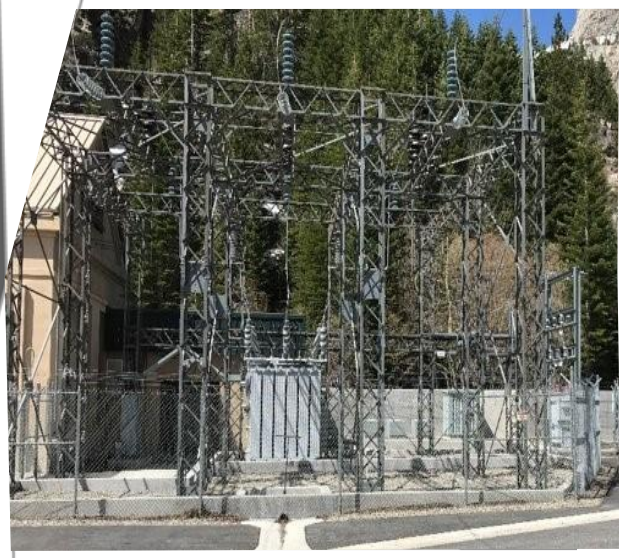
SCE VM-3 Program Guide

WMP: VM-3 Expanded Clearances for Legacy Facilities

April 2021



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Document Information

Prepared for	Southern California Edison
Project Name	SCE VM-3 Program Guide
Client Contact	Marcus Jones
Project Number	E317104600
Project Manager	Crystal West
Date	September 20, 2021

Prepared for:

Southern California Edison
2244 Walnut Grove
Rosemead, California, 91770

Prepared by:

Cardno
201 N. Calle Cesar Chavez, Suite 203
Santa Barbara, CA 93103

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Document History

Version	Effective Date	Description of Revision	Prepared by Cardno	Reviewed by SCE
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1.1	9/20/2021	Updated Figures	N/A	Mark Clayton, Marcus Jones (9/20/2021)

Acronyms and Definitions

Asset	SCE facilities and features (e.g., gage, powerhouse, switchyard)
AOR	Area of Responsibility
CalFire	California Department of Forestry and Fire Protection
CPUC	California Public Utilities Commission
Collector	ArcGIS Collector
Contractor VSP	Contractor Vegetation Specialist
ESD	Environmental Services Department
FR	Fire and Arc-Rated
HFRA	High Fire Risk Area
HFTD	High Fire Threat Districts
ISA	International Society of Arboriculture
O&M	Operations & maintenance
PAL	Project Activity Level
PPE	Personal protective equipment
Program Guide	VM-3 Program Guide
QA/QC	Quality assurance/quality control
SB901	Senate Bill 901
SCE	Southern California Edison
SCE T&D	SCE Transmission and Distribution
SCE Program Lead	SCE Vegetation Specialist/Generation Vegetation Manager
Technical Lead	Senior Technical Lead
VM-3 Program	VM-3 Vegetation Management Activity of the WMP: Expanded Clearances for Legacy Facilities
WMP	Wildfire Mitigation Plan

1.0 Introduction

The following VM-3 Program Guide (Program Guide) was developed by Southern California Edison (SCE) and their contractors to provide a summary of procedures and methods for the Wildfire Mitigation Plan's (WMP's) Activity VM-3 for completing expanded clearances for wildfire protection at SCE's Generation legacy facilities, generally hydroelectric facilities (hydro facilities, or "assets"). Gas and water utilities on Catalina Island are also included as legacy assets in this program.

This vegetation management program is also referred to as "Expanded Clearance" or "VM-3 Expanded Clearance," and is herein referred to as the VM-3 Vegetation Management Program (VM-3 Program).

In addition to discussing vegetation removal standards and requirements at the relevant assets, this Program Guide also covers communication protocols and roles and responsibilities of the support team, including: field notification/clearances, safety, and SCE review and approval (i.e., quality control/quality assurance [QA/QC]) procedures).

1.1 Background, Goals, and Objectives

The California Public Utilities Commission (CPUC) defined High Fire Threat Districts (HFTD) in 2017. HFTD Tier 1 was defined as High Hazard Zone, Tier 2 as Elevated Fire Risk, and Tier 3 as Extreme Fire Risk. These districts were further defined as "High-Fire Risk Areas" (HFRAs) by SCE, with Tier 2 being Elevated and Tier 3 Extreme.

Senate Bill 901 (SB901) requires electrical utilities to file a WMP documenting each utility's activities for inspection programs within HFTDs, wildfire mitigation efforts, including vegetation management activities, system hardening programs, and a variety of other activities as detailed in the regulation. SCE's 2019 WMP did not include a program focused on SCE's Generation organization. Targeted inspections in 2019 through the Enhanced Overhead Inspections effort identified several additional programs that required focused efforts to address some long-standing characteristics of "legacy" facilities, including but not limited to hydroelectric generating stations (powerhouses), substations and switching yards, and associated low-voltage powered assets that are ancillary assets needed to operate hydro facilities.

The VM-3 Program is the only component of the WMP that is discussed further in this document. VM-3 Expanded Clearance sites include Tier 2 and Tier 3 sites within "Elevated" and "Extreme" fire risk areas, respectively. The primary goals and objectives of the VM-3 Program include:

- Reduce risk of wildfire ignition from SCE assets in HFRAs due to proximity of adjacent vegetation
- Increase SCE asset resilience to wildfire by creating an appropriate clearance buffer
- Implement specific fuel reduction treatments in accordance with defined zones and protection standards
- Maintain and protect natural and cultural resources and SCE structures
- Follow U.S. Forest Service guidance for fuels management and California Department of Forestry and Fire Protection (CalFire) recommendations for adequate defensible space clearance

Specific commitments made in the WMP for VM-3 include:

- 2020 target: complete 100 percent of desktop reviews (158[1] sites); complete treatment on 30 percent of sites (48 sites)

[1] Note, four sites were eliminated as they were found to be duplicates or erroneous after initial goals were quantified.

- 2021 target: complete treatment on 40 percent of sites (63 sites) and monitor relevant 2020 sites to ensure treatment is effective; and
- 2022 target: complete treatment on all remaining sites, projected to be 30 percent of sites (47 sites), and assess overall effectiveness of treatments.

The VM-3 Program expands clearances around assets while also balancing potential risks such as erosion, slope destabilization or other environmental concerns caused by vegetation removal. Clearances should also recommend treatments that will not require intensive vegetation management over the long-term. Furthermore, the VM-3 Program aims to establish defensible and resilient assets that can be shifted into routine operations and maintenance (O&M) programs that maintain wildfire preparedness and safety.

2.0 Roles and Responsibilities

2.1 General Vegetation Management Team Structure

SCE Generation WMP PM (Generation WMP Lead). Mark Clayton is the overall Project Manager overseeing all Generation-responsible WMP activities and lead for Generation wildfire inspection efforts.

SCE Generation Program Manager (SCE Program Lead). Generation Program Lead and Generation Vegetation Manager, Marcus Jones, will provide technical oversight, review, and approval of various phases of the VM-3 Program workflow, as defined in Section 3.1 (Workflow).

Senior Technical Lead (Technical Lead). The Senior Technical Lead, Julianne Stewart (Vermilion Resource Management [Vermilion]), will provide technical oversight, review, and approval of various phases of the VM-3 Program workflow, as defined in Section 3.1 (Workflow).

Contractor Vegetation Specialist (Contractor VSP). The Contractor VSPs (i.e., Cardno, Psomas, Vermilion) are hired by SCE to complete phases of the VM-3 Program workflow. Each Contractor VSP is geographically assigned to a specific area of responsibility (AOR). Roles include:

- Complete desktop reviews
- Complete VM-3 Program site inspections and enter data for treatment areas (e.g., “pre-treatment inspections”), constraints areas, and hazard trees in the ArcGIS Collector (Collector) application
- Assist with pre/during/post-treatment support for execution
- Support environmental review/agency review submittals (as needed)
- Support reporting and other deliverables (as needed)
- Serve as general eyes and ears in the field to support Generation Vegetation Management; and
- Assist in annual O&M vegetation management support (as needed).

Figure 1 summarizes the basic roles and responsibilities for the 2020 VM-3 Program Team. Contact information, including name, title, email address, and phone number(s), are provided, by AOR, in Appendix B.

Generation Area Manager (Area Manager). Area Managers are assigned to each Hydro Generation AOR in SCE’s service area. Coordination with the Area Manager and their assigned O&M staff will be essential for access to the VM-3 Program sites and successful completion of each treatment. Work must be coordinated to ensure it does not conflict with other planned activities or operations and to arrange escorts or outages, where required, due to proximity of electrical equipment.

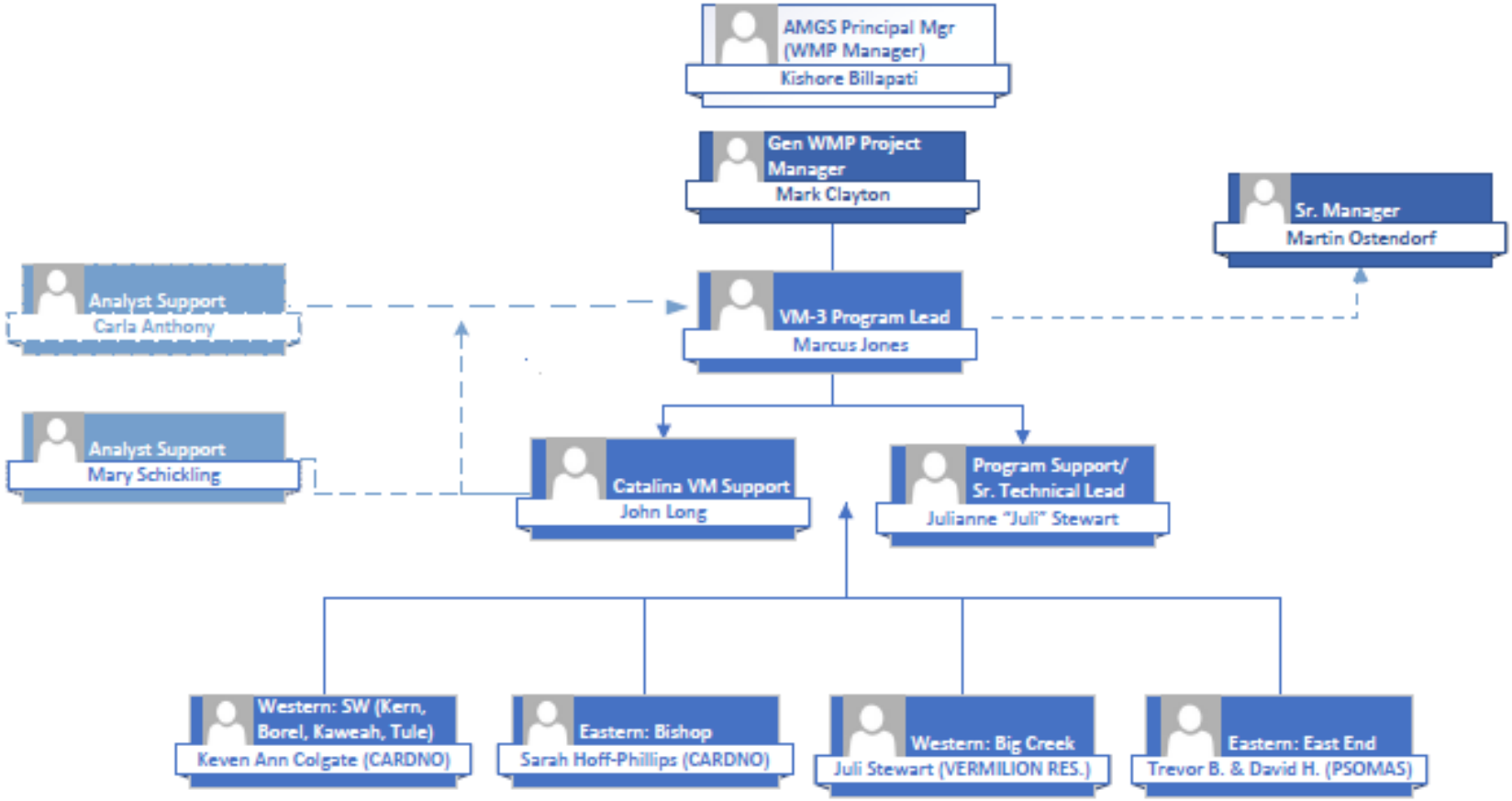


Figure 1 Organization Chart of 2021 VM-3 Program Team

2.2 Overview of SCE Areas of Responsibility

The VM-3 Program includes the following Generation AORs:

- **Eastern Operations**
  - **Bishop/Mono Basin.** This includes Lundy, Lee Vining (Poole Powerhouse), Rush Creek, and Bishop Plant Nos. 1-6 (Appendix A1, Figures 1-4).
  - **East End Operations.** This includes San Gorgonio Nos. 1 and 2; Mill Creek Nos. 1-3; Santa Ana River Nos. 1 and 3; Fontana; Ontario Nos. 1 and 2; Lytle Creek; and Sierra Hydroelectric Projects (Appendix A2, Figure 1-2).
  - **Catalina Island.** This includes production wells, storage tanks, and pumping stations at Avalon, Toyon Canyon, Middle Ranch, Whites Landing, Blackjack, Cottonwood, Isthmus and Howlands Landing (Appendix A3, Figure 1).
- **Western Operations**
  - **Southwestern Productions.** This includes Kern River No. 1, Kern River No. 3, Borel, Lower Tule, and Kaweah Nos. 1, 2, and 3 Hydroelectric Projects (Appendix A4, Figures 1-5).
  - **Big Creek.** This includes the Big Creek Hydroelectric System: Big Creek 1, 2, 3, 4, 8, Mammoth Pool, Portal, Vermilion Valley, and Eastwood Power Station (Appendix A5, Figure 1).

Note that other AORs and asset types (including solar, peaker plants, combined cycle plants, battery storage locations) do not occur within HFRAs so they are not included as part of this program.

2.3 Communication Protocols and Safety

Following is a brief summary of the field notification process, specific procedures required for entering SCE facilities, and a general safety discussion.

2.3.1 Field Notification and/or Clearance Process to Visit an SCE Facility

Prior to field visits, the Contractor VSP will coordinate with the SCE Program Lead, along with the Area Manager for each specific AOR, to discuss field notification, access, and the potential need for an escort. Several safety forms (included in Appendix C) will facilitate the notification process including the Personnel Field Sheet, to be completed and sent to the Area Manager and SCE Program Lead.

The following COVID-19-related forms and support documentation should also be referenced and carried into the field, as appropriate:

- Approved Contractor for Southern California Edison (letter)
- Essential Travel Authorization Letter[2]
- SCE Temporary Visitor Guidelines and SCE Visitor Screening Questionnaire[3] and
- Other forms and materials that are required by internal contractor company policy.

2.3.2 Safety

Contractors are responsible for maintaining their own internal safety procedures while also adhering to SCE's external safety requirements. This includes the following:

2 Forms provided in Appendix C are example authorization letters; each contractor is responsible for maintaining their own approved and up-to-date contractor/authorization to survey letters.

3 Due to COVID-19, additional visitor screening is required for access/entry into any SCE facility. Remote field locations may not require the additional screening questionnaire.

- **SCE Notification and Reporting Requirements (Near-misses and Incidents).** Contractors will review the **Environmental, Health and Safety Handbook for Contractors**, **Edison Safety Corporate Handbook** (version February 14, 2019) and incorporate necessary notification and reporting procedures into their internal health and safety programs. All contracts typically require a Contract Safety Plan and, as applicable, may require job- or project-specific Job Hazard Assessments or other specific safety plans to be reviewed by the contract-specific Safety Lead.
- **Station Conditions.** Each AOR, and in some cases, specific stations, have unique safety protocols (i.e., Station Conditions); the contractor must contact the Area Manager to receive the proper training prior to visiting SCE facilities. Some facilities (e.g., powerhouses, substations, switchyards) will require full-time escorting when on premises.
- **Personal Protective Equipment.** The contractor is responsible for providing appropriate personal protective equipment (PPE), in good working condition, as required for site conditions. Within high-voltage facilities, Fire and Arc-Rated (FR) clothing (tops and bottoms or coveralls) is always required.
- **Fire Safety.** The vegetation contractor must ensure that fire restrictions (Project Activity Levels – PALs or Red Flag Warnings, etc.) are being followed during vegetation treatment execution. VSP contractors should report any concerns with compliance with these measures to the SCE Program Lead.
- **Field Check-in/Check-out Safety Protocol.** The contractor will follow their internal, established check-in/check-out system or protocols; any concerns should be immediately escalated to SCE.
- **Vegetation Management Operations.** Several of SCE's most-recent fatalities as well as serious injury incidents have occurred during vegetation management operations, specifically hazard tree removals. When onsite during treatment activities, the VSP contractor will always maintain an active line-of-sight and be in direct communication with equipment operators and/or tree workers. All contractors will maintain safe distances and observe all site-specific safety requirements.
- **STOP Work Authority.** Everyone has stop work authority. Anyone who sees something unsafe should stop work and alert others of the hazard(s). This should also be communicated to the contractor supervisor, along with the SCE Program Lead, immediately.

3.0 Methods

3.1 Workflow

The workflow steps outlined below will be tracked in Collector, the system of record for the VM-3 Program. Generally, desktop reviews will be conducted via computers using Collector and the ArcGIS Online (AGOL) system, site inspections (or pre-treatment inspections) will be conducted to determine actual treatment needs, proposed treatments will be submitted for SCE Environmental and resource agency review and approval, vegetation contractors will be assigned to conduct treatment, and a post-treatment inspection will be conducted to ensure work was completed in accordance with the proposed treatment recommendations, standards, and environmental constraints.

Workflow through the VM-3 Program for each site will be coordinated using the dataset/feature class "VM-3 Site Locations" within the "VM-3 Work Status" drop-down menu. Additionally, Contractor VSPs may keep a spreadsheet to document the dates of each status change for their AOR, if needed. The workflow descriptions below are described in linear order and correspond with Collector and/or the AGOL VM-3 Hub; additionally, responsibility at each workflow stage is assigned. A "workflow change" occurs when the "VM-3 Work Status" field is changed from one status to the subsequent status (e.g., Desktop Review Pending → Desktop Review Complete).

1. **Desktop Review Pending.** During this step, all VM-3 Program sites will be reviewed by the Contractor VSP for their respective AOR. Desktop reviews will follow SCE guidance provided in the document *VM-3 Desktop Review Instructions* (Appendix D).
2. **Desktop Review Complete**. This workflow change will be completed by the Contractor VSP once desktop review is complete. Field inspections can resume following this workflow step.
3. **Field Inspection Complete**. Field inspections will be completed by the Contractor VSP, and the workflow change will be completed by the Contractor VSP once edits are final and synced to Collector. Additionally, the Contractor VSP will email the SCE Program Lead and Technical Lead when sites have been set to "Field Inspection Complete." See Section 3.2 (SCE Review and Approval [QA/QC Process]) for more detail on SCE review of field inspections.
4. **Environmental Review.** Review of the field inspection will be completed by the SCE Program Lead and/or Technical Lead. Approved inspections will receive workflow change to "Environmental Review" and will be submitted to the Environmental Services Department (ESD) – Generation team for review and approval.
5. **Agency Approval Required**. ESD will set the Work Status to "Agency Approval Required" if an agency approval or permit is required prior to work being released for treatment.
6. **Agency Package Prep**. ESD will use this work status during development and submittal of packages for permitting or agency approval. Contractor VSPs may be requested to support preparation of packages and other documentation needed to obtain agency approvals for each site.
7. **Environmental Approved.** Workflow change completed by ESD and/or the SCE Program Lead once areas have been released by ESD, including any permits and agency approvals identified as needed in the environmental review process.
8. **Treatment Scheduled.** Workflow change completed by the SCE Program Lead and/or Technical Lead once an SCE crew or a Vegetation Contractor has been selected and work is scheduled. The SCE Program Lead and/or Contractor VSP will coordinate for any required environmental monitors to be scheduled with treatment. Contractor VSP may facilitate schedule changes directly with Vegetation Contractor or SCE crews, reporting schedule changes to SCE Program Lead.
9. **Treatment In Process.** Workflow change completed by the Contractor VSP once work has started. Contractor VSP should be present on the first day of work to ensure that all flagging and site-specific treatment recommendations are understood by the Vegetation Contractor or SCE crews. The Contractor VSP may also identify or facilitate any additional environmental compliance requirements. SCE is responsible for overall environmental compliance oversight and guidance on implementation.
10. **Post QC Complete.** Following treatment by the Vegetation Contractor, a post-treatment QC inspection is completed by the Contractor VSP. When the inspection has been deemed complete, the VM-3 Work Status will be set to "Post QC Complete" and the VSP will email the SCE Program Lead and Technical Lead to notify them of the workflow status change. See Section 3.2 (SCE Review and Approval [QA/QC Process]) for more detail on review.
11. **Treatment Completed.** Once notified by the VSP that a Post QC Inspection has been completed the SCE Program Lead, and/or Technical Lead will review treatment and Post QC notes and move Work Status to Treatment Completed.
12. **VM-3 Complete**. Workflow change completed by the SCE Program Lead and/or the Technical Lead, or their designee, indicating that the expanded clearance is complete.

The workflow diagram in Figure 2, below, represents the high-level workflow as well as data collection vehicle or system used for each step.

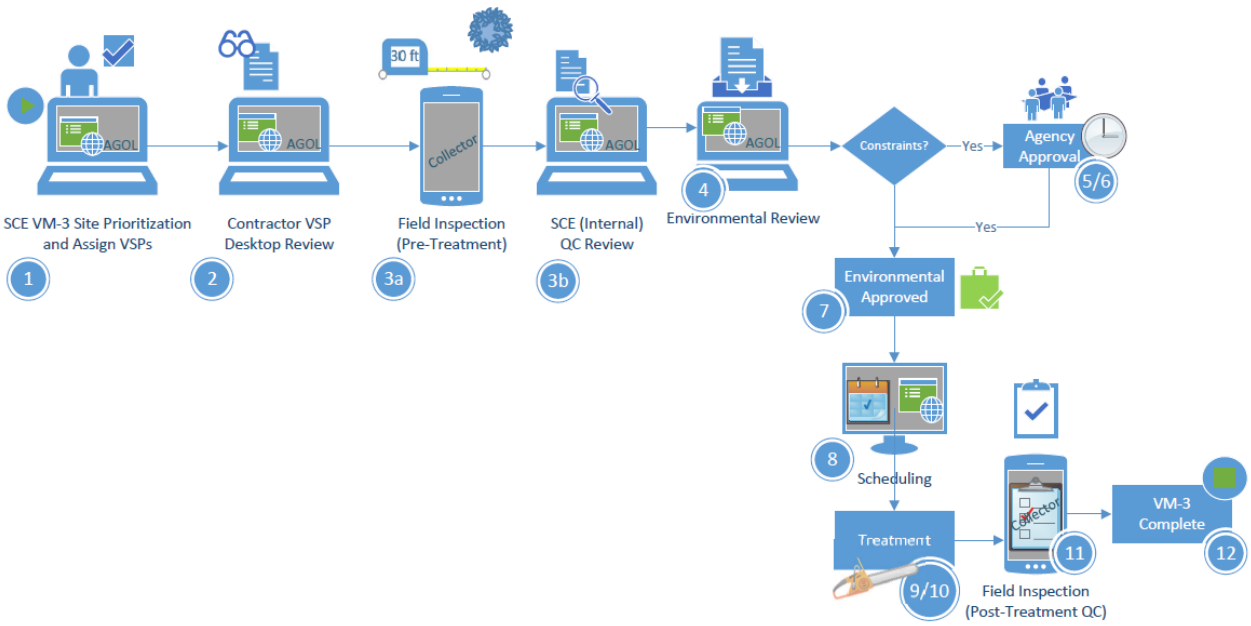


Figure 2 VM-3 Program Workflow

3.2 SCE Review and Approval (QA/QC Process)

The following section provides an overview of the review and approval of the VM-3 Program "deliverables" associated with each step of the workflow process.

The Technical Lead will provide first-level technical review, while the SCE Program Lead will provide final QA/QC at the stages of the workflow defined below. Section 3.1, Workflow, details the two critical phases of oversight by the SCE Program Lead and Technical Lead; these are:

- The Contractor VSP will complete the VM-3 site inspection, set the VM-3 Work Status to "Field Inspection Complete," and then will email the SCE Program and Technical Leads to inform them that the site inspection is complete, information has been synced to Collector, and senior review is requested.
- VM-3 Post Inspection QC Review (Gatekeeper Review) – The SCE Program Lead and/or Technical Lead will perform a brief QC review of the completed Field Inspection record prior to moving the VM-3 Work Status to "Environmental Review". The review will focus on treatment/remediation notes and ensuring the accuracy of records. The reviewer may provide additional treatment recommendations or comments and/or edit treatment notes or treatment polygons. Any edits or recommendations by the SCE Program Lead and/or Technical Lead will be documented in the record and reviewed by the Contractor VSP during the treatment phase for each site. Gatekeeper Notes and Gatekeeper ID fields will be used for this effort.
- Upon completion of the vegetation treatment, the Contractor VSP will complete the post-treatment inspection, set the VM-3 Work Status in Collector to "Post QC Complete," and then email the SCE Program Lead and/or Technical Lead for final QA/QC of site completion; the SCE Program Lead will set the status to "Treatment Completed" if the site is approved, and also populate the "Program Lead Signoff Date" field.

- Prior to moving the work status to “VM-3 Complete”, the SCE Program Lead and/or Technical Lead will review final site conditions and determine if the site will require long-term monitoring, any corrective actions, and/or how the site will be incorporated into routine O&M activities. The transition process of sites to long-term O&M is described further below in Section 4. The field “Migrated to O&M Program?” will be populated by the SCE Program Lead with a “yes” or “no” and any notes may be added for references to other systems of record used for routine O&M vegetation management, if appropriate.

3.3 Desktop Review

Desktop review methods are detailed in Appendix D, Desktop Review Guidance. In summary, the initial desktop review’s purpose is to assess access issues, existing conditions including density of vegetation and facility type/assets present and confirm target clearance guidance.

3.4 VM-3 Site Inspections

VM-3 inspections will be completed by the Contractor VSP for their assigned AORs. Inspections will require pre-field notification, implementation of safety procedures (outlined above), and coordination with the local Area Manager and/or designated escort/contact. Contractor VSPs will visit each VM-3 site and provide recommended treatments required for Expanded Clearances using the Collector application. Methods for implementing inspections are discussed below.

3.4.1 Field Equipment List

iPad or tablet. Install Collector application and login using SCE credentials for access to VM-3 AGOL and Collector maps. See Appendix E for ArcGIS Collector Guide Data Dictionary (in prep.).[4]

Flagging/pin flags. Use flagging and/or pin flags to temporarily demarcate clearance buffers prior to treatment, fuel reduction zones, etc. Depending on the AOR location and proximity to public and/or prior experience with theft or vandalism, the timing of flagging installation could be delayed until closer to actual scheduled treatment to ensure it is not disturbed. Individual Contractor VSPs should work with the Area Manager and the vegetation management contractor and/or SCE civil crew to select colors/patterns that communicate clearly without conflicting with local forest marking practices. Some suggested color/pattern schemes include:

- ***Orange or pink flagging***: bright (unnatural) colors to mark vegetation to be removed.
- ***Blue or green flagging***: bright (natural) colors to mark vegetation to be retained.
- ***Blue/white striped flagging***: resource area to be avoided (e.g., cultural, biological, waters).
- ***Yellow/black striped flagging***: to mark hazards to be avoided.
- ***Pin flags (pink/orange):*** temporary flags to mark buffers/zones.

Safety equipment. Refer to the internal health and safety plan for PPE required for each task (e.g., inspection, monitoring).

Fire Protection Equipment. Per Big Creek Station Conditions training, each car should carry an ax or Pulaski, shovel; and fire extinguisher.

Measurement tools. Various tools to measure tree diameter, height, distance, and so on include:

- Diameter tape or Biltmore stick: to measure tree diameters

4 An SCE-issued email and AGOL account is required to access this. The Program Lead manages access to the VM-3 maps and databases. Access through GIS Informatics group is required to access SCE data, including asset/facility information.

- Laser Rangefinder/Hypsometer: to measure tree heights, horizontal distance, etc.

3.4.2 Standardized Guidelines for Wildfire Mitigation Expanded Clearances

When conducting the site inspection to determine treatment, the site will be evaluated by looking at treatment zones around the facility following CalFire recommended practices (Public Resources Code 4291), industry standard practices/specifications, other regulatory-driven compliance clearance distances, and/or best practices. Although there are exceptions based on voltage of the asset being assessed, the general recommended clearance distance is a target of 100 feet of defensible space around facilities.

Fuel reduction zones will generally be measured from the outer edge of the structure requiring clearance from the edge of the fence or barrier for that asset. For example, fuel reduction zones for a high-voltage switchyard should be measured from the edge of the fence. In the case of a facility having extensive hardscape around the building or asset with a fence around the perimeter, the fuel reduction zone may be measured from the building or high-voltage equipment of concern. All distances are measured as horizontal distance. Site-specific considerations should always be evaluated when making assessments (see Balancing Resource Constraints, below). Table 1 summarizes fuel reduction zone targets.

A. General Clearance Area Guidelines

The following general guidelines should be followed for the entire expanded clearance area:

- **Hardscape.** When hardscape such as sidewalk, parking areas or paved roads are within the fuel reduction zones they should be considered part of existing clearance and the zones does not need to be pushed beyond these features. For example, if a paved area covers 50 feet beyond the fence/barrier then a treatment zone needs only to extend 50 feet beyond edge of pavement to meet the fuel reduction 100-foot zone requirements.
- **Dead Wood/Fuel/Debris.** Throughout all zones, all dead and dying vegetation and/or debris should be removed, including dead and dying trees (see Hazard Trees, below), canopy deadwood, pre-existing slash piles, and downed wood.
- **Measuring Fuel Reduction Zones.** Fuel reduction zones are measured from the outer edge of the structure (i.e., asset) requiring clearance. Zones for high-voltage facilities are measured from the edge of the fence/barrier.
- **Powerlines.** All trees growing under powerlines within the target clearance area should be removed. For high-voltage lines, flag vegetation as needing review by SCE Transmission & Distribution (SCE T&D). Low-voltage and service lines and drops may be treated by SCE Generation or provided to SCE T&D. Discuss all circumstances with the SCE Program Lead for guidance.
- **Overhanging Vegetation.** All vegetation (branches, vines, etc.) overhanging high-voltage or low-voltage assets, including transformer banks, and other electrified components of facilities should be removed.
- **Hazard Trees.** All trees within the entire clearance area and vicinity (beyond Zone 2) should be assessed. “Hazard trees” are trees >10 inches (regardless of size, age, health, or condition) that pose a potential “hazard” to an asset. Hazard trees may include, but are not limited to, trees that are partially dead, damaged, diseased, or potentially unstable due to internal decay, structural issues, or other abnormalities (e.g., decaying heartwood, severe lean, dead top, soil conditions). Hazard trees within strike distance of assets should be assessed for possible removal. This may warrant review beyond the 100-foot clearance zone. In general, all dead/dying trees should be removed. One exception is large snags (left onsite for wildlife habitat), which can be reduced in height to eliminate strike hazards.

- **Desirable/Undesirable Vegetation.** When possible, less desirable vegetation should be selected for removal (e.g., suppressed, diseased, highly flammable, invasive) while retaining healthy, native trees and low-growing vegetation.
- **Pruning and Thinning Guidance.** Pruning, thinning, and other crown reduction activities should be done under the guidance of a California Registered Professional Forester or an International Society of Arboriculture (ISA)–approved arborist and should follow current industry standards including the ISA-approved *American National Standard (ANSI) A300 – Tree Shrub, and Other Woody Plant Management Practices (Pruning)* and other best management practices for pruning.
- Exceptions to the clearance guidelines may be considered in these situations:
  - Consider the location/presence of fuel breaks (e.g., roads, parking lots, waterbodies) that provide existing asset protection.
  - Clearance will be more aggressive/conservative adjacent to electrified portions of an asset, while more relaxed clearance measures can be implemented on the non-electrified or "hardened" portions of the asset.
  - Retain large-diameter "heritage trees," (i.e., trees > 25-inches diameter at breast height), as appropriate. The Contractor VSP will work with the Technical Lead or SCE Program Lead on a case-by-case basis for concurrence with retaining heritage trees that do not present a hazard.
  - Retain irrigated, well-maintained landscaping, as appropriate.
  - Refer to Balancing Resource Constraints (below) for additional considerations regarding sensitive resources and other resource constraints.

B. Fuel Reduction Zone 1a (0–10 feet) – Maintained Clean Buffer

Zone should be Hardscaped (rock, cement etc.) or vegetation should be cut to the bare soil with little to no new growth since last treatment. For manicured and irrigated sites this can be healthy managed landscaping. (For HV assets zone should be hardscaped or chemically treated to reduce vegetation.)Large, healthy trees that do not pose obvious hazards may be retained as long as all portions of the tree are at least 10 feet from high-voltage features or any sources of ignition (e.g., chimney, powerline), and ladder fuels have been eliminated (see Figure 2). Landscaping features or large trees selected to remain within or immediately adjacent to Zone 1 shall be pruned and trimmed to ensure that they are not touching or overhanging the asset.

C. Fuel Reduction Zone 1b (10–30 feet) – Lean, Clean, and Green

- Zone should have aggressively thinned vegetation including reduced brush and tree branches 10-12ft off the ground with dead fuels being kept to a minimum. **Grasses and herbaceous plants (Surface Fuels):** Using either chemical[5] or mechanical controls (or a combination of both), plants should be kept to under 4 inches in height. Use of chemical means is subject to Public Lands approval, FERC License Vegetation Management Plan requirements, and/or other applicable regulations and requirements.
- **Shrubs (Surface and Ladder Fuels):** Thin plants to achieve adequate spacing, which will vary depending on slope and plant size (see Figure 3). When possible, large shrubs that are retained should be trimmed and pruned to reduce contact with surface fuels. Shrubs that are potential fuel ladders into adjacent trees should be removed (see Figure 2).
- **Trees (Ladder and Canopy Fuels):** Thin trees to achieve adequate spacing, which will vary depending on slope and crown size (see Figure 3). Conifers under 20 feet tall should be pruned so that the height to the base of the live crown is equal to half of the total tree height. Conifers over 20

[5] This is typically completed post-treatment rather than broadcast spraying pre-emergent.

feet tall should be pruned to a minimum of height of 10 feet above the ground. Hardwood trees should be pruned in order to lift the height of the canopy 4 to 6 feet above the height of any surface fuels. All dead and dying trees and trees growing under powerlines within the target clearance (i.e., 30 or 100 feet) should be removed.

D. Fuel Reduction Zone 2 (30–100 feet) – Shaded Fuel Break

Develop a Shaded Fuel Break; create a mosaic of horizontal and vertical spacing of vegetation, while maintaining enough canopy (shade) to minimize the recruitment of additional brush species into the Fuel Reduction Zone.

This zone can be more densely vegetated then Zone 1B. Eliminate fuel ladders (vertical spacing) and create spaces and gaps between individual plants and groups of plants to break up surface fuels (horizontal spacing). Implementation will vary by site conditions (e.g., terrain, slope, constraints) and vegetation type.

- **Shrubs:** Create spaces and gaps between individual plants and groups of plants to break up surface fuels. All fuel ladders should be eliminated. Horizontal spacing is summarized below and depicted in Figure 3.
  - On a flat slope (<20 percent): shrubs will be horizontally spaced at twice the average shrub height.
  - On mild to moderate slopes (20–40 percent): shrubs will be horizontally spaced at four times the average shrub height.
  - On moderate to steep slopes (> 40 percent): shrubs will be horizontally spaced at six times the average shrub height.
- **Trees:** Retain individual trees and/or groups of trees while creating strategic canopy gaps. Consideration should be given to the species diversity and health of the retained trees. Trees under 20 feet tall should be pruned so that the height to the base of the live crown is equal to half of the total tree height. Conifers over 20 feet tall should be pruned to a minimum of height of 10 feet above the ground. Hardwood trees should be pruned to lift the height of the canopy 4 to 6 feet above the height of any surface fuels. Where there is a need for a visual screen, vegetation can be retained in a mosaic that breaks up fuel continuity with appropriate spacing while leaving patches of unlimbed or reduced limbing of trees. Horizontal spacing is summarized below and depicted in Figure 3.
  - On a flat slope (<20 percent): 10 feet horizontal spacing between trees with no ladder fuels.
  - On mild to moderate slopes (20–40 percent): 20 feet horizontal spacing between trees with no ladder fuels.
  - On moderate to steep slopes (> 40 percent): 30 feet horizontal spacing between trees with no ladder fuels.

3.4.3 Clearance Types by Facility Types

Inhabitable Facilities and High-Voltage Facilities: Including, but not limited to, powerhouses, offices, housing, shops, substations, switchyards, and transformer platforms.

- Zone 1a (0–10 feet)
- Zone 1b (10–30 feet)
- Zone 2 (30–100 feet)

Uninhabited Outbuildings or Facilities: Including, but not limited to, valve houses, gaging stations (not stand-alone; see Low-Voltage Assets description below), gate houses, water tanks, and vents.

- Zone 1a (0–10 feet)

> Zone 1b (10–30 feet)

Low-Voltage Assets (stand-alone): Including, but not limited to pulling/splice boxes, gaging stations (stand-alone and not within a building structure[6]), and associated buildings (e.g., gate house).

> Zone 1a (0–10 feet)

Surface Conduits: Vegetation will be trimmed back 4 feet to either side of feature to maintain visibility during inspection and clearance from ignition. Vegetation that poses a strike hazard should be removed.

Hazard Trees: See General Clearance Guidelines, above.

Table 1 Fuel Reduction Zone Targets

Asset Type	Zone 1A	Zone 1B	Zone 2	Hazard Trees
	0–10 feet[1] Maintained Clean Buffer	**10–30 feet Aggressively Thinned**	**30–100 feet Shaded Fuel Break/Reduced Fuel**	**Within Strike Distance**
HV & Inhabitable Facilities	X	X	X	X
LV (Outbuilding)	X	X		X
LV (Stand-alone)	X			X
LV Conduit	X (4-feet cleared for visibility)			X

[1] Horizontal distance

HV – high voltage; LV – low voltage

6 Structures associated with gaging stations associated with low-voltage assets should be treated as outbuildings and expanded to the 30-foot clearance specified above, while non-electrified (inert) portions of these facilities (e.g., a metal post cableway) can proceed with only 10-foot clearance.

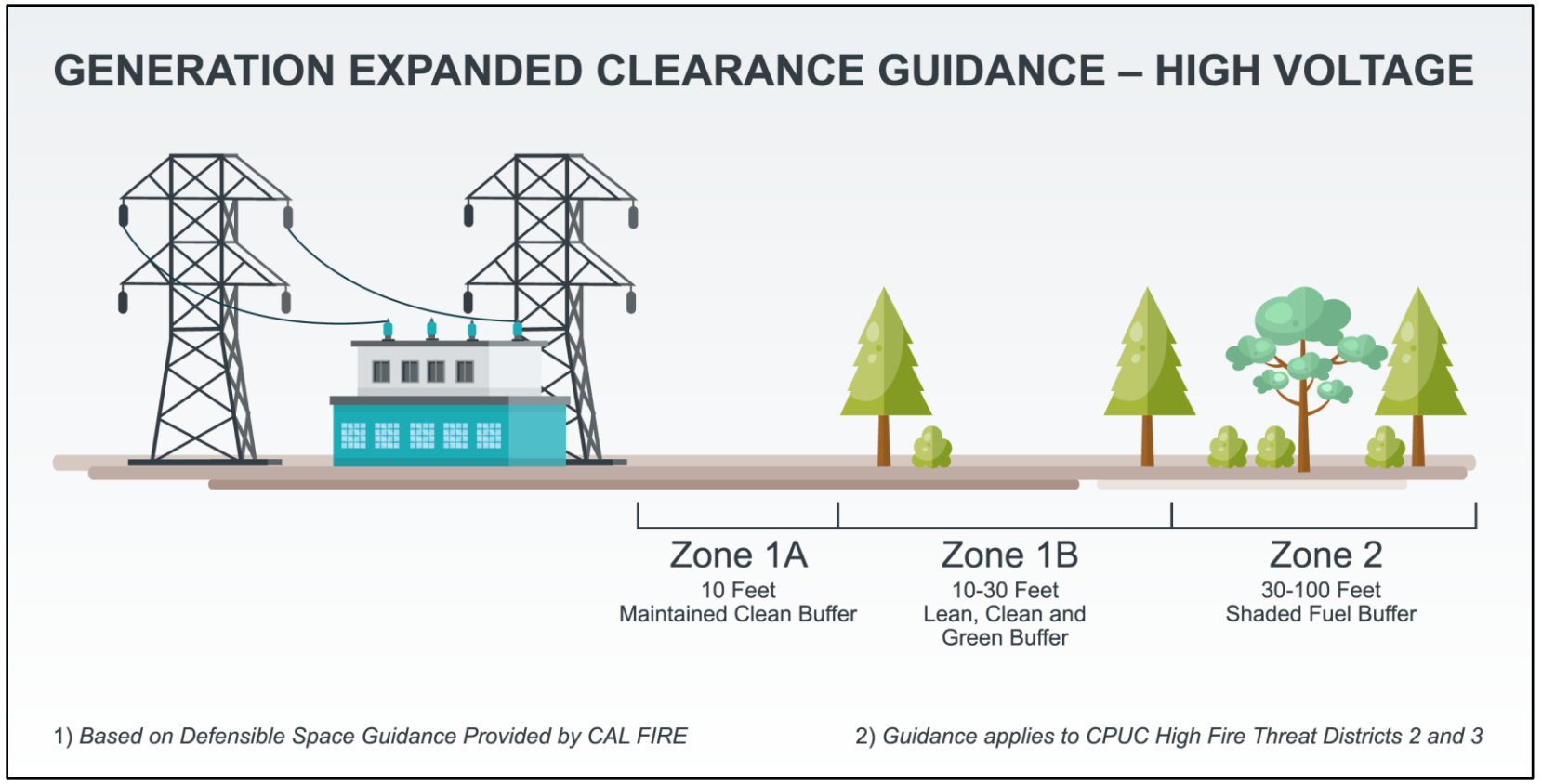


Figure 3 Expanded Clearance Guidance - High Voltage

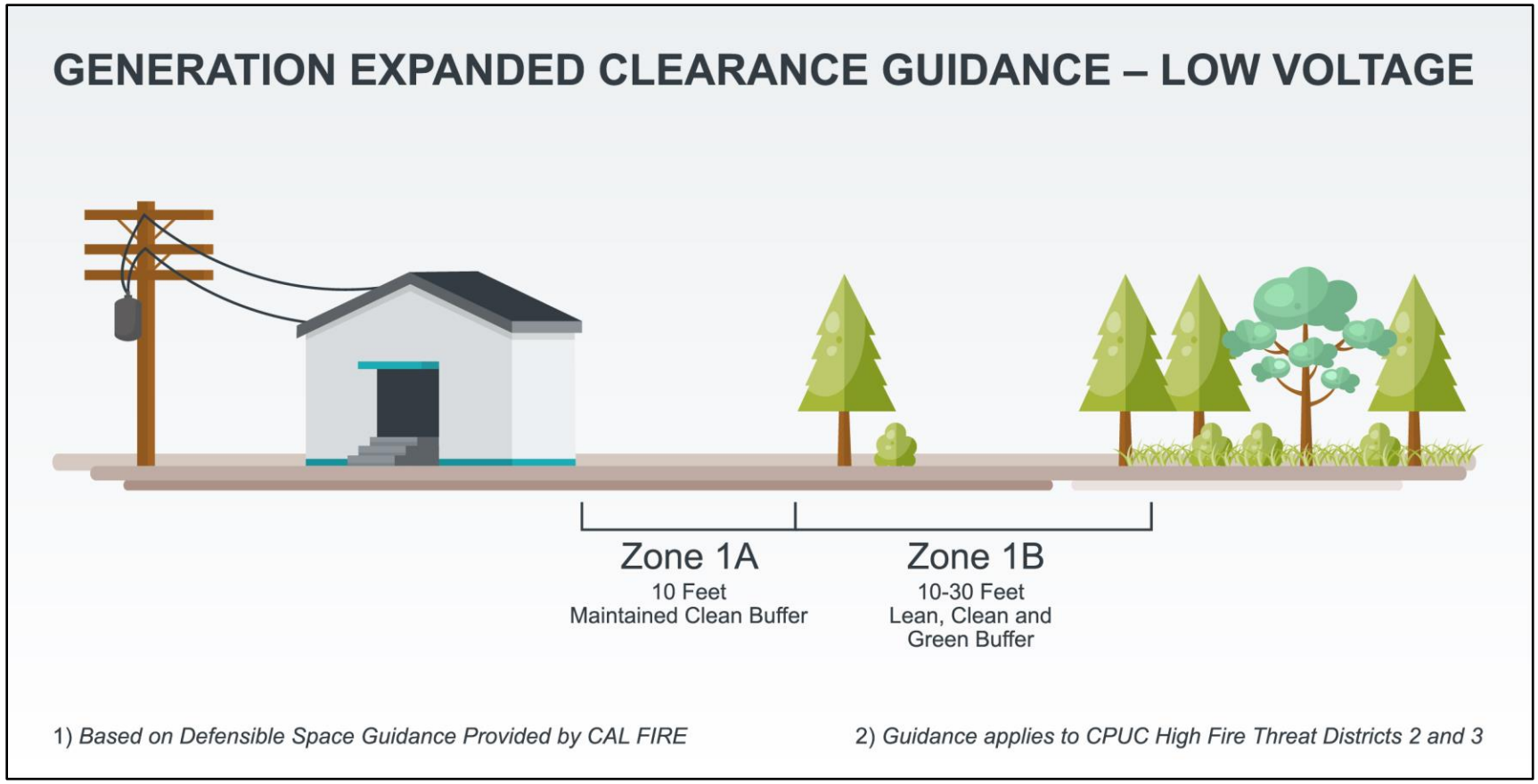


Figure 4 Expanded Clearance Guidance - Low Voltage

Figure 5 Vertical Clearance Targets

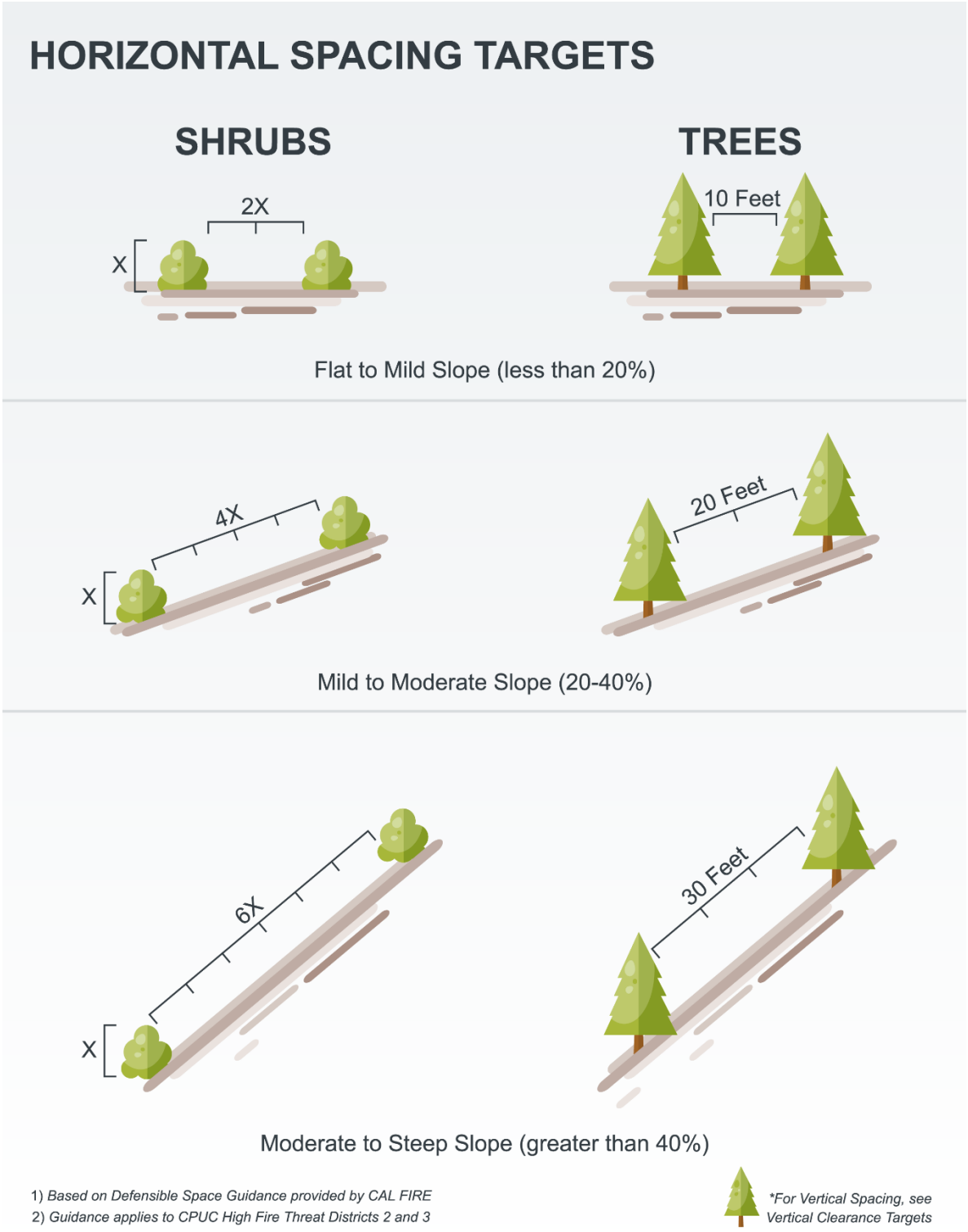


Figure 6 Horizontal Spacing Targets

3.4.4 Balancing Resource Constraints

During treatment design and layout, site-specific features must be evaluated and accounted for. If sensitive resource areas are encountered during field inspections, the Contractor VSPs will delineate these areas with a “Constraint Areas” polygon in Collector.

In most cases, mitigation can be developed that will still allow for effective implementation of the VM-3 Program goals. In some cases, resource constraints may exist in portions of the clearance area that prevent conventional treatment or inhibit its effectiveness. Contractor VSPs will document constraints and contact the SCE Program Lead and Technical Lead for further review and approval. Examples of such constraints include (but are not limited to) the following:

- **Unstable Slopes:** Vegetation should be retained to the extent possible and just trimmed back to preserve as much of the active root system as is feasible. The Contractor VSP will add treatment notes for these sites regarding the potential for annual maintenance requirements moving forward. Steep slopes with high erosion potential should be added to the Constraint Areas polygon in Collector.
- **Riparian Areas:** In many cases, less intensive treatment may be prescribed in riparian areas since high fuel moisture can effectively slow a fire’s rate of spread. As a possible mitigation, more intense fuel reduction might be applied to adjacent areas in the treatment footprint to balance the overall fuel reduction goal. Potential trimming or removal of riparian vegetation should be added to the Constraint Areas polygon in Collector during VM-3 Site Inspection.
- **Wetlands/Waters of the United States:** All aquatic areas including wetlands/waters of the United States (waters) should be avoided. Chips, lop and scatter, etc. should not be deposited or stored in aquatic areas. Crossing of water features should be avoided or mitigated, as appropriate.
- **Biological Resources:** If sensitive species are identified in the treatment area, protective measures should be developed that still allow for implementation of the project as a whole. Mitigation may include physical avoidance, timing of operations, pre-construction surveys, crew checks, etc. Any biological concerns and recommendations should be communicated to the SCE Program Lead and Technical Lead, who will work with the SCE Environmental division to approve recommendations and further work.
- **Cultural Resources:** Historic and/or prehistoric features may be present in the treatment area. These resources will be identified and flagged for avoidance with an appropriate buffer and/ or additional protection measures recommended by a qualified cultural resource specialist prior to treatment to avoid adverse effects to the resource.
- **Long-Term O&M Notes:** Species selection should consider future O&M requirements. The primary goal is to encourage native non-woody and/or low-growing species, and to maintain vegetative cover where feasible and appropriate for stability and erosion control. Future operations and management activities will work toward conversion to low-growing, perennial, non-woody species to reduce fuel loading while also maintaining soil stabilization and aesthetic values. The Contractor VSP will add treatment notes for these sites regarding the potential for annual maintenance requirements moving forward.

In the event that resource constraints are so burdensome that they overwhelm the effectiveness of the VM-3 inspection, these constraints should be well documented and the site can be referred to the SCE Program Lead and/or Technical Lead for further review.

3.5 Field Implementation Support

Implementation support during treatment operations will vary depending on the site complexity, location, assigned crew, etc. A brief description is provided below for each of these activities.

3.5.1 Monitoring

The Contractor VSP should be present on the first day of planned treatment activities to ensure that all treatment prescriptions and flagging direction are clear to the Crew or Vegetation Contractor. In addition, Contractor VSP should ensure that environmental monitoring, if required, has been arranged and that there are no additional constraints to proposed treatment activities. Environmental monitoring may be scheduled by any of the Program team supports including SCE Program Lead, Technical Lead, or Contractor VSP. The Contractor VSP should be aware of any site constraints, environmental requirements, or agency-specific requirements for the site, cover these requirements during the initial day of work (if an environmental monitor is not present to conduct the training), and correct any potential non-compliances or concerns with the contractor executing the treatment.

In lieu of continuous monitoring, spot checks may be conducted at intervals by the Contractor VSP or once certain milestones are achieved for the site.

3.5.2 Best Management Practices/Environmental Requirements

Site-specific environmental requirements will be provided by the SCE Environmental Services Department (ESD) following the environmental review process. Typically, environmental requirements will be assigned for each area, or AOR, and are based on resource issues relevant for that AOR. Individual environmental requirements such as the need for a waters monitor, or a nesting bird survey would be assigned for each VM-3 site, based on environmental conditions/constraints. These individual requirements (per VM-3 site) will be completed and documented in Collector prior to and/or during the Treatment process. If there is a concern regarding a restrictive measure, contact the **SCE Program Lead (Marcus Jones; Marcus.D.Jones@sce.com; 559-368-8872)** to discuss potential alternatives.

The following sections provide an example of some standard environmental requirements. For a complete list of potential environmental requirements, see the SCE document *Guidance on Standard Clearance Measures.*

Standard Bio Measures

Work Areas: Vehicles and equipment must remain on the existing access routes and immediate vicinity of towers/roads/work areas identified in the project scope. If any work needs to be conducted outside these access routes or work areas, please contact the SCE Program Lead at the email or phone number above.

Crew Check: Prior to starting work, crews will check the workspace for bird nests (e.g., pole cavities, vegetation to be removed). Contact the biological monitor or call the number above prior to work within 200 feet of an active nest.

Injured/Trapped Wildlife: Prior to the start of work, crews will inspect their workspace for any injured or dead wildlife. In addition, look in holes and trenches, construction material, and equipment for any trapped wildlife. Contact the SCE Program Lead (email and phone number listed above) if you observed dead, injured, or trapped wildlife.

Weed Maintenance and Prevention: Use certified weed-free materials (e.g., gravel, straw, and fill) to the extent practicable. Maintain facilities and infrastructure to limit the introduction and spread of weeds.

Spill Release/Prevention: Vehicles/equipment must be inspected for leaks (e.g., fuel, oil, hydraulic fluids, etc.) and repaired prior to work. Fueling should not be conducted near a drainage feature. Spill kits/absorbent clean-up materials shall be available on-site and if used, disposed of properly. Contact 1-

800-GOT-SPILL for any potential hazardous material or spills that cannot be cleaned up by spill kits alone.

Standard Wetlands Measures

Avoid Drainages: All debris (i.e., spoils), vehicles and equipment, and construction materials must be kept from entering drainage features.

Materials Management: Storage of equipment or stockpiling of fuels, lubricants, cement or other materials is not authorized inside or in close proximity to, where a spill could likely enter an adjacent wash, wetland, waterway, or any other drainage features.

Dry Conditions: The operation of equipment in water features or riparian areas will be conducted during dry conditions only. No standing or flowing water may be present in construction work areas or overland travel access routes unless specifically authorized.

No unauthorized materials in drainages: Debris, vegetation cuttings/wood chippings, and/or construction materials shall not be stored or disposed of within any drainage, wetland, other water feature, or slopes above and adjacent to these features.

Site Re-contouring: Upon project completion, all disturbed areas will be returned to meet pre-existing contours (i.e., original line and grade).

Hand Removal: Any wood debris that falls into the drainage must be removed by hand.

Roots: Leave all root systems in-tact.

Foot Access: Foot access only is authorized, but crews should enter and exit the project site via the same trail. No vegetation may be trimmed without the guidance of a monitor.

Additional Measures

Nest Survey: A nesting bird survey is required for activities scheduled between February 1 and August 31.

Pre-Construction Biological Survey: A biological survey is required prior to the start of work.

Biological Monitor: A biological monitor is required to survey the workspace and be present as needed. In addition, tailboard with the biological monitor is required prior to ground or vegetation disturbing activities.

Waters Monitor: A waters monitor shall be onsite during construction activities. Riparian vegetation must not be impacted unless approved by a waters monitor. Contact the SCE Program Lead (email or phone number above) at least 2 weeks prior to ground or vegetation disturbing activities to arrange for a monitor.

Incidental Riparian Vegetation/Tree Trimming: Trimming cannot exceed an estimated 20 percent of the tree canopy (tree leaves/branches/stems) OR affect branches larger than 2-inches diameter.

No Riparian Vegetation/Tree Trimming: Riparian vegetation must not be impacted. If trimming or removal of riparian vegetation is unavoidable, please contact the email or number above for assistance prior to conducting any work.

3.6 Post-Implementation Assessment

Upon completion of the vegetation treatment, the Contractor VSP will complete the Post-Treatment QC Inspection (QC Inspection). Required fields to be completed are at the end of the data field and should be available in the QC version of the Collector application.

Follow the questions outlined below for the QC Inspection of the site.

QC Data Field	Notes on Requirements
QC VSP Post-Treat Insp Date	Date of post-treatment VSP field inspection.
QC Inspector	AGOL ID of Inspector
QC_Treatment comp	1. Are all prescribed treatments completed? Note any work areas not complete or work not completed per recommendations (not previously approved/discussed).
QC_Mitigation/Restrictions followed	2. Have all restrictions and mitigation measures been followed? Document any apparent non-compliance or possible resource issues or other concerns and notify Program or Technical Lead(s).
QC_Corrective actions required	3. Are there any issues that require a corrective action to address? This can be an additional treatment, cleanup, resource constraint, or any other corrective action(s) required.
QC_Comments/Issues	4. Populate any additional comments or notes associated with deficiencies in the fields above here. Note any other site-specific issues.
QC_Correction Priority	5. Identify level of priority to the issue. Drop-down list: P1 - Immediate/Emergent, P2 - High Priority (next 3-4 months), P3 - Add to next year's O&M plan, N/A - none.
QC_Monitoring Reqd	6. Is long-term monitoring recommended for the site? Drop-down list: Yes, No
QC_Monitor Note	7. Identify any specific issue(s) that require(s) long-term monitoring (e.g., erosion, destabilization, weeds, regrowth) or follow-up.
To be completed by SCE Program Lead(s)	
Program Lead Signoff Date	8. Populate date of final review of site and confirmation of transition to O&M program.
Migrated to O&M Program?	9. Populate a "Yes" or "No" and any relevant notes or references to O&M system of record or tracking.

The Contractor VSP will document the QC Inspection with photos; ensure adequate representative photos to show condition of site following treatment. Collect a photo of all issues identified as either a Corrective Action or possible non-conformance to mitigations, constraints, or restrictions. Notify SCE Program Lead immediately for any possible non-compliance issues or high-risk corrections, especially anything that may pose a risk to the site.

Photos will need to be edited after collecting to change the name. The Contractor VSP will revise names of the photos to include "QC" *in front* of the system-generated photo number. Photos will be lined up if possible, with pre-treatment perspectives and locations and use the same numbering—for instance, Photo 1 and QC_Photo 1. This will allow for an easy "before and after" treatment comparison.

Post treatment, the Contractor VSP will complete the QC Inspection, set the VM-3 Work Status in Collector to "Post QC Complete", and email the SCE Program Lead and Technical Lead for final QA/QC of site completion; the latter will then set the status to "Treatment Completed" and populate the "Program Lead Signoff Date."

4.0 Site Signoff and Transition Process to Long-Term O&M

The VM-3 Program is a short-term program meant to establish adequate clearance buffers around facilities and then transition sites back to a normal long-term O&M program. Prior to considering sites to complete in the VM-3 Program, each site will need to be reviewed or assessed by the responsible routine O&M responsible party or Vegetation Manager for each AOR. Each expanded clearance site will be evaluated with an emphasis on future long-term O&M, as well as the immediate clearance needs.

Many of the expanded clearance sites already undergo routine maintenance within Zone 1. Sites where the new clearance and vegetation-free buffer will expand routine treatment areas will need to be reviewed by their respective AOR or Vegetation Manager to ensure long-term treatment needs are understood and can be met. Any expanded areas in Zone 1 will be incorporated into routine annual maintenance programs. For some sites, this may result in no additional annual effort; for others, this could mean a significant increase in the annual routine effort to maintain expanded clearances (i.e., additional acreage requiring weed whipping or fuels management).

Effectively established treatments within Zone 2 should become shaded fuel breaks and/or reduced fuel zones that will require irregular/infrequent spot treatments to control regrowth of ladder fuels and noxious weeds. Monitoring efforts the first year following treatment will determine the intensity of continued treatments within Zone 2 and return interval for vegetation in those areas. All additional efforts within Zones 1 and 2 will be evaluated at the end of this program and reevaluated annually during routine maintenance activities. Each respective AOR and/or Vegetation Manager will be required to manage and update site records and treatment or management plans accordingly.

Should original treatment prove to be ineffective or not feasible for the routine O&M program, suggested improvements from the AOR-specific Vegetation Manager or delegate will be incorporated into the program to obtain site signoff. The SCE Program Lead will populate the “Program Lead Signoff Date” as well as the “Migrated to O&M Program?” data fields to reflect these final steps.

Appendix A AOR Location Maps

A.1 Eastern Operations

Appendix A1, Figures 1 through 4: Bishop/Mono Basin

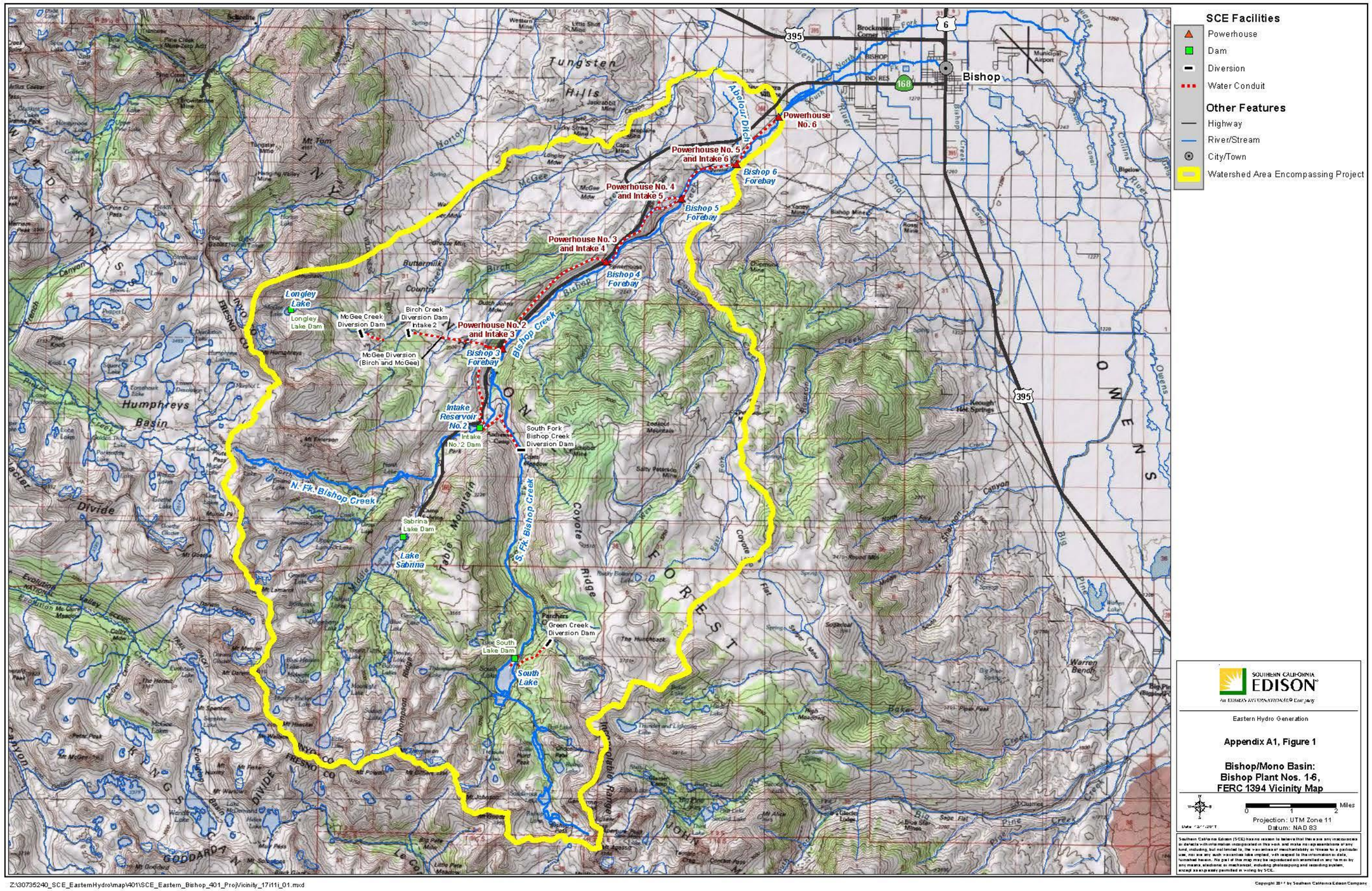
Appendix A2, Figures 1 and 2: East End Operations.

Appendix A3, Figure 1: Catalina Island.

A.2 Western Operations

Appendix A4, Figures 1 through 5: Southwestern Productions

Appendix A5, Figure 1: Big Creek Hydroelectric System



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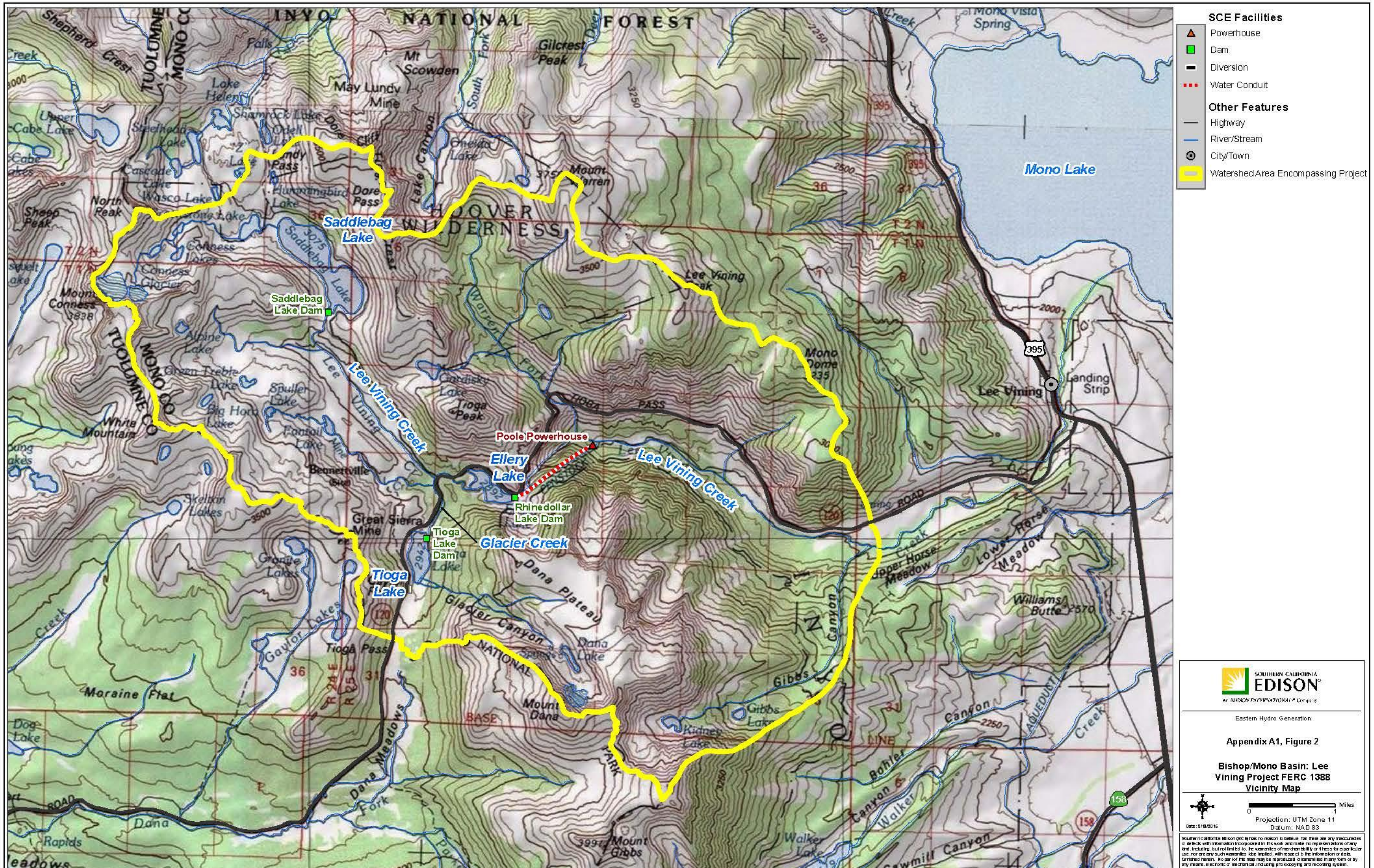

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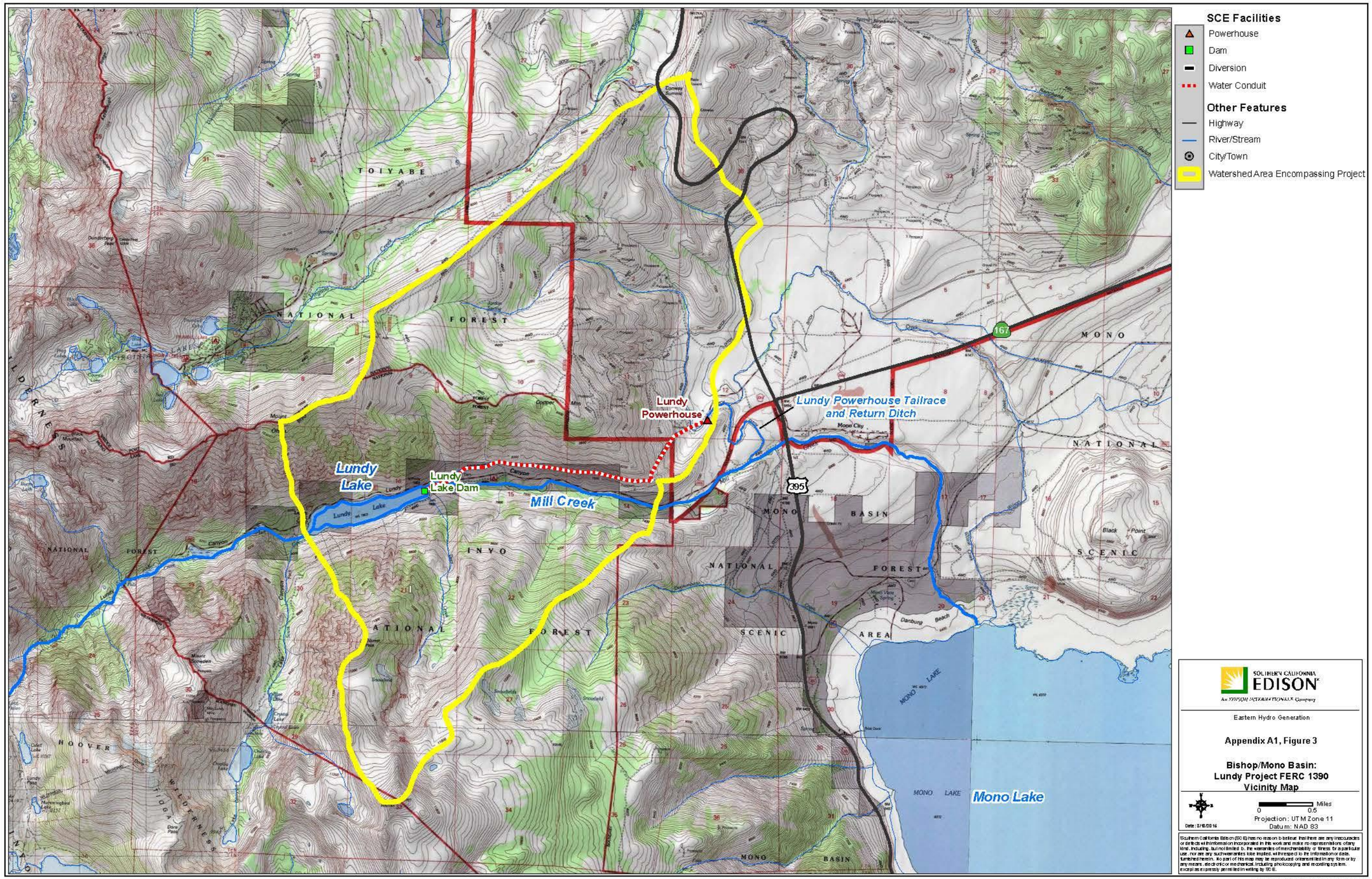

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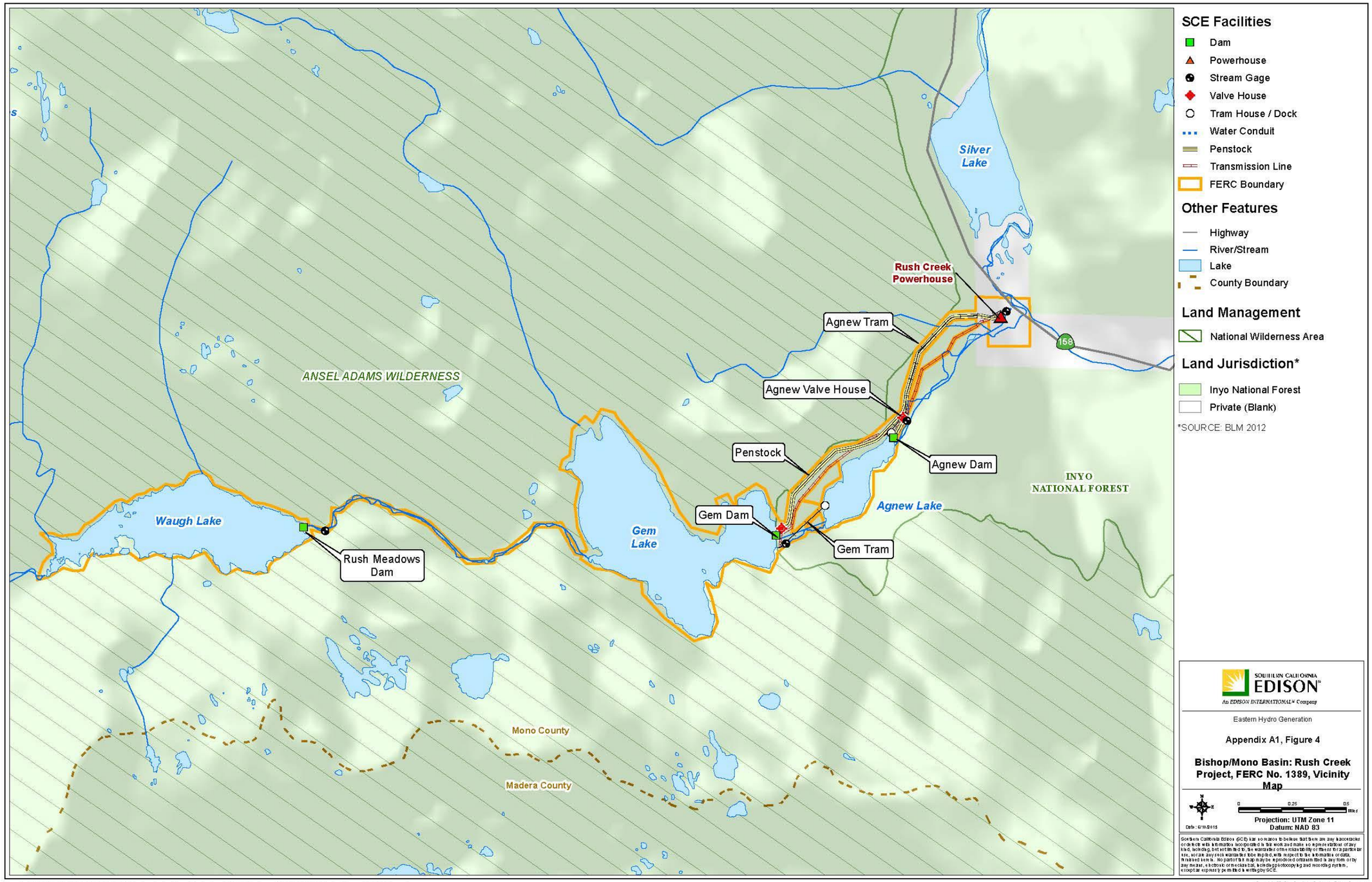

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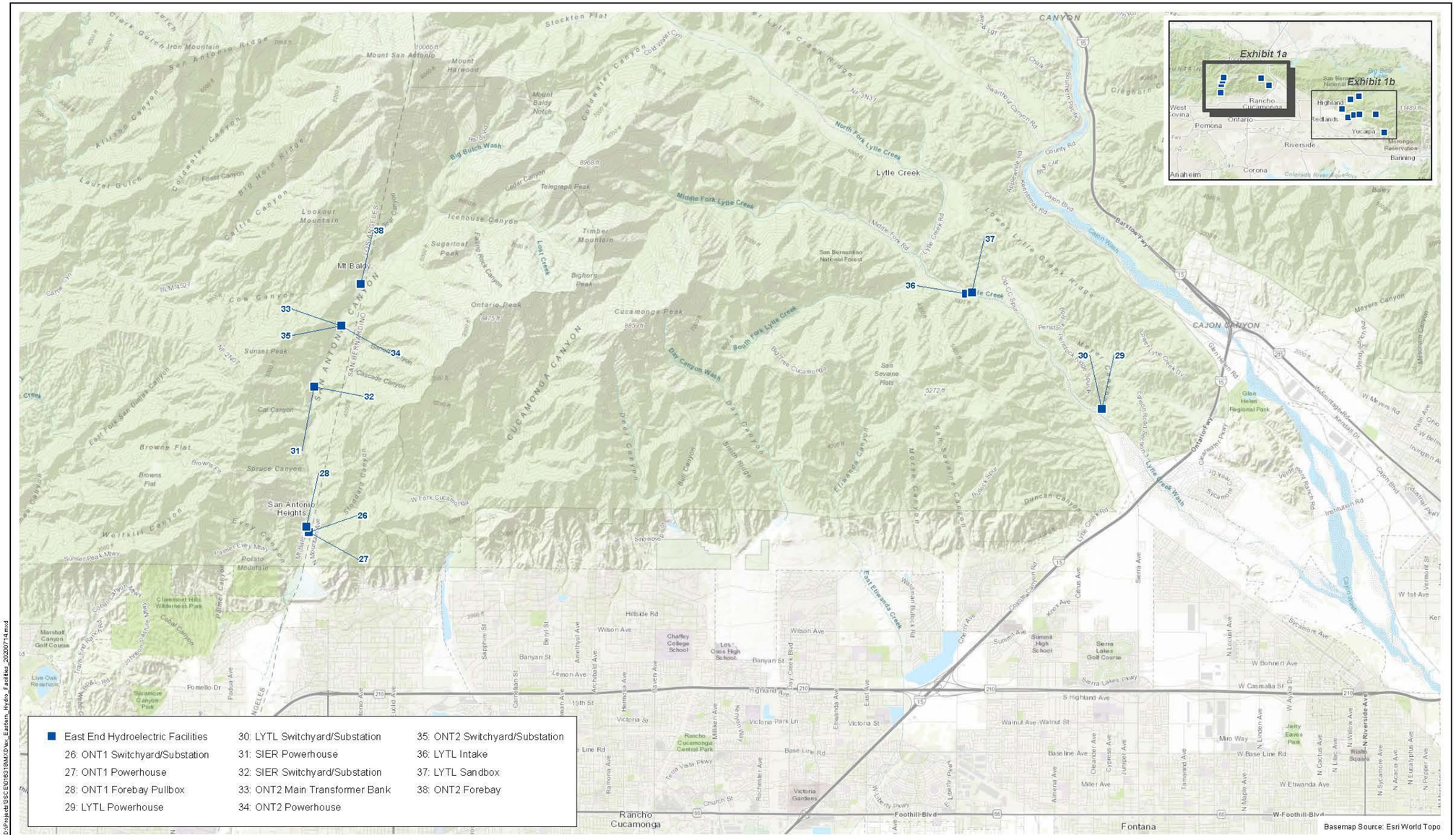

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East End Hydroelectric Generation Facilities

Eastern Operations Hydroelectric Facilities

Appendix A2, Figure 1

1.5 0.75 0 1.5 Miles

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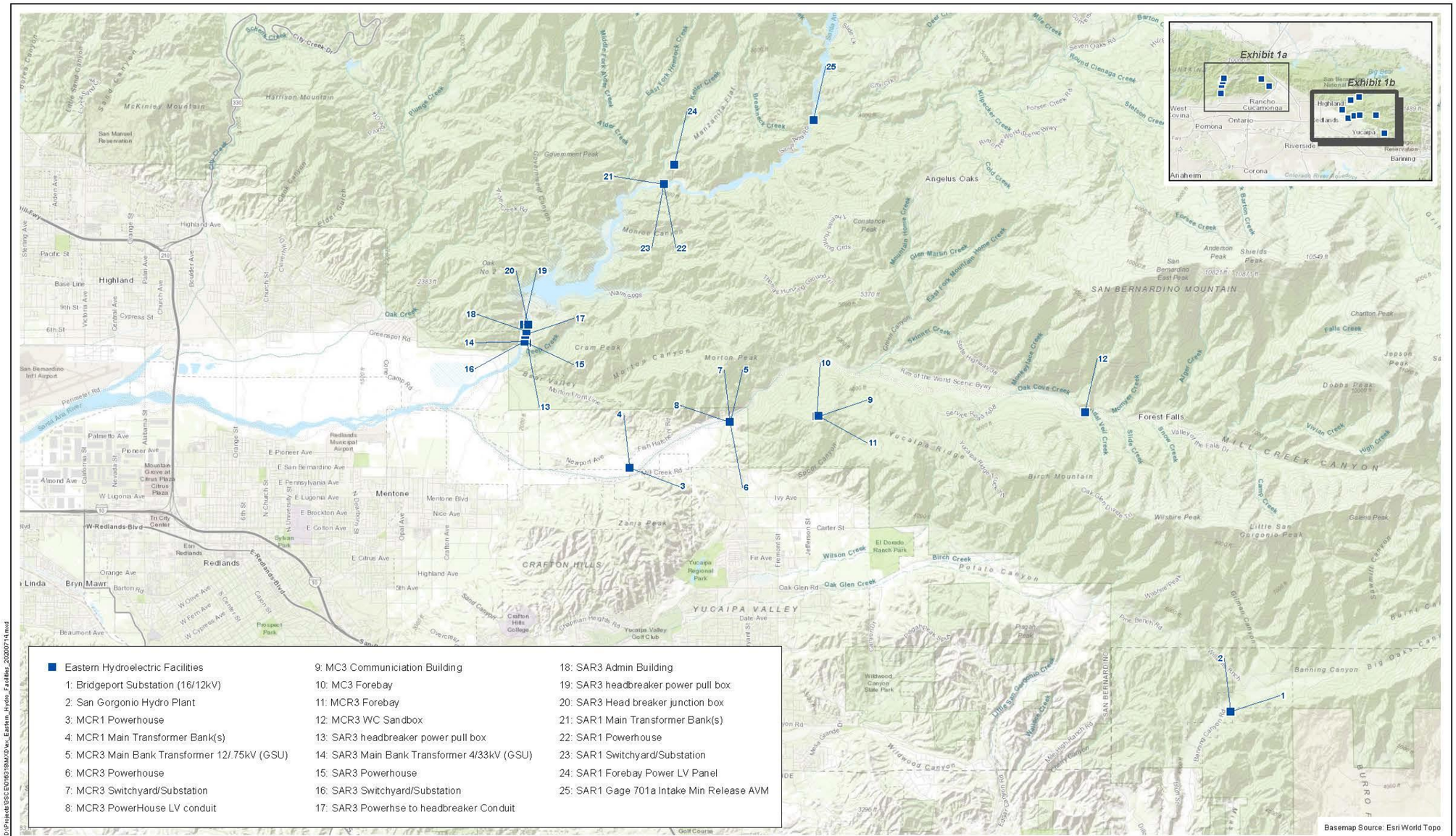
Exhibit 1a
Exhibit 1b
Eastern Hydroelectric Facilities
1: Bridgeport Substation (16/12kV)
2: San Gorgonio Hydro Plant
3: MCR1 Powerhouse
4: MCR1 Main Transformer Bank(s)
5: MCR3 Main Bank Transformer 12/.75kV (GSU)
6: MCR3 Powerhouse
7: MCR3 Switchyard/Substation
8: MCR3 PowerHouse LV conduit
9: MC3 Communiciation Building
10: MC3 Forebay
11: MCR3 Forebay
12: MCR3 WC Sandbox
13: SAR3 headbreaker power pull box
14: SAR3 Main Bank Transformer 4/33kV (GSU)
15: SAR3 Powerhouse
16: SAR3 Switchyard/Substation
17: SAR3 Powerhse to headbreaker Conduit
18: SAR3 Admin Building
19: SAR3 headbreaker power pull box
20: SAR3 Head breaker junction box
21: SAR1 Main Transformer Bank(s)
22: SAR1 Powerhouse
23: SAR1 Switchyard/Substation
24: SAR1 Forebay Power LV Panel
25: SAR1 Gage 701a Intake Min Release AVM
Basemap Source: Esri World Topo
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Eastern Hydroelectric Generation Facilities
Eastern Hydroelectric Facilities in California
1.5 0.75 0 1.5
Miles
Appendix A2, Figure 2
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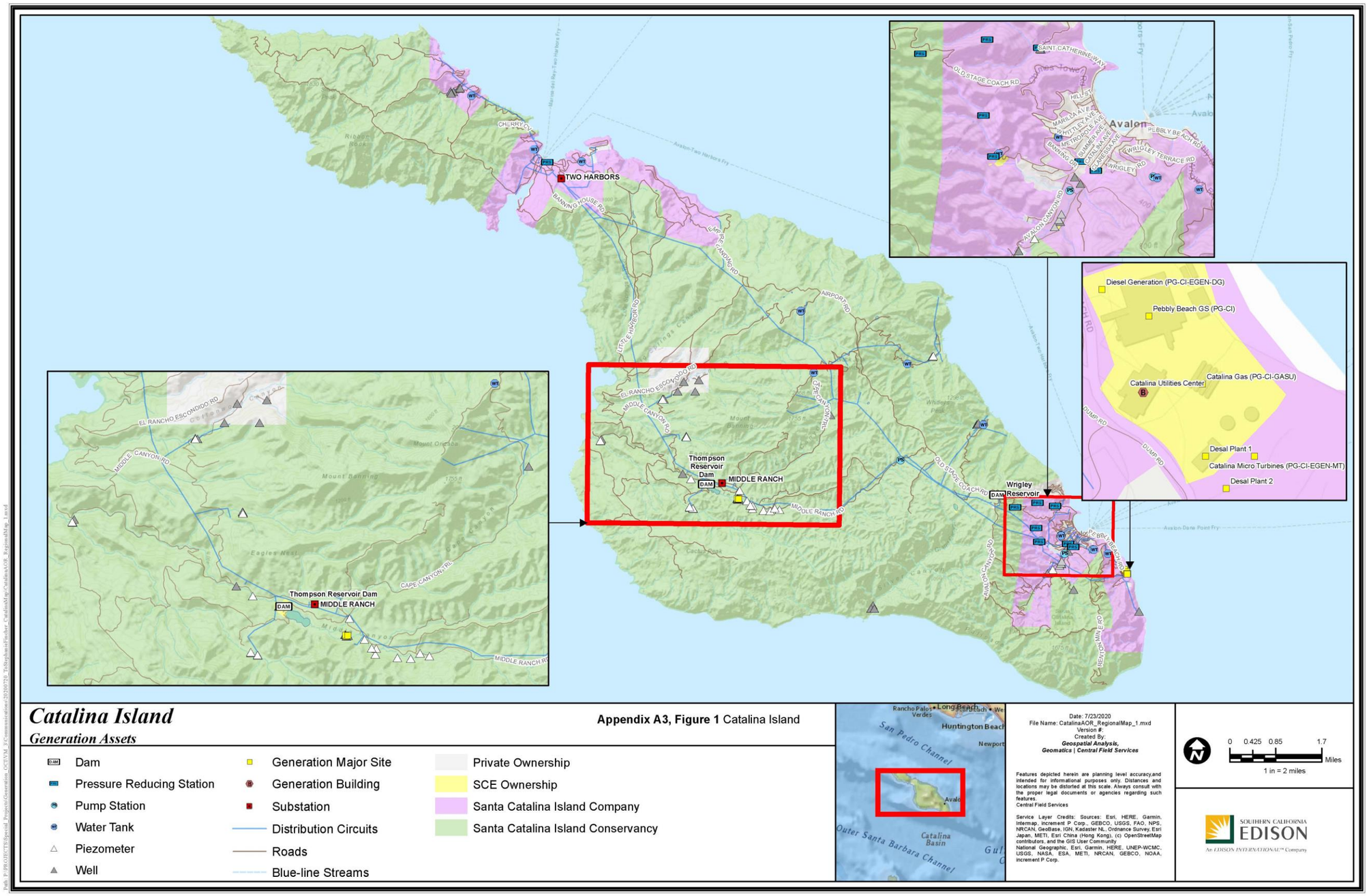
TWO HARBORS
CHERRY COVE
BANNING HOUSE RD
LITTLE HARBOR RD
AIRPORT RD
EL RANCHO ESCONDIDO RD
MIDDLE CANYON RD
Thompson Reservoir Dam
MIDDLE RANCH
MIDDLE RANCH RD
CAPE CANYON TRL
Mount Banning
Eagles Nest
Avalon
SAINT CATHERINE WAY
OLD STAGE COACH RD
MARILLA AVE
WHITLEY AVE
METROPOLE AVE
SUMNER AVE
CATALINA AVE
CARESS AVE
BANNING DR
WRIGLEY RD
WRIGLEY TERRACE RD
PEBBLY BEACH RD
AVALON CANYON RD
Wrigley Reservoir
DUMP RD
Diesel Generation (PG-CI-EGEN-DG)
Pebbly Beach GS (PG-CI)
Catalina Gas (PG-CI-GASU)
Catalina Utilities Center
Desal Plant 1
Catalina Micro Turbines (PG-CI-EGEN-MT)
Desal Plant 2
Avalon Dana Point Fry
Avalon-Two Harbors Fry
Catalina Island
Generation Assets
Dam
Pressure Reducing Station
Pump Station
Water Tank
Piezometer
Well
Generation Major Site
Generation Building
Substation
Distribution Circuits
Roads
Blue-line Streams
Private Ownership
SCE Ownership
Santa Catalina Island Company
Santa Catalina Island Conservancy
Appendix A3, Figure 1 Catalina Island
Rancho Palos Verdes
Long Beach
Huntington Beach
Newport
San Pedro Channel
Outer Santa Barbara Channel
Catalina Basin
Date: 7/23/2020
File Name: CatalinaAOR_RegionalMap_1.mxd
Version #:
Created By:
Geospatial Analysis,
Geomatics | Central Field Services
Features depicted herein are planning level accuracy,and intended for informational purposes only. Distances and locations may be distorted at this scale. Always consult with the proper legal documents or agencies regarding such features.
Central Field Services
Service Layer Credits: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community
National Geographic, Esri, Garmin, HERE, UNEP-WCMC, USGS, NASA, ESA, METI, NRCAN, GEBCO, NOAA, increment P Corp.
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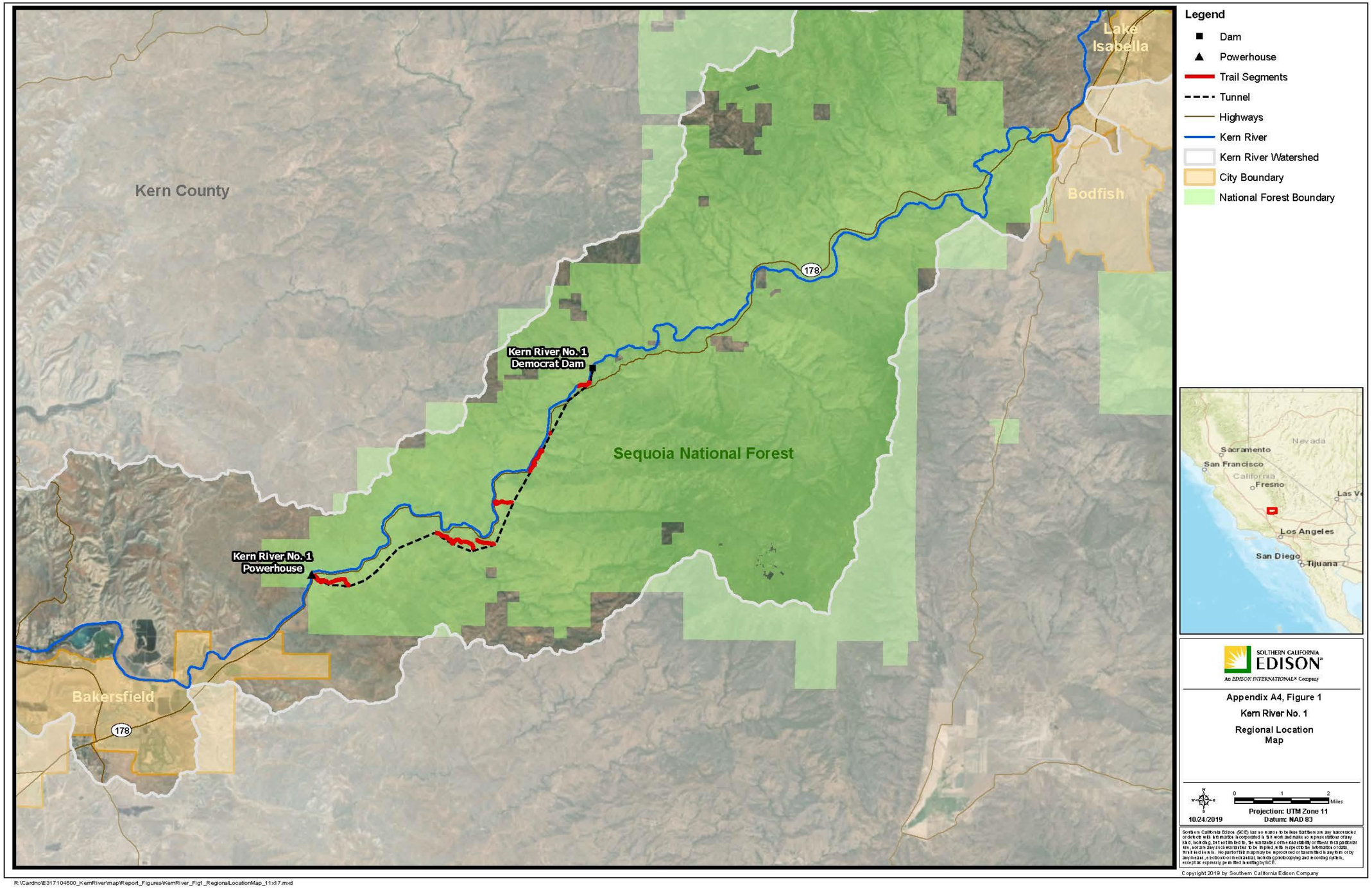
An EDISON INTERNATIONAL Company


Kern County
Lake Isabella
Bodfish
178
Kern River No. 1
Democrat Dam
Sequoia National Forest
Kern River No. 1
Powerhouse
Bakersfield
178
Legend
Dam
Powerhouse
Trail Segments
Tunnel
Highways
Kern River
Kern River Watershed
City Boundary
National Forest Boundary
Nevada
Sacramento
San Francisco
California
Fresno
Los Angeles
San Diego
Tijuana
SOUTHERN CALIFORNIA EDISON
An EDISON INTERNATIONAL Company
Appendix A4, Figure 1
Kern River No. 1
Regional Location Map
0 1 2 Miles
10/24/2019
Projection: UTM Zone 11
Datum: NAD 83
Copyright 2019 by Southern California Edison Company
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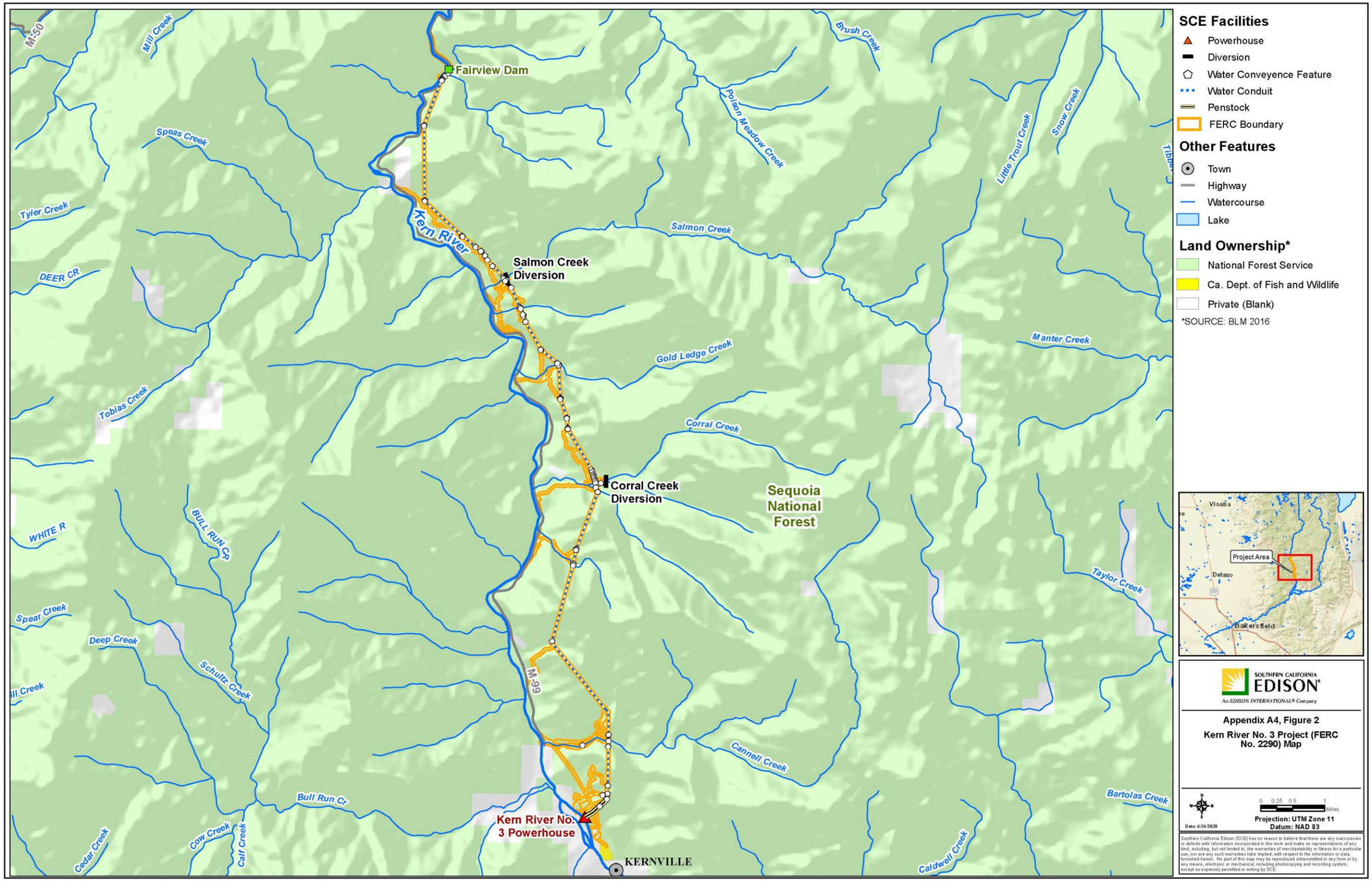

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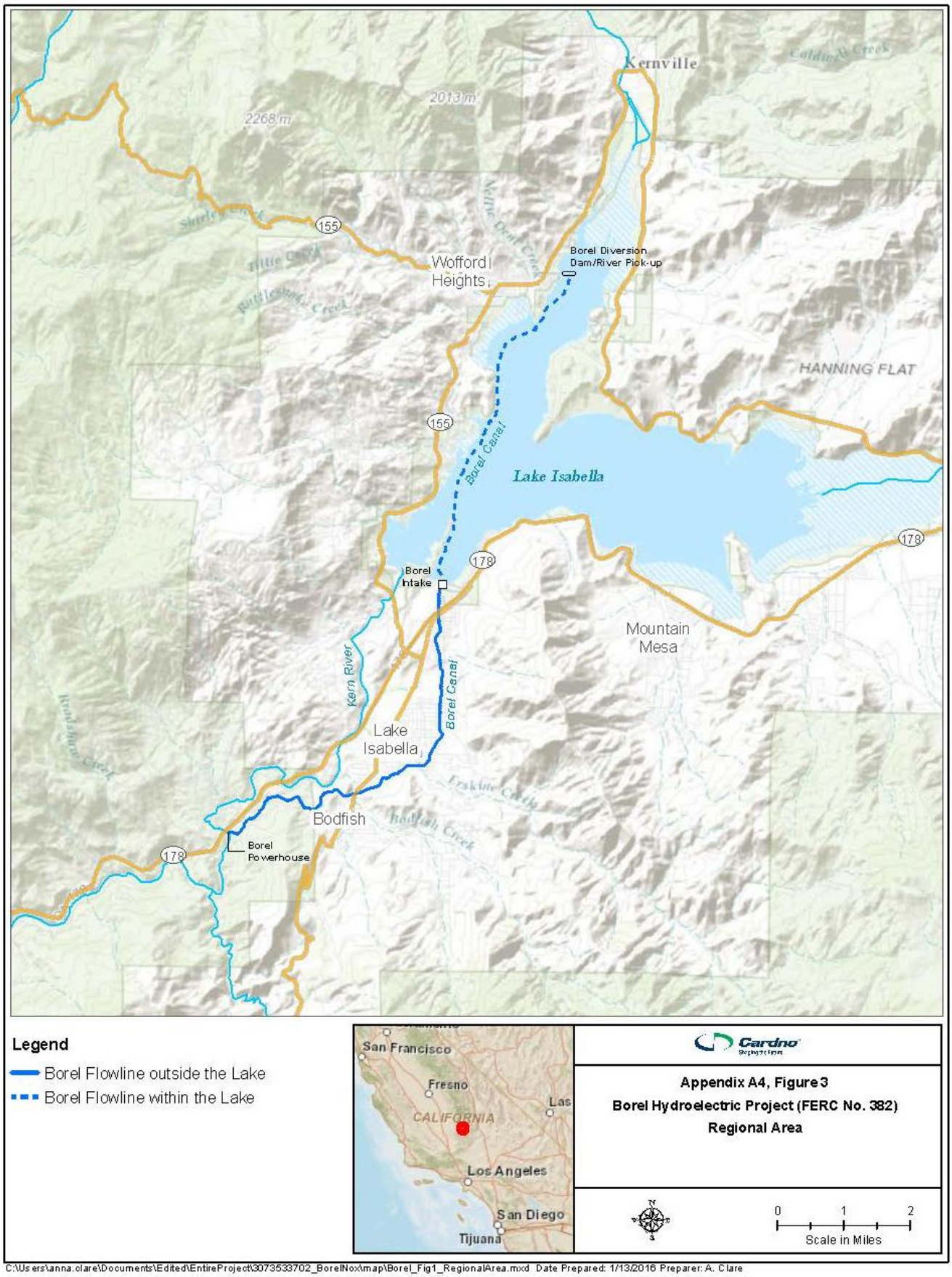
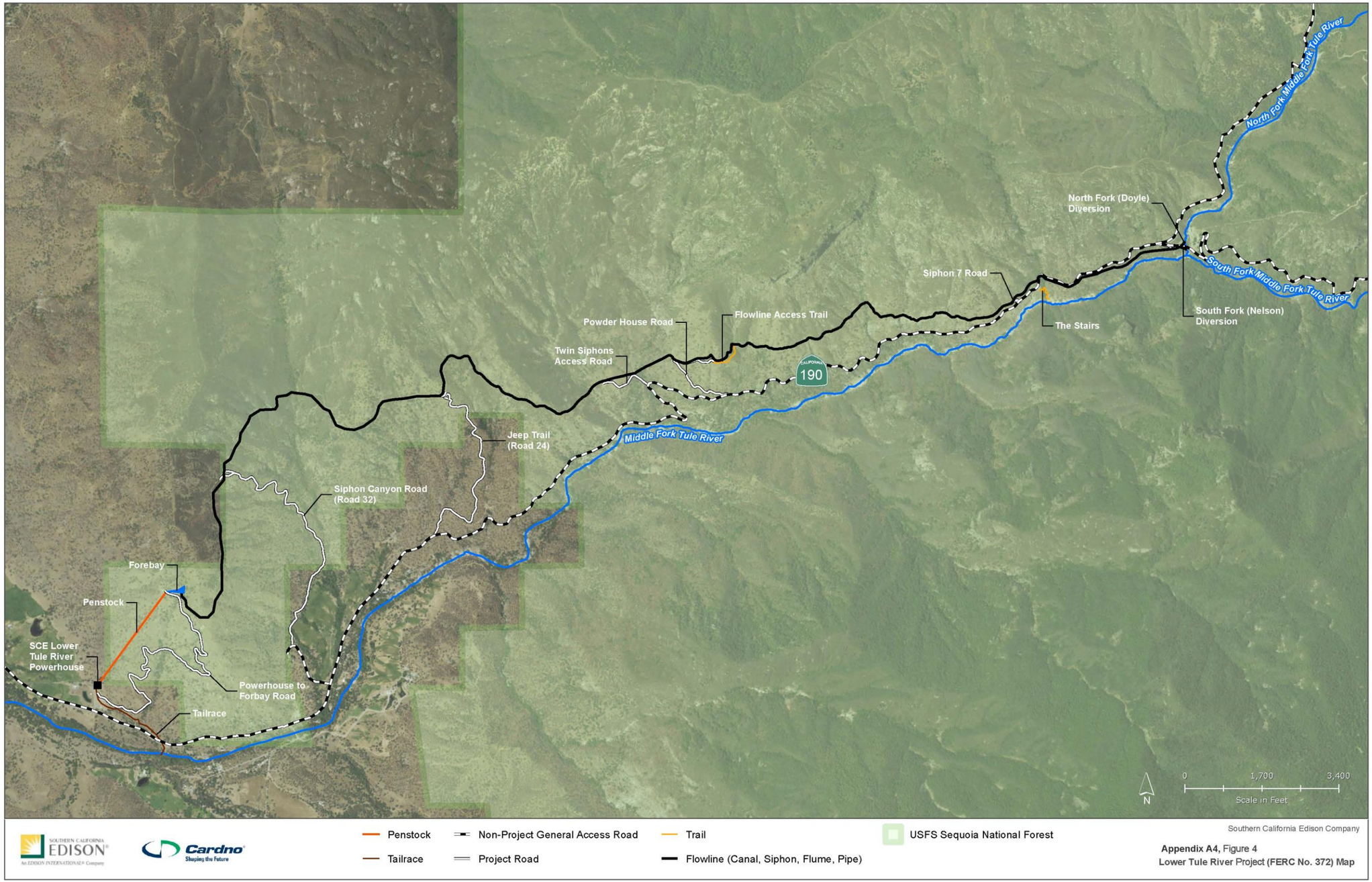
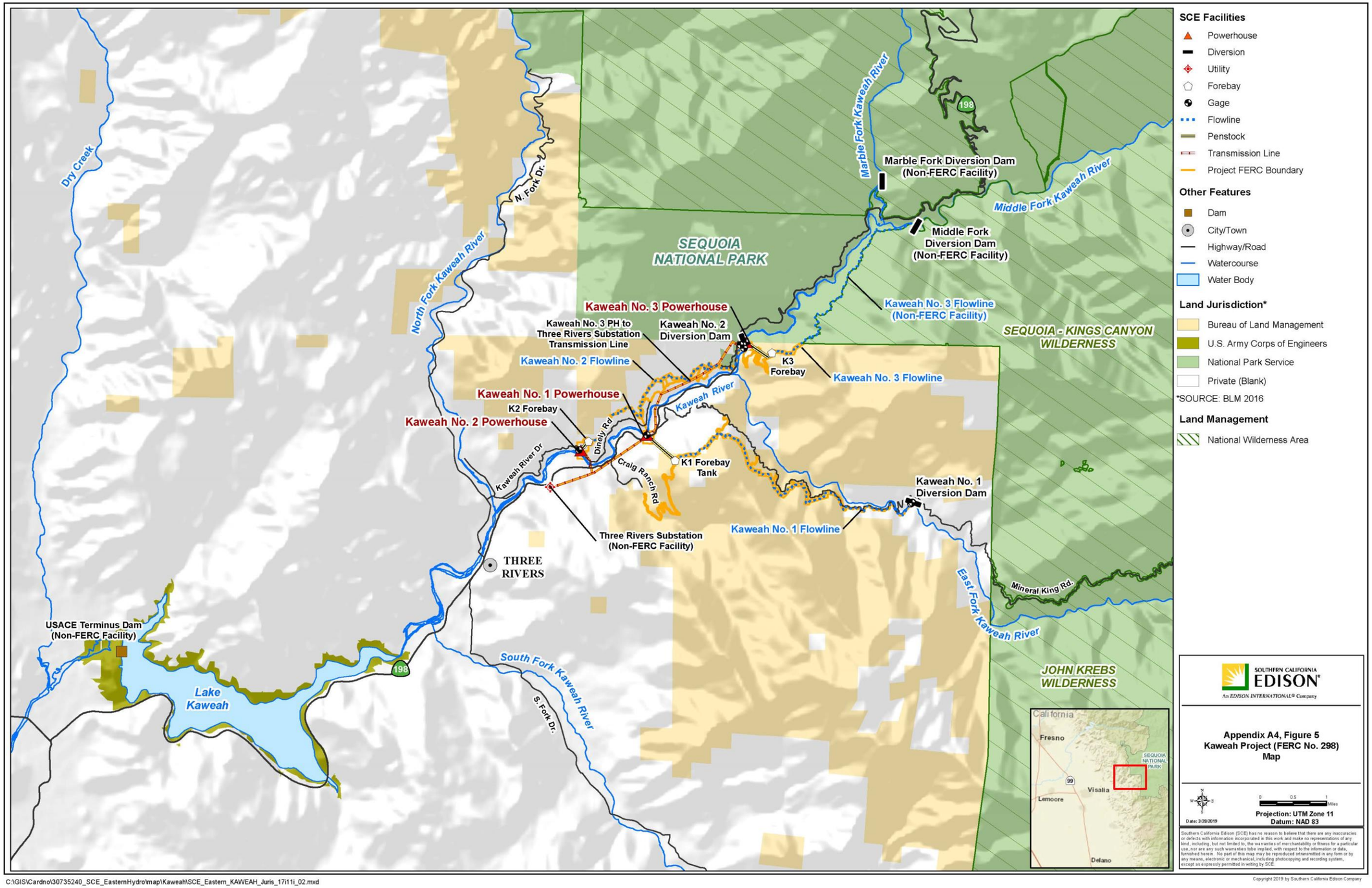

Kernville
2013 m
2268 m
Wofford Heights
Borel Diversion Dam/River Pick-up
HANNING FLAT
Lake Isabella
Borel Canal
Borel Intake
Mountain Mesa
Kern River
Lake Isabella
Bodfish
Borel Powerhouse
155
178
Legend
Borel Flowline outside the Lake
Borel Flowline within the Lake
San Francisco
Fresno
CALIFORNIA
Las
Los Angeles
San Diego
Tijuana
Cardno
Appendix A4, Figure 3
Borel Hydroelectric Project (FERC No. 382)
Regional Area
0 1 2
Scale in Miles
C:\Users\anna.clare\Documents\Edited\EntireProject\3073533702_BorelNox\map\Borel_Fig1_RegionalArea.mxd Date Prepared: 1/13/2016 Preparer: A. Clare


North Fork Middle Fork Tule River
North Fork (Doyle) Diversion
South Fork Middle Fork Tule River
Siphon 7 Road
South Fork (Nelson) Diversion
The Stairs
Powder House Road
Flowline Access Trail
Twin Siphons Access Road
190
Middle Fork Tule River
Jeep Trail (Road 24)
Siphon Canyon Road (Road 32)
Forebay
Penstock
SCE Lower Tule River Powerhouse
Powerhouse to Forbay Road
Tailrace
N
0
1,700
3,400
Scale in Feet
SOUTHERN CALIFORNIA EDISON
An EDISON INTERNATIONAL Company
Cardno
Shaping the Future
Penstock
Tailrace
Non-Project General Access Road
Project Road
Trail
Flowline (Canal, Siphon, Flume, Pipe)
USFS Sequoia National Forest
Southern California Edison Company
Appendix A4, Figure 4
Lower Tule River Project (FERC No. 372) Map


Dry Creek
N. Fork Dr.
North Fork Kaweah River
Marble Fork Kaweah River
198
Marble Fork Diversion Dam
(Non-FERC Facility)
Middle Fork Kaweah River
SEQUOIA
NATIONAL PARK
Middle Fork
Diversion Dam
(Non-FERC Facility)
Kaweah No. 3 Powerhouse
Kaweah No. 3 PH to
Three Rivers Substation
Transmission Line
Kaweah No. 2
Diversion Dam
Kaweah No. 3 Flowline
(Non-FERC Facility)
SEQUOIA - KINGS CANYON
WILDERNESS
Kaweah No. 2 Flowline
K3
Forebay
Kaweah No. 3 Flowline
Kaweah No. 1 Powerhouse
K2 Forebay
Kaweah River
Kaweah No. 2 Powerhouse
Dinely Rd
Kaweah River Dr
Craig Ranch Rd
K1 Forebay
Tank
Kaweah No. 1
Diversion Dam
Three Rivers Substation
(Non-FERC Facility)
Kaweah No. 1 Flowline
THREE
RIVERS
East Fork Kaweah River
Mineral King Rd.
USACE Terminus Dam
(Non-FERC Facility)
Lake
Kaweah
South Fork Kaweah River
S. Fork Dr.
JOHN KREBS
WILDERNESS
California
Fresno
Visalia
Lemoore
Delano
99
SEQUOIA
NATIONAL
PARK
SCE Facilities
Powerhouse
Diversion
Utility
Forebay
Gage
Flowline
Penstock
Transmission Line
Project FERC Boundary
Other Features
Dam
City/Town
Highway/Road
Watercourse
Water Body
Land Jurisdiction*
Bureau of Land Management
U.S. Army Corps of Engineers
National Park Service
Private (Blank)
*SOURCE: BLM 2016
Land Management
National Wilderness Area
SOUTHERN CALIFORNIA
EDISON
An EDISON INTERNATIONAL Company
Appendix A4, Figure 5
Kaweah Project (FERC No. 298)
Map
Projection: UTM Zone 11
Datum: NAD 83
Date: 3/28/2019
Southern California Edison (SCE) has no reason to believe that there are any inaccuracies or defects with information incorporated in this work and make no representations of any kind, including, but not limited to, the warranties of merchantability or fitness for a particular use, nor are any such warranties to be implied, with respect to the information or data, furnished herein. No part of this map may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopying and recording system, except as expressly permitted in writing by SCE.
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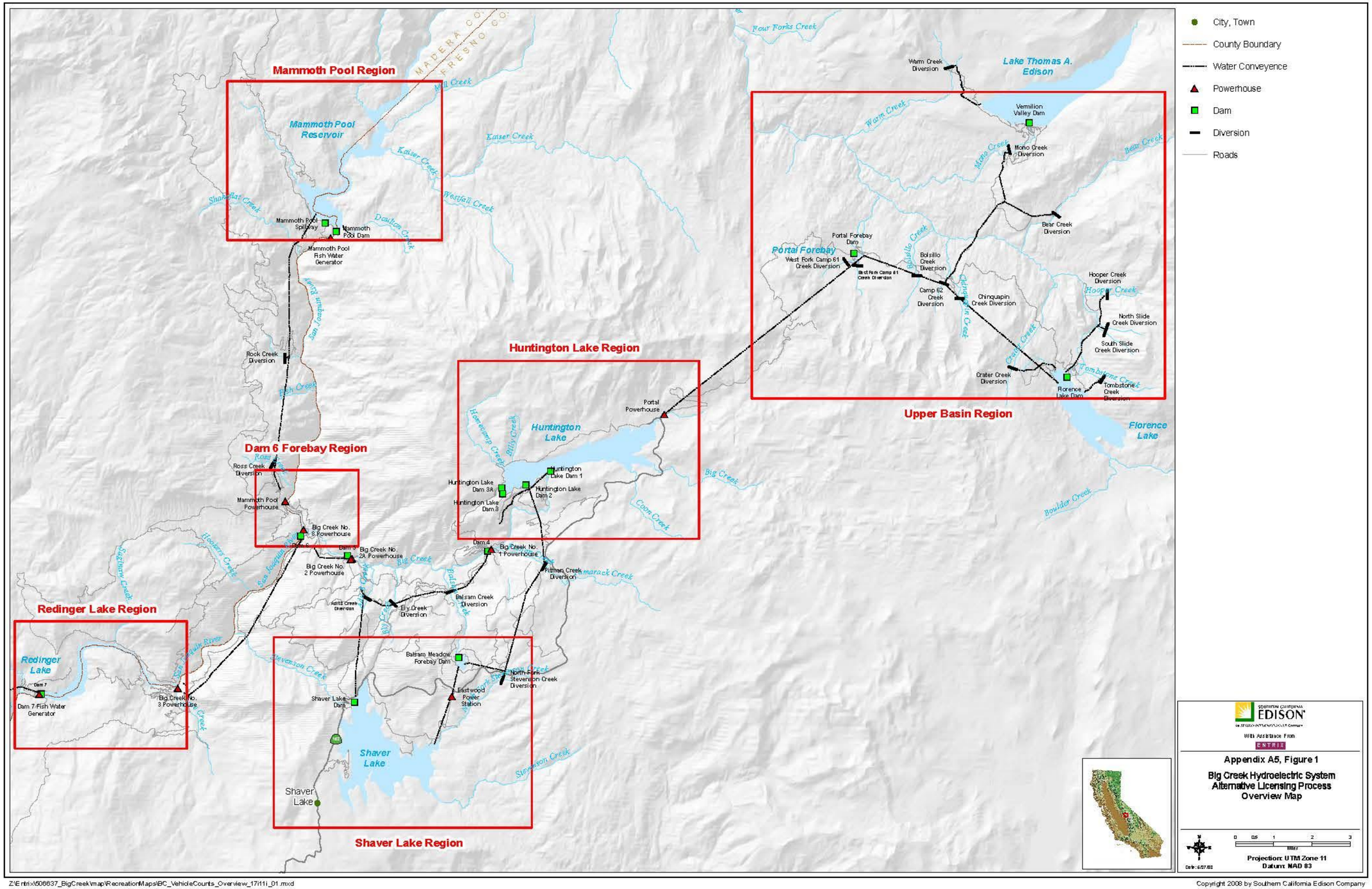
C:\GIS\Cardno\30735240_SCE_EasternHydro\map\Kaweah\SCE_Eastern_KAWEAH_Juris_17i11i_02.mxd


Mammoth Pool Region
Mammoth Pool Reservoir
Mammoth Pool Spillway
Mammoth Pool Dam
Mammoth Pool Fish Water Generator
Rock Creek Diversion
Huntington Lake Region
Portal Powerhouse
Huntington Lake
Huntington Lake Dam 3A
Huntington Lake Dam 3
Huntington Lake Dam 1
Huntington Lake Dam 2
Dam 6 Forebay Region
Ross Creek Diversion
Mammoth Pool Powerhouse
Big Creek No. 3 Powerhouse
Big Creek No. 2A Powerhouse
Big Creek No. 2 Powerhouse
Dam 4
Big Creek No. 1 Powerhouse
Pitman Creek Diversion
Balsam Creek Diversion
Ely Creek Diversion
Redinger Lake Region
Redinger Lake
Dam 7
Dam 7 Fish Water Generator
Big Creek No. 3 Powerhouse
Balsam Meadow Forebay Dam
North Fork Stevenson Creek Diversion
Eastwood Power Station
Shaver Lake Dam
Shaver Lake
Shaver Lake
Shaver Lake Region
Upper Basin Region
Lake Thomas A. Edison
Warm Creek Diversion
Vermilion Valley Dam
Mono Creek Diversion
Bear Creek Diversion
Portal Forebay
Portal Forebay Dam
West Fork Camp 61 Creek Diversion
East Fork Camp 61 Creek Diversion
Bolsillo Creek Diversion
Camp 62 Creek Diversion
Chinquapin Creek Diversion
Hooper Creek Diversion
North Slide Creek Diversion
South Slide Creek Diversion
Crater Creek Diversion
Florence Lake Dam
Tombstone Creek Diversion
Florence Lake
City, Town
County Boundary
Water Conveyence
Powerhouse
Dam
Diversion
Roads
Appendix A5, Figure 1
Big Creek Hydroelectric System
Alternative Licensing Process
Overview Map
Projection: UTM Zone 11
Datum: NAD 83
Z:\Entrix\506837_BigCreek\map\RecreationMaps\BC_VehicleCounts_Overview_17i11i_01.mxd
Copyright 2008 by Southern California Edison Company

Appendix B VM-3 Team Contact List

B.1 SCE License Compliance

Name	Title	Email	Cell Phone
SCE Generation: WMP Team			
Kishore Billapati	**Principal Manager, AMGS**	**Kishore.Billapati@sce.com**	**(909) 243-9483**
Mark Clayton	Generation WMP Program Manager	Mark.Clayton@sce.com	(626) 425-2247
Marcus “Marc” Jones	WMP VM-3 Program Lead	Marcus.D.Jones@sce.com	(559) 368-8872
Marcus “Marc” Jones	Generation Vegetation Manager	Marcus.D.Jones@sce.com	(559) 368-8872
SCE Generation: Regulatory Support Services			
Martin Ostendorf	Sr. Mgr., Hydro Licensing & Implementation	Martin.Ostendorf@sce.com	(916) 798-4535
Stephanie Fincher	Hydro Licensing Compliance Manager (BC)	Stephanie.Fincher@sce.com	(626) 800-9152
David Moore	Hydro Licensing Compliance Manager (SW)	David.Moore@sce.com	(626) 999-6101
Mary "Meg" Richardson	Hydro Licensing Compliance Manager (BC)	Mary.M.Richardson@sce.com	(626) 238-2902
Matthew Woodhall	Hydro Licensing Compliance Manager	Matthew.Woodhall@sce.com	(909) 362-1764
SCE Generation: Western Operations			
Southwest Productions (Kern, Borel, Kaweah and Lower Tule)			
Dan Keverline	SW Operations AOR Manager	Daniel.Keverline@sce.com	(760) 379-7978
Kern River/Borel			
Brian Lee	AOR Manager	Brian.Lee@sce.com	(760) 377-7048
Ramon Anzaldo “El Jefe”	AOR Ops Chief	Ramon.Anzaldo@sce.com	(760) 223-1965
Justin Humphers	AOR Civil Foreman (Veg.)	Justin.L.Humphers@sce.com	(760) 464-8827 (760) 223-1468
Kaweah/Tule			

Name	Title	Email	Cell Phone
Brian Lee	AOR Manager	Brian.Lee@sce.com	(760) 377-7978
Gaspar Lopez	AOR Civil Foreman (Veg.)	Gaspar.Lopez@sce.com	(559) 280-2701
Big Creek			
Jay Kimbler	Operations Manager	Jay.Kimbler@sce.com	(559) 999-9630
Brian Ward	Maint. (Elect.) Manager	Brian.Ward@sce.com	(559) 331-0752
Marcus "Marc" Jones	Vegetation Manager	Marcus.D.Jones@sce.com	(209) 828-1235
Upper Canyon:			
Cyruss Lamarsna	AOR Ops Chief	cyruss.b.lamarsna@sce.com	(559) 513-3058
George Munguia	AOR Manager (ICE Techs)	George.Munguia@sce.com	(559) 246-9791
Mid Canyon:			
Shawn Thomure	AOR Ops Chief	Shawn.Thomure@sce.com	(559) 974-8669
James Stowe	AOR Manager (ICE Techs)	James.Stowe@sce.com	(714) 401-4265
Lower Canyon:			
Jonathan Heirendt	AOR Ops Chief	Jonathan.Heirendt@sce.com	(559) 960-2778
Marco "Vince" Morales	AOR Manager (ICE Techs)	Marco.Morales@sce.com	(559) 568-8828
Planners:			
David McFadden	Planner	David.Mcfadden@sce.com	(559) 676-8033
John Kuhner	Planner	John.Kuhner@sce.com	(559) 353-0777
SCE Generation: Eastern Operations			
Bishop			
Charles "Alan" Partridge	AOR Manager (ICE Techs)	Charles.Partridge@sce.com	(760) 937-6225
James Wagoner	AOR Civil Foreman (Veg.)	James.Wagoner@sce.com	(760) 937-3057
Seth Carr	ICE Tech	Seth.Carr@sce.com	(760) 937-1451
Paul Schmidt	Hydro Operator Mech	Paul.Schmidt@sce.com	(760) 937-4885
Travis Dagenhart	Planner (Bishop)	Travis.Dagenhart@sce.com	(760) 937-0915

Name	Title	Email	Cell Phone
East End			
Dean Caskey	Mech/Civil Sup	Dean.Caskey@sce.com	(909) 557-7424
Paul Atamian	ICE/Test Sup	Paul.Atamian@sce.com	(909) 307-6811
Catalina			
John Long	Local Catalina Veg Support/lots of other things	John.Long@sce.com	(310) 702-5304
David Grey	Planner	David.Grey@sce.com	(310) 510-4352 (office)
John "Jay" Martin	Production Sup (ICE Techs)	John.Martin@sce.com	(928) 503-3902 (office)
Eduardo "Eddie" Morones	ICE Tech	Eduardo.Morones@sce.com	(310) 510-4379 (office)
Frank Beach	Water and Gas Prod. Sup (O&M Veg. Crew via "Water crew")	Frank.D.Beach@sce.com	(310) 510-4360 (office)

B.2 Subcontractors and Vegetation Specialist Contractors

Name	Title	Email	Cell Phone
Vermilion Resource Management			
Julianne Stewart	Senior Technical Lead VM-3	Stewart.juli@gmail.com	(559) 500-9727
Meghan Breniman	Registered Professional Forester	Meghan.breniman@gmail.com	(831) 682-1039
Cardno			
Crystal West	Senior Consultant/Project Manager	Crystal.west@cardno.com	(760) 920-1464
Tamara Klug	Principal Botanist	Tamara.klug@cardno.com	(805) 689-5986
Keven Ann Colgate	Senior Project Scientist/Arborist	Kevenann.colgate@cardno.com	(805) 444-1063
Sarah Hoff-Phillips	Environmental Scientist	Sarah.hoff-phillips@cardno.com	(206) 650-4633
Psomas			
Brad Blood	Senior Biologist/Associate/PM	bblood@psomas.com	(714) 514-7338
Trevor Bristle	Biologist/Arborist	trevor.bristle@psomas.com	(630) 235-2113
David T. Hughes	Senior Project Manager/Arborist	david.t.hughes@psomas.com	(626) 354-0556

Appendix C Field Notification and Safety Forms

SCE HYDRO FERC LICENSE AND COMPLIANCE
PERSONNEL FIELD SHEET (PFS)

				DATE	MM/DD/YY
EMPLOYER	Cardno		WORK SUPERVISOR		
☐NHR REP/☑SCE REP				PHONE	
BACK UP ☐NHR/☑SCE REP				PHONE	
AREA MANAGER CONTACT				PHONE	
WORK SITE	Location: City, Nearest Hwy, Hydro Facility feature (i.e., Mill Creek powerhouse #1), etc.				
WORK TO BE PERFORMED	Provide a description of work tasks and approximate locations, attach map(s) if necessary.				
DATES:	FROM –	MM/DD/YY	WORK HOURS:	FROM –	7:00 a.m. (approx.)
	TO –	MM/DD/YY		TO –	5:00 p.m. (approx.)
NUMBER OF CREW MEMBERS					
NUMBER OF VEHICLES ON SCE COMPANY PROPERTY	Enter #				
MARKING ON VEHICLES	Make, model, color, vehicle magnet or dashboard sign?				
VEHICLE LICENSE NUMBERS	license plate # (if known)				
HOW TO REACH IN CASE OF EMERGENCY (2 CONTACTS)					
Name: Phone #: Relationship:			Name: Phone #: Relationship:		
SPECIAL INSTRUCTIONS	Access needed? Keys? Escort? Describe daily safety check-in/out procedure.				

cc:

SCE REPRESENTATIVE		
	Signature	Date

EDISON INTERNATIONAL®

TEMPORARY Visitor Guidelines

COVID-19

GUIDELINES FOR HOSTING VISITORS AT EDISON FACILITIES

To reduce the risk of exposure to COVID-19, a more restrictive visitor protocol is being implemented. If you are an employee who has job duties that require you to be physically on-site, effective immediately, **all in-person meetings with external visitors that are not business-critical must be conducted telephonically or virtually. If in-person meetings must occur, use these enhanced guidelines.**

Examples of essential visitors or in-person business meetings include:

- Any in-person interaction that is essential for the company to function or would have a significant negative impact to the company if we did not host it. This includes meetings with key stakeholders (e.g., senior government or emergency management officials).
- A meeting that cannot be conducted virtually and will significantly impact the business if it is not conducted (e.g., certain critical job interviews). Delays in performing this work would impact system reliability or critical care customers.
- Critical deliveries.
- Hosting any in-person meeting required by law, court order or a regulatory agency where postponement or teleconference is not available.

Please be aware that a COVID-19 advisory asking visitors to advise their host if they or someone they have been in close contact with is experiencing symptoms of COVID-19 will be posted at all visitor entry points. COVID-19 symptoms include fever, cough and shortness of breath.

IF YOU ARE HOSTING A VISITOR, PLEASE REINFORCE THIS MESSAGE: NO VISITOR WILL BE ALLOWED ON-SITE IF THEY OR SOMEONE THEY HAVE BEEN IN CLOSE CONTACT WITH ARE COVID-19 SYMPTOMATIC.

When hosting visitors, use the following guidelines:

Prior to their arrival, email your visitors the **visitor screening questionnaire** and have them send it back to you. Then forward the completed questionnaire to Visitor.Clearance@sce.com. The questionnaire captures visitor's information and asks several COVID-19 related questions.

If your visitors answer yes to any of the questions, cancel or postpone your meeting. Consider what part of your interaction with the visitor could still be done telephonically/virtually.

EDISON INTERNATIONAL®

TEMPORARY Visitor Guidelines

COVID-19

Once your visitors arrive on-site, follow these guidelines:

- Confirm the responses to the visitor screening questionnaire remain accurate. If your visitors answer yes to any of the questions, they must leave the facility.
- Replace handshakes with a friendly elbow bump or verbal greeting.
- Practice social distancing, which means that you maintain a distance of 3 to 6 feet from others as much as possible.
- Limit your visitors to one location while on-site and limit your visitors' interactions with other employees to only employees who must attend the scheduled meeting. Escort your visitors at all times while practicing social distancing.
- Shared meals should be avoided. If your meeting requires catering, please request meals be delivered in individually packaged containers.
- As an Edison representative, you are responsible for your visitors. Please ensure that you and your visitors follow section 2.1.3 of the **Physical Security and Cybersecurity policy**.

If you have any questions, please contact the EIC Hotline at 1-800-500-4723. Visit the COVID-19 **Portal page** (Company > Key Initiatives > Coronavirus) for updated information as it becomes available.

SCE VISITOR SCREENING QUESTIONNAIRE

Name of Visitor

Phone Number of Visitor

Email Address of Visitor

Date of Visit

Name of Employee You Are Visiting

Email of Employee You Are Visiting

Location of Visit

Reason for Visit

Are you or anyone you are in close contact with experiencing the following symptoms**: Fever, Cough, Shortness of Breath**?

Yes

Have you or a member of your immediate household tested positive for COVID-19, are exhibiting symptoms of COVID-19 or been exposed to a person exhibiting the symptoms of COVID-19, or to a person that developed the symptoms of COVID-19 within 14 days of your exposure to that person, or did you or any member of your immediate household travel on a cruise, or through any international or high-risk domestic location?

Yes

Have you been exposed to anyone who has a confirmed case of COVID-19 or is suspected of having COVID-19?

Yes

Name Date

By providing my name on the line above, I certify that the above information is true and correct

Energy for What's Ahead℠

SOUTHERN CALIFORNIA EDISON
An EDISON INTERNATIONAL® Company

July 17, 2020
TO WHOM IT MAY CONCERN

SUBJECT: Travel Access for Critical Work - Electrical Services and Materials Support

This confirms the individual identified below and bearing this memorandum is the employee, contractor or subcontractor of the company named below (Contractor). Contractor supports Southern California Edison Company's (SCE) essential electrical services or materials supply efforts required to maintain the essential service of electrical power and is authorized by SCE to travel for purposes of conducting their work.

Type of essential electrical services performed is described as follows:

Environmental remediation/monitoring technicians

Duration: Effective July 17th, 2020 through December 31st, 2020
Name of Contractor: CARDNO, INC.

Name of Contractor Employee/Contractor/Subcontractor: _____

We appreciate your assistance in allowing this individual to travel to and from their work destination. If you have questions regarding this memorandum, please contact the SCE Supply Management contact for this work:

Mariann Lin, who may be reached at Mariann.Lin@sce.com or by phone: 6264764123

Thank you for your assistance with Southern California Edison's efforts to maintain electric services safely and efficiently.

Sincerely,

ken Landrith
_____
Kenneth Landrith
Director, Supply Chain Management

Southern California Edison
2244 Walnut Grove Ave – 1st Floor
Rosemead, CA 91770

Letter to Supplier 13004534

SOUTHERN CALIFORNIA EDISON

APPROVED CONTRACTOR FOR SOUTHERN CALIFORNIA EDISON
Protecting the Environment

Southern California Edison (SCE) is **required** by federal and state environmental laws protecting environmental resources to ensure electrical work activities avoid harm or damage to the environment while providing safe and reliable electricity to customers.

Environmental inspections are performed as part of SCE's Environmental Compliance Program to avoid and protect environmental resources like nesting birds, other protected wildlife, and archaeological artifacts when performing maintenance activities on electrical equipment located **on/near** customer property.

Approved SCE Environmental Contractors perform environmental inspections (i.e. nesting bird surveys, archaeological surveys) along electrical lines and poles/towers **prior** to start work of electrical maintenance activities (e.g. pole replacement, tree trimming, tree removal). Approved SCE Environmental Contractors may need to access private or public paved/unpaved roads or trails in addition to customer property to perform environmental inspections.

Approved SCE Environmental Contractors will carry a form of company identification (e.g. business card) and appropriate field attire (e.g. high visible construction vest). Approved SCE Environmental Contractors do not need to go into buildings or residential homes to complete environmental inspections.

Approved SCE Environmental Contractors

- Cardno, Inc.
- Applied Earthworks
- Bargas Consulting
- Blair, Church & Flynn
- Bloom Biological
- Blue Rock Services
- BRC
- Cogstone
- Cornerstone Development Company
- Forde Biological
- Janelle Nolan & Associated (JNA)
- Livewire Ecological Consulting
- Material Culture Consulting, Inc.
- McCormick Biological
- PAX
- Paleo Solutions, Inc.
- SummitWest Environmental, Inc.

If you have any questions or concerns, please contact me at 626-222-4254 or SCE Customer Service at 800-990-7788.

This letter valid through December 31, 2021.

Thank you,

Jennifer Leung
Environmental Clearance
Manager, Environmental Services Department
Southern California Edison
626.222.4254

Appendix D VM-3 Desktop Review Instructions

D.1 VM-3 Expanded Clearances

Desktop Review Instructions

1. Evaluate the site using aerial/Google Earth imagery, photographs, or any other available sources
   a. For those with SCE AGOL access: https://sce2.maps.arcgis.com/apps/webappviewer/index.html?id=99d8b89ae06e400d8ae13e7feeaf2974
2. Determine if there may be a need for an Operations Escort to the facility
   a. Populate Escort Required? field
      i. If site is near HV electrical yards (substations, switchyards, transformer banks, etc.) at minimum a Notification will be required. If site does not require entry into gate or PH itself, a Notification may be sufficient, select "Notify"
      ii. If site requires entry into locked gates of a HV compound (above) or PH, then an escort is required, select "Yes"
      iii. If there does not appear to be any restricted/HV areas around the facility, select "No"
   b. Take notes on how site(s) can be accessed to plan for Field Inspection
      i. Some questions: Are keys needed to open gates? Site near paved road? Or miles along dirt access road? Any major water feature crossings?-If so, may want to ask Operations about condition of road (is it passable).
3. Review Clearance Target field and confirm it appears to match guidance based on asset type
   a. Contact Technical/SCE Program Lead if there appears to be an issue/error with the target distance
4. Based on Clearance Target and site conditions from Aerial imagery/desktop methods, populate notes about the Remediation Treatment needed
   a. Remediation Notes – populate with any estimates of extent of type of clearing work needed for the site/facility. Can also populate with the anticipated Vegetation community/fuel density present. Anticipated level of effort (low, med, high) can also be populated here.
   b. Risk Priority –default = populate the field according to the HFRA Tier area (Extreme or Elevated) and whether HV or LV. However, this is meant to be a subjective/risk-based priority determined from all available inputs; with 4 being the lowest risk. Some LV sites may warrant a higher classification based on concerns with current vegetation encroachment/density and some HV sites may be lower risk if there is already a good amount of clearance around the facility (or non-vegetated surfaces such as concrete or asphalt).
      i. If field is populated with text (low, med, high), convert to the risk numbering system.
   c. Notes/Questions – a free-text field that can be utilized for any questions that may not fit into one of the above categories.
      i. Can also use to schedule proposed Field visit dates, as needed
5. Once complete with the Desktop Review,
   a. Change VM-3 Work Status to "Desktop Review Complete"

b. Change EC Desktop Review Complete field to “Yes”.

Main Data Fields to Populate During Desktop Review

Editable	Escort Required?	Notify Yes – Escort No TBD	Helps for planning Field inspection and whether operations escort is needed.
Editable	Remediation Notes	255 char	Notes field for Remediation comments. May be completed in Desktop review or in Field
Editable	Risk Priority	1-4	Default guidance: 1-Extreme & HV, 2- Extreme & LV, 3-Elevated/HV, 4- Elevated/LV However, risk can be increased for sites as warranted. Look in the site’s fields below as inputs for populating risk: 
Editable	VM-3 Work Status	Drop down	Overall treatment status for each site and tracks workflow through various stages of Program
Editable	EC Desktop Review Complete	Drop down: Yes Need	Populate “Yes” when complete.
Editable	Est Veg Effort/hrs	est # hours required to mitigate	Used to calculate overall level of effort (to drive scope/budget, scheduling) and determine appropriate crew for treatment
Editable	Notes/Questions	255 char	Notes field for other comments. May be completed in Desktop review or in Field

Appendix E ArcGIS Collector Guide Data Dictionary

An SCE-issued email and AGOL account is required to access this. The Program Lead manages access to the VM-3 maps and databases. Access through GIS Informatics group is required to access SCE data, including asset/facility information.