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LAND 1 – ROAD AND TRAIL CONDITION ASSESSMENT
TECHNICAL STUDY PLAN

Kern River No. 1 Hydroelectric Project
FERC Project No. 1930



May 2023

TECHNICAL STUDY PLAN

LAND 1 – Road and Trail Condition Assessment

POTENTIAL RESOURCE ISSUES

- Project road and trail maintenance.
- Erosion on or adjacent to Kern River No. 1 Hydroelectric Project (Project) roads and trails may deliver sediment to adjacent drainages.
- Protection of resources during Project operation and maintenance (O&M) activities.

PROJECT NEXUS

- Roads and trails on Forest Service, Sequoia National Forest (SQF) and SCE owned lands are necessary to access Project facilities and conduct O&M of the Project.
- SCE is responsible for maintaining Project roads and trails.
- Identification of erosion or sources of sediment from roads or trails. Refer to the LAND 2 – Erosion and Sedimentation Technical Study Plan regarding runoff from roads with potential to affect stream drainages.

RELEVANT INFORMATION

The following information was reviewed to determine Project road and trail study needs. See Pre-Application Document (PAD) Section 2.0, Project Location, Facilities, and Operations for a summary of the existing Project roads and trails:

- The list of Project Facility Access Roads and Trails identified in PAD Table 2-3.
- Maintenance activities associated with Project roads and trails as summarized in Section 2.0.
- Federal Energy Regulatory Commission (FERC) Project boundary information as shown on Exhibit G of the Project license.

POTENTIAL INFORMATION GAPS

- Information on existing Project road and trail conditions in relation to applicable maintenance standards.
- Information on public use of Project roads and trails within the FERC Project boundary.

STUDY OBJECTIVES

- Document current Project road and trail conditions by conducting a reconnaissance-level inventory.
- Document SCE's current maintenance practices and frequency of use along Project roads and trails.

EXTENT OF STUDY AREA

The Study Area includes Project roads and trails that are used to access Project facilities to conduct O&M activities. A list and description of Project roads and trails is provided in Table 2-3 and shown on Maps 2-3a-g in the PAD.

STUDY APPROACH

STUDY-SPECIFIC CONSULTATION

- Consult with the SQF on approach for reconnaissance-level inventory on Project roads and trails.
- If available, obtain additional road and trail information from the SQF and incorporate information into the desktop analysis.

DESKTOP ANALYSIS

- With support from SCE O&M staff, characterize SCE's frequency of use of Project roads and trails, frequency and type of maintenance activities, and location and size of culverts or other drainage features.
- Use desktop geographic information system (GIS) to compile data of available road features (i.e., culverts) and develop annotated maps for use during the reconnaissance level condition assessment.

RECONNAISSANCE-LEVEL CONDITION ASSESSMENT

- Road Inventory
 - Conduct a road assessment to characterize the current condition of Project roads. Project roads will be surveyed with respect to Forest Service criteria for the assigned maintenance level (USFS 2005, 2014) to assess the current condition relative to prescribed maintenance levels and standards.
 - The assessment will include the collection of the following information:
 - Land ownership/jurisdiction;
 - Road name;
 - Beginning and end points, and overall length;

- Average width;
- Surface type (e.g., paved, gravel, dirt);
- Overall road condition, including identification or issues pertaining to condition such as active erosion, potholes, ruts, loose aggregate, missing aggregate, cracking, debris, and excessive vegetation;
- Location of natural resource features that may occur along Project roads, such as stream crossings or riparian areas;
- Location, size, and condition of drainage and erosion control features such as culverts, water bars, and other drainage features;
- Location of areas experiencing erosion;
- Location, type, and condition of signs (i.e., safety, traffic control, or informational);
- Location and condition of access control features and barriers such as gates and other closure methods.
- Road features will be photographed and located using a sub-meter Global Positioning System (GPS) unit, and the data will be incorporated into the Project GIS database for tabulation, analysis, and mapping.
- Describe SCE's maintenance practices and frequency of activities, including culvert clearing, vegetation management, and avoidance measures for the protection of sensitive resource areas.
- Trail Inventory
 - Conduct a trail assessment to characterize the current condition of Project trails. The assessment will include the collection of the following information:
 - Land ownership/jurisdiction;
 - Trail name;
 - Location and condition of trailhead(s), if appropriate;
 - Beginning and end points, and overall length;
 - Average width;
 - Average slope;
 - Presence/absence of safety features such as hand rails;

- Overall condition, including identification of issues pertaining to condition such as rutting, loose aggregate, obstacles, and excessive vegetation;
 - Location, size, and condition of culvert and other drainage features, if applicable;
 - Location of areas experiencing erosion, if any;
 - Location and condition of access control features and barriers such as gates and other closure methods;
 - Location of water crossings, if applicable;
 - Observed public recreational use (e.g., hiking); and
 - Resource concerns.
- Trail features will be photographed and located using a sub-meter Global Positioning System (GPS) unit, and the data will be incorporated into the Project GIS database for tabulation, analysis, and mapping.

REPORTING

- Study methods and results will be documented in a LAND 1 – Road and Trail Condition Assessment Technical Study Report (TSR). The TSR will include an inventory and assessment of the selected roads and trails and appurtenant features, including applicable maps and data tables. Stakeholder review and comment period for the TSR is identified below in the Schedule.
- Upon request, data will be provided to resource agencies and interested stakeholders in an Excel spreadsheet (electronic format).

SCHEDULE

This is a one-year study to be conducted during the first year of the study period with the study results reported in the Initial Study Report (ISR).

Date	Activity
April 2024–August 2024	Conduct desktop reconnaissance and field surveys
September 2024–December 2024	Analyze data and prepare draft technical memo
January 2025	Distribute draft technical memo to stakeholders
February 2025–April 2025	Stakeholders review and provide comments on draft technical memo (90 days)
May–June 2025	Resolve comments and prepare final technical memo
December 2025	Distribute final technical memo in Draft License Application

REFERENCES

USFS (United States Forest Service). 2005. *Guidelines for Road Maintenance Levels*. 7700-Transportation Management 0577 1205-SCTDC. December.

———. 2014. *Forest Service Manual (FSM) 7700*. Travel management, Chapter 7730 – transportation system operation and maintenance. Amendment no. 7700-2014-1. Effective November 20, 2014.

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