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Appendix 3.3B

Built Environment Inventory and Evaluation Report

1 of 4

Built Environment Inventory and Evaluation Report

Prairie Song Reliability Project Los Angeles County, California

JUNE 2025

Prepared for:

PRAIRIE SONG RELIABILITY PROJECT LLC

Prepared by:

Katie Ahmanson, MHC

Claire Cancilla, MSHP

Patricia Ambacher, MA

DUDEK

1810 13th Street, Suite 110

Sacramento, California 95811

Contact: Patricia Ambacher, MA

pambacher@dudek.com

916.709.7761

Acknowledgments

Primary Report Authors: This report was primarily prepared by Katie Ahmanson, MHC, and Claire Cancilla, MSHP, who meet the Secretary of the Interior's Professional Qualification Standards for architectural history. Resumes are included in Appendix A.

Report Contributions: The report was also prepared with contributions from Danielle Baza, BA (MA Candidate), Claire Flanegin, MA. Ms. Flanegin meets the Secretary of the Interior's Professional Qualification Standards for architectural history and history. Senior Architectural Historian Patricia Ambacher, MA, who meets the Secretary of the Interior's Professional Qualification Standards for architectural history and history, provided quality assurance/quality control and senior review of the report. Resumes are included in Appendix A.

Team Support: Kyle Holmes, GIS analyst, managed the geographic information system data and created the figures in the report.

Intended Use: This report is intended for the Client's and its representatives' exclusive use. Based on the results of Dudek's investigation, it contains professional conclusions and recommendations concerning the potential for project-related impacts to cultural resources. It should not be considered to constitute project clearance with regard to the treatment of cultural resources or permission to proceed with the project described in lieu of review by the appropriate reviewing or permitting agency. This report should be submitted to the appropriate federal, state, and local review agencies for their comments prior to the commencement of the project.

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Executive Summary

Prairie Song Reliability Project LLC retained Dudek to prepare a built environment inventory and evaluation report for the Angelino Energy Storage System Project (Project), an up to 1,150-megawatt battery energy storage system located on up to approximately 107 acres in unincorporated Los Angeles County, California. The primary components of the Project include a containerized battery energy storage system facility utilizing lithium-iron phosphate cells, or similar technology, operations and maintenance buildings, a project substation, a 500-kilovolt (kV) overhead generation interconnection transmission line (gen-tie), and interconnection facilities within the existing Southern California Edison owned and operated Vincent Substation. For the purposes of this report, the project site is defined as the Battery Energy Storage System Facility Site, the Northern and Southern Gen-Tie Routes, and the Southern California Edison Vincent Substation to which the Project components will connect.

This report documents Dudek's efforts to identify and evaluate built environment cultural resources consistent with the requirements of the California Environmental Quality Act and Title 20 of the California Code of Regulations Division 2, Chapter 5, Appendix B (Information Requirements for Application for Certification or Small Power Plant Exemption). These efforts included a review of records from the California Historical Resources Information System, the development of a study area and an Area of Potential Impacts, an intensive-level survey of the study area for built resources of historic age (45 years of age or older), property development and archival research, the creation of an appropriate historic context, and recordation and evaluation of historic-era properties, and linear features, using the National Register of Historic Places, California Register of Historical Resources (CRHR), and the Los Angeles County Register of Landmarks and Historic Districts evaluation criteria.

Dudek's archival research and field survey found 38 historic-age resources within the study area that required inventory and evaluation. Two properties were previously evaluated for the NRHP and the CRHR. Map ID 3, the Eagle Rock-Pardee and Antelope-Vincent No. 1 Transmission Corridor (P-19-186876) was recorded under multiple different names between 2003 to 2011.¹ The transmission line has a status code of 2S/2D2 (Individually determined eligible for the NRHP by the Keeper. Listed in the CRHR/Contributor to a multi-component resource determined eligible for the NRHP by consensus through Section 106 process. Listed in the CRHR). The segment in the study area was field checked, and it appears the towers in the study area have been replaced/upgraded to 500kV as part of Southern California Edison's Tehachapi Renewable Transmission Project, completed in 2016. Map ID 9, Angeles Forest Highway (P-19-187713) was previously recorded and recommended not eligible. Dudek updated the record for the segment of the highway located within the study area and concurred with the previous finding of ineligibility. The remaining buildings and structures include a substation, two transmission lines, a railroad segment, a fire station, and 32 single-family residences.

Map ID 2 (Midway-Vincent No. 1 and No 2. 500kV Transmission Lines) and Map ID 3 (Lugo-Vincent No. 1 and No 2. 500kV Transmission Lines) were previously unrecorded and found eligible for the NRHP, CRHR, and Los Angeles County Register of Landmarks and Historic Districts under Criteria A/1/1 and C/3/3 and were assigned status codes of 3S (Appears eligible for NRHP through survey evaluation). Map ID 1 and Map ID 4 through Map ID 38 were found not eligible for the NRHP, CRHR, or Los Angeles County Register of Landmarks and Historic Districts and assigned status codes of 6Z (found ineligible for the NRHP, CRHR, or local designation through survey evaluation).

¹ Dudek uses Eagle Rock-Pardee & Antelope-Vincent No. 1 Transmission Corridor throughout this report for consistency with the resource name provided by the South Central Coastal Information Center.

In summary, two eligible historical resources were identified that may be potentially affected by the Project: Map ID 2 and Map ID 3. However, the project does not propose any components that would alter the function, alignment, or transmission towers of Map ID 2 or Map ID 3. Therefore, the proposed project would not cause an impact to historical resources and no further study is recommended.

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A Professional Qualifications

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Acronyms and Abbreviations

Acronym/Abbreviation	Definition
AC	alternating current
API	Area of Potential Impacts
APN	Assessor's Parcel Number
BESS	battery energy storage system
BPA	Bonneville Power Administration
CCR	California Code of Regulations
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
County Register	Los Angeles County Register of Landmarks and Historic Districts
CRHR	California Register of Historical Resources
DC	direct current
DPR	Department of Parks and Recreation
kV	kilovolt
MW	megawatt
NRHP	National Register of Historic Places
OHP	Office of Historic Preservation
PG&E	Pacific Gas and Electric
PRC	Public Resources Code
project	Prairie Song Reliability Project
SCE	Southern California Edison
SPRR	Southern Pacific Railroad

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1 Introduction

This Built Environment Inventory and Evaluation Report documents the identification and evaluation of built environment cultural resources within or adjacent to the Prairie Song Reliability Project (project), an up to 1,150-megawatt battery energy storage system (BESS). The primary components of the project include a containerized BESS facility utilizing lithium-iron phosphate cells, or similar technology, operations and maintenance buildings, a project substation, a 500-kilovolt (kV) overhead generation interconnection transmission line (gen-tie), and interconnection facilities within the existing Southern California Edison (SCE) owned and operated Vincent Substation.

This report includes the following components: (1) an introduction including project location, description, regulatory context, and the Area of Potential Impacts (API); (2) background research, which includes a focused records search review of previously recorded built environment resources included in the California Historical Resources Information System, a review of archival resources including historical maps and aerial photographs, and the field methodology and the intensive-level survey of the study area; (3) the historic context for the project area; (4) property histories, property descriptions, and evaluations under National Register of Historic Places (NRHP), California Register of Historical Resources (CRHR), and Los Angeles County Register (County Register) listing criteria for all resources within the study area; (5) a summary of findings and conclusions; and (6) a list of references used to complete this report.

1.1 Project Location

The project is located within the northeast portion of unincorporated Los Angeles County, California, along the south side of California State Route 14, approximately 3 miles northeast of the unincorporated community of Acton. The project is within the USGS 7.5-minute Acton and Pacifico Mountain Quadrangles, Township 5N, Range 12W, Sections 27, 28, 33 and 34. The BESS Facility Site is comprised of Assessor's Parcel Numbers (APNs) 3056-017-007, 3056-017-020, 3056-017-021, 3056-019-013, 3056-019-026, 3056-019-037, and 3056-019-040. Development of the BESS facility will occur on an area of land situated between two existing transportation corridors, the Antelope Valley Freeway (State Route 14) to the north and Southern Pacific Railroad (SPRR) lines and Carson Mesa Road to the south, that are approximately 1,200 feet apart.

The project will utilize one of two potential gen-tie routes, the Northern Gen-Tie Route or the Southern Gen-Tie Route. Either route will extend south and east from the project substation, crossing SPRR tracks and West Carson Mesa Road, and then proceed northeast to the Point of Interconnection (POI) at the SCE Vincent Substation. The Northern Gen-Tie Route is approximately 1.1 miles long, and will be sited on APNs 3056-015-008, 3056-015-023, 3056-017-026, 3056-017-904, and 3056-017-905, 3056-005-816, 3056-005-817, 3056-005-818, 3056-015-801, and 3056-015-802. The Southern Gen-Tie Route is approximately 1.8 miles long, and will be sited on APNs 3056-015-008, 3056-015-023, 3056-017-016, 3056-017-022, 3056-017-026, 3056-017-027, 3056-017-028, 3056-027-007, 3056-027-031, 3056-005-816, 3056-005-817, 3056-005-818, 3056-015-801, and 3056-015-802. The project will also include three fiber optic telecommunications lines: one will be installed aboveground on the gen-tie structures (along whichever gen-tie route is ultimately selected), and the other two will be installed underground within the Southern Gen-Tie Route corridor. The two other fiber optic lines will be installed underground within the Southern Gen-Tie Route corridor regardless of which Gen-Tie Route corridor option is selected. The project's interconnection facilities will be located within the SCE Vincent Substation. Land uses in the

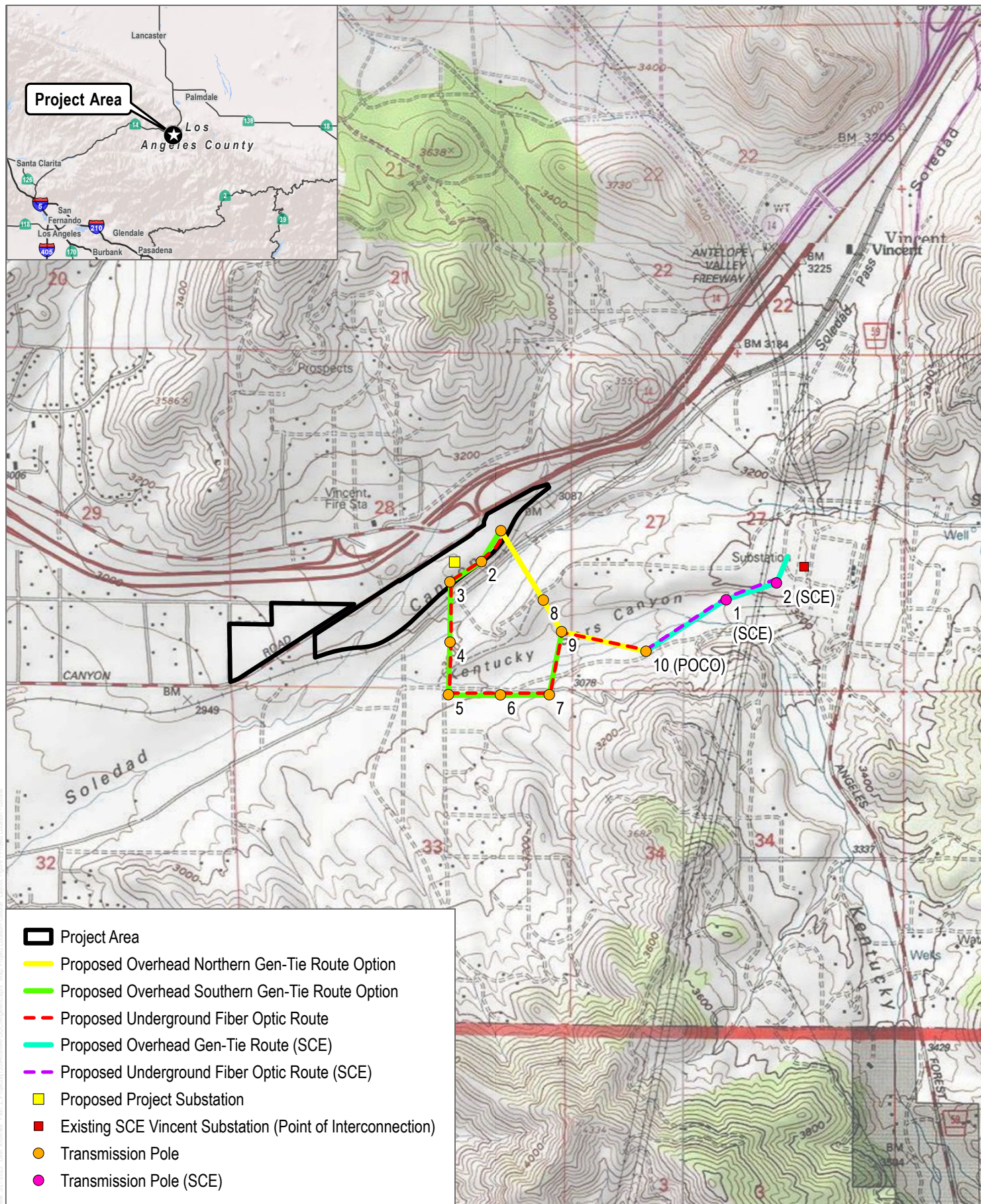
immediate vicinity of the project include undeveloped and rural lands, multiple high-voltage transmission lines and an electrical substation, paved and rural roads, State Route 14, and railroad lines.

Five historic-age properties are potentially affected by the project, including the Southern California Edison (SCE) Vincent Substation at 33301 Angeles Forest Highway (APN 3056-015-800), a single-family residence at 815 Kentucky Springs Road (APN 3056-015-008; associated with the Northern Gen-Tie Route), and three transmission lines associated with the substation (Figure 1, Project Location).

1.2 Project Overview

Prairie Song Reliability Project LLC (Applicant), a subsidiary of Coval Infrastructure DevCo LLC, proposes to construct, operate, and eventually repower or decommission the up to 1,150-megawatt (MW) Prairie Song Reliability Project (project) located on up to approximately 107 acres in unincorporated Los Angeles County. The primary components of the project include a containerized battery energy storage system (BESS) facility utilizing lithium-iron phosphate cells, or similar technology, operations and maintenance buildings, an on-site project substation, a 500kV overhead generation interconnection (gen-tie) transmission line, and interconnection facilities within the existing SCE Vincent Substation. Electrical energy will be transferred from the existing power grid to the project for storage and from the project to the power grid when additional electricity is needed. The project will provide additional capacity to the electrical grid to assist with serving load during periods of peak demand by charging when demand is low and discharging when demand is high. This operating principle increases the integration of additional intermittent renewable energy, such as wind and solar, in California's energy mix and reduces the need to operate natural gas power plants. The project will also serve as an additional local/regional capacity resource that will enhance grid reliability, particularly to the Los Angeles Basin local reliability area and may allow for the deferral or avoidance of regional transmission facilities.

The project will be remotely operated and monitored year-round as well as supported by on-site operations and maintenance staff 7 days a week. The project will be available to receive or deliver energy 24 hours a day and 365 days a year. During the operational life of the project, qualified technicians will inspect the project facilities and conduct necessary maintenance to ensure reliable and safe operational readiness.



SOURCE: USGS 7.5' Series 1:24,000
 Acton Quadrangle - Township 5N Range 12W Section 28

DUDEK



0 1,000 2,000 0 280 560
 Feet Meters

FIGURE 1
 Project Location

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1.3 Regulatory Setting

While the project as currently planned is subject only to state and local regulations, federal regulations are also provided here for reference should they be relevant in the future. The following sections provide a brief overview of the federal and state regulatory framework that historic properties and historical resources are identified and evaluated.

1.3.1 Federal

National Register of Historic Places

Authorized by the National Historic Preservation Act of 1966, the NRHP is the nation's official list of buildings, structures, objects, sites, and districts worthy of preservation because of their significance in American history, architecture, archaeology, engineering, and culture. To be listed in or eligible for listing in the NRHP a property must meet one or more of the following key criteria to be considered significant:

- A. It is associated with events that have made a significant contribution to the broad pattern of our history; or
- B. It is associated with the lives of people significant in our past; or
- C. It embodies the distinct characteristics of a type, period, or method of construction, or that represents the work of a master, or that possesses high artistic values, or it represents a significant and distinguishable entity whose components may lack individual distinction; or
- D. It has yielded, or is likely to yield, information important in prehistory or history (See, 36 Code of Federal Regulations [CFR] 60.4).

In addition to meeting one of the above criteria, to be eligible for the NRHP, a property must retain integrity to convey its significance. Integrity is assessed through seven key aspects: location, design, setting, materials, workmanship, feeling, and association (36 CFR 60.4).

Resources that are not commonly found eligible for listing in the NRHP are cemeteries, birthplaces, graves of historic figures, properties owned by religious institutions or used for religious purposes, structures that have been moved from their original locations, properties that have been reconstructed, properties principally commemorative in nature, and properties that are not yet 50 years of age. (36 CFR 60.4) However, these types of properties may be eligible for the NRHP if they are essential features of eligible districts or resources, or meet the criteria considerations described in 36 CFR 60.4.

California properties listed in or determined eligible for listing in the NRHP are automatically listed on the CRHR (California Public Resources Code [PRC] Section 5024.1[d][1]).

1.3.2 State

California Environmental Quality Act (PRC Section 21083.2) and CEQA Guidelines (14 CCR Section 15064.5)

CEQA requires that the lead agency consider the impacts of a project on historical resources. PRC Section 21084.1 defines historical resources as those listed, or determined to be eligible for listing, in the CRHR. Resources that are officially designated or recognized as historically significant by a local government pursuant to a local county or city ordinance or jurisdiction or deemed significant pursuant to criteria set forth in PRC Section 21084.1 are presumed to be historically or culturally significant under CEQA unless the preponderance of the evidence demonstrates that the resource is not historically or culturally significant. Historical resources also include “historic properties” in California that are listed, or determined eligible for listing, in the NRHP and CRHR. The CEQA Guidelines provide specific guidance for determining the significance of impacts on historical resources. As described in Section 15064.5(b) of the CEQA Guidelines, a “project with an effect that may cause a substantial adverse change in the significance of an historical resource is a project that may have a significant effect on the environment.”

- A substantial adverse change in the significance of an historical resource means physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource would be materially impaired (Section 15064.5[b][1]).
- The significance of an historical resource is materially impaired when a project:
 - Demolishes or materially alters in an adverse manner those physical characteristics of an historical resource that convey its historical significance and that justify its inclusion in, or eligibility for, inclusion in the CRHR (Section 15064.5[b][2][A]); or
 - Demolishes or materially alters in an adverse manner those physical characteristics that account for its inclusion in a local register of historical resources pursuant to section 5020.1[k] of the PRC or its identification in an historical resources survey meeting the requirements of section 5024.1[g] of the PRC, unless the public agency reviewing the effects of the project establishes by a preponderance of the evidence that the resource is not historically or culturally significant (Section 15064.5[b][2][B]); or
 - Demolishes or materially alters in an adverse manner those physical characteristics of a historical resource that convey its historic significance and that justify its inclusion in the CRHR as determined by a lead agency for purposes of CEQA (Section 15064.5[b][2][B]); or

The CEQA Guidelines also provide guidance on minimizing or avoiding significant adverse impacts on historical resources as outlined in the following provisions of Section 15064.5(b)(3)-(5).

- Generally, a project that follows the Secretary of the Interior’s Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings or the Secretary of the Interior’s Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings (1995), Weeks and Grimmer, shall be considered as mitigated to a level of less than a significant impact on the historical resource (Section 15064.5[b][3]).

- A lead agency shall identify potentially feasible measures to mitigate significant adverse changes in the significance of an historical resource. The lead agency shall ensure that any adopted measures to mitigate or avoid significant adverse changes are fully enforceable through permit conditions, agreements, or other measures (Section 15064.5[b][4]).
- When a project will affect state-owned historical resources, as described in PRC Section 5024, and the lead agency is a state agency, the lead agency shall consult with the State Historic Preservation Officer as provided in PRC Section 5024.5. Consultation should be coordinated in a timely fashion with the preparation of the environmental documents (Section 15064.5[b][5]).

California Register of Historical Resources (California Public Resources Code Section 5024.1 and 14 California Code of Regulations Section 4850)

PRC Section 5024.1 establishes the CRHR, which lists all significant resources in California that are considered to be historical resources. In California, the term “historical resource” includes, but is not limited to, “any object, building, structure, site, area, place, record, or manuscript which is historically or archaeologically significant, or is significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California” (PRC Section 5020.1[j]). In 1992, the California legislature established the CRHR “to be used by state and local agencies, private groups, and citizens to identify the state’s historical resources and to indicate what properties are to be protected, to the extent prudent and feasible, from substantial adverse change” (PRC Section 5024.1[a]). The criteria for listing resources in the CRHR were expressly developed to be in accordance with previously established criteria developed for listing in the NRHP. As such, a resource is considered historically significant if it meets at least one of the following criteria outlined under PRC Section 5024.1(c):

1. Is associated with events that have made a significant contribution to the broad patterns of California’s history and cultural heritage.
2. Is associated with the lives of persons important in our past.
3. Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values.
4. Has yielded, or may be likely to yield, information important in prehistory or history.

In addition to meeting one of the significance criteria described in PRC Section 5024.1(c), a resource must also possess sufficient integrity to qualify for listing in the CRHR. Integrity as defined in 14 California Code of Regulations (CCR) Section 4852(c) as “the authenticity of an historical resource’s physical identity evidenced by the survival of characteristics that existed during the resource’s period of significance” as evaluated with regard to the resource’s retention of location, design, setting, materials, workmanship, feeling, and association. Historical resources that lack sufficient integrity to meet the criteria for listing in the NRHP may still be eligible for listing in the CRHR if they have the potential to yield significant scientific, historical information, specific data. The CRHR has three special considerations for resources described under 14 CCR Section 4852(d).

The CRHR includes not only listed prehistoric and historic cultural resources but also resources that are identified through local historical resource surveys or designated under local ordinances provided the survey and ordinance meet the criteria in 14 CCR Section 4852(e) and (f).

Assembly Bill 205 and 20 CCR Division 2 Chapter 5

Assembly Bill 205 broadened the California Energy Commission's (CEC) authority to oversee the permitting of clean and renewable energy facilities, including energy storage systems. Known as the Opt-In Certification Program, this permitting process offers applicants an optional pathway to submit a project application and facilities faster development of renewable energy technologies. Under Assembly Bill 205, the CEC is the lead CEQA agency.

The 20 CCR Division 2 Chapter 5 establishes the regulatory framework for power plant site certification. 20 CCR Div.2 Ch. 5 App. B(g)(2) establishes the requirements for an Application for Certification or Small Power Plant Exemption. Under 20 CCR Div.2 Ch. 5 App. B(g)(2) outlines the documentation requirements for cultural and tribal cultural resources. The sections that pertain to built environment cultural resources are summarized below.

- The results of a literature search to identify cultural resources within an area not less than a one-mile radius around the project site and not less than one-quarter (0.25) mile on each side of the linear facilities. Identify any cultural resources listed pursuant to ordinance by a city or county or recognized by any local historical society or museum. Literature searches to identify cultural resources must be completed by, or under the direction of, individuals who meet the Secretary of the Interior's Professional Standards for the technical area addressed.
- Copies of California Department of Parks and Recreation (DPR) 523 forms shall be provided for all cultural resources identified in the literature search as being 45 years or older or of exceptional importance as defined in the National Register Bulletin Guidelines (36CFR60.4(g)).
- The results of new cultural resource surveys or surveys less than five years old shall be provided if survey records of the area potentially affected by the project are more than five years old. Surveys to identify new cultural resources must be completed by (or under the direction of) individuals who meet the Secretary of the Interior's Professional Standards for the technical area addressed.
- New historic architecture field surveys in rural areas shall be conducted inclusive of the project site and the project linear facility routes, extending no less than 0.5 mile out from the proposed plant site and from the routes of all above-ground linear facilities. New historic architecture field surveys in urban and suburban areas shall be conducted inclusive of the project site, extending no less than one parcel's distance from all proposed plant site boundaries. New historic architecture field reconnaissance-level surveys in urban and suburban areas shall be conducted along the routes of all linear facilities to identify, inventory, and characterize structures and districts that appear to be older than 45 years or that are exceptionally significant, whatever their age.
- A technical report of the results of the new surveys that at a minimum, the technical report shall include the following:
 - Maps at a scale of 1:24,000 (or appropriate map scale agreed to by staff) of each proposed transmission line route, showing the settled areas, parks, recreational areas, scenic areas, and existing transmission lines within 1 mile of the proposed route(s) and the literature search results map identifying any known cultural resources.
 - The survey procedures and methodology used to identify cultural resources and a discussion of the cultural resources identified by the survey.
 - Copies of all new and updated DPR 523(A) forms. If a cultural resource may be impacted by the project, also include the appropriate DPR 523 detail forms for each such resource.

- The names and qualifications of the cultural resources specialists who contributed to and were responsible for surveys and preparation of the technical report.
- Include in the discussion of proposed mitigation measures to mitigate project impacts to known cultural resources.

1.3.3 Local

Los Angeles County's Historic Preservation Ordinance was adopted on September 1, 2015, and establishes criteria and procedures for the nomination, designation and review of work on landmarks and property located within historic districts. Unless exempted, the Historic Preservation Ordinance applies to privately owned property within unincorporated areas of Los Angeles County and all publicly owned landmarks (Los Angeles County 2025).

22.124.070 - Criteria for Designation of Landmarks and Historic Districts

- A. A structure, site, object, tree, landscape, or natural land feature may be designated as a landmark if it is 50 years of age or older and satisfies one or more of the following criteria:
 - a. It is associated with events that have made a significant contribution to the broad patterns of the history of the nation, State, County, or community in which it is located;
 - b. It is associated with the lives of persons who are significant in the history of the nation, State, County, or community in which it is located;
 - c. It embodies the distinctive characteristics of a type, architectural style, period, or method of construction, or represents the work of an architect, designer, engineer, or builder whose work is of significance to the nation, State, County, or community in which it is located; or possesses artistic values of significance to the nation, State, County, or community in which it is located;
 - d. It has yielded, or may be likely to yield, significant and important information regarding the prehistory or history of the nation, State, County, or community in which it is located;
 - e. It is listed, or has been formally determined eligible by the United States National Park Service for listing, in the National Register of Historic Places, or is listed, or has been formally determined eligible by the State Historical Resources Commission for listing, on the California Register of Historical Resources;
 - f. If it is a tree, it is one of the largest or oldest trees of the species located in the County; or
 - g. If it is a tree, landscape, or other natural land feature, it has historical significance due to an association with a historic event, person, site, street, or structure, or because it is a defining or significant outstanding feature of a neighborhood.
- B. Property less than 50 years of age may be designated as a landmark if it meets one or more of the criteria set forth in Subsection A, above, and exhibits exceptional importance.
- C. The interior space of a property, or other space held open to the general public, including but not limited to a lobby, may be designated as a landmark or included in the landmark designation of a property if the space qualifies for designation as a landmark under Subsection A or B, above.
- D. Historic Districts. A geographic area, including a noncontiguous grouping of related properties, may be designated as a historic district if all of the following requirements are met:
 - a. More than 50 percent of owners in the proposed district consent to the designation;

- b. The proposed district satisfies one or more of the criteria set forth in Subsections A.1 through A.5, above; and
- c. The proposed district exhibits either a concentration of historic, scenic, or sites containing common character-defining features, which contribute to each other and are unified aesthetically by plan, physical development, or architectural quality; or significant geographical patterns, associated with different eras of settlement and growth, particular transportation modes, or distinctive examples of parks or community planning.

1.4 Area of Potential Impacts

The API is the study area delineated to assess potential impacts from the construction and operation of the project on cultural resources. The API for built environment resources encompasses the geographic area or areas within which the project may directly or indirectly cause a substantial adverse change in the significance of a known or unknown historical resource. A substantial adverse change in the significance of a historical resource means physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of the resource is materially impaired (14 CCR Section 15064.5[b][1]). Under CEQA, material impairment of a historical resource is considered a significant impact (or effect), which can be direct, indirect, or cumulative.²

A direct or primary effect on a historical resource is one that is caused by the project and occurs at the same time and place (14 CCR Section 15358[a][1]). Examples of direct effects that are caused by, and immediately related to, the project include, but are not limited to, demolition, destruction, relocation, and alteration of a historical resource as a result of ground disturbance and other construction activities. Direct effects, however, are not limited to physical effects and, in certain circumstances, can be visual, vibratory, auditory, or atmospheric in nature if the effect is immediate and it results in the material impairment of the significance of a historical resource. Visual intrusions within the viewshed of a historical resource, for example, could result in the material impairment of the resource's integrity of setting if an unencumbered view of the surrounding area or a specific area is a characteristic that contributes to the significance of the resource. Similarly, operational noise that exceeds the ambient level of a sensitive noise receptor can cause material impairment to a historical resource that derives part or all its significance from an inherently quiet auditory setting.³ Finally, atmospheric intrusions, such as those caused by the introduction of high levels of fugitive dust emissions or chemical pollutants, can result in adverse effects that directly and physically affect biological landscape features that have been identified as historical resources for the purposes of CEQA. Overall, while direct effects clearly include physical effects, they may also include other types of effects that are visual, vibratory, auditory, or atmospheric in nature if the effect is caused by and occurs at the same time and place as the project and there is no other intervening cause between the activities or components of the project and the historical resource.

By contrast, an indirect or secondary effect is a reasonably foreseeable effect caused by the project that occurs later in time or is farther removed in distance. Indirect effects may include growth-inducing effects and other effects

² As used in the CEQA Guidelines and 14 CCR Section 15358, the terms "effects" and "impacts" are synonymous in this report.

³ Construction noise that exceeds the ambient level of a sensitive noise receptor is not analyzed because it is considered a temporary impact that would not have an adverse effect on historical resources because it would not cause physical damage and would not permanently alter or diminish the integrity of such resources. Temporary construction noise would not result in a substantial adverse change in the significance of a historical resource and, therefore, would not cause a significant impact under CEQA.

related to induced changes in the pattern of land use, population density, or growth rate, and related effects on air and water and other natural systems, including ecosystems (14 CCR Section 15358[a][2]). Because these types of effects are not immediately related to the project, they are considered secondary effects.

Cumulative impacts refer to two or more individual effects that, when considered together, are considerable or compound or increase other environmental impacts. The individual effects may be changes resulting from a single project or a number of separate projects. The cumulative impact from several projects is the change in the environment that results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time (14 CCR Section 15355[a]-[b]). The API for cumulative impacts, if any exist, would include the API for direct effects, indirect effects, or both because in order for a cumulative impact to exist, a historical resource must first be directly or indirectly affected by the project.

1.4.1 Area of Potential Impacts and Study Area for Built Environment Properties

Delineation of the API considered the requirements of 20 CCR Div.2 Ch. 5 App. B(g)(2), recommendations from the cultural resources staff at the CEC, and the proposed project activities in conjunction with historic era-built resources that are 45 years of age or older (those built in or prior to 1980) that may be impacted due to the construction or operation of the project.⁴ The project will be comprised of a new BESS facility, operations and maintenance buildings, a project substation, a 500kV overhead gen-tie transmission lines, and interconnection facilities within the existing SCE Vincent Substation. These components will occupy approximately 107 acres.

The horizontal limits of the API considered areas of direct physical effect. Because of the geographically constrained nature of the project activities, the API is horizontally defined to the project site, which is defined as the following for the purposes of this report:

- **BESS Facility site:** APNs 3056-017-007, 3056-017-020, 3056-017-021, 3056-019-013, 3056-019-026, 3056-019-037, and 3056-019-040.
- **Potential Gen-Tie Routes:**
 - **Northern:** APNs 3056-015-008, 3056-015-023, 3056-017-026, 3056-017-904, and 3056-017-905, 3056-005-816, 3056-005-817, 3056-005-818, 3056-015-801, and 3056-015-802
 - **Southern:** APNs 3056-015-008, 3056-015-023, 3056-017-016, 3056-017-022, 3056-017-026, 3056-017-027, 3056-017-028, 3056-027-007, 3056-027-031, 3056-005-816, 3056-005-817, 3056-005-818, 3056-015-801, and 3056-015-802

⁴ While the 50-year threshold is generally used for listing resources in the NRHP and the CRHR, the California Office of Historic Preservation's (OHP) Instructions for Recording Historical Resources recommends recording "any physical evidence of human activities over 45 years . . . for the purposes of inclusion in the OHP's filing system." It also allows for the "documentation of resources less than 45 years . . . if those resources have been formally evaluated, regardless of the outcome of the evaluation." Further, the guidance notes that the 45-year threshold recognizes that there is commonly a 5-year lag between resource identification and the date that planning decisions are made, and thus it explicitly encourages the collection of data about resources that may become eligible for the NRHP or CRHR within that planning period. More restrictive criteria must be met before the resources included in OHP's filing system are listed, found eligible for listing, or otherwise determined to be important in connection with federal, state, and local legal statuses and registration programs (OHP 1995: 2).

- **SCE Vincent Substation (to which project components will connect):** APNs 3056-015-800 and 3056-015-801

The historic-age properties located in the areas of direct physical effect consist of: the Vincent Substation (Map ID 1; APN 3056-015-800; 3056-015-801), three transmission lines (Map IDs, 2, 3, and 4), and the single-family residence at 815 Kentucky Springs Road (Map ID 5) (APN 3056-015-008; associated with Northern Gen-Tie Route).

The vertical above ground extent of the API is anticipated to be up to approximately 243 feet, which is the height of the tallest gen-tie line structure proposed for construction (gen-tie line structures will range from 155 feet tall to 243 feet tall). At this height, the proposed project would not cause any adverse visual effects to the setting characteristics of any historic built resources within the API because the project site viewshed is already transected by multiple similar-in-height or taller 500kV steel frame transmission line towers, as well as visible equipment associated with the Vincent Substation. While the project structures would be visible from multiple viewsheds, the surrounding area lacks a pristine rural setting because there are already existing utility poles, transmission lines, and modern infrastructure, residences, and the near Antelope Valley Highway that runs through the API. While this structure would be visible to most casual observers, it would lack sufficient size or contrast to compete with major landscape elements and existing electrical infrastructure. The BESS structure would also be surrounded by a minimum 8-foot-tall wall and landscaping. Consequently, the API has been limited to the delineation presented in Figure 2, Area of Potential Impacts.

The API excludes the previously recorded historic-age transmission line P-19-192581 (Big Creek No. 4; Antelope-Mesa 220kV Transmission Line) because “the Antelope-Mesa portion of the line was completely removed during the construction of Segment 7 of SCE’s Tehachapi Renewal Transmission Project in 2014” (Williams 2017: 2). Finally, since there are no reasonably foreseeable project activities that would occur later in time or that would be farther removed in distance that could indirectly affect historical resources, the API contains no geographic areas under consideration for indirect effects.

The Study Area for the project includes historic-age properties located within the 0.50-mile radius of the project footprint, which is the distance dictated by the requirements of 20 CCR Div.2 Ch. 5 App. B(g)(2). The Study Area encompasses an additional 34 properties that are of historic-age that required inventory and evaluation according to 20 CCR Div.2 Ch. 5 App. B(g)(2).

Table 1 below provides a list of the resources within the API for built environment resources and those outside the API that are within the Study Area.

Table 1. Built Environment Properties Resources Within the API

Map ID	Property Type	Address/APN	Year Built	Prior Evaluation Status
Project Components				
1	SCE Vincent Substation	33301 Angeles Forest Highway (APN 3056-015-800)	1967	Not evaluated
2	Midway-Vincent No. 1 and No. 2	N/A	1968	Not evaluated
3	Vincent-Lugo No. 1 and No. 2	N/A	1969	Not evaluated

Table 1. Built Environment Properties Resources Within the API

Map ID	Property Type	Address/APN	Year Built	Prior Evaluation Status
4	Eagle Rock-Pardee & Antelope-Vincent No. 1 Transmission Corridor	N/A	1925-1928 (since replaced)	2D; 2S2; 6Z (P-19-186876)
5	Single-family residence	815 Kentucky Springs Road (APN 3056-015-008)	1979	Not evaluated
Study Area				
6	Single-family residence	401 Rockyford Road (APN 3056-014-042)	1959	Not evaluated
7	Single-family residence	790 Carson Mesa Road (APN 3056-014-036)	c. 1958	Not evaluated
8	Single-family residence	33830 Angeles Forest (APN 3056-004-034)	1979	Not evaluated
9	Road	Angeles Forest Highway	1941	6Z (P-19-187713)
10	Single-family residence	33456 Angeles Forest (APN 3056-012-024)	1978	Not evaluated
11	Single-family residence	624 East Soledad Pass (APN 3056-012-053)	1929	Not evaluated
12	Single-family residence	33440 Angeles Forest Highway (APN 3056-012-008)	c. 1954	Not evaluated
13	Single-family residence	33120 Hillside Drive (APN 3056-012-004)	1947	Not evaluated
14	Single-family residence	33438 Angeles Forest Highway (APN 3056-012-023)	c. 1934	Not evaluated
15	Single-family residence	33110 Hillside Drive (APN 3056-012-057)	1950	Not evaluated
16	Single-family residence	33446 Angeles Forest Highway (APN 3056-012-006)	1940	Not evaluated
17	Single-family residence	900 Searchlight Ranch Road (APN 3056-018-073)	c. 1954	Not evaluated
18	Single-family residence	32410 El Sastre (APN 3056-026-036)	1979	Not evaluated
19	Single-family residence	1110 Searchlight Ranch Road (APN 3056-026-018)	1967	Not evaluated

Table 1. Built Environment Properties Resources Within the API

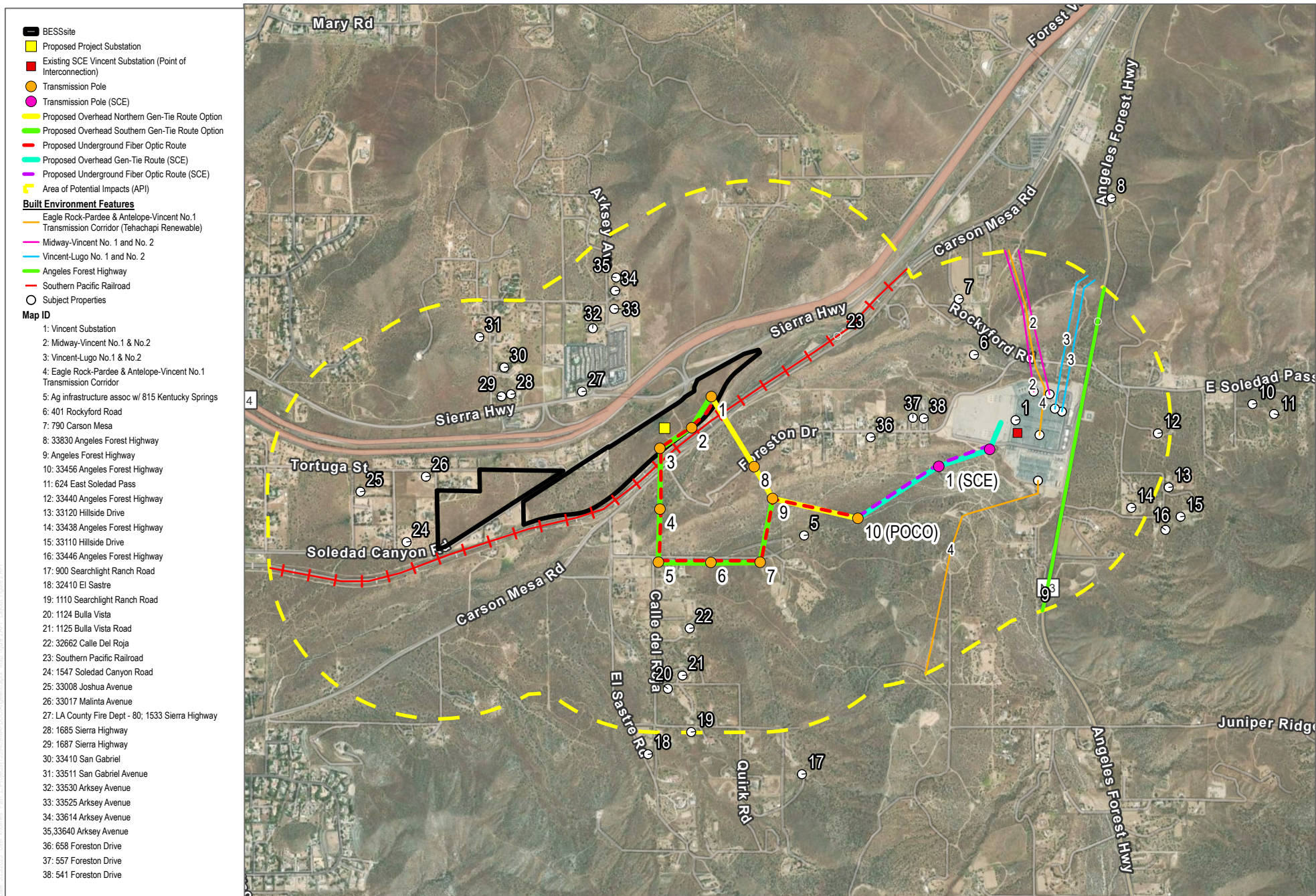
Map ID	Property Type	Address/APN	Year Built	Prior Evaluation Status
20	Single-family residence	1124 Bulla Vista Road (APN 3056-027-067)	1969	Not evaluated
21	Animal shelter	1125 Bulla Vista Road (APN 3056-027-037)	c. 1974	Not evaluated
22	Single-family residence	32662 Calle Del Roja (APN 3056-027-035)	c. 1966	Not evaluated
23	Railroad	N/A	1873 to 1876	Not evaluated
24	Single-family residence	1547 Soledad Canyon Road (APN 3056-022-035)	1978	Not evaluated
25	Single-family residence	33008 Joshua Avenue (APN 3056-022-032)	1978	Not evaluated
26	Single-family residence	33017 Malinta Avenue (APN 3056-022-038)	1979	Not evaluated
27	Fire station	1533 Sierra Highway (APN 3057-015-900)	1974	Not evaluated
28	Single-family residence	1685 Sierra Highway (APN 3057-015-041)	c. 1956	Not evaluated
29	Single-family residence	1687 Sierra Highway (APN 3057-015-042)	c. 1951	Not evaluated
30	Single-family residence	33410 San Gabriel (APN 3057-015-043)	1980	Not evaluated
31	Single-family residence	33511 San Gabriel Avenue (APN 3057-015-013)	1976	Not evaluated
32	Single-family residence	33530 Arksey Avenue (APN 3057-024-001)	1976	Not evaluated
33	Single-family residence	33525 Arksey Avenue (APN 3057-015-023)	1976	Not evaluated
34	Single-family residence	33614 Arksey Avenue (APN 3057-016-010)	c. 1974	Not evaluated
35	Single-family residence	33640 Arksey Avenue (APN 3057-016-009)	c. 1950	Not evaluated
36	Single-family residence	658 Foreston Drive (APN 3056-006-017)	c. 1978	Not evaluated
37	Single-family residence	557 Foreston Drive (APN 3056-005-049)	1978	Not evaluated

Table 1. Built Environment Properties Resources Within the API

Map ID	Property Type	Address/APN	Year Built	Prior Evaluation Status
38	Single-family residence	541 Foreston Drive (APN 3056-005-050)	1978	Not evaluated

Note: APN = Assessor's Parcel Number; SCE = Southern California Edison; N/A = Not Applicable; c. = circa; 6Z = Found ineligible for NR, CR, or local designation through survey evaluation.

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SOURCE: World Imagery

DUDEK



0 500 1,000
Feet

FIGURE 2
Area of Potential Impacts

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2 Literature Review, Background Research, and Methods

This section provides a summary of background research and survey methods. The background information was used to understand the history of the area and how the landscape changed and developed over time. The consultation with interested parties will be initiated once the CEQA process is initiated by the lead agency.

2.1 California Historical Resources Information System Records Search

A records search was completed for the project by staff at the South Central Coastal Information Center on January 26 and 27, 2023. Updates to this original records search to incorporate changes to the project footprint and to encompass a 1-mile radius were completed by Dudek archaeologist Brenda Rogers, BA, on November 6, 2024. This updated search encompassed a 1-mile radius around the BESS Facility Site as well as a 0.25-mile radius around the proposed Northern and Southern Gen-Tie Routes as required by 20 CCR Div.2 Ch. 5 App. B(g)(2). The built environment results are located in Section 4.1, California Historical Resources Information System Records Search.

2.2 Built Environment Resource Directory

The California Office of Historic Preservation (OHP) maintains the Built Environment Resource Directory, an inventory of built environment cultural resources that are processed through OHP's office. On December 17, 2024, a Dudek architectural historian reviewed the Built Environment Resource Directory to determine if there were previously recorded or evaluated resources from the study area were listed. The Antelope-Mesa Transmission Line (P-19-192581) was listed with a status code of 6Y, meaning it was determined ineligible for the NRHP through Section 106 consensus. This line is no longer extant in the study area. In addition, P-19-186876 (Map ID 4) is included in the Built Environment Resource Directory as Eagle Rock-Pardee Transmission Line with a status code of 2S (Individually determined eligible for NRHP by the Keeper) and a date of construction of 1925-1927. Both properties are discussed further in Section 4.1, California Historical Resources Information System Records Search.

2.3 Calisphere

Calisphere provides access to 2,000 collections contributed by more than 300 cultural heritage organizations in California, including universities, libraries, archives, museums, and historical societies. A Dudek architectural historian searched for subject properties' addresses and other keywords on Calisphere on December 17, 2024. This search identified a historic photograph of the SCE Vincent Substation and multiple photographs of the construction of the Lugo-Vincent No. 1 and No. 2 transmission lines that are included in Section 3, Historic Context.

2.4 Online Archive of California

The Online Archive of California provides free public access to detailed descriptions of primary resource collections maintained by more than 300 contributing institutions including libraries, special collections, archives, historical

societies, and museums throughout California and collections maintained by the 10 University of California campuses. A Dudek architectural historian searched for information associated with the subject properties on the Online Archive of California on December 17, 2024, and did not identify any relevant materials.

2.5 County of Los Angeles Acton Historic Resources Survey

On February 27, 2024, the Los Angeles County Board of Supervisors adopted a motion initiating the development of a historic resource survey for the community of Acton. The survey consisted of the preparation of a historic context statement, supported by a communitywide survey. The draft historic context is available online. Dudek reviewed the historic context statement and incorporated relevant information into Section 3, Historic Context. The historic context statement and survey do not include information on any of the properties inventoried in this report.

2.6 County of Los Angeles Department of Public Works

Dudek's architectural historians reviewed building permits associated with the subject properties within the API in the County Los Angeles Department of Public Works building permit viewer, which maintains building permit records for the county. All available permits were reviewed for any information related to properties in the study area such as property alterations and ownership information. This information was used in the evaluation of identified resources and was incorporated into the California Department of Parks and Recreation 523 (DPR 523) forms, which are appended to this report.

2.7 County of Los Angeles Register of Landmarks and Historic Districts

The County Register is the County of Los Angeles' official list designated landmarks and historic districts in the unincorporated areas of the county. The County Register is maintained by the Historical Landmarks and Records Commission. Dudek reviewed the County Register on February 10, 2025. None of the properties recorded as part of this study are included on the County Register (Los Angeles County 2025).

2.8 Historic Aerials

A review of historic aerial photographs was conducted as part of the archival research effort for the proposed project. Dudek reviewed historical aerial photographs from 1928, 1940, 1948, 1954, 1959, 1968, 1974, 1976, 1978, 1987, 1989, 1990, 1994, 2002, 2005, 2009, 2010, 2012, 2014, 2016, 2018, 2020, and 2022. The aerial photographs provided a general idea of growth of the area. Information from these photographs is integrated into Section 3, Historic Context, and discussed in Section 4, Results of Identification and Evaluation Efforts (NETR 2024a; EDR 2024a).

2.9 Historic Maps

Dudek reviewed Sanborn Fire Insurance Maps of Los Angeles County from the years 1921, 1923, 1924, and 1925. However, these maps did not include the subject properties within the API. Additionally, Dudek reviewed historical topographic maps from 1900, 1905, 1908, 1915, 1922, 1929, 1934, 1936, 1939, 1940, 1947, 1948, 1955, 1959, 1960, 1961, 1966, 1967, 1974, 1977, 1978, 1985, 1991, 1994, 1995, 1999, 2012, 2015, 2018, 2022. The topographic maps are a historical source that can be used to document the prior use of the subject property and surrounding area. Information from these maps is integrated into Section 3, Historic Context, and discussed in Section 4, Results of Identification and Evaluation Efforts (NETR 2024b; EDR 2024b).

2.10 Historic Newspapers

Dudek reviewed historical newspapers from the California Digital Newspaper Collection and Newspapers.com covering Los Angeles County to understand the development of the area and the properties in the API. These documents were used in the preparation of Section 3, Historic Context, and Section 4, Results of Identification and Evaluation Efforts.

2.11 ParcelQuest

Dudek obtained assessor data for the subject properties from ParcelQuest on December 17, 2024. This data provided information about the subject properties' construction dates, square footage, tract number, and current owners (ParcelQuest 2024).

2.12 Field Survey

Dudek architectural historians Katie Ahmanson, MHC, and Claire Cancilla, MSHP, conducted an intensive level survey of the study area on December 4 and 5, 2024, and on January 22, 2025. The survey entailed documenting the exteriors of each property within the study area that were 45 years of age or older with notes and photographs from the public right-of-way, specifically noting character-defining features, spatial relationships, and observed alterations, and examining any historic landscape features on the properties. The results of the field survey are located in Section 4, Results of Identification and Evaluation Efforts.

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3 Historic Context

This context is provided to ascertain what significant themes are present to better understand the context of any of the documented resources in the study area.

3.1 Historical Overview of the County of Los Angeles

The County of Los Angeles was established on February 18, 1850, 1 of 27 counties established in the months prior to California acquiring official statehood in the United States 2 years after the Mexican American War. Settlement of the Los Angeles region continued in the early American Period. Many of the ranchos in the area now known as Los Angeles County remained intact after the United States took possession of California; however, a severe drought in the 1860s resulted in many of the ranchos being sold or otherwise acquired by Americans. Most of these ranchos were subdivided into agricultural parcels or towns (Dumke 1944: 3–6). Nonetheless, ranching retained its importance, and by the late 1860s, Los Angeles County was one of the top dairy production centers in the country (Dumke 1944: 14–15). In the 1870s, the county was divided into townships comprised of subdivided ranchos, and by 1876, the county reportedly had a population of 30,000 people (Dumke 1944: 7).

Within Los Angeles County, the unincorporated community of Acton was developed for mining in 1861 following the discovery of copper deposits in Soledad Canyon. In 1868, 7 years later, gold deposits were also discovered, prompting the establishment of three mines for gold, copper, and silver: Red Rover Mine, Escondido Grande Mine, and the New York Mine. Following adoption of the federal Homestead Act of 1862, four families established ranches in Acton, eventually allowing the focus of the economy to shift from mining to agriculture. In 1900, the Acton Oil Boom provided another source of employment and prompted population growth in the community and the establishment of the Actonoma Oil Development Company in 1902 (Pitt 2024; Dumke 1944: 41–43; Sapphos 2024: 4.6–4.10).

The nearby community of Palmdale originated from two small communities: Harold, located at the crossroads of the SPRR tracks and present-day Barrel Springs Road, and Palmenthal, founded by approximately 50 families of Swiss and German descent who moved to California from Nebraska and Illinois. During this early time, population in the region grew due to several factors, including the gold rush, the possibility for ranching, and the completion of the SPRR line in 1876, which facilitated the transport of agricultural products and metals throughout the United States. Through this early period, however, the communities of both Acton and Palmdale developed slowly (City of Palmdale 2025; Palmdale 2045 2025; COLA 2017).

Los Angeles County maintained its role as a regional business center and the development of citriculture in the late 1800s and early 1900s further strengthened this status. These factors, combined with the expansion of port facilities and railroads throughout the county, contributed to the impact of the real estate boom of the 1880s (Pitt 2024; Dumke 1944: 41–43). Likewise, government leaders recognized the need for water to sustain the growing population in the county. Irish immigrant William Mulholland personified the City of Los Angeles's efforts for a stable water supply (Survey LA 2016: 2). By 1913, the City of Los Angeles had purchased large tracts of land in the Owens Valley, and Mulholland planned and completed the construction of the 240-mile Los Angeles Aqueduct that brought the valley's water to the city. Access to water resulted in a population boom in the region; in the city of Los Angeles, for example, the population rose from 170,298 residents in 1900 to 936,455 by 1920 (Pitt 2024; Los Angeles Almanac 2020).

The completion of the Los Angeles Aqueduct facilitated development of ranching and agriculture in Palmdale. However, the aqueduct ran approximately 18 miles west of Acton, and as a result, development in the community was slower than nearby Palmdale, which had begun to develop civic infrastructure and published its first newspaper, the *Palmdale Post*, in 1915. In the 1920s, the Acton/Palmdale area saw the development of the present-day Sierra Highway, which linked Palmdale to Los Angeles and allowed for easier transport of agricultural products to market. In 1924, the Little Rock Dam and Harold Reservoir (present-day Lake Palmdale) were constructed to provide water to agriculture and the area's population (City of Palmdale 2025; Palmdale 2045 2025; COLA 2017).

Although the onset of the Great Depression in 1929 detrimentally impacted the county's overall economy, historic newspapers from the 1930s reported on the continued growth of Los Angeles County's horticultural and agricultural development. In 1922, for example, Los Angeles County approximately \$78,000,000 from crop and livestock production. By 1931, the amount increased by 26% with about \$92,000,000 of profits (PB 1931: 18). The 1932 Summer Olympic Games held in Los Angeles helped to boost the economy of the county with the influx of tourism (Pitt 2024). By the mid-1930s, Los Angeles County was one of the top oil producers in California, producing about 20% of the oil in the country. Because of the county's location along the coast; shipments from Los Angeles Harbor included over 75 million barrels of oil. Additionally, the county's location and topography allowed for efficient railroad routes to the west across the greater United States facilitating the mass distribution of crops and oil. In addition, aviation and aerospace, already important industries in the county, accelerated by the onset of World War II in 1939 at which time Los Angeles County became one of the largest producers of wartime planes in the country (LAEPR 1934: 12; Pitt 2024; ARG 2008: 14–19).

After World War II's conclusion in 1945, a massive wave of migration and building boom occurred throughout California. In Los Angeles County, the rise in wartime employment in aircraft factories and shipyards during World War II, as well as statewide post-war immigration/emigration patterns, increased the county's population from 2,208,492 residents in 1930 to 4,151,687 residents by 1950 (Los Angeles Almanac 2020). Aerospace remained an important industry in the Palmdale area as the opening of aerospace facilities in the region transformed the local economy and became the Palmdale area's primary employer. In 1952, for example, the U.S. military purchased the Palmdale Airport for use as an aerospace development and testing facility, and Lockheed established a facility in Palmdale in 1953. In addition, Convair, North American, and Northrop had facilities nearby. The aerospace industry brought large numbers of new residents to the area, and corresponding residential development; by 1957, for example, the population of Palmdale was more than 12,000, a 412% increase from 1950 (City of Palmdale 2025; Palmdale 2045 2025; COLA 2017; LAT 1968: 126; Valley Times 1956: 3)

The postwar decades saw much of the county transformed from ranches and farms into residential subdivisions surrounding commercial and industrial centers. The county's agricultural success and Southern California's booming oil and aerospace industries were key factors in the county's growth in the twentieth century (Pitt 2024; Los Angeles Almanac 2020; Survey LA 2016: 2). In response to the rise in population, developers built tract homes, and multi-family residences on former agricultural properties in Los Angeles County throughout the 1940s and 1950s (Pitt 2024). Throughout the post-World War II period, residential styles reflected a range of regional styles that often combined Regional Modernism with elements of the Ranch style. Inspired by new construction materials and techniques refined during the war, many architects focused on producing low-cost mass-produced designs. Prefabricated housing systems, also known as manufactured homes or modular homes, were introduced to the market during the post-war period. This growth, however, was not universal throughout the county; aerial photographs of Acton and its environs from the 1920s through the 1960s show minimal growth, consisting mostly

of scattered single-family residences, ranches, and farms outside the community's center (Survey LA 2021: 91-92; NETR 2024a; City of Palmdale 2025; Palmdale 2045 2025; COLA 2017; LAT 1968: 126; Valley Times 1957: 3).

With the advent of the state and federal highway systems during the 1950s and 1960s, automobiles allowed travelers to take themselves to places that were only previously accessible by railroads. The highway system encouraged tourism that propelled the county's economy and spurred growth in the area. The construction of the Antelope Valley freeway, running through Acton to Palmdale, was initiated in 1963 and made these communities more accessible, prompting population growth and corresponding development. This automobile-oriented growth is reflected in the much of Los Angeles County's present-day built environment that includes sprawling post-World War II suburbs characterized by concentrations of single-family residences with distinctive planning features such as street alignments, setbacks, curbs, sidewalks, and landscaping (Caltrans 2011: 17–18; Survey LA 2021: 153). The 1950s and 1960s also saw increased investment into civic infrastructure. In 1968, Lockheed opened an additional airliner final assembly facility, prompting Palmdale's mayor to predict a population increase of 50,000 by 1971 (Sapphos 2024: 4.6–4.10).

The population of Los Angeles County reached 6,038,771 residents by 1960 and grew to 8,863,164 residents by 1990 as the county continued to expand during the last half of the twentieth century and into the twenty-first century (Los Angeles Almanac 2020). The first municipal building in Palmdale, Palmdale City Library, was constructed in 1977. The 1980s and 1990s saw the construction of commercial centers in the area, such as the Antelope Valley Mall, and more single-family residences. Despite the growth of Palmdale and other parts of Los Angeles County, however, development in Acton remained slow from the 1960s through the 1990s, and the community retains its predominantly rural character (Sapphos 2024: 4.6–4.10; NETR 2024a).

3.2 Angeles Forest Highway

The Angeles Forest Highway is 25 miles long and travels north the San Gabriel Mountains to where it terminates just south of Palmdale in the Antelope Valley. Prior to the construction of the Angeles Forest Highway, the SCE Company developed an unpaved road across the San Gabriel Mountains to Vincent in the Antelope Valley to provide access to a power line corridor through the area (Cotterman and Sander 2003: 1–5). The unpaved road is visible on the earliest historic topographic maps from 1900 (NETR 2024b). Plans for the Angeles Forest Highway following a similar route to the unpaved road were approved by the Los Angeles Board of Supervisors in 1928. Construction of the Angeles Forest Highway began in the late 1930s, and it was completed in 1941. Components of the highway include the Mill Creek Bridge built from 1939 to 1941, the Angeles Forest Highway Tunnel built in 1941, and several culverts built in 1939, along the highway for water drainage. Development of the highway eliminated 10 miles from the previous route between Los Angeles and Antelope Valley (Cotterman and Sander 2003: 5; HPNH 1941: 19).

Over the years, the Angeles Forest Highway has been repaved with portions widened to enable its continuous use for 84 years (Cotterman and Sander 2003: 1–5). In 1963, a three-part road improvement project was initiated. Phase one included the improvement of a section of the highway from 4.6 miles south of Sierra Highway that was widened to include four passing lanes. Phase two involved widening a 2.1 miles section of the highway from north of Aliso Canyon Road to Kentucky Springs and a curved section was lengthened to increase sight distance and improve safety. Phase three was completed by 1965 and saw 2.5 miles of the road repaved and widened to four lanes (PI 1965: 40). Between 1966 and 1974, the road was extended north in the study area to merge with the newly developed Highway 14 (NETR 2024a; NETR 2024b). Since its construction, the Angeles Forest Highway has continued to function as a county highway maintained by the Los Angeles County Department of Public Works. It is

primarily used as a commuter road for residents of the Antelope Valley and is a common alternative to State Route 14 (Martin 1992).

3.3 Southern Pacific Railroad

The SPRR Company was founded in 1865 as a rail line from San Francisco to San Diego. During the mid-1870s, the SPRR Company developed railroads through the Santa Clarita Valley, spurring the development of small towns along the railway. The SPRR constructed the Soledad Canyon line between Santa Clarita and Palmdale from 1873 to 1876 to transport mining products and from the Soledad Canyon. The railroad connected the Santa Clarita Valley to the nation and promoted the growth of the area (Southern California Railway Museum 2025; Sapphos 2024: 4–7).

In 1883, the SPRR extended its lines to New Orleans, Louisiana, providing southern California with a transcontinental route across the southern United States through Arizona, New Mexico, and Texas. The completion of the route led to an increase of about 60,000 residents in Los Angeles County between 1890 and 1900. By the twentieth century the SPRR dominated much of the western railways supporting the growth of the economy in the west by transporting goods, people, and resources. The Acton area experienced a boom during the early 1900s with the discovery of oil and the development of agriculture. The Soledad Canyon line opened new land to farmers in the area and provided farmers and businesses with a fast new transit option for their products (Sapphos 2024: 4–7; Southern California Railway Museum 2025).

The area's location and topography allowed for an efficient route south to Los Angeles or north to San Francisco where products could be transferred to lines across the greater United States. The railroad continued to operate as both a passenger and freight line until the 1970s when the last passenger train operated in 1971 following the last freight train in 1979. The Los Angeles County Transportation Commission purchased the Soledad Canyon line in 1992 and transferred control of the railroad to the Southern California Reginal Rail Authority (now known as Metrolink) (Sapphos 2024: 5–4).

In 1993, Metrolink established shared trackage rights with the SPRR and developed a commuter service (Morin 2001). The Vicent Grade/Acton station in Acton opened as a Metrolink passenger line known as the Antelope Valley line in 1994 (LAT 1994: 29). Historical aerial photographs show that a portion of the line south of the Vincent Grade/Acton station was realigned between 1990 and 1994 (NETR 2024a). As of 2025, the former SPRR continues to be used by Metrolink as a commuter route.

3.4 County of Los Angeles Fire Stations

The County of Los Angeles Fire Department was established in 1923 by Chief Flintham. It was the first regional system of fire prevention and fire suppression that included unincorporated communities surrounding Los Angeles. By 1924, 28 new fire districts existed in the county, and a building program for the construction of fire stations throughout the county was implemented in 1926 (Page 1999). These pre-World War II fire stations displayed popular architectural styles of the period including Art Deco and Streamline Moderne. These early fire stations contained one or two equipment bays on the ground floor with staff areas above and attached office space. Both the Great Depression from 1929 to 1939 and World War II from 1939 to 1945 slowed the growth of the department. During this period, adequate fire protection had yet to be developed in the newly developed residential and

commercial areas in the county and older areas contained out-of-date fire stations (Prosser and Ringhoff 2017: 3; Page 1999).

Following the conclusion of World War II in 1945, Los Angeles County's economy began to grow exponentially. In 1947, voters passed a multi-million-dollar bond issue for new public facilities, including fire stations. A second bond was passed in 1955 as the county continued to expand during the post-war period. As a result, about 60 new fire stations were constructed between 1947 and 1963. Fire stations built at this time reflected two distinct firehouse types. The first type consisted of a two-or-more-story building with an equipment bay on the ground floor and dormitories above. Often this type was constructed in an urban environment on a street flanked by commercial and institutional buildings of similar scale and massing. The second type consisted of single-story buildings with a dwelling and attached single-car garage set back from the street in revival architectural styles and was often located in residential areas. Because of its small scale, this type is commonly referred to as a Bungalow Station (Prosser and Ringhoff 2017: 1-2).

By the early 1960s, both types had become increasingly rare, and a hybrid of the two emerged. This type was one-story set back from the street with an institutional scale comprised of a two-car equipment bay flanked by subordinate massings. These fire stations typically exhibited Mid-Century Modern and Late Moderne styles. During this period, fire station planning theory was established by groups such as the National Board of Fire Underwriters, the National Fire Protection Association, and the American Society of Planning Officials, to determine the ideal fire station design. This included a single-story station with secondary spaced adjacent to the equipment bay located on a wide side street close to an intersection with an arterial. Often designed in the Late Moderne architectural style, these buildings displayed the concept of the building as an accumulation of separate planar elements. Elements such as the roof, walls, glazed openings, and doors were distinctly designed to stand out. Technological advancements at the time included larger sized diesel fire trucks, overhead doors activated by radio-controlled motors instead of folding doors, and electrically powered hose-drying ovens (Prosser and Ringhoff 2017: 2, 19-20).

In Los Angeles County no new fire stations were constructed for three years after 1963. Construction resumed at a slower pace throughout the 1960s to the 1980s. Likewise, the design of fire stations changed to include New Formalist and Brutalist styles in contrast to the single-story brick stations of the post-World War II period from 1947 through 1963. Presently, the Los Angeles County Fire Department covers 2,305 square miles in 87 communities throughout Los Angeles and Orange Counties with 103 fire stations (5280 Fire 2025; Prosser and Ringhoff: 28).

3.5 Electrical Infrastructure

Electrical infrastructure in the study area consists of a substation and three historic-age transmission lines, all of which are operated by the SCE Company.

3.5.1 Southern California Edison Company History

The SCE Company is a subsidiary company of Edison International and is the largest electrical supply company in Southern California. Edison International was formed by the merger and acquisition of smaller electrical companies in 1886. At the time, Thomas Edison only allowed electrical utilities to use his patent if his name was used in the title of the company (EI 2023; SCE 2023).

As the population of the city of Los Angeles steadily increased during the late 1890s, the need for power grew. Several businessmen in Los Angeles formed the Westside Lighting Company, later known as the SCE, as a subsidiary of Edison International to address residents' needs. By 1897, Los Angeles adopted an undergrounding ordinance to reduce the overhead clutter of power infrastructure. To create underground lines throughout the city of Los Angeles, Westside Lighting used Thomas Edison's patented three-wire conduit technology. However, because of the use of Edison's patent, the company was required to change its name and chose the Edison Electric Company. By 1907, Edison Electric completed construction of the Kern River Hydro Powerhouse and began producing power to the Los Angeles Basin with a 75kV transmission line, the highest voltage in the nation at the time and the first line to be built on steel towers. In 1909, Edison Electric merged with several smaller electrical companies throughout the southern California region to form the SCE Company (EI 2023; SCE 2023).

In 1912, the Los Angeles Water Department extended its operations to include hydroelectric generation and local electricity distribution after the Los Angeles City Council voted to begin negotiations to purchase local electrical facilities. Between 1922 and 1937, SCE sold its hydroelectric facilities to the city. However, its loss of business was offset by the suburban growth of Los Angeles County. With more energy generation needed throughout the area, SCE created a transmission line with the capacity to retain 220kV by 1922. As a result of their innovative achievement, SCE became the first recipient of the Charles A. Coffin Medal, known today as the Thomas A. Edison Award. In 1926, SCE completed construction of the largest multiple-arch dam in the world at the time, the Florence Lake Dam. The groundbreaking design reduced the amount of concrete needed to be carried up the mountains. By 1929, construction began on the SCE's headquarters in downtown Los Angeles, completed in 1931. In 1939, the SCE received its share of power from the Hoover Dam after completing a 220kV transmission to the dam (EI 2023).

During the outbreak of World War II, Edison International collected scraps of materials from their plants, such as rubber, copper, iron, steel, and brass to donate to the war effort. Additionally, SCE engineers helped design the electrical system for a plutonium extraction facility to develop nuclear weapons for the war. Because of their efforts, SCE was awarded the Charles A. Coffin Award and the National Security Award. By 1946, the country established a standard for electricity that required a currently alternating at 60 cycles per second. To accommodate the new standard, SCE changed its 50-cycle system to a 60-cycle system, requiring a massive rewiring program taking nearly three years to complete. In addition, the company completed construction of 10 gas and oil-fired steam plants between 1945 and 1970 (EI 2023).

By 1957, SCE completed construction of the 7.5MW nuclear power plant, the Santa Susana Experimental Nuclear Station, in the Santa Susana Mountains. The company became the first investor in the country to generate electricity commercially from a nuclear reactor. During the 1960s, SCE continued to expand their facilities. In 1962, SCE purchased the electric, gas, and water systems on Catalina Island and installed modern facility as well as a seawater desalination plant to support the production of freshwater on the island. The company further expanded in 1964 when they acquired the California Electric Power Company. By 1968, SCE completed construction of the 450MW San Onofre Nuclear Generation Station Unit 1, and between 1967 and 1970, they built the Pacific AC-DC (alternating current-direct current) Intertie, the first major high-voltage DC line in the country capable of transporting 8,000MW of power. In 1972, Units 2 and 3 of the San Onofre Nuclear Generation Stations were completed (EI 2023).

The rising cost of fossil fuel during the 1970s led to SCE's interest in producing renewable energy technologies to generate alternative power. Throughout the 1970s and 1980s, SCE's research, development, and demonstration department researched cutting-edge power development. By 1978, they established the Wind Energy Research

Center in Palm Springs, California, and the construction of a 10MW geothermal power plant in Brawley, California. In 1980, the SCE Chief Executive Officer William R. Gould, announced the company's initiative to develop 2,000MW of alternative and renewable energy. Along with the department of energy and the Los Angeles Department of Water and Power, SCE developed a solar thermal plant in the Mojave Desert during the 1980s that began operating by 1996 (EI 2023).

The California energy crisis of the early 2000s saw the price of independent power rise. As a result, SCE purchased abandoned plants throughout Southern California to relieve power shortages. To alleviate power costs, SCE began construction of the first transmission line to only carry renewable power with the Tehachapi Renewable Transmission line in 2007. Likewise, in 2008, SCE launched their solar photovoltaic rooftop program to promote the addition of solar panels to buildings. Today SCE owns over 104,000 miles of circuits across its service territory. SCE maintains its infrastructure with individually constructed substations that distribute electricity throughout the area through transmission lines. The SCE service territory includes portions of Fresno, Inyo, Kern, Kings, Los Angeles, Madera, Mono, Orange, Riverside, San Bernardino, San Diego, Santa Barbara, Tulare, and Ventura counties (Tinsley-Becker and Chiang 2015: 13; SCE 2023; EI 2023).

3.5.2 Transmission Lines

Transmission lines are a series of vertical poles or towers that hold electric conductors to power plants and substations to serve individual customers in cities, towns, industrial plants, and utility districts. Transmission line structures include three main architectural design components: the tower structure, the conductors, and the insulators. The tower is the structure that holds the insulators, and the insulators hold the conductors, which come in the form of a transmission line. The electricity transmission includes anything above the electrical voltages of 60kV or more. Transmission lines with a voltage of 500kV are the highest voltage connected to energy grids throughout the western United States. Lines with higher voltages (230kV and above) are primarily carried on metal towers, while lines below 230kV are usually on wooden pole structures. Extra-high voltage lines (500kV and above) usually have steel lattice towers, which are larger than the those constructed for lower voltage lines, that feature a cinched waist, massing with a wide base, narrow mid-point, and extended horizontal cross arms. With technological advances in insulator and conductor design, components are replaced and repaired regularly. Transmission lines and systems are generally categorized by their conductor positioning, construction materials, and voltage (NVE 2017; Tinsley-Becker 2017: 51).

Key character-defining features of transmission lines often include the following:

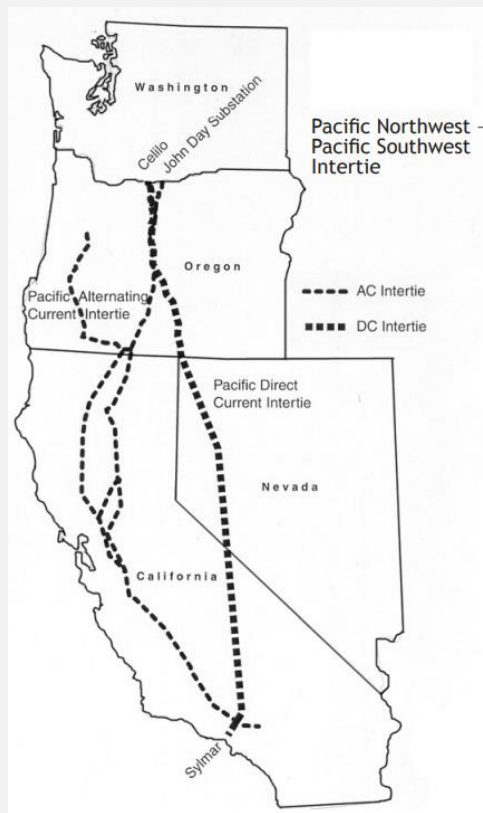
- Alignment of transmission line from the date of original construction
- Intact primary tower structures
- Connectivity and association to power-generating plants and substations and transmission lines

In addition to possessing the character-defining features outlined above, the *Southern California Edison Historic-Era Electrical Infrastructure Management Program* identified periods of historic significance for SCE transmission line systems according to their voltage. For systems transmitting electrical power at 66kV or below, the period of significance is limited to 1907 to 1930. For systems transmitting electrical power between 67kV to 230kV, the period of significance is limited to 1912 to 1941. For systems transmitting electrical power at 500kV, the period of significance is limited to 1965 to 1970 (Tinsley-Becker 2017: 64).

Pacific Northwest–Pacific Southwest Intertie

The Pacific Northwest–Pacific Southwest Intertie System was the first long-distance high voltage transmission line in the United States. The intertie was designed as a solution to share power resources between Oregon, California, and Nevada. The intertie system consists of the Pacific DC Intertie which runs from the Celilo Substation in Oregon, through Nevada, and ending in Sylmar, California, and three AC Lines, one of which runs from John Day Dam in Oregon, to Lugo, California. In California, the AC lines are owned and/or shared by Pacific Gas and Electric (PG&E), SCE, San Diego Gas and Electric, the Western Area Power Authority, the California Department of Water Resources, the Sacramento Municipal Utility District, Los Angeles Department of Water and Power, and a consortium of other utilities entities (Exhibit 1) (Tinsley-Becker 2017: 51; NWPCC 2001: 4; NWPCC 2025).

Exhibit 1. Map showing the route of the Pacific Northwest–Pacific Southwest Intertie.



Source: NWPCC 2001: 3.

Plans and research for the Pacific Northwest–Pacific Southwest Intertie System first began in 1945. An investigation of feasible land in the West identified an area for an intertie between the Bonneville Power Administration (BPA) system in Oregon and the Central Valley Project system in California. By 1953, a study by the Federal Power Commission reaffirmed the economic advantages of the intertie between the two regions. However,

shortly after the study, the Bonneville Yamsay-Klamath Falls line was sold to the California-Oregon Power Company, and plans for the intertie were stalled (Linenberger and Gahan 2013: 2 and 6; Tinsley-Becker 2017: 51).

In 1961, President John F. Kennedy asked the Secretary of the Interior, Stewart Udall, to study the need for the Pacific Northwest–Pacific Southwest Intertie System. Secretary Udall appointed the BPA administrator Charles Luce to investigate the project and Luce reported that “an extra-high voltage inter-connection between the two regions should be constructed at the earliest practicable time” (Linenberger and Gahan 2013: 7). The following year, President Kennedy requested a budget to design and construct an extra-high-voltage intertie between the BPA system and the Central Valley Project system. Congress provided \$300,000 for the initial planning and, in 1963, Congress allocated \$7 million to begin construction. The final proposal for the project was completed on June 24, 1964, and it was approved by Congress on August 14, 1964. The AC line was completed with the construction of the Sylmar Substation in 1970 (Linenberger and Gahan 2013: 7–8).

The entire Pacific Northwest–Pacific Southwest Intertie runs for 844.15 circuit miles within Oregon, California, and Nevada. The intertie includes 1,242 structures and associated components with 776 lattice steel towers, 466 lattice aluminum pole structures, 62 dead-end structures, and 1,180 suspension structures. Initially, the intertie operated at a voltage of 800kV, which is considered an extra-high-voltage transmission line, and was upgraded to 1,000kV on January 10, 1985. It connects private, state, and federal power systems and is still considered the longest High Voltage Direct Current transmission line in the world (Kramer 2010: 93–112; Linenberger and Gahan 2013: 17–19).

Midway-Vincent No. 1 and No. 2/Lugo-Vincent No. 1 and No. 2

The AC intertie effort involved collaboration between the BPA, Portland General Electric, PG&E, and SCE. SCE’s initial portion of the 500kV line consisted of 113-mile lines between PG&E’s Midway Substation (approximately 30 miles west of Bakersfield) and SCE’s Vincent Substation (Map ID 1) called Midway-Vincent No. 1 and No. 2 (Map ID 2). The 500kV interconnection was energized in 1968. In 1974, Midway-Vincent No. 3 was constructed between the two substations; circa 2012 Midway-Vincent No. 3 became known as Midway–Whirlwind and connected to the newly constructed Whirlwind Substation as part of the Tehachapi Renewable Transmission Project. It does not appear that No. 3 still connects to the Vincent Substation. Lugo-Vincent No. 1 and No. 2 (Map ID 3) were energized in 1969 and run approximately 50 miles from the Vincent Substation to SCE’s Lugo Substation in Oak Hills.

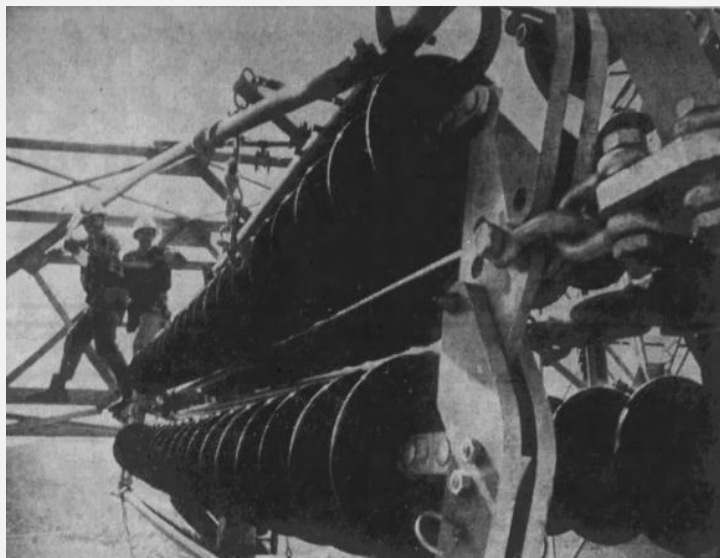
To complete the lines, 40-foot-tall transformers weighing 434,000 pounds each were shipped via railroad flatcar to the SPRR stop in Acton from Indiana. The function of the transformers is to step down the voltage of electricity from 500kV to 200kV for further transmission to other substations. The construction of the massive towers involved teams of workers utilizing cranes and other large machinery (Exhibits 2 and 3). Steel lattice towers increased in size to correspond to increased loads at the new 500kV lines and typically featured a ‘cinched waist’ massing with a wide base, narrow mid-point, and extended horizontal cross arms with porcelain insulators (Exhibit 4). According to SCE’s *Historic-Era Electrical Infrastructure Management Program*, the period of significance for SCE extra-high voltage transmission lines is 1965 to 1970, after which time the lines are considered commonplace and not eligible for the NRHP/CRHR (Tinsley-Becker 2017: 51, 87, and 95; Independent 1967: 23; SPR 1967: 2; Merced Sun-Star 1974: 15).

Exhibit 2. Lugo-Vincent 500kV towers under construction, 1968.



Source: Art Adams/The Huntington Library, Southern California Edison Photographs and Negatives.

Exhibit 3. SCE employees installing insulator at a tower near the Vincent Substation in 1968.



Source: East Review 1968: 50.

Exhibit 4. Typical SCE 500kV transmission tower, circa 1973.



Source: Tinsley-Becker 2017: 63.

Eagle Rock-Pardee and Antelope-Vincent No. 1 Transmission Corridor (P19186876)

P-19-186876 has been described under several different names with different dates of construction and different status codes (see Section 4.1.2, Previously Recorded Built Environment Resources for a summary of all previous documentation). In 2011, P-19-186876 was recorded as a contributor to the SCE Big Creek Hydroelectric System Company Vincent 200kV Transmission line, a 224-mile six-line system constructed from 1925 to 1928 which runs from SCE's Big Creek Hydroelectric System to the Gould Substation near La Canada-Flintridge in Los Angeles County. The previous documentation describes three tower types within the system: steel H-Frame Vincent Towers, Transposition Vincent Tower, and dead-end/anchor Vincent Tower (Tinsley-Becker 2011: 1–2). Dudek's field survey did not identify towers matching this description in the study area and it appears the line has been upgraded to 500kV and towers have been replaced as part of the SCE Tehachapi Renewable Transmission Project, which was completed in 2016 (Exhibit 5) (SCE 2025; CEC 2025; Federal Register 2007).

Exhibit 5. SCE map showing the upgraded/replaced transmission line sections completed as part of the Tehachapi Renewable Transmission Project. These upgrades follow the alignment of P19186876 (11 in map).



Source: SCE 2025.

3.5.3 Substations

Substations act as receivers of newly generated power through transmission lines and use transformers to convert energy into high voltages or convert the current to lower desired voltages. The primary function of a substation is the conversion of electrical currents between voltages and circuits. As transmission lines carry electrical circuits to the substation, switchgears carry the current to transformers that convert the current to the desired voltage. Substation design includes structures such as the intake from high-voltage transmission lines, transformers, switchgear, shield wires, and lightning arrestors that divert lightning to the ground through towers (Kramer 2012: 49). There are three types of substations: a step-up transmission substation, a step-down transmission substation, and a distribution substation. As described in SCE's *Historic-Era Electrical Infrastructure Management Program*:

The step-up type receives power from a nearby generating facility and uses a large power transformer to increase the voltage for transmission to distant locations. The stepdown type serves as switching points wherein the transmitted voltage may be reduced to a sub transmission level and further transmitted to customers via the electrical grid. The distribution substation type is the end-user facility that connects to local customers at varying low-voltage levels. Substations are designed to fulfill all or some of the following functions (Tinsley-Becker 2017: 65):

- Change voltage from one level to another,
- Regulate voltage to compensate for system voltage changes,
- Switch transmission and distribution circuits into and out of the grid system,
- Measure electric power qualities flowing in the circuits,
- Connect communication signals to the circuits,
- Eliminate lightning and other electrical surges from the system,
- Connect electric generation plants to the system,
- Make interconnections between the electric systems of more than one utility, and
- Control reactive kilovolt-amperes supplied to and the flow of reactive kilovolt amperes in the circuits.

Southern California Edison Substations

The SCE Company's *Historic-Era Electrical Infrastructure Management Program* document defines six types of historic-era substations that are categorized by the types of buildings they resemble: Monumental, Commercial, Residential, Civic, Religious, and Atypical. Atypical substations, such as the SCE Vincent Substation, were utilitarian in form and constructed from 1940 onward, while the other types of substations were more prevalent pre-1940 and frequently reflected popular Period Revival styles of the time (Tinsley-Becker 2017: 13).

Early SCE substations in Southern California were constructed between 1909 and the 1930s, often as Monumental type substations. Monumental type substations do not resemble a property type but rather reflect a substantial presence through their scale, massing, and formal appearance. These substations are properties constructed with an emphasis on architectural value and aesthetics and were designed in popular Period Revival styles such as Classical Revival, Mission Revival, and Spanish Revival. They were typically constructed with reinforced concrete with a height between one to six stories. There are three subtypes of the Monumental type: the Block, Box, and Multi-Part subtypes. The Block subtype consists of buildings that are over three stories with bays of windows and overhangs. The Box subtype consists of rectangular in plan buildings with either a cornice or recessed panels. The Multi-Part subtype is organized in two to three parts and features the Classical Revival style or classical elements such as pediments and piers (Tinsley-Becker 2017: 13; SCEC 1968: 7–14).

Commercial types resemble buildings for businesses and were often constructed in Period Revival styles. There are three subtypes, banks, offices, and retails. The Commercial subtype is primarily used in commercial areas to disguise the appearance of electrical infrastructure substations (Tinsley-Becker 2017: 13).

The Residential type refers to substations designed to look like single or multi-family residences. There are three subtypes, apartments, bungalows, and cottages. Residential type substations are typically constructed in residential

neighborhoods and designed to blend in with the surrounding architecture substations (Tinsley-Becker and Chiang 2015: 14).

Civic substations typically reflect Classical Revival style brick buildings such as libraries or post offices. There are four subtypes, three of which resemble libraries and one that resembles post offices. Religious type substations are the least common and often resemble Spanish Colonial Revival style churches. They do not have any subtypes (Tinsley-Becker 2017: 13–14).

Lastly, Atypical type substations are defined by the *Historic-Era Electrical Infrastructure Management Program* document as substations that are not architecturally significant but may be historically significant for other reasons (for example, their association with a historical event or for innovation in engineering). By the 1940s, shortages of material due to World War II resulted in substations constructed with no particular style or decoration. As a result, SCE promoted more utilitarian style substations that could be efficiently built. In 1950, SCE acquired or developed approximately 401 additional substations, and the company's portfolio continued to steadily increase in subsequent decades, making the Atypical type substation the preferred model. At the time the SCE Vincent Substation was constructed, 1967, the company often used standardized, utilitarian components. Atypical substations are significant for their association to development and expansion of the company (SCE 2023; Tinsley-Becker and Chiang 2015: 14; Tinsley-Becker 2017: 13–14).

Characteristics of SCE post-World War II Atypical substations include:

- High voltage transmission towers
- Lighting arrestors
- Switchgear
- Transformers
- Busbars
- Shield wires
- Underground cables
- Small-scale, unadorned utilitarian buildings that were purpose built to house electrical equipment

Southern California Edison Vincent Substation

The SCE Vincent Substation located at 33301 Angeles Forest Highway in the unincorporated community of Acton, was constructed in 1967, although it was not fully operational until early 1968 (SPR 1967: 2; SPR 1968: 18). The Vincent Substation was constructed at a cost of \$14,000,000 as an extra high voltage station. Extra high voltage stations were fitted with technology designed to accommodate the stronger power of the 500kV lines, including infrastructure such as large air circuit breakers (Exhibit 6) (SPR 1967: 2). Additional subsequent extra-high voltage substations were constructed by SCE in subsequent years, including in Sylmar (1970). The construction of the Vincent Substation included the installation of seven 40-foot-tall transformers weighing 434,000 pounds each, capable of "stepping down" the voltage of electricity arriving from the Pacific Northwest–Southwest Intertie. While the SCE Vincent Substation was designed to connect to extra-high voltage lines, it also energizes lower-voltage (220kV and 60kV) lines.

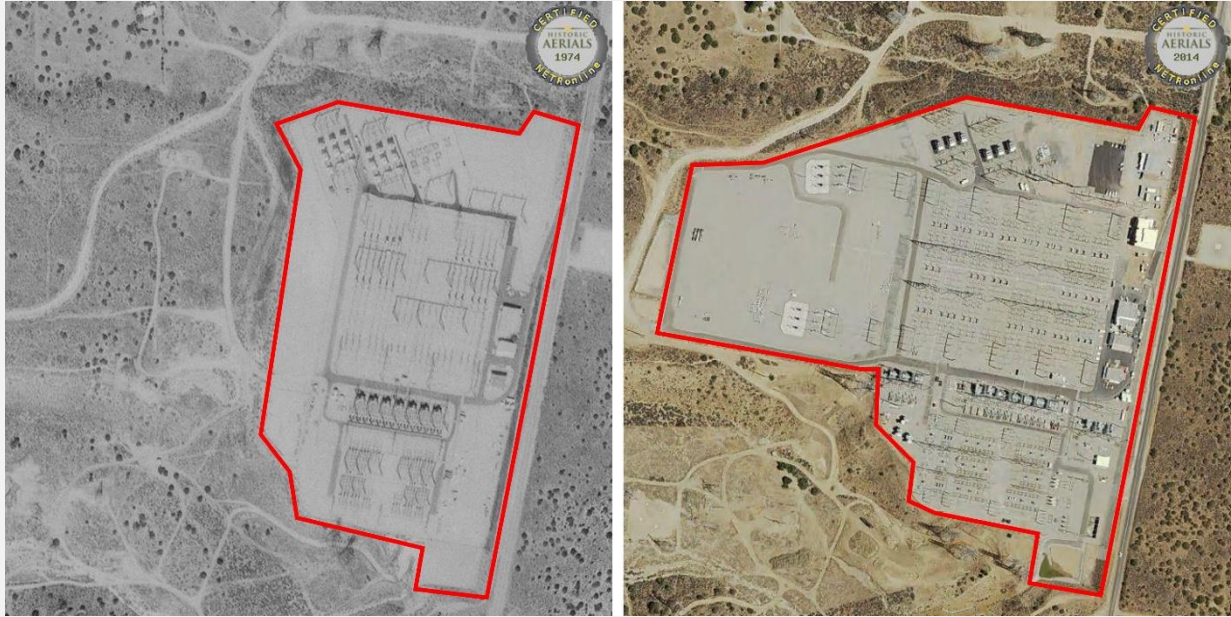
Exhibit 6. A substation maintenance employee stands beside one of the new 500kV air circuit breakers at the Vincent Substation (circa 1970).



Source: The Huntington Library, Southern California Edison Photographs and Negatives.

The Vincent Substation has been altered since its construction to accommodate changing energy needs and advancements in technologies. Historic aerial photographs of the property show that it was initially developed with three buildings, a security booth, and power infrastructure. More electrical equipment was added to the western side of the property between 1978 and 1987. The property was expanded west in 2010, and a building was built on the southeast side of the property (Exhibit 7). In 2013, an admin building was constructed on the northeast of the property. Prior to the construction of the substation, the parcel on which it sits was undeveloped (NETR 2024a; NETR 2024b).

Exhibit 7. 1974 aerial photograph (left) showing the Vicent Substation (outlined in red); 2014 aerial photograph (right) showing the additions (outlined in red).



Source: NETR 2024a.

3.6 Rural Residential Architecture

Early settlement of non-native peoples in wider Los Angeles County was driven by the establishment of the railroad, mining, and agriculture. As the county grew between the late 1800s and early 1900s, rail routes, and other transportation routes became established in the state. The SPRR facilitated the area's growth and connected rural and urban Los Angeles County to the rest of Southern California and eastern states. As a result, the area's rural residential architecture reflected the availability of materials and prefabricated components that could be transported by the railway. Permanent architecture combines the region's functionality, needs, material characteristics, and culturally transferred building techniques or traditions. Los Angeles County's rural residential architecture does not reflect the popular styles of residential or commercial architecture at the time and generally show modest designs. The post-World War II housing boom increased use of factory-produced materials, the ability to be quickly mass produced and deployed, and the general rejection of excessive decoration. Notable features of rural residential architecture include the following (Ghanbari et al. 2022):

- Small-scale residential buildings
- Buildings that are one story or one and a half stories in height
- Residences that may have low- or intermediate-pitched gable roofs
- Minimal, limited architectural decoration
- Garages that may be attached or detached

- Patterns of spatial organization
- Response to the natural environment
- Clustered buildings, structures, and objects
- Small-scale elements

3.7 Present Architectural Styles

The following architectural styles were present in the built environment study area.

3.7.1 Ranch Style (1930–1980)

Ranch-style houses in California reflect a national trend of fascination with the “Old West” and were a building style of choice for tract housing. Ranch homes were originally developed in the western and southwestern United States, but quickly gained national popularity through the dissemination of do-it-yourself manuals and plans in national magazines such as *Sunset*, *Better Homes And Gardens*, and *House Beautiful*. Later, ranch houses were popular as a custom-built type of housing, which was especially popular in the later 1940s and 1950s. Ranch houses were typically built between 1930 and 1980, but peaked in the 1950s, as the most prevalent type of post-World War II suburban tract-style housing, often housing veterans who secured housing with Federal Housing Administration loans.

Ranch style houses are usually a one-story, single-family residence. Houses designed in this architectural style include several identifying characteristics such as rambling, elongated plans; a horizontal emphasis; general asymmetry; free-flowing interior spaces; and a designed connection to the outdoors. Features such as low-pitched roofs with wide eaves, a combination of cladding materials including board-and-batten siding, brick and stone chimneys, and large picture windows were commonly applied and evoked an aesthetic that was reminiscent of these past architectural traditions. Decorative features such as wood shutters and dovecotes were often added to enhance the rusticated appearance of Ranch houses (Grimes and Chiang 2009: 43–46; Horak et al. 2015: 23-25; McAlester 2019: 597–603).

Character-defining features include:

- Rambling, elongated plans with a horizontal emphasis
- One to two stories in height
- Low-pitched gabled or hipped roofs with overhanging, open eaves
- General asymmetry
- Free-flowing interior spaces
- Designed connection to the outdoors
- Cladding featuring stucco, board and batten, shingles, clapboard, or a combination of materials
- Brick or stone chimneys details
- Attached garages often linked to residence by breezeways
- Stone, brick, board and batten, clapboard, or horizontal wood siding used for accent on walls, secondary cladding types, and planters

- Functional and non-functional shutters details as trim around windows
- Fenestration may include a picture window

3.7.2 Mid-Century Modern (1945–1976)

Mid-century Modern style is reflective of International and Bauhaus styles popular in Europe in the early twentieth century. This style and its designers (e.g., Mies Van der Rohe and Gropius) were disrupted by WWII and moved to the United States. During WWII, the United States established itself as a burgeoning manufacturing and industrial leader, with incredible demand for modern buildings to reflect modern products in the mid-twentieth century. As a result, many industrial buildings are often “decorated boxes”—plain buildings with applied ornament to suit the era and appear more modern without detracting from the importance of the activity inside the building. Following WWII, the United States had a focus on forward thinking, which sparked architectural movements like Mid-Century Modernism. Practitioners of the style were focused on the most cutting-edge materials and techniques. Architects throughout Southern California implemented the design aesthetics made famous by early Modernists like Richard Neutra and Frank Lloyd Wright, who created a variety of modern architectural forms. Like other buildings of this era, Mid-century Modern buildings had to be quickly assembled and use modern materials that could be mass-produced. Both residences and offices designed in this style expressed its structure and materials, displayed large expanses of glass, and had an open interior plan (McAlester 2015; Morgan 2004).

Character defining features include (McAlester 2015; Morgan 2004):

- One to two stories in height
- Low, boxy, horizontal proportions
- Simple geometric forms with a lack of exterior decoration
- Flat roofed without coping at roof line; flat roofs hidden behind parapets or cantilevered canopies
- Expressed post-and-beam construction in wood or steel
- Exterior walls are flat with smooth sheathing and typically display whites, buffs, and pale pastel colors
- Mass-produced materials
- Simple windows (metal or wood) flush-mounted and clerestory
- Industrially plain doors
- Large window groupings

3.7.3 Neo-Mansard (1960–Present)

Neo-Mansard or Mansard style is one of several Eclectic architectural styles popular in America during the second half of the twentieth century. Eclectic architecture refers to designs that borrow architectural elements from, but does not copy, traditional and revival styles and details, or combines architectural elements from two or more styles such that they cannot be distinguished into a single style. The Neo-Mansard style first appeared in the 1940s, reached the height of its popularity in the 1970s, and is still used today, most often in commercial buildings. It was appealing because it could be used to give the profile of a two-story building at a time when deed restrictions or zoning ordinances required one-story homes. The style is expressed as an adaptation of the nineteenth century

French Second Empire feature, the Mansard roof, and uses the steeply sloped plane typical of a Mansard roof as sloping wall cladding on the top-story of a two-or-more-story building. Further recalling the Second Empire tradition, the material of the Neo-Mansard's upper wall cladding is typically cedar or asbestos shingle, but may also be clad in standing seam metal, clay tile, or asphalt shingles, recalling only the Mansard form instead of material (McAlester 2019: 407; Alaska DNR 2020).

The actual roof of a Neo-Mansard can be traditional, dual-pitched Mansard, hipped, or flat. If flat, there is usually a parapet wall to disguise the roof. The first floor can be clad in a variety of materials, including brick veneer, clapboard, stone, T1-11 plywood, or stucco. Windows and doors vary in style, as modern architecture does, but notably, doors and windows may extend into the Mansard roof from the first story. Windows on the story with the Mansard-like roof/wall cladding may be either recessed or dormered. The upper story may also have balconies recessed into the sloped cladding. First-story windows are flush with the wall plane and typically aluminum or another modern window material. Although Neo-Mansard single family homes exist, Neo-Mansard often takes the form of multi-family housing, commercial buildings, and townhouses (McAlester 2019: 407; Caltrans 2011: 90-91).

Key characteristics of the Neo-Mansard style of architecture include the following:

- Usually one-and-a half or more stories
- Flat roof with a faux Mansard roof as cladding on the top-most floor of the building
- Primary roofing/upper-story cladding material is wood or asbestos shingles
- Upper-story dormer windows on steep slope or windows recessed into the plane of the sloped roof
- Recessed entry points
- Lower story typically clad in wood, T1-11, stone veneer, or brick veneer

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4 Results of Identification and Evaluation Efforts

This section provides the results of the literature search, background research, and field survey. Unless indicated below, no relevant information was found during the review of additional records. A description and an evaluation of each of the resources in the study area that are recommended eligible for the NRHP, CRHR, and local listing is provided. Appendix B contains the DPR 523 form sets for all resources in the study area. The significance evaluations were prepared by Dudek architectural historians Claire Cancilla, MSHP, and Katie Ahmanson, MHC.

4.1 California Historical Resources Information System Records Search

4.1.1 Previously Conducted Cultural Resource Studies

The complete results of the cultural resources reports can be found in the *Archaeological Resources Management Report for the Prairie Song Reliability Project* (Dudek 2025). One report, LA-11874, contained built environment resources that intersect with the study area. This report, *California Register of Historical Resources and National Register of Historic Places Evaluation of CA-LAN-3729H, Southern California Edison Company Tehachapi Renewable Transmission Project Segment 5, Los Angeles County, CA*, was prepared in 2011 by Wendy Tinsley-Becker of Urbana Preservation & Planning.

4.1.2 Previously Recorded Built Environment Resources in the Study Area

Three previously recorded built environment resources were identified in the records search (Table 2). P-19-187713 (Angeles Forest Highway) is addressed as Map ID 9 and P-19-186876 (SCE Eagle-Rock Pardee and Antelope-Vincent No. 1 200kV Transmission Line Corridor) is addressed as Map ID 4 in this report. It appears that the segment of P-19-186876 within the study area has been upgraded to 500kV and towers have been replaced as part of SCE's Tehachapi Renewable Transmission Project, which was completed in 2016. A summary of previous documentation for P-19-186876 is included after Table 2.

Big Creek No. 4; Antelope-Mesa 220kV Transmission Line (P-19-192581) is not addressed further in this report because the 2017 DPR 523 form for the transmission line authored by SCE Archaeologist Audry Williams states "the Antelope-Mesa portion of the line was completely removed during the construction of Segment 7 of SCE's Tehachapi Renewal Transmission Project in 2014" (Williams 2017: 2). A corresponding map shows that the removed line ran through the study area (Williams 2017: 5). This documentation is in Appendix B, DPR Forms.

Table 2. Previously Recorded Built Environment Resources within the Study Area

Primary Number	Description	Recording Events	NRHP/CRHR Status
P-19-186876	SCE Eagle Rock-Pardee & Antelope-Vincent No. 1 220kV Transmission Line Corridor	2003 (James J. Schmidt and June A. Schmidt, Compass Rose); 2006 (Koral Ahmet and Sara Bholat, ECORP Consulting); 2011 (Wendy L. Tinsley-Becker, Urbana Preservation & Planning); 2011 (Patrick Stanton, SRI); 2012 (Wendy L. Tinsley-Becker, Urbana Preservation & Planning)	2D2; 2S (2012) 6Z (2003, 2006, 2011)
P-19-187713	Angeles Forest Highway	2003 (J. K. Sander, Chambers Group)	6Z
P-19-192581	Big Creek No. 4; Antelope-Mesa 220kV Transmission Line	2010 (Wendy L. Tinsley, Urbana Preservation & Planning); 2010 (Wendy L. Tinsley, Urbana Preservation & Planning); 2014 (Daniel Leonard, BCR Consulting); 2017 (Audry Williams, SCE); 2018 (Audrey von Ahrens, GPA); 2019 (Audry Williams, SCE)	6Y

Notes:

2D2 = Contributor to a multi-component resource determined eligible for NRHP by consensus through Section 106 process. Listed in the CRHR.

2S = Individually determined eligible for NRHP by the Keeper. Listed in the CRHR.

6Z = Found ineligible for NRHP, CRHR or local designation through survey evaluation.

6Y = Determined ineligible for NRHP by consensus through Section 106 process – Not evaluated for CRHR or local listing

P-19-186876

P-19-186876 has been recorded multiple times under several different names, summarized below:⁵

2003 (Schmidt): SCE Eagle Rock-Pardee Transmission Line Corridor. The DPR stated that the recorded 18.2-mile segment of transmission line is a remnant of the third Big Creek Line that was reconstructed or modified in 1974. The documentation describes the line as having steel lattice transmission towers. This documentation does not include an evaluation for significance.

2006 (ECORP): Vincent Lines. The DPR identifies an approximately 13-mile segment of the Vincent Line with a date of construction of 1928. The DPR states that the recorded segment has H-Frame Vincent towers. This documentation does not include an evaluation for significance.

⁵ In addition to the documentation summarized above, P-19-186876 also included DPR 523 forms for the Antelope-Mesa 200kV Transmission Line/Magunden-Mesa 200kV Transmission line and an update for the Antelope-Vincent No. 1 200kV Transmission Line, both of which were authored by Wendy Tinsley-Becker and assigned status codes of 6Z. An additional update form for a segment of the Antelope-Mesa 200kV Transmission Line was completed by archaeologist Daniel Leonard in 2014 that recorded a segment of this transmission line and summarized Tinsley-Becker's finding of 6Z for this line. Per correspondence between SCE Archaeologist Audrey Williams and the SCCIC included in the documentation of P-19-192581, these DPRs were improperly included by the SCCIC with P-19-186876 and are actually associated with P-19-192581.

2010 (Tinsley-Becker): SCE Antelope-Magunden No. 1 220kV Transmission Line. The DPR states that the line was installed between 1949 and 1951 and connected to Big Creek Powerhouse No. 4. It describes the line’s towers as utilitarian steel lattice towers and assigns the line a 6Z status code.

2011 (Stanton): SCE Transmission Line Corridor. This documentation was completed by archaeologists. It documents four steel lattice transmission towers. It does not include a date of construction or an evaluation for significance.

2011 (Tinsley-Becker): SCE Big Creek Hydroelectric System Company Vincent 200kV Transmission line. This documentation is for a system consisting of six lines constructed from 1925 to 1927 (Big Creek No. 3-Springville 200kV; Magunden-Springville No. 1 220kV; Antelope-Magunden No. 2; Antelope-Vincent 200kV; Antelope-Eagle Rock (idle)/Pardee-Vincent; and Eagle Rock-Pardee. A portion of the Eagle Rock-Pardee TL was previously recorded). This documentation found the system eligible under NRHP/CRHR A/1, B/2, and C/3 and assigned a status code of 2D2. It describes three towers within the system: steel H-Frame Vincent Towers, Transposition Vincent Tower, and dead-end/anchor Vincent Tower.

4.2 Historical Maps

Table 3 provides a summary of the topographic map review conducted for the study area. This table is from the *Phase I Environmental Site Assessment: Prairie Song Reliability Project* prepared by Dudek in 2024 (Smith and Huang 2024: 19–20).

Table 3. Summary of Topographic Maps

Date	BESS Facility Site (APNs 3056-017-007, -020, 021; 3056-019-013, -026, -037, and -040)	Adjoining and Surrounding Properties
1900	The project site is depicted as vacant, undeveloped land. An east–west-trending light-duty road and a wide wash are depicted through the center of the site.	The adjoining and surrounding areas are depicted as vacant, undeveloped land. A northeast–southwest trending railroad is depicted to the north. A few light-duty roads are depicted throughout the adjoining and surrounding area.
1934	The light-duty road and wide wash are no longer depicted on the site. A tank and a well are depicted on the subject property. Narrow washes are depicted in the southwest and northwest portions of the site. Unimproved roads are depicted in the northwestern and northeastern portions of the site. A structure is depicted along the eastern border of the site.	Two wells and a patrol station are depicted north of the subject property. East–west trending Highway 6 and Soledad Canyon are depicted north of the project site. Additional roadways and narrow washes are depicted throughout the surrounding area.
1939	The site is depicted similarly to the 1934 topographic map.	The adjoining and surrounding areas are depicted similarly to the 1934 topographic map.
1940	The tank and the well are no longer depicted on the site. The narrow wash in the southwestern portion is no longer depicted on the site.	The two wells are no longer depicted north of the project site. Additional structures are depicted on the surrounding properties to the north.

Table 3. Summary of Topographic Maps

Date	BESS Facility Site (APNs 3056-017-007, -020, 021; 3056-019-013, -026, -037, and -040)	Adjoining and Surrounding Properties
1947	The structure along the eastern border is now depicted outside of the site boundary. The remaining site is depicted similarly to the 1940 topographic map.	A structure is depicted on the eastern-adjointing property. The remaining adjoining and surrounding areas are depicted similarly to the 1940 topographic map.
1948	The site is unmapped.	Most of the adjoining and surrounding properties are unmapped.
1959	The site is depicted similarly to the 1947 topographic map.	Kentucky Springs Canyon is depicted on the adjoining and surrounding property to the north. Additional roadways and structures are scattered throughout the surrounding area.
1974, 1978	The site is depicted similarly to the 1959 topographic map.	Highway 6 has been expanded to have several on-/ off-ramps connecting to the highway and is renamed Highway 14. A substation is now depicted northeast of the project site. Two structures are depicted on the southwestern adjoining property. Additional buildings and unimproved roads have appeared in the areas surrounding the project site.
1991, 1994	The site is depicted similarly to the 1974/1978 topographic map.	The adjoining and surrounding areas are depicted similarly to the 1974/1978 topographic map.
1995	A structure is depicted in the western portion of the site. A roadway is depicted along the western border of the site.	Additional structures and roads are depicted in the areas surrounding the project site.
2012	Structures are no longer depicted on the topographic map.	Structures and power transmission lines are no longer depicted on the topographic map.
2015	The site is depicted similarly to the 2012 topographic map.	Changes to road layouts are depicted in areas surrounding the subject property.
2018	The site is depicted similarly to the 2015 topographic map.	The adjoining and surrounding areas are depicted similarly to the 2015 topographic map.
2022	The site is depicted similarly to the 2018 topographic map.	The adjoining and surrounding areas are depicted similarly to the 2018 topographic map.

Notes: BESS = battery energy storage system; APN = Assessor's Parcel Number.

4.3 Historic Aerials

Table 4 summarizes the review of the historic aerials that cover the study area (Smith and Huang 2024: 17–18).

Table 4. Summary of Aerial Photographs

Date	BESS Facility Site (APNs 3056-017-007, -020, 021; 3056-019-013, -026, -037, and -040)	Adjoining and Surrounding Properties
1928	The site appears largely undeveloped. An east–west-trending wide wash is observed in the northwest portion of the subject	Undeveloped land is observed on all adjoining and surrounding properties. A road and railroad are observed northwest of the subject property. A few narrow washes

Table 4. Summary of Aerial Photographs

Date	BESS Facility Site (APNs 3056-017-007, -020, 021; 3056-019-013, -026, -037, and -040)	Adjoining and Surrounding Properties
	property. A narrow wash is observed in the southwestern corner of the subject property. Two roads are observed on the northern half of subject property. Vegetation that appears to be bushes and shrubs sparsely covers the entirety of the site.	and dirt roads/trails are observed throughout the surrounding area. Vegetation that appears to be bushes and shrubs sparsely covers the adjoining and surrounding properties.
1940	The site appears similar to the 1928 aerial photograph.	The adjoining and surrounding areas appear similar to the 1928 aerial photograph.
1954	The site appears similar to the 1940 aerial photograph.	The adjoining and surrounding areas appear similar to the 1940 aerial photograph.
1968	A cleared area is observed in the western portion of the project site. A north-south-trending road is observed along a portion of the western border.	Rural residential/farming structures are observed on the western- and eastern-adjoining properties. Additional residential/farming structures are observed to the south. Additional roads appear throughout the adjoining and surrounding properties.
1974	The site appears similar to the 1968 aerial photograph.	The adjoining and surrounding areas appear similar to the 1968 aerial photograph.
1976	The site appears similar to the 1974 aerial photograph.	The adjoining and surrounding areas appear similar to the 1974 aerial photograph.
1983	A small, cleared area is observed along the eastern border of the site, associated with the eastern-adjoining structure. The site appears similar to the 1976 aerial photograph.	Additional residential/farming structures are observed adjoining the subject property to the northeast and west and also on the surrounding property to the south.
1989	A residential area is observed in the western portion of the site. A graded area associated with structures on the eastern adjoining property is observed along the eastern border.	The northeastern- and western-adjoining areas are further developed with additional structures and grading. The remaining adjoining and surrounding areas appear similar to the 1983 aerial photograph.
1994	A few additional roads are observed throughout the site.	Additional structures are observed on the western adjoining property. The remaining adjoining and surrounding areas appear similar to the 1989 aerial photograph.
2002	Additional structures are observed in the western portion of the site.	Additional development is observed on the eastern and western-adjoining properties. The remaining adjoining and surrounding areas appear similar to the 1994 aerial photograph.
2005	The site appears similar to the 2002 aerial photograph.	The adjoining and surrounding areas appear similar to the 2002 aerial photograph.
2009	Additional structures are observed in the western portion of the p site. The remaining site appears similar to the 2005 aerial photograph.	The adjoining and surrounding areas appear similar to the 2005 aerial photograph.

Table 4. Summary of Aerial Photographs

Date	BESS Facility Site (APNs 3056-017-007, -020, 021; 3056-019-013, -026, -037, and -040)	Adjoining and Surrounding Properties
2012	The site appears similar to the 2009 aerial photograph.	The adjoining and surrounding areas appear similar to the 2009 aerial photograph.
2016	The site appears similar to the 2012 aerial photograph.	The adjacent and surrounding areas appear similar to the 2012 aerial photograph.
2020	The site appears similar to the 2016 aerial photograph.	The adjacent and surrounding areas appear similar to the 2016 aerial photograph.
2023	The site appears similar to the 2020 aerial photograph.	The adjacent and surrounding areas appear similar to the 2020 aerial photograph.

Notes: BESS = battery energy storage system; APN = Assessor's Parcel Number.

4.4 Survey Results

A total of 38 properties over 45 years of age at the time of survey were recorded and evaluated for historical significance. The survey was conducted from the public right-of-way. The survey population contained 38 properties constructed between 1929 and 1980. Property types recorded during the survey consist of a substation, three transmission lines, a road, a fire station, and 34 single-family residences. The majority of the study area consists of single-family residences constructed in the 1960s and 1970s. They represent several architectural styles including Ranch, Mid-Century Modern, and Neo-Mansard, however most of the properties do not exhibit a true architectural style. These resources are summarized in Table 5. Two resources, Map IDs 2 and 3, are recommended eligible for the NRHP, CRHR, and County Register and are evaluated in Sections 4.4.1 and 4.4.2.

Previously recorded Map ID 4 (Eagle Rock-Pardee and Antelope-Vincent No. 1 Transmission Corridor) were recorded as contributors to the SCE Big Creek Hydroelectric System Company Vincent 200kV Transmission line, which has a status code of 2S2 in previous documentation (Tinsley-Becker 2011: 1) and 2D in the Built Environment Resource Directory. However, no tower types as described in the previous documentation were identified in the study area during the field survey and it appears the line was upgraded to 500kV and towers were replaced as part of the Tehachapi Renewable Transmission Project, which was completed in 2016 (SEC 2025; Federal Register 2007). The remaining 35 properties are recommended not eligible and are recorded and evaluated in DPR 523 forms located in Appendix B.

Table 5. Built Environment Properties Recorded and Evaluated in the Study Area

Map ID	Property Name	Address/APN	Year Built	Primary Number
Previously Recorded				
4	Eagle Rock-Pardee & Antelope-Vincent No. 1 Transmission Corridor	N/A	1925-1928	P-19-186876
9	Angeles Forest Highway	N/A	1941	P-19-187713

Table 5. Built Environment Properties Recorded and Evaluated in the Study Area

Map ID	Property Name	Address/APN	Year Built	Primary Number
Newly Recorded				
1	Vincent Substation	33301 Angeles Forest Highway (APN 3056-015-800)	1967	N/A
2	Midway-Vincent No. 1 and No. 2	N/A	1968	N/A
3	Lugo-Vincent No. 1 and No. 2	N/A	1969	N/A
5	N/A	815 Kentucky Springs Road (APN 3056-015-008)	1979	N/A
6	N/A	401 Rockyford Road (APN 3056-014-042)	1959	N/A
7	N/A	790 Carson Mesa Road (APN 3056-014-036)	c. 1958	N/A
8	N/A	33830 Angeles Forest (APN 3056-004-034)	1979	N/A
10	N/A	33456 Angeles Forest (APN 3056-012-024)	1978	N/A
11	N/A	624 East Soledad Pass (APN 3056-012-053)	1929	N/A
12	N/A	33440 Angeles Forest Highway (APN 3056-012-008)	c. 1954	N/A
13	N/A	33120 Hillside Drive (APN 3056-012-004)	1947	N/A
14	N/A	33438 Angeles Forest Highway (APN 3056-012-023)	c. 1934	N/A
15	N/A	33110 Hillside Drive (APN 3056-012-057)	1950	N/A
16	N/A	33446 Angeles Forest Highway (APN 3056-012-006)	1940	N/A
17	N/A	900 Searchlight Ranch Road (APN 3056-018-073)	c. 1954	N/A
18	N/A	32410 El Sastre (APN 3056-026-036)	1979	N/A
19	N/A	1110 Searchlight Ranch Road (APN 3056-026-018)	1967	N/A
20	N/A	1124 Bulla Vista Road (APN 3056-027-067)	1969	N/A
21	N/A	1125 Bulla Vista Road (APN 3056-027-037)	c. 1974	N/A
22	N/A	32662 Calle Del Roja (APN 3056-027-035)	c. 1966	N/A
23	N/A	Southern Pacific Railroad	1873 to 1876	N/A
24	N/A	1547 Soledad Canyon Road (APN 3056-022-035)	1978	N/A
25	N/A	33008 Joshua Avenue (APN 3056-022-032)	1978	N/A
26	N/A	33017 Malinta Avenue (APN 3056-022-038)	1979	N/A
27	N/A	1533 Sierra Highway (APN 3057-015-900)	1974	N/A
28	N/A	1685 Sierra Highway (APN 3057-015-041)	c. 1956	N/A
29	N/A	1687 Sierra Highway (APN 3057-015-042)	c. 1951	N/A
30	N/A	33410 San Gabriel (APN 3057-015-043)	1980	N/A

Table 5. Built Environment Properties Recorded and Evaluated in the Study Area

Map ID	Property Name	Address/APN	Year Built	Primary Number
31	N/A	33511 San Gabriel Avenue (APN 3057-015-013)	1976	N/A
32	N/A	33530 Arksey Avenue (APN 3057-024-001)	1976	N/A
33	N/A	33525 Arksey Avenue (APN 3057-015-023)	1976	N/A
34	N/A	33614 Arksey Avenue (APN 3057-016-010)	c. 1974	N/A
35	N/A	33640 Arksey Avenue (APN 3057-016-009)	c. 1950	N/A
36	N/A	658 Foreston Drive (APN 3056-006-017)	c. 1978	N/A
37	N/A	557 Foreston Drive (APN 3056-005-049)	1978	N/A
38	N/A	541 Foreston Drive (APN 3056-005-050)	1978	N/A

Notes: APN = Assessor's Parcel Number; N/A = Not Applicable; c. = circa.

4.4.1 Map ID 2 – Midway-Vincent No. 1 and No. 1 500kV Transmission Lines

Description

This resource was surveyed from the public right-of-way. The SCE 500kV Midway-Vincent No. 1 and No. 2 transmission lines run for approximately 113 miles between SCE's Vincent Substation and PG&E's Midway Substation. The study area includes an approximately 0.5-mile-long segment extending northwest from the Vincent Substation. The lines include 40-foot tall metal lattice-frame towers and topped with conductors and long cross arms with porcelain insulators that hold the transmission wires (Photographs 1 and 2).

Photograph 1. Tower of the Midway-Vincent No. 1 and No. 2, view looking northeast



Source: Dudek 2025.

Photograph 2. Tower of the Midway-Vincent No. 1 and No. 2, view looking northeast



Source: Dudek 2025.

Statement of Significance

Constructed in 1968, Midway-Vincent No. 1 and No. 2 were SCE's first 500kV lines and are associated with the Pacific Northwest-Pacific Southwest Intertie, a significant project in the power industry using the first high-voltage lines of 500kV constructed in the United States. This collaborative effort between BPA, Portland General Electric, PG&E, SCE and other entities supplied power to California's rapidly growing southern region, whose population boomed in the decades following World War II and Midway-Vincent No. 1 and No. 2 represents an important interconnection within the overall Intertie. As an early SCE 500kV line associated with a major power project constructed within the period of significance, Midway-Vincent No. 1 and No. 2 meet NRHP Criterion A, CRHR Criterion 1 and County Register Criterion 1 because they have a direct association with this significant project.

Research did not identify any individuals associated with the planning, design, construction, or use of Midway Vincent No. 1 and No. 2. Due to a lack of identified significant associations with any persons important in our past, the subject property is recommended not eligible under NRHP Criterion B, CRHR Criterion 2, or County Register Criterion 2.

Constructed in 1968, Midway-Vincent No. 1 and No. 2 were early SCE extra-high voltage 500kV transmission lines and represent a major technological and engineering innovation as part of the Pacific Northwest-Pacific Southwest Intertie. According to the SCE's *Historic-Era Electrical Infrastructure Management Program*, "the development of

transmitting electricity is historically significant in the engineering achievements of transmitting energy at high voltages over long distance and the structures that were designed to support these lines” (Tinsley-Becker 2017: 86–87). Constructed within the period of significance for SCE extra-high voltage transmission lines, they are eligible under NRHP Criterion C, CRHR Criterion 3, and County Register Criterion 3.

Midway-Vincent No. 1 and No. 2 are not significant as a source, or likely source, of important historical information, nor does it appear likely to yield important information about historic construction methods, materials, or technologies. This technology is well understood through contemporary trade journals and scientific monographs. As such, the subject property lacks significance under NRHP Criterion D, CRHR Criterion 4, or County Register Criterion 4.

Lastly, these transmission lines do not meet County Register Criterion 5 because it has not been formally determined eligible for listing in the NRHP by the National Park Service nor has it been formally determined eligible for the CRHR by the State Historical Resources Commission. County Register Criterion 6 and 7 do not apply to this property.

Integrity

In addition to meeting NRHP/CRHR/County Register criteria, the transmission lines retain integrity to convey that significance. Midway-Vincent No. 1 and No. 2 have not moved; therefore, they retain integrity of location. While development has increased around Midway-Vincent No. 1 and No. 2 since their construction, the alignment continues to traverse through rural areas and therefore retains integrity of setting. The towers in the survey area appear to retain their original design based on photographs of typical SCE 500kV transmission towers constructed in the 1960s and 1970s. Therefore, Midway-Vincent No. 1 and No. 2 retain integrity of design. Integrity of materials is retained although some original materials have been replaced or repaired as a result of routine maintenance. Integrity of feeling and association is retained because Midway-Vincent No. 1 and No. 2 continue to appear as a 500kV transmission line from their date of construction, 1968 and continue to be associated with SCE and the Pacific Northwest-Pacific Southwest intertie. Integrity of workmanship is not an important aspect of for this property type because it does not reflect the crafts of a particular culture or people.

4.4.2 Map ID 3 – Lugo-Vincent No. 1 and No. 1 500kV Transmission Lines

Description

These transmission lines were surveyed from the public right-of-way. The SCE 500kV Vincent-Lugo No. 1 and No. 2 Transmission Lines run for approximately 50 miles between SCE’s Vincent Substation and SCE’s Lugo Substation. The study area includes an approximately 0.50-mile-long segment extending northeast from the Vincent Substation. The lines include 40-foot tall metal lattice-frame towers and are topped with conductors and long cross arms with porcelain insulators that hold the transmission wires (Photograph 3).

Photograph 3. Representative 500kV tower; Vincent-Lugo No. 1 and No. 2 towers are visible in the background, view looking northeast 12/8/2024



Source: Dudek 2025.

Statement of Significance

Constructed in 1969, Lugo-Vincent No. 1 and No. 2 were early SCE 500kV lines are associated with the Pacific Northwest-Pacific Southwest Intertie, a significant project in the power industry using the first high-voltage lines of 500kV constructed in the United States. This collaborative effort between BPA, Portland General Electric, PG&E, SCE and other entities supplied power to California's rapidly growing southern region, whose population boomed in the decades following World War II and Midway-Vincent No. 1 and No. 2 represent an important interconnection within the overall Intertie. As an early SCE 500kV line associated with a major power project constructed within the period of significance, Midway-Vincent No. 1 and No. 2 meet NRHP Criterion A, CRHR Criterion 1, and County Register Criterion 1, because they have a direct association with this significant project.

Research did not identify any individuals associated with the planning, design, construction, or use of Vincent-Lugo No. 1 and No. 2. Due to a lack of identified significant associations with any persons important in our past, the subject property is recommended not eligible under NRHP Criterion B, CRHR Criterion 2, or County Register Criterion 2.

Vincent-Lugo No. 1 and No. 2 were early SCE extra-high voltage 500kV transmission lines and represent a major technological and engineering innovation as part of the Pacific Northwest-Pacific Southwest Intertie. According to the SCE's *Historic-Era Electrical Infrastructure Management Program*, "the development of transmitting electricity

is historically significant in the engineering achievements of transmitting energy at high voltages over long distance and the structures that were designed to support these lines” (Tinsley-Becker and Chiang 2015: 86–87). Constructed within the period of significance for SCE extra-high voltage transmission lines, they are eligible under NRHP Criterion C, CRHR Criterion 3, and County Register Criterion 3.

Vincent-Lugo No. 1 and No. 2 are not significant as a source, or likely source, of important historical information, nor does it appear likely to yield important information about historic construction methods, materials, or technologies. This technology is well understood through contemporary trade journals and scientific monographs. As such, the subject property lacks significance under NRHP Criterion D, CRHR Criterion 4 or County Register Criterion 4.

Lastly, these transmission lines do not meet County Register Criterion 5 because it has not been formally determined eligible for listing in the NRHP by the National Park Service nor has it been formally determined eligible for the CRHR by the State Historical Resources Commission. County Register Criterion 6 and 7 do not apply to this property.

Integrity

In addition to meeting NRHP/CRHR/County Register criteria, the transmission lines retain integrity to convey that significance. Integrity of location is retained because the lines have not moved. While development has increased around Vincent-Lugo No. 1 and No. 2 since their construction, the alignment continues to traverse through rural areas and therefore retains integrity of setting. Based on photographs of typical SCE 500kV transmission towers constructed in the 1960s and 1970s the towers in the survey area appear to retain their original design. Therefore, Vincent-Lugo No. 1 and No. 2 retain integrity of design. Some original materials have been replaced or repaired as a result of routine maintenance; overall, however, Vincent-Lugo No. 1 and No. 2 retain integrity of materials. Vincent-Lugo No. 1 and No. 2 retain integrity of feeling as they continue to appear as a 500kV transmission line from their date of construction, 1968. Integrity of association is retained because Vincent-Lugo No. 1 and No. 2 continue to be associated with SCE and the Pacific Northwest-Pacific Southwest intertie. Integrity of workmanship is not an important aspect of this property type because it does not reflect the crafts of a particular culture or people.

5 Findings and Conclusions

The subject properties were evaluated in consideration of NRHP, CRHR, and County Register criteria and integrity requirements and in accordance with Section 15064.5 (a)(2)–(3) of the CEQA Guidelines using the criteria outlined in PRC Section 5024.1.

Two properties, the SCE Eagle Rock-Pardee Transmission Line Corridor (P-19-186876; Map ID 4) and the Angeles Forest Highway (P-19-187713; Map ID 9) were previously recorded. The SCE Eagle Rock-Pardee Transmission Line Corridor has a status code of 2S/2D2. The segment in the study area was field checked and it appears the towers have been replaced/upgraded to 500kV as part of the Tehachapi Renewable Transmission Project (completed 2016). Angeles Forest Highway was assigned a status code of 6Z; Dudek's evaluation of the segment in the study area concurred with this previous finding of ineligibility.

Map ID 2 (Midway-Vincent No. 1 and No 2. 500kV Transmission Lines) and Map ID 3 (Lugo-Vincent No. 1 and No 2. 500kV Transmission Lines) were found eligible for the NRHP, CRHR, and County Register under Criteria A/1/1 and C/3/3 and were assigned status codes of 3S. Map ID 1 and Map ID 4 through Map ID 38 were found not eligible for the NRHP, CRHR, or County Register and were assigned status codes of 6Z.

The project does not propose any components that would alter the function, alignment, or transmission towers of Map ID 2 or Map ID 3. Therefore, the proposed project would not cause an impact to historical resources and no further study is recommended.

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Appendix A

Professional Qualifications

Katie Ahmanson, MHC

ARCHITECTURAL HISTORIAN

Katie Ahmanson (*KAY-tee AH-mun-son; she/her*) is an architectural historian with 5 years' experience in the field of architectural history and heritage conservation. She has experience with; citywide historic contexts; historical significance evaluations in consideration of the National Register of Historic Places (NRHP), California Register of Historical Resources (CRHR), and local designation criteria; Los Angeles Historic-Cultural Monument nominations; California Department of Parks and Recreation 523 forms; and Nevada Architectural Resource Assessment forms. Ms. Ahmanson has worked with environmental compliance documentation in support of projects that fall under the California Environmental Quality Act (CEQA)/National Environmental Policy Act (NEPA), and Sections 106 and 110 of the National Historic Preservation Act (NHPA).



Education

University of Southern
California School of
Architecture
MA, Heritage
Conservation, 2022
Claremont McKenna
College
BA, Art History, 2019

Project Experience

Evolve Student Housing Project, San Diego State University, San Diego, California. The project involves the construction of new student housing, dining, and auxiliary uses to the university's main campus. The project requires the demolition of 13 apartment buildings that are more than 45 years of age and is subject to CEQA and California PRC 5024 and 5024.5. The buildings required inventory and evaluation to determine if they were historical resources and if they should be placed on the State's Master List. Served as the architectural historian, conducting the field survey, archival research, and evaluated the buildings for their potential historical significance using the NRHP, CRHR and California Historical Landmark criteria. (2024–Ongoing)

La Paz Village Senior Housing Project, City of Laguna Hills, Laguna Hills, California. The project proposed to demolish the buildings on the project site for the construction of a five-story, 180-unit, senior housing building. Dudek was retained to inventory and evaluate built environment resources to determine if they were historical resources pursuant to CEQA and if the project would have an impact on historical resources.. As an architectural historian, coauthored the report, surveyed the properties, wrote significance evaluations and building descriptions, and completed archival research. (2024)

Life Sciences Building Project, San Diego State University, San Diego, California. Dudek was retained by San Diego State University to complete a historical resources evaluation of a substation proposed for demolition for the construction of a six-story building. Dudek's historical resource evaluation was to determine if the project would impact any historical resources pursuant to CEQA. As an architectural historian, coauthored the report, surveyed the property, wrote a significance evaluation and resource description, and completed archival research. (2024)

712 F Avenue Determination of Historic Significance Report, City of Coronado, California. Dudek was retained by the City of Coronado to evaluate the property for historical significance under City of Coronado designation criteria and integrity requirements. The evaluation involved research and development of an occupancy timeline, supplemental research on occupants and building development, survey of the property, a description of the property, and completion of a historical resource evaluation in consideration of City of Coronado designation criteria and integrity requirements. As architectural historian, coauthored the report, surveyed the properties, wrote significance evaluations and building descriptions, and completed archival research. (2024)

Colton Middle School Project, Michael Baker International, Colton, California. Dudek was retained by Michael Baker International to complete a historical resources assessment for the Colton Middle School Project, which proposed to alterations to the administration building, demolition of the locker room, and construction of a new pavilion and locker room building. The purpose of the assessment was to determine if the project would impact any historical resources pursuant to CEQA. As an architectural historian, coauthored the report, surveyed the property, wrote a significance evaluation and resource description, and completed archival research. (2024)

Brightline West —Las Vegas to Victor Valley Project, Federal Railroad Administration, Sloan, Unincorporated Clark County, Nevada. The project proposes the construction of an approximately 170-mile-long, high-speed, passenger train line connecting Victorville, California, to Las Vegas, Nevada. Dudek was retained to determine if the project would impact any historical resources pursuant to NEPA and Section 106 of the NHPA. Part of a team of architectural historians, evaluating resources for their potential eligibility for the NRHP and conducting archival research. (2024)

Manzanita Public Charter School Project, KBZ Architects, Vandenberg Space Force Base, California. The Manzanita Public Charter School proposed expanding the existing school through the construction of three new buildings and large-scale site improvements. The school campus was constructed in 1966 and required inventory and evaluation to assess its potential eligibility for NRHP and CRHR listing and compliance with CEQA and Section 106.. As architectural historian, coauthored the report, surveyed the property, wrote significance evaluations and building descriptions, and completed archival research. The California State Historic Preservation Officer concurred with the findings (2024)

14125 Goldenwest Apartments Project, Orange County Housing and Community Development Department, Westminster, California. The proposed project was to demolish a commercial building for the construction of a 29-unit residential community for families experiencing homelessness. The project was subject Section 106 of the NHPA and NEPA and required inventory and evaluation of existing properties that could be subject to adverse effects. Dudek was retained by the Orange County Housing and Community Development Department to complete a historical assessment and a technical report to support the environmental documents. As architectural historian, coauthored the report, surveyed the properties, wrote significance evaluations and building descriptions, and completed archival research. (2024)

15081 Jackson Street Built Environment Inventory and Evaluation Report, Orange County Department of Housing and Community Development, Midway City, Unincorporated Orange County, California. The project was subject Section 106 of the NHPA and NEPA and required the inventory and evaluation of properties to determine their historical significance. As architectural historian, coauthored the report, surveyed the properties, wrote significance evaluations and building descriptions, and completed archival research. (2024)

Patricia Ambacher

SENIOR ARCHITECTURAL HISTORIAN

Patricia Ambacher (*pa-TRISH-uh am-bah-ker; she/her*) is a senior architectural historian with 22 years' experience specializing in cultural resources management, historic preservation, Section 106 of the National Historic Preservation Act (NHPA), the National Environmental Policy Act (NEPA), the California Environmental Quality Act (CEQA), and California Public Resources Code (PRC) Sections 5024 and 5024.5. Ms. Ambacher evaluates properties for their eligibility for listing in the National Register of Historic Places (NRHP), California Register of Historical Resources (CRHR), California Historical Landmarks (CHL), and local registration programs. Ms. Ambacher has prepared a range of technical documents including historic resources evaluation reports, finding of effects, built environment treatment plans, historic property management plans, as well as cultural resources chapters for NEPA and CEQA environmental documents. Her work also includes Historic American Buildings Survey (HABS), Historic American Engineering Record (HAER), and Historic American Landscapes Survey (HALS) documentation. She has worked on projects in Alaska, Arizona, California, Idaho, Illinois, Nevada, Oregon, and Washington. Ms. Ambacher meets the Secretary of the Interior's Professional Qualifications Standards in architectural history and history.



Education

*California State University,
Sacramento
MA, History—Emphasis in
Public History, 2002
BA, History, 1993*

Professional Affiliations

*California Preservation
Foundation*

Project Experience

Golden State Natural Resources Forest Resiliency Demonstration Project, Golden State Finance Authority, Various Counties, California. Golden State Finance Authority serves as the lead agency for implementation of the Golden State Natural Resources Forest Resiliency Demonstration Project, which is a response to the growing rate of wildfires in California. The project was subject to CEQA. Serves as architectural historian who prepared the cultural resources chapter of the EIR as part of a team of cultural resources specialists. (2024–Ongoing)

Imperial County Lithium Valley Specific Plan, Imperial County, Imperial County, California. Imperial County is developing the Lithium Valley Specific Plan to support the existing, and expansion of, renewable energy development, lithium extraction, and associated infrastructure and industrial uses. Serves as part of a team of cultural resources professionals who prepared a cultural resources impacts assessment for the program-level environmental document. (2024–Ongoing)

Pier View Way Bridge and Lifeguard Headquarters and Beachfront Phase II, City of Oceanside, Oceanside, California. The project proposes improvements to the Pier View Way Bridge and Lifeguard Headquarters, a suite of proposed improvements to the Junior Seau Beach Community Center and Plaza, a range of improvement options for the Junior Seau Amphitheater/Bandshell, and conceptual improvements to Parking Lot #30/Betty's Lot consisting of built elements atop the existing surface parking lot to support a new beachfront park, community recreation classrooms, and a terraced park with multi-purpose landscaping and ramped paths. The project is subject to CEQA and Section 106 compliance. Serves as senior architectural historian providing oversight for the team of architectural historians, assisting with Section 106 consultation, and providing senior review for technical documentation. (2024–Ongoing)

Bidwell Bowl Improvements Project, California State University, Chico, Chico, California. California State University, Chico (Chico State), retained Dudek to prepare a built environment inventory and evaluation report for the Bidwell Bowl, an amphitheater constructed by the Works Progress Administration. Chico State needed the structure evaluated for compliance with California PRC Section 5024. Served as the lead architectural historian, conducting field work and archival research, prepared the historic context and the evaluation of the resource, and assisted with SHPO consultation. SHPO concurred with the findings and the Bidwell Bowl was added to the State's Master List. Continue to support Chico State as plans for rehabilitating Bidwell Bowl continue. (2024–Ongoing)

Evolve Student Housing Project, San Diego State University, San Diego, California. The project involves the construction of new student housing, dining, and auxiliary uses to the university's main campus. The project requires the demolition of 13 apartment buildings that are more than 45 years of age and is subject to CEQA and California PRC 5024 and 5024.5. The buildings required inventory and evaluation to determine if they were historical resources and if they should be placed on the State's Master List. Serves as the senior architectural historian, providing project oversight, overseeing the team of architectural historians, conducting the senior review of the technical report, and assisting with SHPO consultation. (2024–Ongoing)

Food Hub and Shops Project, San Francisco Unified School District, San Francisco, California. The school district owns and operates a large central warehouse facility used for administrative and workshop functions and was looking to demolish the existing building or repurpose it for another use. The building is more than 45 years old and required inventory and evaluation to determine if it is a historical resource for the purposes of CEQA. Serves as the senior architectural historian, providing project oversight, overseeing the team of architectural historians, and conducting the senior review of the technical report. (2024–Ongoing)

Shared Use Pathway East Wetland Park to Pacific Avenue, Nicklaus Engineering, Inc., Yuma, Arizona. The City of Yuma proposed the construction of a shared use pathway along the Main Drain, a U.S. Bureau of Reclamation (BOR) canal. Because the project required an easement from BOR and the project was receiving federal funding from the Carbon Reduction Program, it was subject to Section 106. Served as the senior architectural historian, providing guidance to the architectural historian team on the project and conducting the senior peer review of the technical report. (2024)

State Water Project (SWP) Built Environment Management Plan Project, California Department of Water Resources, Various Counties, California. The California SWP is the largest state-owned water and power generator and user-finance water system in the United States. Many SWP structures and facilities have been evaluated for historic significance, and some are considered historical resources under CEQA and historic properties under Section 106. The project involved preparing a built environment management plan to outline a program and process for DWR to effectively manage elements of the system as historical resources that comply with state and federal regulations while simultaneously prioritizing continued operation, maintenance, and repair. The project also involves consultation with SHPO under PRCE 5024 and 5024.5. Serving as part of a team of architectural historians conducting research, writing the management plan, and assisting with SHPO consultation. (2024–Ongoing)

Danielle Baza

ARCHITECTURAL HISTORIAN I

Danielle Baza (*DAN-yell BA-zuh; she/her*) is an architectural historian with 3 years' experience in cultural resources management. Ms. Baza's professional experience encompasses a variety of projects and resource types for federal and state agencies, municipal governments, and private developers. She has experience with National Register of Historic Places (NRHP) nominations, National Historic Landmark (NHL) nominations, California Department of Parks and Recreation (DPR) 523 forms, and Nevada Architectural Resource Assessment (ARA), and Bureau of Land Management Nevada Architectural Resource Assessment (NARA) forms. Ms. Baza has worked with environmental compliance documentation in support of projects that fall under the California Environment Quality Act (CEQA) and Section 106 of the National Historic Preservation Act (Section 106). She has worked on projects in Arizona, California, Nevada, and Oregon.



Education

California State University,
Sacramento
MA, Public History, in
progress
University of California,
Davis
BA, History, 2021

Project Experience

Imperial County Lithium Valley Specific Plan, Imperial County, Imperial County, California. Imperial County is developing the Lithium Valley Specific Plan to support the existing and expansion of, renewable energy development, lithium extraction, and associated infrastructure and industrial uses. Part of a team of cultural resources professionals who prepared a cultural resources impacts assessment for the program-level environmental document. (2024–Ongoing)

Pier View Way Bridge and Lifeguard Headquarters and Beachfront Phase II Project, City of Oceanside, Oceanside, California. The project proposes improvements to the Pier View Way Bridge and Lifeguard Headquarters, a suite of proposed improvements to the Junior Seau Beach Community Center and Plaza, a range of improvement options for the Junior Seau Amphitheater/Bandshell, and conceptual improvements to Parking Lot #30/Betty's Lot consisting of built elements atop the existing surface parking lot to support a new beachfront park, community recreation classrooms, and a terraced park with multi-purpose landscaping and ramped paths. As architectural historian, contributed to the report, wrote significance evaluations and resource descriptions, and completed archival research. (2024–Ongoing)

Troutdale Airport Project, Port of Portland, Multnomah County, Oregon. The Port of Portland sought to make interior improvements to the Troutdale Airport's control tower that was constructed in the 1960s. The project was subject to Section 106 of the National Historic Preservation Act. The Federal Aviation Administration served as the lead federal agency. Dudek conducted background research, developed an appropriate historical context, and evaluated the building for the NRHP. The investigations involved General Land Office surveys, Metsker maps, historic aerials, and archival research. As architectural historian, contributed to the report, conducted research, and wrote building description and historic context. (2024)

Spike's Peak Solar Project, Merced County Community & Economic Development Department, Merced County, California. The project proposes to entitle, construct, operate, and maintain a utility-scale solar photovoltaic electrical generating and storage facility that will generate and deliver renewable electricity to the statewide electricity transmission grid. The project includes a solar development with associated photovoltaic panels, inverters, converters, generators, foundations, transformers, and gen-tie routes to the Quinto Switching Station. To support the environmental impact report, a built environment cultural resources technical report and finding of effect was prepared to comply with CEQA and Section 106. Conducted the field survey, coauthored the report, and completed the DPR 523 Update forms. (2024–Ongoing)

Shared Use Pathway East Wetland Park to Pacific Avenue, Nicklaus Engineering Inc., Yuma, Arizona. The City of Yuma proposed the construction of a shared use pathway along the Main Drain, a Bureau of Reclamation (BOR) canal. Because the project required an easement from BOR and the project was receiving federal funding from the Carbon Reduction Program, it was subject to Section 106. Coauthored the report, conducted archival research, and wrote a significance evaluation and resource description. (2024–Ongoing)

Clarksburg Branch Trail Project, Kimley-Horn and Associates Inc., West Sacramento, California. Kimley-Horn and Associates Inc. retained Dudek to prepare an inventory and evaluate resources for CEQA compliance. The project, Clarksburg Branch Trail, involved completing segments of the Class I Trail within the existing Clarksburg Branch Line Trail system by paving and widening segments from South River Road to the trail entrance at Apache Street and Cherokee Road (approximately 2.2 miles). Assisted in the field survey, conducted archival research, coauthored the report, and wrote significance evaluations and resource descriptions. (2024)

Claire Cancilla, MSHP

ARCHITECTURAL HISTORIAN

Claire Cancilla (KLAIR Kan-sil-uh; she/her) is an Architectural Historian with 6 years of professional and academic experience that encompasses a wide variety of project types in varied geographic locations, including Los Angeles, Laguna Beach, Agoura Hills, Baldwin Park, Glendale, Pasadena, South Pasadena, Poway, Riverside, San Diego, Santa Barbara County, Goleta, Vista, Sequoia National Park, New York City, and Venice, Italy. She has completed historic significance evaluations in consideration of the National Register of Historic Places (NRHP), California Register of Historic Resources (CRHR), and local designation criteria for single and multi-family residences, commercial properties, educational institutions, warehouse and industrial properties, infrastructure, gas stations, and municipal facilities. Additional project experience includes writing National Register and local register nominations, conducting historic archival research, performing conditions assessments and reconnaissance surveys, conducting CEQA impacts analyses, preparing environmental impact report (EIR) sections, and conducting design reviews under the Secretary of the Interior's Standards. She meets the Secretary of the Interior's Professional Qualification Standards for Architectural History.



Education

Columbia University
Graduate School of
Architecture, Planning,
and Preservation,
MS, Historic Preservation,
2020

Occidental College
BA, History, 2016

Project Experience

California Polytechnic University, Pomona Historic Resources Technical Report, California Polytechnic University, Pomona, California. Dudek was retained to prepare a Historic Resources Technical Report documenting all buildings 45-years of age or older on Cal Poly Pomona's campus in support of the university's master plan. The HRTR recommended three eligible historic districts on Cal Poly's campus, including one related to the history of the property as the W.K. Kellogg Arabian Horse Ranch founded in the 1920s. The report includes an impacts analysis and the development of mitigation measures in consideration of proposed master plan activities. As architectural historian, conducted archival research, wrote the historic context of the report, conducted the survey, and contributed to the evaluations and impacts analysis. (2024)

Manzanita Public Charter School Project, KBZ Architects, Vandenberg Space Force Base, California. The Manzanita Public Charter School proposed expanding the existing school through the construction of three new buildings and large-scale site improvements. The school campus was constructed in 1966 and required inventory and evaluation to assess its potential eligibility for NRHP and CRHR listing and compliance with CEQA and Section 106. As architectural historian co-authored the report and assisted with evaluations. The findings were concurred with by the State Historic Preservation Officer. (2024)

9407 Jericho Road Built Environment Inventory and Evaluation Report, City of La Mesa, La Mesa, California. Dudek was retained to prepare a Built Environment Inventory and Evaluation Report for a townhouse development project. This report involved the recordation and evaluation of thirteen historic-age residential properties and one historic-age religious property. As co-lead author, conducted fieldwork, research, and property significance evaluations. (2024)

14125 Goldenwest Apartments, Orange County Housing & Community Development Department, Westminster, California. The proposed project involved demolishing a commercial building for the construction of a 29-unit residential community for families experiencing homelessness. The project was subject to CEQA and Section 106 of the NHPA (Section 106). The Orange County Housing and Community Development (OCHCD) retained Dudek to prepare to evaluate the resources in the study area for their potential eligibility for NRHP and CRHR listing. As co-lead author, conducted fieldwork, research, and property significance evaluations. (2024)

South Bay Area Plan Historic Context Statement, County of Los Angeles Department of Regional Planning, Los Angeles County, California. The South Bay Area Plan Historic Context Statement informs the Historic Preservation Element of the Area Plan. The Historic Context Statement documents the development history of the communities from the rancho period to the present; identifies important themes, events, and patterns of development; and describes the different property types, styles, builders, and architects associated with these important periods and themes. The document will also provide registration requirements and recommendations for future study/action by the County of Los Angeles to facilitate and streamline the historic preservation program. As co-manager of the historic context statement, conducted research, conducted outreach to historical societies, conducted windshield surveys, and participated in public meetings. (2023–2024)

15081 Jackson Street Built Environment Inventory and Evaluation Report, Orange County Department of Housing and Community Development, Midway City, unincorporated Orange County, California. Dudek was retained by the Orange County Department of Housing and Community Development to prepare a built environment inventory and evaluation report for five properties in compliance with Section 106 for the 50081 Jackson Street project in unincorporated Midway City, California. The project proposes the development of new housing with funding from the Department of Housing and Urban Development. As architectural historian conducted fieldwork, developed the area of potential effects, contributed research, and contributed to the property significance evaluations. (2024)

500 San Benito Historic Monitoring Plan, Hollister, California. Dudek was retained to complete a historic monitoring plan for renovations to the NRHP-historic district contributor at 500 San Benito. The monitoring plan is intended to provide recommendations for protecting character-defining features during construction and provide information on how to respond if unexpected damage occurs to the property over the course of renovations. Served as architectural historian for the project. (2024)

Atascadero Armory, Department of General Services, Atascadero, California. Dudek was retained by the Department of General Services to record and evaluate the National Guard Atascadero Armory for historical significance. As project manager and architectural historian, responsibilities included coordination, research, quality assurance review, and product submission. (2023)

833 Westbourne Avenue, Confidential Client, West Hollywood, California. Dudek was retained by a property owner to prepare a built environment inventory and evaluation report for a 1920s Spanish Colonial Revival bungalow court in West Hollywood. As project manager, responsibilities included client communication, fieldwork coordination, quality assurance review, and product submission. (2023)

Sandpiper Golf Course Historical Resources Technical Report, Goleta, California. Dudek was retained to prepare a historical resources technical report evaluating the eligibility of the Sandpiper Golf Course in Goleta as a historic landscape in consideration of the NRHP, CRHR, and City of Goleta eligibility requirements. As lead author and architectural historian, conducted fieldwork, research, and completed the property significance evaluation. (2023)

Claire Flanegin

ARCHITECTURAL HISTORIAN I

Claire Flanegin (*FLAN-uh-ghin, she/her/ella*) is an Architectural Historian with two years' professional experience in historic preservation and cultural resource management. Ms. Flanegin's professional experience includes resource evaluations for both the environmental and telecommunications sectors. She has experience conducting intensive level surveys and preparing significance evaluations in consideration of the National Register of Historic Places (NRHP), California Register of Historic Resources (CRHR), and local designation criteria in California, Oregon, Washington, and New Mexico. She also holds experience preparing findings-of-effect analysis for Sections 106 of the National Historic Preservation Act (NHPA). Ms. Flanegin meets the Secretary of the Interior's Professional Qualification Standards for Architectural History and History.



Education

*San Jose State University
MA, US History, 2019*

*San Francisco State
University
BA, History, 2013*

Project Experience

The Woodlands Project, City of Santa Rosa, Santa Rosa, California. The project proposes the development of the former Sonoma County Medical Complex and is subject to CEQA. Part of a team of architectural historians inventorying and evaluating 30 buildings, structures and landscape features for their potential historical significance. (2024–Ongoing)

Evolve Student Housing Project, San Diego State University, San Diego, California. The project would involve the construction of new student housing, dining, and auxiliary uses to the university's main campus. The project requires the demolition of 13 apartment buildings that are more than 45 years of age. The project is subject to CEQA and California Public Resources Code Section 5024 and 5024.5. Served as part of a team of architectural historian, providing support for inventorying and evaluating resources. (2024–Ongoing).

South Bascom Avenue Adult Daycare Facility, Tupaz Day Care Services, Inc., San Jose, California. The project proposed the demolition of the existing buildings located and the construction of a new 15,438-square-foot, 3-story building on an approximately 0.50-acre site. The existing buildings were more than 45 years of age and required inventory and evaluation to determine if they were historical resources for the purposes of CEQA. Served as architectural historian conducting research (2024–Ongoing).

Valley Center Indian Creek Project, Indian Creek Associates, LLC, County of San Diego, California. Dudek was retained by Indian Creek Associates, LLC to complete a Historic Technical Report for the Valley Center Indian Creek Project located in the Valley Center Community Plan Area, San Diego County, California. The Project would involve the development of approximately 575 residential units, 8.73 acres of retail uses, and 11.33 acres of parks and open space, to be located along Rough Creek. The purpose of the report was to identify all built environment properties that may be considered historical resources, as defined by the California Environmental Quality Act (CEQA) and County of San Diego Guidelines, where Project construction or operation may result in impacts under CEQA. (2024–Ongoing)

Historical Eligibility of the California Tower, California Department of General Services, Riverside, California. Dudek was retained by the California Department of General Services (DGS) to comply with California PRC 5024 and 5025.5 and evaluate the building to determine if it met the registration requirements of the NRHP and CHL and should be placed the State's Master List. (2024)

Food Hub and Shops Project, San Francisco Unified School District, City and County of San Francisco, California. The Project is in the Bayview Hunter's Point area within the City and County of San Francisco. The Project proposes the demolition of the existing buildings at 801 and 834 Toland Street and construction of a new single-level building warehouse at 834 Toland Street and a two-story building at 801 Toland Street, and as well as a multi-level parking structure. Served as the architectural historian conducting field survey, archival research, and primary author of the technical report and historical significance evaluations (2024–Ongoing).

UCSC Landels-Hill Big Creek Reserve Emergency Bank Stabilization Project, University of California, Big Sur, California. The Project sought to replace road material along Big Creek Canyon Road that was removed during the 2022-2023 winter storms and to improve on the original construction of the road by using larger rock that is engineered to resist future high flow events. The goal was to rebuild the road sections better than what was possible when the road was constructed in the 1930s without introducing unnatural materials. Dudek was retained to complete a Cultural Resources Inventory and Evaluation Report to assess the significance of various structures on the Reserve and Big Creek Canyon Road itself. (2024)

Mesa Verde Specific Plan Built Environment Inventory and Evaluation Report (Area 2 Amendment 2), Mesa Verde Owners LLC, Calimesa, California. Dudek was retained by Mesa Verde Owners LLC to complete a BEIER for the proposed Mesa Verde Specific Plan 2023 Project, which is an Amendment to the Mesa Verde Estates Specific Plan (SPA 13-01) that was previously adopted in 2007 and subsequently amended in 2017. The purpose of Amendment 2 was to survey and assess 22 additional properties added to the project APE. (2023–Ongoing)

Appendix B

DPR Forms

State of California - The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
PRIMARY RECORD

Primary #
HRI #
Trinomial
NRHP Status Code 6Z

Other Listings
Review Code

Reviewer

Date

Page 1 of 12

*Resource Name or #: (Assigned by recorder) Vincent Substation

P1. Other Identifier: SCE Vincent Substation/Map ID 1

***P2. Location:** ☒ **Not for Publication** ☒ **Unrestricted** *a. **County** Los Angeles

and (P2c, P2e, and P2b or P2d. Attach a Location Map as necessary.)

***b. USGS 7.5' Quad** Pacifico Mountain, Calif. **Date** 2019 **T** 5N; **R** 12W; $\frac{1}{4}$ of $\frac{1}{4}$ of **Sec** 27; **B.M.**

c. **Address** 33301 Angeles Forest Highway **City** Acton **Zip** 93510

d. **UTM:** (Give more than one for large and/or linear resources) **Zone,** mE/ mN

e. **Other Locational Data:** (e.g., parcel #, directions to resource, elevation, decimal degrees, etc., as appropriate)

APN 3056-015-800; 3056-015-801

***P3a. Description:** (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)

This property was surveyed from the public right-of-way. The Southern California Edison (SCE) Vincent Substation is located on the west side of Angeles Forest Highway, between Rockford Road to the north and Hillside Drive to the south. It contains five buildings, a security booth, and power infrastructure including high voltage transmission towers, lightning arrestors, switchgear, transformers, busbars, and shield wires (Photographs 1 and 2). The property is accessed by a concrete driveway leading southwest from the Angeles Forest Highway and is surrounded by a concrete masonry unit wall.

***P3b. Resource Attributes:** (List attributes and codes) HP11. Engineering Structure

***P4. Resources Present:** ☒ Building ☐ Structure ☐ Object ☐ Site ☐ District ☐ Element of District ☐ Other (Isolates, etc.)

P5a. Photograph or Drawing (Photograph required for buildings, structures, and objects.)



P5b. Description of Photo: (View, date, accession #) Photograph 1, SCE Vincent Substation, view looking southeast. 12/8/2024

***P6. Date Constructed/Age and Sources:**

☒ Historic ☐ Prehistoric ☐ Both
1967 (SPR 1967: 2)

***P7. Owner and Address:**
Southern California Edison

***P8. Recorded by:** (Name, affiliation, address)
Claire Cancilla, MSHP (Dudek)
225 S Lake Ave Suite 225-M210
Pasadena, CA 91101

***P9. Date Recorded:** 12/2/2024

***P10. Survey Type:**
(Describe) Intensive

***P11. Report Citation:** (Cite survey report and other sources, or enter "none.") Dudek. 2025. Built Environment Inventory and Evaluation Report for the Prairie Song Reliability Project, Los Angeles County, California. Prepared for Prairie Song Reliability Project LLC.

***Attachments:** ☐ NONE ☒ Location Map ☒ Continuation Sheet ☒ Building, Structure, and Object Record
☐ Archaeological Record ☐ District Record ☐ Linear Feature Record ☐ Milling Station Record ☐ Rock Art Record
☐ Artifact Record ☐ Photograph Record ☐ Sketch Map ☐ Other (List):

BUILDING, STRUCTURE, AND OBJECT RECORD

Page 2 of 12

*NRHP Status Code 6Z

*Resource Name or # (Assigned by recorder) Vincent Substation

B1. Historic Name: Southern California Edison Vincent Substation

B2. Common Name: Vincent Substation

B3. Original Use: Substation

B4. Present Use: Substation

*B5. Architectural Style: No Style

*B6. **Construction History:** (Construction date, alterations, and date of alterations) Historic aerial photographs of the property show that it was initially developed with three buildings, a security booth, and power infrastructure. More electrical equipment was added to the western side of the property between 1978 and 1987. The property was expanded west in 2010, and a building was built on the southeast side of the property. In 2013, an admin building was constructed on the northeast of the property (NETR 2024a).

*B7. Moved? ☒ No ☐ Yes ☐ Unknown Date: Original Location:

*B8. Related Features: N/A

B9a. Architect: Unknown

b. Builder: Unknown

*B10. Significance: Theme N/A

Area: N/A

Period of Significance N/A Property Type N/A Applicable Criteria N/A

(Discuss importance in terms of historical or architectural context as defined by theme, period, and geographic scope. Also address integrity.)

The Vincent Substation does not meet the criteria for the National Register of Historic Places (NRHP), the California Register of Historical Resources (CRHR), or the Los Angeles County Register of Landmarks and Historic Districts (County Register). The property was evaluated in accordance with Section 15064.5 (a)(2)-(3) of the CEQA Guidelines using the criteria outlined in Section 5024.1 of the California Public Resources Code. The property is not considered a historical resource under CEQA. As such, this evaluation assigns a 6Z California Historical Resources Status Code to the Vincent Substation. [See Continuation Sheet].

B11. Additional Resource Attributes: (List attributes and codes)

*B12. References: See Continuation Sheet

B13. Remarks:

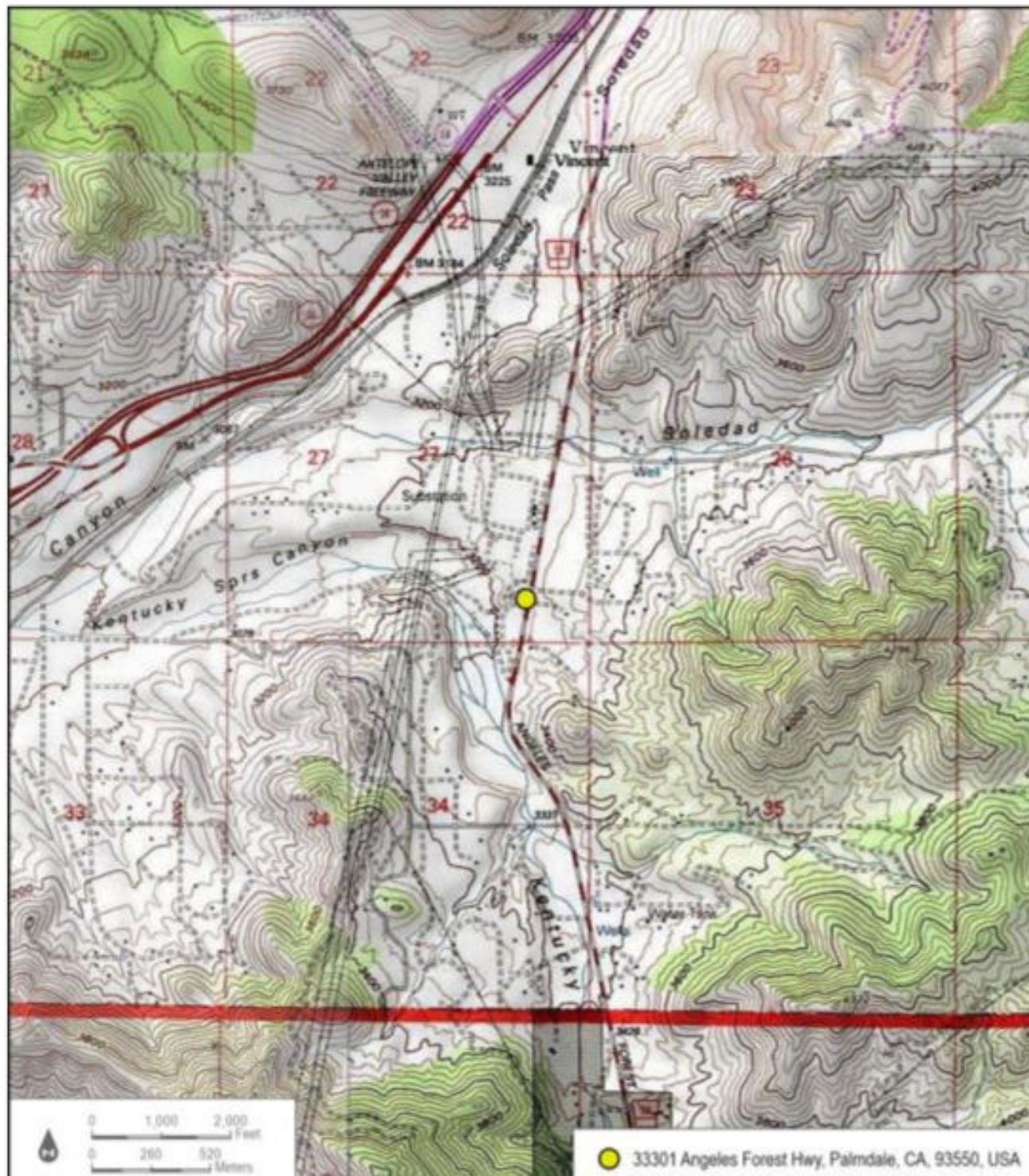
*B14. Evaluator: Claire Cancilla, MSHP

*Date of Evaluation: January 27, 2025

(This space reserved for official comments.)

(Sketch Map with north arrow required.)





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*Resource Name or # (Assigned by recorder) Vincent Substation

*Recorded by: Claire Cancilla MSHP, Dudek

*Date: December 2024 ☒ Continuation ☐ Update

Description (cont.)

Only one building is partially visible from the public right-of-way. It is two-stories in height with a flat roof and is constructed of concrete-masonry-unit blocks. Its east elevation, facing Angeles Forest Highway, has metal lettering reading "Southern California Edison."

Significance (cont.)

Historical Overview of Los Angeles County

The County of Los Angeles was established on February 18, 1850, one of 27 counties created in the months prior to California acquiring official statehood in the United States two years after the Mexican American War. Within Los Angeles County, the unincorporated community of Acton was developed for mining in 1861 following the discovery of copper deposits in Soledad Canyon. Following adoption of the federal Homestead Act of 1862, four families established ranches in Acton, eventually allowing the focus of the economy to shift from mining to agriculture. The nearby community of Palmdale originated as two small communities: Harold and Palmenthal. During this early time, population in the region grew due to several factors, including the gold rush, the possibility for ranching, and the completion of the Southern Pacific Railroad (SPRR) line in 1876, which facilitated the transport of agricultural products and metals throughout the United States. Through this early period, however, the communities of both Acton and Palmdale developed slowly (City of Palmdale 2025; Palmdale 2045 2025; COLA 2017; Pitt 2024; Dumke 1944: 3-7, 41-43; Sapphos 2024: 4.6-4.10).

Broadly, Los Angeles County maintained its role as a regional business center and the development of citriculture in the late 1800s and early 1900s further strengthened this status. These factors, combined with the expansion of port facilities and railroads throughout the county, contributed to the impact of the real estate boom of the 1880s. By 1913, the City of Los Angeles had purchased large tracts of land in the Owens Valley, and William Mulholland planned and completed the construction of the 240-mile aqueduct that brought the valley's water to Los Angeles County. Access to water resulted in a population boom during the 1920s that saw an increase from 170,298 county residents in 1900 to 936,455 by 1920 (Pitt 2024; Los Angeles Almanac 2020; Dumke 1944: 41-43; Survey LA 2016: 2).

The completion of the Los Angeles Aqueduct facilitated development of ranching and agriculture in Palmdale. However, the aqueduct ran approximately 18-miles west of Acton and as a result development in the community was slower than nearby Palmdale, which had begun to develop civic infrastructure and published its first newspaper, the *Palmdale Post*, in 1915. In the 1920s, the Acton/Palmdale area saw the development of the present-day Sierra Highway, which linked Palmdale to Los Angeles and allowed for easier transport of agricultural products to market. In 1924, the Little Rock Dam and Harold Reservoir (present-day Lake Palmdale) were constructed to provide water for the area's population and agriculture industry (City of Palmdale 2025; Palmdale 2045 2025; COLA 2017).

Although the onset of the Great Depression in 1929, detrimentally impacted the county's economy, historic newspapers from the 1930s reported on the growth of Los Angeles County's horticultural and agricultural industries. By the mid-1930s, Los Angeles County was one of the top oil producers in California. In addition, aviation and aerospace, important regional industries since the 1920s, became even more important with the onset of World War II in 1939 at which time Los Angeles County became one of the largest producers of wartime planes in the country (LAEPR 1934: 12; Pitt 2024; ARG 2008: 14-19; PB 1931: 18).

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*Resource Name or # (Assigned by recorder) Vincent Substation

*Recorded by: Claire Cancilla MSHP, Dudek

*Date: December 2024 ☒ Continuation ☐ Update

After World War II's conclusion in 1945, a massive wave of migration and building boom occurred throughout California. In Los Angeles County, the county's population grew from 2,208,492 residents in 1930 to 4,151,687 residents by 1950. Aerospace facilities opened in Palmdale and the surrounding area after the war, transforming the local economy and becoming Palmdale's primary employer. In 1952, for example, the U.S. Military purchased the Palmdale Airport for use as an aerospace development and testing facility. In addition, Lockheed, Convair, North American, and Northrop had facilities nearby. By 1957 the population of Palmdale was more than 12,000, a 412% increase from 1950 (Los Angeles Almanac 2020; City of Palmdale 2025; Palmdale 2045 2025; COLA 2017; LAT 1968: 126; Valley Times 1957: 3)

The postwar decades saw much of the county transformed from ranches and farms into residential subdivisions surrounding commercial and industrial centers. This growth, however, was not universal throughout the county; aerial photographs of Acton and its environs from the 1920s through the 1960s show minimal growth, consisting mostly of scattered single-family residences, ranches, and farms outside the community's center (Pitt 2024; Survey LA 2016: 2; Survey LA 2021: 91-92; NETR 2024; City of Palmdale 2025; Palmdale 2045 2025; COLA 2017; LAT 1968: 126; Valley Times 1957: 3).

The advent of the state and federal highway systems during the 1950s and 1960s, provided access to communities that were previously difficult to reach. A year after Palmdale's incorporation, the construction of the Antelope Valley freeway, running through Acton and to Palmdale, was completed in 1963, prompting population growth and corresponding development. Six years later, in 1968, Lockheed opened an additional airliner final assembly facility, prompting Palmdale's mayor to predict a population increase of 50,000 by 1971 (Sapphos 2024: 4.6-4.10; Caltrans 2011: 17-18; Survey LA 2021: 153).

The overall population of Los Angeles County reached 6,038,771 residents by 1960 and grew to 8,863,164 residents by 1990 as the county continued to expand during the last half of the twentieth century and into the twenty-first century (Los Angeles Almanac 2020). Despite the growth of Palmdale and other parts of Los Angeles County, however, development in Acton remained slow from the 1960s through the 1990s, and the community retains its predominately rural character (Sapphos 2024: 4.6-4.10; NETR 2024).

Substations

Substations act as receivers of newly generated power through transmission lines and use transformers to convert energy into high voltages or convert the current to lower desired voltages. The primary function of a substation is the conversion of electrical currents between voltages and circuits. As transmission lines carry electrical circuits to the substation, switchgears carry the current to transformers that convert the current to the desired voltage. Substation design includes structures such as the intake from high-voltage transmission lines, transformers, switchgear, shield wires, and lightning arrestors that divert lightning to the ground through towers. Two types of substations are transmission substations and distribution substations (Kramer 2012: 49). There are three types of substations: a step-up transmission substation, a step-down transmission substation, and a distribution substation. As described in SCE's *Historic-Era Electrical Infrastructure Management Program*:

The step-up type receives power from a nearby generating facility and uses a large power transformer to increase the voltage for transmission to distant locations. The stepdown type serves as switching points

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*Resource Name or # (Assigned by recorder) Vincent Substation

*Recorded by: Claire Cancilla MSHP, Dudek

*Date: December 2024 ☒ Continuation ☐ Update

wherein the transmitted voltage may be reduced to a sub transmission level and further transmitted to customers via the electrical grid. The distribution substation type is the end-user facility that connects to local customers at varying low-voltage levels. Substations are designed to fulfill all or some of the following functions (Tinsley Becker 2015: 65):

- Change voltage from one level to another
- Regulate voltage to compensate for system voltage changes
- Switch transmission and distribution circuits into and out of the grid system
- Measure electric power qualities flowing in the circuits
- Connect communication signals to the circuit,
- Eliminate lightning and other electrical surges from the system
- Connect electric generation plants to the system
- Make interconnections between the electric systems of more than one utility
- Control reactive kilovolt-amperes supplied to and the flow of reactive kilovolt amperes in the circuits

SCE Substations

The SCE Company's *Historic-Era Electrical Infrastructure Management Program* document defines six types of historic-era substations that are categorized by the types of buildings they resemble: Monumental, Commercial, Residential, Civic, Religious, and Atypical. Atypical substations, such as the SCE Vincent Substation, were utilitarian in form and constructed from 1940 onward, while the other types of substations were more prevalent pre-1940 and frequently reflected popular Period Revival styles of the time. Pre-1940s SCE substations were either Monumental type substations, which were designed at a large scale, and substations that were constructed to resemble other property types, which included commercial, residential, civic and religious substations (Tinsley Becker et al. 2017: 13).

Atypical type substations are defined by the *Historic-Era Electrical Infrastructure Management Program* document as substations that are not architecturally significant but may be historically significant for other reasons (for example, their association with a historical event or for innovation in engineering). By the 1940s, shortages of material due to World War II resulted in substations constructed with no particular style or decoration. As a result, SCE promoted more utilitarian style substations that could be efficiently built. In 1950, SCE acquired or developed approximately 401 additional substations, and the company's portfolio continued to steadily increase in subsequent decades, making the Atypical type substation the preferred model. At the time the SCE Vincent Substation was constructed, 1967, the company often used standardized, utilitarian components. Atypical substations are significant for their association to development and expansion of the company (SCE 2023; Tinsley Becker et al. 2015: 14; Tinsley Becker et al. 2017: 13-14).

Characteristics of SCE post-World War II Atypical substations include:

- High voltage transmission towers
- Lighting arrestors
- Switchgear
- Transformers

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*Resource Name or # (Assigned by recorder) Vincent Substation

*Recorded by: Claire Cancilla MSHP, Dudek

*Date: December 2024 ☒ Continuation ☐ Update

- Busbars
- Shield wires
- Underground cables
- Small-scale, unadorned utilitarian buildings that were purpose built to house electrical equipment

SCE Vincent Substation

The SCE Vincent Substation located at 33301 Angeles Forest Highway in the unincorporated community of Acton, was constructed in 1967, and was fully operational in early 1968 (SPR 1967: 2; SPR 1968: 18). It was constructed as part of the Pacific Northwest-Pacific Southwest Intertie project, a collaborative effort between Bonneville Power, Portland General Electric, Pacific Gas and Electric and SCE to supply power to California's rapidly growing southern region, whose populations boomed in the decades following World War II. The Vincent Substation was constructed at a cost of \$14,000,000 as an extra high voltage station. Extra high voltage stations were fitted with technology designed to accommodate the stronger power of the 500kV lines, including infrastructure such as large air circuit breakers (Exhibit 1) (SPR 1967: 2). Additional subsequent extra-high voltage substations were constructed by SCE in subsequent years, including in Sylmar (1970). The construction of the Vincent Substation included the installation of seven 40-foot-tall transformers weighing 434,000 pounds each, capable of "stepping down" the voltage of electricity arriving from the Pacific Northwest-Southwest Intertie. While the SCE Vincent Substation was designed to connect to extra-high voltage lines, it also energizes lower-voltage (220kV and 60kV) lines.

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*Resource Name or # (Assigned by recorder) Vincent Substation

*Recorded by: Claire Cancilla MSHP, Dudek

*Date: December 2024 ☒ Continuation ☐ Update

Exhibit 1. A substation maintenance employee stands beside one of the new 500kV air circuit breakers at the Vincent Substation (circa 1970)



Source: The Huntington Library/Southern California Edison Photographs and Negatives

The Vincent Substation has been altered since its construction to accommodate changing energy needs and advancements in technologies. Historic aerial photographs of the property show that it was initially developed with three buildings, a security booth, and power infrastructure. More electrical equipment was added to the western side of the property between 1978 and 1987. The property was expanded west in 2010, and a building was built on the southeast side of the property (Exhibit 2). In 2013, an admin building was constructed on the northeast of the property. Prior to the construction of the substation, the parcel on which it sits was undeveloped (NETR 2024a; NETR 2024b).

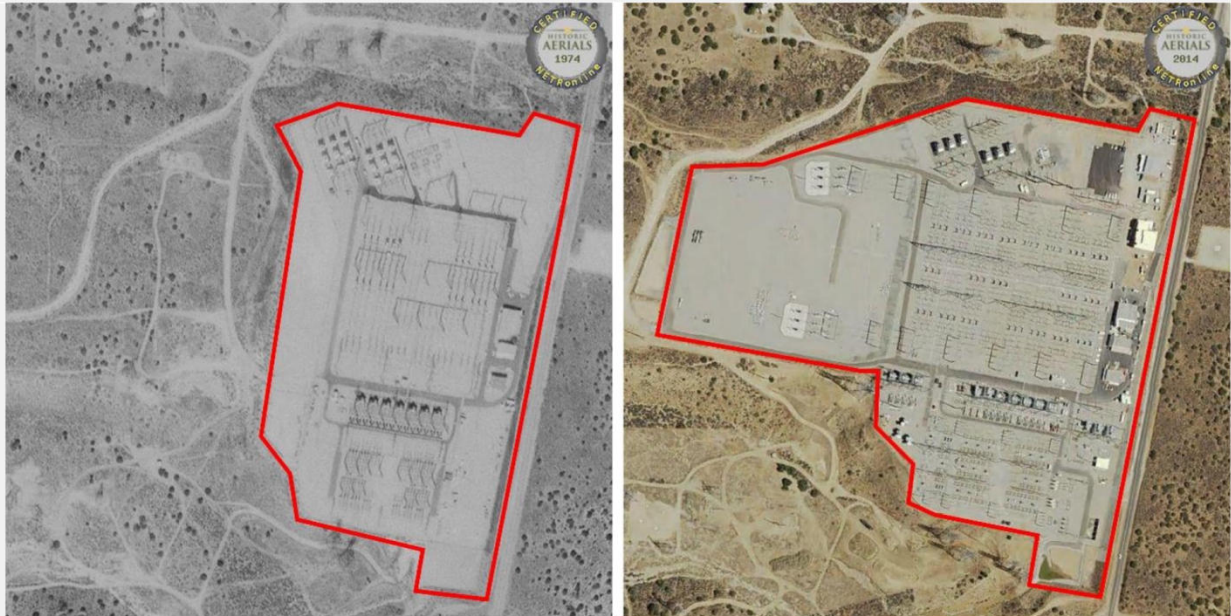
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*Resource Name or # (Assigned by recorder) Vincent Substation

*Recorded by: Claire Cancilla MSHP, Dudek

*Date: December 2024 ☒ Continuation ☐ Update

Exhibit 2. 1974 aerial photograph (left) showing the Vicent Substation (outlined in red); 2014 aerial photograph (right) showing the additions (outlined in red).



Source: NETR 2024a

Statement of Significance

The Vincent Substation is associated with the Pacific Northwest-Pacific Southwest Intertie, a significant project in the power industry using the first high-voltage lines of 500kV constructed in the United States. The Vincent Substation is associated with that initial portion of the line between PG&E's Midway Substation and Vincent Substation. According to the SCE's *Historic-Era Electrical Infrastructure Management Program* a substation may be eligible for an association with important developments in the electrical system of the SCE, California or the United States (Tinsley Becker et al. 2015: 97). Therefore the Vincent Substation meets NRHP Criterion A, CRHR Criterion 1 and County Register Criterion 1 because it has a direct association with this significant project.

Although it meets NRHP Criterion A, CRHR Criterion 1 and County Register Criterion 1 the Vincent Substation is recommended not eligible because of a loss of integrity. The substation retains of location because it has not moved. Integrity of setting is largely unchanged despite some residential development that did not exist when the substation was built in 1967. It remains in a rural area. It retains integrity of association because it has a direct link to the important Pacific Northwest-Pacific Southwest. Integrity of design has been compromised because the substation has been expanded, buildings added and altered, and transformers added and replaced. It no longer reflects a 1967 substation. These changes have also impacted its integrity of materials because historic materials have been replaced and new materials introduced. The Vincent Substation also no longer retains integrity of feeling because it does not appear like a substation constructed in the late-1960s because of the significant expansion of the property. Integrity of workmanship is not an important aspect of for this property type because it does not reflect the crafts of a particular culture or people. Because the Vincent Substation does not retain the necessary aspects of integrity to convey its significance.

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*Resource Name or # (Assigned by recorder) Vincent Substation

*Recorded by: Claire Cancilla MSHP, Dudek

*Date: December 2024 ☒ Continuation ☐ Update

Research did not identify any particular individuals associated with the planning, design, construction, or use of the SCE Vincent Substation. Due to a lack of identified significant associations with any persons important in our past, the subject property is recommended not eligible under NRHP Criterion B, CRHR Criterion 2, or County Register Criterion 2.

The SCE Vincent Substation and associated structures are utilitarian in design and lack the distinctive characteristics of a particular type, period, or method of construction. It is a common example of an Atypical substation, which were constructed post-World War II. Atypical type substations are defined by the *Historic-Era Electrical Infrastructure Management Program* document as substations that are not architecturally significant. The Vincent Substation appears to have been constructed through already well-documented and common construction techniques and research did not indicate that it was technologically or materially innovative within the history of electrical substations. Archival research did not identify an architect, designer, or builder indicating it is not the work of a master architect or engineer. The last portion of Criterion C refers to a district, which is defined as a significant and distinguishable entity whose components may lack individual distinction. The SCE Vincent Substation does not appear likely to contribute to the significance of a potential or existing historic district. Overall, the property lacks sufficient design and construction value to meet NRHP Criterion C, CRHR Criterion 3, or County Register Criterion 3.

The subject property is not significant as a source, or likely source, of important historical information, nor does it appear likely to yield important information about historic construction methods, materials, or technologies. This technology is well understood through contemporary trade journals and scientific monographs. As such, the subject property lacks significance under NRHP Criterion D, CRHR Criterion 4 or County Register Criterion 4.

Lastly, this property does not meet County Register Criterion 5 because it has not been formally determined eligible for listing in the NRHP by the National Park Service nor has it been formally determined eligible for the CRHR by the State Historical Resources Commission. County Register Criterion 6 and 7 do not apply to this property.

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*Resource Name or # (Assigned by recorder) Vincent Substation

*Recorded by: Claire Cancilla MSHP, Dudek

*Date: December 2024 ☒ Continuation ☐ Update

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***Resource Name or #** (Assigned by recorder) Vincent Substation

***Recorded by:** Claire Cancilla MSHP, Dudek

***Date:** December 2024 ☒ Continuation ☐ Update

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Photographs (cont.)

Photograph 2. SCE Vincent Substation, view to the southwest



Source: Dudek, IMG_8021

State of California - The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
PRIMARY RECORD

Primary #
HRI #
Trinomial
NRHP Status Code 3S

Other Listings
Review Code

Reviewer

Date

Page 1 of 12 *Resource Name or #: (Assigned by recorder) Midway-Vincent No. 1 and No. 2 500kV Transmission Lines

P1. Other Identifier: Map ID 2

***P2. Location:** ☒ Not for Publication ☐ Unrestricted *a. County Los Angeles

and (P2c, P2e, and P2b or P2d. Attach a Location Map as necessary.)

***b. USGS 7.5' Quad** Pacifico Mountain, Calif. **Date** 2019 **T** 5N; **R** 12W; $\frac{1}{4}$ of $\frac{1}{4}$ of Sec 22, 27; **B.M.**

c. Address N/A City Acton Zip 93510

d. UTM: (Give more than one for large and/or linear resources) Zone, mE/ mN

e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, decimal degrees, etc., as appropriate)

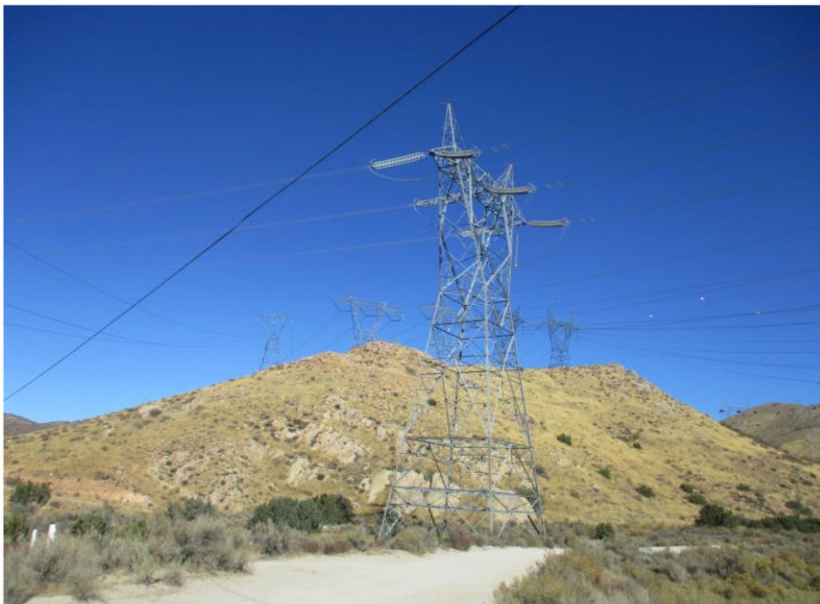
***P3a. Description:** (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)

This property was surveyed from the public right-of-way. The Southern California Edison (SCE) 500kV Midway-Vincent No. 1 and No. 2 transmission lines run for approximately 113-miles between SCE's Vincent Substation and Pacific Gas and Electric's (PG&E) Midway Substation. The study area includes an approximately 0.50-mile-long segment extending northwest from the Vincent Substation. The lines include metal lattice-frame towers and topped with conductors and long cross arms with porcelain insulators that hold the transmission wires (Photographs 1 and 2).

***P3b. Resource Attributes:** (List attributes and codes) HP11. Engineering Structure

***P4. Resources Present:** ☐ Building ☒ Structure ☐ Object ☐ Site ☐ District ☐ Element of District ☐ Other (Isolates, etc.)

P5a. Photograph or Drawing (Photograph required for buildings, structures, and objects.)



P5b. Description of Photo: (View, date, accession #) Photograph 1, Tower of the Midway-Vincent No. 1 and No. 2, view looking northeast. 12/8/2024

***P6. Date Constructed/Age and Sources:**

☒ Historic ☐ Prehistoric ☐ Both
1968 (Tinsley-Becker 2015: 51)

***P7. Owner and Address:**
Southern California Edison

***P8. Recorded by:** (Name, affiliation, address)
Claire Cancilla, MSHP (Dudek)
225 S Lake Ave Suite 225-M210
Pasadena, CA 91101

***P9. Date Recorded:** 12/2/2024

***P10. Survey Type:** (Describe)
Intensive

***P11. Report Citation:** (Cite survey report and other sources, or enter "none.") Dudek. 2025. Built Environment Inventory and Evaluation Report for the Prairie Song Reliability Project, Los Angeles County, California. Prepared for Prairie Song Reliability Project LLC.

***Attachments:** ☐ NONE ☒ Location Map ☒ Continuation Sheet ☒ Building, Structure, and Object Record
☐ Archaeological Record ☐ District Record ☐ Linear Feature Record ☐ Milling Station Record ☐ Rock Art Record
☐ Artifact Record ☐ Photograph Record ☐ Sketch Map ☐ Other (List):

BUILDING, STRUCTURE, AND OBJECT RECORD

Page 2 of 12

*NRHP Status Code 3S

*Resource Name or # (Assigned by recorder) Midway-Vincent No. 1 and No. 2 500kV Transmission Lines

- B1. Historic Name: Midway-Vincent No. 1 and No. 2
B2. Common Name: Midway-Vincent No. 1 and No. 2
B3. Original Use: Transmission line
B4. Present Use: Transmission line

*B5. Architectural Style: N/A

*B6. Construction History: (Construction date, alterations, and date of alterations) The Midway-Vincent No. 1 and No. 2 lines retain their original alignment and while some towers have undergone routine maintenance and repair, the towers in the study area appear original.

*B7. Moved? ☒ No ☐ Yes ☐ Unknown Date: Original Location:

*B8. Related Features: The Midway-Vincent No. 3 now was constructed in 1974; the line was renamed Midway-Whirlwind circa 2012 when it was connected to the Whirlwind Substation as part of the Tehachapi Renewable Transmission Project and appears to no longer connect to the Vincent Substation.

B9a. Architect: Unknown

b. Builder: Unknown

*B10. Significance: Theme Electrical infrastructure

Area: Extra-high voltage transmission lines

Period of Significance 1968 Property Type Transmission Line Applicable Criteria A/1/1 and C/3/3

(Discuss importance in terms of historical or architectural context as defined by theme, period, and geographic scope. Also address integrity.)

Midway Vincent No. 1 and No. 2 meets the criteria for the National Register of Historic Places (NRHP), the California Register of Historical Resources (CRHR), and the Los Angeles County Register of Landmarks and Historic Districts (County Register). The period of significance for 500kV SCE transmission lines is 1965 to 1970, after which time 500kV lines are considered "off-the-shelf and commonplace" (Tinsley-Becker 2015: 86-87). The transmission lines were evaluated in accordance with Section 15064.5 (a)(2)-(3) of the CEQA Guidelines using the criteria outlined in Section 5024.1 of the California Public Resources Code. The property is considered a historical resource under CEQA. As such, this evaluation assigns a 3S California Historical Resources Status Code to the Midway Vincent No. 1 and No. 2 transmission lines. [See Continuation Sheet].

B11. Additional Resource Attributes: (List attributes and codes)

*B12. References: See Continuation Sheet

B13. Remarks:

*B14. Evaluator: Claire Cancilla, MSHP

*Date of Evaluation: January 27, 2025

(This space reserved for official comments.)

See Location Map

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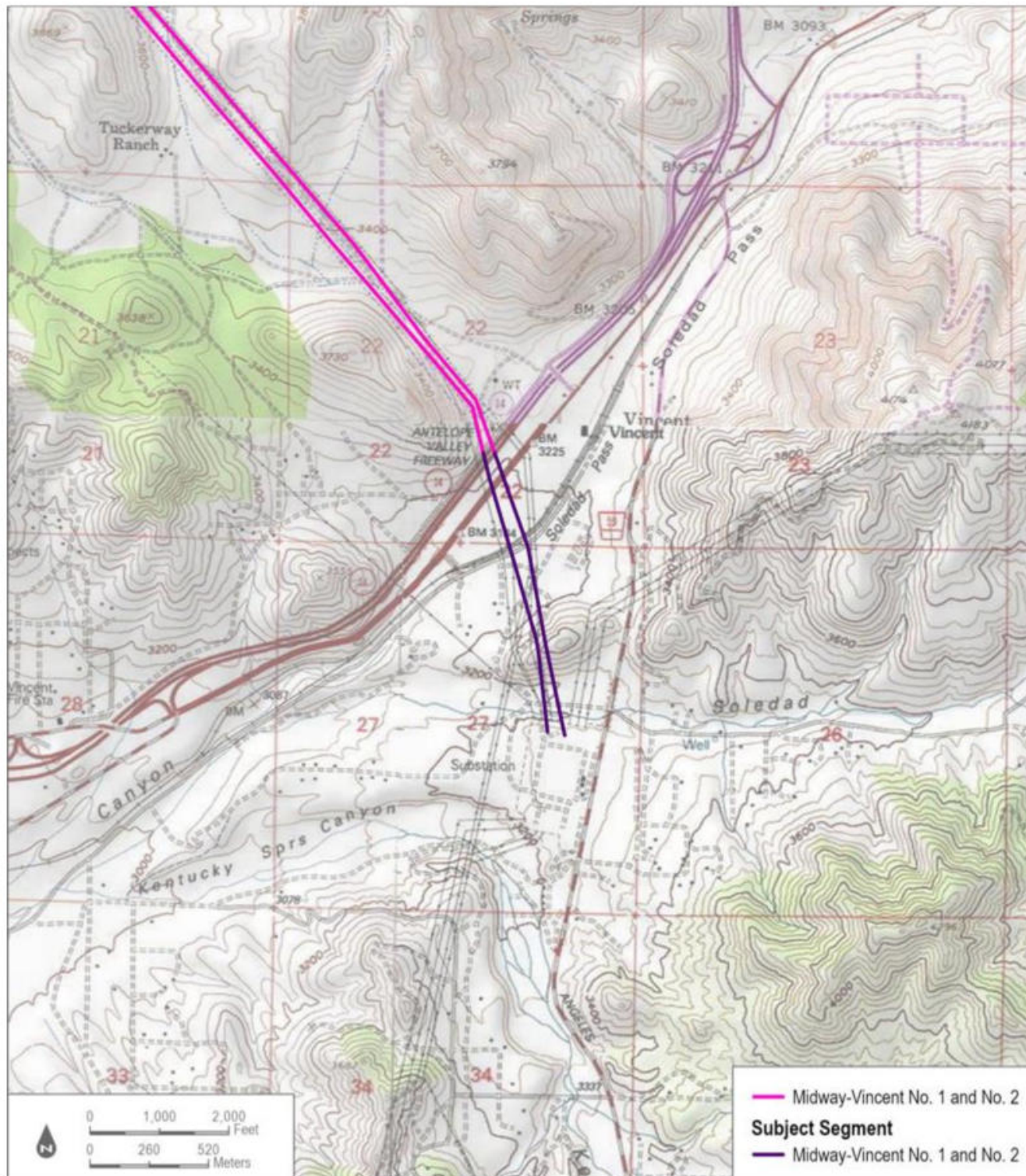
*Map Name:

*Resource Name or #

*Scale: 1:24,000

Midway-Vincent No. 1 and No. 2 500kV Transmission Lines

*Date of Map: 2019



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*Resource Name or # Midway-Vincent No. 1 and No. 2 500kV Transmission Lines

*Recorded by: Claire Cancilla MSHP, Dudek

*Date: December 2024



Continuation



Update

Significance (cont.)

Historical Overview of Los Angeles County

The County of Los Angeles was established on February 18, 1850, one of 27 counties created in the months prior to California acquiring official statehood in the United States two years after the Mexican American War. Within Los Angeles County, the unincorporated community of Acton was developed for mining in 1861 following the discovery of copper deposits in Soledad Canyon. Following adoption of the federal Homestead Act of 1862, four families established ranches in Acton, eventually allowing the focus of the economy to shift from mining to agriculture. The nearby community of Palmdale originated as two small communities: Harold and Palmenthal. During this early time, population in the region grew due to several factors, including the gold rush, the possibility for ranching, and the completion of the Southern Pacific Railroad (SPRR) line in 1876, which facilitated the transport of agricultural products and metals throughout the United States. Through this early period, however, the communities of both Acton and Palmdale developed slowly (City of Palmdale 2025; Palmdale 2045 2025; COLA 2017; Pitt 2024; Dumke 1944: 3-7, 41-43; Sapphos 2024: 4.6-4.10).

Broadly, Los Angeles County maintained its role as a regional business center and the development of citriculture in the late 1800s and early 1900s further strengthened this status. These factors, combined with the expansion of port facilities and railroads throughout the county, contributed to the impact of the real estate boom of the 1880s. By 1913, the City of Los Angeles had purchased large tracts of land in the Owens Valley, and William Mulholland planned and completed the construction of the 240-mile aqueduct that brought the valley's water to Los Angeles County. Access to water resulted in a population boom during the 1920s that saw an increase from 170,298 county residents in 1900 to 936,455 by 1920 (Pitt 2024; Los Angeles Almanac 2020; Dumke 1944: 41-43; Survey LA 2016: 2).

The completion of the Los Angeles Aqueduct facilitated development of ranching and agriculture in Palmdale. However, the aqueduct ran approximately 18-miles west of Acton and as a result development in the community was slower than nearby Palmdale, which had begun to develop civic infrastructure and published its first newspaper, the *Palmdale Post*, in 1915. In the 1920s, the Acton/Palmdale area saw the development of the present-day Sierra Highway, which linked Palmdale to Los Angeles and allowed for easier transport of agricultural products to market. In 1924, the Little Rock Dam and Harold Reservoir (present-day Lake Palmdale) were constructed to provide water for the area's population and agriculture industry (City of Palmdale 2025; Palmdale 2045 2025; COLA 2017).

Although the onset of the Great Depression in 1929, detrimentally impacted the county's economy, historic newspapers from the 1930s reported on the growth of Los Angeles County's horticultural and agricultural industries. By the mid-1930s, Los Angeles County was one of the top oil producers in California. In addition, aviation and aerospace, important regional industries since the 1920s, became even more important with the onset of World War II in 1939 at which time Los Angeles County became one of the largest producers of wartime planes in the country (LAEPR 1934: 12; Pitt 2024; ARG 2008: 14-19; PB 1931: 18).

After World War II's conclusion in 1945, a massive wave of migration and building boom occurred throughout California. In Los Angeles County, the county's population grew from 2,208,492 residents in 1930 to 4,151,687 residents by 1950. Aerospace facilities opened in Palmdale and the surrounding area after the war, transforming the local economy and becoming Palmdale's primary employer. In 1952, for example, the U.S. Military purchased the Palmdale Airport for use as an aerospace development and testing facility. In addition, Lockheed, Convair, North

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*Resource Name or # Midway-Vincent No. 1 and No. 2 500kV Transmission Lines

*Recorded by: Claire Cancilla MSHP, Dudek

*Date: December 2024



Continuation



Update

American, and Northrop had facilities nearby. By 1957 the population of Palmdale was more than 12,000, a 412% increase from 1950 (Los Angeles Almanac 2020; City of Palmdale 2025; Palmdale 2045 2025; COLA 2017; LAT 1968: 126; Valley Times 1957: 3)

The postwar decades saw much of the county transformed from ranches and farms into residential subdivisions surrounding commercial and industrial centers. This growth, however, was not universal throughout the county; aerial photographs of Acton and its environs from the 1920s through the 1960s show minimal growth, consisting mostly of scattered single-family residences, ranches, and farms outside the community's center (Pitt 2024; Survey LA 2016: 2; Survey LA 2021: 91-92; NETR 2024; City of Palmdale 2025; Palmdale 2045 2025; COLA 2017; LAT 1968: 126; Valley Times 1957: 3).

The advent of the state and federal highway systems during the 1950s and 1960s, provided access to communities that were previously difficult to reach. A year after Palmdale's incorporation, the construction of the Antelope Valley freeway, running through Acton and to Palmdale, was completed in 1963, prompting population growth and corresponding development. Six years later, in 1968, Lockheed opened an additional airliner final assembly facility, prompting Palmdale's mayor to predict a population increase of 50,000 by 1971 (Sapphos 2024: 4.6-4.10; Caltrans 2011: 17-18; Survey LA 2021: 153).

The overall population of Los Angeles County reached 6,038,771 residents by 1960 and grew to 8,863,164 residents by 1990 as the county continued to expand during the last half of the twentieth century and into the twenty-first century (Los Angeles Almanac 2020). Despite the growth of Palmdale and other parts of Los Angeles County, however, development in Acton remained slow from the 1960s through the 1990s, and the community retains its predominately rural character (Sapphos 2024: 4.6-4.10; NETR 2024).

Transmission Lines

Transmission lines are a series of vertical poles or towers that hold electric conductors to power plants and substations to serve individual customers in cities, towns, industrial plants, and utility districts. Transmission line structures include three main architectural design components: the tower structure, the conductors, and the insulators. The tower is the structure that holds the insulators, and the insulators hold the conductors, which come in the form of a transmission line. The electricity transmission includes anything above the electrical voltages of 60kV or more. Transmission lines with a voltage of 500kV are the highest voltage connected to energy grids throughout the western United States. Lines with higher voltages (230kV and above) are primarily carried on metal towers, while lines below 230kV are usually on wooden pole structures. Extra-high voltage lines (500 kV and above) usually have steel lattice towers, which are larger than the those constructed for lower voltage lines, that feature a cinched waist, massing with a wide base, narrow mid-point, and extended horizontal cross arms. With technological advances in insulator and conductor design, components are replaced and repaired regularly. Transmission lines and systems are generally categorized by their conductor positioning, construction materials, and voltage (NVE 2017; Tinsley-Becker 2015: 51).

Key character-defining features of transmission lines often include the following:

- Alignment of transmission line from the date of original construction

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***Resource Name or #** Midway-Vincent No. 1 and No. 2 500kV Transmission Lines

***Recorded by:** Claire Cancilla MSHP, Dudek

***Date:** December 2024



Continuation



Update

- Intact primary tower structures
- Connectivity and association to power-generating plants and substations and transmission lines

In addition to possessing the character-defining features outlined above, the *Southern California Edison Historic-Era Electrical Infrastructure Management Program* identified periods of historic significance for SCE transmission line systems according to their voltage. For systems transmitting electrical power at 66 kV or below, the period of significance is limited to 1907 to 1930. For systems transmitting electrical power between 67 kV to 230 kV, the period of significance is limited to 1912 to 1941. For systems transmitting electrical power at 500 kV, the period of significance is limited to 1965 to 1970 (Tinsley-Becker 2015: 64).

Pacific Northwest-Pacific Southwest Intertie

The Pacific Northwest-Pacific Southwest Intertie System was the first long-distance high voltage transmission line in the United States. The intertie was designed as a solution to share power resources between Oregon, California, and Nevada. The intertie system consists of the Pacific DC Intertie which runs from the Celilo Substation in Oregon, through Nevada, and ending in Sylmar, California, and three alternating current (AC) Lines, one of which runs from John Day Dam in Oregon, to Lugo, California. In California, the AC lines are owned and/or shared by PG&E, SCE, San Diego Gas and Electric, the Western Area Power Authority, the California Department of Water Resources, the Sacramento Municipal Utility District, Los Angeles Department of Water and Power and a consortium of other utilities entities (Tinsley-Becker 2017: 51; NWPCC 2001: 4; NWPCC 2025).

Plans and research for the Pacific Northwest-Pacific Southwest Intertie System first began in 1945. An investigation of feasible land in the West identified an area for an intertie between the Bonneville Power Administration (BPA) system in Oregon and the Central Valley Project (CVP) system in California. By 1953, a study by the Federal Power Commission reaffirmed the economic advantages of the intertie between the two regions. However, shortly after the study, the Bonneville Yamsay-Klamath Falls line was sold to the California-Oregon Power Company, and plans for the intertie were stalled (Linenberger and Gahan 2013: 2 and 6; Tinsley-Becker 2017: 51).

In 1961, President John F. Kennedy asked the Secretary of the Interior, Stewart Udall, to study the need for the Pacific Northwest-Pacific Southwest Intertie System. Secretary Udall appointed the BPA administrator Charles Luce to investigate the project and Luce reported that “an extra-high voltage inter-connection between the two regions should be constructed at the earliest practicable time” (Linenberger and Gahan 2013: 7). The following year, President Kennedy requested a budget to design and construct an extra-high-voltage intertie between the BPA system and the CVP system. Congress provided \$300,000 for the initial planning and, in 1963, Congress allocated \$7 million to begin construction. The final proposal for the project was completed on June 24, 1964, and it was approved by Congress on August 14, 1964. The AC line was completed with the construction of the Sylmar Substation in 1970 (Linenberger and Gahan 2013: 7-8).

The entire Pacific Northwest-Pacific Southwest Intertie runs for 844.15 circuit miles within Oregon, California, and Nevada. The intertie includes 1,242 structures and associated components with 776 lattice steel towers, 466 lattice aluminum pole structures, 62 dead-end structures, and 1,180 suspension structures. Initially, the intertie operated at a voltage of 500kV, which is considered an extra-high-voltage transmission line, and was upgraded to 1,000kV on

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***Resource Name or #** Midway-Vincent No. 1 and No. 2 500kV Transmission Lines

***Recorded by:** Claire Cancilla MSHP, Dudek

***Date:** December 2024



Continuation



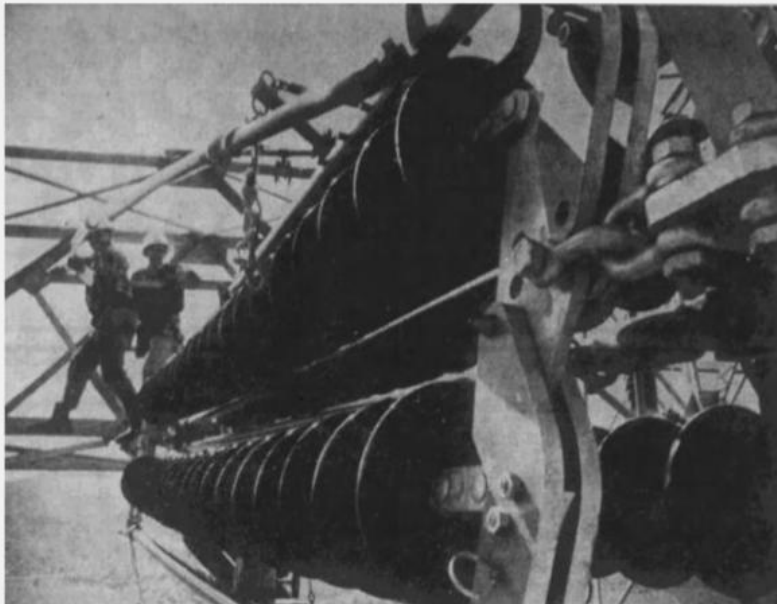
Update

January 10, 1985. It connects private, state, and federal power systems and is still considered the longest High Voltage Direct Current transmission line in the world (Kramer 2010: 93-112; Linenberger and Gahan 2013: 17-19).

Midway-Vincent No. 1 and No. 2

The AC intertie effort involved collaboration between the BPA, Portland General Electric, PG&E, and SCE. SCE's initial portion of the 500kV line consisted of 113-mile lines between PG&E's Midway Substation (approximately 30 miles west of Bakersfield) and SCE's Vincent Substation called Midway-Vincent No. 1 and No. 2. The 500kV interconnection was energized in 1968 (Exhibit 1).

Exhibit 1. SCE employees installing in insulator at a tower near the Vincent Substation in 1968



Source: East Review 1968: 50

To complete the line, 40-foot-tall transformers weighing 434,000 pounds each were shipped via railroad flatcar to the SPRR stop in Acton from Indiana. The function of the transformers is to step down the voltage of electricity from 500 kV to 200 kV for further transmission to other substations. The Vincent Substation was SCE's first extra-high voltage substation designed to accommodate the power from these transmission lines. Steel lattice towers increased in size to correspond to increased loads at the new 500kV lines and typically featured a 'cinched waist' massing with a wide base, narrow mid-point, and extended horizontal cross arms with insulators constructed of porcelain (Exhibit 2). In 1974, Midway-Vincent No. 3 was constructed between the two substations; circa 2012 Midway-Vincent No. 3 became known as Midway-Whirlwind and connected to the newly constructed Whirlwind Substation as part of the Tehachapi Renewable Transmission Project. It does not appear that No. 3 still connects to the Vincent Substation

According to SCE's *Historic-Era Electrical Infrastructure Management Program*, the period of significance for SCE extra-high voltage transmission lines is 1965 to 1970, after which time the lines are considered commonplace and

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*Resource Name or # Midway-Vincent No. 1 and No. 2 500kV Transmission Lines

*Recorded by: Claire Cancilla MSHP, Dudek

*Date: December 2024



Continuation



Update

not eligible for the NRHP/CRHR (Tinsley-Becker 2017: 51, 87, 95; Independent 1967: 23; SPR 1967: 2; Merced Sun-Star 1974: 15).

Exhibit 2. Typical SCE 500kV transmission tower, circa 1973



Source: Tinsley-Becker 2015: 63

Statement of Significance

Constructed in 1968, Midway-Vincent No. 1 and No. 2 were SCE's first 500kV lines associated with the Pacific Northwest-Pacific Southwest Intertie, a significant project in the power industry using the first high-voltage lines of 500kV constructed in the United States. This collaborative effort between BPA, Portland General Electric, PG&E, SCE and other entities supplied power to California's rapidly growing southern region, whose population boomed in the decades following World War II and Midway-Vincent No. 1 and No. 2 represents an important interconnection within the overall Intertie. As an early SCE 500kV line associated with a major power project constructed within the period of significance, Midway-Vincent No. 1 and No. 2 meet NRHP Criterion A, CRHR Criterion 1 and County Register Criterion 1 because they have a direct association with this significant project.

Research did not identify any individuals associated with the planning, design, construction, or use of Midway Vincent No. 1 and No 2. Due to a lack of identified significant associations with any persons important in our past, the subject property is recommended not eligible under NRHP Criterion B, CRHR Criterion 2, or County Register Criterion 2.

Midway-Vincent No. 1 and No. 2 were early SCE extra-high voltage 500kV transmission lines and represent a major

CONTINUATION SHEET

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*Resource Name or # Midway-Vincent No. 1 and No. 2 500kV Transmission Lines

*Recorded by: Claire Cancilla MSHP, Dudek

*Date: December 2024



Continuation



Update

technological and engineering innovation as part of the Pacific Northwest-Pacific Southwest Intertie. According to the SCE's *Historic-Era Electrical Infrastructure Management Program*, "the development of transmitting electricity is historically significant in the engineering achievements of transmitting energy at high voltages over long distance and the structures that were designed to support these lines" (Tinsley-Becker 2015: 86-87). Constructed within the period of significance for SCE extra-high voltage transmission lines, they are eligible under NRHP Criterion C, CRHR Criterion 3, and County Register Criterion 3.

Midway-Vincent No. 1 and No. 2 are not significant as a source, or likely source, of important historical information, nor does it appear likely to yield important information about historic construction methods, materials, or technologies. This technology is well understood through contemporary trade journals and scientific monographs. As such, the subject property lacks significance under NRHP Criterion D, CRHR Criterion 4 or County Register Criterion 4.

Lastly, these transmission lines do not meet County Register Criterion 5 because it has not been formally determined eligible for listing in the NRHP by the National Park Service nor has it been formally determined eligible for the CRHR by the State Historical Resources Commission. County Register Criterion 6 and 7 do not apply to this property.

Integrity

In addition to meeting NRHP/CRHR/County Register criteria, the transmission lines retain integrity to convey that significance.

Location: Midway-Vincent No. 1 and No. 2 have not moved; therefore, they retain integrity of location.

Setting: While development has increased around Midway-Vincent No. 1 and No. 2 since their construction, the alignment continues to traverse through rural areas and therefore retains integrity of setting.

Design: The towers in the survey area appear to retain their original design based on photographs of typical SCE 500kV transmission towers constructed in the 1960s and 1970s. Therefore, Midway-Vincent No. 1 and No. 2 retain integrity of design.

Materials: Some original materials have been replaced or repaired as a result of routine maintenance; overall, however, Midway-Vincent No. 1 and No. 2 retain integrity of materials.

Workmanship: Integrity of workmanship is not an important aspect of for this property type because it does not reflect the crafts of a particular culture or people.

Feeling: Midway-Vincent No. 1 and No. 2 retain integrity of feeling as they continue to appear as a 500kV transmission line from their date of construction, 1968.

Association: Lugo-Vincent No. 1 and No. 2 continue to be associated with SCE and the Pacific Northwest-Pacific Southwest intertie. Therefore, they retain integrity of association.

References (cont.)

Page 10 of 12 *Resource Name or # Midway-Vincent No. 1 and No. 2 500kV Transmission Lines
*Recorded by: Claire Cancilla MSHP, Dudek *Date: December 2024 ☒ Continuation ☐ Update

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*Resource Name or # Midway-Vincent No. 1 and No. 2 500kV Transmission Lines

*Recorded by: Claire Cancilla MSHP, Dudek

*Date: December 2024



Continuation



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CONTINUATION SHEET

Primary#

HRI #

Trinomial

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*Resource Name or # Midway-Vincent No. 1 and No. 2 500kV Transmission Lines

*Recorded by: Claire Cancilla MSHP, Dudek

*Date: December 2024



Continuation



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Photographs (cont.)

Photograph 2. Tower of the Midway-Vincent No. 1 and No. 2, view looking northeast



State of California - The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
PRIMARY RECORD

Primary #
HRI #
Trinomial
NRHP Status Code 3S

Other Listings
Review Code

Reviewer

Date

Page 1 of 12

*Resource Name or #: (Assigned by recorder) Vincent-Lugo No. 1 and No. 2 500kV Transmission Lines

P1. Other Identifier: Map ID 3

*P2. Location: ☒ Not for Publication ☐ Unrestricted *a. County Los Angeles

and (P2c, P2e, and P2b or P2d. Attach a Location Map as necessary.)

*b. USGS 7.5' Quad Pacifico Mountain, Calif. Date 2019 T 5N; R 12W; ¼ of ¼ of Sec 23, 26, 27; B.M.

c. Address N/A City Acton Zip 93510

d. UTM: (Give more than one for large and/or linear resources) Zone, mE/ mN

e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, decimal degrees, etc., as appropriate)

*P3a. Description: (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)

This property was surveyed from the public right-of-way. The Southern California Edison (SCE) 500kV Vincent-Lugo No. 1 and No. 2 transmission lines run for approximately 50-miles between SCE's Vincent Substation and SCE's Lugo Substation. The portion recorded here includes an approximately 0.50-mile-long segment extending northeast from the Vincent Substation. The lines include metal lattice-frame towers and topped with conductors and long cross arms with porcelain insulators that hold the transmission wires (Photograph 1).

*P3b. Resource Attributes: (List attributes and codes) HP11. Engineering Structure

*P4. Resources Present: ☐ Building ☒ Structure ☐ Object ☐ Site ☐ District ☐ Element of District ☐ Other (Isolates, etc.)

P5a. Photograph or Drawing (Photograph required for buildings, structures, and objects.)



P5b. Description of Photo: (View, date, accession #) Photograph 1, Representative 500kV tower; Vincent-Lugo No. 1 and No. 2 towers visible in the background, view looking northeast 12/8/2024

*P6. Date Constructed/Age and Sources:

☒ Historic ☐ Prehistoric ☐ Both 1969 (Tinsley-Becker 2015: 51)

*P7. Owner and Address:
Southern California Edison

*P8. Recorded by: (Name, affiliation, address)
Claire Cancilla, MSHP (Dudek)
225 S Lake Ave Suite 225-M210
Pasadena, CA 91101

*P9. Date Recorded: 12/2/2024

*P10. Survey Type: (Describe) Intensive

*P11. Report Citation: (Cite survey report and other sources, or enter "none.") Dudek. 2025. Built Environment Inventory and Evaluation Report for the Prairie Song Reliability Project, Los Angeles County, California. Prepared for Prairie Song Reliability Project LLC.

*Attachments: ☐ NONE ☒ Location Map ☒ Continuation Sheet ☒ Building, Structure, and Object Record
☐ Archaeological Record ☐ District Record ☐ Linear Feature Record ☐ Milling Station Record ☐ Rock Art Record
☐ Artifact Record ☐ Photograph Record ☐ Sketch Map ☐ Other (List):

BUILDING, STRUCTURE, AND OBJECT RECORD

Page 2 of 12

*NRHP Status Code 3S

*Resource Name or # (Assigned by recorder) Lugo-Vincent No. 1 and No. 2 500kV Transmission Lines

- B1. Historic Name: Vincent-Lugo No. 1 and No. 2
B2. Common Name: Vincent-Lugo No. 1 and No. 2
B3. Original Use: Transmission line
B4. Present Use: Transmission line

*B5. Architectural Style: N/A

*B6. Construction History: (Construction date, alterations, and date of alterations) The Vincent-Lugo No. 1 and No. 2 lines retain their original alignment and while some towers have undergone routine maintenance and repair, the towers in the study area appear original.

*B7. Moved? ☒ No ☐ Yes ☐ Unknown Date: Original Location:

*B8. Related Features: N/A

B9a. Architect: Unknown

b. Builder: Unknown

*B10. Significance: Theme Electrical infrastructure Area: Extra-high voltage transmission lines
Period of Significance 1969 Property Type Transmission Line Applicable Criteria A/1/1 and C/3/3

(Discuss importance in terms of historical or architectural context as defined by theme, period, and geographic scope. Also address integrity.)

Vincent-Lugo No. 1 and No. 2 meets the criteria for the National Register of Historic Places (NRHP), the California Register of Historical Resources (CRHR), and the Los Angeles County Register of Landmarks and Historic Districts (County Register). The period of significance for 500kV SCE transmission lines is 1965 to 1970, after which time 500kV lines are considered "off-the-shelf and commonplace" (Tinsley-Becker 2015: 86-87). The transmission lines were evaluated in accordance with Section 15064.5 (a)(2)-(3) of the CEQA Guidelines using the criteria outlined in Section 5024.1 of the California Public Resources Code. The property is considered a historical resource under CEQA. As such, this evaluation assigns a 3S California Historical Resources Status Code to the Vincent-Lugo No. 1 and No. 2 transmission lines. [See Continuation Sheet].

B11. Additional Resource Attributes: (List attributes and codes)

*B12. References: See Continuation Sheet

B13. Remarks:

*B14. Evaluator: Claire Cancilla, MSHP

*Date of Evaluation: January 27, 2025

(This space reserved for official comments.)

See Location Map

State of California - The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary #
HRI#

Trinomial

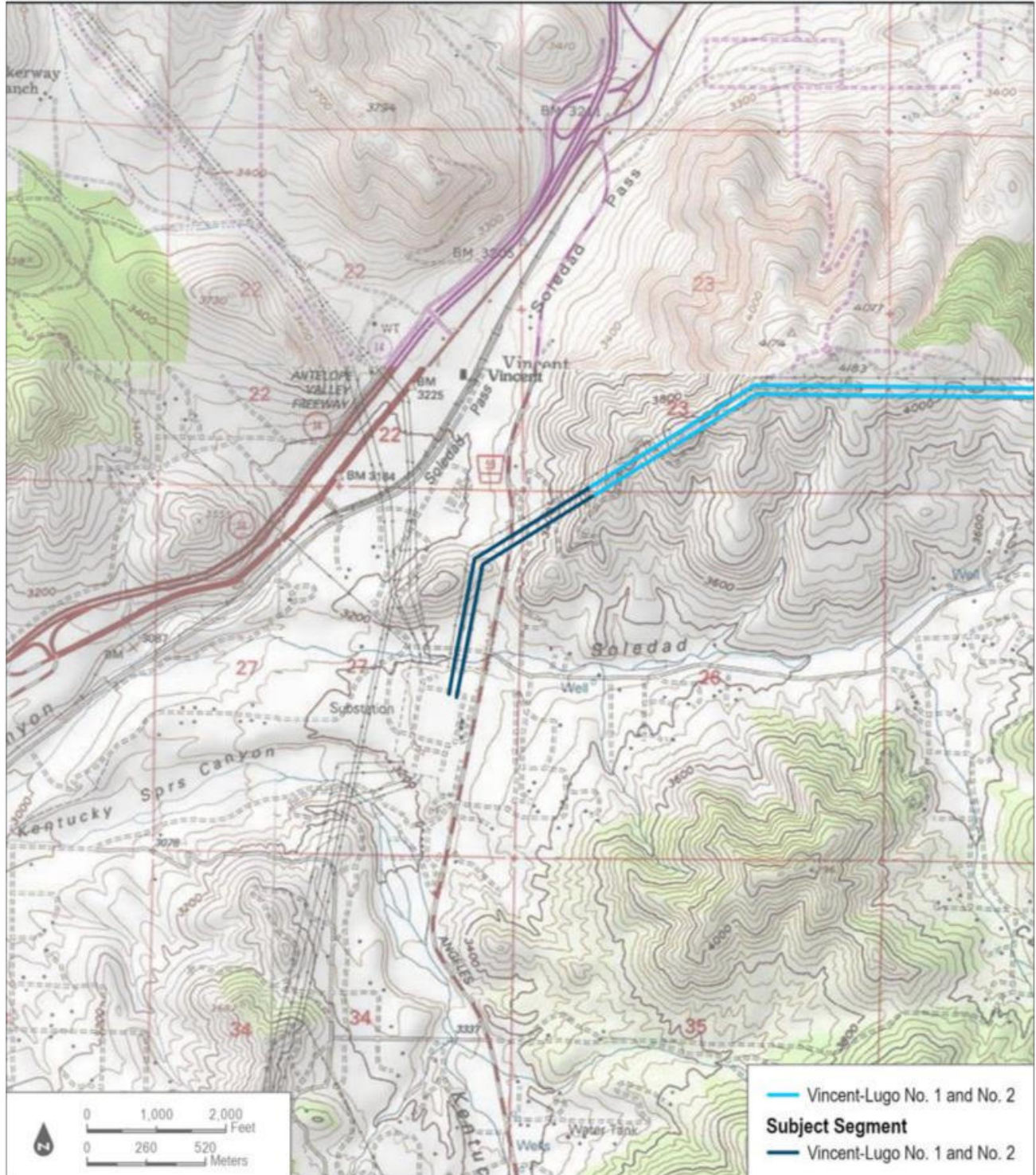
Page 3 of 12

*Resource Name or # Vincent-Lugo No. 1 and No. 2 500kV Transmission Lines

*Map Name: Pacifico Mountain, Calif.

*Scale: 1:24,000

*Date of Map: 2019



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*Resource Name or # Vincent-Lugo No. 1 and No. 2 500kV Transmission Lines

*Recorded by: Claire Cancilla MSHP, Dudek

*Date: December 2024



Continuation



Update

Significance (cont.)

Historical Overview of Los Angeles County

The County of Los Angeles was established on February 18, 1850, one of 27 counties created in the months prior to California acquiring official statehood in the United States two years after the Mexican American War. Within Los Angeles County, the unincorporated community of Acton was developed for mining in 1861 following the discovery of copper deposits in Soledad Canyon. Following adoption of the federal Homestead Act of 1862, four families established ranches in Acton, eventually allowing the focus of the economy to shift from mining to agriculture. The nearby community of Palmdale originated as two small communities: Harold and Palmenthal. During this early time, population in the region grew due to several factors, including the gold rush, the possibility for ranching, and the completion of the Southern Pacific Railroad (SPRR) line in 1876, which facilitated the transport of agricultural products and metals throughout the United States. Through this early period, however, the communities of both Acton and Palmdale developed slowly (City of Palmdale 2025; Palmdale 2045 2025; COLA 2017; Pitt 2024; Dumke 1944: 3-7, 41-43; Sapphos 2024: 4.6-4.10).

Broadly, Los Angeles County maintained its role as a regional business center and the development of citriculture in the late 1800s and early 1900s further strengthened this status. These factors, combined with the expansion of port facilities and railroads throughout the county, contributed to the impact of the real estate boom of the 1880s. By 1913, the City of Los Angeles had purchased large tracts of land in the Owens Valley, and William Mulholland planned and completed the construction of the 240-mile aqueduct that brought the valley's water to Los Angeles County. Access to water resulted in a population boom during the 1920s that saw an increase from 170,298 county residents in 1900 to 936,455 by 1920 (Pitt 2024; Los Angeles Almanac 2020; Dumke 1944: 41-43; Survey LA 2016: 2).

The completion of the Los Angeles Aqueduct facilitated development of ranching and agriculture in Palmdale. However, the aqueduct ran approximately 18-miles west of Acton and as a result development in the community was slower than nearby Palmdale, which had begun to develop civic infrastructure and published its first newspaper, the *Palmdale Post*, in 1915. In the 1920s, the Acton/Palmdale area saw the development of the present-day Sierra Highway, which linked Palmdale to Los Angeles and allowed for easier transport of agricultural products to market. In 1924, the Little Rock Dam and Harold Reservoir (present-day Lake Palmdale) were constructed to provide water for the area's population and agriculture industry (City of Palmdale 2025; Palmdale 2045 2025; COLA 2017).

Although the onset of the Great Depression in 1929, detrimentally impacted the county's economy, historic newspapers from the 1930s reported on the growth of Los Angeles County's horticultural and agricultural industries. By the mid-1930s, Los Angeles County was one of the top oil producers in California. In addition, aviation and aerospace, important regional industries since the 1920s, became even more important with the onset of World War II in 1939 at which time Los Angeles County became one of the largest producers of wartime planes in the country (LAEPR 1934: 12; Pitt 2024; ARG 2008: 14-19; PB 1931: 18).

After World War II's conclusion in 1945, a massive wave of migration and building boom occurred throughout California. In Los Angeles County, the county's population grew from 2,208,492 residents in 1930 to 4,151,687 residents by 1950. Aerospace facilities opened in Palmdale and the surrounding area after the war, transforming the local economy and becoming Palmdale's primary employer. In 1952, for example, the U.S. Military purchased the Palmdale Airport for use as an aerospace development and testing facility. In addition, Lockheed, Convair, North

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*Resource Name or # Vincent-Lugo No. 1 and No. 2 500kV Transmission Lines

*Recorded by: Claire Cancilla MSHP, Dudek

*Date: December 2024



Continuation



Update

American, and Northrop had facilities nearby. By 1957 the population of Palmdale was more than 12,000, a 412% increase from 1950 (Los Angeles Almanac 2020; City of Palmdale 2025; Palmdale 2045 2025; COLA 2017; LAT 1968: 126; Valley Times 1957: 3)

The postwar decades saw much of the county transformed from ranches and farms into residential subdivisions surrounding commercial and industrial centers. This growth, however, was not universal throughout the county; aerial photographs of Acton and its environs from the 1920s through the 1960s show minimal growth, consisting mostly of scattered single-family residences, ranches, and farms outside the community's center (Pitt 2024; Survey LA 2016: 2; Survey LA 2021: 91-92; NETR 2024; City of Palmdale 2025; Palmdale 2045 2025; COLA 2017; LAT 1968: 126; Valley Times 1957: 3).

The advent of the state and federal highway systems during the 1950s and 1960s, provided access to communities that were previously difficult to reach. A year after Palmdale's incorporation, the construction of the Antelope Valley freeway, running through Acton and to Palmdale, was completed in 1963, prompting population growth and corresponding development. Six years later, in 1968, Lockheed opened an additional airliner final assembly facility, prompting Palmdale's mayor to predict a population increase of 50,000 by 1971 (Sapphos 2024: 4.6-4.10; Caltrans 2011: 17-18; Survey LA 2021: 153).

The overall population of Los Angeles County reached 6,038,771 residents by 1960 and grew to 8,863,164 residents by 1990 as the county continued to expand during the last half of the twentieth century and into the twenty-first century (Los Angeles Almanac 2020). Despite the growth of Palmdale and other parts of Los Angeles County, however, development in Acton remained slow from the 1960s through the 1990s, and the community retains its predominately rural character (Sapphos 2024: 4.6-4.10; NETR 2024).

Transmission Lines

Transmission lines are a series of vertical poles or towers that hold electric conductors to power plants and substations to serve individual customers in cities, towns, industrial plants, and utility districts. Transmission line structures include three main architectural design components: the tower structure, the conductors, and the insulators. The tower is the structure that holds the insulators, and the insulators hold the conductors, which come in the form of a transmission line. The electricity transmission includes anything above the electrical voltages of 60kV or more. Transmission lines with a voltage of 500kV are the highest voltage connected to energy grids throughout the western United States. Lines with higher voltages (230kV and above) are primarily carried on metal towers, while lines below 230kV are usually on wooden pole structures. Extra-high voltage lines (500 kV and above) usually have steel lattice towers, which are larger than the those constructed for lower voltage lines, that feature a cinched waist, massing with a wide base, narrow mid-point, and extended horizontal cross arms. With technological advances in insulator and conductor design, components are replaced and repaired regularly. Transmission lines and systems are generally categorized by their conductor positioning, construction materials, and voltage (NVE 2017; Tinsley-Becker 2017: 51).

Key character-defining features of transmission lines often include the following:

- Alignment of transmission line from the date of original construction

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*Resource Name or # Vincent-Lugo No. 1 and No. 2 500kV Transmission Lines

*Recorded by: Claire Cancilla MSHP, Dudek

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☒ Continuation ☐ Update

- Intact primary tower structures
- Connectivity and association to power-generating plants and substations and transmission lines

Pacific Northwest-Pacific Southwest Intertie

The Pacific Northwest-Pacific Southwest Intertie System was the first long-distance high voltage transmission line in the United States. The intertie was designed as a solution to share power resources between Oregon, California, and Nevada. The intertie system consists of the Pacific DC Intertie which runs from the Celilo Substation in Oregon, through Nevada, and ending in Sylmar, California, and three alternating current (AC) Lines, one of which runs from John Day Dam in Oregon, to Lugo, California. In California, the AC lines are owned and/or shared by PG&E, SCE, San Diego Gas and Electric, the Western Area Power Authority, the California Department of Water Resources, the Sacramento Municipal Utility District, Los Angeles Department of Water and Power and a consortium of other utilities entities (Tinsley Becker 2017: 51; NWPCC 2001: 4; NWPCC 2025).

Plans and research for the Pacific Northwest-Pacific Southwest Intertie System first began in 1945. An investigation of feasible land in the West identified an area for an intertie between the Bonneville Power Administration (BPA) system in Oregon and the Central Valley Project (CVP) system in California. By 1953, a study by the Federal Power Commission reaffirmed the economic advantages of the intertie between the two regions. However, shortly after the study, the Bonneville Yamsay-Klamath Falls line was sold to the California-Oregon Power Company, and plans for the intertie were stalled (Linenberger and Gahan 2013: 2 and 6; Tinsley Becker 2017: 51).

In 1961, President John F. Kennedy asked the Secretary of the Interior, Stewart Udall, to study the need for the Pacific Northwest-Pacific Southwest Intertie System. Secretary Udall appointed the BPA administrator Charles Luce to investigate the project and Luce reported that “an extra-high voltage inter-connection between the two regions should be constructed at the earliest practicable time” (Linenberger and Gahan 2013: 7). The following year, President Kennedy requested a budget to design and construct an extra-high-voltage intertie between the BPA system and the CVP system. Congress provided \$300,000 for the initial planning and, in 1963, Congress allocated \$7 million to begin construction. The final proposal for the project was completed on June 24, 1964, and it was approved by Congress on August 14, 1964. The AC line was completed with the construction of the Sylmar Substation in 1970 (Linenberger and Gahan 2013: 7-8).

The entire Pacific Northwest-Pacific Southwest Intertie runs for 844.15 circuit miles within Oregon, California, and Nevada. The intertie includes 1,242 structures and associated components with 776 lattice steel towers, 466 lattice aluminum pole structures, 62 dead-end structures, and 1,180 suspension structures. Initially, the intertie operated at a voltage of 500kV, which is considered an extra-high-voltage transmission line, and was upgraded to 1,000kV on January 10, 1985. It connects private, state, and federal power systems and is still considered the longest High Voltage Direct Current transmission line in the world (Kramer 2010: 93-112; Linenberger and Gahan 2013: 17-19).

Vincent-Lugo No. 1 and No. 2

The AC intertie effort involved collaboration between the BPA, Portland General Electric, PG&E, and SCE. SCE's initial portion of the 500kV line consisted of 113-mile lines between PG&E's Midway Substation (approximately 30 miles

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*Resource Name or # Vincent-Lugo No. 1 and No. 2 500kV Transmission Lines

*Recorded by: Claire Cancilla MSHP, Dudek

*Date: December 2024



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west of Bakersfield) and SCE's Vincent Substation called Midway-Vincent No. 1 and No. 2. The 500kV interconnection was energized in 1968. The Logo-Vincent No. 1 and No. 2 lines were constructed shortly after and were energized in 1969. To complete the lines, 40-foot-tall transformers weighing 434,000 pounds each were shipped via railroad flatcar to the SPRR stop in Acton from Indiana. The function of the transformers is to step down the voltage of electricity from 500kV to 200kV for further transmission to other substations. The construction of the massive towers involved teams of workers as well as cranes and other large machinery (Exhibit 1).

Exhibit 1. Lugo-Vincent 500kV towers under construction, 1968



Source: Art Adams/The Huntington Library, Southern California Edison Photographs and Negatives

The Vincent Substation was SCE's first extra-high voltage substation designed to accommodate the power from these transmission lines. Steel lattice towers increased in size to correspond to increased loads at the new 500kV lines and typically featured a 'cinched waist' massing with a wide base, narrow mid-point, and extended horizontal cross arms with porcelain insulators (Exhibit 2). According to SCE's *Historic-Era Electrical Infrastructure Management Program*, the period of significance for SCE extra-high voltage transmission lines is 1965 to 1970, after which time

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*Resource Name or # Vincent-Lugo No. 1 and No. 2 500kV Transmission Lines

*Recorded by: Claire Cancilla MSHP, Dudek

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the lines are considered commonplace and not eligible for the NRHP/CRHR (Tinsley Becker 2017: 51, 87, 95; Independent 1967: 23; SPR 1967: 2; Merced Sun-Star 1974: 15).

Exhibit 1. Typical SCE 500kV transmission tower, circa 1973



Source: Tinsley-Becker 2015: 63

Statement of Significance

Constructed in 1969, Lugo-Vincent No. 1 and No. 2 were early SCE 500kV lines associated with the Pacific Northwest-Pacific Southwest Intertie, a significant project in the power industry using the first high-voltage lines of 500kV constructed in the United States. This collaborative effort between BPA, Portland General Electric, PG&E, SCE and other entities supplied power to California's rapidly growing southern region, whose population boomed in the decades following World War II and Midway-Vincent No. 1 and No. 2 represent an important interconnection within the overall Intertie. As an early SCE 500kV line associated with a major power project constructed within the period of significance, Midway-Vincent No. 1 and No. 2 meet NRHP Criterion A, CRHR Criterion 1 and County Register Criterion 1 because they have a direct association with this significant project.

Research did not identify any individuals associated with the planning, design, construction, or use of Vincent-Lugo No. 1 and No. 2. Due to a lack of identified significant associations with any persons important in our past, the subject property is recommended not eligible under NRHP Criterion B, CRHR Criterion 2, or County Register Criterion 2.

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*Resource Name or # Vincent-Lugo No. 1 and No. 2 500kV Transmission Lines

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Vincent-Lugo No. 1 and No. 2 were early SCE extra-high voltage 500kV transmission lines and represent a major technological and engineering innovation as part of the Pacific Northwest-Pacific Southwest Intertie. According to the SCE's *Historic-Era Electrical Infrastructure Management Program*, "the development of transmitting electricity is historically significant in the engineering achievements of transmitting energy at high voltages over long distance and the structures that were designed to support these lines" (Tinsley-Becker 2015: 86-87). Constructed within the period of significance for SCE extra-high voltage transmission lines, they are eligible under NRHP Criterion C, CRHR Criterion 3, and County Register Criterion 3.

Vincent-Lugo No. 1 and No. 2 are not significant as a source, or likely source, of important historical information, nor does it appear likely to yield important information about historic construction methods, materials, or technologies. This technology is well understood through contemporary trade journals and scientific monographs. As such, the subject property lacks significance under NRHP Criterion D, CRHR Criterion 4 or County Register Criterion 4.

Lastly, these transmission lines do not meet County Register Criterion 5 because it has not been formally determined eligible for listing in the NRHP by the National Park Service nor has it been formally determined eligible for the CRHR by the State Historical Resources Commission. County Register Criterion 6 and 7 do not apply to this property.

Integrity

In addition to meeting NRHP/CRHR/County Register criteria, the transmission lines retain integrity to convey that significance.

Location: Vincent-Lugo No. 1 and No. 2 have not moved; therefore, they retain integrity of location.

Setting: While development has increased around Vincent-Lugo No. 1 and No. 2 since their construction, the alignment continues to traverse through rural areas and therefore retains integrity of setting.

Design: The towers in the survey area appear to retain their original design based on photographs of typical SCE 500kV transmission towers constructed in the 1960s and 1970s. Therefore, Vincent-Lugo No. 1 and No. 2 retain integrity of design.

Materials: Some original materials have been replaced or repaired as a result of routine maintenance; overall, however, Vincent-Lugo No. 1 and No. 2 retain integrity of materials.

Workmanship: Integrity of workmanship is not an important aspect of for this property type because it does not reflect the crafts of a particular culture or people.

Feeling: Vincent-Lugo No. 1 and No. 2 retain integrity of feeling as they continue to appear as a 500kV transmission line from their date of construction, 1968.

Association: Vincent-Lugo No. 1 and No. 2 continue to be associated with SCE and the Pacific Northwest-Pacific Southwest intertie. Therefore, they retain integrity of association.

Page 10 of 12

*Resource Name or # Vincent-Lugo No. 1 and No. 2 500kV Transmission Lines

*Recorded by: Claire Cancilla MSHP, Dudek

*Date: December 2024



Continuation



Update

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*Resource Name or # Vincent-Lugo No. 1 and No. 2 500kV Transmission Lines

*Recorded by: Claire Cancilla MSHP, Dudek

*Date: December 2024



Continuation



Update

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Page 12 of 12

***Resource Name or #** Vincent-Lugo No. 1 and No. 2 500kV Transmission Lines

***Recorded by:** Claire Cancilla MSHP, Dudek

***Date:** December 2024



Continuation



Update

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State of California - The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
CONTINUATION SHEET

Primary# P19-186876 – UPDATE
HRI #
Trinomial

Page 1 of 4

***Resource Name or #** (Assigned by recorder) Eagle Rock-Pardee & Antelope-Vincent
No.1 Transmission Corridor – UPDATE

***Recorded by:** Claire Cancilla, MSHP, Dudek ***Date:** January 30, 2025 ☐ Continuation ☒ Update

P1. Other Identifier: OTIS ID 682164/Map ID 4

***P3a. Description:**

This Update addresses P-19-186876, which has been recorded under various names in 2003, 2006, 2010, and 2011. This Update uses “Eagle Rock-Pardee & Antelope-Vincent No.1 Transmission Corridor” for consistency with South Central Coastal Information Center (SCCIC) records. P19-186876 has been previously recorded as a Southern California Edison (SCE) 200kV transmission line. According to Tinsley-Becker’s documentation of the SCE Big Creek Hydroelectric System Company Vincent 200kV Transmission Line under P-19-186876 (2011), the Eagle Rock-Pardee and Antelope-Vincent No. 1 lines contribute to the Big Creek Hydroelectric System Vincent 200kV Line and were constructed in 1925-1928. The field survey of December 2024 and January 2025 did not identify transmission tower types associated with this line at the mapped location of P19-186876 within the study area (steel H-Frame Vincent Towers, Transposition Vincent Tower, or dead-end/anchor Vincent Tower) (Photograph 1). [Continuation Sheet]

P5a. Photograph or Drawing (Photograph required for buildings, structures, and objects.)



P5b. Description of Photo:

(View, date, accession #)
Photograph 1, Towers at the alignment of P19-186876 south of the Vincent Substation, view to the southeast. 12/8/2024

***P8. Recorded by:** (Name, affiliation, address)
Claire Cancilla, MSHP (Dudek)
225 S Lake Ave Suite 225-
M210
Pasadena, CA 91101

***P9. Date Recorded:**
12/8/2024

***P11. Report Citation:** (Cite survey report and other sources, or enter "none.") Dudek. 2025. Built Environment Inventory and Evaluation Report for the Prairie Song Reliability Project, Los Angeles County, California. Prepared for Prairie Song Reliability Project LLC.

***Attachments:** ☒ Continuation Sheet ☒ Location Map ☒ Other (List): Previous DPR set

***B5. Architectural Style:** N/A

***B6. Construction History:** (Construction date, alterations, and date of alterations) See continuation sheet page 2.

***B10. Significance:** Theme N/A

Area: N/A

Page 2 of 4

***Resource Name or #** (Assigned by recorder) Eagle Rock-Pardee & Antelope-Vincent
No.1 Transmission Corridor – UPDATE

***Recorded by:** Claire Cancilla, MSHP, Dudek ***Date:** January 30, 2025 ☐ Continuation ☒ Update

Period of Significance N/A **Property Type** N/A **Applicable Criteria** N/A

***B12. References:** See Continuation Sheet.

***B14. Evaluator:** Claire Cancilla, MSHP, Dudek

***Date of Evaluation:** January 27, 2025

Description (cont.)

Previous documentation states that P-19-186876 was part of the larger SCE Big Creek Hydroelectric System Company Vincent 200kV Transmission line. The line ran from the northwest to the Vincent Substation, then south through the study area. Dudek's field survey did not identify any Vincent Towers as described in the previous documentation along this alignment. As such, it appears that the original transmission towers associated with the line located within the study area have been replaced and/or upgraded to 500kV towers as part of the Tehachapi Renewable Transmission Project, which was completed in 2016. The alignment of the Tehachapi Renewable Transmission Project corresponds with the alignment of P-19-186876 in the previous documentation (Exhibit 1) (Federal Register 2007; SCE 2025).

Exhibit 5. SCE map showing the upgraded/replaced transmission line sections completed as part of the Tehachapi Renewable Transmission Project. These upgrades follow the alignment of P-19-186876 (11 in map)



Source: SCE 2025

Page 3 of 4

***Resource Name or #** (Assigned by recorder) Eagle Rock-Pardee & Antelope-Vincent
No.1 Transmission Corridor – UPDATE

***Recorded by:** Claire Cancilla, MSHP, Dudek ***Date:** January 30, 2025 ☐ Continuation ☒ Update

Significance (cont.)

Summary of Previous Evaluations

P-19-186876 is included in the Office of Historic Preservation's Built Environment Resources Directory as Eagle Rock-Pardee Transmission Line with a status code of 2S (Individually determined eligible for NR by the Keeper) and a date of construction of 1925-1927. It has also been recorded multiple times under several different names, summarized below:¹

2003 (Schmidt): *SCE Eagle Rock-Pardee Transmission Line Corridor*. The DPR stated that the recorded 18.2-mile segment of transmission line is a remnant of the third Big Creek Line that was reconstructed or modified in 1974. The documentation describes the line as having steel lattice transmission towers. This documentation does not include an evaluation for significance.

2006 (ECORP): *Vincent Lines*. The DPR identifies an approximately 13-mile segment of the Vincent Line with a date of construction of 1928. The DPR states that the recorded segment has H-Frame Vincent towers. This documentation does not include an evaluation for significance.

2010 (Tinsley-Becker): *SCE Antelope-Magunden #1 220kV Transmission Line*. The DPR states that the line was installed between 1949 and 1951 and connected to Big Creek Powerhouse No. 4. It describes the line's towers as utilitarian steel lattice towers and assigns the line a 6Z status code.

2011 (Stanton): *SCE Transmission Line Corridor*. This documentation was completed by archaeologists. It documents four steel lattice transmission towers. It does not include a date of construction or an evaluation for significance.

2011 (Tinsley-Becker): *SCE Big Creek Hydroelectric System Company Vincent 200kV Transmission Line*. This documentation is for a system consisting of six lines constructed from 1925 to 1927 (Big Creek #3-Springville 200kV; Magunden-Springville #1 220kV; Antelope-Magunden #2; Antelope-Vincent 200kV; Antelope-Eagle Rock (idle)/Pardee-Vincent; and Eagle Rock-Pardee). This documentation found the system eligible under NRHP/CRHR A/1, B/2, and C/3 and assigned a status code of 2D2.

References (cont.)

Federal Register. 2007. "Angeles National Forest, CA, Tehachapi Renewable Transmission Project." Accessed February 2025. <https://www.federalregister.gov/documents/2007/09/07/E7-17168/angeles-national-forest-ca-tehachapi-renewable-transmission-project>.

Tinsley-Becker, Wendy. 2011. "DPR 523 P19-18676: SCE Big Creek Hydroelectric System Company Vincent 220kV Transmission Line." Provided by the SCCIC. On-file at Dudek's Pasadena, CA office.

¹ In addition to the documentation summarized above, P-19-186876 also included DPR 523 forms for the Antelope-Mesa 200kV Transmission Line/Magunden-Mesa 200kV Transmission line and an update for the Antelope-Vincent No. 1 200kV Transmission Line, both of which were completed by Wendy Tinsley-Becker in 2010 and assigned status codes of 6Z. An additional update form for a segment of the Antelope-Mesa 200kV Transmission Line was completed by archaeologist Daniel Leonard in 2014 that recorded a segment of this transmission line and summarized Tinsley-Becker's finding of 6Z for this line. Per correspondence between SCE Archaeologist Audry Williams and the SCCIC included in the documentation of P-19-192581, these DPRs were improperly included with P-19-186876 and are actually associated with P-19-192581.

State of California - The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

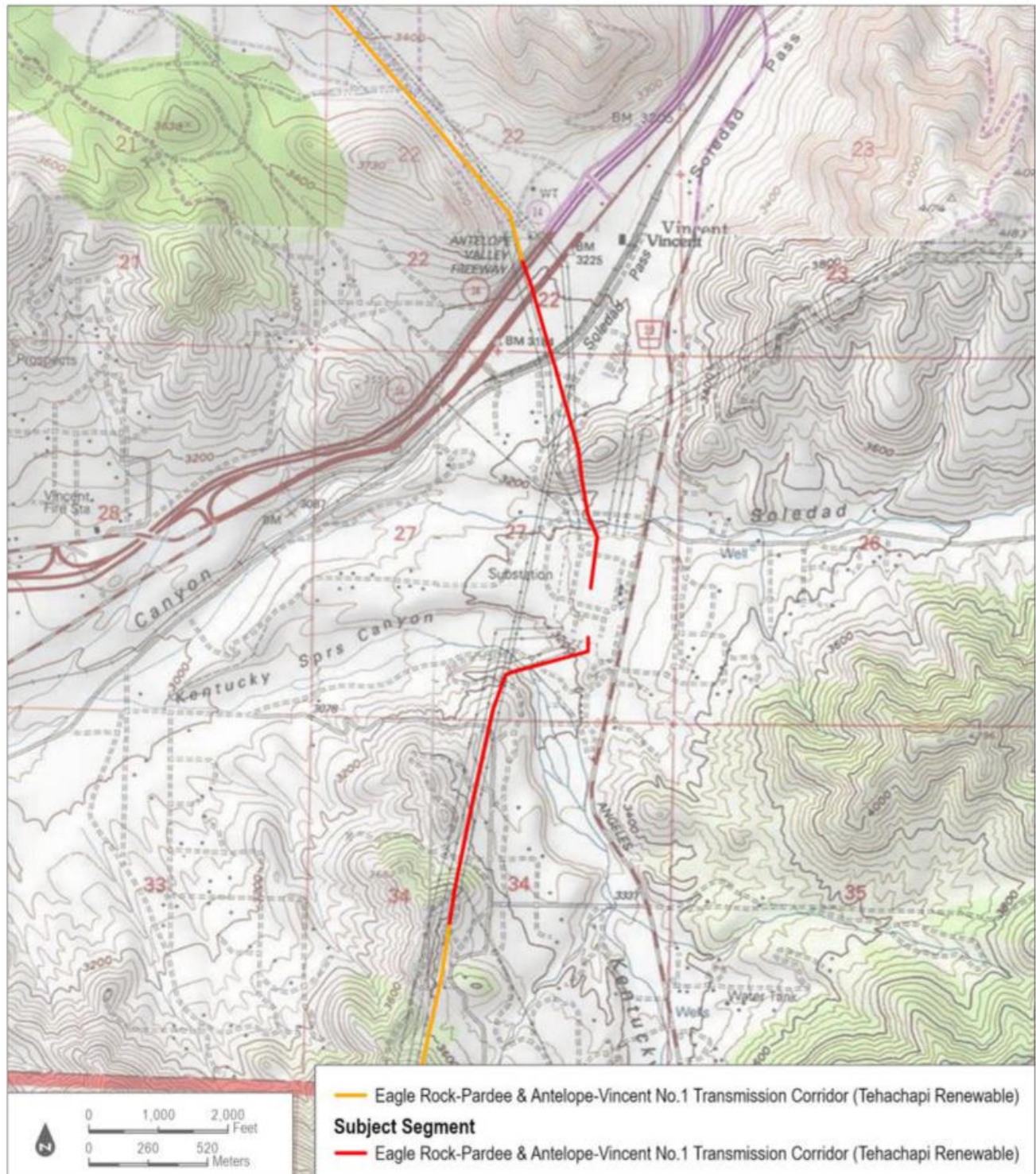
Primary # P19-186876 - UPDATE
HRI#
Trinomial

Page 4 of 4 *Resource Name or # (Assigned by recorder) Eagle Rock-Pardee & Antelope-Vincent No.1
Transmission Corridor - UPDATE

*Map Name: Pacifico Mountain

*Scale: 1:24,000

*Date of map: 2018



USDA - Forest Service
 Angeles National Forest
PRIMARY RECORD

Primary #:
 HRI #:
 Trinomial#: CA- -
 NRHP Status Code:
 Other Listings
 Review Code:
 Reviewer: Date:

Page 1 of 9

P1. Property Name/Temporary Number:

SCE Eagle Rock-Pardee Transmission Line Corridor: SCE ANF Roads PIII #1 Forest Service#05-01-55-186

P2. Location (restricted information):

a. County: Los Angeles

State: CA

b. USGS 7.5' Quad: Pacifico, Acton, Condor Peak, and Pasadena, Calif. **Date:** 1995

The transmission line corridor passes through parts of Sections 27 and 34 (T5N: R12W), Sections 3, 10, 9, 16, 21, 28, and 33 (T4N: R12W), Sections 4, 9, 8, 17, 20, 29, 30, and PB-52 (T3N: R12W) and Sections PB-40, PB-41, PB-44, PB-45, PB-53, and 31 (T2N: R12W); San Bernardino Base Meridian (SBM)

c. Address: USDA Forest Service, Angeles National Forest, 701 N. Santa Anita Blvd. Arcadia, CA

d. UTM: Zone: 11: 397000 mE/ 3816000 mN; 395910 mE/ 3810910 mN; 394470 mE/ 38042400 mN; 391970 mE/ 3795580 mN; 390920 mE/ 3791640 mN; 390820 mE/ 3787300 mN

e. Other Locational Data (Provide parcel #, legal description, directions to resource, elevation, other data as appropriate):

This site is represented as an approximate 18.7 mile long linear arrangement of steel lattice transmission towers extending generally southward through the Angeles National Forest from the vicinity of SCE's Vincent Substation, near Acton, to Pasadena. The corridor is serviced by a series of Forest Roads (4N24, 3N27, 2N74, 2N75, 2N77) that have recently been recorded as FS#05-01-55-187, and can be accessed from it's various intersects with Aliso Canyon Road, Mount Gleason Road, Big Tujunga Canyon Road, the Angeles Forest Highway, and the Angeles Crest Highway (FS#05-01-51-111).

In general the corridor follows the ridges east of Gleason Canyon southward across the shoulder of Mount Gleason to follow the ridges above the North Fork, Mill, and Fall Creek drainages into Big Tujunga Canyon. From Big Tujunga the line crosses the Clear Creek drainage, the Angeles Crest Highway, and Dark Canyon to follow the western ridge above the Arroyo Seco into the Pasadena area. Elevations along the course of the corridor range from approximately 5600 ft amsl at it's intersect with Mount Gleason Road, to less than 2000 ft amsl, near it's southern terminus.

P3. Description (Resource attributes, including design, materials, condition, size, setting and boundaries):

The earliest extant Edison transmission lines crossing the Angeles National Forest are the modern-looking lattice steel Big Creek lines, the first two of which passed from the San Joaquin Valley over the Tehachapi Mountains to Eagle Rock Substation near Pasadena, generally following Interstate 5. A third Big Creek line was constructed between 1925 and 1927, but its route diverged from the first two lines at Magunden Substation near Bakersfield taking an easterly tack through Antelope Valley and crossing over the San Gabriel Mountains from eastern Soledad Canyon to Pasadena. The Eagle Rock-Pardee 230kV transmission line is a remnant of that third Big Creek line that was reconstructed, or modified, in 1974 (SCE 2003).

USDA - Forest Service
 Angeles National Forest
PRIMARY RECORD
 Page 2 of 9

Primary #:
 HRI #:
 Trinomial#: CA- -
 F.S. #: 05-01-55-186

P4. Resources Present: ☐ Building ☒ Structure ☐ Object ☐ Site ☐ District
☐ Element of District ☐ Road/Trail ☐ Rock Art ☐ Other:

Active steel lattice transmission tower line.

P5. Photograph or Drawing (Required for buildings, structures and objects):



Description of Photo: Typical steel lattice transmission line tower

P6. Date Constructed/Age: ☐ Prehistoric ☒ Historic ☐ Both (Comment on age determination, i.e., type of artifacts, architectural style, etc.).

Construction dates provided by SCE

P7. Current Owner: USDA-Forest Service, Angeles National Forest
 Address: 701 N. Santa Anita Blvd. Arcadia, CA 91006-2725

USDA - Forest Service
 Angeles National Forest
PRIMARY RECORD
 Page 3 of 9

Primary #:
 HRI #:
 Trinomial#: CA- -
 F.S.#: 05-01-55-186

P8a. Recorded by: James J. Schmidt and June A. Schmidt
Affiliation: Compass Rose Archaeological, Inc.
Address: 6206 Peach Ave, Van Nuys

P8b. Updated by:
Affiliation:
Address:

P9a. Date Recorded: November 28, 2003

P9b. Date Updated:

P10. Study Type/Methodology: Surface reconnaissance

P11. Report Citation (Cite survey report/other sources or "none"):
 Compass Rose

2003 *Results of the Third Phase: Archaeological Phase I Survey for Proposed Southern California Edison Company's Transmission Line Access Roads Maintenance Project in the Angeles National Forest, Los Angeles County, California (ARR 05-01-00836).* Submitted to Southern California Edison Company, Rosemead, California.

SCE

2003 *Draft Historic Context Statement: The Southern California Transmission/Distribution Line Systems within the Angeles National Forest.* Submitted to, USDA Forest Service, Angeles National Forest, Heritage Resources Section, Arcadia.

Other Sources:

Attachments:

- ☐ None
- ☒ Location Map
- ☐ Sketch Map
- ☐ Building, Structure, and Object Record
- ☐ Archaeological Record
- ☐ District Record
- ☐ Linear Resource Record
- ☐ Milling Station Record
- ☐ Rock Art Record
- ☐ Artifact Record
- ☐ Photograph Record
- ☐ Continuation Sheet
- ☐ Other (List:):

19-186876

USDA - Forest Service
Angeles National Forest
LOCATION MAP

Primary #:
HRI #:
Trinomial#:

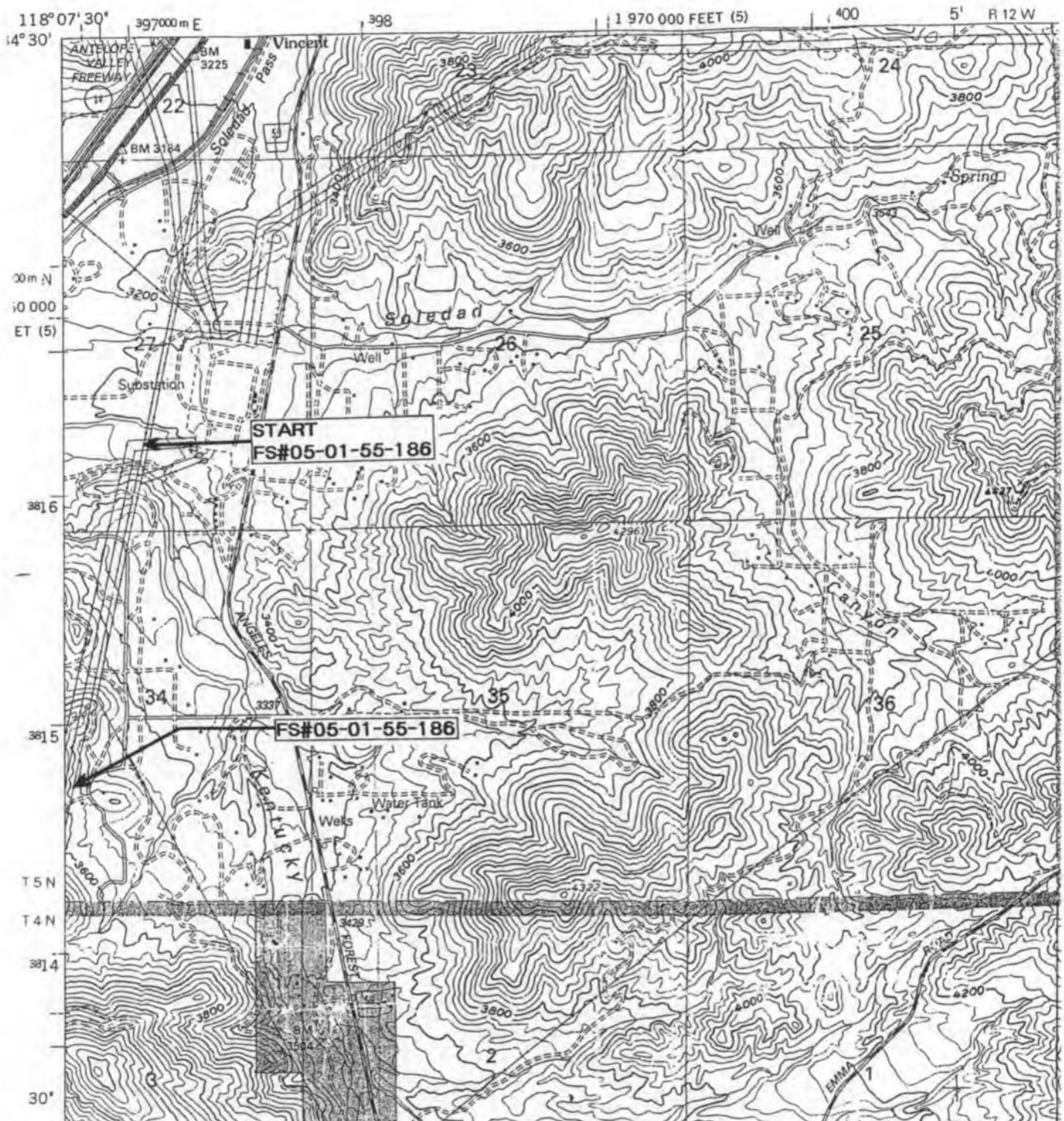
Page 4 of 9

SCE Eagle Rock-Pardee Transmission Line Corridor

Forest Service #: 05-01-55-186

PORTION OF: USGS Pacifico Mountain (1995)

SCALE: 1: 24,000



Topographic map of the Soledad area in California. The map shows contour lines, roads, and landmarks. A specific area is highlighted with a black box and labeled "FS#05-01-55-186". The map includes labels for "Soledad", "Blum Ranch", "Kentucky Canyon", and "Springs Canyon". A scale bar indicates 4,290,000 feet (7).

USDA - Forest Service
Angeles National Forest
LOCATION MAP

Primary #:
HRI #:
Trinomial#:

Page 6 of 9

SCE Eagle Rock-Pardee Transmission Line Corridor

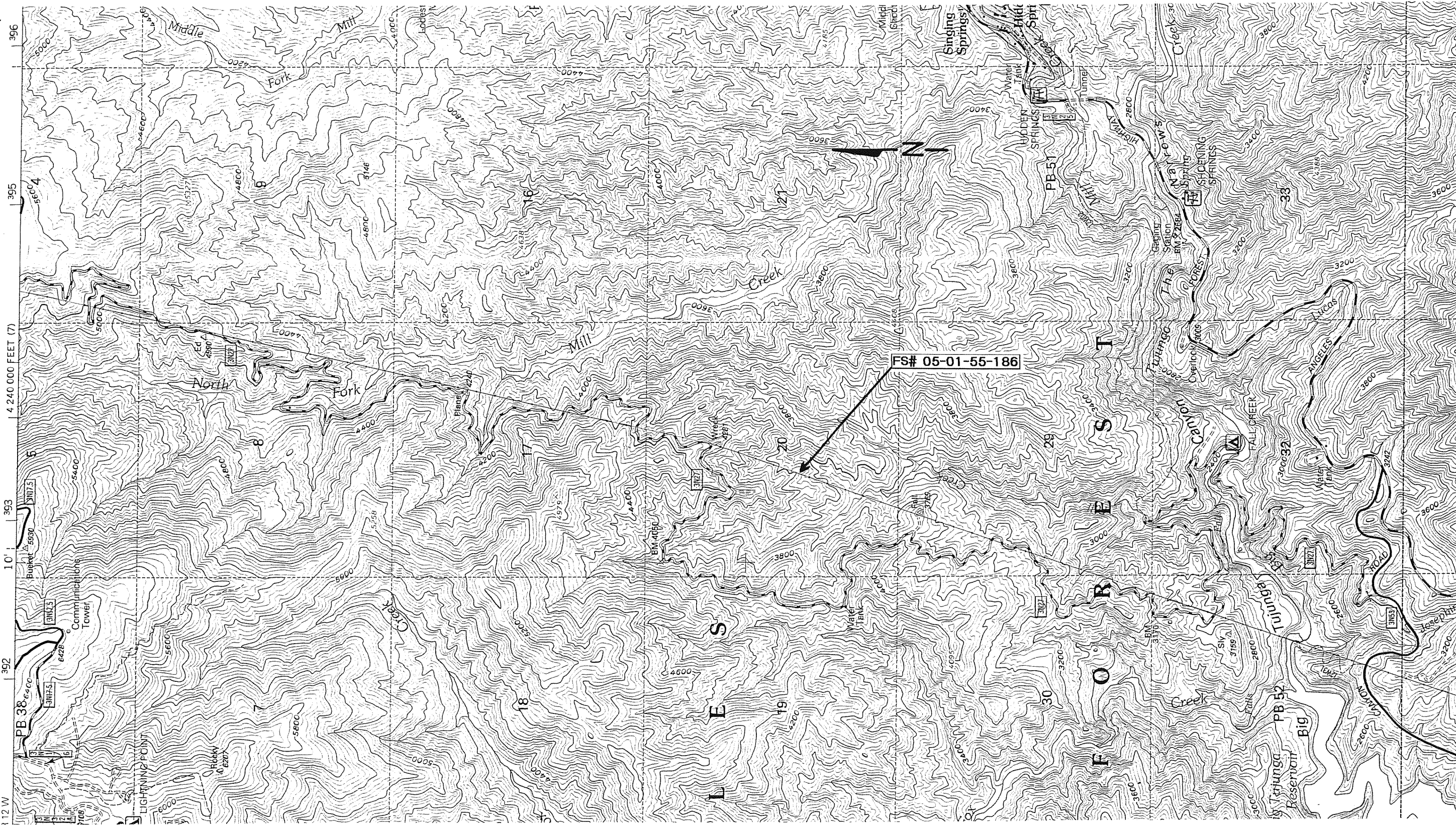
Forest Service #: 05-01-55-186

PORTION OF: USGS Acton (1995)

SCALE: 1: 24,000

19-186876





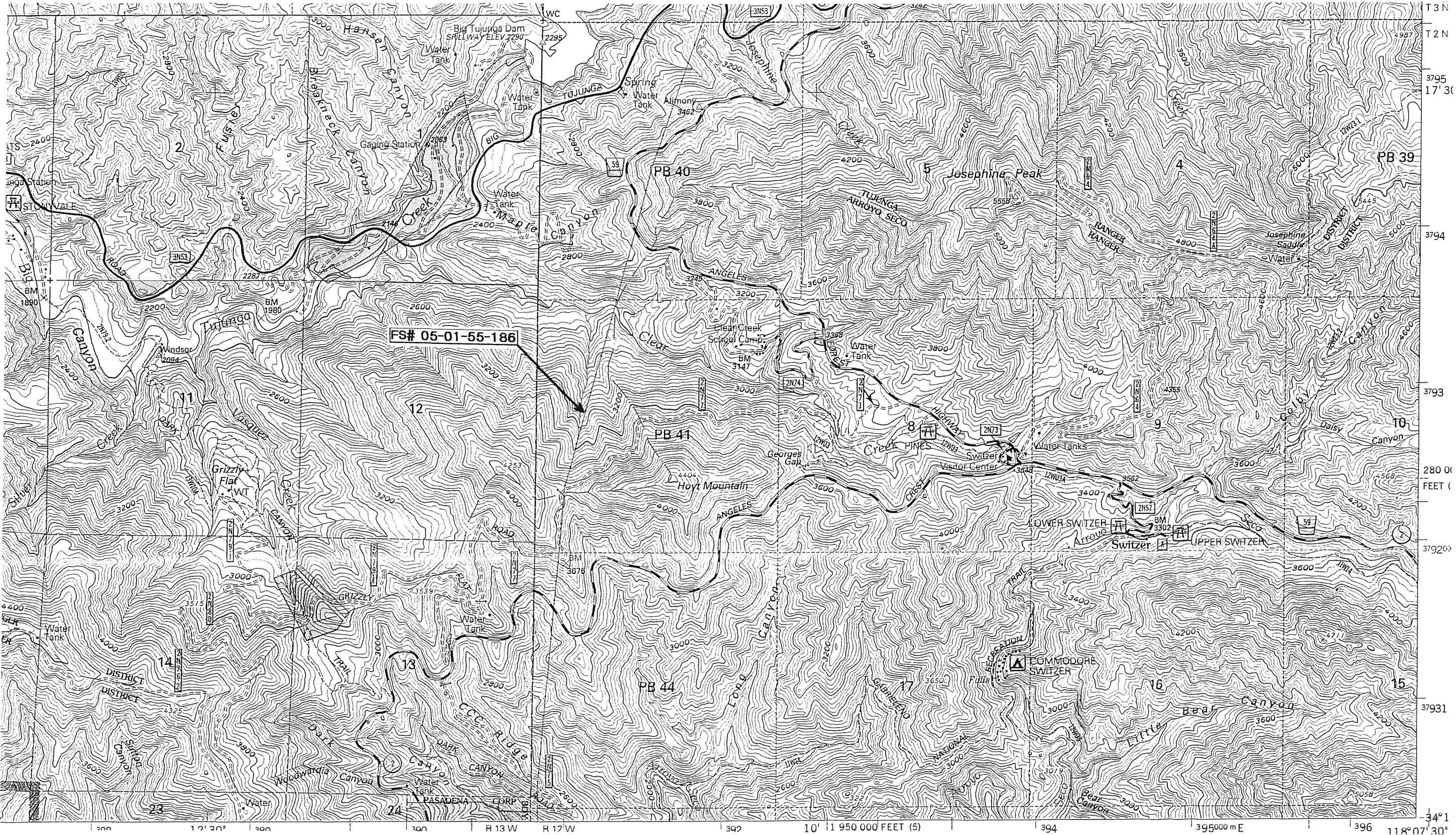
19-186876

USDA - Forest Service
Angeles National Forest
LOCATION MAP
Page 8 of 9
SCE Eagle Rock-Pardee Transmission Line Corridor

Primary #:
HRI #:
Trinomial#:

Forest Service #: 05-01-55-186

PORTION OF: USGS Condor Peak (1995)SCALE: 1: 24,000



19-186876

USDA - Forest Service
Angeles National Forest
LOCATION MAP

Primary #:
HRI #:
Trinomial#:

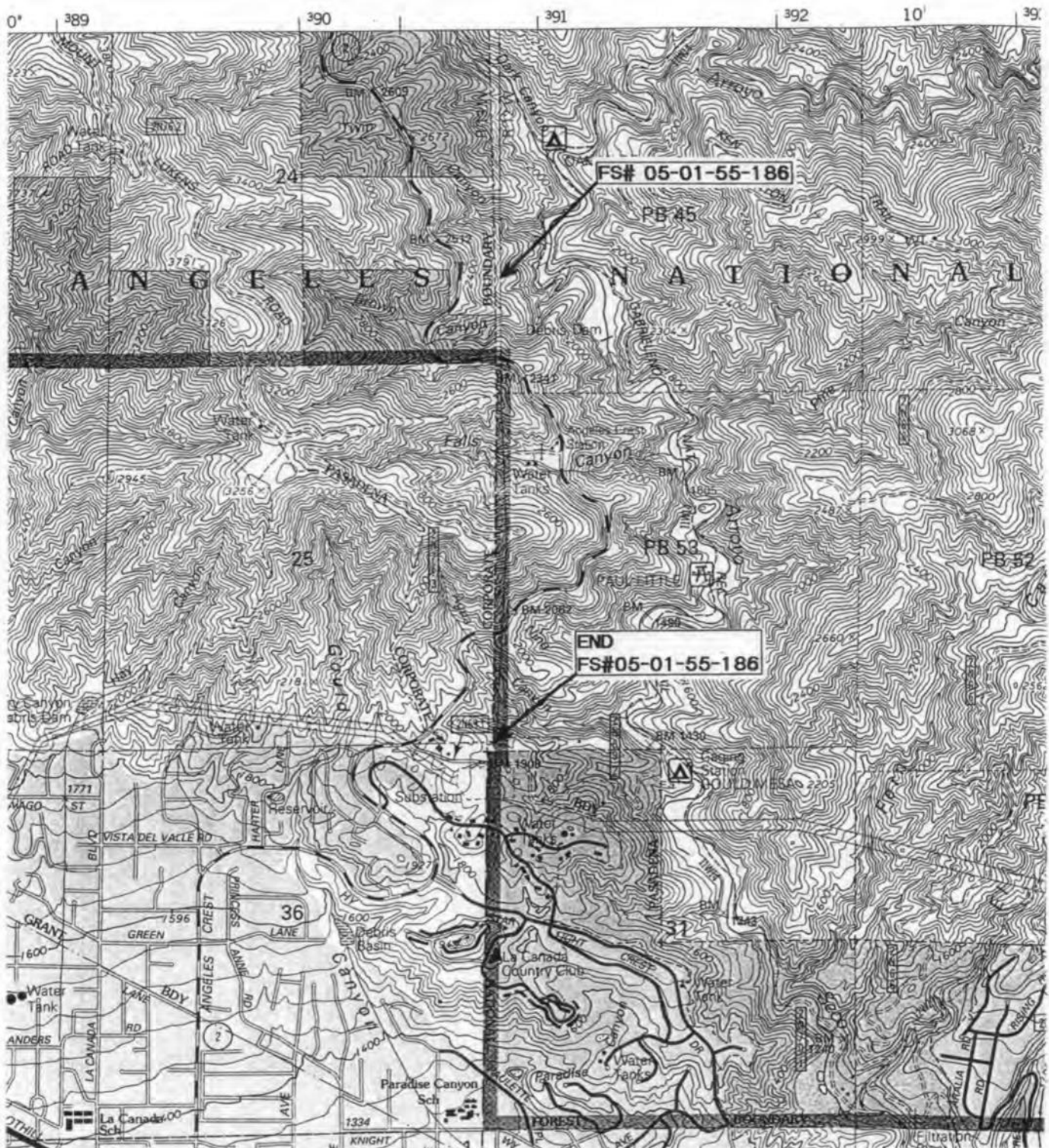
Page 9 of 9

SCE Eagle Rock-Pardee Transmission Line Corridor

Forest Service #: 05-01-55-186

PORTION OF: USGS Pasadena (1995)

SCALE: 1:24,000



State of California - The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
CONTINUATION SHEET

Primary #: **19-186876**

HRI#/Trinomial:

FS# 050155186

1361
1362
1363
1102

Page 1 of 7

*Resource Name or Number (Assigned by recorder): Vincent Lines

*Recorded by: ECORP Consulting, Inc.

*Date: 6/19/2006

☐ Continuation ☒ Update

The linear resource, 19-186876, was initially recorded by James J. Schmidt and June A. Schmidt in 2003 for Compass Rose Archaeological, Inc., and described as an 18.7-mile long linear arrangement of steel lattice transmission towers extending south from Vincent Substation, near Acton, to Gould Substation in Pasadena. The original Primary Record describe this segment as being part of the Big Creek line network that passed from the San Joaquin Valley over the Tehachapi Mountains to Eagle Rock substation near Pasadena.

ECORP archaeologists relocated and followed a 22-kilometer section of the site as it extends north from Vincent Substation and runs northwest through the eastern end of the Sierra Pelona through the Leona Valley, Portal Ridge and through the Antelope Valley where the line continues northwest past Antelope Substation.

ECORP archaeologists were informed by Southern California Edison (SCE) Archaeologist Adam Sriro, that the line was engineered, designed, and built by SCE in 1928 and that the original terminals were at Big Creek Power House 3, northeast of Fresno and Gould Substation in Pasadena. This line was originally part of SCE's 220 kV system and was originally called the Vincent Lines. The distinctive H-Frame Towers that characterize the towers in this segment are called Vincent towers that are heavier versions of the Big Creek Towers located elsewhere on the network.

The line is shown on the following 7.5-minute series USGS topographic maps from the 1930's: Acton (1939), Palmdale (1937), Red Rover (1937), Lake (1937), and Del Sur (1936). Antelope and Vincent substations are not depicted on these maps and were built at a later date.

The line is also shown on the 1958 15-minute series of USGS maps of Lancaster and Bouquet Canyon. By this time Antelope Substation had been constructed and is visible on the Bouquet Canyon 15-minute series USGS topographic map.

This update includes revised location maps showing the resource where it overlaps the Antelope Transmission Project: Segments 2 & 3 Project area.

UTM coordinates (NAD 27): E: 388845, N: 3827604

Elevation: 2,475 ft Antelope Substation; 3,710 ft Portal Ridge; 4,350 ft east end of Sierra Pelona; 3,250 ft Vincent Substation



View west of Sagebrush line (right) and Vincent Line (center) in Anaverde Valley in the eastern Sierra Pelona

Updated by: Koral Ahmet, and Sara Bholat

Date: 6/19/2006

Report Citation: Cultural Resources Survey Report for Antelope Transmission Project, Segment 2 & 3. Prepared for Aspen Environmental Group, Agoura Hills, & CPUC, San Francisco. Prepared by ECORP Consulting, Inc.

State of California - The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary #: 19-186876

HRI#

Trinomial:

FS # 050155186

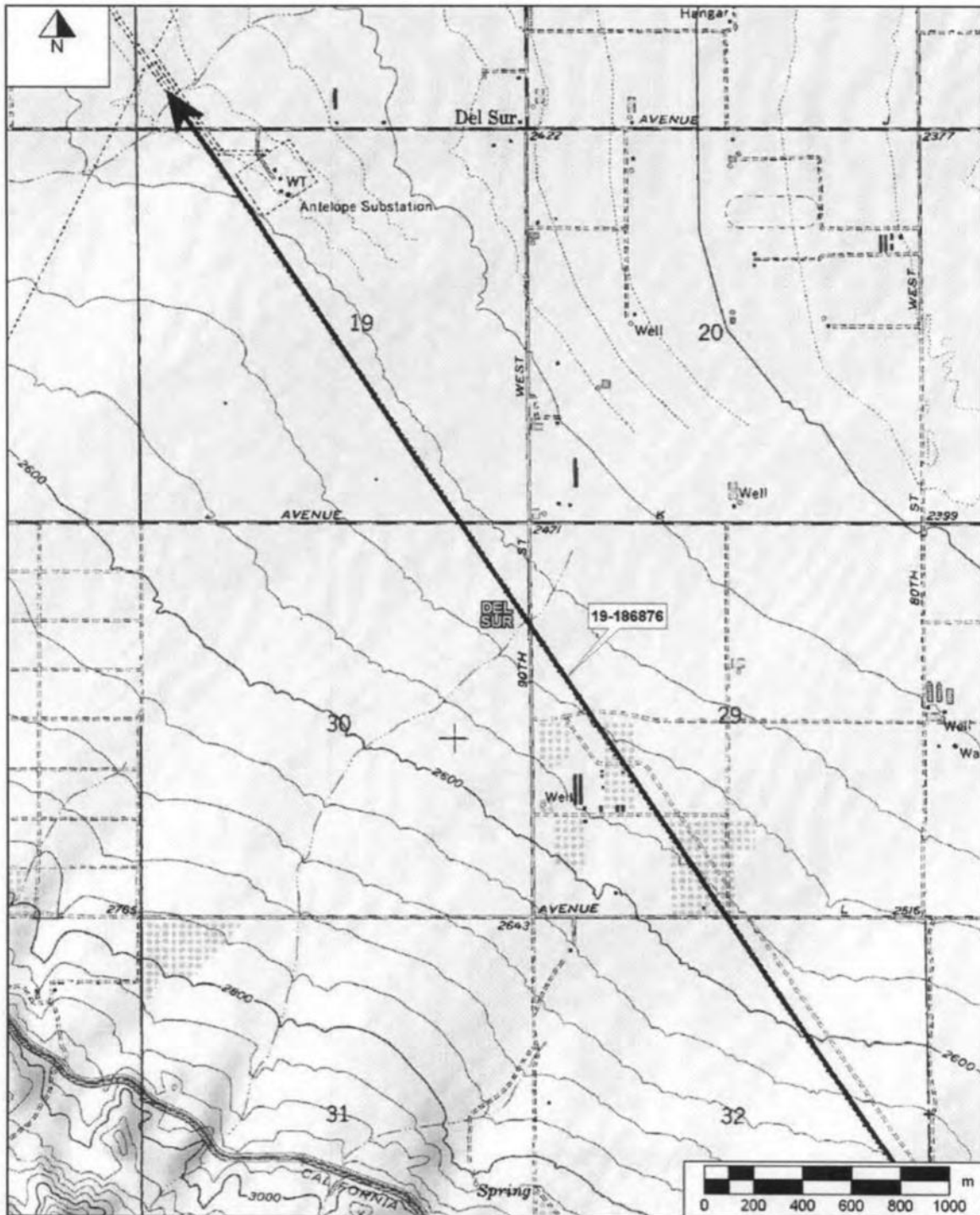
Page 2 of 7

*Map Names: Del Sur

*Resource Name or Number (Assigned by recorder): Vincent Line

*Scale: 1:24,000

*Date of Map: 1988



State of California - The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

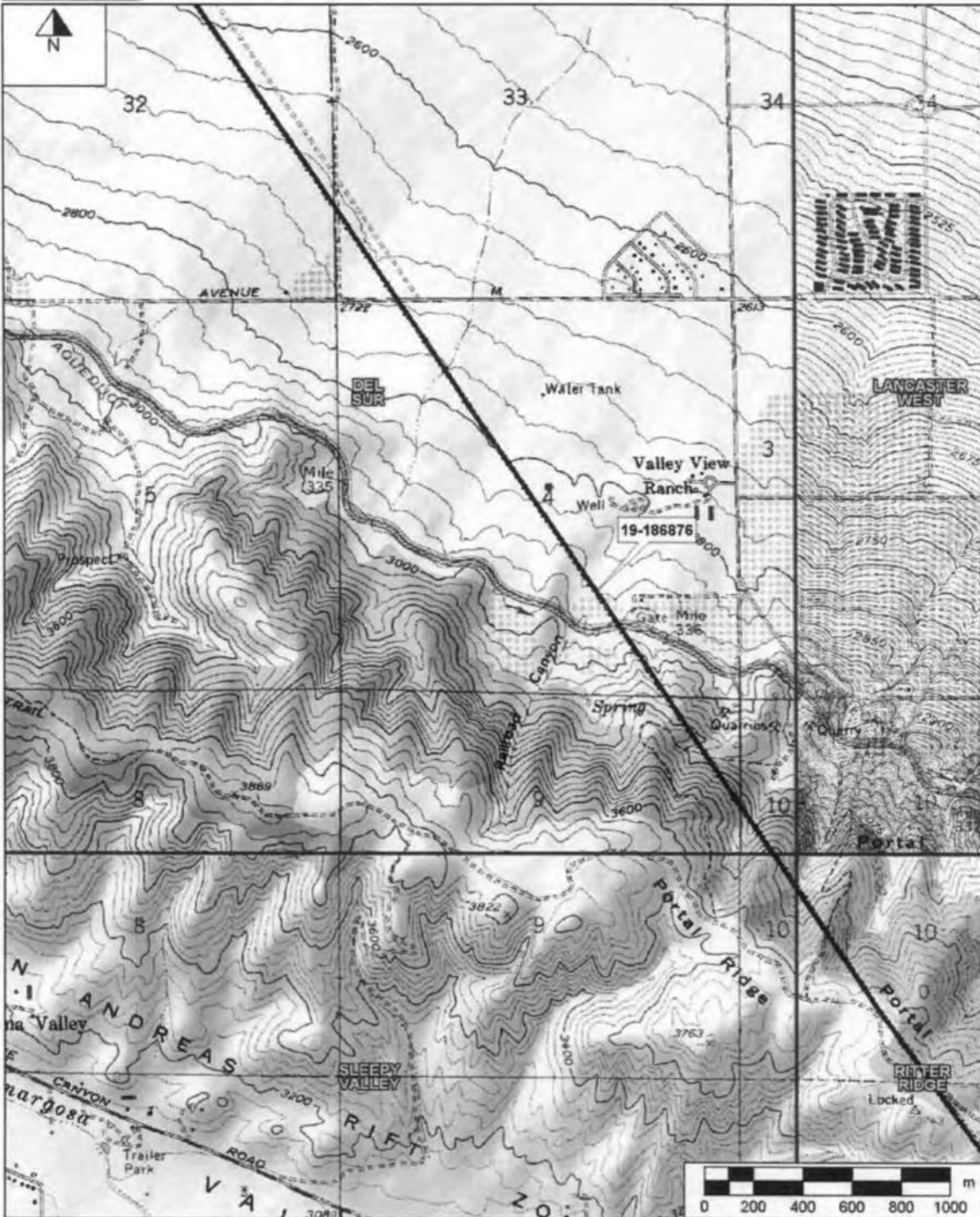
Primary #: 19-186876

HRI#

Trinomial:

FS # 050155186

Page 3 of 7 *Resource Name or Number (Assigned by recorder): Vincent Line *Map Names: Del Sur, Sleepy Valley, Ritter Ridge *Scale: 1:24,000 *Date of Map: 1988, 1995, 1958 (photorevised 1974)



State of California - The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary #: 19-186876

HRI#

Trinomial:

FS # 050155186

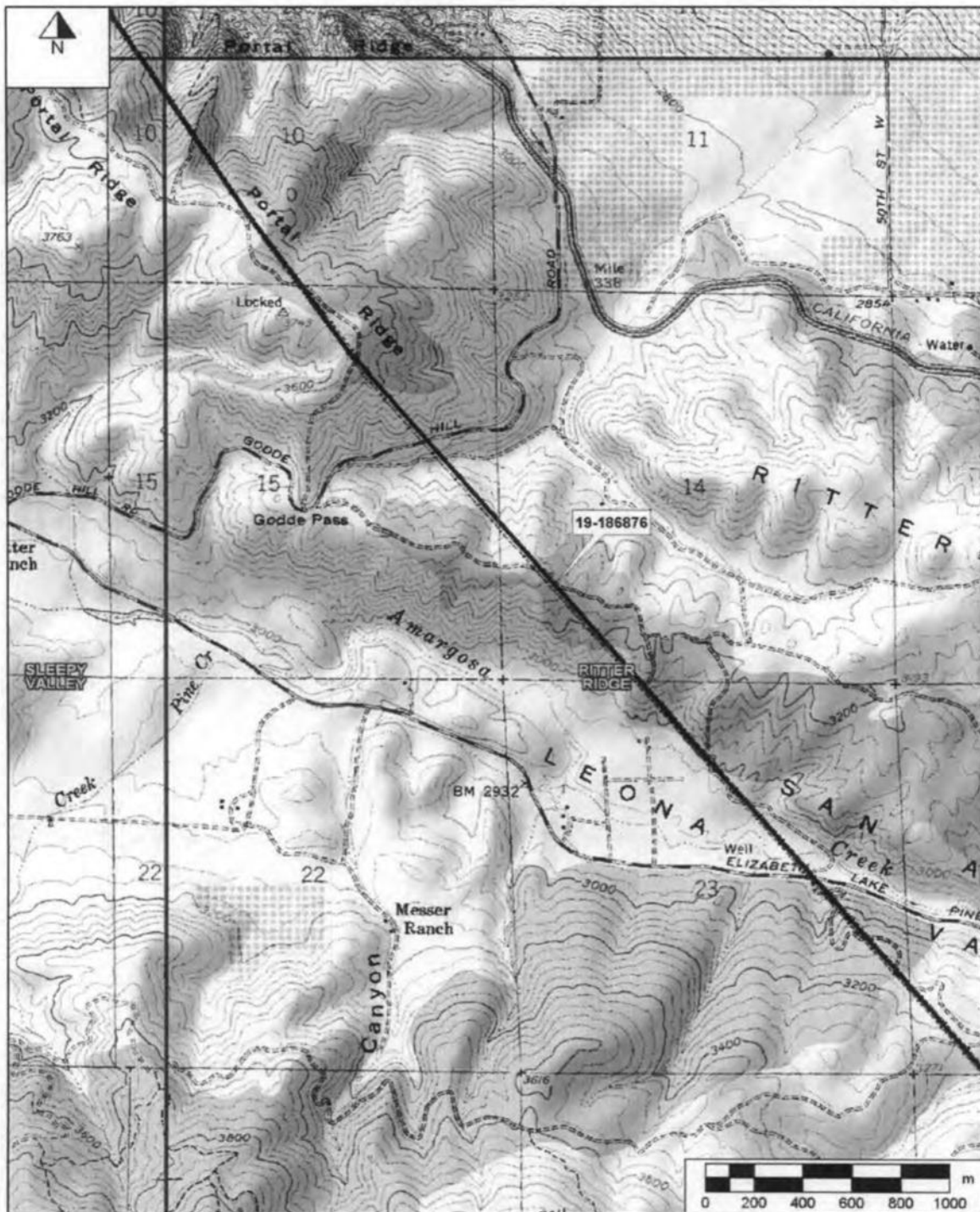
Page 4 of 7

*Resource Name or Number (Assigned by recorder): Vincent Line

*Map Names: Ritter Ridge

*Scale: 1:24,000

*Date of Map: 1958 (photorevised 1974)



State of California - The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary #: 19-186876
HRI#
Trinomial:
FS # 050155186

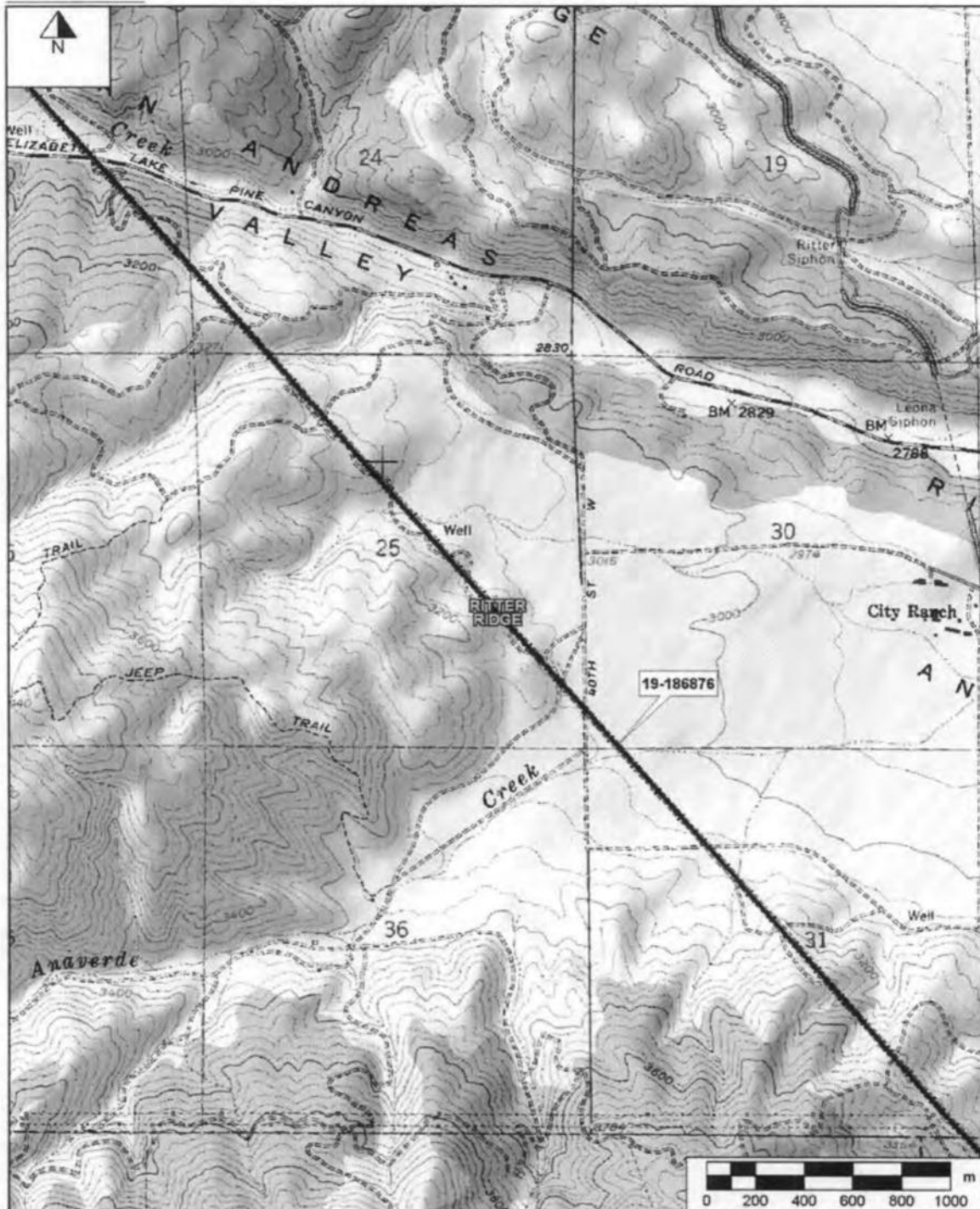
Page 5 of 7

*Resource Name or Number (Assigned by recorder): Vincent Line

*Map Names: Ritter Ridge

*Scale: 1:24,000

*Date of Map: 1958 (photorevised 1974)



State of California - The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary #: 19-186876
HRI#
Trinomial:
FS # 050155186

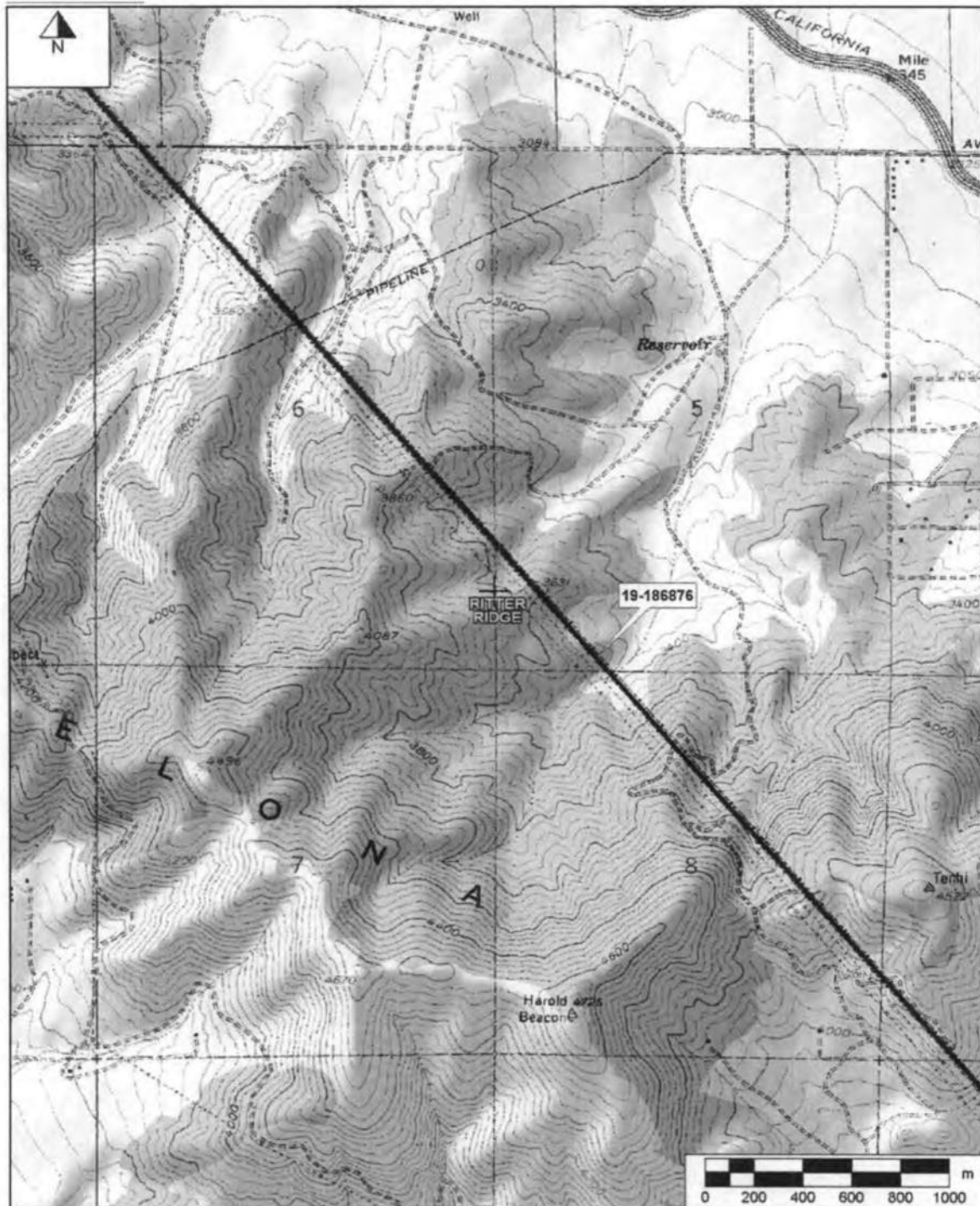
Page 6 of 7

*Resource Name or Number (Assigned by recorder): Vincent Line

*Map Names: Ritter Ridge

*Scale: 1:24,000

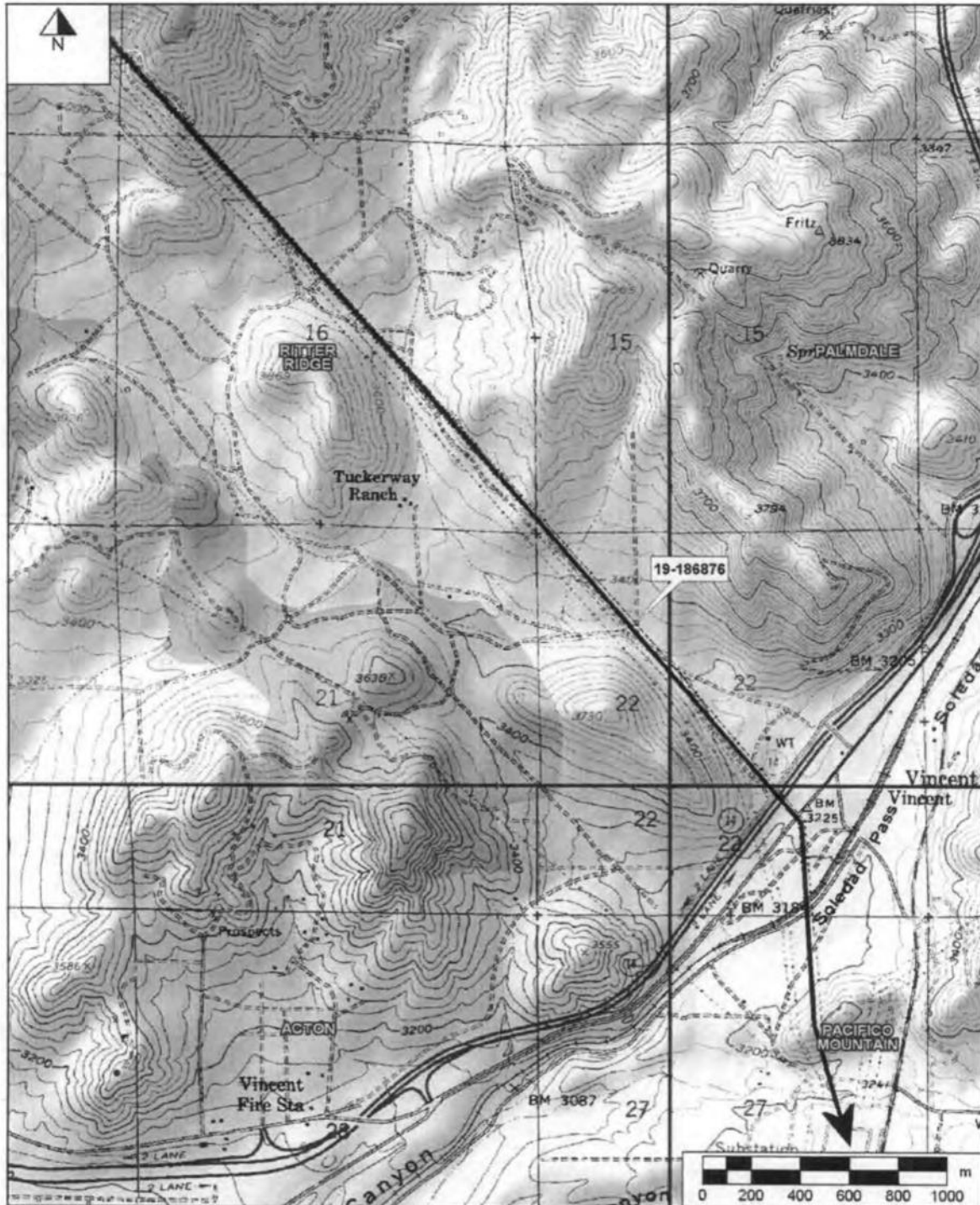
*Date of Map: 1958 (photorevised 1974)



State of California - The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary #: 19-186876
HRI#
Trinomial:
FS # 050155186

Page 7 of 7 *Resource Name or Number (Assigned by recorder): Vincent Line *Map Names: Ritter Ridge, Pacifico Mountain, Palmdale *Scale: 1:24,000 *Date of Map: 1958, 1958, 1959 (All photorevised 1974)



State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
PRIMARY RECORD

Primary#: _____
HRI #: _____
Trinomial: _____
NRHP Status Code: 6Z
Other Listings: _____

Review Code _____ Reviewer _____ Date _____

Page **1** of **25** *Resource Name or # Southern California Edison Company (SCE) Antelope-Mesa 220 kV Transmission Line

P1. Other Identifier: Magunden-Mesa 220kV TL

*P2. Location: ☐ Not for Publication ☒ Unrestricted

*a. County: Los Angeles County

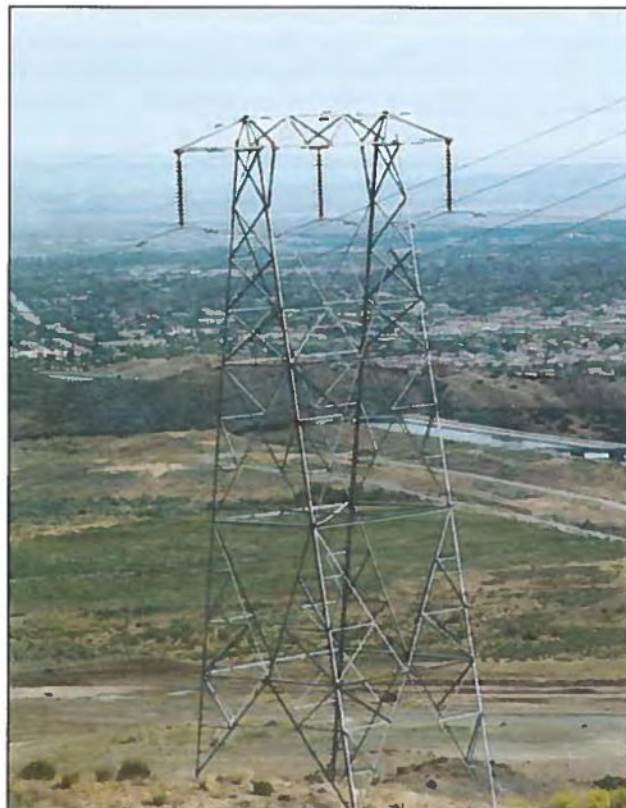
*b. USGS 7.5' Quad: see below Date: _____ T: _____ R: _____ 1/4 of _____ 1/4 of Sec: _____ B.M. _____

c. Address: N/A City: N/A Zip: N/A

d. UTM: (Give more than one for large and/or linear resources) Zone 11, _____ mE/ _____ mN

e. Other Locational Data: The transmission line spans 13 USGS topographic quadrangle maps: Acton, Azusa, Baldwin Park, Chialo Flat, Del Sur, El Monte, Lancaster West, Mount Wilson, Pacifico Mountain, Palmdale, Ritter Ridge, Sleepy Valley, and Waterman Mountain

*P3a. Description: The subject property is a 118-mile single-circuit 220kV electrical transmission line connecting the Antelope and Mesa substations. The line crosses varied geography from the arid desert landscape of the Antelope Substation, located in the southern Antelope Valley at 9634 W Avenue J in Lancaster, CA, across the San Gabriel Mountains and the Angeles National Forest, ultimately connecting to the Mesa Substation, located at 700 East Portrero Grande Drive in Monterey Park, a highly urbanized area of Los Angeles County. The Antelope and Mesa substations were built in 1953 and 1950, respectively. The circuit is comprised of the transmission cables, their supporting towers and a grounding system as well as a dirt access road. The steel lattice type towers are the most obvious feature of the transmission line. They are vertical "A"-frame structures with battered legs to support the line tension. A "T" shaped cross-arm holds the transmission cables in a horizontal array across the top of the tower. The towers were designed to be modular with heights varying based on topography, however they are typically 78 feet tall. Tower footings are approximately 24 feet apart and are constructed of concrete footings. Tower spacing, like height, varies based on topography, with towers installed anywhere from 300 to 2300 feet apart. Early articles specify conductors to be 30 x 19 steel reinforced aluminum with an approximate diameter of 3/4". Ground wires are two 1/2" 7-strand high-strength steel cables.



*P3b. Resource Attributes: HP11: Engineering Structure (Transmission Line)

*P4. Resources Present: ☐ Building ☒ Structure ☐ Object ☐ Site ☐ District ☐ Element of District ☐ Other (Isolates, etc.)

*P5b. Description of Photo:

View north at a tower near the southern end of the Antelope Valley.
Image Source: Ivan Strudwick, SCE Contingent Archaeologist / LSA Associates, Inc.

*P6. Date Constructed/Age and Source:

☒ Historic, 1949; SCE Civil Engineering Group

☐ Prehistoric ☐ Both

*P7. Owner and Address:

Southern California Edison Co.
2244 Walnut Grove Avenue
Rosemead, CA 91770

*P8. Recorded by:

Wendy L. Tinsley Becker, AICP, RPH, Principal
Urbana Preservation & Planning, LLC
3904 Groton Street #201, San Diego, CA 92110
619-543-0693/Phone
248 3rd Street #841, Oakland, CA 94607
510-663-7443/Phone

*P9. Date Recorded:

July 2010

*P10. Survey Type: Intensive Level

(CEQA / NHPA §106 Survey)

*P11. Report Citation: Urbana Preservation & Planning, LLC, Southern California Edison Company's Tehachapi Renewable Transmission Project Historic Infrastructure Eligibility Evaluation –

NRHP/CRHR Review Antelope-Mesa Transmission Line, July 2010.

*Attachments: ☐ NONE ☒ Location Map ☐ Continuation Sheet ☒ Building, Structure, and Object Record

☐ Archaeological Record ☐ District Record ☐ Linear Feature Record ☐ Milling Station Record ☐ Rock Art Record

☐ Artifact Record ☐ Photograph Record ☐ Other (List):

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

Primary #: _____
HRI #: _____

BUILDING, STRUCTURE, OBJECT RECORD

Page 2 of 25

*NRHP Status Code: 6Z

*Resource Name or # SCE Antelope-Mesa 220kV Transmission Line

B1. Historic Name: Magunden-Mesa 220kV Transmission Line

B2. Common Name: Antelope-Mesa 220kV Transmission Line

B3. Original Use: Electrical Transmission Line

B4. Present Use: Electrical Transmission Line

*B5. Architectural Style: Utilitarian Steel Lattice Towers with Transmission Line

*B6. Construction History: Installed between 1949 and 1951, and connected to Big Creek Powerhouse No.4, the Antelope-Mesa transmission line was originally constructed as part of the larger Magunden-Mesa transmission line, and has previously been identified as:

- Big Creek No. 4 – Magunden,
- Big Creek 3 -4 – Mesa, and
- Big Creek No. 4 Magunden – Mesa.

During the construction of the Antelope Substation one transmission tower was added to the Antelope-Mesa 220kV Transmission line, approximately 230 feet from the substation. The construction of the Antelope Valley Freeway required the addition of one tower in 1962; in 1966 a single tower was added to cross the Foothill Freeway in the San Gabriel Valley. In 1968 twelve towers were installed along the line; three in the vicinity of the California Aqueduct, five near the Santa Fe flood control basin in the Irwindale area, two at a northern location, and two south of Irwindale. In 1973 one tower was added, and in 1979 two additional towers were installed. In 1981 seven towers were relocated to provide for the construction of the Montebello Shopping Center (now called Montebello Town Center) at the intersection of Montebello Boulevard and the Pomona Freeway. Twin Skywrap fiber optic communication cables were added to the line from the vicinity of the Foothill Freeway to approximately 50 miles north; the exact date of the work is unknown, however, it would have been post-1982 when the product first became commercially available.

*B7. Moved? ☒ No ☐ Yes ☐ Unknown Date: N/A Original Location: N/A

*B8. Related Features: Antelope-Magunden No.1 220kV Transmission Line

B9a. Architect: Southern California Edison Company b. Builder: Southern California Edison Company

*B10. Significance: None

Theme: N/A Area: N/A Period of Significance: N/A Property Type: Engineering Structure Applicable Criteria: N/A

The Antelope-Magunden 220kV transmission line was constructed between 1949 and 1951 as part of the Big Creek No.4 project, constituting the construction of Big Creek Powerhouse No.4 and accompanying transmission lines spanning 227 miles from Big Creek Powerhouse No.4 to Magunden substation in Kern County and terminating at Mesa substation in Los Angeles County. The historic line segments, which comprise the Big Creek Project #4 were named by substation and are as follows:

- Big Creek No. 4 – Magunden and
- Magunden – Mesa.

(See page 3 of 24 for continuation)

B11. Additional Resource Attributes: None

*B12. References:

(1) Edison Electric Institute Bulletin, *Developments in Electrical Transmission*, 327-329

(http://www.eei.org/industry_issues/industry_overview_and_statistics/history/Entering7thDecade.pdf)

(2) Southern California Edison Company, Civil Engineering Group – Antelope-Mesa Transmission Line files.

(3) Wendy L. Tinsley & Urbana Preservation & Planning, *NRHP/CRHR Review of the Southern California Edison Company Antelope Substation, Lancaster, California*, 2007

(4) Sheets, W.L. "New Big-Creek 220-Kv Line Constructed in Record Time." *Electric Light & Power*, Vol. 29, PennWell Pub. Co., 1951, pg. 85.

(5) "Decisions of the Public Utilities Commission of the State of California," California Public Utilities Commission, Vol. 50, 1950.

(6) "Western Construction News," Vol. 26, King Publication, 1951.

(7) "Report: Opinions, Decisions and Orders," United States Federal Power Commission, Vol. 14, U.S. Govt. Print Off., 1959.

B13. Remarks: None

*B14. Evaluator: Wendy L. Tinsley Becker, AICP, RPH, Principal
Urbana Preservation & Planning, LLC

*Date of Evaluation: July 2010

Official Comments:

See Location Maps 1-22 (DPR 523J)
included as pages 3 through 24.

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
CONTINUATION SHEET

Primary#: _____
HRI #: _____
Trinomial: _____

Page 3 of 25

*Resource Name or # SCE Antelope-Mesa 220kV Transmission Line

Recorded by Wendy L. Tinsley Becker, AICP, RPH, Principal, Urbana Preservation & Planning, LLC

Date: July 2010

☒ Continuation ☐ Update

B10. Significance Continued

In 1953, the Antelope substation located in the Del Sur area of Lancaster, at 100 Street West and Avenue J, in the southern Antelope Valley, was constructed 59-miles south of the Magunden substation to supply electricity to the Antelope and Santa Clarita Valleys that were expanding considerably in a period of postwar suburbanization. The construction of the Antelope substation resulted in bisection of the Magunden-Mesa portion into two segments, Antelope-Magunden #1 to the north and Antelope-Mesa to the south. The common identifier for the Magunden-Mesa transmission line on SCE Civil Engineering Data sheets was M4839. Similarly, the construction of Springville substation in 1947 divided the Big Creek No. 4 – Magunden transmission line into two individual segments. Present-day naming conventions of the 227-mile transmission line include:

- Big Creek Powerhouse No. 4 – Springville,
- Magunden – Springville #2,
- Antelope – Magunden #1, and
- Antelope – Mesa.

From 1953 forward the lines have been treated as separate facilities by SCE.

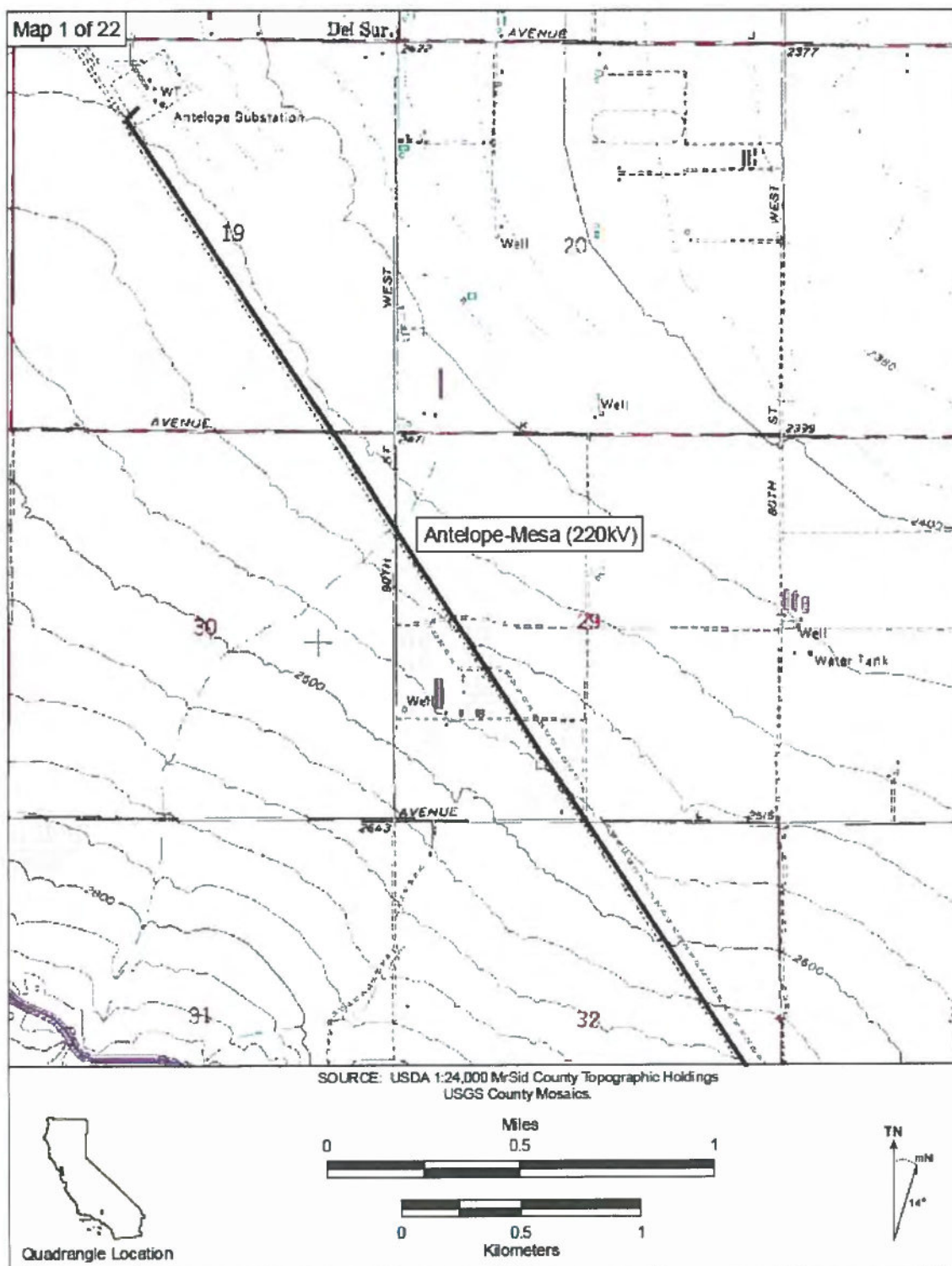
The Antelope-Mesa 220kV Transmission Line does not appear to be eligible for inclusion on the California Register of Historical Resources (California Register) or the National Register of Historic Places (National Register). No information was found during the course of historical research to suggest that the Antelope-Mesa 220kV Transmission Line, or its steel lattice transmission towers, have a significant association with events (specific or patterned) in the history of the many communities it passes through in Los Angeles County, California, or the nation. It does not appear eligible for the California Register under Criterion 1 and it is not eligible for the National Register under Criterion A. No association with the lives of persons significant in our past was identified. It does not appear eligible for the California Register under Criterion 2 and it is not eligible for the National Register under Criterion B. The Antelope-Mesa 220kV Transmission Line was not technologically or materially innovative within the history of electrical transmission and voltage systems, it was erected nearly thirty years after the level of voltage was commonplace for electrical transmission systems. It does not appear eligible for the California Register under Criterion 3 and it is not eligible for the National Register under Criterion C. The Antelope-Mesa 220kV Transmission Line would not provide information that would be considered important to history and does not appear eligible for inclusion on the California Register under Criterion 4 and it is not eligible for the National Register Criterion D.

The Antelope-Mesa 220kV Transmission Line does not appear to meet the definition of a historic property under the National Historic Preservation Act or a historical resource under the California Environmental Quality Act. Future undertakings or discretionary projects proposed along the line, including replacement of existing cables or steel towers, would not appear to cause a significant adverse effect or cause a substantial adverse change in the significance of a historic property or historical resource.

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary#: _____
HRI #: _____
Trinomial: _____

Page 4 of 25 (Map Page 1 of 22) *Resource Name or # Antelope-Mesa 220kV Transmission Line *NRHP Status Code: 6Z
*Map Name: Del Sur *Scale: 1:24000 *Date of Map: 1995
Map Prepared By: Lisa Holm, Pacific Legacy, Inc. (June 2010)



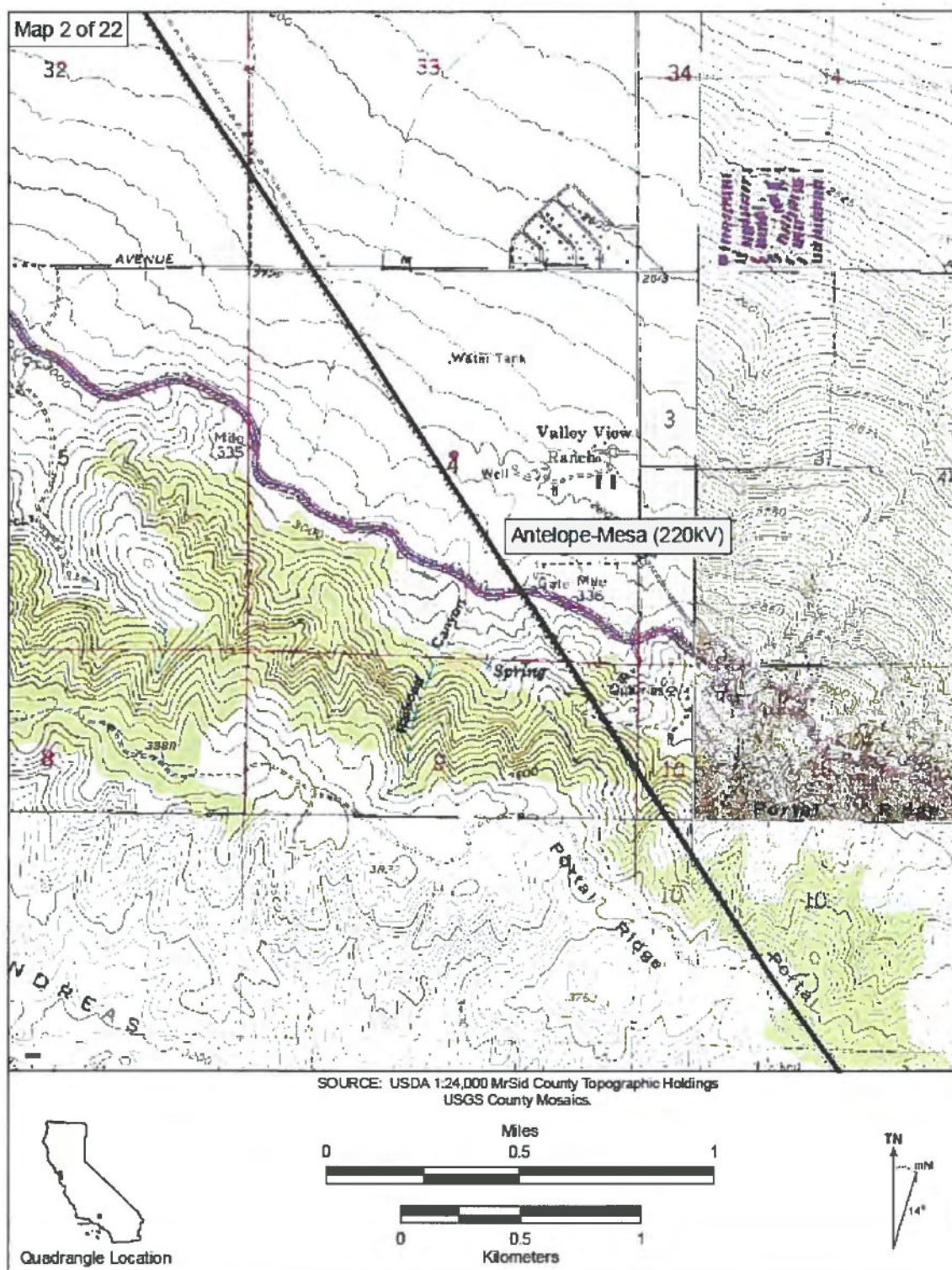
State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary#: _____
HRI #: _____
Trinomial: _____

Page 5 of 25 (Map Page 2 of 22) *Resource Name or # Antelope-Mesa 220kV Transmission Line *NRHP Status Code: 6Z

*Map Name: Del Sur, Lancaster West, Ritter Ridge & Sleepy Valley *Scale: 1:24000

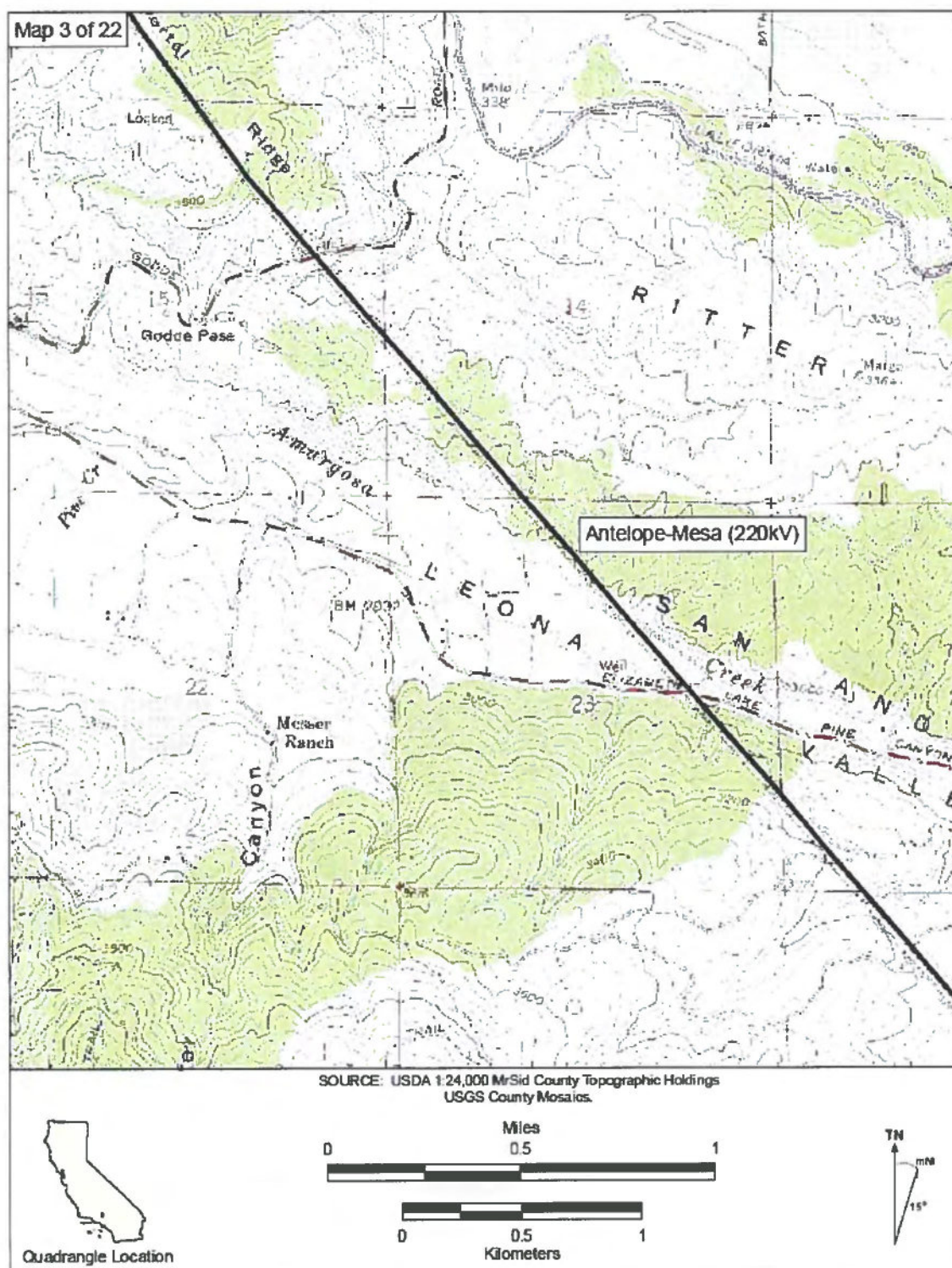
*Date of Map: 1995/1958 (PR1974) / 1958 (PR1974) / 1995 Map Prepared By: Lisa Holm, Pacific Legacy, Inc. (June 2010)



State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary#: _____
HRI #: _____
Trinomial: _____

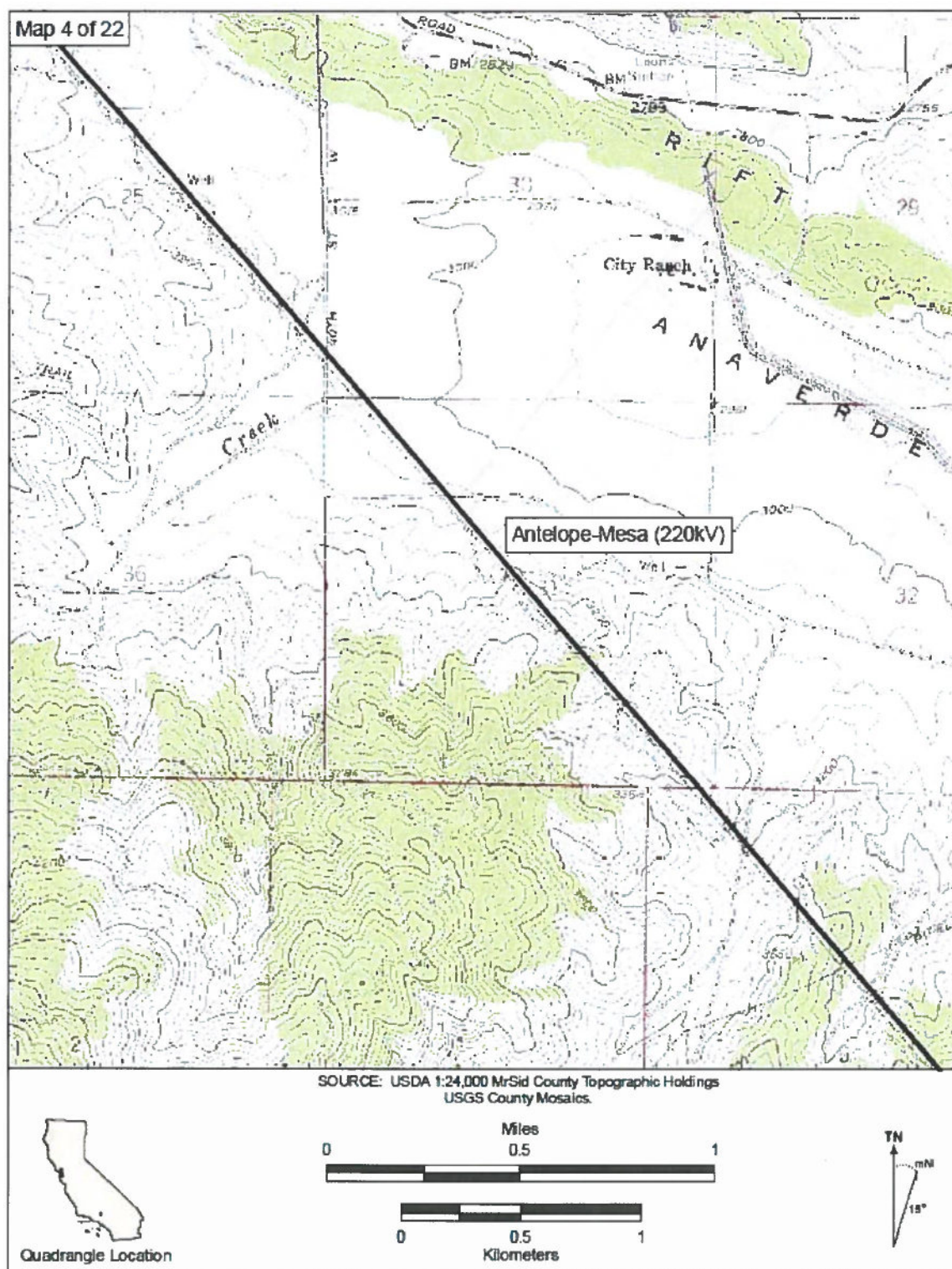
Page 6 of 25 (Map Page 3 of 22) *Resource Name or # Antelope-Mesa 220kV Transmission Line *NRHP Status Code: 6Z
*Map Name: Sleepy Valley & Ritter Ridge *Scale: 1:24000 *Date of Map: 1958 (PR1974)/ 1995
Map Prepared By: Lisa Holm, Pacific Legacy, Inc. (June 2010)



State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary#: _____
HRI #: _____
Trinomial: _____

Page 7 of 25 (Map Page 4 of 22) *Resource Name or # Antelope-Mesa 220kV Transmission Line *NRHP Status Code: 6Z
*Map Name: Ritter Ridge *Scale: 1:24000 *Date of Map: 1958 (PR1974)
Map Prepared By: Lisa Holm, Pacific Legacy, Inc. (June 2010)



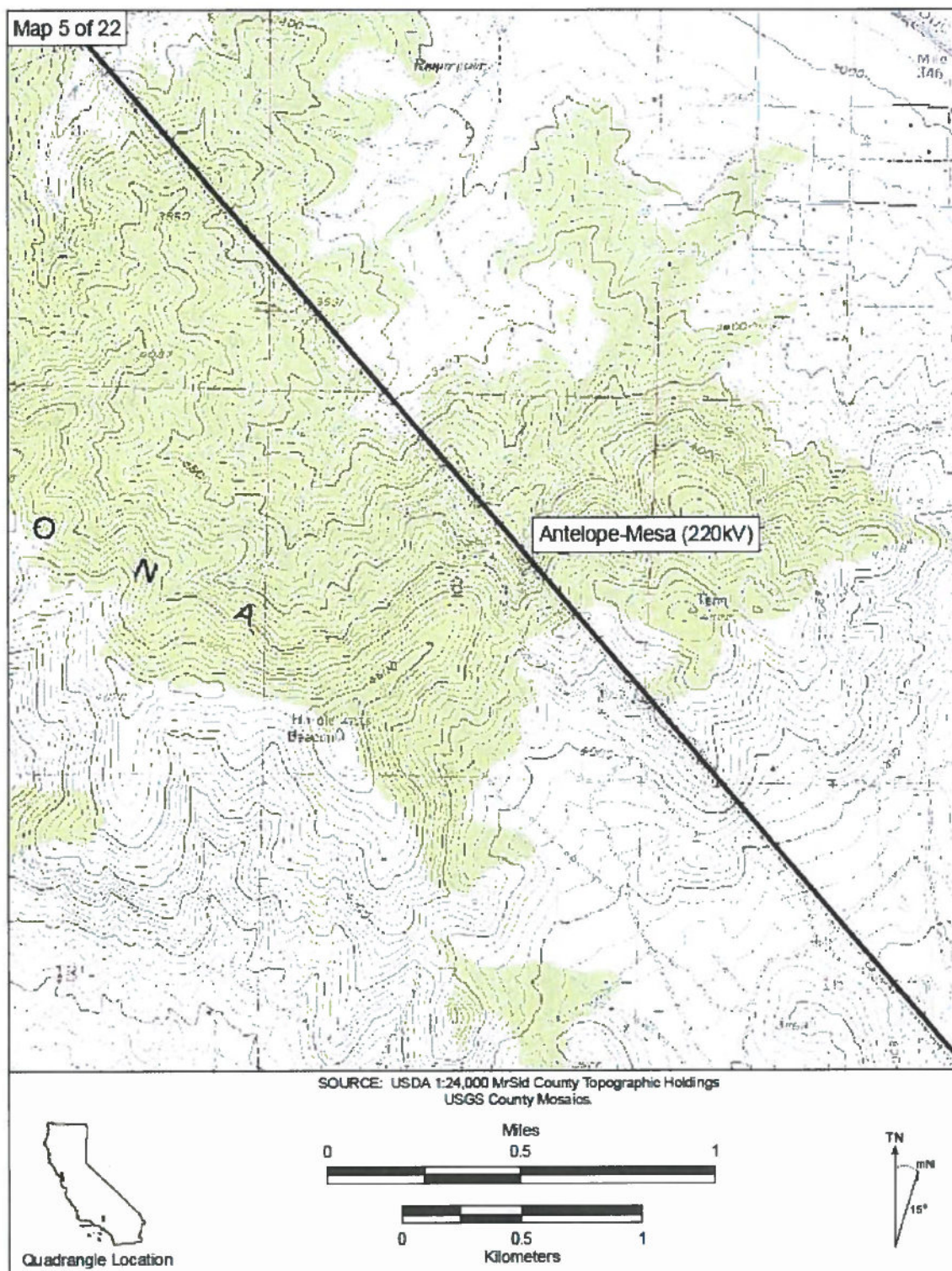
State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary#: _____
HRI #: _____
Trinomial: _____

Page 8 of 25 (Map Page 5 of 22) *Resource Name or # Antelope-Mesa 220kV Transmission Line *NRHP Status Code: 6Z

*Map Name: Ritter Ridge, Palmdale, Pacifico Mtn, Acton *Scale: 1:24000

*Date of Map: 1958 (PR1974)/1958 (PR1974)/1967 (PR1981)/1995 Map Prepared By: Lisa Holm, Pacific Legacy, Inc. (June 2010)



State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

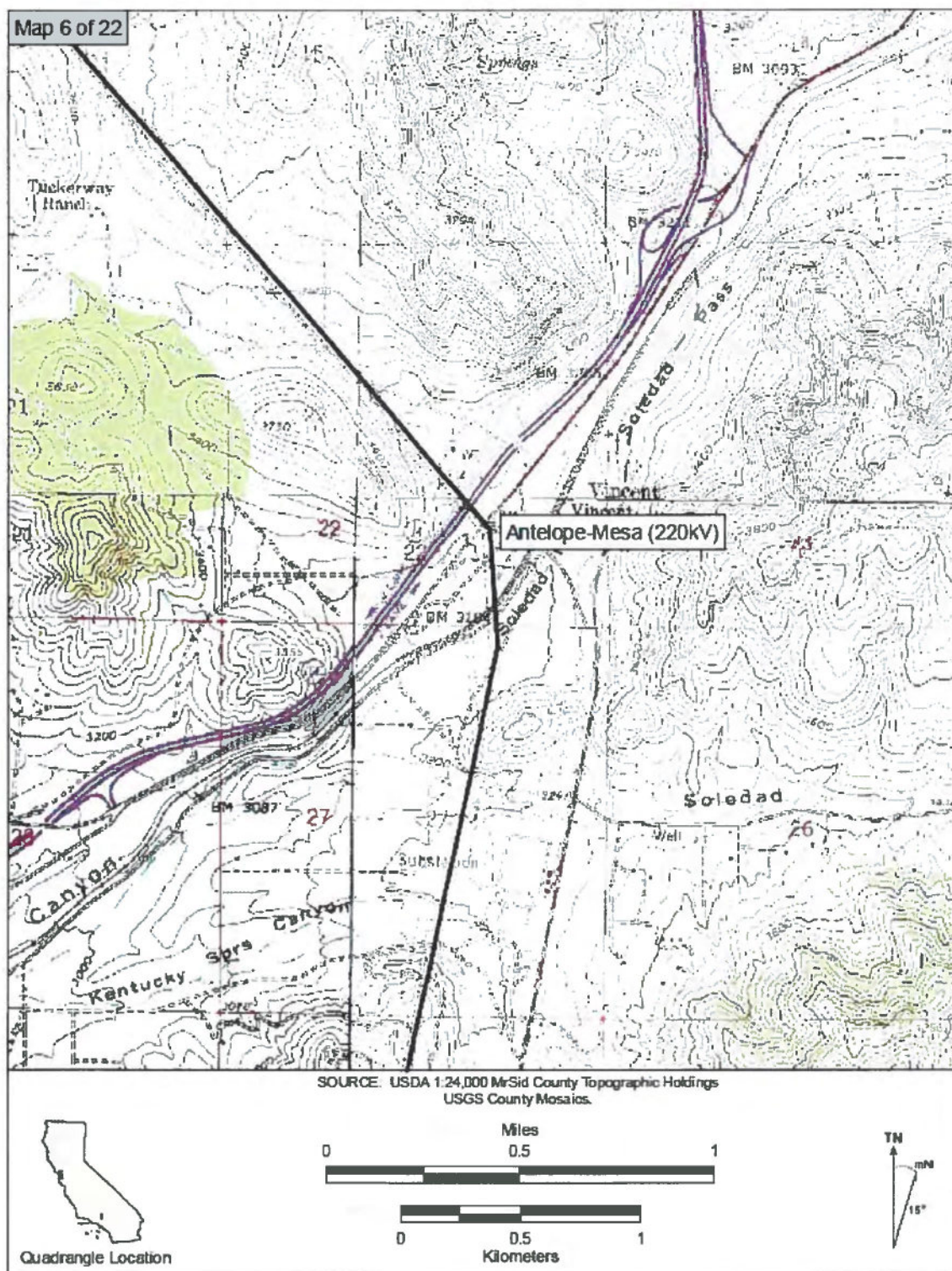
Primary#: _____
HRI #: _____
Trinomial: _____

Page 2 of 25 (Map Page 6 of 22) *Resource Name or # Antelope-Mesa 220kV Transmission Line *NRHP Status Code: 6Z

*Map Name: Acton & Pacifico Mtn. *Scale: 1:24000

*Date of Map: 1995/1967(PR 1981)

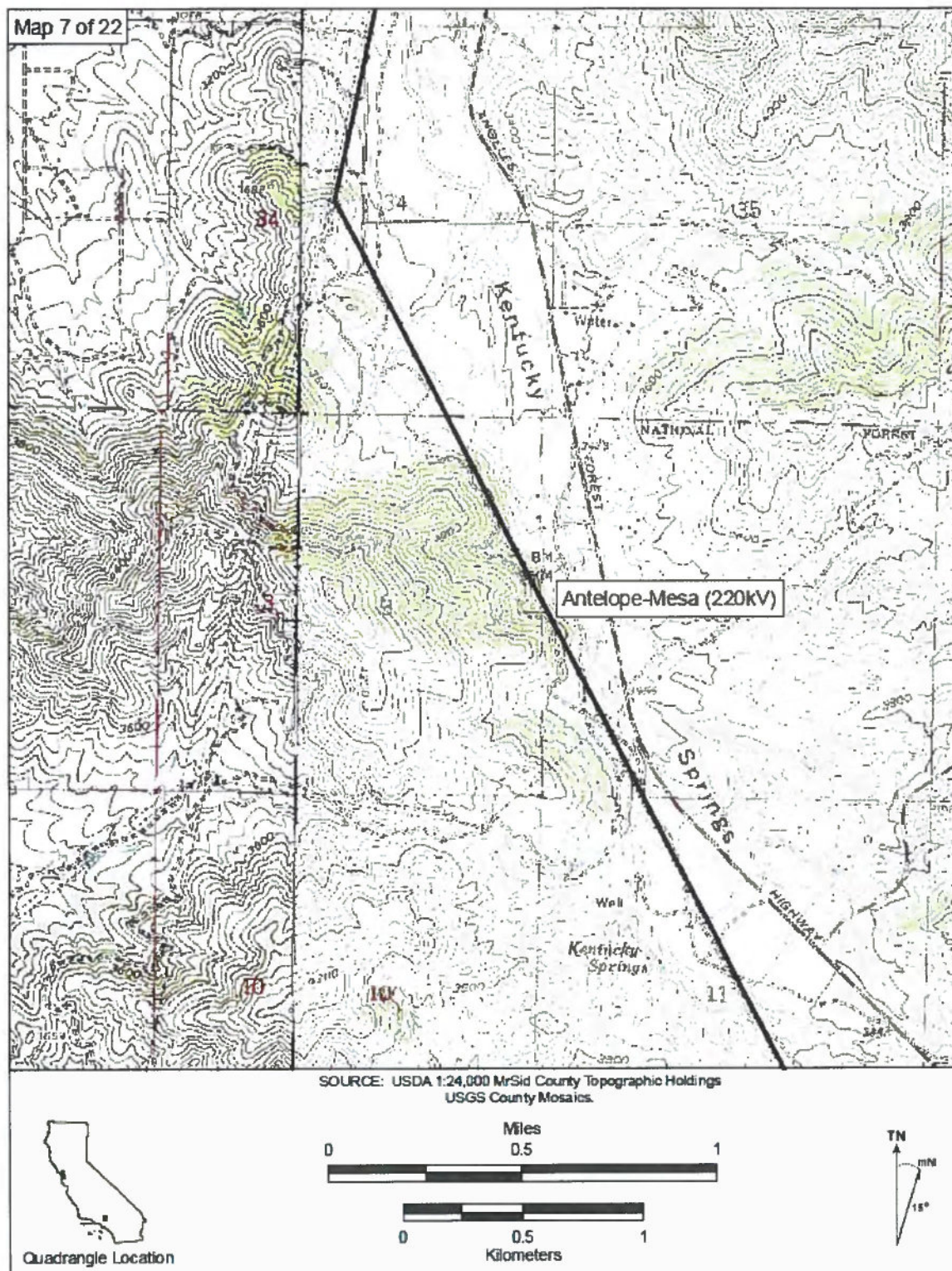
Map Prepared By: Lisa Holm, Pacific Legacy, Inc. (June 2010)



State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary#: _____
HRI #: _____
Trinomial: _____

Page **10 of 25** (Map Page 7 of 22) *Resource Name or # **Antelope-Mesa 220kV Transmission Line** *NRHP Status Code: **6Z**
*Map Name: **Acton & Pacifico Mtn.** *Scale: **1:24000** *Date of Map: **1995/1967(PR 1981)**
Map Prepared By: **Lisa Holm, Pacific Legacy, Inc. (June 2010)**



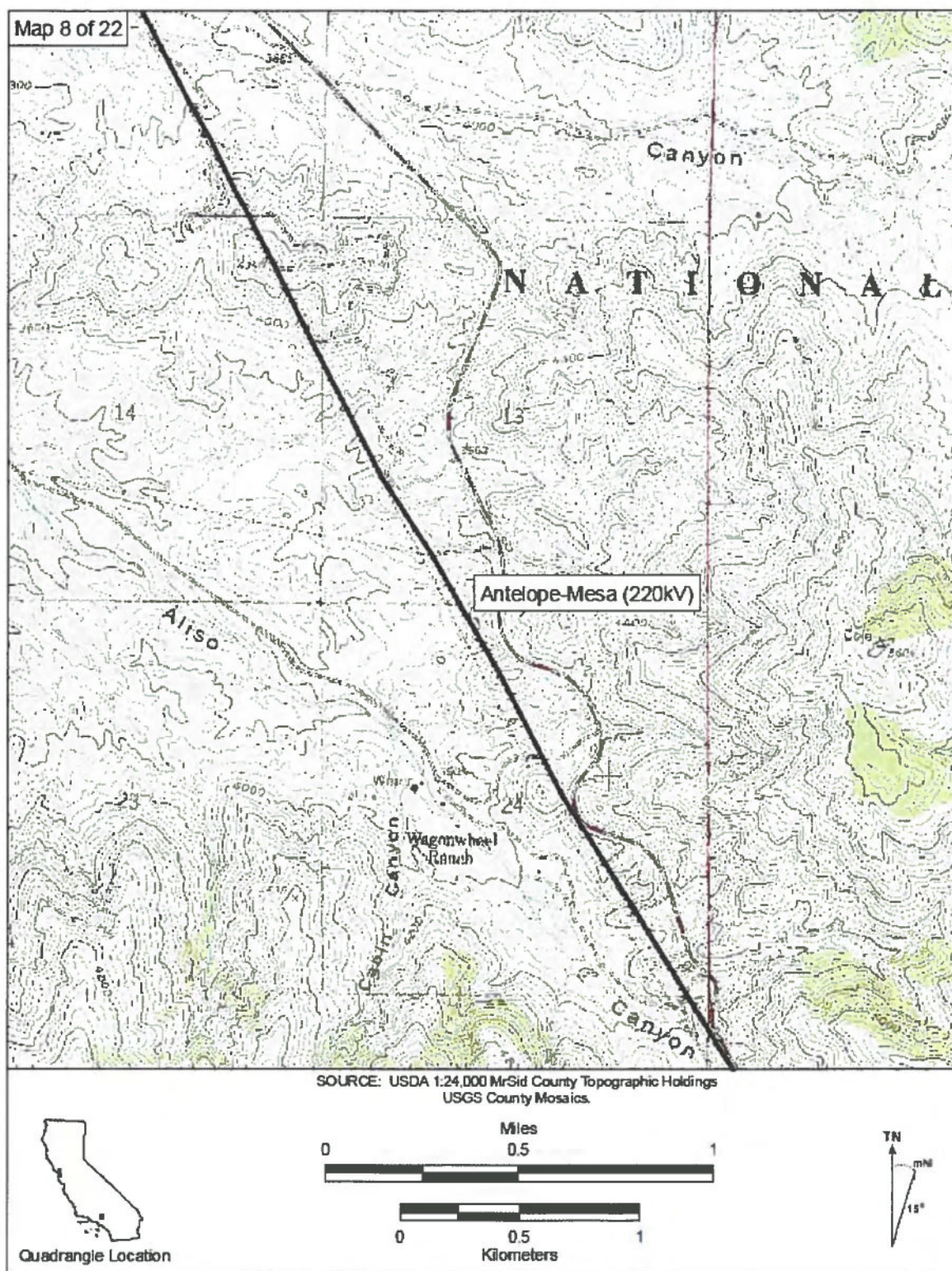
State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary#: _____
HRI #: _____
Trinomial: _____

Page **11** of **25** (Map Page 8 of 22) *Resource Name or # Antelope-Mesa 220kV Transmission Line *NRHP Status Code: 6Z

*Map Name: Pacifico Mtn *Scale: 1:24000 *Date of Map: 1995

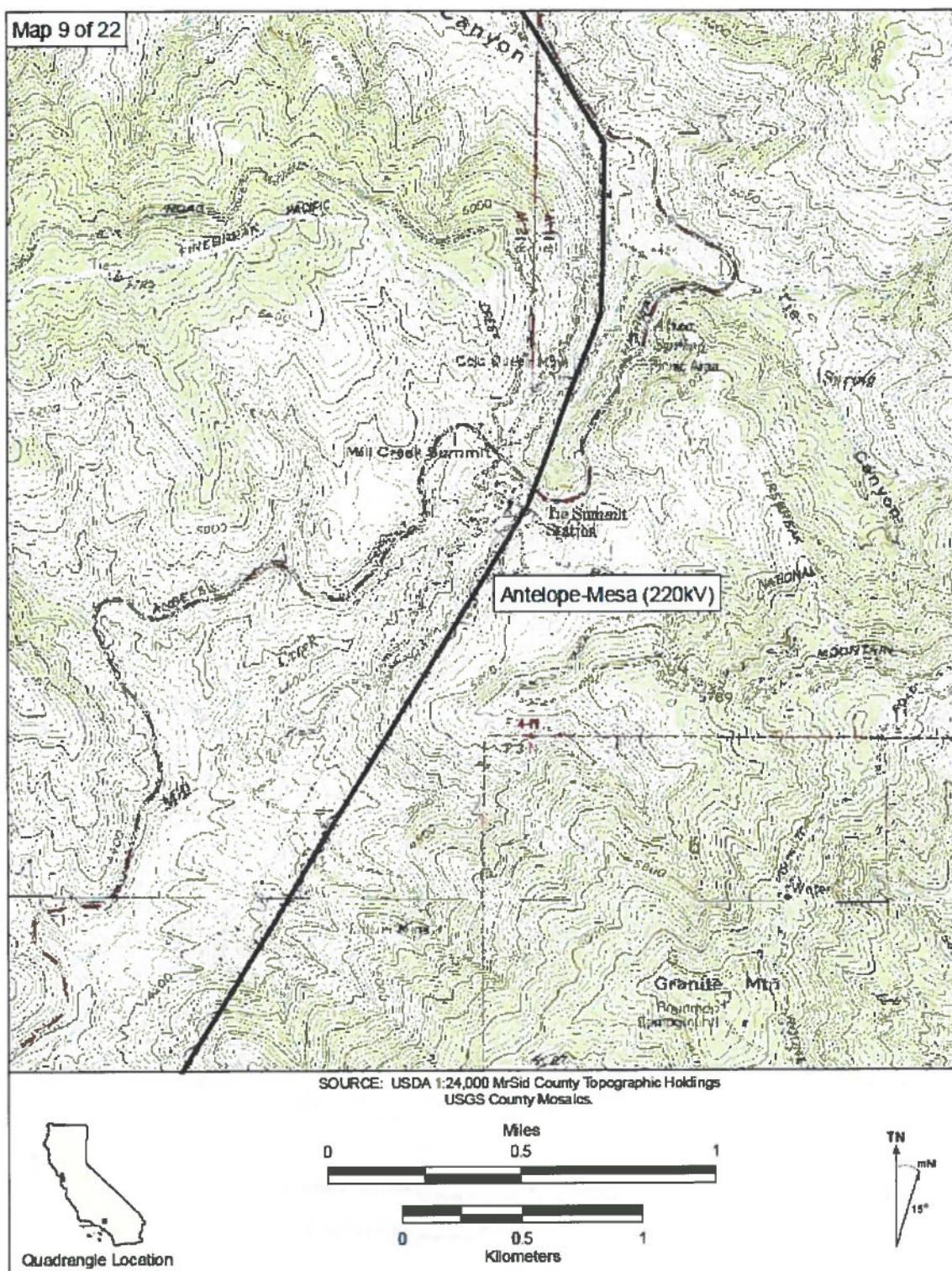
Map Prepared By: Lisa Holm, Pacific Legacy, Inc. (June 2010)



State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary#: _____
HRI #: _____
Trinomial: _____

Page **12 of 25** (Map Page 9 of 22) *Resource Name or # Antelope-Mesa 220kV Transmission Line *NRHP Status Code: 6Z
*Map Name: Pacifico Mtn *Scale: 1:24000 *Date of Map: 1995
Map Prepared By: Lisa Holm, Pacific Legacy, Inc. (June 2010)



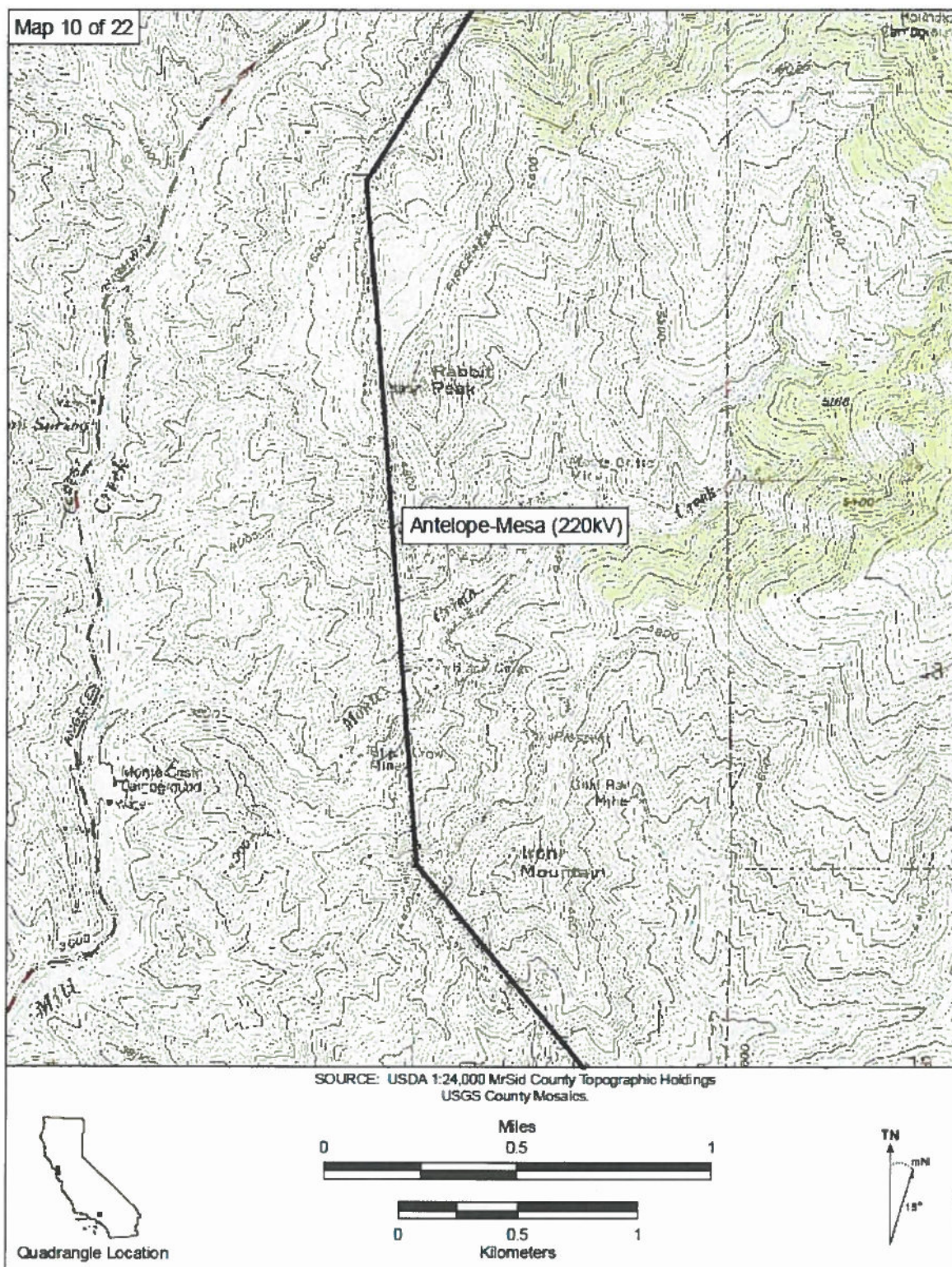
State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary#: _____
HRI #: _____
Trinomial: _____

Page 13 of 25 (Map Page 10 of 22) *Resource Name or # Antelope-Mesa 220kV Transmission Line *NRHP Status Code: 6Z

*Map Name: Chilao Flat *Scale: 1:24000 *Date of Map: 1995

Map Prepared By: Lisa Holm, Pacific Legacy, Inc. (June 2010)



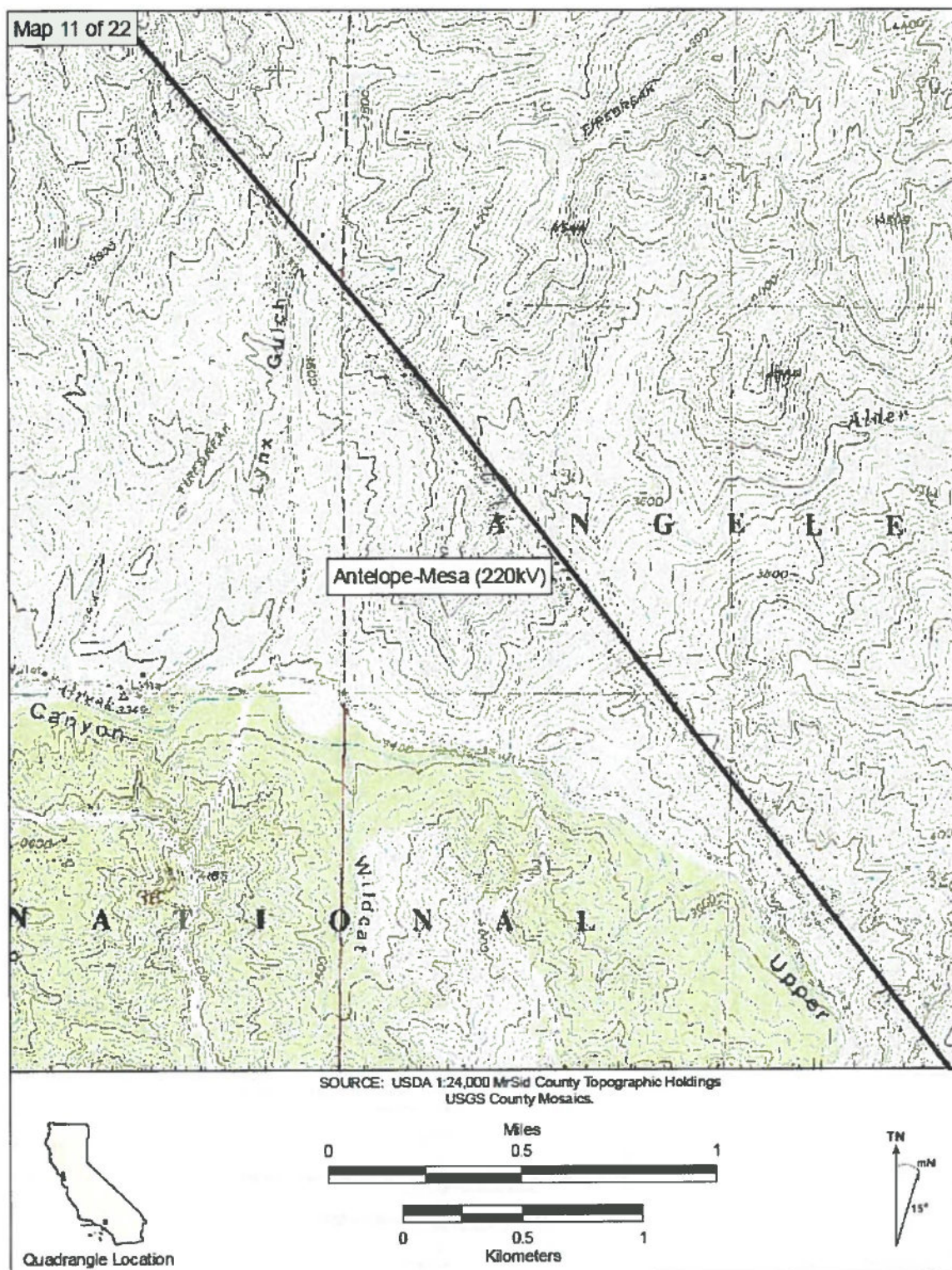
State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary#: _____
HRI #: _____
Trinomial: _____

Page 14 of 25 (Map Page 11 of 22) *Resource Name or # Antelope-Mesa 220kV Transmission Line *NRHP Status Code: 6Z

*Map Name: Chilao Flat *Scale: 1:24000 *Date of Map: 1995

Map Prepared By: Lisa Holm, Pacific Legacy, Inc. (June 2010)



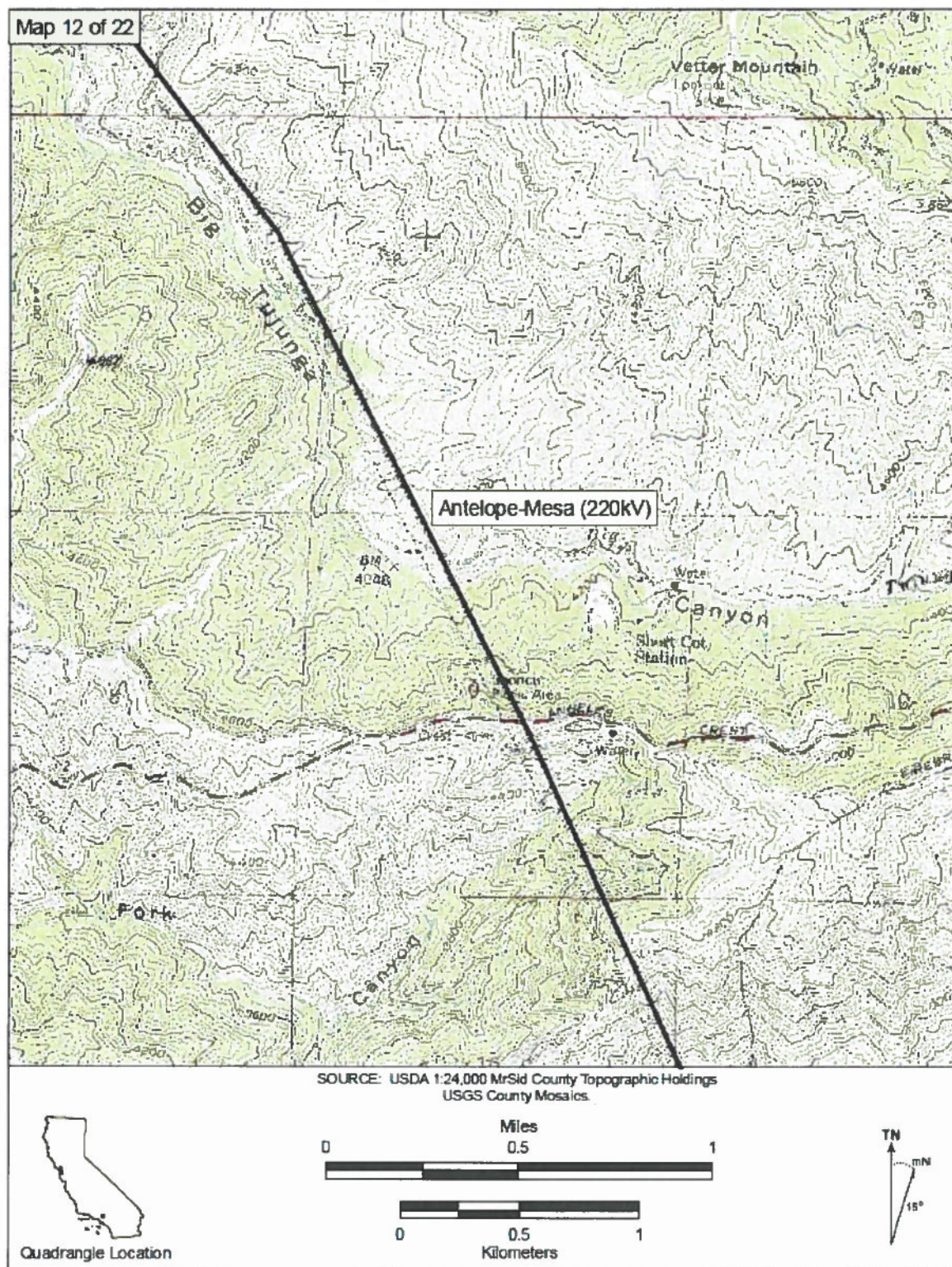
State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary#: _____
HRI #: _____
Trinomial: _____

Page 15 of 25 (Map Page 12 of 22) *Resource Name or # Antelope-Mesa 220kV Transmission Line *NRHP Status Code: 6Z

*Map Name: Chilao Flat *Scale: 1:24000 *Date of Map: 1995

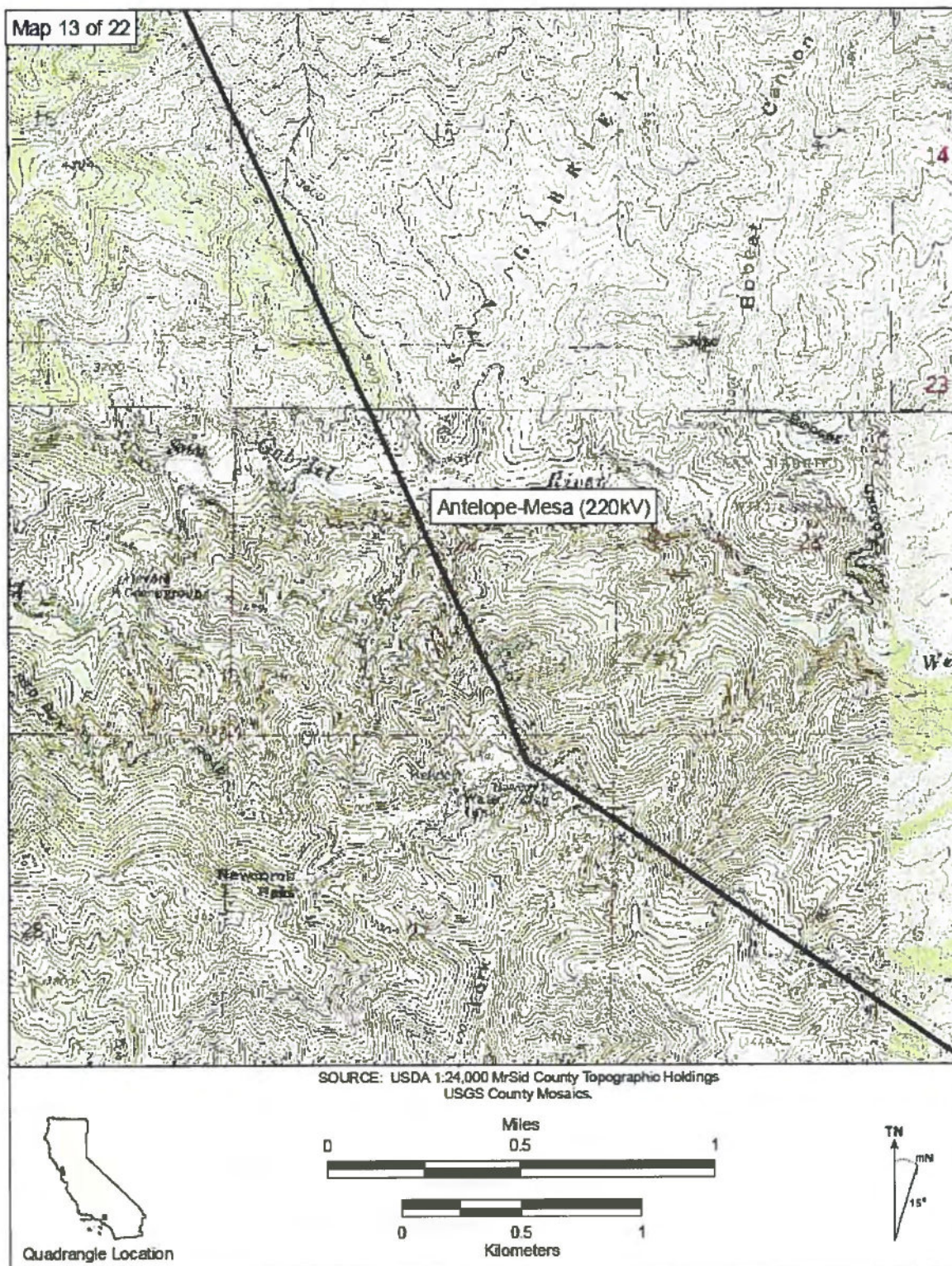
Map Prepared By: Lisa Holm, Pacific Legacy, Inc. (June 2010)



State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary#: _____
HRI #: _____
Trinomial: _____

Page 16 of 25 (Map Page 13 of 22) *Resource Name or # Antelope-Mesa 220kV Transmission Line *NRHP Status Code: 6Z
*Map Name: Chilao Flat, Waterman Mtn., Azusa & Mt. Wilson *Scale: 1:24000 *Date of Map: 1995
Map Prepared By: Lisa Holm, Pacific Legacy, Inc. (June 2010)



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DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary#: _____
HRI #: _____
Trinomial: _____

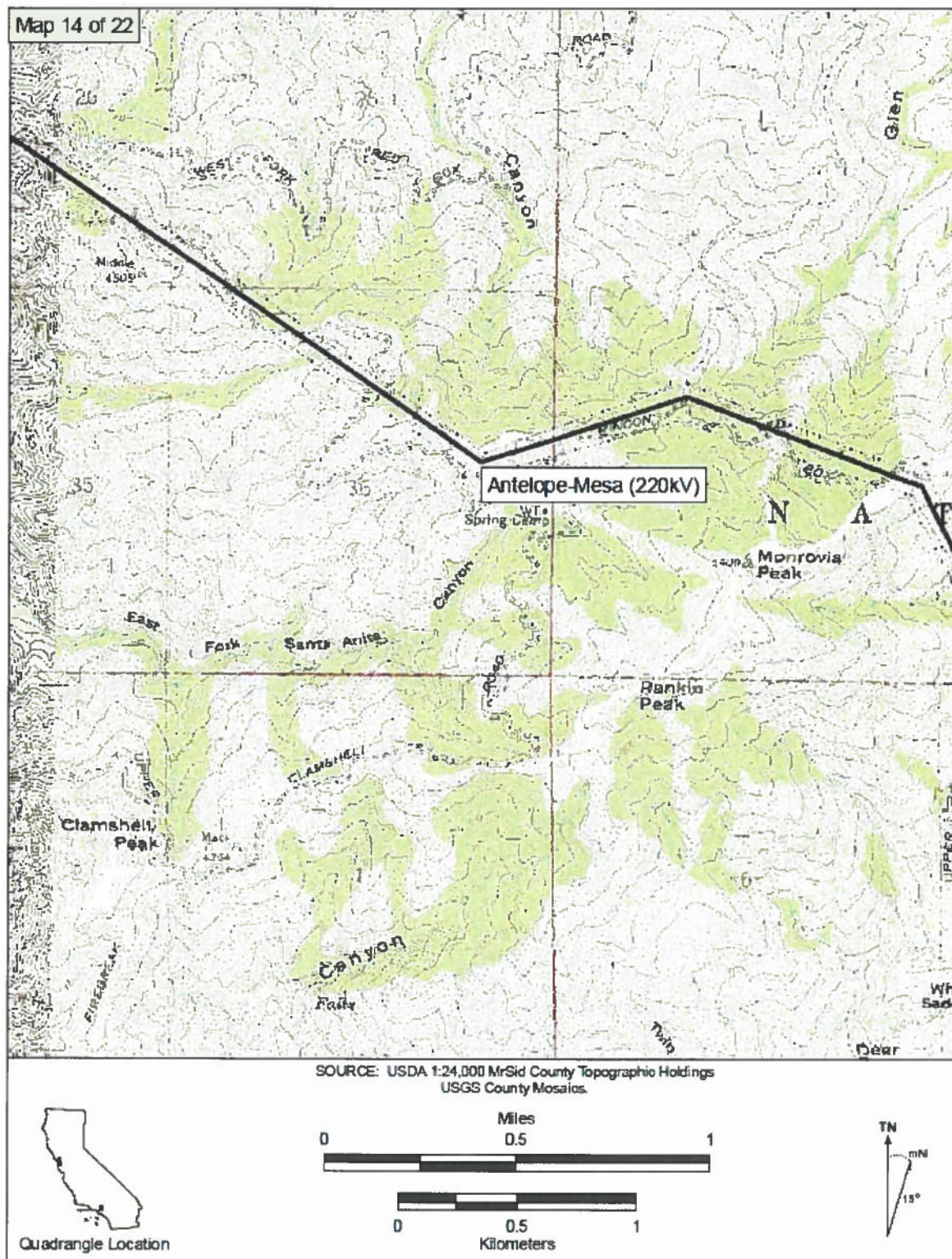
Page 17 of 25 (Map Page 14 of 22) *Resource Name or # Antelope-Mesa 220kV Transmission Line *NRHP Status Code: 6Z

*Map Name: Mt. Wilson & Azusa

*Scale: 1:24000

*Date of Map: 1995

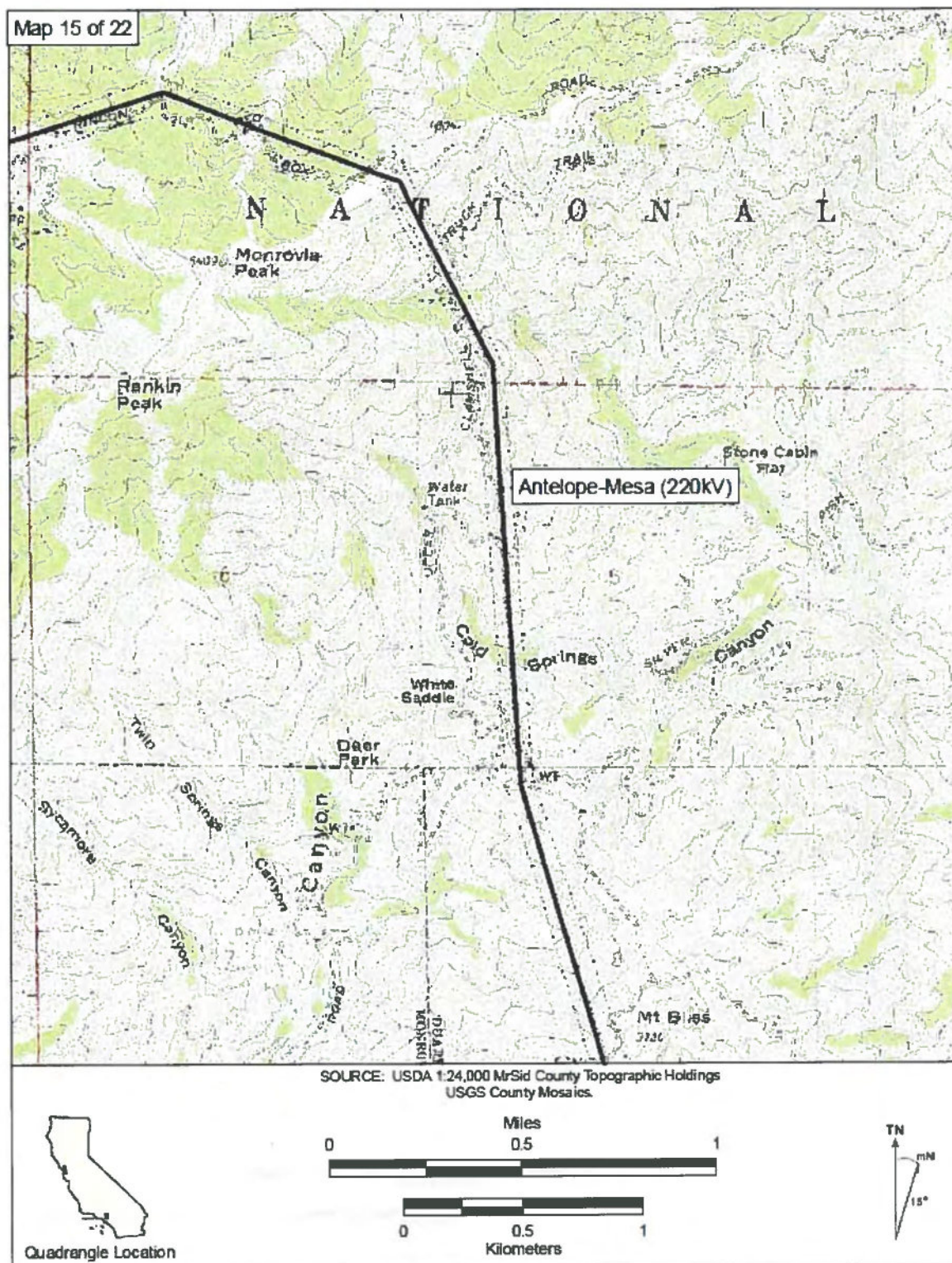
Map Prepared By: Lisa Holm, Pacific Legacy, Inc. (June 2010)



State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary#: _____
HRI #: _____
Trinomial: _____

Page **18 of 25** (Map Page 15 of 22) *Resource Name or # Antelope-Mesa 220kV Transmission Line *NRHP Status Code: 6Z
*Map Name: Azusa *Scale: 1:24000 *Date of Map: 1995
Map Prepared By: Lisa Holm, Pacific Legacy, Inc. (June 2010)



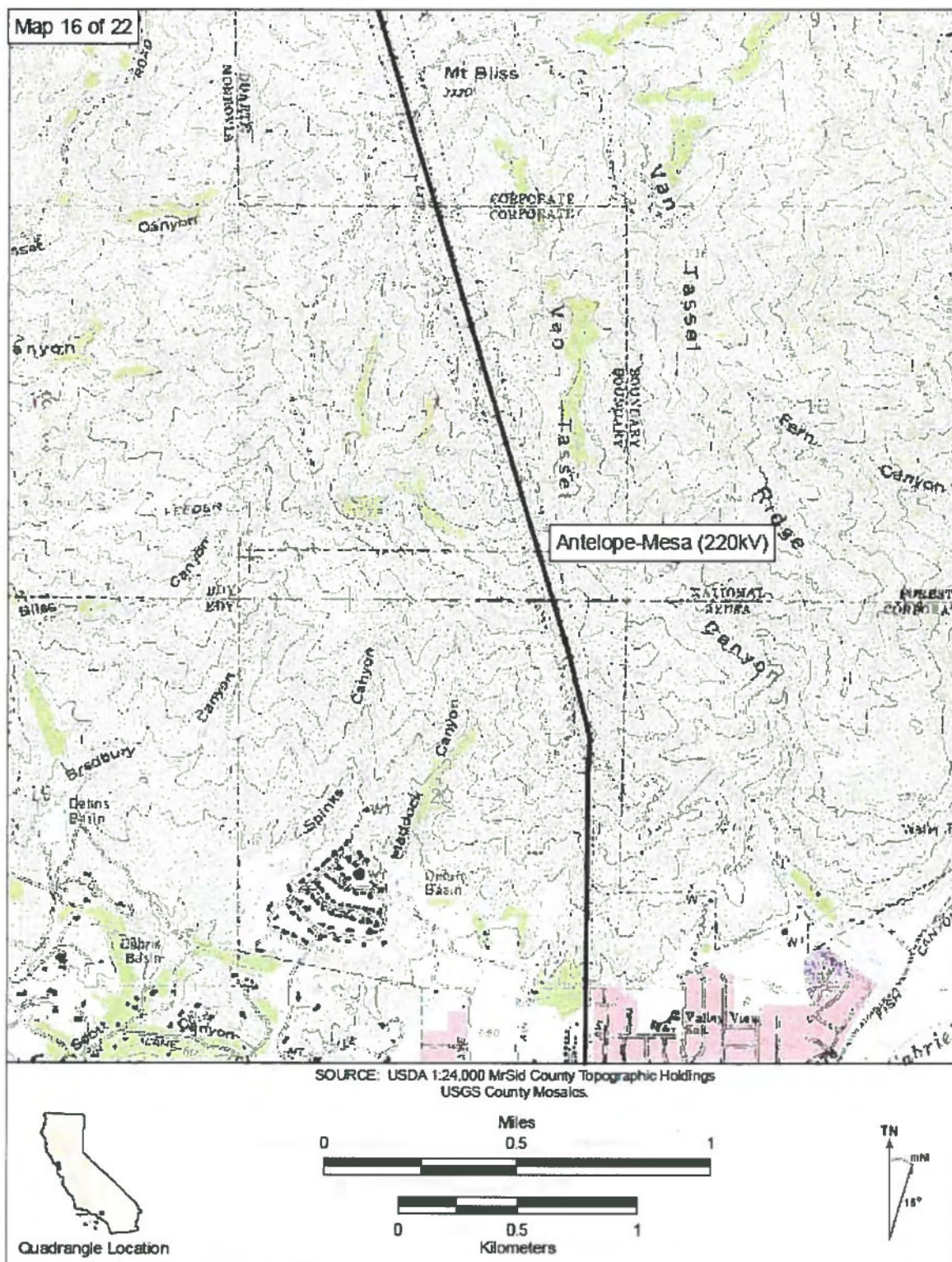
State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary#: _____
HRI #: _____
Trinomial: _____

Page 19 of 25 (Map Page 16 of 22) *Resource Name or # Antelope-Mesa 220kV Transmission Line *NRHP Status Code: 6Z

*Map Name: Azusa *Scale: 1:24000 *Date of Map: 1995

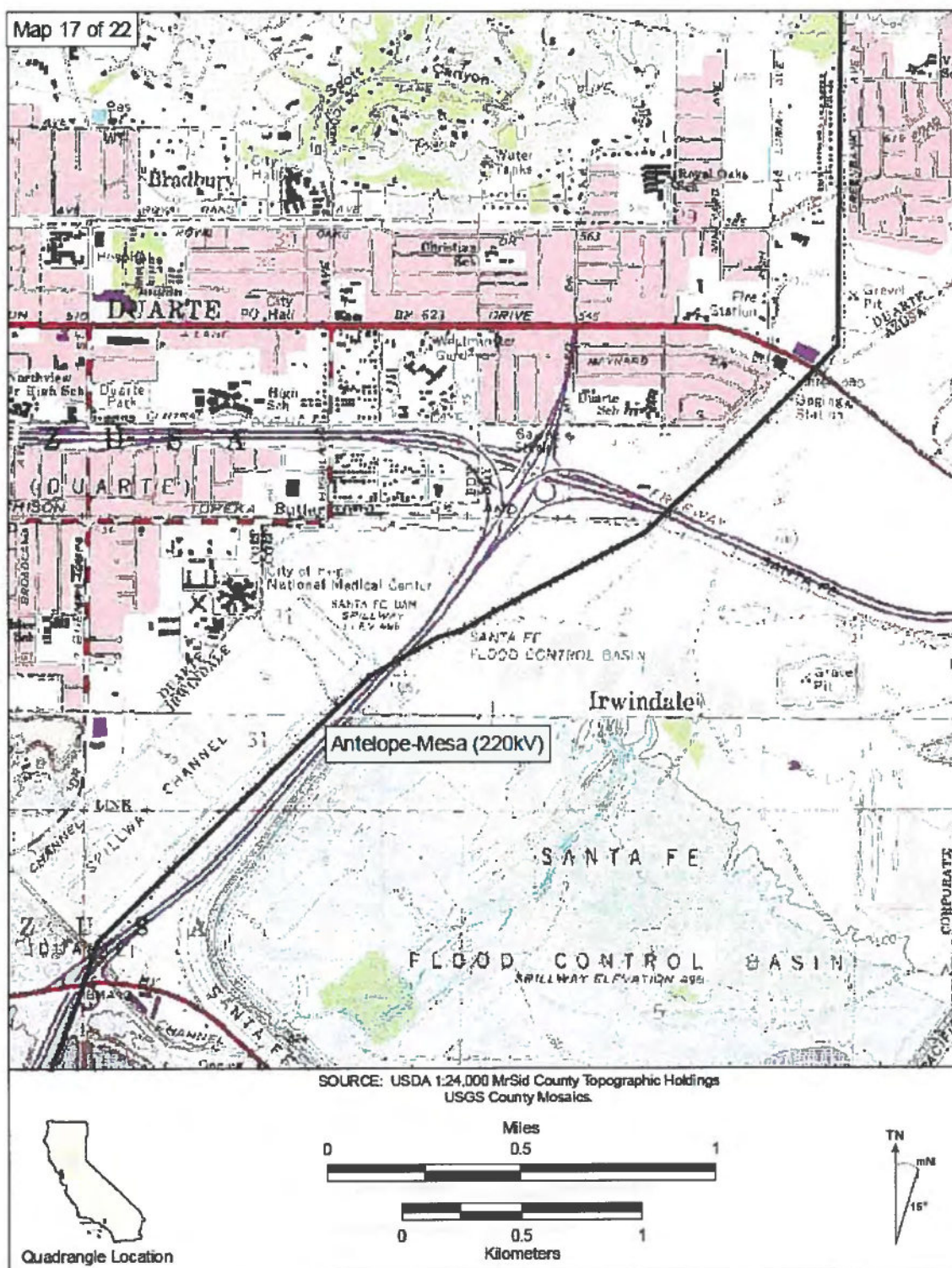
Map Prepared By: Lisa Holm, Pacific Legacy, Inc. (June 2010)



State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary#: _____
HRI #: _____
Trinomial: _____

Page 20 of 25 (Map Page 17 of 22) *Resource Name or # Antelope-Mesa 220kV Transmission Line *NRHP Status Code: 6Z
*Map Name: Azusa & Baldwin Park *Scale: 1:24000 *Date of Map: 1995/ 1966 (PR 1981)
Map Prepared By: Lisa Holm, Pacific Legacy, Inc. (June 2010)



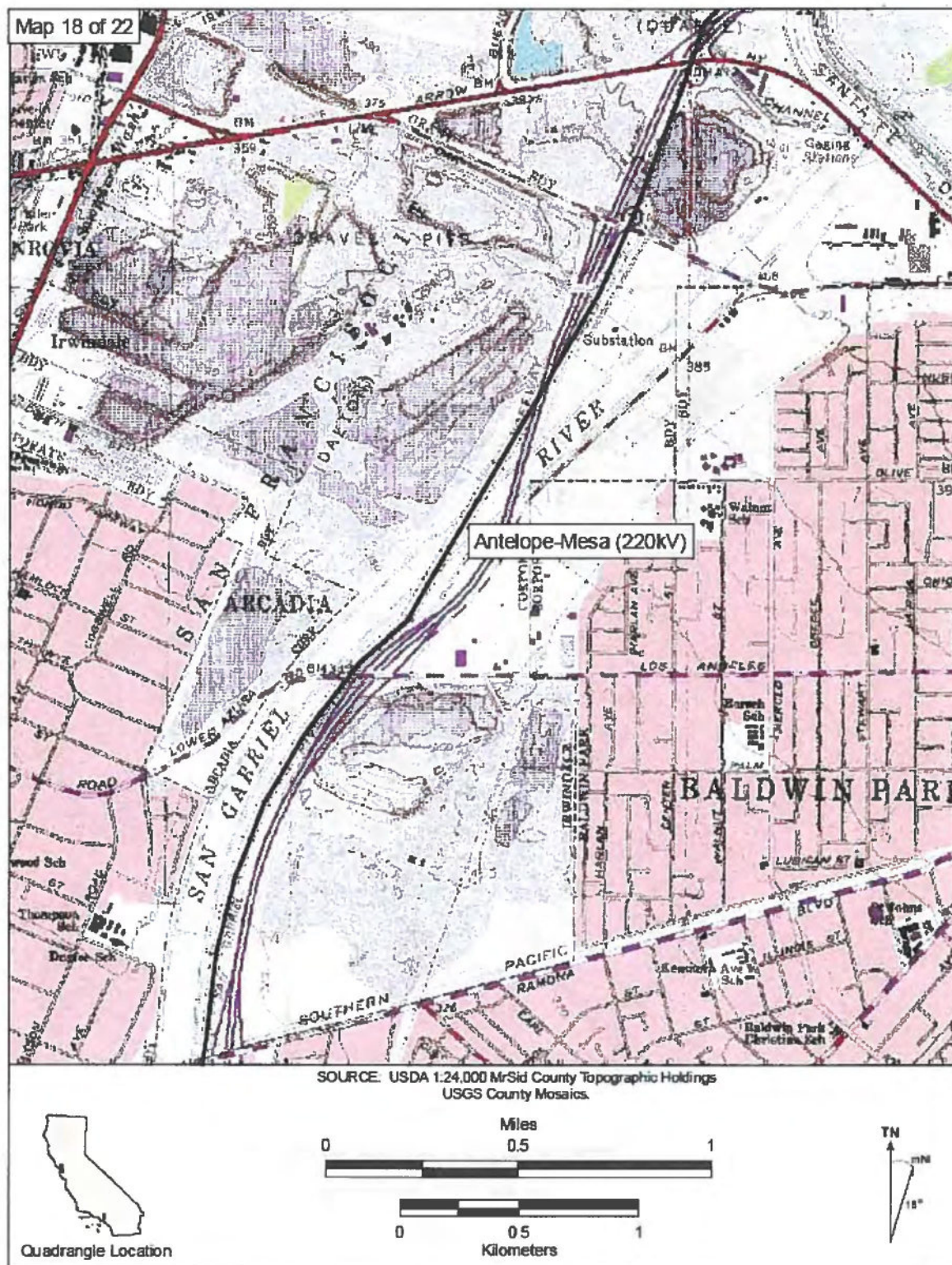
State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary#: _____
HRI #: _____
Trinomial: _____

Page 21 of 25 (Map Page 18 of 22) *Resource Name or # Antelope-Mesa 220kV Transmission Line *NRHP Status Code: 6Z

*Map Name: El Monte & Baldwin Park *Scale: 1:24000 *Date of Map: 1966 (PR 1981/MR 1994)/ 1966 (PR1981)

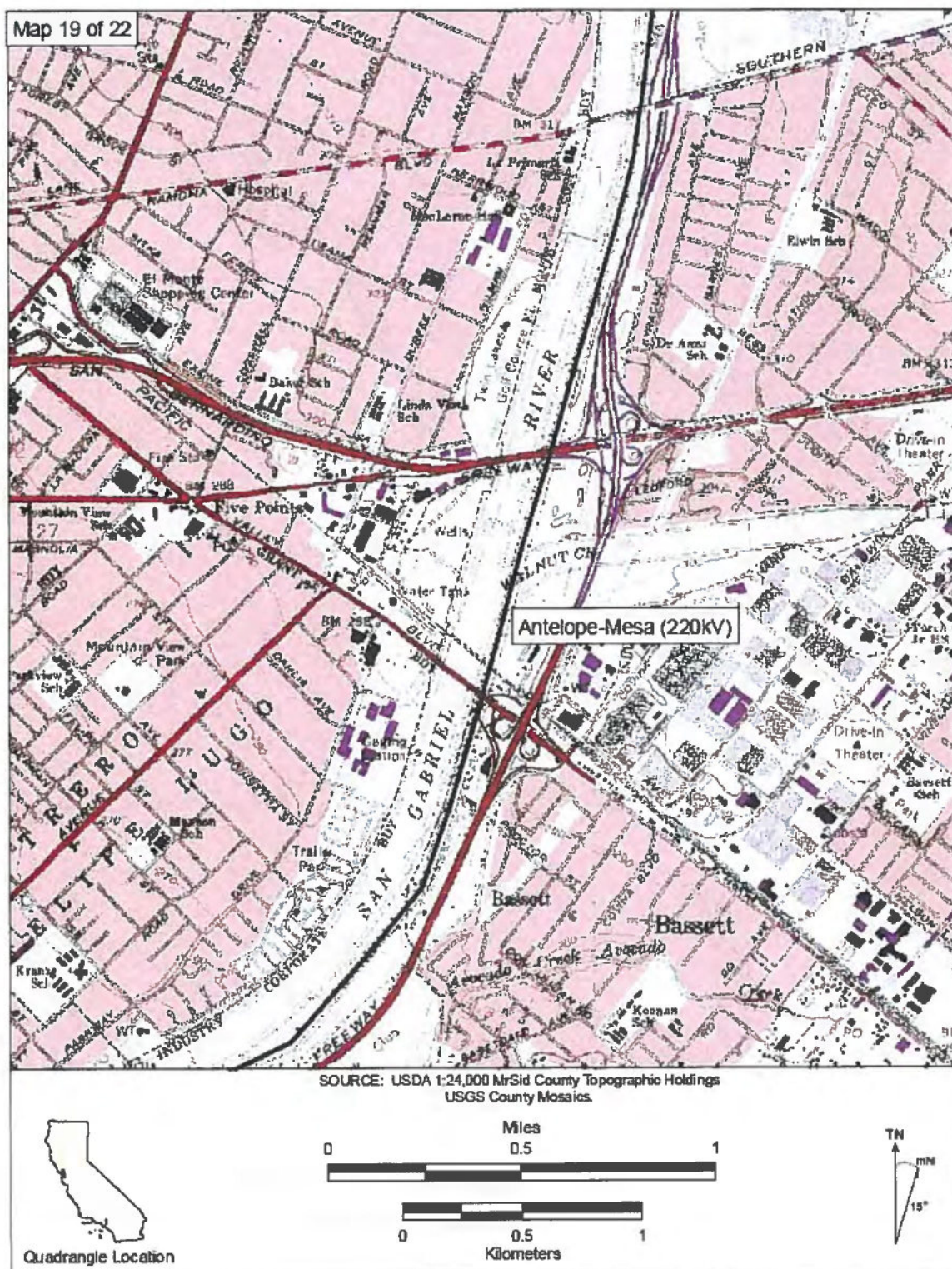
Map Prepared By: Lisa Holm, Pacific Legacy, Inc. (June 2010)



State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary#: _____
HRI #: _____
Trinomial: _____

Page 22 of 25 (Map Page 19 of 22) *Resource Name or # Antelope-Mesa 220kV Transmission Line *NRHP Status Code: 6Z
*Map Name: El Monte & Baldwin Park *Scale: 1:24000 *Date of Map: 1966 (PR 1981/MR 1994)/ 1966 (PR1981)
Map Prepared By: Lisa Holm, Pacific Legacy, Inc. (June 2010)



State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary#: _____
HRI #: _____
Trinomial: _____

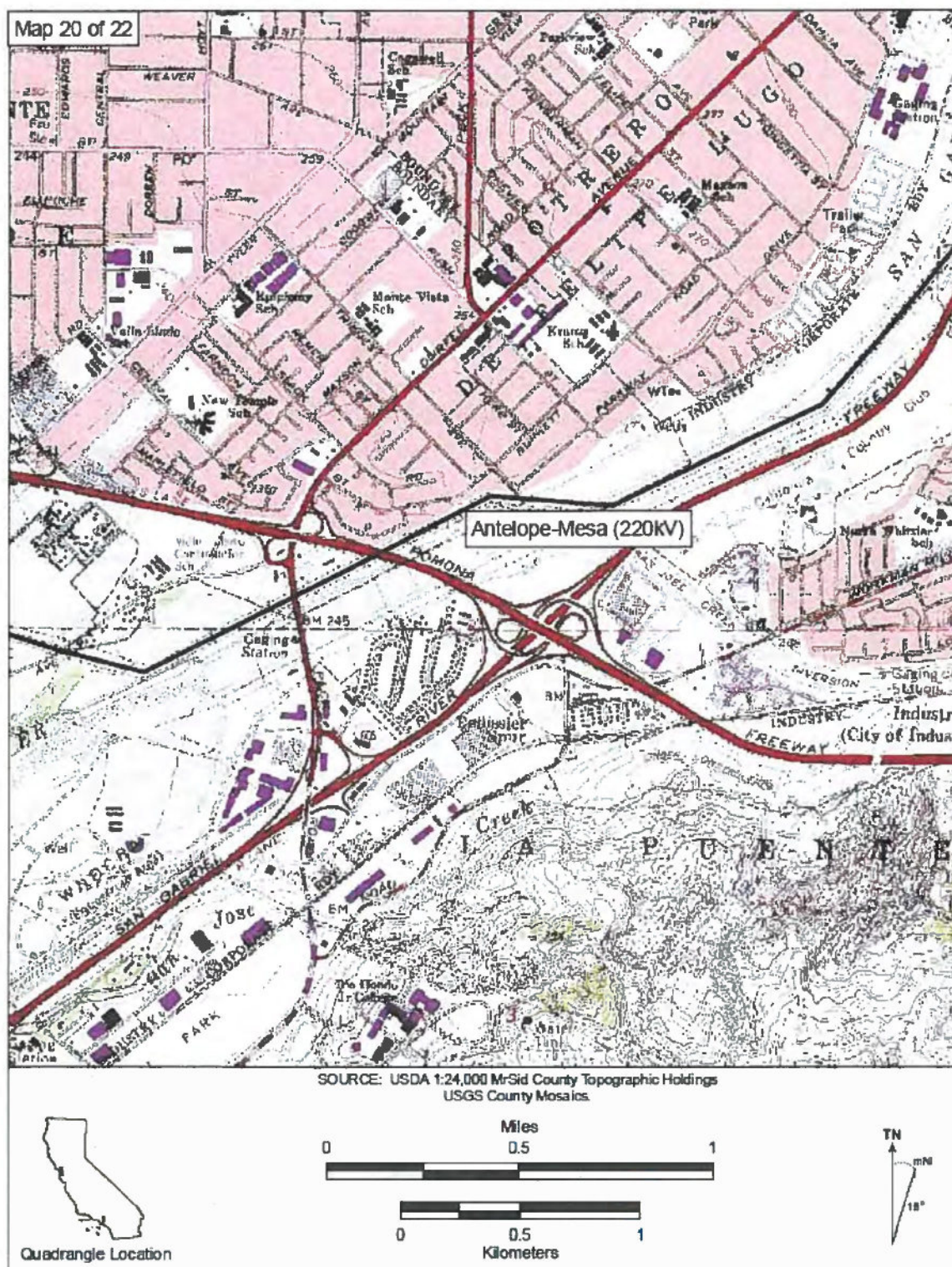
Page **23** of **25** (Map Page 20 of 22) *Resource Name or # Antelope-Mesa 220kV Transmission Line *NRHP Status Code: 6Z

*Map Name: El Monte

*Scale: 1:24000

*Date of Map: 1966 (PR1981/MR1994)

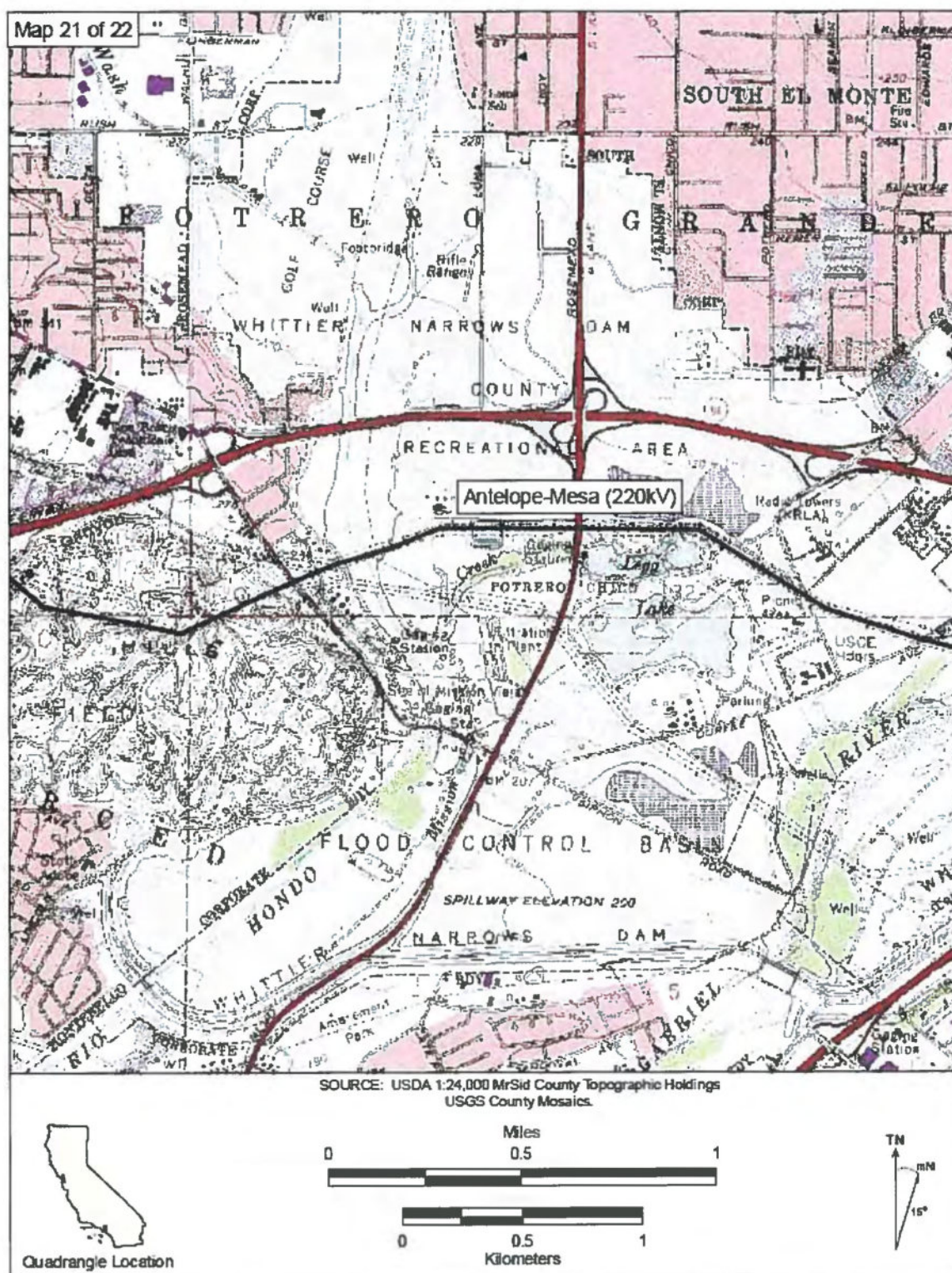
Map Prepared By: Lisa Holm, Pacific Legacy, Inc. (June 2010)



State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary#: _____
HRI #: _____
Trinomial: _____

Page 24 of 25 (Map Page 21 of 22) *Resource Name or # Antelope-Mesa 220kV Transmission Line *NRHP Status Code: 6Z
*Map Name: El Monte *Scale: 1:24000 *Date of Map: 1966 (PR1981/MR1994)
Map Prepared By: Lisa Holm, Pacific Legacy, Inc. (June 2010)



State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary#: _____
HRI #: _____
Trinomial: _____

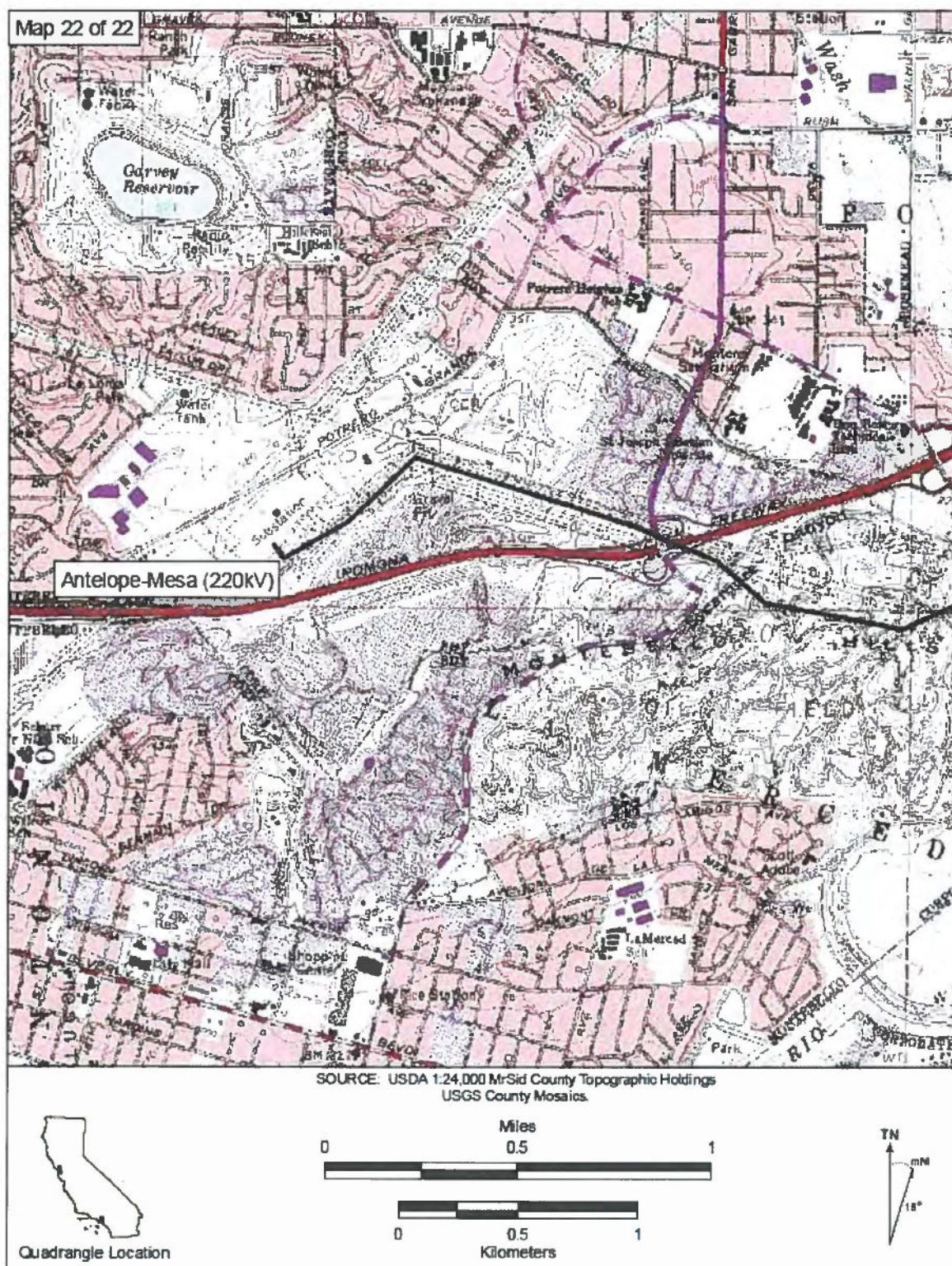
Page 25 of 25 (Map Page 22 of 22) *Resource Name or # Antelope-Mesa 220kV Transmission Line *NRHP Status Code: 6Z

*Map Name: El Monte

*Scale: 1:24000

*Date of Map: 1966 (PR1981/MR1994)

Map Prepared By: Lisa Holm, Pacific Legacy, Inc. (June 2010)



State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
PRIMARY RECORD

Primary#: _____
HRI #: _____
Trinomial: _____
NRHP Status Code: 6Z
Other Listings: _____

Review Code _____ Reviewer _____ Date _____

update

Page 1 of 8

*Resource Name or # Southern California Edison Company (SCE) Antelope-Vincent No. 1 No. 1 220 kV Transmission Line

P1. Other Identifier: n/a

*P2. Location: ☐ Not for Publication ☒ Unrestricted

*a. County: Los Angeles County

*b. USGS 7.5' Quad: see below Date: _____ T: _____ R: _____ 1/4 of _____ 1/4 of Sec: _____ B.M. _____

c. Address: n/a City: n/a Zip: n/a

d. UTM: (Give more than one for large and/or linear resources) Zone 11, _____ mE/ _____ mN

e. Other Locational Data: The transmission line spans 6 USGS topographic quadrangle maps: Acton, Del Sur, Lancaster West, Pacifico Mtn., Palmdale, Ritter Ridge and Sleepy Valley.

*P3a. Description: The Southern California Edison (SCE) Company Antelope-Vincent No. 1 Transmission Line is an approximate 18-mile span between the existing Antelope Substation located on the 9700 block of West Avenue J in the City of Lancaster, California and the existing Vincent Substation sited at 33301 Angeles Forest Highway near the town of Acton, California. The Antelope-Vincent No. 1 Transmission Line is a 220kV span supported by steel lattice towers erected in 1949 to supplement additional electrical grid needs to the surrounding communities of the Antelope Valley. The circuit is comprised of the transmission cables, their supporting towers and a grounding system as well as a dirt access road. The steel lattice type towers are the most obvious feature of the transmission line. They are "T" shaped, holding the transmission cables in a horizontal array across their top. The towers were designed to be modular and their heights vary based on the given topography, however they are typically approximately 40 feet tall. Each tower has four legs, approximately fifteen feet apart, and rest either on the bare earth or simple concrete footings. Tower spacing, like their height, varies based on topography, but they are generally sited between 450 and 1,300 feet apart. Coil mount insulators provide connection between the transmission cables and the towers.

*P3b. Resource Attributes: HP11: Engineering Structure (Transmission Line)

*P4. Resources Present: ☐ Building ☒ Structure ☐ Object ☐ Site ☐ District ☐ Element of District ☐ Other (Isolates, etc.)



*P5b. Description of Photo:

View of Antelope-Vincent No. 1 transmission line tower. Image Source: Ivan Strudwick, SCE Contingent Archaeologist / LSA Associates, Inc.

*P6. Date Constructed/Age and Source:

☒ Historic, 1949; *SCE Civil Engineering Group*

☐ Prehistoric

☐ Both

*P7. Owner and Address:

Southern California Edison Co.
2244 Walnut Grove Avenue
Rosemead, CA 91770

*P8. Recorded by:

Wendy L. Tinsley Becker, AICP, RPH, Principal
Heather Crane, Jr. Architect / Architectural Historian
Urbana Preservation & Planning, LLC
3904 Gratton Street #201, San Diego, CA 92110
619-543-0693/Phone
248 3rd Street #841, Oakland, CA 94607
510-663-7443/Phone

*P9. Date Recorded:

August 2010

*P10. Survey Type: Intensive Level

(CEQA / NHPA §106 Survey)

*P11. Report Citation: Urbana Preservation & Planning, LLC, Southern California Edison Company's Tehachapi Renewable Transmission Project Historic Infrastructure Eligibility Evaluation – NRHP/CRHR Review Antelope-Vincent No. 1 Transmission Line, August 2010.

*Attachments: ☐ NONE ☒ Location Map ☐ Continuation Sheet ☒ Building, Structure, and Object Record
☐ Archaeological Record ☐ District Record ☐ Linear Feature Record ☐ Milling Station Record ☐ Rock Art Record
☐ Artifact Record ☐ Photograph Record ☐ Other (List):

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

Primary #: _____

HRI #: _____

BUILDING, STRUCTURE, OBJECT RECORD

Page 2 of 8 *NRHP Status Code: 6Z *Resource Name or # SCE Antelope-Vincent No. 1 220kV Transmission Line

B1. Historic Name: Antelope-Vincent No. 1 220kV Transmission Line

B2. Common Name: Antelope-Vincent No. 1 220kV Transmission Line

B3. Original Use: Electrical Transmission Line

B4. Present Use: Electrical Transmission Line

*B5. Architectural Style: Utilitarian Steel Lattice Towers with Transmission Line

*B6. Construction History: Initially installed in 1949 from the Antelope Substation, in Los Angeles County, to the Vincent Substation, located near Acton California, also in Los Angeles County. Upgrades and modifications were completed at the transmission line in 1957, 1960, 1966, 1979, 1985, and 1992, including repairing concrete footings on 2 towers in 1957, adding one tower in 1960, repairing concrete footings on six towers in 1966, rebuilding two towers in 1979 for 500kV capacity, installing 14' line extensions to 11 towers in 1985, site grading between towers around 1985, and installing additional line extensions to two other towers in 1992.

*B7. Moved? ☒ No ☐ Yes ☐ Unknown Date: N/A Original Location: N/A

*B8. Related Features: None identified.

B9a. Architect: Southern California Edison Company b. Builder: Southern California Edison Company

*B10. Significance: None

Theme: N/A Area: N/A Period of Significance: N/A Property Type: Engineering Structure Applicable Criteria: N/A

The Antelope-Vincent No. 1 220kV Transmission Line does not appear to be eligible for inclusion on the California Register of Historical Resources or the National Register of Historic Places. No information was found during the course of historical research to support a positive eligibility statement for the transmission line or its steel lattice transmission towers. The line was not identified as having a direct association with the historic elements or construction period at the Antelope Substation, nor was the transmission line found to relate to the City of Lancaster or the City of Acton's outward expansion or growth patterns. The Antelope-Vincent No. 1 Transmission Line was not found to be technologically or materially innovative within the history of electrical transmission and voltage systems, and additional research of the line would not appear to provide additional information that would be considered important to the history of Lancaster, Acton, Los Angeles County, Kern County, California, or the nation.

The Antelope-Vincent No. 1 220kV Transmission Line does not appear to meet the definition of a historic property under the National Historic Preservation Act or a historical resource under the California Environmental Quality Act. Future undertakings or discretionary projects proposed along the line, including replacement of existing cables or steel towers, would not appear to cause a significant adverse effect or cause a substantial adverse change in the significance of a historic property or historical resource.

B11. Additional Resource Attributes: None

*B12. References:

(1) Edison Electric Institute Bulletin, *Developments in Electrical Transmission*, 327-329

(http://www.eei.org/industry_issues/industry_overview_and_statistics/history/Entering7thDecade.pdf)

(2) Southern California Edison Company, Civil Engineering Group – Antelope-Vincent No. 1 Transmission Line files.

(3) Wendy L. Tinsley & Urbana Preservation & Planning, *NRHP/CRHR Review of the Southern California Edison Company Antelope Substation, Lancaster, California*, 2007

B13. Remarks: None

*B14. Evaluator: Wendy L. Tinsley Becker, AICP, RPH, Principal & Heather Crane, Jr. Architect / Architectural Historian
Urbana Preservation & Planning, LLC

*Date of Evaluation: August 2010

See Location Maps 1-6 (DPR 523J)
included as pages 3 through 8.

Official Comments:

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary#: _____

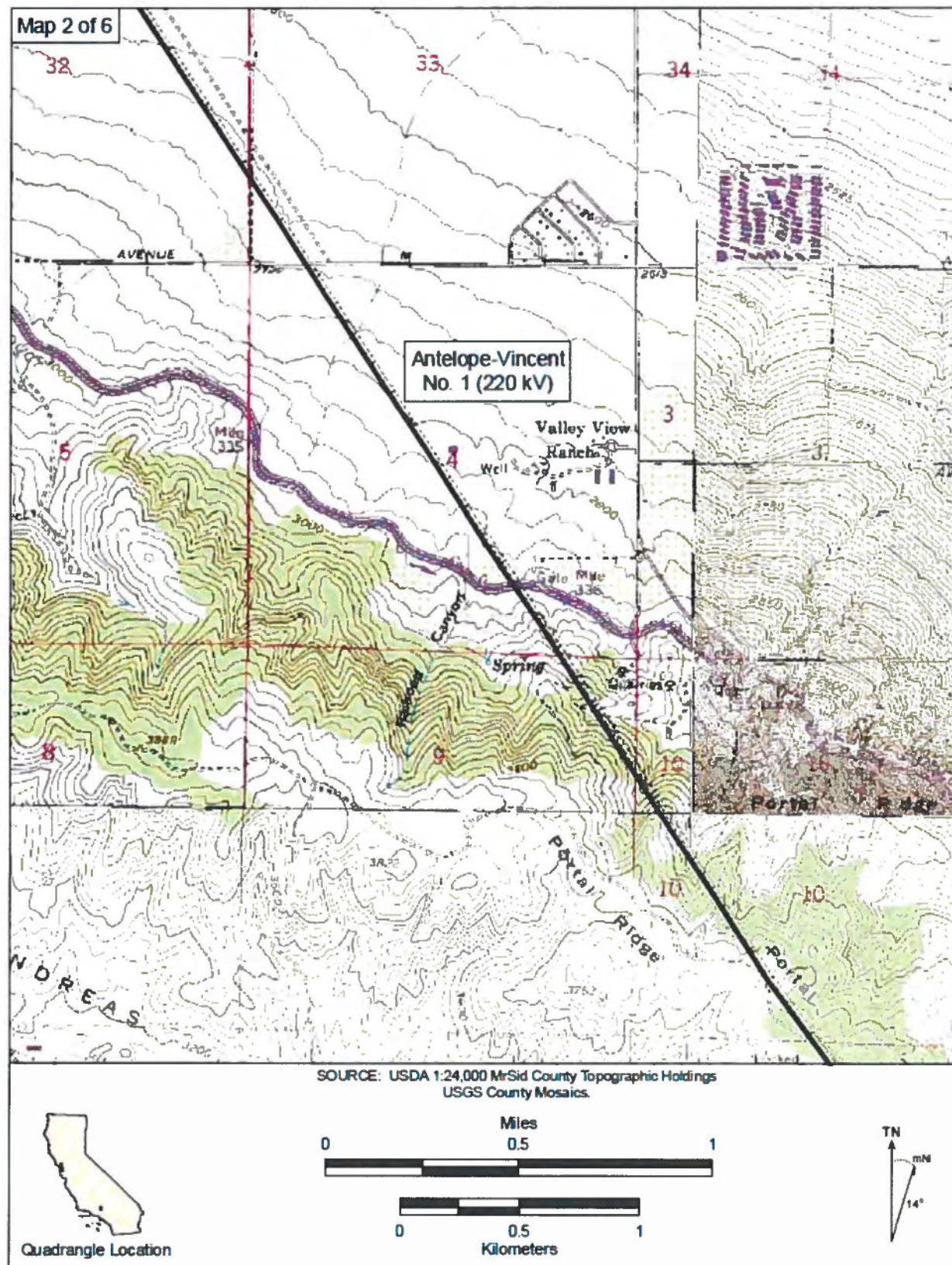
HRI #: _____

Trinomial: _____

Page 4 of 8 (Map Page 2 of 6) *Resource Name or # Antelope-Vincent No. 1 220kV Transmission Line *NRHP Status Code: 6Z

*Map Name: Del Sur, Lancaster West, Ritter Ridge & Sleepy Valley *Scale: 1:24000

*Date of Map: 1995/1958 (PR1974) / 1958 (PR1974) / 1995 Map Prepared By: Lisa Holm, Pacific Legacy, Inc. (June 2010)



State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary#: _____

HRI #: _____

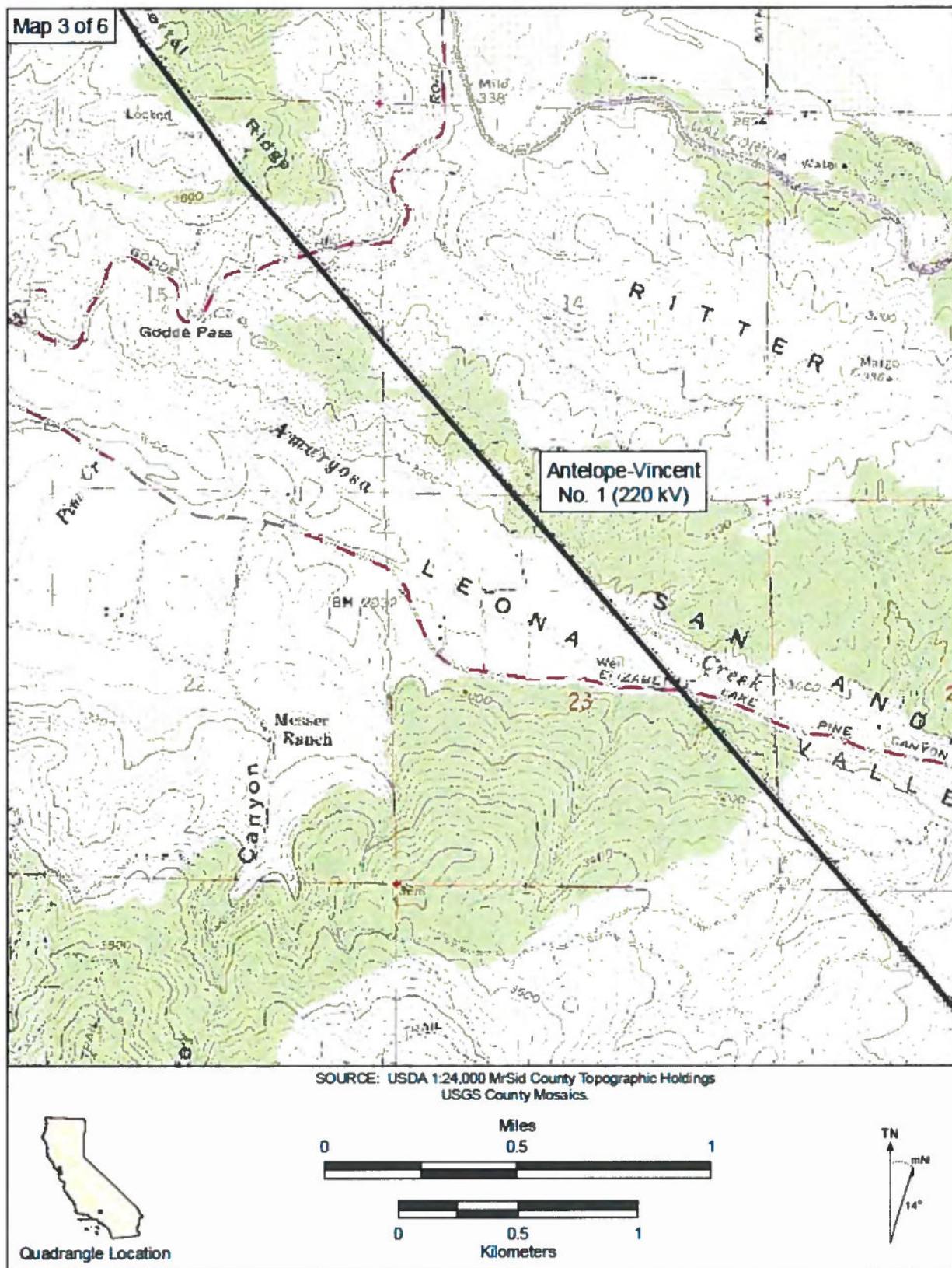
Trinomial: _____

Page 5 of 8 (Map Page 3 of 6) *Resource Name or # Antelope-Vincent No. 1 220kV Transmission Line *NRHP Status Code: 6Z

*Map Name: Sleepy Valley & Ritter Ridge *Scale: 1:24000

*Date of Map: 1958 (PR1974/ 1995)

Map Prepared By: Lisa Holm, Pacific Legacy, Inc. (June 2010)



State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary#: _____
HRI #: _____
Trinomial: _____

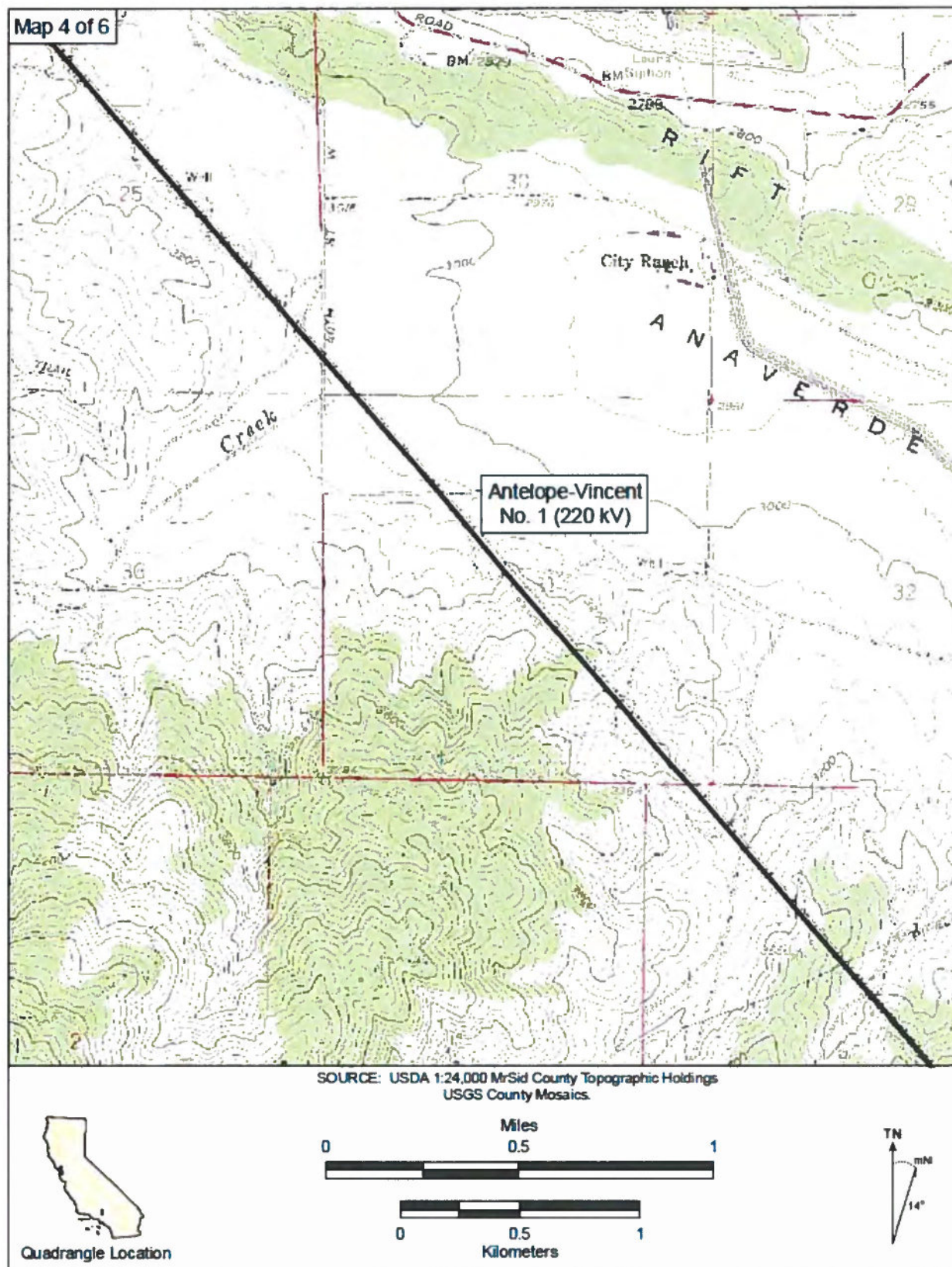
Page 6 of 8 (Map Page 4 of 6) *Resource Name or # Antelope-Vincent No. 1 220kV Transmission Line *NRHP Status Code: 6Z

*Map Name: Ritter Ridge

*Scale: 1:24000

*Date of Map: 1958 (PR1974)

Map Prepared By: Lisa Holm, Pacific Legacy, Inc. (June 2010)



State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary#: _____

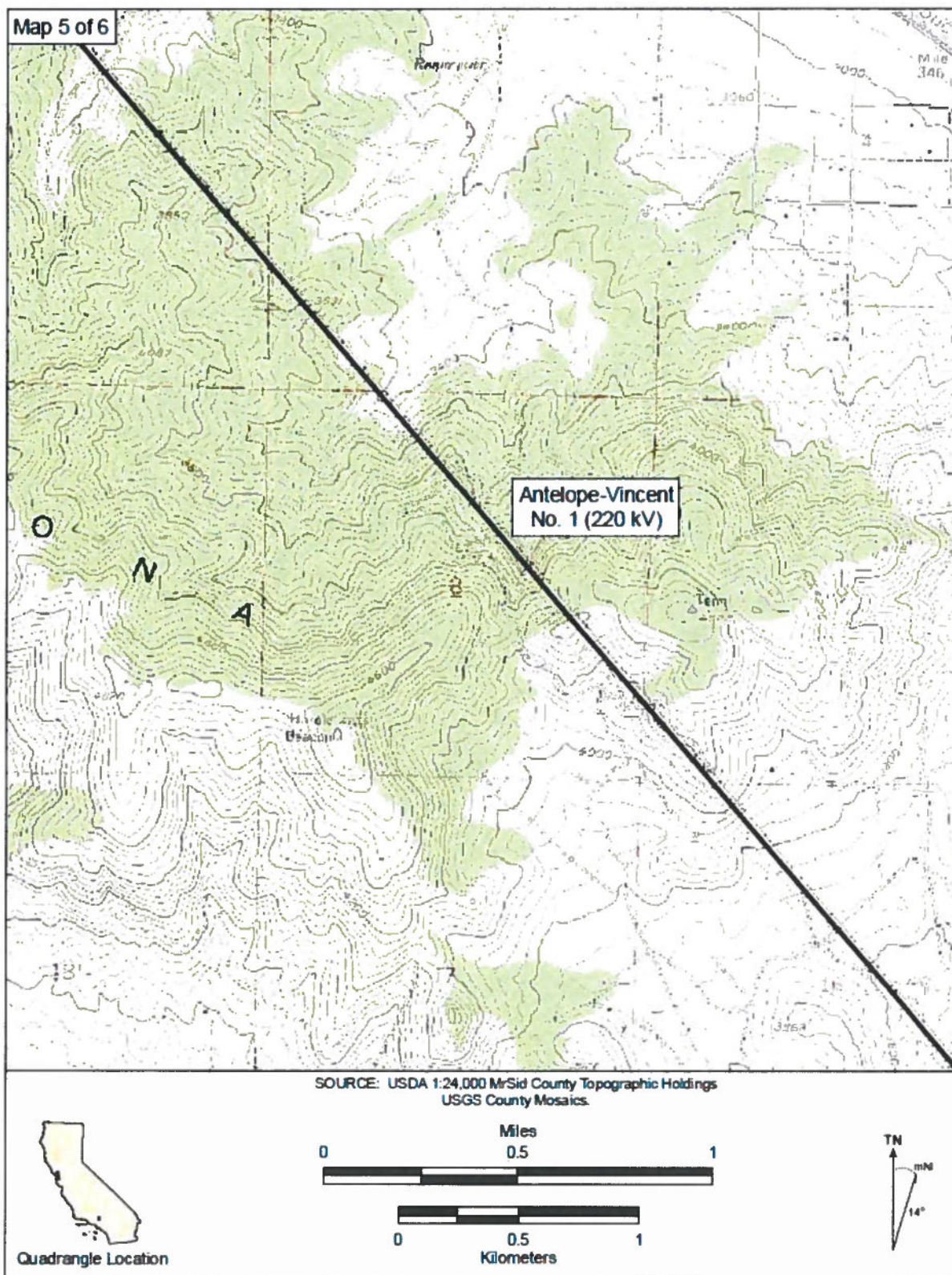
HRI #: _____

Trinomial: _____

Page 7 of 8 (Map Page 5 of 6) *Resource Name or # Antelope-Vincent No. 1 220kV Transmission Line *NRHP Status Code: 6Z

*Map Name: Ritter Ridge *Scale: 1:24000 *Date of Map: 1958 (PR1974)

Map Prepared By: Lisa Holm, Pacific Legacy, Inc. (June 2010)

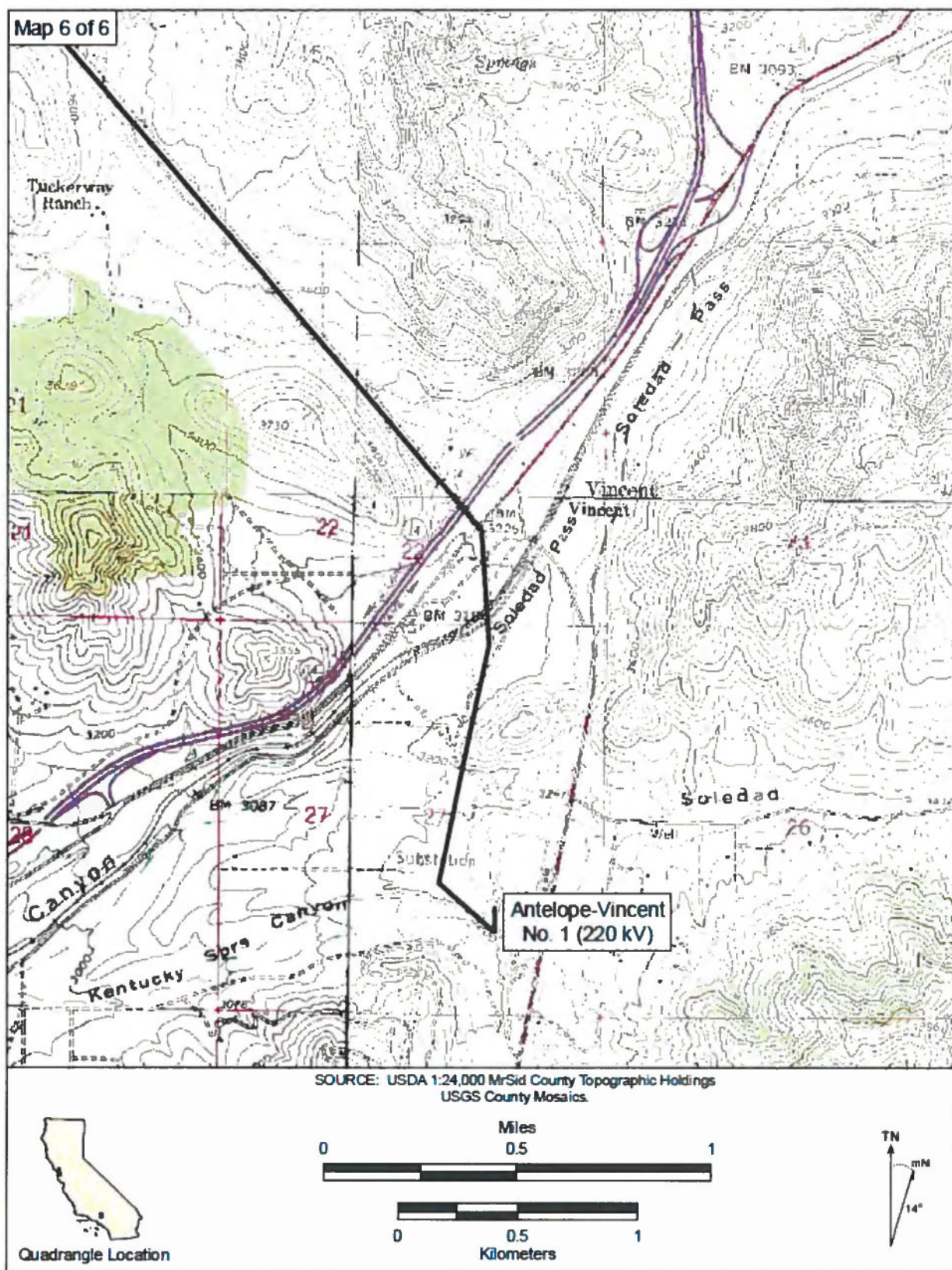


State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary#: _____
HRI #: _____
Trinomial: _____

Page 8 of 8 (Map Page 6 of 6) *Resource Name or # Antelope-Vincent No. 1 220kV Transmission Line *NRHP Status Code: 6Z
*Map Name: Ritter Ridge, Palmdale, Pacifico Mtn & Acton *Scale: 1:24000 *Date of Map: 1958 (PR1974)/1958
(PR1974)/1967 (PR1981)/ 1995

Map Prepared By: Lisa Holm, Pacific Legacy, Inc. (June 2010)



State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
PRIMARY RECORD

Primary#: _____
HRI #: _____
Trinomial: _____
NRHP Status Code: 6Z
Other Listings: _____

Review Code _____ Reviewer _____ Date _____

Page 1 of 24

*Resource Name or # Southern California Edison Company (SCE) Antelope-Magunden #1 220kV Transmission Line

P1. Other Identifier: Magunden-Mesa 220kV TL

*P2. Location: ☐ Not for Publication ☒ Unrestricted

*a. County: Los Angeles County & Kern County

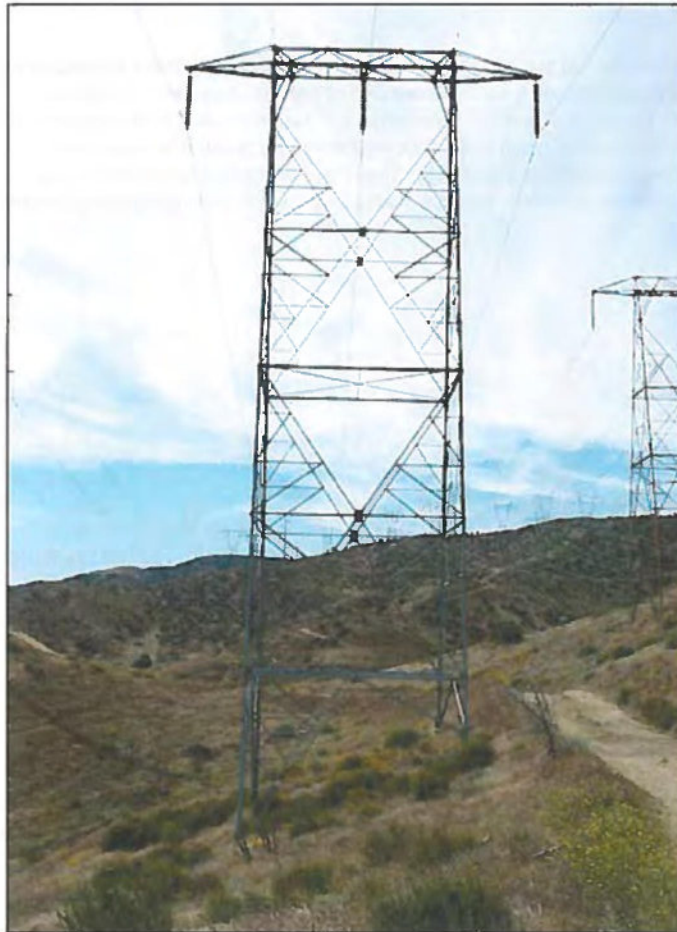
*b. USGS 7.5' Quad: see below Date: _____ T: _____ R: _____ 1/4 of _____ 1/4 of Sec: _____ B.M. _____

c. Address: n/a City: n/a Zip: n/a

d. UTM: (Give more than one for large and/or linear resources) Zone 11, _____ mE/ _____ mN

e. Other Locational Data: Lamont, Edison, Arvin, Bear Mtn., Tejon Ranch, Cummings Mtn., Liebre Twins, Tylerhouse Canyon, Fairmont Butte, Little Buttes, Del Sur U.S.G.S Quadrangle Maps.

*P3a. Description: Installed in 1949 to distribute electricity throughout the northwestern part of the Mojave Desert, the Antelope Valley, and southern portion of the Central Valley, the Southern California Edison Company's Antelope-Magunden #1 220kV transmission line spans approximately 59 miles from the Antelope substation in Lancaster, California to the Magunden substation in Bakersfield, California. Approximately 268 steel lattice towers are erected along the span. The circuit is comprised of transmission cables, their supporting towers and a grounding system. The steel lattice type towers are the most obvious feature of the transmission line. They are vertical "A"-frame structures with battered legs to support the line tension. A "T" shaped cross-arm holds the transmission cables in a horizontal array across the top of the tower. The towers were designed to be modular with heights varying based on topography, however they are typically 78 feet tall. Tower footings are approximately 24 feet apart and are constructed of concrete footings. Tower spacing, like height, varies based on topography, with towers installed anywhere from 300 to 2300 feet apart. Early articles specify conductors to be 30 x 19 steel reinforced aluminum with an approximate diameter of 3/4". Ground wires are two 1/2" 7-strand high-strength steel cables.



*P3b. Resource Attributes: HP11: Engineering Structure (Transmission Line)

*P4. Resources Present: ☐ Building ☒ Structure ☐ Object
☐ Site ☐ District ☐ Element of District ☐ Other (Isolates, etc.)

*P5b. Description of Photo:

View of a typical Antelope-Magunden #1 220kV transmission line showing a single-circuit tower.

*P6. Date Constructed/Age and Source:

☒ Historic, 1949; *SCE Civil Engineering Group*

☐ Prehistoric

☐ Both

*P7. Owner and Address:

Southern California Edison Co.
2244 Walnut Grove Avenue
Rosemead, CA 91770

*P8. Recorded by:

Wendy L. Tinsley Becker, AICP, RPH, Principal
Heather Crane, Assoc. AIA, Job Captain / Architectural Historian
Urbana Preservation & Planning, LLC
3904 Gratton Street #201, San Diego, CA 92110
619-543-0693/Phone
248 3rd Street #841, Oakland, CA 94607
510-663-7443/Phone

*P9. Date Recorded:

June 2011

*P10. Survey Type: Intensive Level

(CEQA / NHPA §106 Survey)

*P11. Report Citation: None.

*Attachments: ☐ NONE ☒ Location Map ☒ Continuation Sheet ☒ Building, Structure, and Object Record
☐ Archaeological Record ☐ District Record ☐ Linear Feature Record ☐ Milling Station Record ☐ Rock Art

Record

☐ Artifact Record ☐ Photograph Record ☐ Other (List):

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

Primary #: _____

HRI #: _____

BUILDING, STRUCTURE, OBJECT RECORD

Page 2 of 24 *NRHP Status Code: 6Z *Resource Name or # SCE Antelope-Magunden #1 220kV Transmission Line

B1. Historic Name: Magunden-Mesa 220kV TL

B2. Common Name: Antelope-Magunden #1 220kV Transmission Line

B3. Original Use: Electrical Transmission Line

B4. Present Use: Electrical Transmission Line

*B5. Architectural Style: Utilitarian Steel Lattice Towers with Transmission Line

*B6. Construction History: Installed between 1949 and 1951, and connected to Big Creek Powerhouse No.4, the Antelope-Magunden #1 transmission line was originally constructed as part of the larger Magunden-Mesa transmission line, and has previously been identified as:

- Big Creek No. 4 – Magunden,
- Big Creek 3 -4 – Mesa, and
- Big Creek No. 4 Magunden – Mesa.

Between 1949 and 1985, the following modifications occurred to the Antelope – Magunden #1 220kV transmission line; relocation of three towers in 1949, addition of one 60-foot pole in 1952 in conjunction with the installation of the Antelope substation, and addition of one unidentified pole in 1960, as well as moving and raising 18 towers during a 1985 upgrade campaign.

*B7. Moved? ☒ No ☐ Yes ☐ Unknown Date: N/A Original Location: N/A

*B8. Related Features: Antelope-Mesa 220 kV Transmission Line.

B9a. Architect: Southern California Edison Company b. Builder: Southern California Edison Company

*B10. Significance: None

Theme: N/A Area: N/A Period of Significance: N/A Property Type: Engineering Structure Applicable Criteria: N/A

The Antelope-Magunden 220kV transmission line was constructed between 1949 and 1951 as part of the Big Creek No.4 project, constituting the construction of Big Creek Powerhouse No.4 and accompanying transmission lines spanning 227 miles from Big Creek Powerhouse No.4 to Magunden substation in Kern County and terminating at Mesa substation in Los Angeles County. The historic line segments, which comprise the Big Creek Project #4 were named by substation and are as follows:

- Big Creek No. 4 – Magunden and
- Magunden – Mesa.

In 1953, the Antelope substation located in the Del Sur area of Lancaster, at 100 Street West and Avenue J, in the southern Antelope Valley, was constructed 59-miles south of the Magunden substation to supply electricity to the Antelope and Santa Clarita Valleys that were expanding considerably in a period of postwar suburbanization. The construction of the Antelope substation resulted in bisection of the Magunden-Mesa portion into two segments, Antelope-Magunden #1 to the north and Antelope-Mesa to the south. The common identifier for the Magunden-Mesa transmission line on SCE Civil Engineering Data sheets was M4839. Similarly, the construction of Springville substation in 1947 divided the Big Creek No. 4 – Magunden transmission line into two individual segments. Present-day naming conventions of the 227-mile transmission line include:

- Big Creek Powerhouse No. 4 – Springville,
- Magunden – Springville #2,
- Antelope – Magunden #1, and
- Antelope – Mesa.

From 1953 forward the lines have been treated as separate facilities by SCE.

(See page 3 of 24 for continuation)

B11. Additional Resource Attributes: None

*B12. References:

- (1) Edison Electric Institute Bulletin, *Developments in Electrical Transmission*, 327-329
- (2) Southern California Edison Company, Civil Engineering Group – Antelope-Magunden #1 220 kV Transmission Line files.
- (3) Sheets, W.L. "New Big-Creek 220-Kv Line Constructed in Record Time." *Electric Light & Power*, Vol. 29, PennWell Pub. Co., 1951, pg. 85.
- (4) "Decisions of the Public Utilities Commission of the State of California," California Public Utilities Commission, Vol. 50, 1950.
- (5) "Western Construction News," Vol. 26, King Publication, 1951.
- (6) "Report: Opinions, Decisions and Orders," United States Federal Power Commission, Vol. 14, U.S. Govt. Print Off., 1959.

B13. Remarks: None

*B14. Evaluator: Wendy L. Tinsley Becker, AICP, RPH, Principal & Heather Crane, Assoc. AIA, Job Captain / Architectural Historian
Urbano Preservation & Planning, LLC

*Date of Evaluation: June 2011

Official Comments:

See Location Maps (DPR 523J)
included as pages 4-24.

State of California — The Resources Agency
 DEPARTMENT OF PARKS AND RECREATION
CONTINUATION SHEET

Primary#: _____
 HRI #: _____
 Trinomial: _____

Page 3 of 24

*Resource Name or # SCE Antelope-Magunden #1 220kV Transmission Line

Recorded by Wendy L. Tinsley Becker, AICP, RPH, Principal & Heather Crane, Assoc. AIA / Architectural Historian: Urbana Preservation & Planning, LLC

Date: June 2011

☒ Continuation ☐ Update

B10. Significance Continued

The Antelope-Magunden #1 220kV Transmission Line does not appear to be eligible for inclusion on the California Register of Historical Resources or the National Register of Historic Places. No information was found during the course of historical research to support a positive eligibility statement for the transmission line or its steel lattice transmission towers. The line was not identified as having a direct association with the historic elements or construction period at the SCE Magunden substations and similarly, does not appear to carry significance through an association with events or pattern of events, nor was the transmission line found to relate to the outward expansion or growth patterns of the City of Lancaster or the City of Bakersfield. The Antelope-Magunden 220kV Transmission Line was not found to be technologically or materially innovative within the history of electrical transmission and voltage systems, and additional research of the line would not appear to provide additional information that would be considered important to the history of the City of Lancaster, the City of Bakersfield, the Antelope Valley, Los Angeles County, Kern County, California, or the nation.

The Antelope-Magunden #1 220kV Transmission Line does not appear to meet the definition of a historic property under Section 106 of the National Historic Preservation Act, nor does it appear to be an historical resource pursuant to the California Environmental Quality Act. Future undertakings or discretionary projects proposed along the line, including removal or replacement of existing cables or steel towers, would not appear to cause a significant adverse effect or cause a substantial adverse change in the significance of a historic property or historical resource.