daggett Road, which will have two construction improvements for access and haul purposes. The first improvement includes improving the culvert at Fall Creek. The Renewal Corporation developed an open bottom, steel-plate arch culvert designated this location which meets NOAA criteria for fish passage. The second improvement on Daggett Road includes constructing a permanent access bridge at the current location of the Daggett Road Bridge. The new bridge will be a modular steel bridge installed on drilled shaft supports on each abutment. The new bridge will be located on the upstream side of the existing bridge.

3.9.3 Iron Gate Development

No temporary roadways or works are required at the Iron Gate Development. The Renewal Corporation will maintain and modify Lakeview Road and the network of private roads that connect the Iron Gate Development to Ager Beswick Road.

3.10 Traffic Control Personnel

The Renewal Corporation will require that all traffic control personnel at the Copco No. 1, Copco No. 2, and Iron Gate Developments will be trained in the proper fundamentals of flagging. Signaling directions used by flaggers will conform to the specifications provided in the California Code of Regulations Title 8, Division 1, Chapter 4, Subchapter 4, Article 11, Section 1599 – Flaggers. The Renewal Corporation will require traffic control personnel to follow specifications in the California Manual on Uniform Traffic Control Devices. The training and instructions will be based on the work site conditions and include the following:

- Flagger equipment which must be used.
- Layout of the work zone and flagging station.
- Methods to signal traffic to stop, proceed or slow down,
- Methods of one-way traffic control.
- Trainee demonstration of proper flagging methodology and operations.
- Emergency vehicles traveling through the work zone.
- Handling emergency situations.
- Methods of dealing with hostile driver.,
- Flagging procedures when a single flagger is used (when applicable).

Documentation of the training will be maintained consistent with Section 3203 of the California Code of Regulations, Injury Illness and Prevention Program of the General Industry Safety Orders. Flaggers will be trained by persons with the qualifications and experience necessary to effectively instruct the employee in the proper fundamentals of flagging moving traffic.

3.11 Signage

The Renewal Corporation will implement the following measures with respect to signage. Roadway signs will be used to inform the public where any road changes from construction works. Advanced warning signs (e.g., road work ahead, shoulder work, workers, etc.) will be used to indicate the type of work or activity the driver can expect. If road closures are needed at Copco Road at Dry Creek and Fall Creek during construction activities, the Renewal Corporation will provide notification to residential traffic and emergency services at least two weeks prior to the initiation of work.

3.12 Monitoring of Traffic Control Measures

During each stage of construction at the Copco No. 1, Copco No. 2, and Iron Gate Developments, the Renewal Corporation will check all signs and required traffic control measures for compliance with the California Traffic Management Plan.

3.13 Road Design

The Renewal Corporation will implement the following measures with respect to road design. All road designs will account for current traffic configuration, road safety, and traffic network impacts. All road designs will meet applicable safety, engineering, and design guidelines (i.e., AASHTO design standards).

The following road design criteria will be used for the design of temporary access roadways:

- Single-lane road, 15 ft wide with one 3-ft-wide safety berm.
- Safety berm when road segment is exposed to side slope.
- 35-foot minimum curve radius.
- 18% maximum road grade.

4.0 Traffic Control Locations

Areas of traffic control have been identified for each facility. Traffic control measures in these areas to be provided by the Renewal Corporation are discussed below and will be updated as required. The Renewal Corporation will provide temporary traffic control measures and warning signs to notify the public of construction works and flaggers equipped with warning signs for the removal of recreation sites adjacent to the Iron Gate and Copco Reservoirs.

Table 4-1. California Recreation Site Demolition Summary

RECREATION SITE	RESERVOIR	ROAD
Overlook Point	Iron Gate Reservoir	Copco Road
Mirror Cove	Iron Gate Reservoir	Copco Road
Juniper Point	Iron Gate Reservoir	Copco Road

RECREATION SITE	RESERVOIR	ROAD
Camp Creek	Iron Gate Reservoir	Copco Road
Wanaka Springs	Iron Gate Reservoir	Copco Road
Jenny Creek	Iron Gate Reservoir	Copco Road
Fall Creek	Iron Gate Reservoir	Copco Road
Copco Cove	Copco Lake	Copco Road

Note: This is not a complete list of all recreation sites to be removed. This list only includes recreations sites where minor temporary traffic control may be needed.

4.1 Copco No. 1 and No. 2 Development

Areas of traffic control at the Copco No. 1 and Copco No. 2 Developments have been identified and are shown in Figure C2 in Appendix A.

4.2 Iron Gate Development

Areas of traffic control at the Iron Gate Development have been identified and are shown in Figure C3 in Appendix A.

5.0 Site Traffic Rules

The Renewal Corporation will implement the following site traffic rules. During mobilization and hauling activities throughout the Proposed Action area all personnel will be required to follow the appropriate speed limits. Copco Road from I-5 to Daggett Road has a speed limit of 35 mph and the stretch from Daggett Road to Ager Beswick Road has a speed limit of 20 mph, unless otherwise posted. Speed limits will be reinforced at the site induction.

5.1 Copco No. 1 Development

5.1.1 Site Speed Limits

Signage indicating the appropriate speeds will be posted on all roadways and all personnel are always required to follow the speed limits at the Copco No. 1 Development. The speed limit is 15 mph on all roads at the Copco No. 1 Development unless otherwise posted. Speed limits will be evaluated for effectiveness and adjusted to maintain and prioritize safety during construction works. Speed limits may be higher as determined by Kiewit to allow for efficient hauling operations. Appropriate delineation and signage will be provided on haul roads.

5.1.2 Access Roads/Haul Roads

All personnel on site will be instructed to only use the access and haul roads and avoid traveling off the existing roadways, or on the shoulders of the road. Roadways will be delineated with

markings such as windrows, bunting, or flagging. Haul roads will be constructed with the following design:

- Appropriate geotechnical materials will be used for all road construction,
- Bends, corners, and turns will be constructed to maintain equipment stability during regular use, and
- Haul roads will comply with the Renewal Corporation and Kiewit requirements and recommendations and will be inspected regularly.

5.1.3 Maximum Loads

Trucks will be loaded with a safe load distribution to avoid spillage. The driver must be in the vehicle throughout the loading process.

5.1.4 Parking

Parking will be restricted to specific designated areas as determined as work progresses and will be chosen to avoid proximity to existing waterways. When entering the staging areas for parking, all personnel will follow all site traffic rules provided in this California Traffic Management Plan and in the Proposed Action Induction (Section 8.2).

5.1.5 Private Vehicles

Private vehicles will be allowed to park only in designated parking areas as determined as the work progresses and are not allowed on the construction site unless approved by the Kiewit Project Manager. If approved on site, private vehicles will adhere to all instructions and safety requirements designated in the California Traffic Management Plan. Private vehicles will be escorted if traveling through or to any operational areas.

There are public access roads adjacent to the Copco No. 1 construction site. Public access will be maintained on these access roads.

5.2 Copco No. 2 Development

5.2.1 Site Speed Limits

Signage indicating the appropriate speeds will be posted on all roadways and all personnel are always required to follow the speed limits at the Copco No. 2 Development. The speed limit of Copco Road from Ager Road to Daggett Road (14.6 miles) is 35 mph. The speed limit is 15 mph on all roads at the Copco No. 2 Development unless otherwise posted. Speed limits will be evaluated for effectiveness and adjusted to maintain and prioritize safety during construction works. Speed limits may be higher as determined by Kiewit to allow for efficient hauling operations. Appropriate delineation and signage will be provided on haul roads.

5.2.2 Access Roads/Haul Roads

All personnel on site will be instructed to only use the access and haul roads and avoid traveling off the existing roadways, or on the shoulders of the road. Roadways will be delineated with markings such as windrows, bunting, or flagging. Haul roads will be constructed with the following design:

- Appropriate geotechnical materials will be used for all road construction.
- Bends, corners, and turns will be constructed to maintain equipment stability during regular use, and
- Haul roads will comply with PacifiCorp and Kiewit requirements and recommendations and will be inspected regularly.

5.2.3 Maximum Loads

Trucks will be loaded with a safe distribution to avoid spillage. The driver must be in the vehicle throughout the loading.

5.2.4 Parking

Parking will be restricted to specific designated areas as determined as the work progresses and will be chosen to avoid close proximity to existing waterways. When entering the staging areas for parking, personnel will follow all site traffic rules provided in this California Traffic Management Plan and in the Proposed Action induction (Section 8.2).

5.2.5 Private Vehicles

Private vehicles will be allowed to park only in designated parking areas and are not allowed on the construction site unless approved by the Kiewit Project Manager. If approved on site, private vehicles will adhere to all instructions and safety requirements designated in the California Traffic Management Plan. If traveling through or to any operational areas, private vehicles will be escorted.

5.3 Iron Gate Development

5.3.1 Site Speed Limits

Signage indicating the appropriate speeds will be posted on all roadways and all personnel are always required to follow the speed limits at the Iron Gate Development. The speed limit on Ager Beswick Road is 25 mph. The speed limit is 15 mph on all roads, including Lakeview Road, at the Iron Gate Development unless otherwise posted. Speed limits will be evaluated for effectiveness and adjusted to maintain and prioritize safety during construction works. Speed limits may be higher as determined by Kiewit to allow for efficient hauling operations. Appropriate delineation and signage will be provided on haul roads.

5.3.2 Access Roads/Haul Roads

All personnel on site will be instructed to only use the access and haul roads and avoid traveling off the existing roadways, or on the shoulders of the road. Roadways will be delineated with markings such as windrows, bunting, or flagging. Haul roads will be constructed with the following design:

- Appropriate geotechnical materials will be used for all road construction.
- Bends, corners, and turns will be constructed to maintain equipment stability during regular use, and
- Haul roads will comply with the Renewal Corporation and Kiewit requirements and recommendations and will be inspected regularly.

5.3.3 Maximum Loads

Trucks will be loaded with a safe distribution to avoid spillage. The driver must be in the vehicle throughout the loading.

5.3.4 Parking

Parking will be restricted to specific designated areas as determined as the work progresses and will be chosen to avoid proximity to existing waterways. When entering the Brush Creek Avenue and Lakeview Road staging areas for parking, personnel will follow all site traffic rules provided in this California Traffic Management Plan and in the Proposed Action induction (Section 8.2).

5.3.5 Private Vehicles

Private vehicles will be allowed to park only in designated parking areas and are not allowed on the construction site unless approved by the Kiewit Project Manager. If approved on site, private vehicles will adhere to all instructions and safety requirements designated in the California Traffic Management Plan. If traveling through or to any operational areas, private vehicles will be escorted.

6.0 Requirements for Site Access

6.1 Personnel

The Renewal Corporation will require all personnel entering the Copco No. 1, Copco No. 2, and Iron Gate Developments to attend and complete a Proposed Action Induction. Visitor inductions will be arranged but require an inducted escort when at the site. Access to the site during non-regular hours must be arranged in advance with The Kiewit Project Manager.

6.2 Light Vehicles

All light vehicles on site are required to have reversing alarms. Flashing lights are required on light vehicles when traveling on haul roads.

7.0 Training and Awareness

7.1 Training, Awareness, and Competency

The Renewal Corporation will require training for all personnel prior to commencing work within the Limits of Work. The level of training will be commensurate with the level of individual risk their responsibilities are likely to entail. Trainings will include (as appropriate):

- Environmental and Safety policies and site Management Plans as well as environmental roles and responsibilities.
- The significance of environmental impacts caused by individual roles and activities,
- Incident management, and
- Potential consequences of non-conformance.

This plan will be discussed at orientation and will be updated as needed.

7.2 Inductions

7.2.1 Proposed Action Inductions

The Renewal Corporation will require all personnel to undergo an Induction to cover the key requirements of the Workplace Safety Management Plan and California Traffic Management Plan. The Induction will also cover safety, environment, community, and an overview of this Plan and reinforce it is the responsibility of all personnel to adhere to the safety and traffic requirements. The Induction will include:

- Overview of the site California Traffic Management Pla.,
- PPE requirement.,
- Contact details.
- Incident management and notification.
- Hours of work.
- Safety policies.
- Designated parking areas.
- Speed limits.
- Community protocol, and
- Emergency detour plans.

7.2.2 Visitor Inductions

The Renewal Corporation will require visitors to undergo a visitor's induction and their host is responsible for all actions and conduct of the visitor. During all times, visitors will be accompanied by personnel who have previously undergone Induction and safety training.

7.3 Toolbox Talks

Toolbox talks will be conducted regularly by the Renewal Corporation to improve on safety, health, quality, and environmental issues. Talks will focus on the current or upcoming work and will highlight specific safety aspects and actions being undertaken as part of ongoing management, training, and development. In general, toolbox talks will cover:

- An overview of current works.
- Traffic and access.
- Entry/exit point locations.
- Parking areas.
- If other persons are required to enter site that day, and
- Incidents, or potential incidents and possible implications.

8.0 References

Federal Energy Regulatory Commission (FERC). 2018. Order Amending License and Deferring Consideration of Transfer Application FERC Project Nos. 2082-062 and 14803-000. 162 FERC 61,236. Washington, DC, Federal Energy Regulatory Commission, Office of Energy Projects, Division of Hydropower Licensing.

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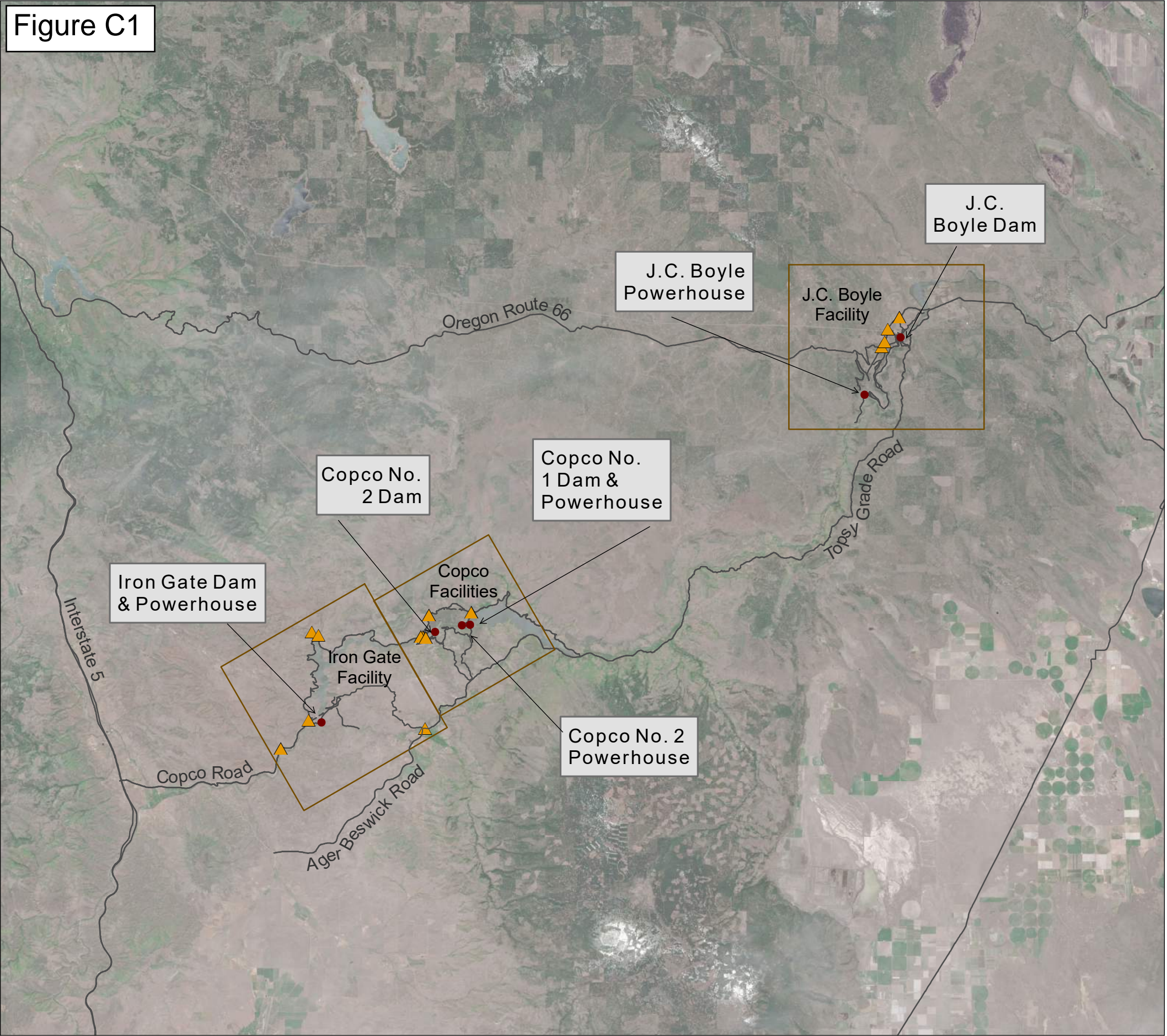
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Appendix A

Access and Security Maps

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KLAMATH RIVER RENEWAL CORPORATION

Klamath River Restoration Project
Traffic Management Plan Overview Map

November 13, 2020
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**PRELIMINARY DESIGN
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Figure Extents

Temporary Traffic Management

Project Features

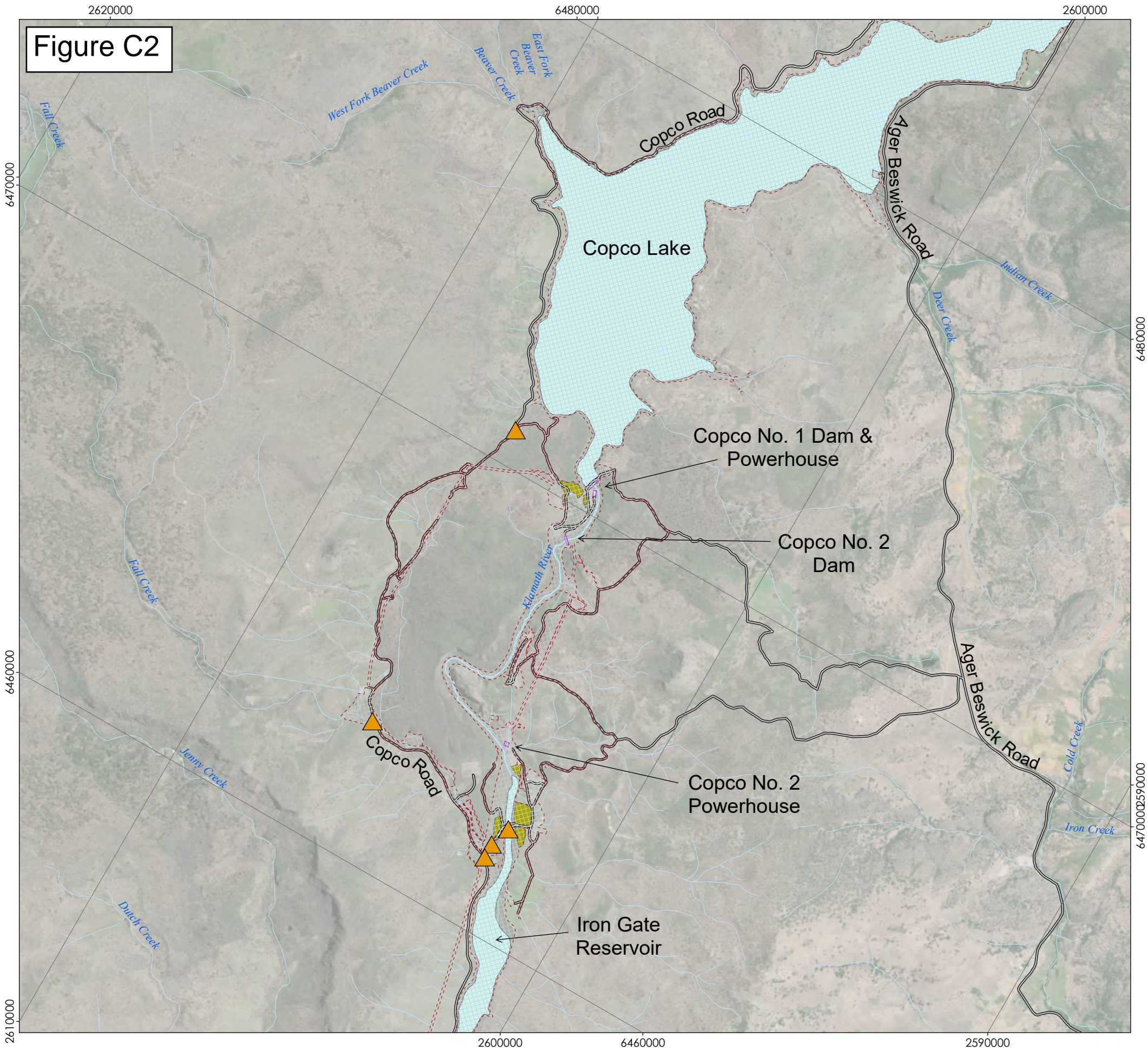
Access Routes

Notes

1. Coordinate System: NAD 1983 2011 StatePlane California I FIPS 0401 Ft US
2. Data Sources:
Project Features: McMillen-Jacobs; Access Routes 100 Design: McMillen-Jacobs; Temporary Traffic Management: Knight Piesold;
3. Background Imagery: Copernical Sentinel data 2020, processed by ESA
4. Inset Background Imagery: National Geographic, Esri, Garmin, HERE, UNEP-WCMC, USGS, NASA, ESA, METI, NRCAN, GEBCO, NOAA, increment P Corp.

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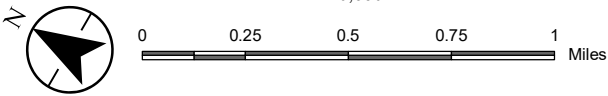
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**KLAMATH
RIVER RENEWAL
CORPORATION**

Klamath River Restoration Project
Access Map

Copco No.1 and No. 2 Facilities
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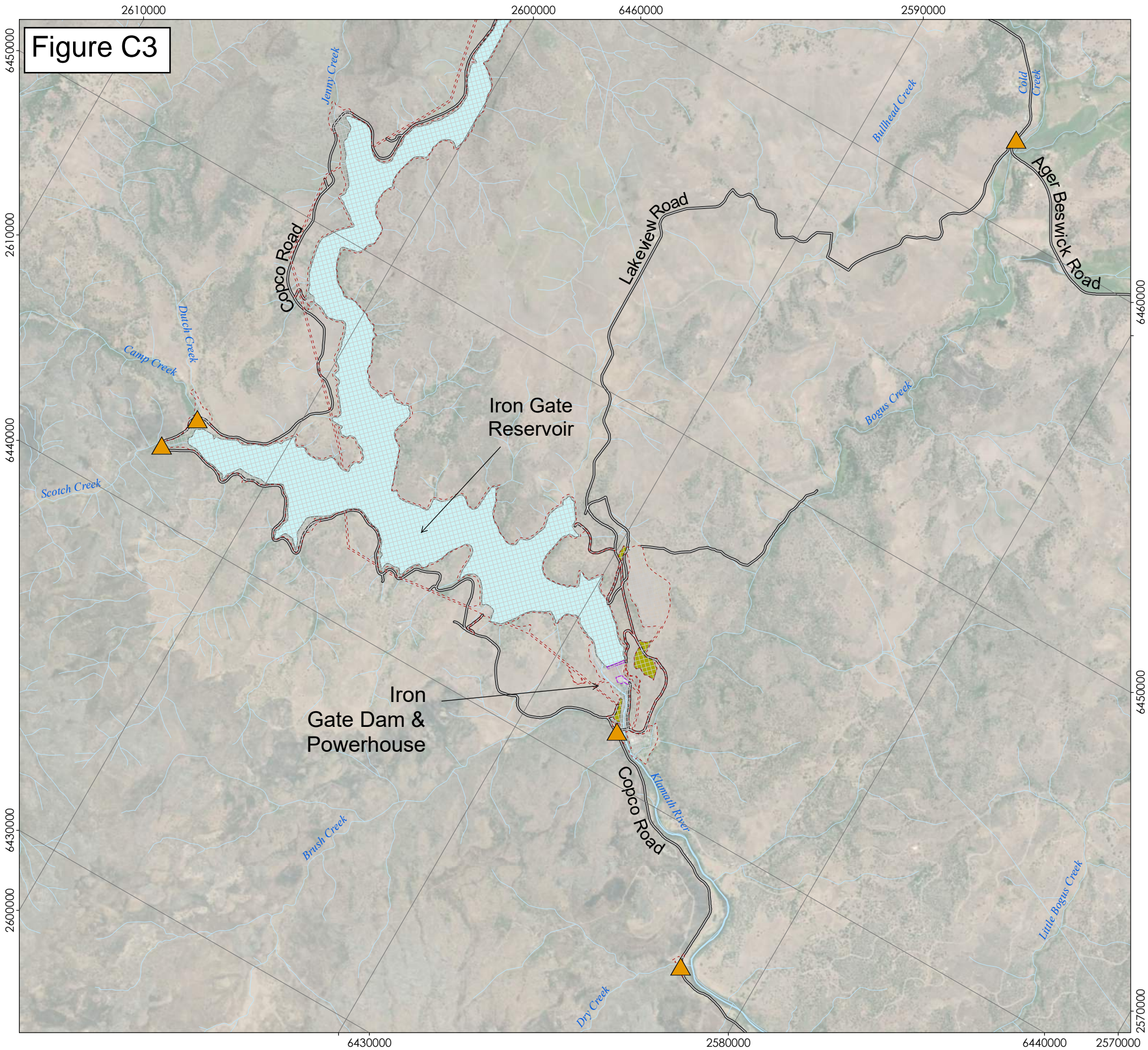
**PRELIMINARY DESIGN
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- Temporary Traffic Management
- Limits of Work
- Project Features
- Staging Areas
- Access Routes
- Reservoir Boundaries
- Streams

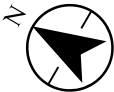
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1. Coordinate System: NAD 1983 2011 StatePlane California I FIPS 0401 Ft US
2. Data Sources:
Temporary Traffic Management: Knight Piesold; Limits of Work: McMillen-Jacobs, CAD 90 Design draft; Access Routes: Knight Piesold, 100 Design Drawings; Staging Areas: CDM, 60 Design; Streams and Reservoir: NHD.
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

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Klamath River Restoration Project
Access Map
Iron Gate Facility
November 12, 2020
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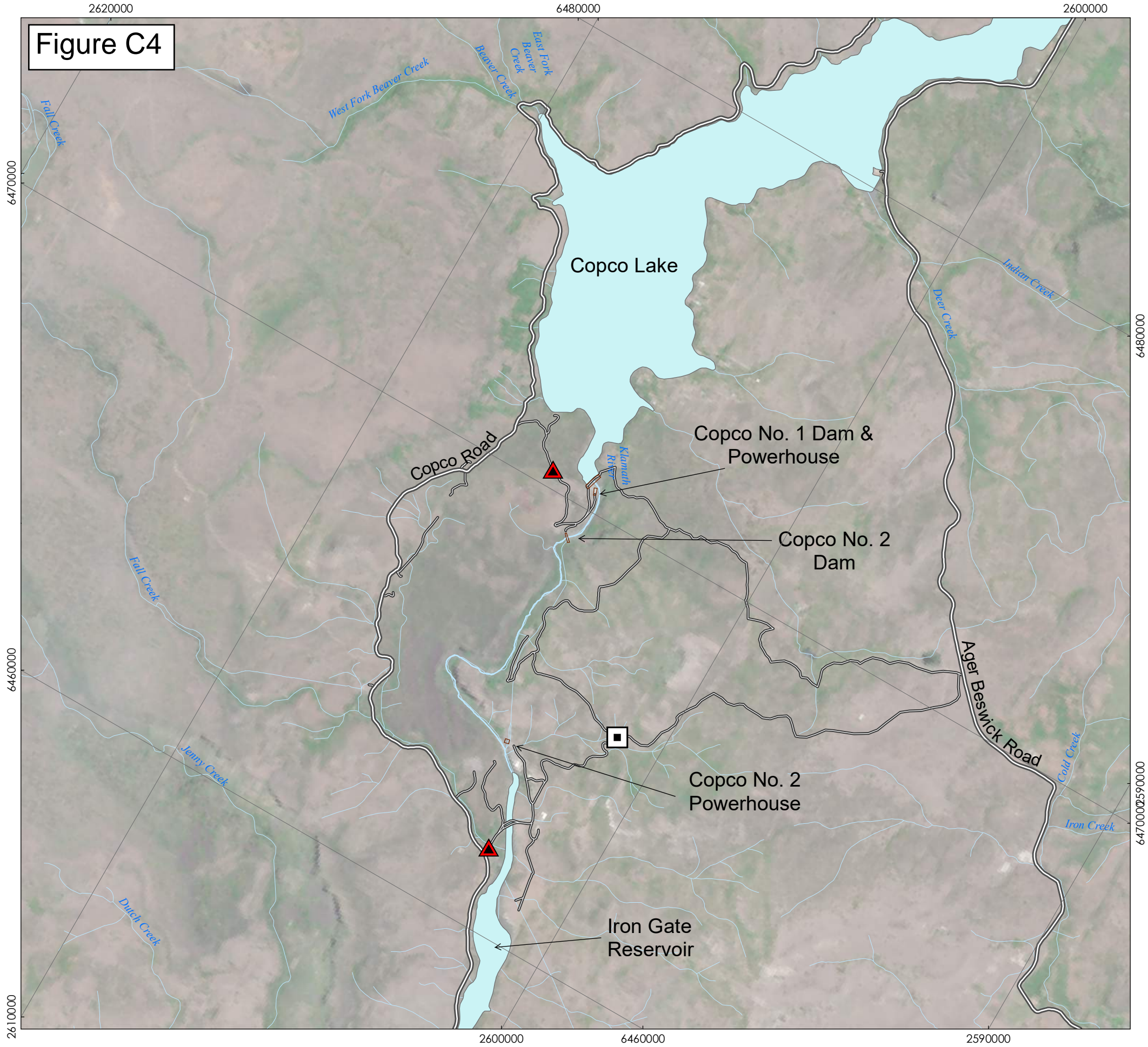
**PRELIMINARY DESIGN
(NOT FOR CONSTRUCTION)**

- Temporary Traffic Management
- Limits of Work
- Project Features
- Staging Areas
- Access Routes
- Reservoir Boundaries
- Streams

Notes
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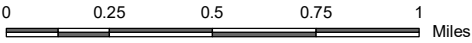
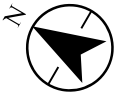
Klamath River Restoration Project

Security Map

Copco No.1 and No. 2 Facilities

November 13, 2020

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**PRELIMINARY DESIGN
(NOT FOR CONSTRUCTION)**

Legend

- Security Pipe Gate and Guard Shack
- Security Unmanned Pipe Gate
- Access Routes
- Project Features
- Reservoir Boundaries
- Streams

Notes
1. Coordinate System: NAD 1983 2011 StatePlane California I FIPS 0401 Ft US
2. Data Sources:
Security Locations: Knight Piesold; Access Routes: Knight Piesold, 100 Design Drawings; Streams and Reservoir: NHD.
Background Imagery: Copernicus Sentinel data Nov. 5 2020, processed by ESA

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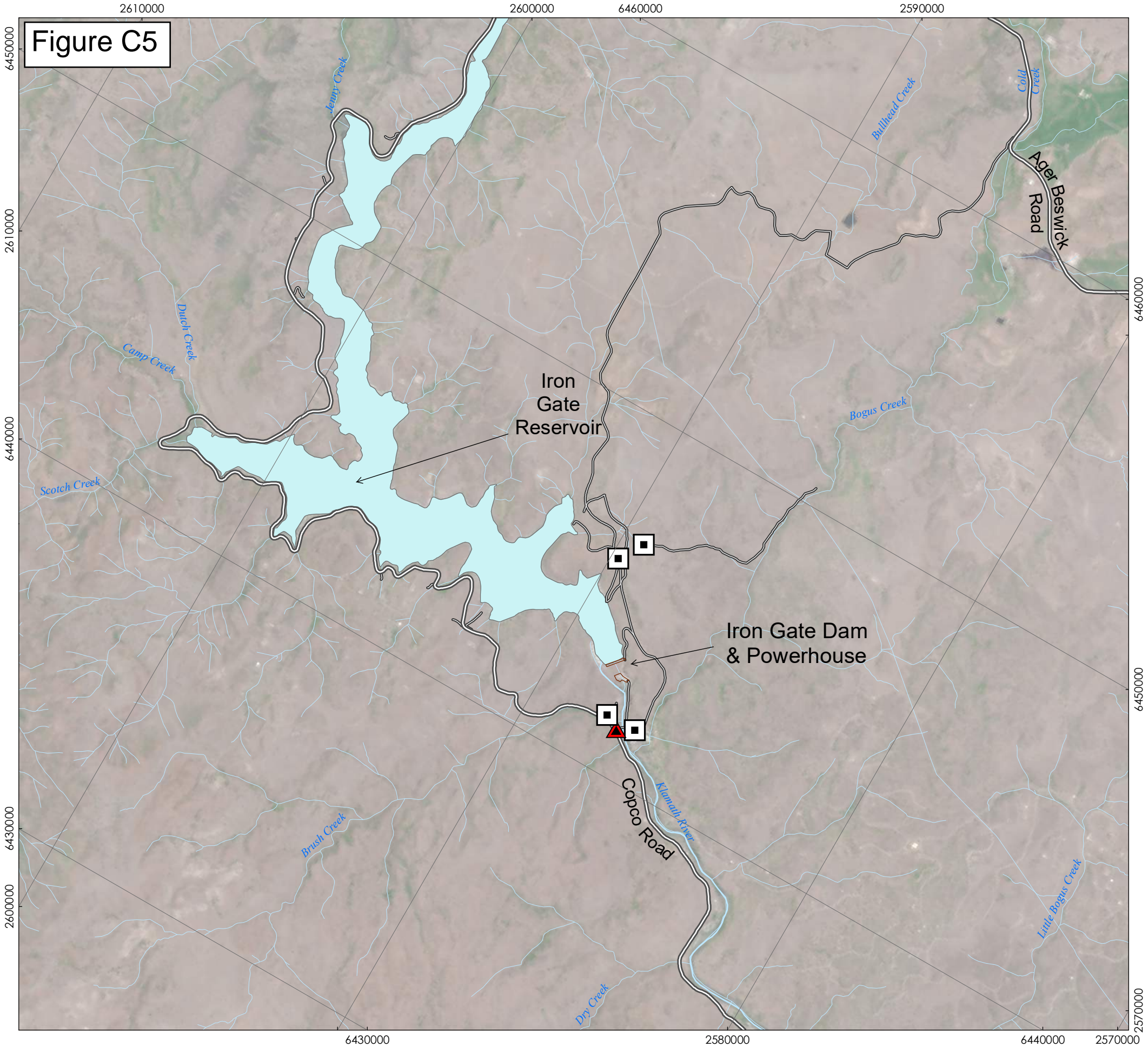


Figure C5



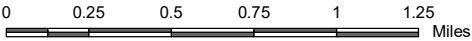
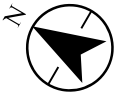
Klamath River Restoration Project

Security Map

Iron Gate Facility







November 13, 2020

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**PRELIMINARY DESIGN
(NOT FOR CONSTRUCTION)**

Legend

-  Security Pipe Gate and Guard Shack
-  Security Unmanned Pipe Gate
-  Access Routes
-  Project Features
-  Reservoir Boundaries
-  Streams

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 1. Coordinate System: NAD 1983 2011 StatePlane California I FIPS 0401 Ft US
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Appendix C

Emergency Response Plan



**Lower Klamath Project
FERC Project No. 14803**

**Emergency Response
Plan**

**Klamath River Renewal Corporation
2001 Addison Street, Suite 317
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**Prepared by:
RES
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**Kiewit Infrastructure West
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December 2021

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1.0 Introduction

The Emergency Response Plan described herein is a subplan of the Construction Management Plan that will be implemented as part of the Proposed Action for the Lower Klamath Project.

1.1 Purpose of Management Plan

The purpose of the Emergency Response Plan is to define roles, responsibilities, and procedures to be followed in the event of an emergency during implementation of the Proposed Action. This Plan will minimize hazards to employees, the public or the environment from fires, explosions, or any unplanned sudden or non-sudden release of hazardous materials, waste or constituents to air, soil, surface water or ground water. This Plan is designed to incorporate flexibility to tailor an appropriate response to meet a particular emergency.

This Plan pertains to work that the Renewal Corporation and its subcontractors Kiewit and RES (Renewal Corporation) will conduct in support of the Proposed Action. The Renewal Corporation will maintain safety staff that will be on-site when active work is being conducted. At times when all companies are working on the site concurrently, representative safety personnel will coordinate and collaborate to maintain a safe working environment for all employees. This Emergency Response Plan, therefore, outlines procedures that all companies will follow throughout the duration of work to respond to emergencies and minimize hazards to on-site workers and the public.

1.2 Relationship to Other Management Plans

The Emergency Response Plan is supported by elements of the following management plans for effective implementation: Water Supply Management Plan, Waste Disposal and Hazardous Materials Management Plan, Construction Management Plan (sub-plans), and Health and Safety Plan. So as to not duplicate information, elements from these other management plans are not repeated herein but are, where appropriate, referred to in this Emergency Response Plan.

2.0 Emergency Response Plan Measures

2.1 Process

Every employee on the project site will be trained on and familiar with the measures detailed in this Plan. In addition, the project Safety Director or Project Director will be tasked with assessing an emergency and making sure the correct action plan and steps are followed. General emergency procedure steps and documentation examples are in Appendix A.

The following items should be considered in assessing an emergency:

- Time
- Location

- Nature
- Duration
- Personnel exposures
- Equipment involved
- Root cause
- Fire
- Weather
- Life hazard
- Additional assistance required/available
- Notification needed, including those to offsite and/or regulatory agencies

2.1.1 Identification, Evaluation, and Emergency Level Classification

Either the Safety Director or Director will classify the emergency. The classification system for the Emergency Response Plan is based on three emergency incident classes: (1) UNUSUAL EVENT for a Minor Incident, (2) SITE EMERGENCY or (3) GENERAL EMERGENCY for a Major Incident. The classes determine the steps to be taken by facility personnel and the actions which are taken by offsite support organizations. An emergency class is an indicator of conditions at the site. Inputs to the emergency classification system include the status of the site and systems, hazardous materials in the area, release of hazardous materials, fires, natural phenomenon, medical emergencies and other hazards affecting both site personnel and the public.

The emergency classes are also used by offsite authorities to determine what level of response is required by their respective organizations. Protective actions taken on behalf of members of the public are the responsibility of local/state governments. Protective actions taken by local/state governments are based on projected or potential hazards to the public. The projected or potential hazards are based on considerations such as stability of site/equipment, source of chemical/hazardous spill, chemicals/hazardous substances released, emission rates, concentration, or meteorological conditions.

MINOR - UNUSUAL EVENT is normally an emergency capable of being managed solely by the site staff. This class also could be an early notification of events that could lead to more serious consequences or might indicate more serious conditions that have not yet fully developed. This class also includes events of potential public concern. An UNUSUAL EVENT is also used to denote certain events that require notification of appropriate site/Corporate personnel so that regulatory reporting requirements may be addressed.

MAJOR - SITE EMERGENCY reflects conditions in which significant hazardous conditions are occurring or are likely to occur, but do not necessarily have a direct impact on the public. In this situation, offsite emergency response personnel may or may not be required.

MAJOR - GENERAL EMERGENCY involves an actual or imminent hazardous condition which has a direct impact on the public and/or requires offsite support.

Emergency class descriptions are provided below Along with the basic actions to be carried out by personnel for each emergency class.

2.1.1.1 Minor - Unusual Event

2.1.1.1.1 Class Description:

Incidents are in progress or have occurred which indicate a potential degradation of the level of safety, health or the environment of the site, or the public has notified local/state agencies of an incident. No hazardous conditions or release of hazardous material requiring offsite response or monitoring are expected unless further degradation of safety, health and environment occurs.

2.1.1.1.2 Personnel Actions

- Assess and Respond
- Make immediate notifications, if applicable
- Augment personnel resources, as needed
- Escalate to a more severe class or close out with a verbal summary to those organizations initially notified, as appropriate

2.1.1.1.3 Initiating Conditions for Minor Event

- Fire
 - On-site fire lasting less than ten (10) minutes
- Hazardous Materials
 - Hazardous material release less than Federal reporting quantities, but reportable to State, posing no safety or health threat
- Loss of Environmental Control
 - Unusual release of site materials to the environment
 - Flammable gas or liquid release with no ignition
 - Non-hazardous odor released off-site
- Natural Phenomenon
 - Severe weather condition (tornado, hurricane, strong winds, etc.) predicted for site within twelve (12) hours
 - Offsite wildlife encroachment
- Unusual Operations and Other Hazards
 - Medical emergency requiring transport
 - Security (bomb) threat
 - Explosion (unidentified)
 - Loss of telephone communications, or
 - Unauthorized site entry
 - Protests and Demonstrations
 - Vehicle Collisions
- Equipment Failure
 - Equipment failure affecting emergency response or firefighting capability
 - Loss of electrically powered auxiliaries

2.1.1.2 Major - Site Emergency

2.1.1.2.1 Class Description

Events are in progress or have occurred which involve actual or likely major failures of site functions needed for protection of site personnel or the public. Hazardous material releases contained within the site boundary are not expected to exceed EPA reportable quantities, except in the site or within the area controlled by the facility.

2.1.1.2.2 Proposed Action Personnel Actions

- Assess and Respond
- Immediately inform appropriate site Management, local/state agencies and emergency response organizations of the site emergency and the reasons for the declaration
- Augment resources, as needed
- Provide release and exposure estimates to offsite authorities for actual hazardous conditions
- Provide projections based on available conditions and information for foreseeable contingencies
- Escalate to GENERAL EMERGENCY, reduce emergency class or close out and brief appropriate personnel, as appropriate

2.1.1.2.3 Initiating Conditions for a Major Site Emergency

- Fire
 - On-site fire lasting more than ten (10) but less than thirty (30) minutes
 - Requiring outside assistance
 - Affecting unit operations
- Hazardous Materials Release
 - Hazardous materials release exceeding EPA reportable quantities
 - Hazardous material explosion
- Loss of Environmental Control
 - Flammable gas or liquid release greater than reportable quantity with potential for ignition
 - Potential/Actual release of hazardous odors
 - Pollution control equipment failure
- Natural Phenomenon
 - Flooding of site access or egress, or
 - Actual major storm damage (tornado, hurricane, high winds, etc.)
- Unusual Operations and Other Hazards
 - Medical emergency involving multiple injuries/fatalities
 - Security alert (bomb search, civil disturbance, hostage, or unauthorized personnel on-site etc.)
 - Explosion affecting unit operation

2.1.1.3 MAJOR - GENERAL EMERGENCY

2.1.1.3.1 Class Description

Events are in progress or have occurred which involve actual or imminent substantial safety, health, and environmental concerns. Hazardous materials releases can be reasonably expected to exceed EPA reportable quantities offsite.

2.1.1.3.2 Proposed Action Personnel Actions

- Assess and Respond
- Immediately inform site Management and local/state agencies of the General Emergency and the reason for the declaration
- Provide protective action recommendations to local/state authorities
- Augment resources, as needed
- Provide release and exposure estimates to offsite authorities for actual hazardous conditions
- Provide projections based on available conditions and information for foreseeable contingencies
- Close out/de-escalate emergency class by briefing appropriate site personnel and local/state personnel

2.1.1.3.3 Initiating Conditions for Major General Emergency

- Fire
 - Fire lasting more than thirty (30) minutes
 - Requiring off-site response
- Hazardous Materials
 - Hazardous material releases exceeding EPA reportable quantities and leaving the site
- Loss of Environmental Control
 - Flammable gas or liquid release greater than reportable quantities for thirty (30) minutes
 - Ignition of that release
 - Failure of water containment/uncontrolled release of impounded water
- Natural Phenomenon
 - High wind condition, heavy rain with major flooding of site facilities causing damage to major site systems, earthquakes
- Unusual Operations and Other Hazard
 - No events in this classification

2.1.2 Emergency Communications/Notifications

This section describes the methods used for notification of site emergency response personnel, and local, State, and Federal Emergency Response Centers.

Any emergency or incident observed should be immediately communicated to the employee's direct supervisor, and once it is safe to do so, all supervisors will report up to the Safety Director or Director. The Safety Director or Director is then responsible for communicating additional emergency protocols to employees, classifying an event in the appropriate emergency class and then notifying any additional outside personnel as needed.

The Renewal Corporation will establish a project wide communication system that will provide effective information and contact capability for the staff throughout the project site as well as for emergency responders.”

Any visitors to the site and operational areas are assigned to a Renewal Corporation representative. This individual is responsible for informing the visitors of emergencies when they occur, and for taking protective action as necessary. All visitors to site will also participate in a project orientation with an overview of the emergency procedures.

Site personnel are trained on actions to be taken in an emergency prior to their work assignments. Otherwise, an individual who has been trained in emergency response procedures must escort them. The training includes instructions on the methods of notification and the required actions in the event of an emergency.

The Safety Director or Director is responsible for contacting Kiewit Corporate and Regional personnel and RES Corporate and Regional personnel for all types of emergencies, including major events. Specific details on notification of Company Corporate and Regional personnel are covered in the appropriate notification procedures. Corporate Kiewit Office Number (402) 342-2052, RES Corporate Office Number (713) 520-5400.

The Safety Director or Director are also responsible for proper notifications of Siskiyou or Klamath counties if needed. Kiewit and RES have spokespersons for all notifications to the public.

Some Emergency Contact Information is included below with a full list included in Appendix B. Contact information will be updated and identified prior to mobilization.

Table 2-1. Contacts in the Event of Emergency

CONTACT	CONTACT INFORMATION
Kiewit On Site Safety Director	TBD
Kiewit Project Director	TBD
RES On Site Safety Manager	TBD
RES On Site Project Manager	TBD
KRRC Representative	TBD

CONTACT	CONTACT INFORMATION
PacifiCorp Representative	TBD
Plant Operations	TBD
Klamath County Sheriff's Office	541-883-5130
Siskiyou County Sheriff Office	530-841-2900
Cal Fire	530-842-3516
Copco Lake Fire Department	530-459-0434
Keno Fire Department	541-883-3062
Hornbrook Fire Station	530-475-3582
California Highway Patrol	530-841-6000
Sky Lakes Medical Center	541-882-6311
Fairchild Medical Clinic	541-842-4121

2.2 Emergency Procedures

Specific emergency response procedures to various emergency situations are detailed below.

2.2.1 Site Evacuation and Muster Points

In the event of a stop work situation where a work site or project site evacuation occurs specific muster points have been identified for each dam shown in Appendix C. It is the responsibility for each crew foreman or supervisor to take head counts of all employees at muster points and report to the Safety Director or Project Director. In the event of a site-wide evacuation, offsite locations will be identified for crews to meet, and the crew foreman or supervisor will take account for all employees and report any missing employees to the Safety Director or Director. Driving conditions on these identified routes may change with weather conditions and should be monitored. All employees will stay at the designated evacuation spot until an all clear is called and it is safe to return to work.

2.2.2 Adverse Weather/Natural Disaster

Weather conditions for the day shall be discussed as part of morning toolbox meetings with each crew and will be monitored closely throughout the shift as conditions change. Work will be amended based on the changing weather conditions and necessary precautions will be taken. The Director or Safety Director will oversee determining when to activate storm procedures. General storm precautions are outlined below.

2.2.2.1 Pre-Storm Preparation

When the Weather Forecast indicates the possibility of severe weather affecting the area the Director or Safety Director will activate the Winter Weather/Severe Storm Preparation Procedure. The Procedure includes performing the following steps:

- Ensure that the construction office is outfitted with a portable, battery operated weather band radio and extra batteries.
- Develop, maintain, and distribute a list of emergency telephone numbers and email addresses for employees and authorities.
- Organize a Damage Survey and Repair Team. This team will be the first on the site to assess damage after the storm and make the site safe enough for the return of the entire workforce.
- Prepare a system to inform employees of when to return to work. (A company call-in number, website with a bulletin or discussion board, etc.)
- Identify and avoid long-term material storage in areas prone to flooding.
- Identify vulnerable work in-progress and determine how to best protect it from damage; boarding up windows, sandbags, capping pipes, buried incomplete underground, etc.
- Develop a list, procure and store supplies necessary for preparing the site for a storm.
- Keep the Proposed Action area free from an accumulation of debris and scrap material that can become windblown hazards. This will reduce the amount of time necessary to complete preparations on the jobsite in the event of an anticipated storm.
- Ensure that fuel supplies, de-watering pumps and generators are adequate for repairs after the storm.
- Be prepared to anchor or restrain everything that could blow away with netting for dumpsters, banding and banding tools for lumber, form work, scaffold planks, portable toilets, etc. Look to see what might fly away, then restrain it.
- Be alert to job conditions that require advance attention or special materials to reduce emergency preparation time.
- Ensure that all loose scrap material is gathered up and disposed of in the dumpsters.
- Ensure that the dumpsters are emptied. If the dumpster service is unable to pull the dumpsters, they shall be securely covered with nets to prevent the debris in them from becoming windblown hazards.
- Ensure that all loose forming materials are neatly stacked and banded.
- Ensure that all materials, tools, sheds, gang boxes, and small equipment that can be damaged by rising water are removed from excavations and low areas prone to flooding.
- Ensure that continuous berms are installed at excavations. Remove any non-essential barricades. Anchor essential barricades.
- Ensure that all equipment is relocated out of excavations. Lower crane booms.
- Raise the hook, trolley in and allow tower cranes to weathervane.
- Top off the fuel tanks of all equipment and ensure fill caps are properly secured.
- Ensure dewatering, standby, and diesel-powered equipment are ready to operate. Operate equipment as conditions warrant.
- Identify vulnerable material and work-in-progress and determine how to best protect it from the effects of flooding.
- Ensure that all electronic equipment in storage is protected from rising water. Ensure backup electrical generator power is available, as required.

2.2.2.2 Post Storm Recovery

Following implementation of the Winter Weather/Severe Storm Preparation Procedure. The following steps will be conducted:

- A damage survey team will inspect the job site, identify and document the damage, prioritize repairs, complete a Job Hazard Analysis and Safe Plans of Action, and then initiate repairs with a skeleton remobilization crew of skilled tradespersons.
- Do not touch loose or dangling wires. Report such damages to the electrical Contractor, the utility company, or police officers.
- Complete preparations for the return of the full workforce. Implement the system to inform employees to return to work.

2.2.2.3 Specific Natural Disaster Incident Responses

The appropriate responses to specific natural disasters are detailed below:

2.2.2.3.1 Severe Thunderstorms

Thunderstorms may occur anytime of the year. High winds and lightning are very possible during these events. The following steps will be conducted if severe thunderstorms are identified:

- Project personnel will monitor the storm progress toward the location of the site.
- Personnel will be informed to abandon man-lifts, scaffolding, form work, cranes, and other elevated work surfaces when lightning is detected within 8 miles. For workers on the ground the alert will be broadcast when lightning is detected within 3 miles. The Construction Manager will inform superintendents when they may return to work.
- Daily clean-up and proper bundling and stabilization of stored material will be maintained to minimize the possibility of debris and materials becoming airborne

2.2.2.3.2 Tornadoes

Though tornadoes are rare, they may occur with little to no warning. The following steps will be conducted if tornado is identified in the surrounding vicinity:

- Ensure personnel take refuge in a designated sheltering structure on-site to avoid window and door openings.
- Advise personnel against seeking shelter in vehicles, Conexes, or trailers.
- Operations of mobile cranes and other elevated platforms will be suspended. Booms will be laid down if time permits or the load line hooked to the structure at some low point. The equipment will be left, and refuge taken in a shelter.
- If the site is hit by a tornado, the Damage Survey and Repair Team members will survey the site for damage before authorization to return to work is given. The Director or Safety Director will determine how and who will initiate repairs before the general workforce returns to their stations.

2.2.2.3.3 Earthquake Preparation

The magnitude of the earthquake, combined with the epicenter and the ground conditions, determine how severe the affects will be at the Proposed Action area. In preparation for such an event the following steps will be taken.

- Ensure shelves will be securely fastened to walls.
- Ensure heavy objects will be placed on lower shelves and not stored above individual's heads in workspaces.
- Ensure breakable items will be stored in low, closed cabinets.
- Identify safe places in each room (under sturdy furniture, against inside walls, away from glass) during New Employee Orientation.
- Identify safe places outdoors (away from buildings, trees, electrical lines, and bridges) during New Employee Orientation.
- Ensure disaster supplies will be maintained on site (flashlight and extra batteries, battery operated radio, first aid kit with manual, and drinking water).

During an earthquake (indoors)

- Ensure personnel take cover beneath a sturdy piece of furniture or against an indoor wall away from glass that might break.
- Ensure personnel stay inside.

During an earthquake (outdoors)

- Facilitate gathering all employees in the immediate area and direct personnel to higher ground.
- Ensure personnel do not gather underneath any overhead power or other structures.

During an earthquake (in a moving vehicle)

- Ensure personnel find a clear area away from buildings, trees, overpasses, and overhead wires.
- Once the shaking has stopped, personnel will proceed with caution. Roads may have been damaged during the shaking.

After the earthquake

- Personnel will be prepared for aftershocks. They may cause additional damage for hours to months after the main shock.
- Help injured or trapped persons within the limits of your abilities.
- Listen to a battery-operated radio or television for emergency information. Stay out of damaged buildings!
- Use the telephone only for emergency calls.
- Clean up spilled materials.
- Open cabinet and closet doors cautiously.
- Check utilities for damage. If you smell gas, turn off the gas and do not use electrical devices (including telephones). Stay away from broken electrical wires and turn off the

main fuse box or circuit breaker. If water pipes are damaged, do not use the toilet and avoid tap water for drinking.

- Inspect all cranes and equipment before use to ensure they are safe to operate.
- All materials/equipment that is suspended/installed using temporary methods (rigging, etc.) must be inspected to ensure attachments are secure.
- All temporary structures must be inspected to ensure their integrity. If the event caused damage to any temporary embankments/secant pile wall or the dam itself, all employees shall gather at the identified dam muster point.

2.2.3 Dam or Tunnel Failure

An emergency alarm will be sounded if any worker sees a breach of the dam facility, or a failure and radio/phone communication will alert all workers located in the immediate work area or downstream from the breach and all will be evacuated to the dam site's muster point and head counts will be taken. The Safety Director or Director will make the necessary agency notifications in the event of a dam breach/failure.

Tunneling Work will be conducted at each of the four facilities. All confined space procedures outlined in the Health and Safety Plan will be followed during this work. In the event of a tunnel failure, emergency services will immediately be called, and all work will be stopped. The Safety Director or Director will direct emergency services, so they are able to promptly arrive at the tunnel location.

2.2.4 Downstream Flooding/Water Emergencies

A notification to the National Weather Service River Forecast Center will need to be made of any major hydraulic change that could potentially affect the timing and magnitude of flooding below Iron Gate.

In the event of an emergency occurring to employees conducting marine work a water rescue procedure will be implemented. Workers will immediately deploy lifting rings and a skiff/push boat will assist in the rescue. In the case of a potential drowning emergency, 911 will be called and the boat will transport the injured personnel to the nearest ramp and wait for emergency services to arrive. If the employee is conscious and fit for duty the Safety Director will be called for an evaluation.

2.2.5 Medical Emergency

In the event of an employee injury, the first responder will evaluate if the danger still exists and move the affected person out of harm's way if possible. First aid will be administered, and offsite first responders called if necessary. If necessary, the employee will be transferred offsite for medical care. A map of hospital locations is included in Appendix D. A supervisor should immediately be called and will investigate what occurred. Other medical emergencies to be trained on include heat exhaustion, allergic reactions, and diabetic reactions. Specific individual procedures are detailed in the project's Health and Safety Plan.

2.2.6 Fire Management

All onsite equipment, vehicles, and work trailers will have a fire extinguisher. Regular inspections are conducted of the equipment. Hot work permits are filled out and followed before any activities that could cause fire or sparks. This process is described in detail in the Health and Safety Management Plan. Any larger fire or one that lasts longer than 10 minutes is classified as a major emergency and workers shall evacuate the area and contact the necessary fire management personnel to address the emergency. Specific fire management procedures are detailed in the Fire Management Plan.

2.2.7 Traffic/Equipment Incident

Any traffic incident that involves an injury should immediately contact 911 so proper medical care can be given. A supervisor should also be immediately notified, and an incident report filled out and police may be called in an applicable situation. A California and Oregon Traffic Management Plan has been prepared to minimize impacts to bicycle and pedestrian traffic.

2.2.8 Hazardous Material Spill

An Oregon Spill Prevention, Control, and Countermeasure Plan (SPCC) and a California Hazardous Waste Materials Plan has been developed for the project to outline formal prevention procedures and documentation/notification for any spills on the jobsite within each state. Only employees qualified, certified, or trained in dealing with hazardous material will be allowed to clean up a material spill.

If possible, the source of the spill should be located and controlled with necessary alarms raised. A supervisor should be contacted, and the Safety Director or Director will make the necessary agency notifications.

2.2.9 Blasting and Explosives

When blasting or explosives are to be used in demolitions during the Proposed Action, only employees directly involved in the blasting operations will be allowed in the work area. The work area will be blocked off and proper notifications are to be made to give employees notice of the blasting activities. No employees shall be directly downstream from the dam when explosives are to be used in the case of an uncontrolled release. If an adverse reaction to blasting occurs (i.e., faulty dynamite, delayed blasting, etc.) all work in the area will be stopped and local emergency services will be called, and the safety director will be called. Blasting professionals will be called to handle materials if needed.

2.2.10 Security Threats

If a security threat is determined on the work site or in the community nearby, an alert, ideally with text, radio, or email, will notify workers in the area with directions to stop work and shelter in place or to evacuate the jobsite. If directly confronted with a threat, all employees should remain calm and signal for help if they are unable to escape the situation. In an active shooter situation, the RUN, HIDE, FIGHT procedure shall be followed. If a terrorist or bomb threat

occurs, all employees shall meet at the site muster points and a headcount conducted. Law enforcement will be called to address the threat.

2.3 Termination, Follow-Up, and Revisions

The objectives following any emergency declaration will be to alleviate the consequences of the event and to take those steps described in the Emergency Response Plan to minimize any effects on the health and safety of the workers and public. Once the emergency has ended, the goal will be to restore to normal operating status. For some situations, such as an UNUSUAL EVENT involving a natural phenomenon that has no effect on the site operation, the emergency may not require any change from normal operations. Therefore, no formal transition will be required. In other circumstances that may involve suspected or actual damage to the facilities a transition will be appropriate.

The Safety Director or Director will determine when the Recovery phase begins or is necessary. The following guidelines, as applicable to the specific situation, will be observed prior to ending the emergency:

- The affected equipment is in a stable condition and can be maintained in that condition indefinitely.
- Releases of hazardous materials to the environment have ceased.
- Fire or similar emergency conditions no longer constitute a hazard to equipment or personnel.

Proper documentation and reporting of any incident will be conducted by the Safety Director or Director and relayed to all employees. Reconstructive efforts will begin if necessary and discussions on how to prevent the incident in the future will happen with employees. This Plan will be updated and revised if new emergency procedures are decided, and those updates will be circulated to all employees during additional safety trainings.

2.4 Training

During orientation all employees will be trained on the emergency procedures contained in this Plan. Additional smaller trainings will be conducted as part of a drill or a toolbox meeting. A copy of this Plan as well as the Health and Safety Plan will be kept in every accident investigation kit and in the project offices.

Appendix A

Emergency Procedure Checklist & Medical Plan

Project Name:

Job Number:

Job

Address:

Job Phone:

Job Fax:

EMERGENCY MEDICAL PLAN

Prior to work on the project, communications must be established with emergency service providers. This includes: Medical Providers, Medical Transportation, Fire & Rescue. These contacts should be by the project superintendent. Arrangements should be made to have emergency providers tour the project to pre-plan for emergency conditions.

Contact should be made with a representative of the medical facility that will be directly involved in emergency and stabilization care. The representative must be aware of and provide for Drug Testing and Modified Work Programs.

FIRST AID

FIRST AID & AED TRAINED PERSONS:

FIRST AID KIT LOCATED:

AED LOCATED:

PRIMARY PHYSICIAN

DOCTOR:

LOCATION:

PHONE:

IN THE EVENT OF A SERIOUS ACCIDENT OR INJURY

HOSPITAL:

LOCATION:

CONTACT PERSON:

PHONE:

DIRECTIONS:

EMERGENCY MEDICAL TRANSPORTATION PROVIDER:

NAME:

LOCATION/PHONE:

EMERGENCY FIRE & RESCUE PROVIDER:

NAME:

LOCATION/PHONE:

EMERGENCY ACCESS TO THE PROJECT:

DIRECTIONS:

THIS PLAN MUST BE POSTED IN THE PROJECT OFFICE

THINK SAFETY

EMERGENCY RESPONSE CHECKLIST

STEP ONE – SENIOR PERSON ON-SITE

- ___ Contact emergency services.
- ___ Notify the crisis management team leader.
- ___ Contact the safety manager.
- ___ Initiate site control and determine if the site should be shut down.
- ___ Make certain that all employees are accounted for.
- ___ Do not move anything that could be classified as evidence.
- ___ Ensure telephone coverage at the site.
- ___ Inform site personnel to direct requests for info. from outside groups to you.
- ___ Post workers to restrict entry to the site.
- ___ Establish a command center.
- ___ Select a temporary spokesperson with the assistance of the team leader

- ___ Notify the owner/developer of the project.
- ___ Advise team leader of findings from investigation if Safety Manager has not already done so.

STEP TWO - TEAM LEADER

FROM INITIAL & ON GOING DISCUSSIONS WITH SENIOR PERSON ON-SITE

- ___ Determine what happened, when/where it happened, and who is involved.
- ___ Verify the current status of the site (shut down?).
- ___ Determine whether you and/or spokesperson are needed on site.
- ___ Notify management and operations manager.
- ___ Advise the corporate team administrator and receptionist how to route calls.
- ___ Identify potential spin-off crises.
- ___ Notify **ACIG (Insurance broker/company)**
- ___ Designate someone to stay with the injured worker(s) at the hospital until family members arrive.
- ___ Notify outside counsel (give him/her Safety Manager's phone number to contact)
- ___ If necessary, initiate a post accident drug/alcohol test (check with legal counsel).
- ___ Initiate a third party investigation team to work in tandem w/ authorities at the direction of legal counsel.
- ___ Union/craft contact – Determine if union business agent should be notified.

STEP THREE - SAFETY MANAGER

- ___ Gather number/names of injured and/or fatalities and obtain phone number(s) of the spouse(s)/family(ies). Contact the team leader to determine who should notify the spouse(s)/family(ies).

EMERGENCY RESPONSE CHECKLIST

- ___ Debrief workers who witnessed the accident.
- ___ If appropriate, notify the applicable governmental agency (i.e. OSHA).
- ___ Document the incident in writing and on film.
- ___ Work with third party investigator that is designated by legal counsel.
- ___ Advise team leader of findings from investigation if Senior Person On-site has not already done so.

STEP FOUR - TEAM LEADER

- ___ If there is an employee injury/fatality, determine who will notify spouse(s)/family(ies). A fatality may require a personal visit.
- ___ If the injury/fatality is a subcontractor's employee, it is the subcontractors responsibility to notify the spouse/family.
- ___ If a non-employee is hurt/killed, allow the authorities to make the notification and contact your insurance broker/company.
- ___ Inform any surrounding areas that may be affected by the incident.
- ___ Instruct personnel at the accident site to contact their families to let them know they are OK.

STEP FIVE - SPOKESPERSON

- ___ Write, and get clearance for, all statements and releases.
- ___ Designate someone to screen your calls from the news media.
- ___ Complete the media log sheets.
- ___ Anticipate media questions. If possible, role-play a media interview with a colleague before going live.
- ___ Assemble necessary background information and literature.
- ___ If you elect to give the media a tour, make certain that the area is safe and a company representative escorts them. Issue safety equipment and require a hold-harmless agreement be signed, if necessary.
- ___ Instruct reporters on your safety procedures before going on-site. If they violate any of the procedures, you have the right to ask them to leave.
- ___ Advise reporters of a time and place for future updates.
- ___ Follow-up on additional media inquiries.

STEP SIX - TEAM LEADER/SPOKESPERSON/LEGAL DEPARTMENT

- ___ Identify the audiences that need to be contacted for update purposes.
- ___ Gather details on past negative issues which the media may refer to.
- ___ Fax/e-mail/voicemail all employees and job sites to notify them of the incident and tell them to whom they should direct media/general information calls. Provide on-going updates.
- ___ Establish an emergency message mailbox for personnel to access if office operations have been impacted.
- ___ Track all media coverage via a monitoring service and the Internet.
- ___ Secure and offer critical-incident stress counseling for personnel who witnessed the accident (if deemed necessary).

Appendix B

Project Emergency Contacts

Contacts in the Event of Emergency

Kiewit Safety Manager
Kiewit Director
KRRRC Representative
PacifiCorp Representative
RES Representative
Plant Operations:
National Weather Service – OR
Forecast Office: 541-773-1067
National Weather Service – CA forecast
Office: 707-443-4162
Klamath County Sheriff's Office:
541-883-5130
Siskiyou County Sheriff Office:
530-841-2900
Cal Fire: 530-842-3516
Copco Lake Fire Department: 530-459-
0434
Keno Fire Department: 541-883-3062
Hornbrook Fire Station: 530-475-3582
Oregon Department of Forestry:
503-945-7200
Oregon Emergency Response System:
800-452-0311
California Highway Patrol: 530-841-
6000
Emergency Response: 911
Ashland Community Hospital:
541-201-4000
Sky Lakes Medical Center: 541-882-
6311

Basin Immediate Care: 541-883-2337
Fairchild Medical Center: 541-842-4121
Kiewit Corporate Office: 402-342-2052
RES Corporate Office: 713-520-5400

Local Utility Companies

PacifiCorp: 888-221-7070
Copco Lake Mutual Water Co:
530-459-5159
Yreka Water Department: 530-841-2386

Government Agencies/Offices

OSHA: Occupational Safety & Health
Administration
1-800-321-OSHA (6742)
EPA: Environmental Protective Agency
1-800-424-8802
HazMat: Hazardous Materials
1-800-HMR-4922
California Office of Emergency
Management, Dam Safety:
916-845-8911
California Department Water
Resources, Dam Safety: 916-574-
2619
Oregon Water Resources Department,
Dam Safety: 503-580-3970
California Spill Hotline: 717-878-5017
Oregon Department of Forestry:
503-945-7200

Appendix C

Site Evacuation and Muster Points

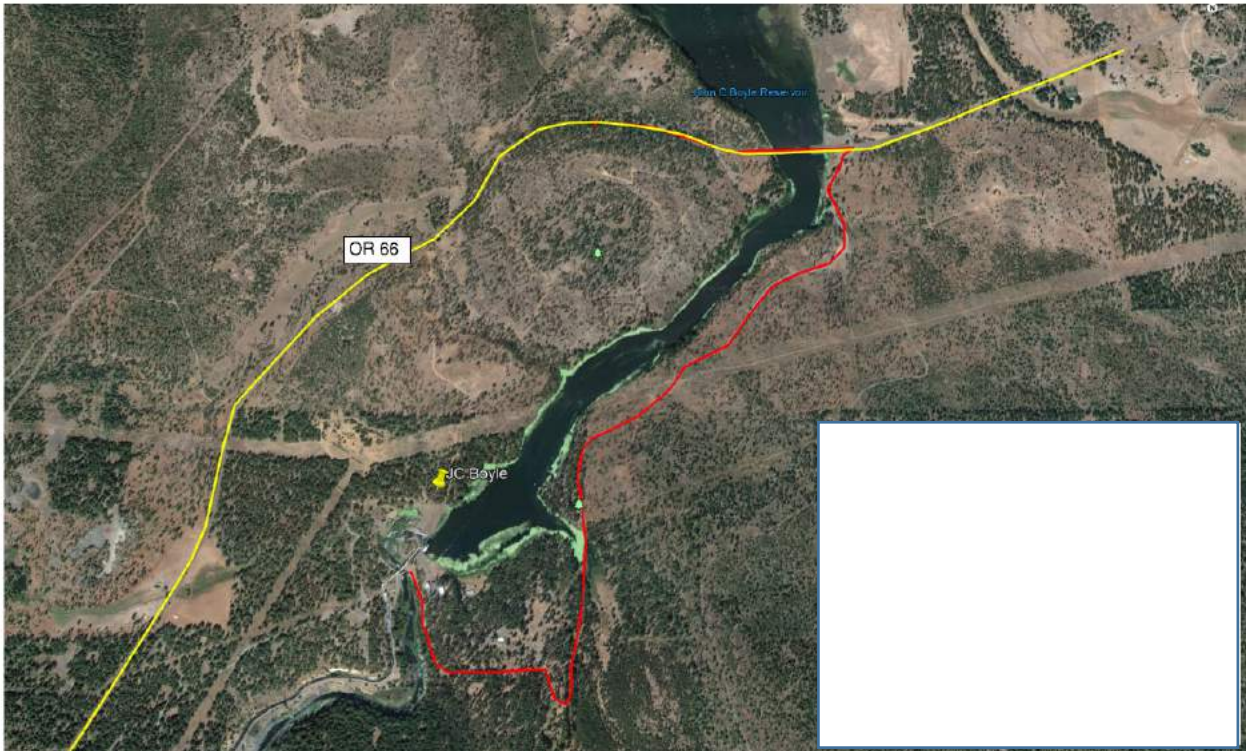


Figure C-1. J.C. Boyle Site Evacuation

Take JC Boyle Site Access Road and Green Springs Highway (OR 66) (10 minutes, 1 mile)

1. Head southwest on the JC Boyle Site Access Road (0.8 Miles)
2. Turn right onto JC Boyle Access Road (.2 miles)
3. Merge to the left for Green Springs Highway (OR 66)

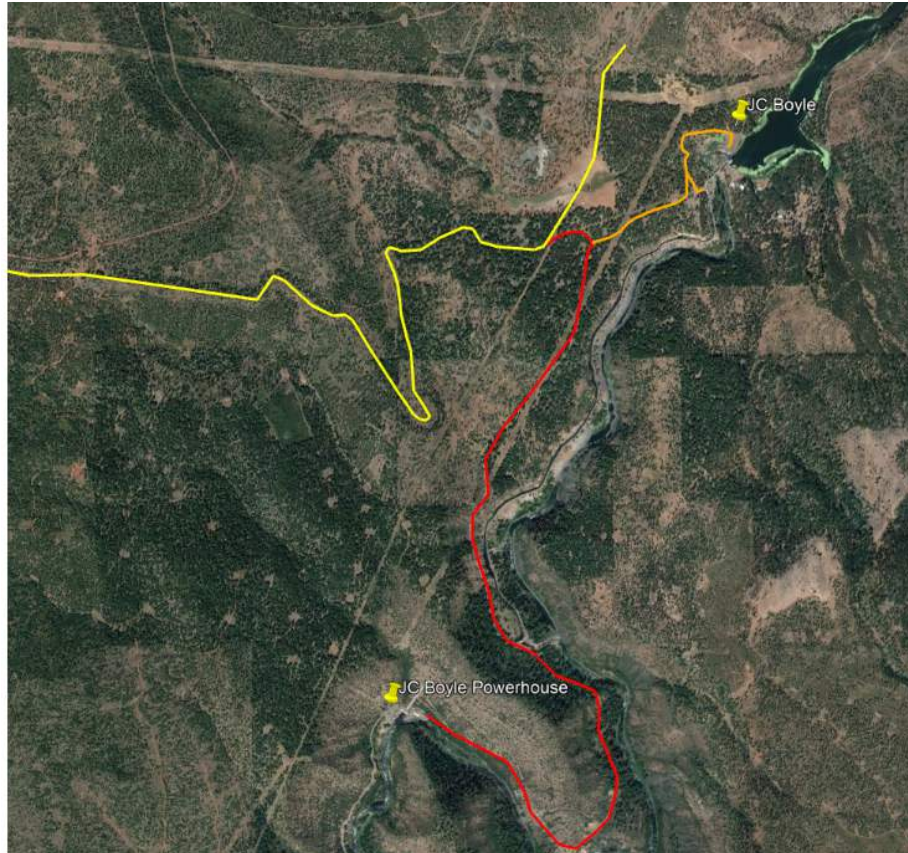


Figure C-2. J.C. Boyle Powerhouse Evacuation

Take JC Boyle Powerhouse Access Road and Green Springs Highway (OR 66) (28 minutes, 3.5 miles)

1. Head North on the JC Boyle Powerhouse Access Road (3.3 Miles)
2. Keep left onto JC Boyle Access Road (.2 miles)
3. Merge to the left for Green Springs Highway (OR 66)



Figure C-3. Copco Dam Site Evacuation

Take Copco Road and Ager Beswick Road to Ager Road/Hornbrook Ager Road (34 minutes, 17 miles)

1. Head southwest on Copco Road toward Iron Gate Lake Road (3.6 miles)
2. Turn left onto Daggett Road (0.3 miles)
3. Turn left to stay on Daggett Road (446 feet)
4. Turn right to stay on Daggett Road (0.7 miles)
5. Turn right (1.8 miles)
6. Turn right onto Ager Beswick Road (10.5 miles)

Follow Ager Road and Montague Grenada Road to 99-97 cutoff (20 minutes, 17.3 miles)

7. Turn left onto Ager Road/Hornbrook Ager Road (10.1 miles)
Continue to follow Ager Road.
8. Continue onto N. 11th Street/Montague Ager Roger Road (0.8 miles)
Continue to follow N. 11th Street.
9. Continue straight onto S. 11th Street/Montague Grenada Road (5.7 miles)
Continue to follow Montague Grenada Road.
10. Turn right onto 99-97 Cutoff. Destination will be on the left.



Figure C-4. Copco Dam Site Evacuation

Follow Copco Dam to Hornbrook. (50 minutes, 21.3 miles)

1. Head southwest on Copco Road toward Iron Gate Lake Road (10.2 miles)
2. Sharp right onto Linda Drive (0.1 miles)
3. Slight left onto Mountain (0.9 miles)
4. Turn right onto Copco Road/Iron Gate Lake Road (9.1 miles)
Continue to follow Copco Road
5. Turn right onto Hornbrook Road/Oregon Slough (0.8 miles)
6. Turn right onto Henley Hornbrook Road (0.2 mile)
7. Turn left onto Front Street (69 feet)



Figure C-5. Iron Gate Site Evacuation

Take Copco Road to Ager Road (12 minutes, 6.1 miles).

1. Head southeast toward Lakeview Road (0.3 miles)
2. Continue straight onto Lakeview Road (0.8 miles)
3. Turn left onto Copco Road/Iron Gate Road (5.0 miles)
Continue to follow Copco Road.
4. Turn left onto Ager Road (0.1 miles)

Follow Klamathon Road to CA-96 E (21 minutes, 5.2 miles)

5. Turn right onto Klamathon Road (2.3 miles)
6. Turn right onto Anderson Grade Road/Klamathon Road (2.7 miles)
7. Continue onto Anderson Grade Road (0.2 miles)

Drive to I-5 N. (3 minutes, 2.4 miles)

8. Turn right onto CA-96 E (signs for Portland/Interstate 5 N) (0.6 miles)
9. Merge onto I-5 N. (1.8 miles)



Figure C-6. JC Boyle Site Muster Points

Blue Dot = Muster Point

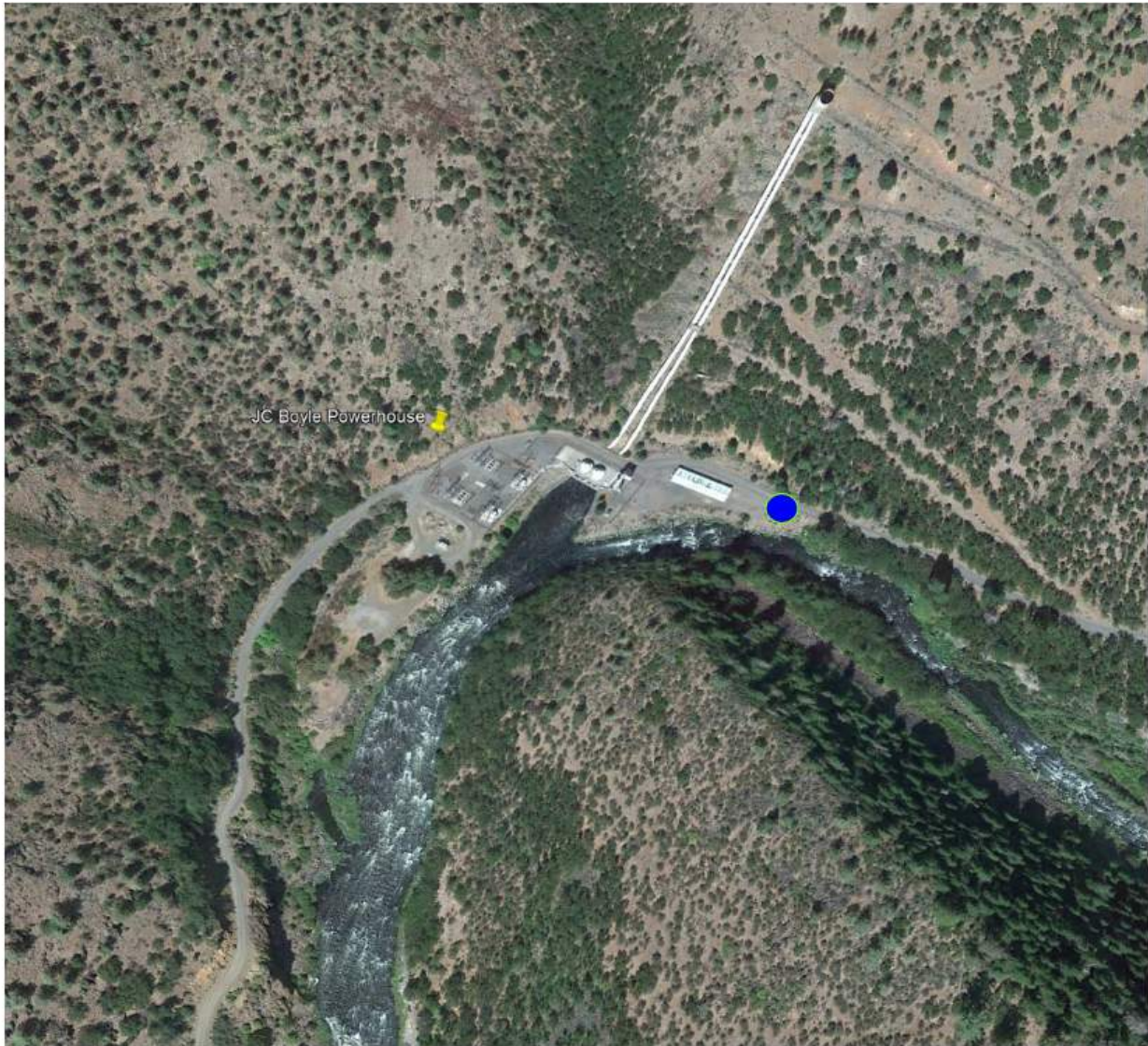


Figure C-7. JC Boyle Power House Muster Points

Blue Dot = Muster Point



Figure C-8. Copco No. 1 and Copco No. 2 Muster Points

Blue Dot = Muster Point

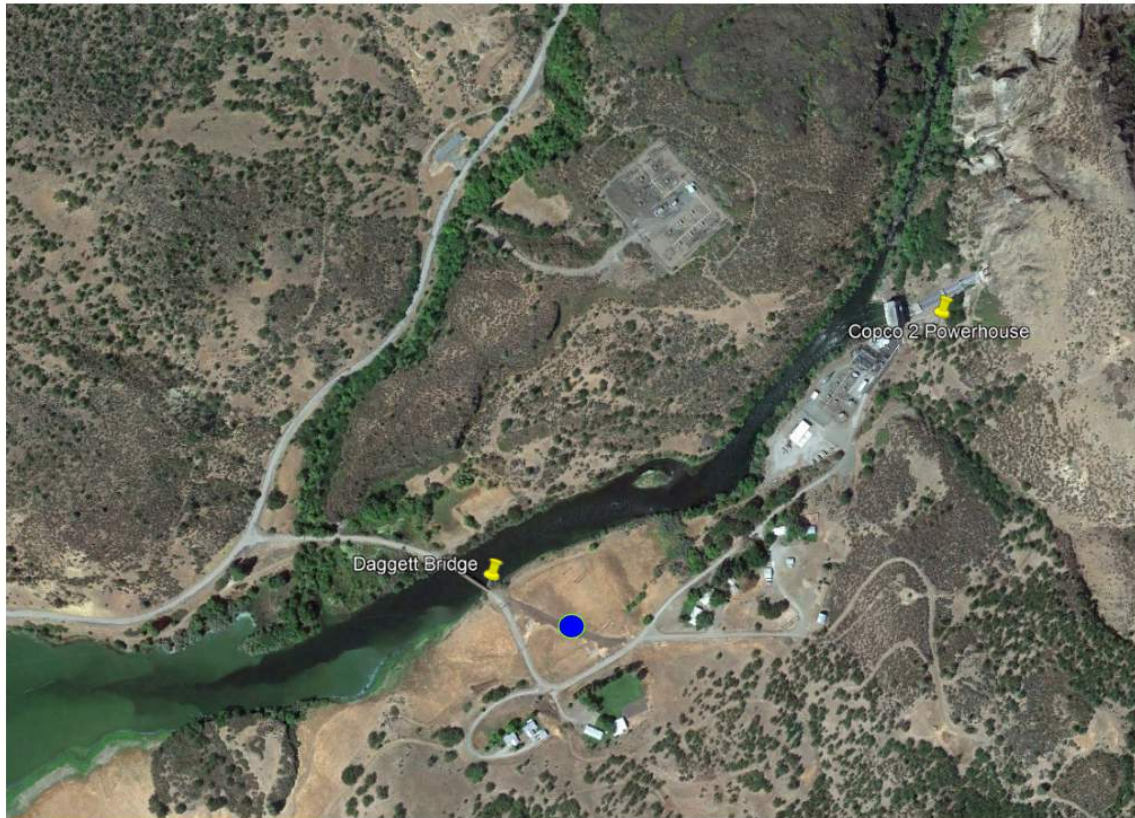


Figure C-9. Copco No. 2 Muster Points

Blue Dot = Muster Point



Figure C-10. Iron Gate Muster Points

Blue Dot = Muster Point

Appendix D

Map of Hospital Locations

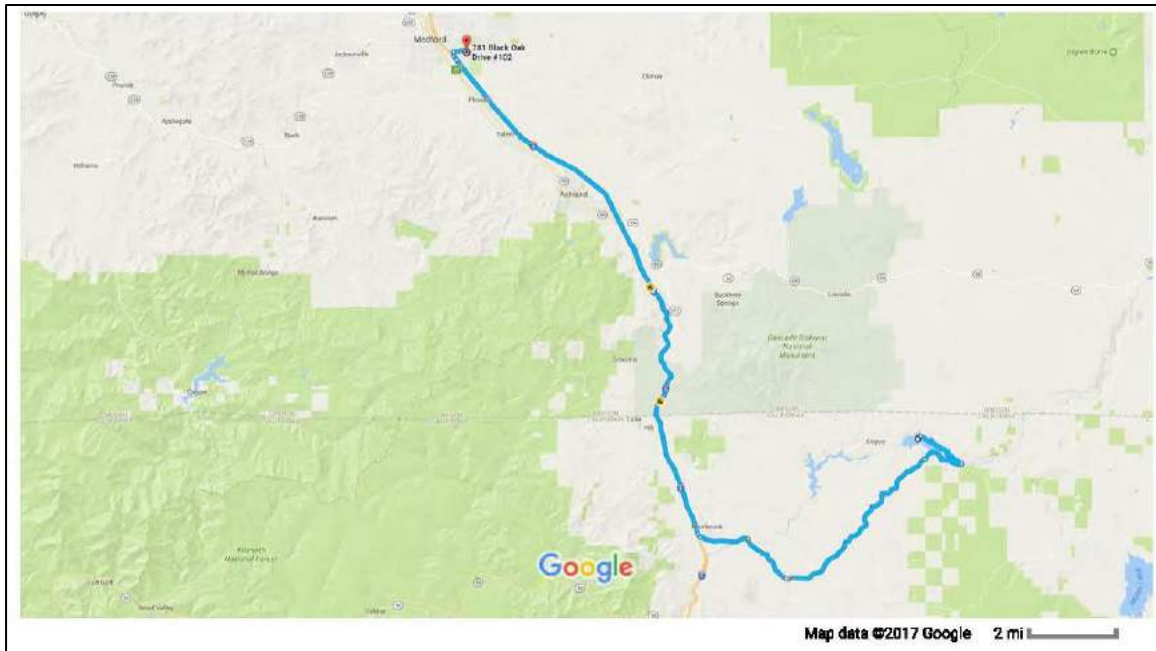


Figure D-1. Route to Asante Work Health

Get on I-5 N in Hornbrook from Ager Beswick Road (48 minutes, 25.7 miles)

1. Head southeast on Copco Road toward Teal Road (3.5 miles)
2. Turn right to stay on Copco Road (0.1 miles)
3. Turn right on Ager Beswick Road (2.8 miles)
4. Turn left to stay on Ager Beswick Road (12.6 miles)
5. Turn right onto Ager Road/Hornbrook Ager Road (3.5 miles)
Continue too follow Ager Road
6. Turn left onto Ager Road/Copco Road/Juniper Road (2.0 miles)
Continue to follow Copco Road
7. Turn right to merge onto I-5 N (0.2 miles)

Follow I-5 N to Highland Drive in Medford. Take exit 27 from I-5 N. (34 minutes, 34.7 miles)

8. Merge onto I-5 N. (34.5 miles)
Entering Oregon.
9. Take exit 27 toward OR-99 S/Medford (0.3 miles)

Take E Barnett Road to Black Oak Drive (3 minutes, 1.1 miles)

10. Turn right onto Highland Drive (signs for Barnett Road) (0.3 miles)
11. Turn right at the first cross street onto E. Barnett Road (0.7 miles)
12. Turn right onto Black Oak Drive (0.1 miles)

781 Black Oak Drive #102
Medford, OR 97504

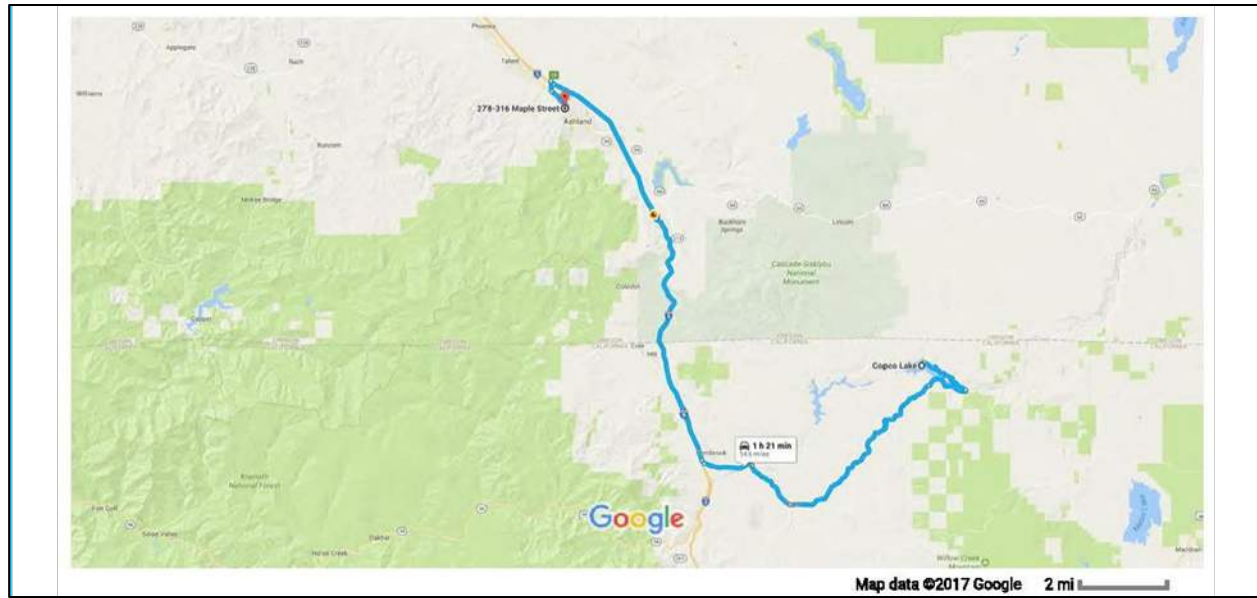


Figure D-2. Route to Asante Ashland County Hospital

Get on I-5 N in Hornbrook from Ager Beswick Road (48 minutes, 25.7 miles)

1. Head southeast on Copco Road toward Teal Road (3.5 miles)
2. Turn right to stay on Copco Road (0.1 miles)
3. Turn right on Ager Beswick Road (2.8 miles)
4. Turn left to stay on Ager Beswick Road (12.6 miles)
5. Turn right on Ager Road/Hornbrook Ager Road (3.5 miles)
Continue to follow Ager Road.
6. Turn left onto Ager Road/Copco Road/Juniper Road (3.0 miles)
Continue to follow Copco Road
7. Turn right to merge onto I-5 N (0.3 miles)

Follow I-5 N to Maple Street in Ashland (31 minutes, 28.7 miles)

8. Merge onto I-5 N (26.5 miles)
Entering Oregon
9. Take exit 19 for Valley View Road toward Ashland (0.2 miles)
10. Turn left on S Valley View Road toward Ashland (0.6 miles)
11. Turn left onto OR-22 S (1.4 miles)
12. Turn right onto Maple Street. Destination will be on the left. (0.2 miles)

278-316 Maple Street
Ashland, OR 97520

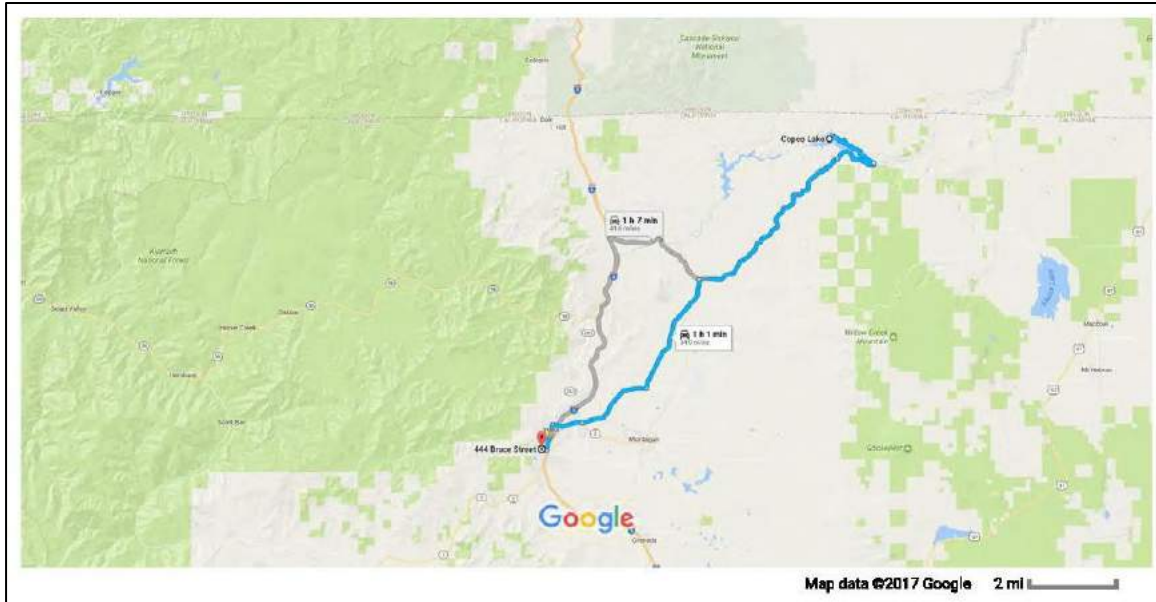


Figure D-3. Route to Fairchild Medical Center

Take Ager Beswick Road to Ager/Hornbrook Road (39 minutes, 19.0 miles)

1. Head southeast on Copco Road toward Teal Road (3.5 miles)
2. Turn right to stay on Copco Road (0.1 miles)
3. Turn right onto Ager Beswick Road (2.8 miles)
4. Turn left to stay on Ager Road (12.6 miles)

Continue on Ager Road. Take Yreka Ager Road to Bruce Street in Yreka (21 minutes, 15.7 miles)

5. Turn left onto Ager Road/Hornbrook Road (7.5 miles)
Continue to follow Ager Road
6. Turn right on Yreka Ager Road (4.7 miles)
7. Turn right into Montague Road (1.8 miles)
8. Turn left onto N Main Street (1.6 miles)
9. Turn right onto Bruce Street Destination will be on the right (0.3 miles)

444 Bruce Street
Yreka, CA 96097

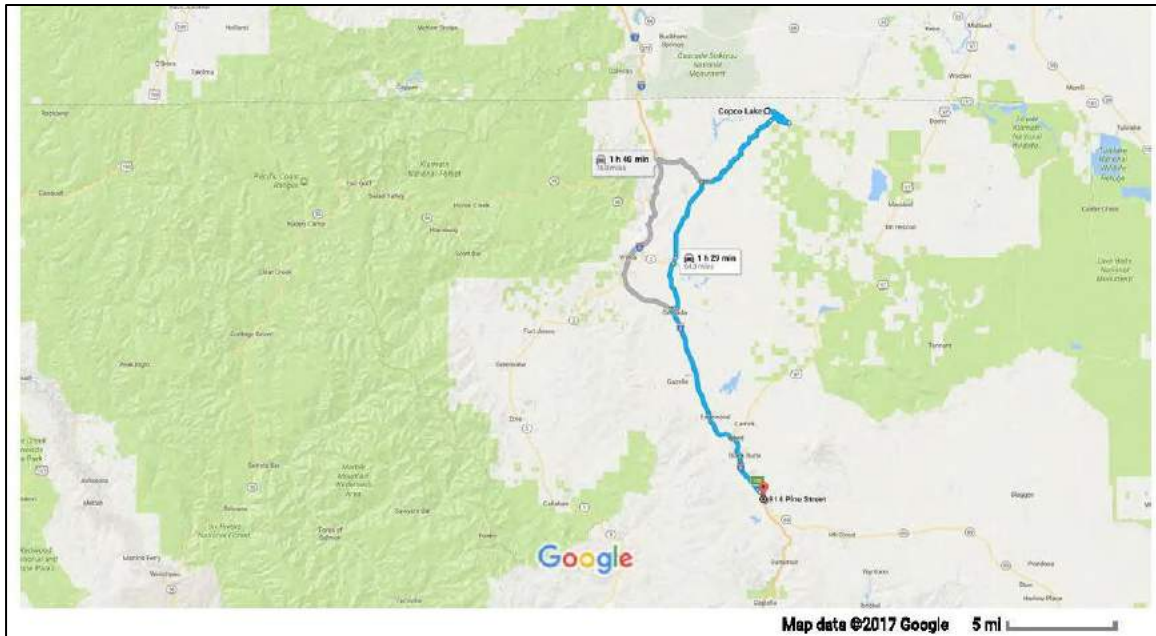


Figure D-4. Route to Mercy Medical Center

Take Ager Beswick Road to Ager/Hornbrook Road (39 minutes, 19.0 miles)

1. Head southeast on Copco Road toward Teal Road (3.5 miles)
2. Turn right to stay on Copco Road (0.1 miles)
3. Turn right onto Ager Beswick Road (2.8 miles)
4. Turn left to stay on Ager Road (12.6 miles)

Continue on Ager Road, Montague Grenada Road and I-5 S to E Alma Street in Mount Shasta (48 minutes, 44.8 miles)

5. Turn left onto Ager Road/Hornbrook Ager Road (10.1 miles)
Continue to follow Ager Road.
6. Continue onto N 11th Street/Montague Ager Road (0.8 miles)
Continue to follow N 11th Street.
7. Continue straight onto S 11th Street/Montague Grenada Road (5.7 miles)
Continue to follow Montague Grenada Road.
8. Turn right into 99-97 Cutoff (0.9 miles)
9. Turn left to merge onto I-5 S (25.5 miles)
10. Take exit 740 toward I-5/Mount Shasta Boulevard (1.4 miles)
11. Continue on Mount Shasta Boulevard (1.4 miles)

Drive to Pine Street (2 minutes, 0.5 miles)

12. Turn right onto E Alma Street (0.1 miles)
13. Turn right onto Pine Street. Destination will be on the right. (0.4 miles)

914 Pine Street
Mt. Shasta, CA, 96067

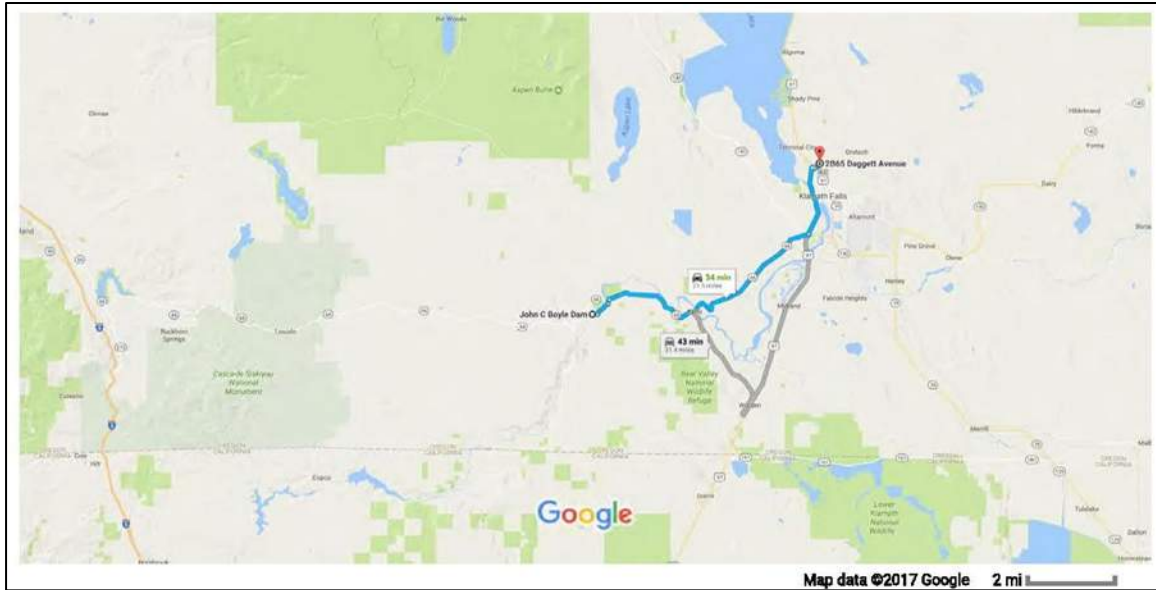


Figure D-5. Route to Sky Lakes Medical Center

Take Topsy Grade Road to OR-66 E. (4 minutes, 1.2 miles)

1. Head north on Topsy Grade Road (0.9 miles)
2. Continue straight (0.5 miles)

Follow OR-66 E and US-97 N to Campus Drive in Klamath Falls (26 minutes, 19.7 miles)

3. Turn right onto OR-66 E (15.0 miles)
4. Turn right to merge onto US-97 N (4.4 miles)
5. Take the State 39 S/US-97 S exit toward Winema N.F. Headquarters/Oregon Institute of Technology (0.1 miles)
6. Merge onto to US-97 BUS S/State 39 S (0.1 miles)

Continue on Campus Drive. Drive to Daggett Avenue (3 minutes, 0.5 miles)

7. Turn left onto Campus Drive (0.3 miles)
8. Turn right toward Daggett Avenue (371 feet)
9. Turn left onto Daggett Avenue (0.2 miles)

2865 Daggett Avenue
Klamath Falls, OR 97601

Appendix D

Use and Occupancy Plan for Bureau of Land Management Lands



**Lower Klamath Project
FERC Project No. 14803**

**Use and Occupancy Plan
for Bureau of Land
Management Lands**

**Klamath River Renewal Corporation
2001 Addison Street, Suite 317
Berkeley, CA 94704**

**Prepared by:
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Jacksonville, OR 97530**

December 2021

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1.0 Use and Occupancy Plan for Bureau of Land Management Lands

1.1 Introduction

This Use and Occupancy Plan for Bureau of Land Management (BLM) Lands is a sub-plan of the Construction Management Plan that will be implemented as part of the Proposed Action for the Lower Klamath Project. This Use and Occupancy Plan for BLM Lands is separated by state (i.e., Oregon and California) to assist the BLM in its management of distinct jurisdictions.

1.1.1 Purpose of Management Plan

The purpose of the Use and Occupancy Plan for BLM Lands is to define coordination requirements, responsibilities, and procedures to be followed on federal lands administered by BLM, during implementation of the Proposed Action. This Plan characterizes expectations for construction activities along BLM land and roads. The Use and Occupancy Plan for BLM Lands is designed to incorporate BLM guidelines that the Klamath River Renewal Corporation (Renewal Corporation) will meet prior to, during, and after construction.

This Use and Occupancy Plan for BLM Lands pertains to work the Renewal Corporation (including its contractors) will conduct in support of the Proposed Action. The Renewal Corporation will work alongside BLM staff members to ensure reasonable BLM requirements and requests described in this Use and Occupancy Plan for BLM Lands are met and followed. The Use and Occupancy Plan for BLM Lands, therefore, outlines BLM's procedures the Renewal Corporation will follow throughout the duration of the Project.

1.1.2 Relationship to Other Management Plans

The Use and Occupancy Plan for BLM Lands is supported by elements of the following management plans for effective implementation: Oregon Erosion and Sediment Control Plan, Remaining Facilities Plan, Reservoir Area Management Plan, Waste Disposal and Hazardous Materials Management Plan, and Construction Management Plan (sub-plans). To avoid duplicating information, elements from these other management plans are not repeated herein but are, where appropriate, referred to in this Use and Occupancy Plan for BLM Lands.

1.1.3 Final License Surrender

The Federal Energy Regulatory Commission (Commission) will determine that License Surrender is effective when the Renewal Corporation has satisfied all conditions in the License Surrender Order. After License Surrender is effective, the BLM will administer these lands unencumbered by the authorizations derived from the license. The actions identified in the Use and Occupancy Plan for BLM Lands assure that the conditions of these lands will be acceptable to BLM.

1.2 Oregon BLM - Specific Land Management Interests

This section identifies actions within the Proposed Action that the Renewal Corporation will implement on federal lands under the jurisdiction of BLM's Klamath Falls Field Office. Table 1-1 summarizes the individual actions. This table will be utilized to document status of project completion during implementation of the Proposed Action. Further details regarding these project-related actions are presented in Section 1.2.1.

Table 1-1: Project-Related Actions to be Completed on Oregon BLM Land

ID NUMBER	ACTION	DESCRIPTION	TIMING	STATUS ¹
Rehabilitation and Revegetation				
OR-BLM-01	J.C. Boyle Power Canal revegetation	Establish vegetation coverage to reduce invasive species, minimize visual discontinuity, and avoid nuisance behavior. Revegetation success will be based upon establishment of plants representative of adjacent vegetation including diversity. Revegetation of wildlife ramps will be determined during the design process and subject to BLM specifications. Percentage of cover to be established in coordination with BLM. Refer to OR-BLM-09 regarding invasive species management.	Post-Drawdown	
OR-BLM-02	Scour Hole Disposal site revegetation	Establish vegetation coverage on the upper most horizontal surface to reduce invasive species. Coordination with the BLM will occur prior to any tree removal. In the scour hole area (to the west), protection of critical root zone will be attempted with temporary fencing. Revegetation success will be based upon establishment of plants	Pre-Drawdown Post-Drawdown	

¹ Status column to be completed as part of periodic reporting to BLM and following action completion.

ID NUMBER	ACTION	DESCRIPTION	TIMING	STATUS ¹
		representative of adjacent vegetation including diversity. Percentage of cover to be established in coordination with BLM. Refer to OR-BLM-09 regarding invasive species management.		
OR-BLM-03	J.C. Boyle Powerhouse Access Road alignment at Scour Hole	Rehabilitate roadside swale using native seed mix, place boulders near road's edge, and achieve final stabilization adjacent to swale.	Post-Drawdown	
OR-BLM-04	J.C. Boyle Penstock hillside area revegetation	Upon removal of penstock, stabilize by achieving vegetation cover with proper drainage and installation of check dams or water bars to attenuate flow. Revegetation success will be based upon establishment of plants representative of adjacent vegetation including diversity. Percentage of cover to be established in coordination with BLM. Refer to OR-BLM-09 regarding invasive species management.	Post-Drawdown	
OR-BLM-05	Penstock Access Road(s) rehabilitation	Upon exit, remove road cut with existing up and downslope road material better aligning with existing topography; stabilize by achieving vegetation cover with proper drainage	Post-Drawdown	

ID NUMBER	ACTION	DESCRIPTION	TIMING	STATUS ¹
		and installation of water bars/tank trap. Revegetation success will be based upon establishment of plants representative of adjacent vegetation including diversity. Percentage of cover to be established in coordination with BLM. Refer to OR-BLM-09 regarding invasive species management.		
OR-BLM-06	Oregon State Route (SR) 66/J.C. Boyle Dam Road improvements	Restore disturbed areas post-dam removal to keep public access to only the original road footprint; re-plant disturbed areas with vegetation types in adjacent landscape. (See OR-BLM-010a.)	Post-Drawdown	
OR-BLM-07	J.C. Boyle Powerhouse and Tailrace Disposal Site rehabilitation	Establish vegetation coverage to reduce invasive species in filled powerhouse and tailrace area and adjacent areas, including riparian buffer at river's edge. The Renewal Corporation will provide the BLM draft riparian restoration plans for review and comment. Riparian area restoration will consider the use of woody material for bank stabilization. Revegetation success will be based upon establishment of plants representative of adjacent vegetation	Post-Drawdown	

ID NUMBER	ACTION	DESCRIPTION	TIMING	STATUS ¹
		including diversity. Percentage of cover to be established in coordination with BLM. Refer to OR-BLM-09 regarding invasive species management.		
OR-BLM-08	Staging Area(s) rehabilitation	Achieve final stabilization to restore pre-development conditions and reduce establishment of invasive species. Revegetation success will be based upon establishment of plants representative of adjacent vegetation including diversity. Percentage of cover to be established in coordination with BLM. Refer to OR-BLM-09 regarding invasive species management.	Post-Drawdown	
OR-BLM-09	Invasive Species management	Pretreatment and post treatment, native seeding, and monitoring of invasive species to occur at power canal, powerhouse, tailrace, scour hole (restored area), penstock, penstock roads access roads, and staging areas. The Renewal Corporation will coordinate with BLM on the selection of source locations for imported soil and pretreatment of sites prior to excavation, as necessary. In addition, BLM's metrics	Pre-Drawdown Drawdown Post-Drawdown	

ID NUMBER	ACTION	DESCRIPTION	TIMING	STATUS ¹
		for minimizing percent invasive cover will also be met for each site. Timing of treatments and establishment of BMPs will be determined in coordination with BLM.		
Roads and Right-of-Ways				
OR-BLM-010a	Oregon SR 66 / J.C. Boyle Dam Access Road SF-299 permit	Complete SF-299 permit obtaining a temporary grant of right-of-way (ROW) for road improvements and access; comply with permit terms; and close permit upon completion. Additionally, the entire extent of the J.C. Boyle Dam Access Road from SR 66 will include placing 2-6-inch rock and routine regrading during construction.	Pre-Drawdown Post-Drawdown	
OR-BLM-010b	J.C. Boyle Dam Access Road improvements from Oregon SR 66.	The SF-299 application will include road improvements for areas outside the FERC Project Boundary. The application will include a Klamath County approved source for weed free base rock, quantities, areas for widening, tree removal, and maintenance during dam construction.	Pre-Drawdown Drawdown Post-Drawdown	

ID NUMBER	ACTION	DESCRIPTION	TIMING	STATUS ¹
OR-BLM-11	J.C. Boyle Power Canal Access Road improvements	Road to be left in place after construction and reduced to the width of a walking trail. Fill material to be contoured and revegetated to align with the trail elevation. Canal road/trail will be blocked from public ATV access after construction is completed.	Pre-Drawdown Drawdown Post-Drawdown	
OR-BLM-12	J.C. Boyle Powerhouse Road widening at Scour Hole	Present final design for BLM review and comment; coordinate material use and placement; coordinate tree removal and disposition; provide specifications/construction notes on design sheet; and avoid traffic interruptions during rafting access times. (Note this site is within FERC Project Boundary; see OR-BLM-03.)	Pre-Drawdown	
Recreation Sites				
OR-BLM-13	Topsy Campground improvements	Remove concrete boat launch, concrete step floating dock, and concrete footing for the plastic dock. Floating dock to be re-used and retained onsite for BLM to remove; retain ADA fishing platform as is (do not dismantle.) Achieve final stabilization for above-water (existing reservoir water surface) related land	Pre-Drawdown Drawdown Post-Drawdown	

ID NUMBER	ACTION	DESCRIPTION	TIMING	STATUS ¹
		disturbance in accordance with NPDES 1200-C and restore below-water (existing reservoir water surface) areas following drawdown per the Reservoir Area Management Plan.		
Other Sites				
OR-BLM-14	Distribution Line removal	Remove a distribution line between J.C. Boyle Powerhouse Road and Power Canal Access Road that traverses through BLM land. This line is authorized under OROR 024416; no changes to this authorization are required, as it includes other uses that will remain.	Drawdown	
OR-BLM-15	Public signage on J.C. Boyle Dam and Powerhouse Access Roads	Install advance signage to notify vehicles using Oregon SR 66 of construction trucks entering/exiting at the intersection.	Pre-Drawdown Drawdown Post-Drawdown	

1.2.1 Expectations for Final Condition of BLM Lands²

Under Section 24 of the Federal Power Act, the Commission withdrew the BLM Project lands for hydropower exclusive use. Once the dams are removed, the Commission will remove or “vacate” the land withdrawal. For the Commission to complete the land withdrawal vacate, the BLM will acknowledge the lands meet their condition for acceptance. To facilitate the BLM acceptance, the Renewal Corporation will rehabilitate the former dam infrastructure areas. This includes, but is not limited to, rehabilitating disturbed land in a manner that reduces invasive species, promotes the success of native species, protects current beneficial habitat, and minimizes erosion. The following sections describe the actions to be completed at sites on BLM land that are referenced in Table 1-1 and shown in Figure A-1.

1.2.1.1 Rehabilitation and Revegetation

OR-BLM-01 – J.C. Boyle Power Canal Revegetation

The J.C. Boyle power canal is approximately 2.2 miles long and is located along a bench cut in the slope of the Klamath River canyon. The power canal is a concrete flume approximately 17 feet wide and 12 feet high, with shotcrete applied to the exposed canyon walls. The power canal has overflow structures at the upstream end (consisting of a siphon pipe) and at the downstream forebay (consisting of a gated overflow weir). Details regarding the demolition of the power canal can be found in the Remaining Facilities Plan.

The Renewal Corporation will place the existing reinforced concrete wall sections on the canal invert slab of the power canal and fill the canal with coarse native rock borrowed from the removal of the dam embankment. The Renewal Corporation will add a limited soil topping and will plant native vegetation, subject to further consultation with BLM. Erosion and sediment control measures for decommissioning and stabilization of the power canal will be conducted in accordance with the National Pollutant Discharge Elimination System Stormwater Construction (NPDES) General Permit No. 1200-C (NPDES 1200-C).

Revegetation success will be based upon establishment of plants representative of adjacent vegetation including diversity. Revegetation of wildlife ramps will be determined during the design process and subject to BLM specifications. Percentage of cover will be established in coordination with BLM. Refer to OR-BLM-09 regarding invasive species management.

See Figures A-2a and A-2b, and refer to Design Drawings C1621, C1310, C1311, C1320, C1321, and 1323 for construction details.

OR-BLM-02 – Scour Hole Disposal Site Revegetation

The Scour Hole Disposal Site is located between the J.C. Boyle Canal spillway and the Klamath River and located above the anticipated post-drawdown Ordinary-High Water Mark (OHWM). The Renewal Corporation will fill the Scour Hole with concrete rubble and General Fill per the

² The term “final” means the condition of lands on the day when License Surrender is effective.

Waste Disposal and Hazardous Materials Management Plan borrowed from adjacent areas. The Renewal Corporation will add a limited soil topping and will plant native vegetation, subject to further consultation with BLM.

Details pertaining to the location, construction, size, disposal materials, and location in relation to the anticipated post-drawdown OHWM are presented in Table 1-2 of the Oregon Waste Disposal and Hazardous Materials Management Plan. Erosion and sediment control measures for construction of the disposal site and stabilization of the Scour Hole will be conducted in accordance with the Oregon Erosion and Sediment Control Plan.

Coordination with the BLM will occur prior to any tree removal. In the Scour Hole area (to the west), protection of the critical root zone will be attempted with temporary fencing. Revegetation success will be based upon establishment of plants representative of adjacent vegetation including diversity. Percentage of cover to be established in coordination with BLM. Refer to OR-BLM-09 regarding invasive species management.

See Figure A-3 and refer to Design Drawings C1340, C1341, C1601, and C1623 for construction details.

OR-BLM-03 – J.C. Boyle Powerhouse Access Road Alignment at Scour Hole

The J.C. Boyle Powerhouse Access Road (Spring Island Road) runs between the J.C. Boyle Powerhouse and Dam sites. Much of this road is owned by BLM, while a short length is owned by PacifiCorp. The full length, however, is maintained by PacifiCorp. It is a two-way undivided gravel road 16 to 22 feet wide. The J.C. Boyle Powerhouse Access Road is the primary access route to the powerhouse area and the staging area adjacent to the powerhouse. The J.C. Boyle Powerhouse Access Road will be realigned and widened to allow for construction access and Scour Hole filling. A 300-foot section of the J.C. Boyle Powerhouse Road will be realigned upgradient of the Scour Hole and maintain a 20-foot offset from the edge of the final Scour Hole limit to allow for safe travel. The realignment section is within the FERC project boundary. This construction access improvement is planned to be performed post-drawdown and will remain post construction for future BLM authorized public use.

The existing Powerhouse Access Road swale will be rehabilitated to adequately convey runoff around the forebay and Scour Hole grading. The unlined swale will be seeded using a native seed mix as part of stabilization. Existing boulders will be placed between the Powerhouse Road realignment and Scour Hole at a maximum of five feet spacing. Adjacent to the swale, the Renewal Corporation will use native rock borrowed from within the work limits. The Renewal Corporation will add a limited soil topping and will plant native vegetation, subject to further consultation with BLM as the federal land manager. Erosion and sediment control measures for decommissioning and stabilization of the Powerhouse Access Road will be conducted in accordance with the NPDES 1200-C.

See Figure A-3 and refer to Design Drawings C1501, C1511, and C1623, for construction details.

OR-BLM-04 – J.C. Boyle Penstock Hillside Area Rehabilitation

The J.C. Boyle Penstocks will be removed and transported off-site for disposal. Prior to ground disturbance, the Renewal Corporation will perform testing to characterize baseline soil contamination and conduct requisite lead abatement to address potential contamination resulting from lead-based paint used on the penstocks. The concrete anchors will be partially removed to the spring line of the penstocks, and then buried using locally available overburden soils side cast from the original construction. The Renewal Corporation will use native rock borrowed from within the work limits, subject to further consultation with BLM, to block public access or establish site stability. The Renewal Corporation will add a limited soil topping to support planting native vegetation and undertake additional erosion control measures, including installation of check dams or water bars to attenuate flow, beyond what is required in the NPDES 1200-C, subject to such further consultation. Erosion and sediment control measures for decommissioning and stabilization of the penstocks will be conducted in accordance with the NPDES 1200-C.

Revegetation success will be based upon establishment of plants representative of adjacent vegetation including diversity. Percentage of cover to be established in coordination with BLM. Refer to OR-BLM-09 regarding invasive species management.

See Figure A-4 and refer to Design Drawings C1350, C1351, C1602, and C1624 for construction details.

OR-BLM-05 – Penstock Access Roads Rehabilitation

Four BLM-owned dirt roads extend from the J.C. Boyle Powerhouse Access Road up to various elevations along the penstocks. These roads will be rehabilitated as needed for construction access to the penstock area. The upper penstock road will not be reopened; however, the lower roads will be re-opened for light truck travel only.

When use of the road is complete, the Renewal Corporation will also undertake additional work such as regrading road edges to match adjacent slope conditions, hydroseed and place barriers at each end of the roads, subject to further consultation with BLM. The Renewal Corporation will add a limited soil topping to support planting native vegetation, subject to such consultation. Erosion and sediment control measures for decommissioning and stabilization of the Penstock Access Roads will include installation of water bars or tank traps and be conducted in accordance with the NPDES 1200-C.

See Figure A-4 and refer to Design Drawings C1005 and C1512 for construction details.

OR-BLM-06 – Oregon SR 66/JC Boyle Dam Road Improvements (See OR-BLM-10a)

OR-BLM-07 – J.C. Boyle Powerhouse and Tailrace Rehabilitation

The J.C. Boyle Powerhouse and Tailrace Disposal Site is located on the right bank of the Klamath River and approximately 4.6 river miles downstream of the J.C. Boyle Dam. The

Renewal Corporation will fill the tailrace and powerhouse (void space) with concrete rubble and General Fill per the Waste Disposal and Hazardous Materials Management Plan borrowed from adjacent areas. The Renewal Corporation will plant vegetation in the filled Powerhouse and Tailrace areas, adjacent areas, and a riparian buffer along the river's edge, subject to further consultation with BLM as the federal land manager. The Renewal Corporation will provide the BLM draft riparian restoration plans for review and comment. Riparian area restoration will consider the use of woody material for bank stabilization.

Revegetation success will be based upon establishment of plants representative of adjacent vegetation including diversity. Percentage of cover to be established in coordination with BLM. Refer to OR-BLM-09 regarding invasive species management.

Details pertaining to the location, construction, size, disposal materials, and location in relation to the anticipated post-drawdown OHWM are presented in Table 4-1 of the Oregon Waste Disposal and Hazardous Materials Management Plan. Erosion and sediment control measures for construction of the disposal site and stabilization of the powerhouse and tailrace will be conducted in accordance with the Oregon Erosion and Sediment Control Plan.

Excavated fill materials from the adjacent J.C. Boyle Substation, transformer, and maintenance area will be tested for hazardous materials prior to placement within the tailrace and powerhouse void space.

See Figure A-5 and refer to Design Drawings C1400, C1402, C1410, C1411, and C1602 for construction details.

OR-BLM-08 – Staging Area Rehabilitation

In general, the Renewal Corporation will loosen soil compacted by staging and temporary access road areas adjacent to demolition or other work areas by deep ripping and disking as needed to facilitate seed germination and plant establishment. The Renewal Corporation will preserve and protect native vegetation, where feasible, during active use and revegetation. Erosion and sediment control measures for decommissioning and stabilization of staging areas will be conducted in accordance with the NPDES 1200-C.

Revegetation success will be based upon establishment of plants representative of adjacent vegetation including diversity. Percentage of cover to be established in coordination with BLM. Refer to OR-BLM-09 regarding invasive species management.

See Figure A-6 for the location of staging areas within the J.C. Boyle Development area.

OR-BLM-09 – Invasive Species Management

The Renewal Corporation will treat areas for weed species prior to and after ground disturbing activities and will provide a plan/schedule for pre-treatment to share with BLM no less than 3 months before treatment begins. Periodic monitoring for invasive weed species will be

performed per BLM requirements at the power canal, powerhouse, tailrace, scour hole (restored area), penstock, penstock roads, access roads, and staging areas.

The Renewal Corporation will coordinate with BLM on the selection of source locations for imported soil and pretreatment of sites prior to excavation, as necessary. In addition, BLM's metrics for minimizing percent invasive cover will also be met for each site. Timing of treatments and establishment of BMPs will be determined in coordination with BLM.

Performance standards for monitoring (e.g., vegetation cover and IEV/non-native vegetation relative frequency) are discussed in the Reservoir Area Management Plan. Additional treatment may be necessary because of monitoring.

1.2.1.2 Roads and Right-of-Ways

OR-BLM-10a/10b – Oregon State Route 66/J.C. Boyle Dam Access Road Permit

OR-BLM-10a

The J.C. Boyle Access Road from Oregon SR 66 to J.C. Boyle Dam is a private gravel road ranging in width between 16 to 18 feet and is owned and maintained by PacifiCorp. The Renewal Corporation will expand the SR 66 intersection to allow for haul trucks to circulate on and off in a safe manner. The expansion at the approach to SR 66 will include the removal of existing ground vegetation³, grading an area approximately 38,000 square feet, and installing gravel. This area resides outside the FERC project boundary. Rehabilitation of the expanded area to pre-construction conditions will include scarifying and re-seeding disturbed edges outside existing road edges, and the addition of a tank trap/ditch to prevent public access. Rehabilitation will occur over an approximately 18-month period. Additionally, the entire extent of the J.C. Boyle Dam Access Road from SR 66 will include placing 2-6-inch rock and routine regrading during construction. Erosion and sediment control measures for decommissioning and stabilization of the SR 66 / J.C. Boyle Dam Access Road intersection will be conducted in accordance with the NPDES 1200-C.

OR-BLM-10b

A Grant of ROW for temporary road use (i.e., SF-299 application) will be obtained by the Renewal Corporation 12 months prior to construction, and the Renewal Corporation will meet all terms and conditions within the grant. Tree and vegetation removal on Oregon Department of Transportation (ODOT) land will be conducted in accordance with ODOT rules and regulations within their 68-foot encroachment area from centerline. Any tree and vegetation removal occurring on lands under the jurisdiction of the BLM will conform to the agency's conditions. Grading will be performed in a manner that is consistent with BLM standards. Per BLM's

³ Three large trees will also be removed as part of the expansion; however, this will occur in the Oregon Department of Transportation (ODOT) right-of-way adjacent to Oregon SR 66.

request, the Renewal Corporation will use ODOT's specification for gravel. Weed free base rock will be sourced from a Klamath County-approved source.

See Figures A-7a, A-7b and A-8, and refer to Design Drawings C6600 and C6601, for construction and rehabilitation details.

OR-BLM-11 – J.C. Boyle Power Canal Access Road Improvements

The J.C. Boyle Power Canal Access Road runs between the J.C. Boyle Dam and forebay spillway, with its western terminus at the intersection of the J.C. Boyle Powerhouse Access Road, and its eastern terminus at the access road from Oregon SR 66 near the Timber Bridge. The majority of this road is owned by BLM, while a short length is owned by PacifiCorp. The full length, however, is maintained by PacifiCorp. It is a 2.1-mile gravel road immediately adjacent to the Power Canal and has a width of approximately 14 feet. The J.C. Boyle Power Canal Access Road is the primary access route to the Power Canal and the two staging areas adjacent to the forebay area. This roadway is to be left in place after construction and reduced to the width of a walking trail. Fill material to be contoured and revegetated to align with the trail elevation. Canal road/trail will be blocked from public ATV access after construction is completed. Erosion and sediment control measures for decommissioning and stabilization of the J.C. Boyle Power Canal Access Road will be conducted in accordance with the NPDES 1200-C.

See Figures A-2a and A-2b, and refer to Design Drawing C1501 for construction details.

OR-BLM-12 – J.C. Boyle Powerhouse Road Widening at Scour Hole (See OR-BLM-03)

1.2.1.3 Recreation Sites

OR-BLM-13 – Topsy Campground Improvements

Topsy Campground is the only BLM recreation site within the Project. Topsy Campground is located on the southeastern shoreline of J.C. Boyle Reservoir and can be accessed via the Topsy Grade Road from Oregon SR 66. The site consists of a campground, small day use area, and a boat launch. All roads within the campground consist of asphalt.

The concrete boat launch, concrete step floating dock, and concrete footing for the plastic dock in the fall preceding drawdown. If not, these elements will be removed during drawdown. All other Topsy recreation features will remain. Per BLM direction, the Renewal Corporation will ensure that the floating dock is dismantled and retained onsite for BLM use.

Decommissioning of below-water components of the boat launch, floating dock, and concrete footing will incorporate best management practices required per the Oregon Section 401 Water Quality Certification. This area will be restored per the Reservoir Area Management Plan following drawdown.

Decommissioning and stabilization of upland components of the boat launch and floating dock will incorporate best management practices and erosion and sediment control measures per the NPDES 1200-C.

See Figure A-9 and refer to Design Drawing C7015 for construction details.

1.2.1.4 Other Sites

OR-BLM-14 – Distribution Line Removal

The Renewal Corporation will remove a distribution line between the J.C. Boyle Powerhouse Road and Power Canal Access Road that traverses through BLM land. The distribution line shares a Grant of ROW with an existing transmission line (Line 59). This line is authorized under a Grant of ROW (OROR 024416). The transmission line (Line 59) is not part of the dam decommissioning and will remain. No revegetation is anticipated along this line as access will be from the existing road. Erosion and sediment control measures for distribution line removal will be conducted in accordance with the NPDES 1200-C.

See Figure A-10.

OR-BLM-15 – Public Signage on J.C. Boyle Dam and Powerhouse Access Roads

The Renewal Corporation will install advance signage to notify vehicles using Oregon SR 66 of construction trucks entering/exiting at the intersection. The Renewal Corporation's contractor will use temporary traffic control during tree removal and intersection widening.

1.2.2 Responsible Parties

The Renewal Corporation will be responsible for construction activities, which includes the rehabilitation of BLM lands and site-specific interests (listed herein) post-drawdown. The BLM will be present during construction activities to ensure contractors adhere to construction plans and to ultimately ensure that disturbed sites are restored in a manner that is satisfactory to the agency.

1.2.3 Monitoring and Reporting

The Renewal Corporation will monitor vegetation up to 3 years or sooner until success criteria have been met. If vegetation is not meeting the established criteria, the Renewal Corporation will consult with BLM to evaluate whether alternative measures are necessary. A site will be considered fully restored when the applicable success criteria are achieved.

Aside from the Scour Hole and Powerhouse and Tailrace Disposal Sites, all locations list above will be monitored in accordance with the NPDES 1200-C. Any additional monitoring and reporting requested by BLM for rehabilitation and revegetation activities will be provided in a separate report, subject to further consultation with the BLM.

1.2.4 Project Completion

Upon completion of construction and all rehabilitation work, the Renewal Corporation will meet with the BLM to review the final condition of the BLM lands. This can occur as specific actions are completed. A punch list of items will be developed to identify any remaining actions to establish final stabilization and rehabilitation activities have been conducted in accordance with previously agreed upon terms.

1.2.5 Construction Management Coordination

The following steps outline the coordination process pre-, during, and post-construction.

1.2.5.1 General Coordination During Construction

Coordination and regular communication between the Renewal Corporation and the BLM will be necessary to address design and schedule changes, as well as other unanticipated events during construction (e.g., discovery of cultural and/or archaeological resources, hazardous waste spills on BLM land, etc.). A contact list of BLM Klamath Falls Field Office staff will be provided prior to the pre-construction meeting and remain active throughout construction, and until all required post-construction monitoring has been completed. The Renewal Corporation will provide an updated contact list prior to the pre-construction meeting.

1.2.5.2 Pre-Construction Coordination

Three months prior to construction, the Renewal Corporation will meet with BLM staff to flag boundaries and review the construction schedule, pre-treatment schedule, design plans, and any construction monitoring protocols that the BLM requires. At this meeting, the Renewal Corporation will bring current construction drawings and erosion and sediment control drawings. Finally, at the BLM's discretion, additional coordination meetings may be scheduled closer to the actual construction start date as necessary.

1.2.5.3 Coordination During Construction

It is anticipated that the BLM will be onsite monitoring construction activities throughout the duration of the project to ensure that the Renewal Corporation and its contractors adhere to construction plans and the agency's protocols for performing work on BLM lands. If there are changes to the schedule, design or other delays, the Renewal Corporation will notify the BLM staff member onsite. Similarly, if unanticipated events occur during construction, including deviations from design plans, the Renewal Corporation will stop work to address the issue and determine the best course of action in concert with the on-site BLM staff member. At such time, the BLM will determine whether issues need to be elevated or if corrective measures must be taken. If no staff member is present, the Renewal Corporation and its contractors should refer to the BLM contact list that will be provided.

1.2.5.4 Post-Construction Coordination

Upon completion of construction on BLM lands, the Renewal Corporation will provide formal notification (e.g., via email) to the BLM that construction work has completed. At such time, the

BLM may decide to schedule a walk-through with the Renewal Corporation to ensure that activities at each site have been completed in a manner that is satisfactory to the agency. During the walk-through, the BLM will determine if additional work may be necessary to address any deviations from the construction drawings prior to closeout.

1.2.5.5 Final Closeout Process

At this final stage in the process, the BLM will schedule a final on-site walk-through with the Renewal Corporation to review the work performed and verify punch list completion for each site. The BLM will determine if conditions have been met. If it is found that rehabilitation and revegetation activities have not been performed to satisfy BLM conditions, the BLM will provide formal notification (i.e., via email) to the Renewal Corporation. If the BLM is satisfied with the work performed, the parties will review rehabilitation monitoring plans and finalize reporting schedules.

1.3 California BLM – Specific Land Management Interests

This section identifies actions within the Proposed Action that the Renewal Corporation will implement on federal lands administered by the BLM's Redding Field Office. Table 1-2 summarizes the individual actions. This table will be utilized to document status of project completion during implementation of the Proposed Action. Further details regarding these project-related actions are presented in Section 1.3.1.

Table 1-2: Project-Related Actions to be Completed on California BLM Land

ID NUMBER	ACTION	DESCRIPTION	TIMING	STATUS⁴
CA-BLM-01	Mallard Cove Recreation Site Access Road Improvements (potential)	Establish final disposition of access road to Mallard Cove Recreation Site (to be removed) in coordination with the State of California. Erosion and sediment control measures for potential decommissioning and stabilization of the access road will be conducted in accordance with the NPDES Construction General Permit (CGP). Obtain access authorization if lands remain outside of the FERC project boundary.	Post-Drawdown	
CA-BLM-03	Wards Canyon Tree Removal	The Renewal Corporation may remove a limited number of trees located in the Copco No. 2 Bypass Reach river channel, if needed to protect public safety for navigation. Such tree removal will be based on consultation with the BLM, California Department of Fish and Wildlife and California State Water Resources Control Board.	Pre-Drawdown	
CA-BLM-03	Iron Gate Transmission Line Removal and Rehabilitation	Address the disposition of the BLM lands six months prior to commencing work. Erosion and sediment control measures for distribution line removal will be conducted in accordance with the NPDES CGP. Coordinate with BLM on the removal of	Post-Drawdown	

⁴ Status column to be completed as part of periodic reporting to BLM and following action completion.

ID NUMBER	ACTION	DESCRIPTION	TIMING	STATUS ⁴
		power poles to ensure adequate habitat for nesting birds.		
CA-BLM-04	Iron Gate Restoration Activities	Restore BLM lands within the Iron Gate Reservoir footprint in accordance with the Reservoir Area Management Plan.	Post-Drawdown	

1.3.1 Expectations for Final Condition of BLM Lands⁵

Under Section 24 of the Federal Power Act, the Commission withdrew the BLM Project lands for hydropower exclusive use. Once the dams are removed, the Commission will remove or “vacate” the land withdrawal. For the Commission to complete the land withdrawal vacate, the BLM will acknowledge the lands meet their condition for acceptance. To facilitate the BLM acceptance, the Renewal Corporation will rehabilitate the former dam infrastructure areas. This includes, but is not limited to, rehabilitating disturbed land in a manner that reduces invasive species, promotes the success of native species, protects current beneficial habitat, and minimizes erosion. The following sections describe the actions to be completed at sites on BLM land that are referenced in Table 1-2 and shown in Figure B-1.

CA-BLM-01 – Mallard Cove Recreation Site Access Road Improvements (potential)

Mallard Cove Recreation site is located on the southern shore of Copco Lake and can be accessed from Ager Beswick Road. This recreation site will be removed under the Proposed Action but is not located on BLM lands. The access road into Mallard Cove is under the ownership of the BLM. The BLM and the Renewal Corporation will establish access authorization and the final disposition of this road in coordination with the State of California. The State of California may wish to retain this access point for future Klamath River Access. Erosion and sediment control measures for the potential decommissioning and stabilization of the access road into Mallard Cove will be conducted in accordance with the National Pollutant Discharge Elimination System Stormwater Construction (NPDES) Construction General Permit (NPDES CGP).

See Figure B-2 and refer to Design Drawing C7025 for construction details related to this recreation site.

CA-BLM-02 – Wards Canyon

Ward’s Canyon is the reach of the mainstem Klamath River in which Copco No. 1 and Copco No.2 Dams were constructed. Ward’s Canyon extends from a point approximately 1,000 feet upstream of the Copco No. 1 Dam to the Copco No. 2 Powerhouse. The Copco No. 2 Bypass Reach is within Ward’s Canyon and extends from Copco No. 2 Dam to the Copco No. 2 Powerhouse. A portion of Wards Canyon, bypass reach below Copco No. 1 and Iron Gate Reservoir, is under the ownership of BLM. The Renewal Corporation will not undertake any decommissioning, monitoring, restoration, rehabilitation, or adaptive management work in the Copco No. 2 Bypass Reach, which is outside of the Limits of Work. Notwithstanding the previous sentence, the Renewal Corporation may remove a limited number of trees located in the Copco No. 2 Bypass Reach river channel, if needed to protect public safety for navigation. Such tree removal will be based on consultation with the BLM, California Department of Fish and Wildlife and California State Water Resources Control Board. The Renewal Corporation will

⁵ The term “final” means the condition of lands on the day when License Surrender is effective.

report any such tree removal work in the Annual Compliance Report that will be prepared and submitted in accordance with Section 7.0 of the Reservoir Area Management Plan.

See Figure B-3.

CA-BLM-03 – Iron Gate Transmission Line Removal and Rehabilitation

Select portions of the Iron Gate Transmission line reside on BLM lands. The Renewal Corporation and the BLM will hold a coordination meeting six months prior to commencing work to address the disposition of the BLM lands. This coordination may be requested directly by PacifiCorp. The Renewal Corporation and PacifiCorp will coordinate this outreach with the BLM. Erosion and sediment control measures for distribution line removal will be conducted in accordance with the NPDES CGP. The Renewal Corporation will remove power poles in coordination with BLM to ensure adequate habitat for nesting birds.

See Figures B-4a and B-4b.

CA-BLM-04 – Iron Gate Restoration Activities

The Renewal Corporation has provided the Reservoir Area Management Plan to the BLM for comments. BLM's comments have been incorporated. The Renewal Corporation will inform the BLM of progress on restoration as part of the overall regulatory and stakeholder outreach.

See Figures B-4a and B-4b.

1.3.2 Responsible Parties

The Renewal Corporation will be responsible for construction activities, which includes the rehabilitation of BLM lands and site-specific interests (listed herein) post-drawdown. The BLM will be present during construction activities to ensure contractors adhere to construction plans and to ultimately ensure that disturbed sites are restored in a manner that is satisfactory to the agency.

1.3.3 Monitoring and Reporting

Any revegetation and rehabilitation activities related to Iron Gate transmission line removal and any potential improvements to the Mallard Cove Access Road will be monitored in accordance with the NPDES CGP, unless Renewal Corporation determines that additional stabilization work beyond the NPDES CGP is required, based on further consultation with BLM. Any additional monitoring and reporting requested by BLM for rehabilitation and revegetation activities will be provided in a separate report, subject to consultation with the BLM as the federal landowner. Restoration work within the footprint of Iron Gate Reservoir will be performed and monitored according to the Reservoir Area Management Plan.

1.3.4 Project Completion

Upon completion of construction and all rehabilitation work, the Renewal Corporation will meet with the BLM to review the final condition of the federal lands administered by BLM. This can occur as specific actions are completed. A punch list of items will be developed to identify any remaining actions to establish final stabilization and rehabilitation activities have been conducted in accordance with previously agreed upon terms.

1.3.5 Construction Management Coordination

The following steps outline the coordination process pre-, during, and post-construction.

1.3.5.1 General Coordination During Construction

Coordination and regular communication between the Renewal Corporation and the BLM will be necessary to address design and schedule changes, as well as other unanticipated events during construction (e.g., discovery of cultural and/or archaeological resources, hazardous waste spills on BLM land, etc.). A contact list of BLM Redding Field Office staff will be provided prior to the pre-construction meeting and remain active throughout construction, and until all required post-construction monitoring has been completed. The Renewal Corporation will provide an updated contact list prior to the pre-construction meeting.

1.3.5.2 Pre-Construction Coordination

Three months prior to construction, the Renewal Corporation will meet with BLM staff to flag boundaries and review the construction schedule, pre-treatment schedule, design plans, and any construction monitoring protocols that the BLM requires. At this meeting, the Renewal Corporation will bring current construction drawings and erosion and sediment control drawings. Finally, at the BLM's discretion, additional coordination meetings may be scheduled closer to the actual construction start date as necessary.

1.3.5.3 Coordination During Construction

It is anticipated that the BLM will be onsite monitoring construction activities throughout the duration of the project to ensure that the Renewal Corporation and its contractors adhere to construction plans and the agency's protocols for performing work on BLM lands. If there are changes to the schedule, design or other delays, the Renewal Corporation will notify the BLM staff member onsite. Similarly, if unanticipated events occur during construction, including deviations from design plans, the Renewal Corporation will stop work to address the issue and determine the best course of action in concert with the on-site BLM staff member. At such time, the BLM will determine whether issues need to be elevated or if corrective measures must be taken. If no staff member is present, the Renewal Corporation and its contractors should refer to the updated BLM contact list that will be provided.

1.3.5.4 Post-Construction Coordination

Upon completion of construction on BLM lands, the Renewal Corporation will provide formal notification (e.g., via email) to the BLM that construction work has completed. At such time, the

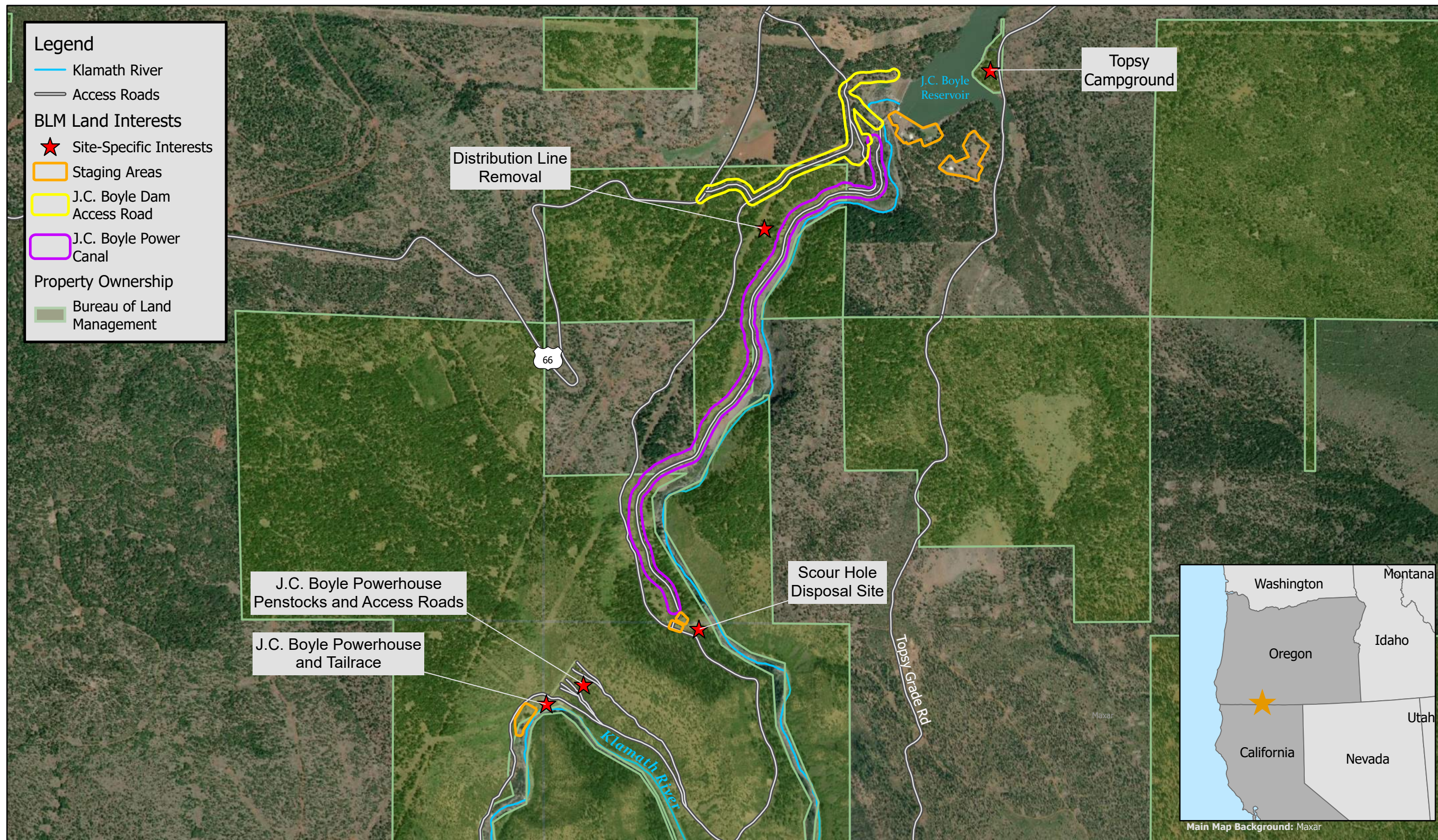
BLM may decide to schedule a walk-through with the Renewal Corporation to ensure that activities at each site have been completed in a manner that is satisfactory to the agency. During the walk-through, the BLM will determine if additional work may be necessary to address any deviations from the construction drawings prior to closeout.

1.3.5.5 Final Closeout Process

At this final stage in the process, the BLM will schedule a final on-site walk-through with the Renewal Corporation and its contractors to review the work performed and verify punch list completion for each site. The BLM will determine if conditions have been met such that the agency can reasonably assume responsibility for future site management upon License Surrender. If it is found that rehabilitation and revegetation activities have not been performed to satisfy BLM conditions, the BLM will provide formal notification (i.e., via email) to the Renewal Corporation. If the BLM is satisfied with the work performed, the parties will review rehabilitation monitoring plans and finalize reporting schedules.

Appendix A

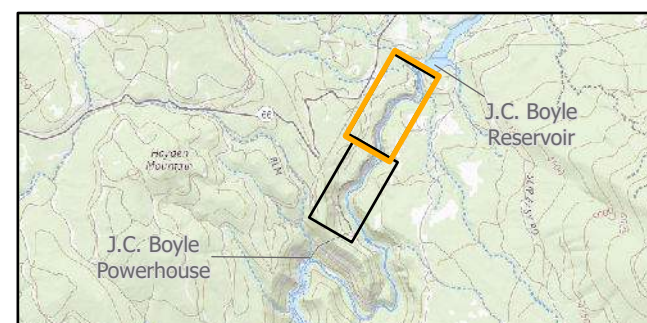
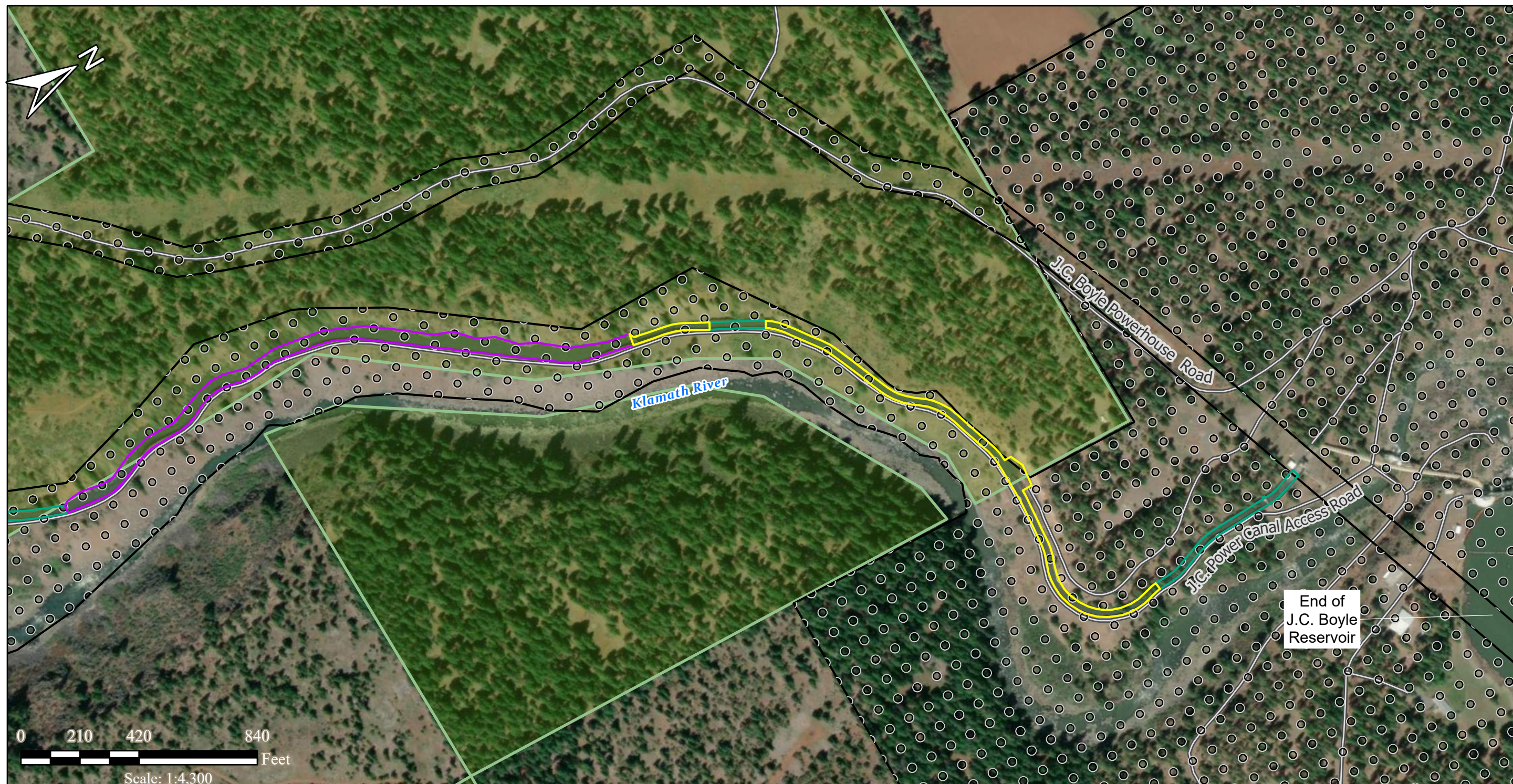
Figures: Oregon BLM



Scale: 1:20,000

Lower Klamath Project
BLM Use and Occupancy Plan
 Figure A-1: Overview Map of Oregon
 BLM Site Specific Interests





Notes

1. Data Sources: Limits of Work: McMillen Jacobs, Power Canal: McMillen Jacobs, Access Routes: McMillen Jacobs; Land Ownership: Bureau of Land Management

2. Background: Maxar, USGS The National Map: National Boundaries Dataset, National Elevation Dataset, Geographic Names Information System, National Hydrography Dataset, National Land Cover Database, National Structures Dataset, and National Transportation Dataset; U.S. Census Bureau - TIGER/Line; HERE Road Data

Legend

Construction Type

- Demolition: Double-Walled Backfilled Section
- Demolition: Double-Walled Free Standing Section
- Demolition: Single-Walled Canal Section

 FERC Boundary

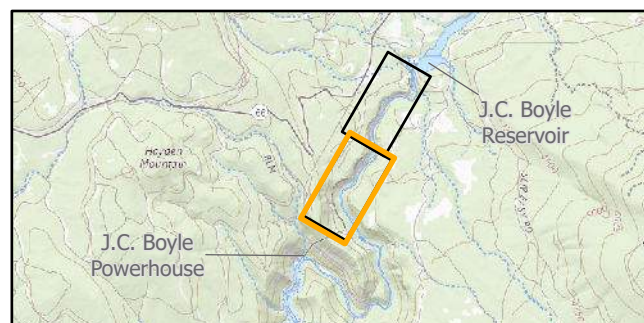
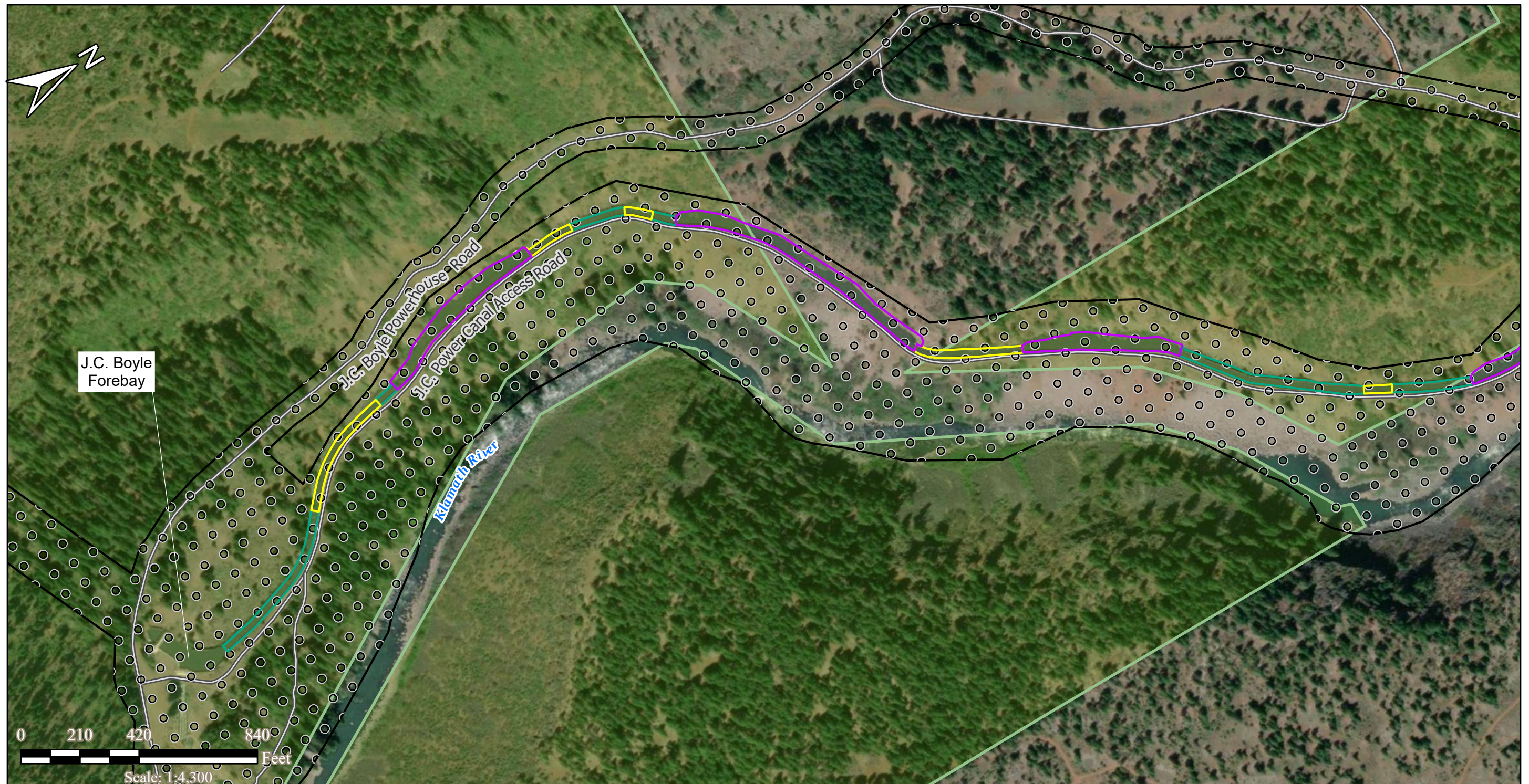
 Access Routes

Property Ownership

 Bureau of Land Management

Lower Klamath Project
BLM Use and Occupancy Plan
 Figure A-2a: J.C. Boyle Power
 Canal December 2021





Notes

1. Data Sources: Limits of Work: McMillen Jacobs, Power Canal: McMillen Jacobs, Access Routes: McMillen Jacobs; Land Ownership: Bureau of Land Management
2. Background: Maxar, USGS The National Map: National Boundaries Dataset, National Elevation Dataset, Geographic Names Information System, National Hydrography Dataset, National Land Cover Database, National Structures Dataset, and National Transportation Dataset; U.S. Census Bureau - TIGER/Line; HERE Road Data

Legend

Construction Type

- Demolition: Double-Walled Backfilled Section
- Demolition: Double-Walled Free Standing Section
- Demolition: Single-Walled Canal Section

 FERC Boundary

Access Routes

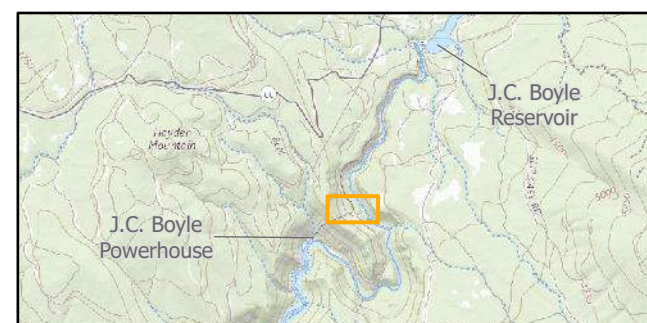
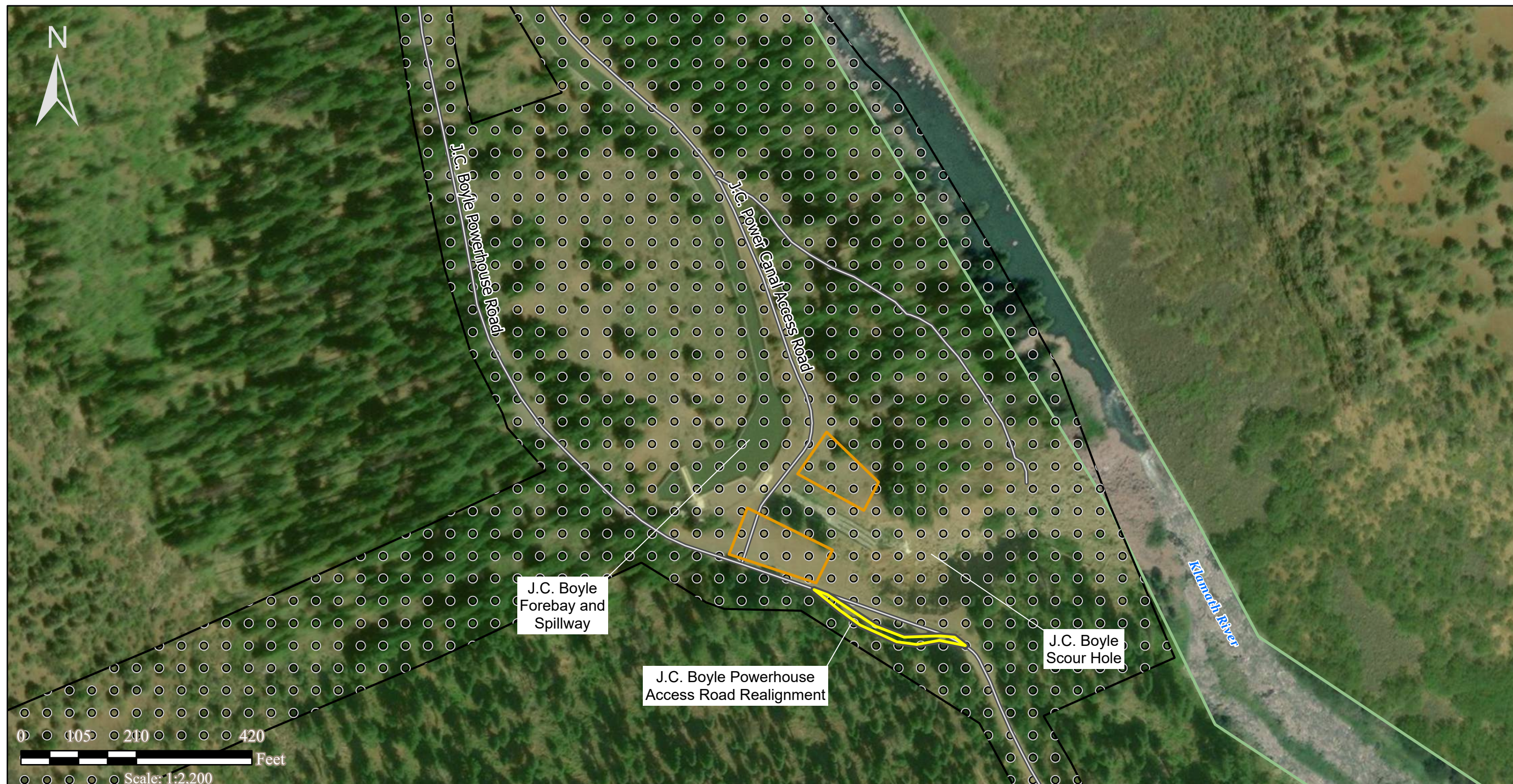
Property Ownership

Bureau of Land Management

Lower Klamath Project
BLM Use and Occupancy Plan
 Figure A-2b: J.C. Boyle Power Canal December 2021

KLAMATH RIVER RENEWAL CORPORATION

McMILLEN JACOBS ASSOCIATES



Notes

1. Data Sources: Limits of Work, Staging Sites, Disposal Sites: McMillen Jacobs; Road Alignments: CDM; Land Ownership: Bureau of Land Management

2. Background: Maxar, USGS The National Map: National Boundaries Dataset, National Elevation Dataset, Geographic Names Information System, National Hydrography Dataset, National Land Cover Database, National Structures Dataset, and National Transportation Dataset; U.S. Census Bureau - TIGER/Line; HERE Road Data

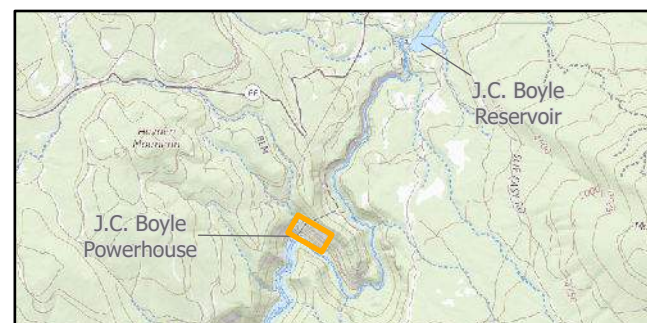
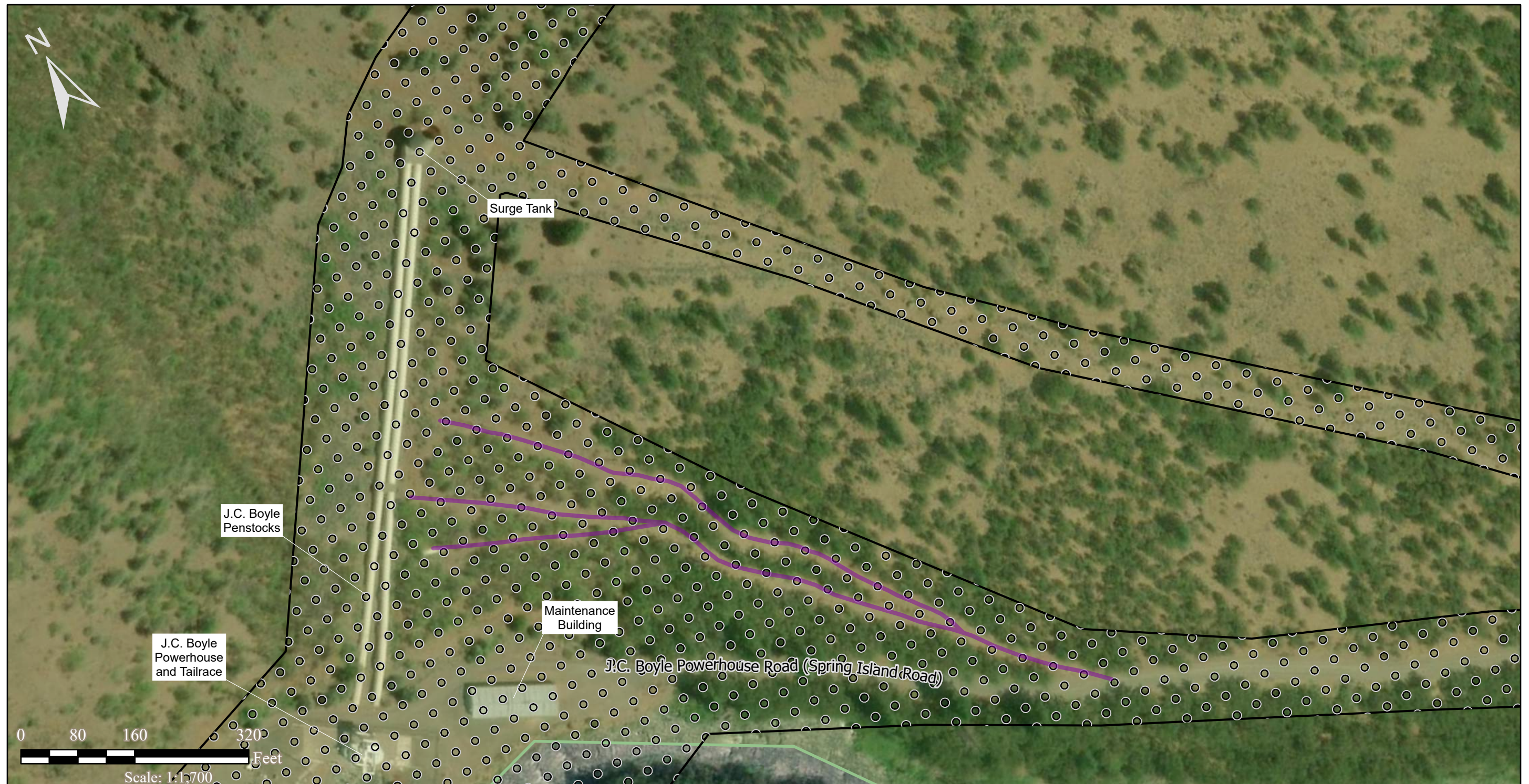
Legend

- Road Alignment
- Staging Sites
- Access Roads

- FERC Boundary
- Property Ownership
- Bureau of Land Management

Lower Klamath Project
BLM Use and Occupancy Plan
 Figure A-3: Scour Hole Disposal Site and J.C. Boyle Powerhouse Access Road Realignment
 December 2021





Notes

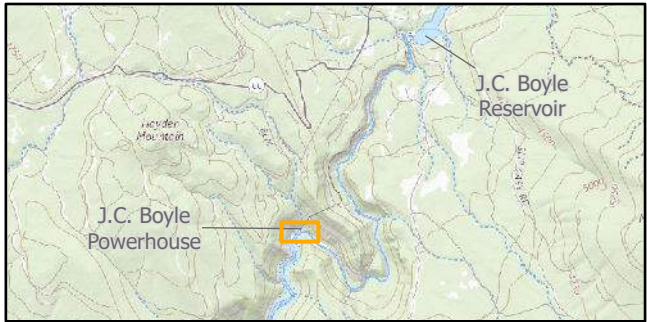
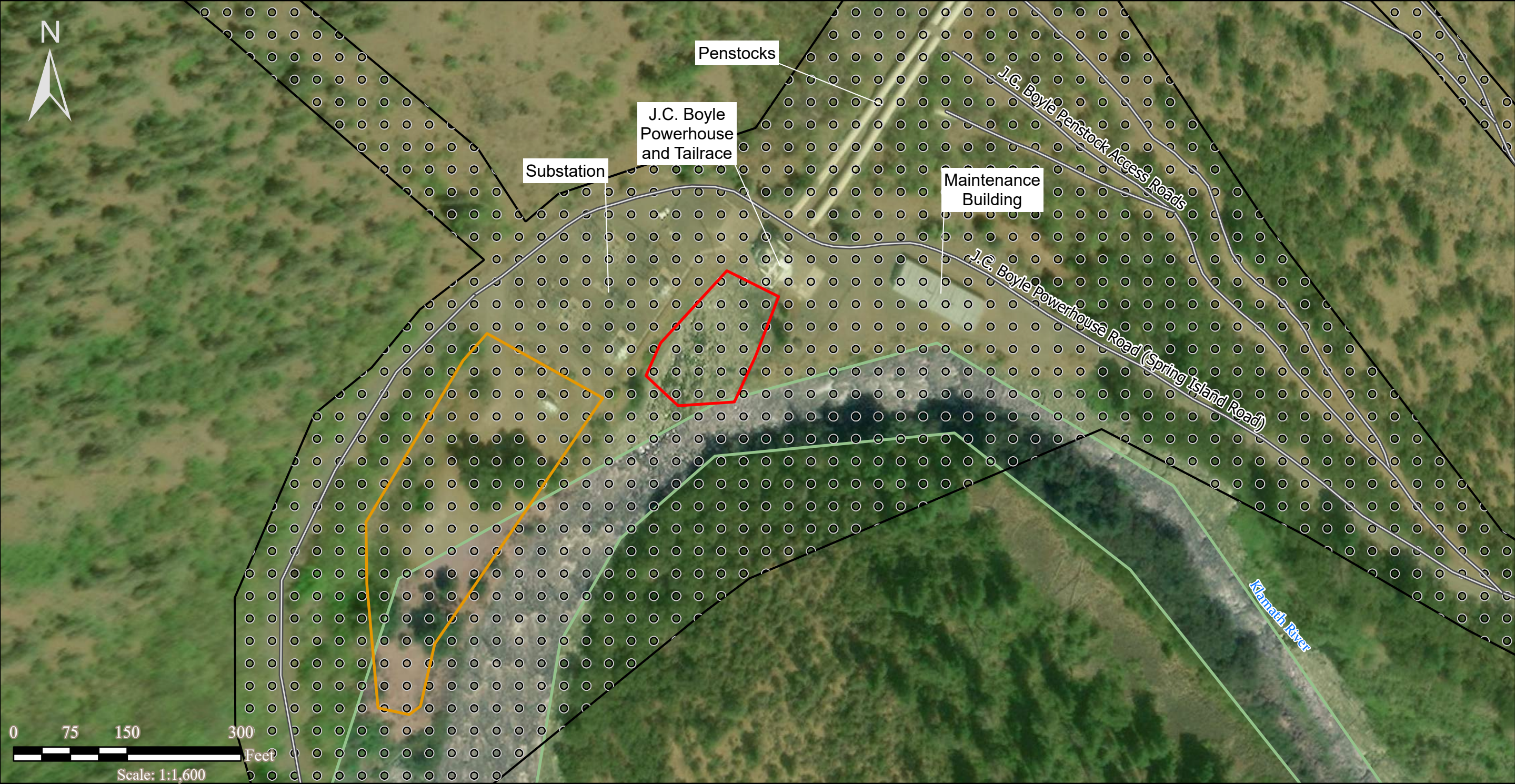
1. Data Sources: Limits of Work: McMillen Jacobs; Land Ownership: Bureau of Land Management
2. Background: Maxar, Microsoft, USGS The National Map: National Boundaries Dataset, National Elevation Dataset, Geographic Names Information System, National Hydrography Dataset, National Land Cover Database, National Structures Dataset, and National Transportation Dataset; U.S. Census Bureau - TIGER/Line; HERE Road Data

Legend

- Penstock Access Roads
- FERC Boundary
- Property Ownership
 - Bureau of Land Management

Lower Klamath Project
BLM Use and Occupancy Plan
 Figure A-4: J.C. Boyle Powerhouse Penstocks
 and Penstock Access Roads
 December 2021





Notes

1. Data Sources: Limits of Work, Staging Sites, Disposal Sites, Access Roads, Power Lines: McMillen Jacobs; Land Ownership: Bureau of Land Management

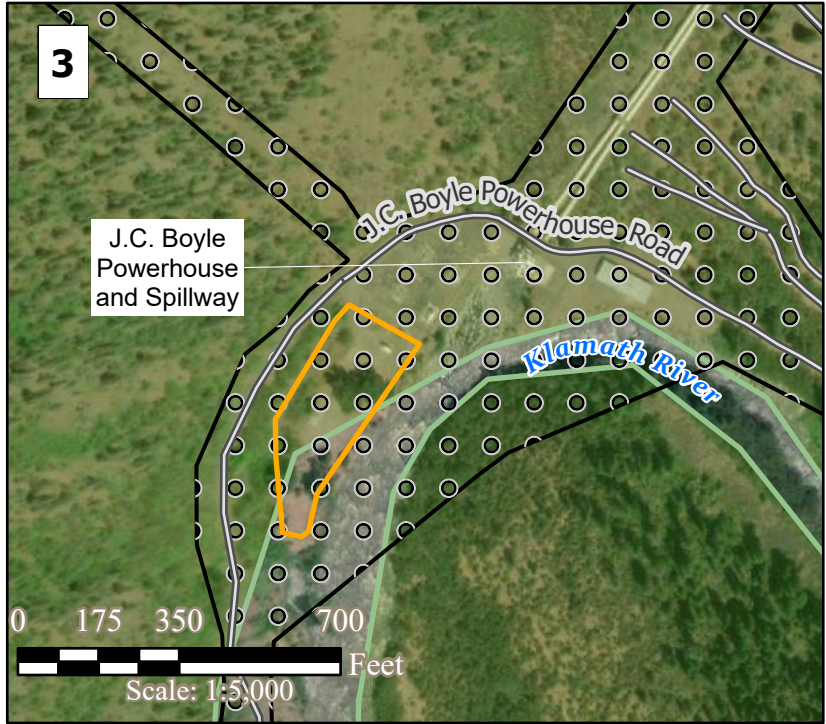
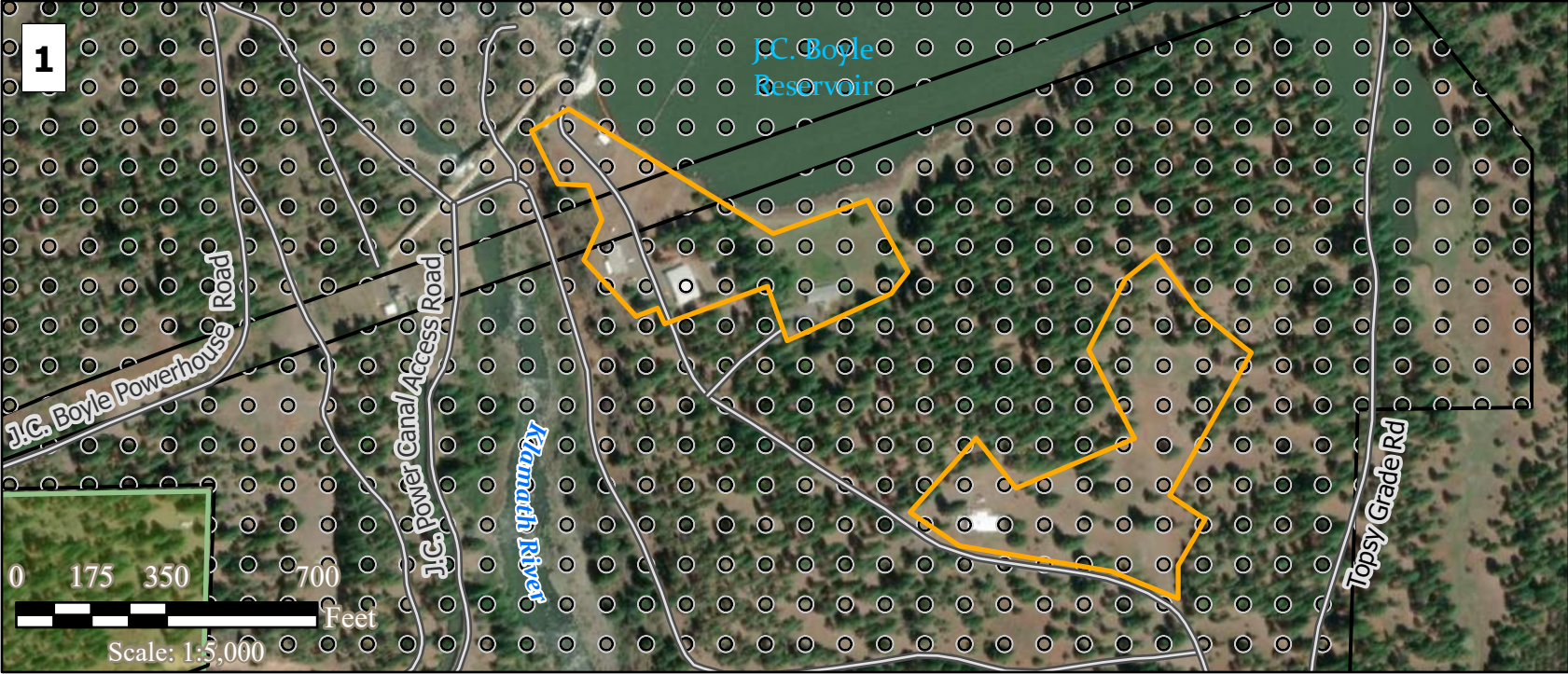
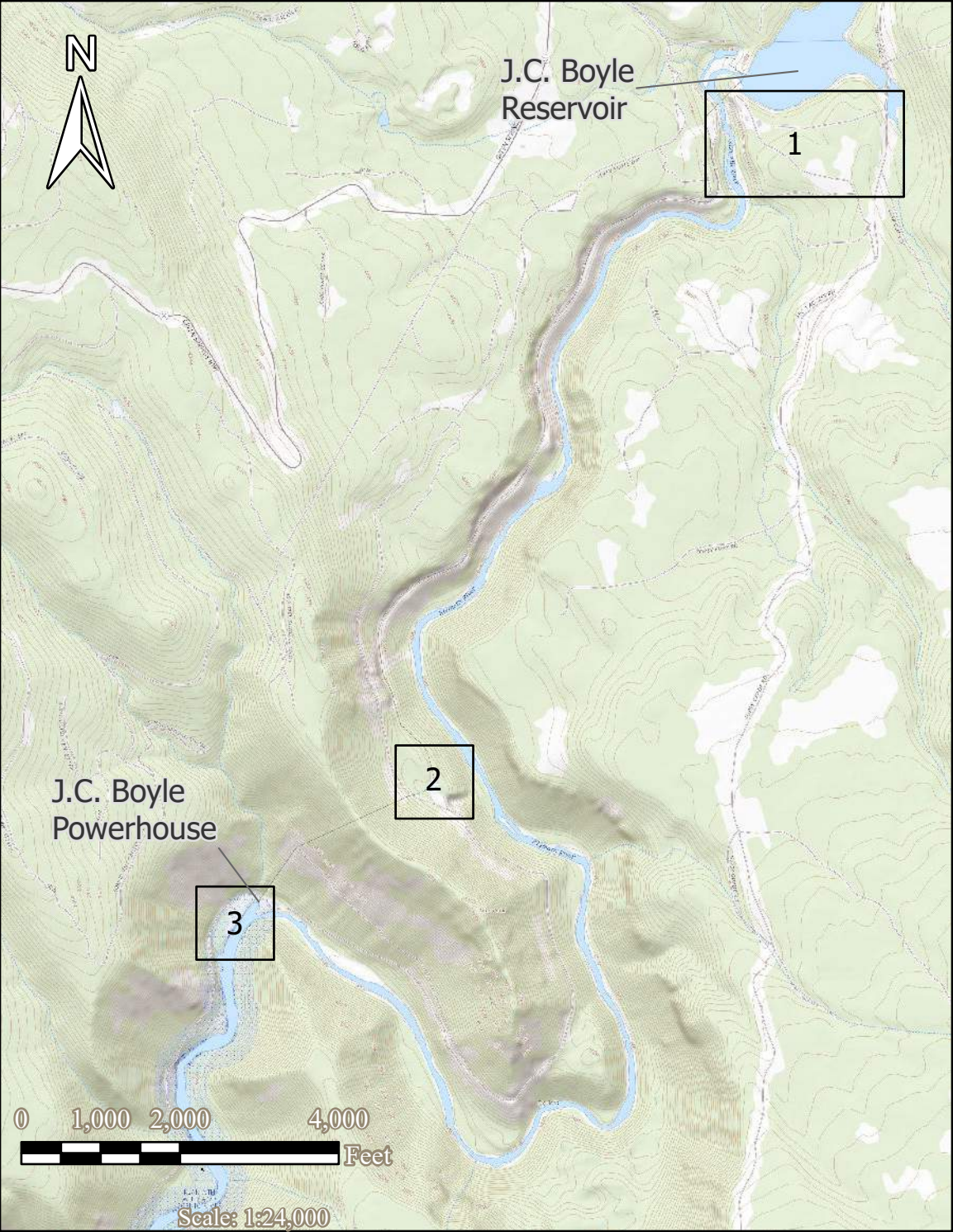
2. Background: Maxar, Microsoft, USGS The National Map; National Boundaries Dataset, National Elevation Dataset, Geographic Names Information System, National Hydrography Dataset, National Land Cover Database, National Structures Dataset, and National Transportation Dataset; U.S. Census Bureau - TIGER/Line; HERE Road Data

Legend

Disposal Sites	FERC Boundary
Staging Sites	Property Ownership
Access Roads	Bureau of Land Management

Lower Klamath Project
BLM Use and Occupancy Plan
Figure A-5: J.C. Boyle Powerhouse and
Tailrace Disposal Site
December 2021





Notes

1.Data Sources: Limits of Work,, Access Routes, Staging, Access Roads, Power Lines: McMillen Jacobs; Land Ownership; Bureau of Land Management
2. Background: Maxar, USGS The National Map: National Boundaries Dataset, National Elevation Dataset, Geographic Names Information System, National Hydrography Dataset, National Land Cover Database, National Structures Dataset, and National Transportation Dataset; U.S. Census Bureau - TIGER/Line; HERE Road Data

Legend

- Staging Sites
- FERC Boundary
- Access Routes

Property Ownership

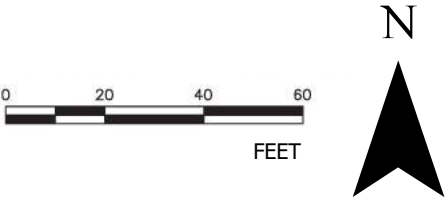
- Bureau of Land Management

Lower Klamath Project
BLM Use and Occupancy Plan
Figure A-6: J.C. Boyle Development
Staging Areas
December 2021

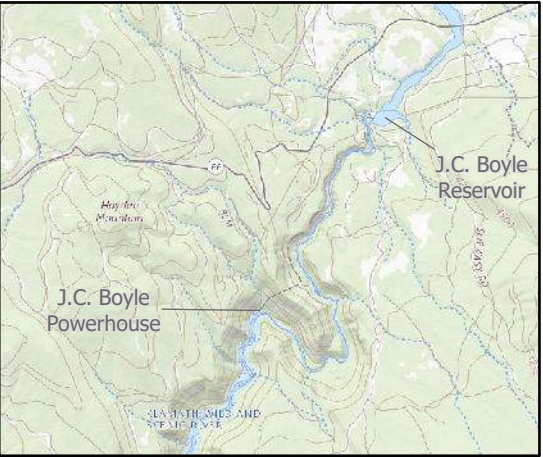




Lower Klamath Project
BLM Use and Occupancy Plan
Figure A-7a: Oregon State Route
66/J.C. Boyle Dam Access Road
December 2021

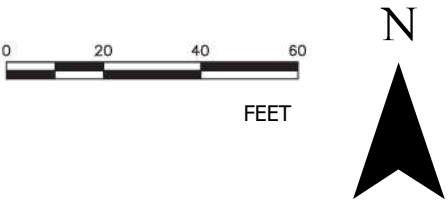


- NOTES:**
1. INTERSECTION IMPROVEMENT CONCEPT IS PROVIDED FOR ODOT AND BLM REVIEW. TRAFFIC MANAGEMENT FEATURES WILL BE DEVELOPED PENDING CONCEPT APPROVAL.
 2. VERTICAL CURVATURE ON NORTH SIDE OF INTERSECTION IMPEDES SIGHT LINES.
 3. EXTENT OF VEGETATION REMOVAL REQUIRED WILL BE DETERMINED BY THE CONTRACTOR, BLM, AND ODOT REVIEW.
 4. SEE C5000 AND C5001 FOR GENERAL NOTES SPECIFIC TO ROADS, BRIDGES AND CULVERT COMPONENTS.
 5. SEE C5002 AND G0005 FOR LEGEND AND SYMBOLS.
 6. TRAFFIC MANAGEMENT PLAN, IF REQUIRED, SHALL BE COORDINATED AS APPROVED PER KLAMATH COUNTY MOU.
 7. NO SURVEY HAS BEEN COMPLETED AND PROPERTY LINES HAVE NOT BEEN DELINEATED.
 8. THE EXISTING CULVERT IS WITHIN THE FOOTPRINT SHOWN – CONFIRMED VISUALLY ON 9/17/2021. DUE TO THE CULVERT LOCATION AND REQUIRED TURNING RADIUS, IMPACT TO THE CULVERT IS UNAVOIDABLE. THE OUTLET IS CURRENTLY PLUGGED.
 9. IF GRAVEL IS NEEDED FOR LARGER TURNING RADIUS, ADD CULVERT EXTENSION PRIOR TO BURYING END OF PIPE. EXTEND WITH 6" DIAMETER PLASTIC PIPE OR MATCH EXISTING.
 10. WORK POINTS SHOWN ARE APPROXIMATE BASED ON AVAILABLE DATA, CONTRACTOR TO VERIFY CONTROL POINTS AND CULVERT LOCATION IN THE FIELD.

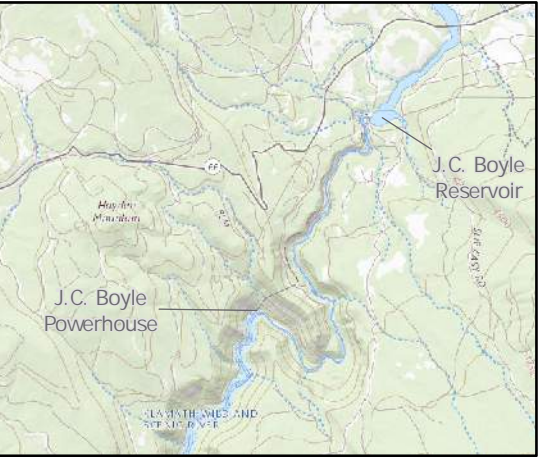


PRELIMINARY DESIGN (NOT FOR CONSTRUCTION)
Disclaimer: This document has been prepared based on information provided by others as cited in the Notes section. McMillen Jacobs Associates has not verified the accuracy and/or completeness of this information and shall not be responsible for any errors or omissions which may be incorporated herein as a result. McMillen Jacobs Associates assumes no responsibility for data supplied in electronic format, and the recipient accepts full responsibility for verifying the accuracy and completeness of the data.

Lower Klamath Project
BLM Use and Occupancy Plan
Figure A-7b: Oregon State Route
66/J.C. Boyle Dam Access Road
December 2021

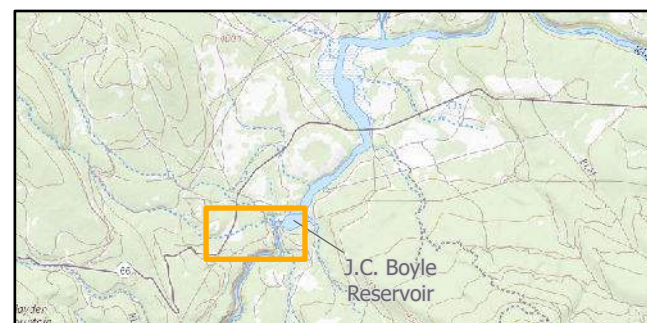
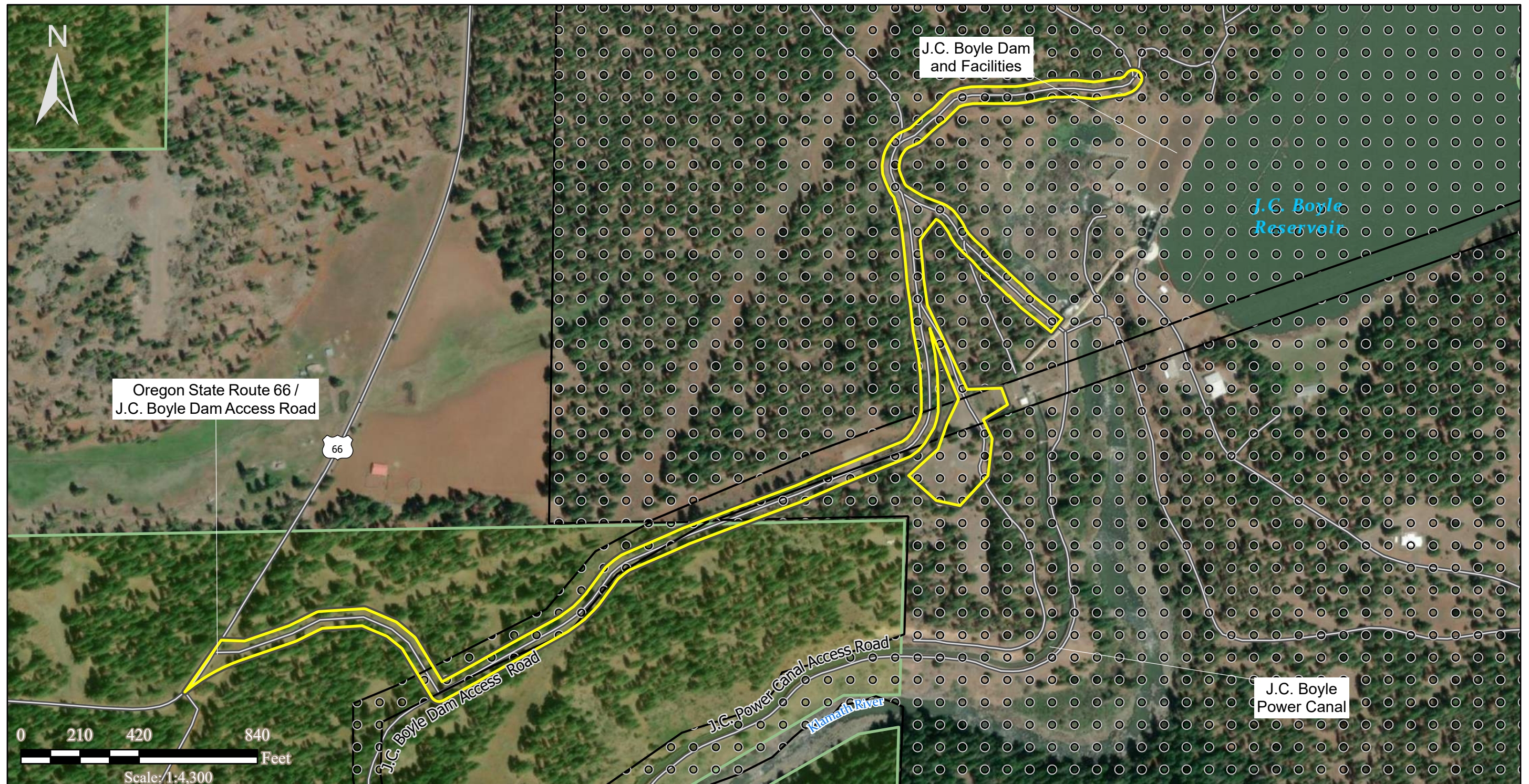


- NOTES:**
1. SEE C5000 AND C5001 FOR GENERAL NOTES SPECIFIC TO ROADS, BRIDGES, AND CULVERT COMPONENTS.
 2. SEE C5002 FOR LEGEND AND SYMBOLS.
 3. SEE ROADS, BRIDGES, AND CULVERTS TECHNICAL SPECIFICATIONS (32 50 00) FOR QUALITY ASSURANCE INSPECTION AND TESTING REQUIREMENTS.
 4. EXISTING CULVERT CROSSING SHALL BE PROTECTED OR RELOCATED. DEBRIS SHALL BE CLEARED AT THE INLET AND OUTLET TO ALLOW FOR DRAINAGE OF THE CONSTRUCTED TRENCH.
 5. FINAL SITE REMEDIATION TO INCLUDE A 2' DEEP x 4' WIDE "TANK TRAP" STYLE DITCH TO ASSURE CARS CANNOT ACCESS/PARK IN THIS OPEN AREA FOLLOWING PROJECT COMPLETION.



PRELIMINARY DESIGN (NOT FOR CONSTRUCTION)
Disclaimer: This document has been prepared based on information provided by others as cited in the Notes section. McMillen Jacobs Associates has not verified the accuracy and/or completeness of this information and shall not be responsible for any errors or omissions which may be incorporated herein as a result. McMillen Jacobs Associates assumes no responsibility for data supplied in electronic format, and the recipient accepts full responsibility for verifying the accuracy and completeness of the data.





Notes

1. Data Sources: Limits of Work: McMillen Jacobs;
Land Ownership: Bureau of Land Management
2. Background: Maxar, USGS The National Map:
National Boundaries Dataset, National Elevation
Dataset, Geographic Names Information System,
National Hydrography Dataset, National Land Cover
Database, National Structures Dataset, and
National Transportation Dataset; U.S. Census
Bureau - TIGER/Line; HERE Road Data

Legend

- J.C. Boyle Dam Access
Route Construction Area
- Access Roads
- FERC Boundary

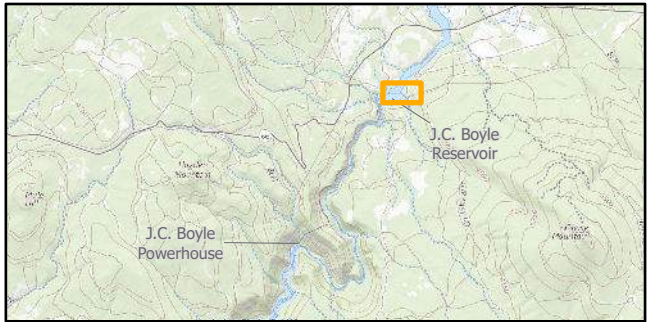
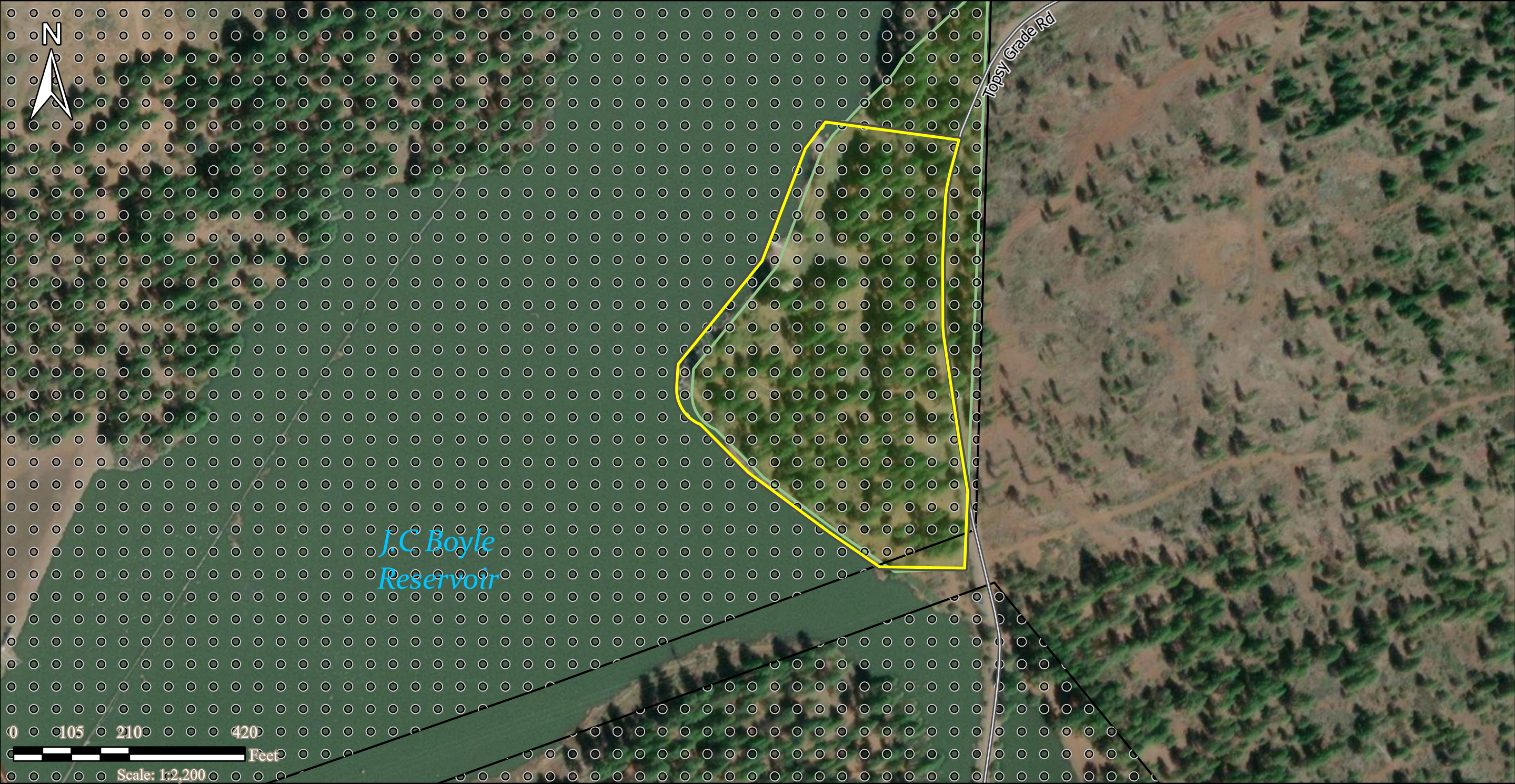
Property Ownership

- Bureau of Land
Management

Lower Klamath Project
BLM Use and Occupancy Plan
Figure A-8: J.C. Boyle Dam Access
Road December 2021

**KLAMATH
RIVER RENEWAL
CORPORATION**

**McMILLEN
JACOBS
ASSOCIATES**



Notes

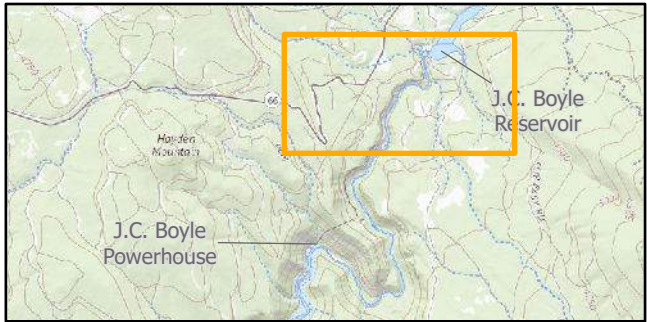
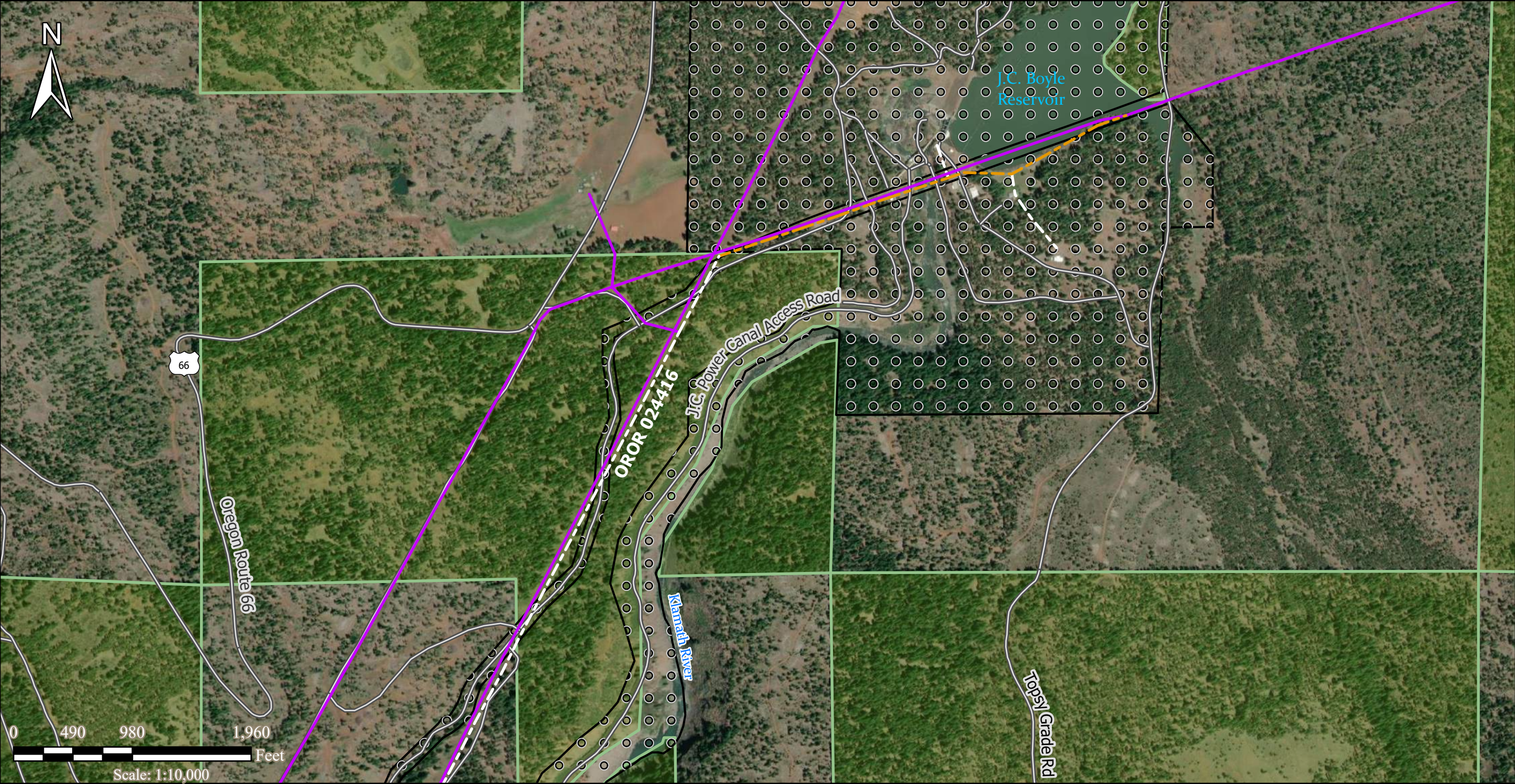
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2. Background: Maxar, Microsoft, USGS The National Map: National Boundaries Dataset, National Elevation Dataset, Geographic Names Information System, National Hydrography Dataset, National Land Cover Database, National Structures Dataset, and National Transportation Dataset; U.S. Census Bureau - TIGER/Line; HERE Road Data

Legend

- | | |
|------------------|---------------------------|
| Topsy Campground | FERC Boundary |
| Access Roads | Property Ownership |
| | Bureau of Land Management |

Lower Klamath Project
BLM Use and Occupancy Plan
Figure A-9: Topsy Campground
December 2021





Notes

1. Data Sources: Limits of Work: McMillen Jacobs, Power Canal: McMillen Jacobs, Access Routes: McMillen Jacobs; Land Ownership: Bureau of Land Management

2. Background: Maxar, USGS The National Map: National Boundaries Dataset, National Elevation Dataset, Geographic Names Information System, National Hydrography Dataset, National Land Cover Database, National Structures Dataset, and National Transportation Dataset; U.S. Census Bureau - TIGER/Line; HERE Road Data

Legend

Project Action

- LKP Distribution Line Complete Demo - Kiewit
- LKP Transmission Line Complete Demo - Pacific Power
- Existing Transmission Lines to Remain

Property Ownership

- Bureau of Land Management

Access Routes

- Access Routes

FERC Boundary

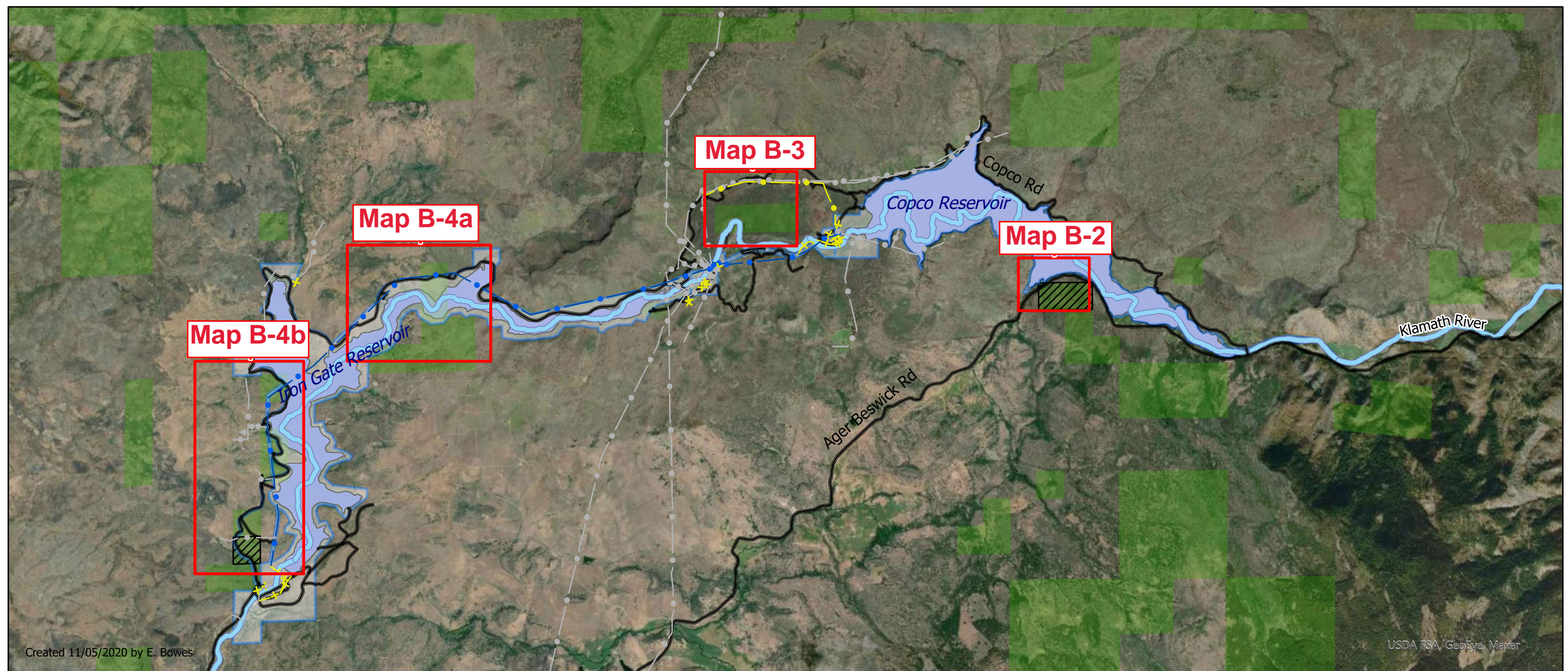
- FERC Boundary

Lower Klamath Project
BLM Use and Occupancy Plan
Figure A-10: Distribution Line Removal
December 2021



Appendix B

Figures: California BLM



0 0.5 1 2
Miles

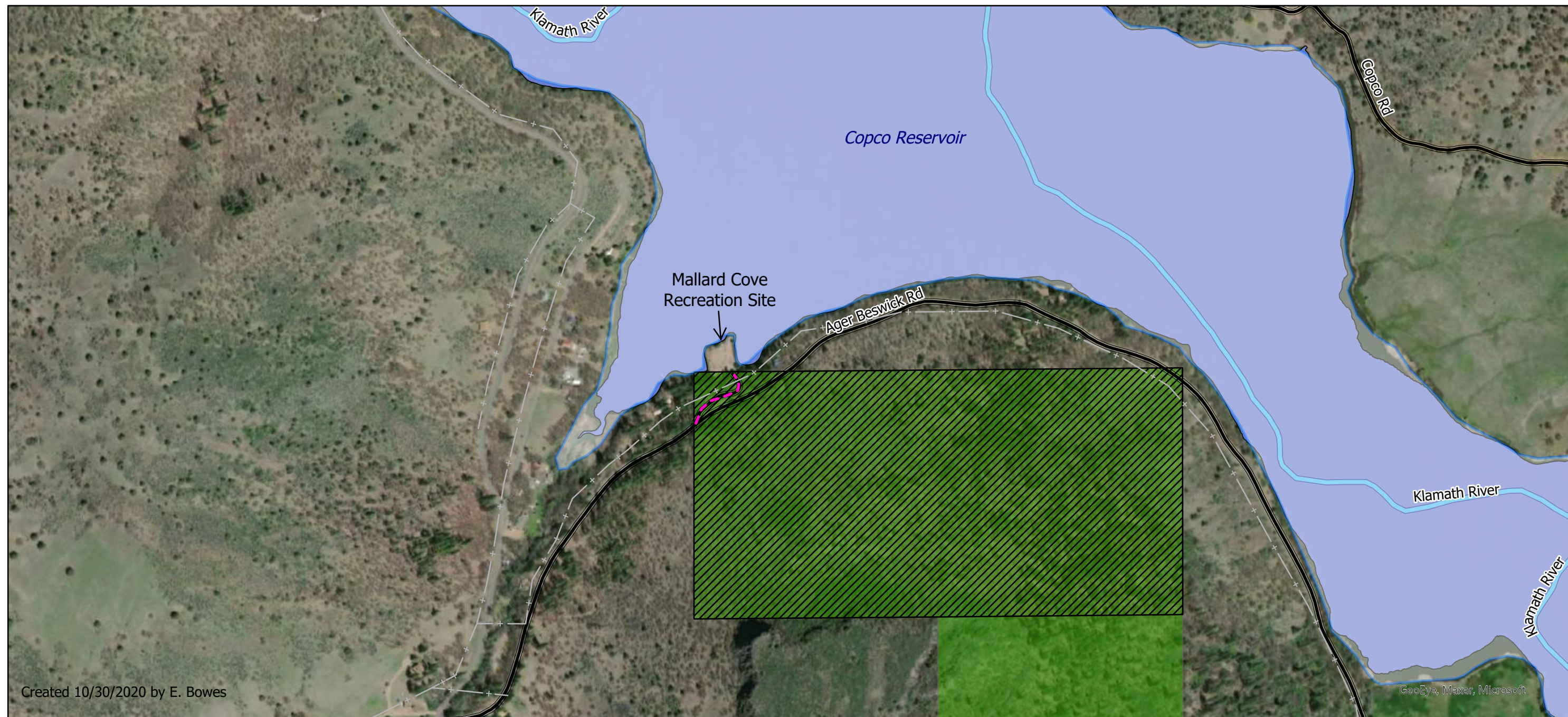


Figure B-1
Overview Map of California BLM Site
Specific Interests

Legend

- +— KRRP Distribution Line Complete Demo- Kiewit
- KRRP Transmission Line Complete Demo- Kiewit
- KRRP Transmission Line Complete Demo- Pacific Power
- Existing Transmission Lines
- *— Proposed Transmission Line
- KRRP Roads (Existing)
- FERC Project Footprint
- ▨ PacifiCorp-BLM Active ROW
- Bureau of Land Management
- Reservoir
- Klamath River

*The removal of distribution and transmission lines will be finalized in early 2022.



0 0.25 0.5 Miles

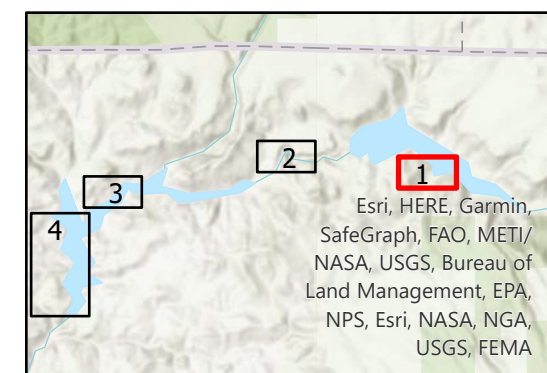


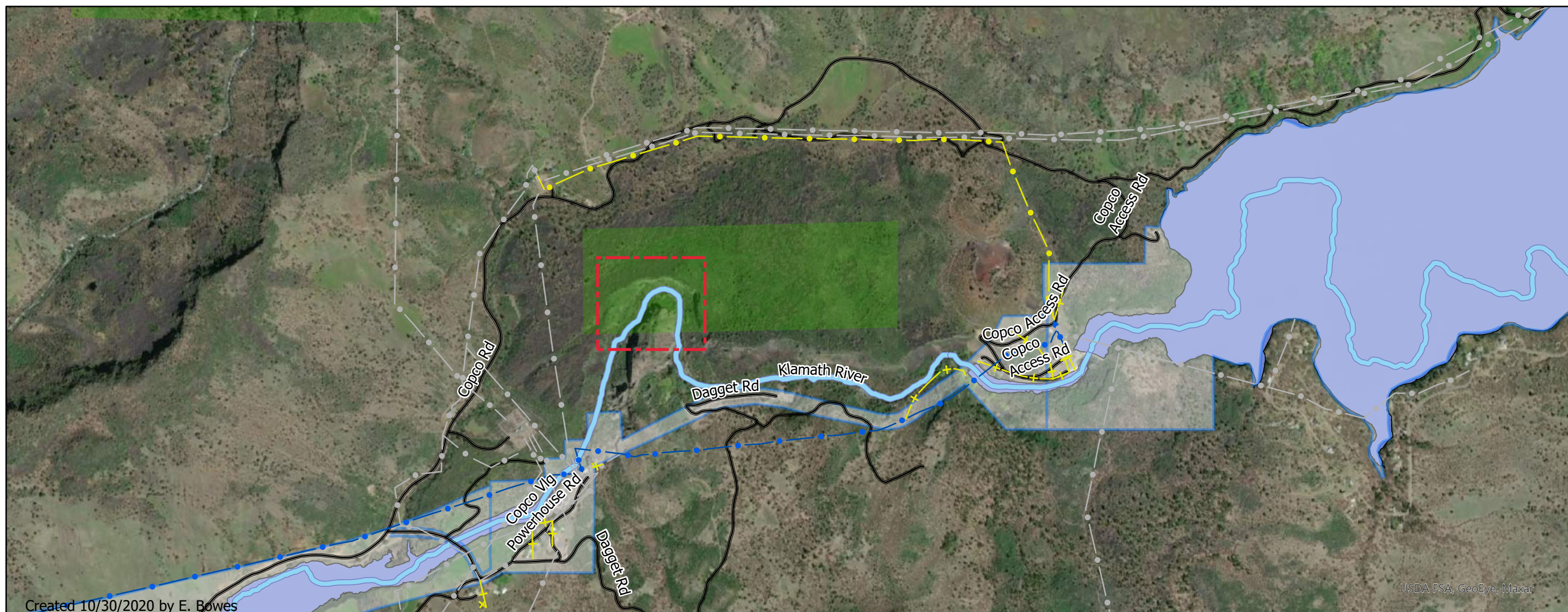
Figure B-2
Mallard Cove Recreation Site
Access

Legend

- | | |
|---------------------------|-----------------------------|
| KRRP Roads (Existing) | Reservoir |
| Mallard Cove Access Road | Klamath River |
| ROW CACA 056511 | FERC Project Footprint |
| Bureau of Land Management | Existing Distribution Lines |

*The removal of distribution and transmission lines will be finalized in early 2022.





0 0.5 1 Miles



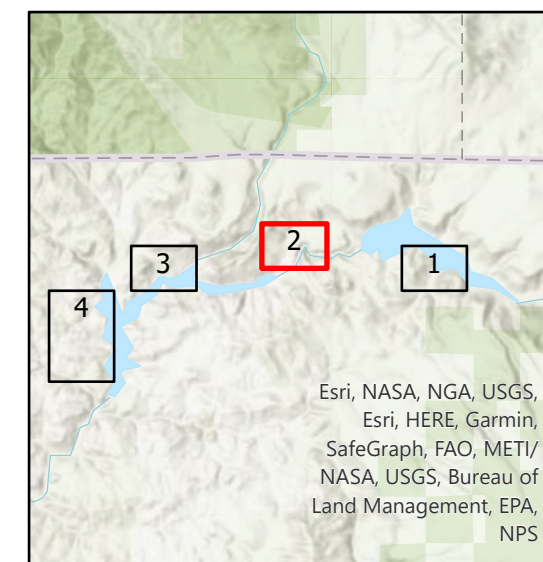
CAMAS
Environmental Regulatory Professionals

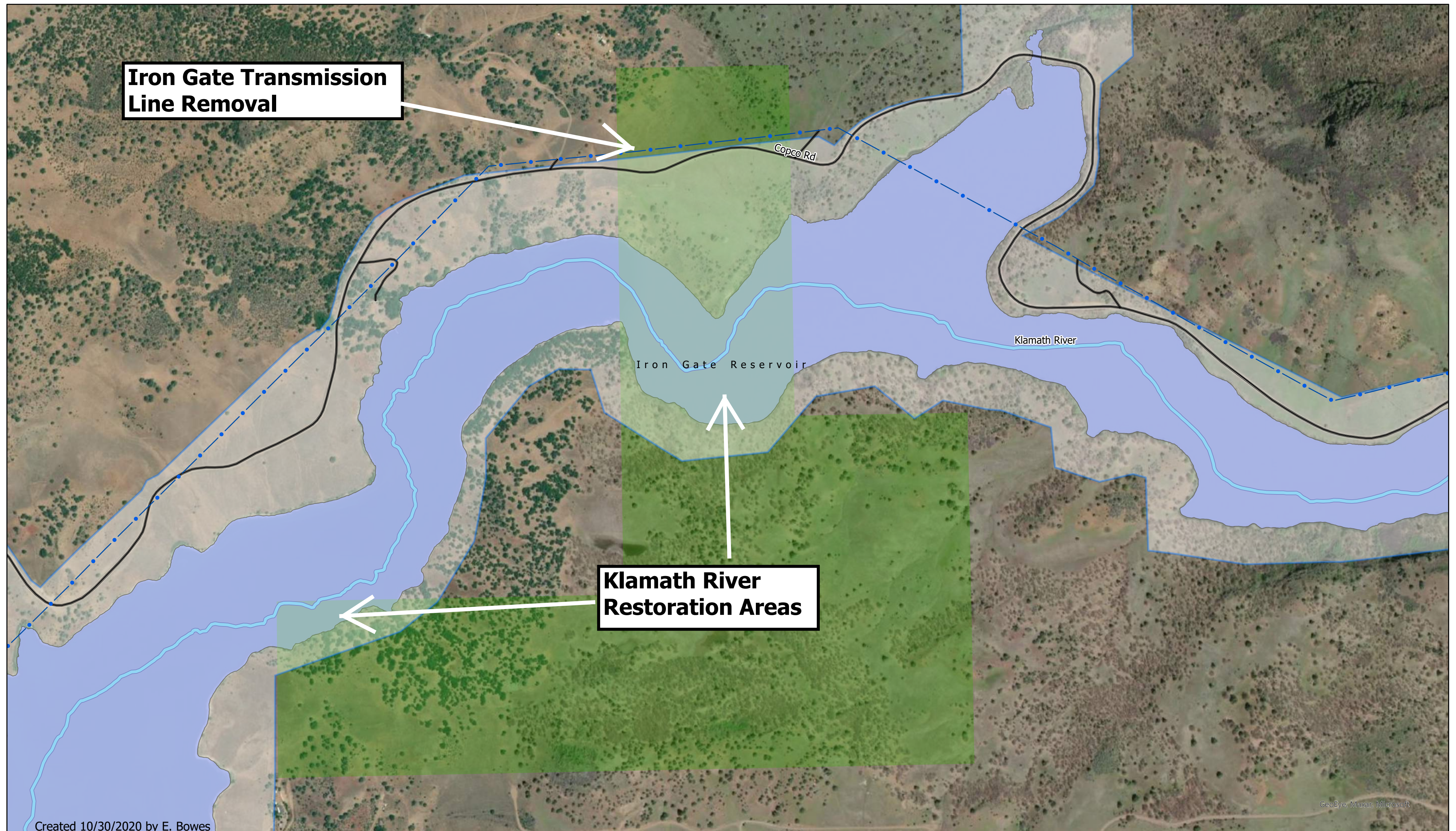
Legend

- + KRRP Distribution Line Complete Demo- Kiewit
- + KRRP Transmission Line Complete Demo- Kiewit
- + KRRP Transmission Line Complete Demo- Pacific Power
- Existing Transmission Lines
- KRRP Roads (Existing)
- FERC Project Footprint
- Bureau of Land Management
- Reservoir
- Klamath River
- Wards Canyon

*The removal of distribution and transmission lines will be finalized in early 2022.

Figure B-3
Wards Canyon





0 0.13 0.25 0.5 Miles

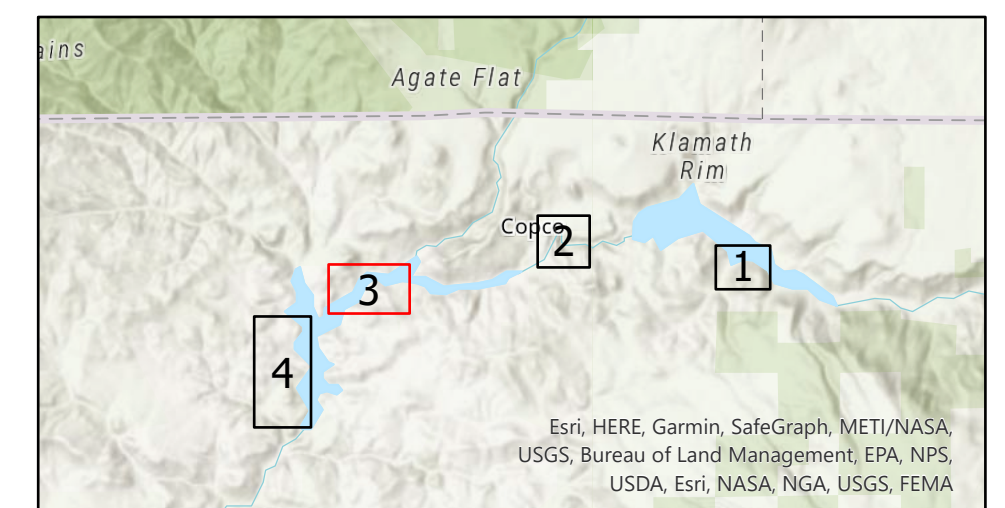


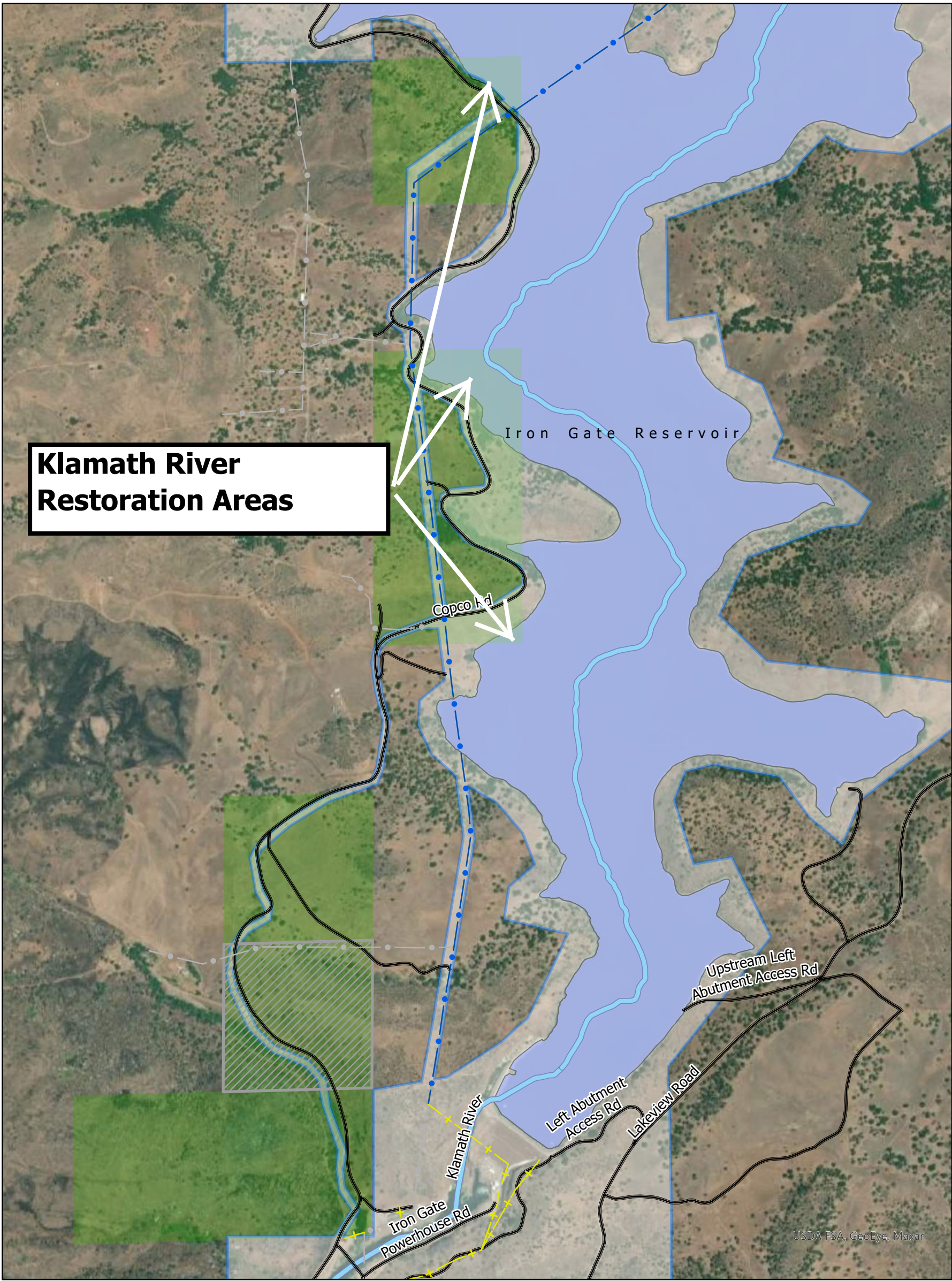
Legend

- KRRP Transmission Line Complete Demo- Pacific Power
- Bureau of Land Management
- FERC Project Footprint
- KRRP Roads (Existing)
- Klamath River
- Reservoir

*The removal of distribution and transmission lines will be finalized in early 2022.

Figure B-4a
Iron Gate Reservoir: Transmission Line Removal and Restoration Areas





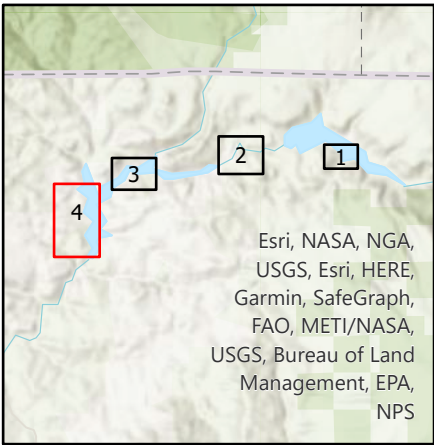
**Klamath River
Restoration Areas**

0 0.13 0.25 0.5 Miles



Legend

- KRRP Distribution Line Complete Demo- Kiewit
- KRRP Transmission Line Complete Demo- Pacific Power
- Existing Transmission Lines
- FERC Project Footprint
- CACA 058042- ROW Out of Project
- Bureau of Land Management
- KRRP Roads (Existing)
- Reservoir
- Klamath River



**Figure B-4b
Iron Gate Reservoir: Transmission Line
Removal and Restoration Areas**

*The removal of distribution and transmission lines will be finalized in early 2022.

Appendix E

Construction Camp Plan



**Lower Klamath Project
FERC Project No. 14803**

Construction Camp Management Plan

**Klamath River Renewal Corporation
2001 Addison Street, Suite 317
Berkeley, CA 94704**

**Prepared By:
McMillen Jacobs Associates
1471 Shoreline Drive Suite 100
Boise, Idaho 83702**

December 2021

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Appendices

Appendix A: Figures

Figure 2-1: J.C. Boyle Construction Camp

Figure 3-1: Copco No. 1 Construction Camp

Figure 4-1: Copco No. 2 Construction Camp (Copco Village)

Figure 5-1: Iron Gate Construction Camp

1.0 Introduction

This Construction Camp Plan is a subplan to the Construction Management Plan that provides the camp locations for temporary offices, housing, laydown areas, and storage facilities, as well as the approximate arrangement planned as part of the Proposed Action for the Lower Klamath Project.

2.0 J.C. Boyle Construction Camp

2.1 Overview

The Renewal Corporation will establish a construction office and support facilities for construction at J.C. Boyle Dam. The camp will include a construction office, laydown areas, parking, and other related facilities required to support the construction activities at J.C. Boyle Dam. Efforts will be made to use and optimize existing facilities onsite to the extent possible. Final location and siting of specific temporary facilities and infrastructure will be determined between the co-licensees prior to construction. Temporary housing facilities will not be provided at J.C. Boyle Construction Camp and construction crews will reside offsite. A description of the primary construction camp facilities is presented in the following sections.

2.2 Location

The J.C. Boyle Construction Camp is located on the east side of the Klamath River as illustrated in Figure 2-1. The work activities taking place at the J.C. Boyle Dam will be supported from the J.C. Boyle Construction Camp location.

2.3 Access Roads

The J.C. Boyle Construction Camp will be accessed from the existing roads which serve the J.C. Boyle Dam complex, which includes office buildings, and maintenance facilities. The existing roads will be used during construction with periodic maintenance performed to ensure a reliable and durable road surface. No additional roads are required to support the J.C. Boyle Construction Camp facilities.

2.4 Laydown and Staging Area

Laydown areas will be constructed on the north side of the existing access road to the J.C. Boyle Project (see Figure 2-1). The combined laydown areas will be approximately 10.5 acres in size and include areas for an office trailer, employee and visitor parking, fuel station, hazardous materials storage, as well as laydown areas for equipment and material storage. The laydown areas will be cleared of vegetation and graded, then a 12-inch base rock material placed with a 6-inch gravel top course to create a year-round travel surface. The areas will be graded to route stormwater to the sides of the laydown area where erosion and sediment controls will be installed in accordance with the National Pollutant Discharge Elimination System Stormwater Construction (NPDES) General Permit No. 1200-C (NPDES 1200-C).

2.5 Temporary Office Trailer(s)

The approximate location of the prefabricated temporary office trailer(s) will be in the northwest corner of the laydown area. The office trailer(s) will provide space for interior offices, conference room, small kitchen, and dining area, unisex bathrooms, office supply storage, and communications room.

2.6 Temporary Power

A temporary power drop will be provided to the office trailer complex. The temporary power will be routed from an existing electrical service. A transformer will be mounted on an adjacent pole with a meter and power disconnect.

2.7 Communication

Communication facilities will be provided at the office complex. Phone and internet service along with a central radio system supporting the construction team will be housed in the office complex. Cell phone service at this location is limited requiring the radio system to ensure effective communication throughout the project site.

2.8 Fuel Station and Hazardous Materials Storage

Fuel storage will be provided in a designated area on the south side of the laydown area. Storage for up to 10,000 gallons of fuel will be provided in this location. The fuel storage will meet all State of Oregon fire code for storage and dispensing of fuel. The containment area will be sized to meet the Oregon fire code for secondary containment. Hazardous materials storage will be located adjacent to the fuel storage area and will consist of an approximately 2,000 square foot area. Storage of hazardous materials will be in accordance with the Oregon Department of Environmental Quality hazardous waste rules. Any hazardous waste will be stored in Connex boxes or covered storage areas establishing protection from the environmental conditions. Appropriate placarding will be installed to clearly indicate the fueling station and hazardous materials storage areas, No Smoking requirements, and limited access provisions. See the Oregon Waste Disposal and Hazardous Materials Management Plan for detailed measures related to fuel and materials storage.

2.9 Utility Water

A 1,000-gallon water holding tank will be provided at the office trailer to store utility water. The tank will be fitted with a booster pump to provide utility water to the bathrooms in the office trailer.

2.10 Potable Water

Potable water will consist of 5-gallon-water jugs and dispensers provided at the office trailers. The potable water will be obtained from commercial water providers.

2.11 Sanitary Facilities

The office trailers will be fitted with bathrooms operated with utility water. The bathroom fixtures will be routed to a temporary holding tank which will be pumped out and transported to a municipal wastewater facility for disposal. Porta-potty facilities will be provided outside of the office trailers, fueling station, employee parking area, and the staging area to support crews working in these areas. A commercial service will provide the Porta-potties along with cleaning and maintenance services during construction.

2.12 Sensitive Areas

Prior to mobilization of any construction, all lands will be evaluated for any sensitive resources (cultural, biological) via a database mapping effort. Any sensitive area identified will be protected with exclusion fencing, or other appropriate barrier prior to construction, then maintained throughout construction. See Historic Properties Management Plan for detailed measures related to the protection of sensitive areas.

2.13 Signage

Signage will be provided throughout the construction site to provide effective identification and guidance to the construction workers and visitors within the Project site. A Project sign will be erected at the main construction entrance from Topsy Grade Road. The sign will include the Project name, general description of the work elements, and the primary contact information. Traffic signs will be erected along the access roads providing guidance to the office trailer complex, visitor parking, and laydown areas. Road signs will include speed limits to safe traffic conditions within the Project site. Periodic monitoring of all signs will be done to ensure they remain visible and available.

3.0 Copco No. 1 Construction Camp

3.1 Overview

The Renewal Corporation will establish a construction office and support facilities for construction at Copco No. 1 Dam. The camp will include a construction office, laydown, parking, and other related facilities required to support the construction activities at Copco No. 1 Dam. Efforts will be made to use and optimize existing facilities onsite to the extent possible. Final location and siting of specific temporary facilities and infrastructure will be determined between the co-licensees prior to construction. Temporary housing facilities will not be provided at Copco No. 1 Construction Camp. A description of the primary construction camp facilities is presented in the following sections.

3.2 Location

The Copco No. 1 Construction Camp is located on north side of the Klamath River as illustrated in Figure 3-1. The work activities taking place at Copco No. 1 Dam will be supported from the Copco No. 1 Construction Camp location.

3.3 Access Roads

The Copco No. 1 Construction Camp will be accessed from the existing Copco Access Road which serves the Copco No. 1 Development, which includes laydown areas, office trailers, and maintenance facilities. The existing road will be used during construction with periodic maintenance performed to ensure a reliable and durable road surface. No additional roads are required to support the Copco No. 1 Construction Camp facilities.

3.4 Laydown and Staging Area

One laydown area will be constructed on the north side of the existing access road and two laydown areas will be constructed on the south side of the existing access road (see Figure 3-1). The laydown areas will be approximately 3.5 acres total in size and include areas for an office trailer, employee, and visitor parking, as well as laydown areas for equipment and material storage. The laydown areas will be cleared of vegetation and graded, then a 12-inch base rock material placed with a 6-inch gravel top course to create a year-round travel surface. The areas will be graded to route stormwater to the sides of the laydown area where erosion and sediment controls will be installed in accordance with the North Coast Regional Water Quality Control Board, NPDES Construction General Permit.

3.5 Temporary Office Trailer(s)

The approximate location of the prefabricated temporary office trailer(s) will be in the north corner of the laydown area. The office complex will provide office space interior offices, conference room, small kitchen, and dining area, four unisex bathrooms, office supply storage, and communications room.

3.6 Temporary Power

A temporary power drop will be provided to the office trailer complex. The temporary power will be routed from an existing PacifiCorp transmission. A transformer will be mounted on an adjacent pole with a meter and power disconnect.

3.7 Communication

Communication facilities will be provided at the office complex. Phone and Internet service along with a central radio system supporting the construction team will be housed in the office complex. Cell phone service at this location is limited requiring the radio system to ensure effective communication throughout the project site.

3.8 Fuel Station and Hazardous Materials Storage

No fuel storage will be located at the Copco No. 1 Construction Camp. There will be fuel storage locations provided at the Copco No. 2 Development.

3.9 Utility Water

A 1,000-gallon water holding tank will be provided at the office trailer to store utility water. The tank will be fitted with a booster pump to provide utility water to the bathrooms in the office trailer.

3.10 Potable Water

Potable water will consist of 5-gallon-water jugs and dispensers provided at the office trailers. The potable water will be obtained from commercial water providers.

3.11 Sanitary Facilities

The office trailers will be fitted with bathrooms operated with utility water. The bathroom fixtures will be routed to a temporary holding tank which will be pumped out and transported to a municipal wastewater facility for disposal. Porta-potty facilities will be provided outside of the office trailers, fueling station, employee parking area, and the staging area to support crews working in these areas. A commercial service will provide the Porta-potties along with cleaning and maintenance services during construction.

3.12 Sensitive Areas

Prior to mobilization of any construction, all lands will be evaluated for any sensitive resources (cultural, biological) via a database mapping effort. Any sensitive area identified will be protected with exclusion fencing, or other appropriate barrier prior to construction, then maintained throughout construction. See Historic Properties Management Plan for detailed measures related to the protection of sensitive areas.

3.13 Signage

Signage will be provided throughout the construction site to provide effective identification and guidance to the construction workers and visitors within the Project site. A Project sign will be erected at the main construction entrance from Copco Access Road. The sign will include the Project name, general description of the work elements, and the primary contact information. Traffic signs will be erected along the access roads providing guidance to the office trailer complex, visitor parking, and laydown areas. Road signs will include speed limits to safe traffic conditions within the Project site. Periodic monitoring of all signs will be done to ensure they remain visible and available.

4.0 Copco No. 2 Construction Camp (Copco Village)

4.1 Overview

The Renewal Corporation will establish a construction office and support facilities for construction at Copco No. 2 Dam. The camp will include a construction office, laydown, parking, and other related facilities required to support the construction activities at Copco No. 2 Dam. Temporary housing facilities will be co-located with the office and support facilities, which

will provide recreational vehicle (RV) type housing for employees working in all areas of the Project. Collectively these facilities are referred to as Copco Village. The Renewal Corporation is evaluating two alternative locations, situated adjacent to each other. The final location will be determined between the co-licensees prior to construction. A description of the primary construction camp facilities is presented in the following paragraphs. The following sections are applicable to both alternatives, unless otherwise noted.

4.2 Location

Copco Village Alternatives 1 and 2 are located on the south side of the Klamath River as illustrated in Figure 4-1. Specifically, Copco Village Alternative 1 would be located on both sides of a new section of Daggett Road just south of the proposed Daggett Road Bridge. Copco Village Alternative 2 would be located on the south side of Copco Village Powerhouse Road at the intersection of Daggett Road. The work activities taking place at Copco No. 2 Dam will be supported from Copco Village.

4.3 Access Roads

Both Alternative sites will be accessed from Daggett Road which serves the Copco No. 2 complex. The existing road will be used during construction with periodic maintenance performed to ensure a reliable and durable road surface. No additional roads are required to support Copco Village facilities.

4.4 Laydown and Staging Area

For Copco Village Alternative 1, one laydown area will be constructed on the west side of Daggett Road and one laydown area will be constructed on the east side of the existing access road to the Copco No. 2 (see Figure 4-1). The combined acreage of the laydown areas would be approximately 6.5 acres in size and include areas for an office trailer, employee and visitor parking, as well as laydown areas for equipment and material storage. For Copco Village Alternative 2, laydown areas would be constructed on either side of Daggett Road at the intersection of Copco Village Powerhouse Road. The combined acreage of the laydown areas would be approximately 11 acres in size and include areas for an office trailer, employee, and visitor parking, as well as laydown areas for equipment and material storage. Under both alternatives, the combined acreage for the staging areas east of Daggett Road and adjacent to the Copco 2 complex will be approximately 1.5 acres. The laydown areas will be cleared of vegetation and graded, then a 12-inch base rock material placed with a 6-inch gravel top course to create a year-round travel surface. The area will be graded to route stormwater to the sides of the laydown area where erosion and sediment controls will be installed in accordance with the North Coast Regional Water Quality Control Board, NPDES Construction General Permit.

4.5 Temporary Office Trailer(s)

Prefabricated temporary office trailer(s) will be located within the laydown area. The office complex will include interior offices, conference room, small kitchen, and dining area, four unisex bathrooms, office supply storage, communications room, and open space fitted with multiple cubicles.

4.6 Temporary Housing

For Copco Village Alternative 1, a temporary housing sites for RVs will be located east of the new section of Daggett Road (see Figure 4-1). For Copco Village Alternative 2, a temporary housing site for RVs will be located on either side of Daggett Road at the intersection of Copco Village Powerhouse Road. This RV development will be used to house employees working on throughout the Project area (e.g., J.C. Boyle, Copco No. 1, Copco No. 2, and Iron Gate). There will be approximately fifty-eight 50-foot by 3-foot RV sites with 43 parking spaces in the Copco Village location. Each site will have its own 50-amp RV pedestal, water service yard hydrant, and sanitary sewer lateral connection. The Copco Village campground will be cleared of vegetation and graded, then a 12-inch base rock material placed with a 6-inch gravel top course to create a year-round travel and parking surface. The area will be graded to route stormwater to the sides of the campground area where erosion and sediment controls will be installed in accordance with the North Coast Regional Water Quality Control Board, NPDES Construction General Permit.

4.7 Temporary Power

Three switch gear assemblies and two transformers will be placed on a concrete pad. The power will run underground to the office building and to the 50-amp RV pedestal at each RV site.

4.8 Communications

Communication facilities will be provided at the office complex. Phone and internet service along with a central radio system supporting the construction team will be housed in the office complex. Cell phone service at this location is limited requiring the radio system to ensure effective communication throughout the Project site.

4.9 Fuel Station and Hazardous Materials Storage

Fuel storage will be provided in a designated area within the laydown area. Storage for up to 10,000 gallons of fuel will be provided in this location. The fuel storage will comply with the CAL FIRE Office of the State Fire Marshal responsible for implementation of the California Aboveground Petroleum Storage Act. Hazardous materials storage will be located adjacent to the fuel storage area and will consist of an approximately 2,000 square foot area. Storage of hazardous materials will be in accordance with the CalEPA Unified Program. Any hazardous materials will be stored in Connex boxes or covered storage areas establishing protection from the environmental conditions. Appropriate placarding will be installed to clearly indicate the fueling station and hazardous materials storage areas, no smoking requirements, and limited access provisions. See the California Hazardous Materials Management Plan for detailed measures related to fuel and materials storage.

4.10 Utility Water

A 1,000-gallon water holding tank will be provided at the office trailer to store utility water. The tank will be fitted with a booster pump to provide utility water to the bathrooms in the office trailer.

4.11 Potable Water

An existing waterline runs under the Copco Village location. This waterline will be located and tapped to provide water to Copco Village. Each temporary housing site will have a water service yard hydrant for the use of the RVs.

4.12 Sanitary Facilities

The temporary office trailer and each RV site will be equipped with a sanitary sewer connection that will carry all gray water to a septic system area located on the west side of the Copco Village location. The exact design of this facility is not yet complete. Porta-Potti facilities will be provided outside at in the employee parking area and at nearby staging area to support crews working in these areas. A commercial service will provide the Porta-Potties along with cleaning and maintenance services during construction.

4.13 Sensitive Areas

Prior to mobilization of any construction, all lands will be evaluated for any sensitive resources (cultural, biological) via a database mapping effort. Any sensitive area identified will be protected with exclusion fencing, or other appropriate barrier prior to construction, then maintained throughout construction. See Historic Properties Management Plan for detailed measures related to the protection of sensitive areas.

4.14 Signage

Signage will be provided throughout the construction site to provide effective identification and guidance to the construction workers and visitors within the Project site. A Project Sign will be erected at the main construction entrance from Daggett Road. The sign will include the Project name, general description of the work elements, and the primary contact information. Traffic signs will be erected along the access road providing guidance to the office trailer complex, visitor parking, and laydown areas. Road signs will include speed limits to safe traffic conditions within the project site. Periodic monitoring of all signs will be done to ensure they remain visible and available

5.0 Iron Gate Construction Camp

5.1 Overview

The Renewal Corporation will establish a construction office and support facilities for construction at Iron Gate Dam. The camp will include a construction office, laydown, parking, and other related facilities required to support the construction activities at Iron Gate Dam. Efforts will be made to use and optimize existing facilities onsite to the extent possible. Final location and siting of specific temporary facilities and infrastructure will be determined between the co-licensees and PacifiCorp prior to construction. Temporary housing facilities will not be provided at Iron Gate. A description of the primary construction camp facilities is presented in the following paragraphs.

5.2 Location

The Iron Gate Construction Camp is located on both sides of the Klamath River with a smaller laydown area located on the west side of the Klamath River as illustrated in Figure 5-1. The work activities taking place Iron Gate Dam will be supported from the Iron Gate Construction Camp location.

5.3 Access Roads

The east side of the Iron Gate Construction Camp will be accessed from Lakeview Road which serves the Iron Gate complex including laydown areas, office buildings, and maintenance facilities. The west laydown area will be accessed from Copco Road. The existing roads will be used during construction with periodic maintenance performed to ensure a reliable and durable road surface. No additional roads are required to support the Iron Gate Construction Camp facilities.

5.4 Laydown and Staging Area

A laydown area will be constructed on both the east and west side of Lakeview Road and the east side of Copco Road (see Figure 5-1). The Lakeview Road laydown area will be approximately 8 acres in size and include areas for an office trailer, employee and visitor parking, fuel station, hazardous materials storage, as well as laydown areas for equipment and material storage. The Copco Road laydown area will be approximately 11 acres in size and will be used for the laydown of equipment and material storage. The laydown area will be cleared of vegetation and topsoil, then a 12-inch base rock material placed with a 6-inch gravel top course to create a year-round travel surface. The area will be graded to route stormwater to the sides of the laydown area where erosion and sediment controls will be installed in accordance with the NPDES 1200-C.

5.5 Temporary Office Trailer

The approximate location of the temporary prefabricated office trailer will be located in the northwest corner of the Lakeview Road laydown area. The office complex will consist of up to 4 trailers arranged into an office complex providing office space for the Renewal Corporation staff. The office complex will include interior offices, conference room, small kitchen, and dining area, four unisex bathrooms, office supply storage and communications room.

5.6 Temporary Power

A temporary power drop will be provided to the office trailer complex. The temporary power will be routed from an existing PacifiCorp transmission line. A transformer will be mounted on an adjacent pole with a meter and power disconnect.

5.7 Communication

Communication facilities will be provided at the office camp. Phone and Internet service along with a central radio system supporting the construction team will be housed in the office

complex. Cell phone service at this location is limited requiring the radio system to ensure effective communication throughout the Project site.

5.8 Fuel Station and Hazardous Materials Storage

Fuel storage will be provided in a designated area on the east side of the Lakeview Road laydown area. Storage for up to 10,000 gallons of fuel will be provided in this location. The fuel storage will comply with the CAL FIRE Office of the State Fire Marshal responsible for implementation of the California Aboveground Petroleum Storage Act. See the California Hazardous Materials Management Plan for detailed measures related to fuel storage.

5.9 Utility Water

A 1,000-gallon water holding tank will be provided at the office trailer to store utility water. The tank will be fitted with a booster pump to provide utility water to the bathrooms in the office trailer.

5.10 Potable Water

Potable water will consist of 5-gallon-water jugs and dispensers provided at the office trailers. The potable water will be obtained from commercial water providers.

5.11 Sanitary Facilities

The temporary office trailers will be fitted with bathrooms operated with utility water. The bathroom fixtures will be routed to a temporary holding tank which will be pumped out and transported to a municipal wastewater facility for disposal. Porta-potty facilities will be provided outside of the office trailers, fueling station, employee parking area, and the staging area to support crews working in these areas. A commercial service will provide the Porta-potties along with cleaning and maintenance services during construction.

5.12 Sensitive Areas

Prior to mobilization of any construction, all lands will be evaluated for any sensitive resources (cultural, biological) via a database mapping effort. Any sensitive area identified will be protected with exclusion fencing, or other appropriate barrier prior to construction, then maintained throughout construction. See the Historic Properties Management Plan for detailed measures related to the protection of sensitive areas.

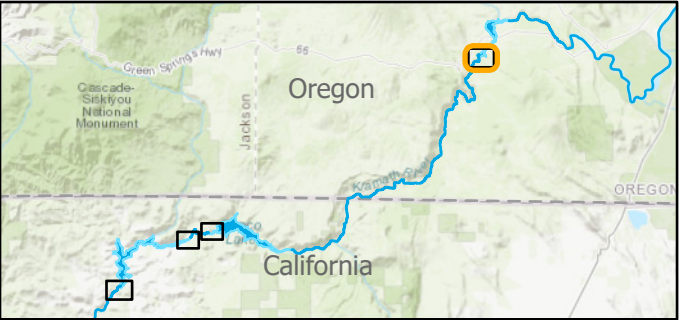
5.13 Signage

Signage will be provided throughout the construction site to provide effective identification and guidance to the construction workers and visitors within the Project site. A Project sign will be erected at the main construction entrance from Lakeview and Copco Roads. The sign will include the Project name, general description of the work elements, and the primary contact information. Traffic signs will be erected along the roads providing guidance to the office trailer complex, visitor parking, and laydown areas. Road signs will include speed limits to safe traffic

conditions within the Project site. Periodic monitoring of all signs will be done to ensure they remain visible and available.

Appendix A

Figures



Notes
1.Data: FERC Boundary, Staging Sites, Access Roads, Proposed Camp Locations: McMillen Jacobs; Land Ownership: Bureau of Land Management. Existing Structures: Kiewit. Note - FERC Boundary is a draft. Will be updated in December 2021.
2. Background: Esri Canada, Esri, HERE, Garmin, USGS, NGA, EPA, USDA, NPS, Maxar

Legend

FERC Boundary

Staging Areas

Camp Structures

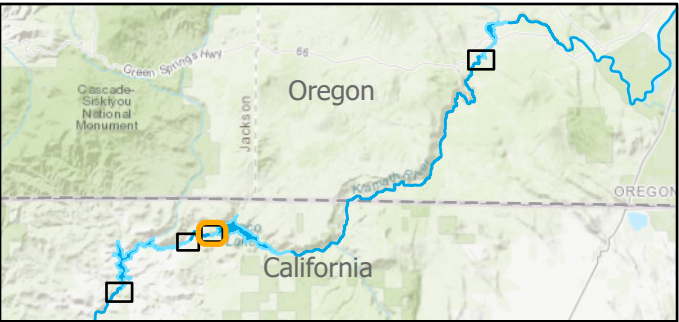
Existing Buildings and Infrastructure

Access Roads

Lower Klamath Project
Construction Camp Management Plan
Figure 2-1: J.C. Boyle Construction Camp
November 2021

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Map Project Path: C:\Users\uhlmann\Box\GIS\Project_Based\Klamath_River_Renewal_MJA\GIS_Request_Tracking\arcpro_maps\mp_construction_camp\mp_construction_camp.aprx Layout Name: construction_camp_mp



Notes

1. Data: FERC Boundary, Staging Sites, Access Roads, Proposed Camp Locations: McMillen Jacobs; Land Ownership: Bureau of Land Management. Existing Structures: Kiewit. Note - FERC Boundary is a draft. Will be updated in December 2021.
2. Background: Maxar, Microsoft, Esri Canada, Esri, HERE, Garmin, USGS, NGA, EPA, USDA, NPS

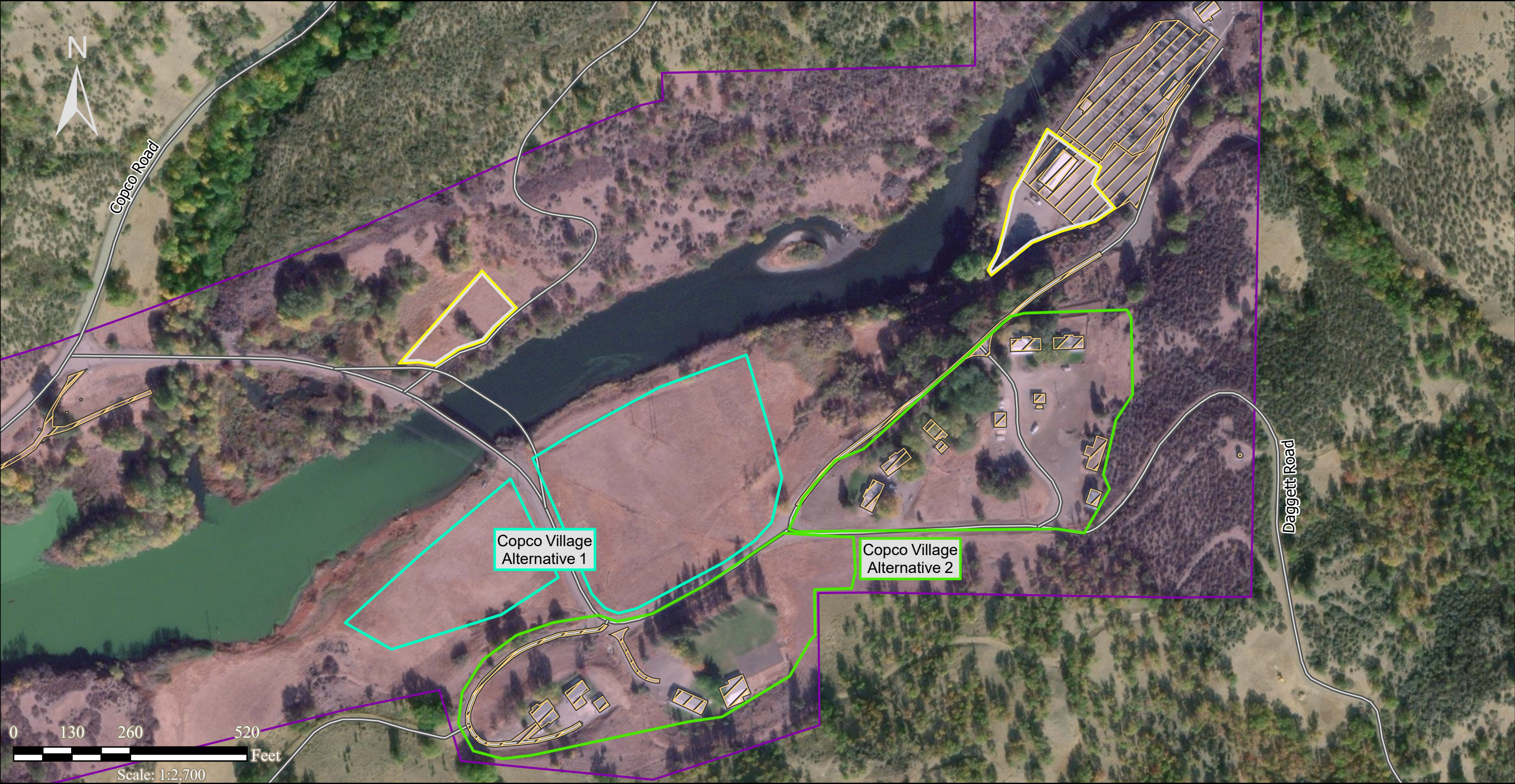
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- | | |
|-----------------|---------------------------------------|
| FERC Boundary | Existing Buildings and Infrastructure |
| Staging Areas | Access Roads |
| Camp Structures | |

Lower Klamath Project
Construction Camp Management Plan
Figure 3-1: Copco No. 1 Construction Camp
November 2021



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Notes

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2. Background: Maxar, Microsoft, Esri Canada, Esri, HERE, Garmin, USGS, NGA, EPA, USDA, NPS

Legend

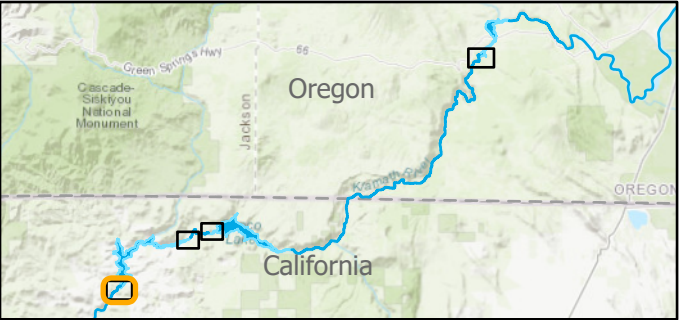
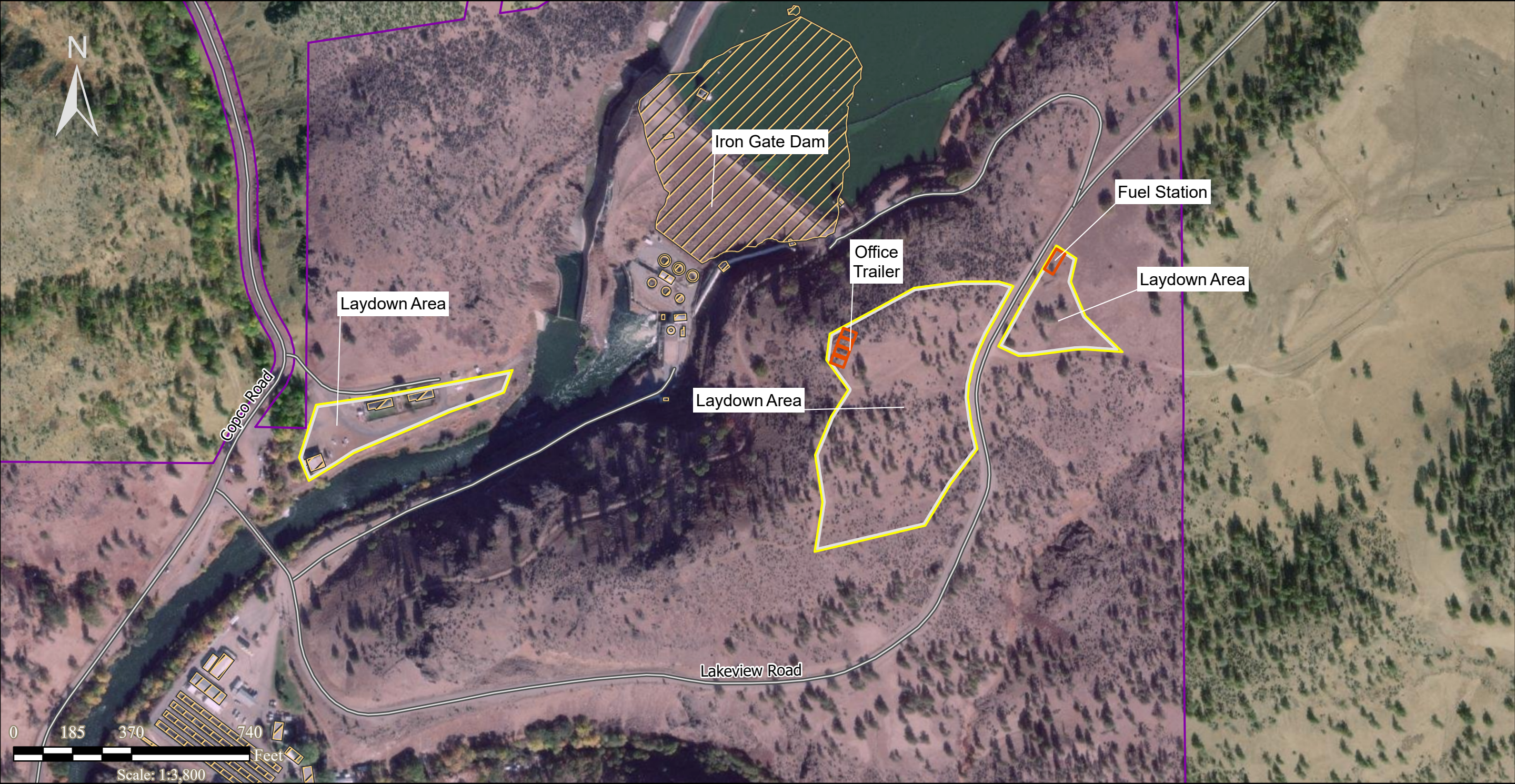
- * Proposed Camp Locations
- Copco Village Alternative 1
- Copco Village Alternative 2
- Staging Areas
- FERC Boundary
- Existing Buildings and Infrastructure
- Access Roads

* Alternatives 1 and 2 will include a combination of office trailers, temporary housing, a fuel station and hazmat storage.

Lower Klamath Project
Construction Camp Management Plan
Figure 4-1: Copco No. 2 Construction Camp
(Copco Village)
November 2021

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Notes
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2. Background: Esri Canada, Esri, HERE, Garmin, USGS, NGA, EPA, USDA, NPS, Maxar

Legend

FERC Boundary	Existing Buildings and Infrastructure
Staging Areas	Access Roads
Camp Structures	

Lower Klamath Project
Construction Camp Management Plan
Figure 5-1: Iron Gate Site Construction Camp
November 2021



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Appendix F

Consultation Record

Consultation Record

Construction Management Plan			
Sub-Plan	Agency	Date of Agency Plan Submittal	Agency Comments Received Date
Oregon Traffic Management Plan	Klamath County Public Works and Planning Department	February 3, 2021	February 23, 2021
California Traffic Management Plan	No formal agency consultation conducted to date.	NA	NA
Emergency Response Plan	No formal agency consultation conducted to date.	NA	NA
Use and Occupancy Plan for BLM Lands	Bureau of Land Management – Klamath Falls Field Office and Redding Field Office	November 21, 2021	December 8, 2021
Construction Camp Plan	No agency consultation conducted to date.	NA	NA