

APPENDIX G

Phase I Cultural Resource Assessment

Phase I Cultural Resource Assessment for the Stagecoach Solar Project, Northern Lucerne Valley, San Bernardino County, California



Prepared for:

CALIFORNIA
STATE LANDS
COMMISSION

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Management Summary

The Phase I Cultural Resource Assessment (PICRA) presents the results of a records search and field surveys conducted for the Stagecoach Solar Project (Project). The Project has three components which are depicted in Figure 1:

- the Solar Array
- the Gen-tie Line, and
- the Southern California Edison (SCE) Calcite Substation

Cultural resource investigations for these project components have been conducted pursuant to regulations and guidelines stipulated in the California Environmental Quality Act (CEQA) and Public Resources Code (PRC) Section 5097 and Assembly Bill 52. These regulatory contexts are provided in Appendix 1, along with the regulations, goals and policies implemented by the County of San Bernardino.

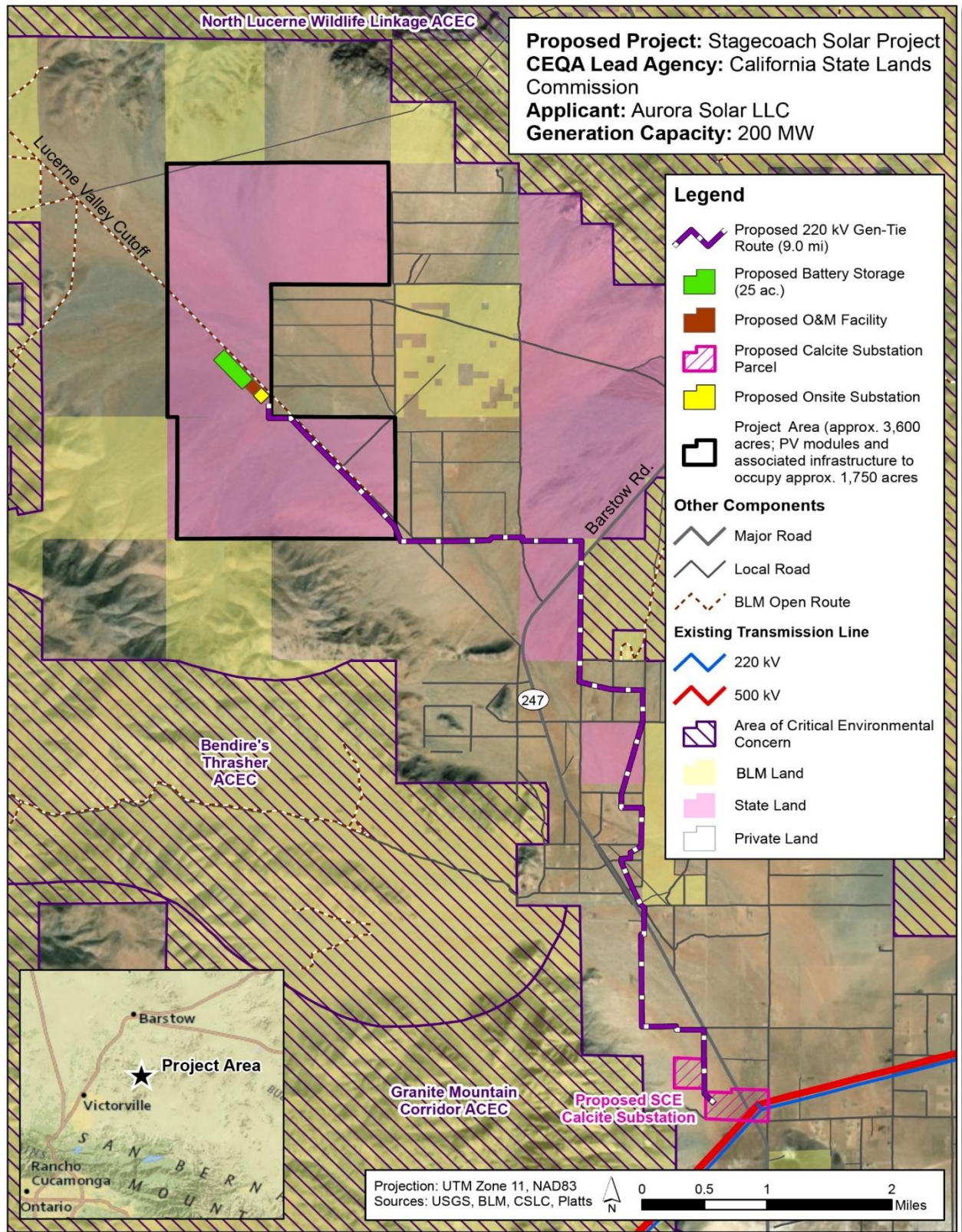
Regional context is presented in Section 2.0 for the study area, which includes the northern Lucerne Valley from Rabbit Springs to the Stoddard Mountains and from Ord Mountain to Stoddard Well. Four separate investigations have been conducted for the Project between 2016 and 2020 (ICF 2016, Æ 2017a, 2017b, Dudek 2018) and this report. The results of these studies are presented in Section 4.0.

Between the four previous studies, a total of 60 cultural resources have been identified within the Project footprint. The majority of resources include 40 sites (4 prehistoric and 36 historic). Twenty isolated artifacts are included with 11 being prehistoric and 9 historic.

Two historic resources have been previously recommended eligible for the California Register of Historical Resources (CRHR). These include the SCE Pisgah-Lugo Line 1 transmission line (P-36-014876) and portions of Highway 247 (P-36-027410/P-36-028005). The Project intersects the rights of way for both these resources but will not physically impact them.

There is one recently recorded resource resulting from Aspen's survey that is potentially eligible for inclusion in the CRHR. This is a prehistoric deposit (3380-13) in the Calcite Substation area. All other resources are recommended as ineligible for inclusion in the CRHR.

Figure 1. Project Elements and Locations



1. Introduction

1.1 Project Location and Description

Aurora Solar LLC (Aurora Solar or Applicant), a wholly-owned subsidiary of Avangrid Renewables, has applied to the California State Lands Commission (Commission) for lease of lands owned by the Commission in order to construct and operate the Project, which would generate up to 200 megawatts (MW) of solar energy using photovoltaic (PV) and battery storage technologies.

The Project would be located in the central portion of San Bernardino County, approximately 15 miles south of the City of Barstow and 12 miles northwest of the unincorporated community of Lucerne Valley. It would be located east of Interstate 15, south of Interstate 40, and about 1.5 miles west of State Route (SR) 247/Barstow Road. Sidewinder Mountain is located to the south, Stoddard Ridge is located to the north, and both Goat Mountain and West Ord Mountain are located to the east.

The Project includes three elements:

- a solar generation facility (Array) with a battery energy storage system (BESS),
- a 220 kilovolt (kV) electrical generation intertie (gen-tie) line, and
- the SCE Calcite Substation

Table 1 lists the types and amounts of general earth disturbance resulting from the Project. The column indicating temporary disturbance refers primarily to lands scarified/graded for the duration of construction. These lands will recover to a natural state in time. However, cultural resources in these areas would be severely damaged or destroyed by the grading required to prepare the surfaces for the intended temporary use.

Table 1. Stagecoach Project Disturbance Footprint

Project Component	Temporary Disturbance (acres)	Permanent Disturbance (acres)
Solar Field Components		
Solar arrays (including electrical collection system, transformers, inverters)		1,486 acres
Construction Laydown and Parking Areas	15 acres	
Collector Substation		5 acres
Battery Energy Storage System		25 acres
O&M Building		5 acres
Interior Access Road		96,630 ft
Stormwater Control Structures		
Generation Tie-Line Right-of-Way		
9.1 miles long x 150 feet wide	82.7 acres primary route; 79.6 acres alt route	
Generation Tie-Line Access Road		10 ft x 9.1 miles

Table 1. Stagecoach Project Disturbance Footprint

Project Component	Temporary Disturbance (acres)	Permanent Disturbance (acres)
Generation Tie-Line Structures		0.04 acres
Temporary Construction Pull Sites	7.7 acres	
Calcite Substation		7.0 acres
Drainage and Grading		2.0 acres
New Access Roads		2.0 acres
Calcite Material and Equipment Staging Yard	2.0 acres	
Secondary Staging Yard east of 247 (Acreage Estimated).	2.0 acres	

1.1.1 Solar Generation Facilities

The Solar Generation Facilities are part of the Stagecoach facilities and encompass: (1) solar arrays (rows of solar panels) interspersed with power conversion stations, (2) an electrical collection system, and (3) a collector substation. In addition, the Solar Generation Facilities include access roads between power conversion stations and along the outer edges of PV arrays, as well as up to 5 solar meteorological (MET) stations that are located in strategic areas throughout the solar arrays. The access roads within the boundaries of the Stagecoach Generation Facilities will be approximately 16 feet in width. Typical access road construction will consist of a compacted subgrade, placement of Geotextile product, depending on geotechnical investigation results, and then a layer of 6 to 8 inches of coarse aggregate. These MET stations are typically mounted in a tripod configuration with a data line that connects underground. The stations are typically no more than 15 feet in height and include instrumentation to determine wind speed and direction; ambient temperature; soiling; albedo; and solar irradiance.

1.1.2 Gen-tie Line

The point of interconnection for the Stagecoach Facilities to deliver power to the Southern California Edison grid would be the Calcite Facilities, located approximately 5.5 miles south of the proposed Project solar field (see Figure 1). The overhead, 220kV Gen-tie Line would begin at the collector substation and extend approximately 9.1 miles to interconnect with the Calcite Facilities, described below.

The single circuit transmission structures would be either tubular steel poles or lattice steel towers, approximately 80 feet tall and spaced approximately 800 feet apart.

The Stagecoach gen-tie route would be located on Commission and private lands beginning at the onsite collector substation adjacent to southwest side of Lucerne Valley Cutoff Road in the central area of the Solar Generation Facilities. The Stagecoach gen-tie would route via private lands in a southerly direction to tie into the proposed Calcite Facilities, which is located approximately 5.5 miles southeast of the solar facility area to the west of Barstow Road/SR-247.

Under or immediately adjacent to the Stagecoach gen-tie, two-track access roads would be needed for operational maintenance. For construction no access routes would be needed to gain access to the Stagecoach gen-tie. Public roads, private properties and a ROW corridor of 75 feet on either side of the gen-tie centerline (150 feet total) will be used. There would be tension/pulling sites that are temporary during construction as the angles of the route change, which could temporarily extend outside of the ROW if necessary. These proposed locations are called out on the Figure 1.

1.1.3 Calcite Substation

The Calcite Facilities will be located on an approximately 75-acre parcel of land that extends on the west and east sides of SR-247, directly north of Haynes Road, in San Bernardino County. The following is a summary of the major permanent components of the proposed Calcite Substation (SCE 2016):

- **Substation.** Construct a 220kV switchyard on approximately 7 acres along with an approximately 4 acres for drainage, grading, and an access road.
- **Transmission Lines.** Loop-in the Lugo-Pisgah No. 1 220kV transmission line into Calcite Substation adding a total of approximately 5,000 feet of new transmission line (two lines of approximately 2,500 feet located side-by-side within a corridor approximately 2,500 feet long) creating the Calcite-Lugo and Calcite-Pisgah 220kV transmission lines.
- **Distribution Line.** Construct approximately 700 feet of 12kV overhead distribution line and approximately 2,100 feet of underground distribution line (connecting the existing distribution system along Haynes Road to Calcite Substation) to provide temporary power for construction and permanent substation light and power.
- **Distribution Line for Stagecoach Facilities.** (to be determined)
- **Telecommunications Facilities.** Install fiber optic communication cables, equipment, and associated structures for diverse path routing of communications.

Temporary construction staging and parking areas may be utilized. If so, these will be on-site and located within the overall fenced portion of the final project footprint. These areas will be cleared, graded and graveled during the course of construction. After the completion of construction, these areas will be reclaimed, with the exception of any area with the 5-acre O&M parcel.

2. Regional Contexts

2.1 Background Sources

The Project area is in the south-central Mojave Desert in San Bernardino County, California. Broadly speaking, Lucerne Valley, including North Lucerne Valley, is located approximately 20 miles north of the central San Bernardino Mountains (i.e. north of Big Bear Lake) and just to the north of Lucerne Lake. The Mojave River is located to the west, northwest, and north of the Project area approximately 15-20 miles away. North Lucerne Valley is bounded by the Stoddard Mountains to the north, the Ord Mountains to the east, the Granite Mountains and Lucerne Lake to the south, and the Sidewinder Mountains and White Horse Mountain to the southwest. Most of these mountains are either Mesozoic granitic rocks (Granite Mountains, White Horse Mountain) or Jurassic-Triassic metavolcanic rocks (Stoddard and Sidewinder mountains). The Sidewinder Mountains are the source of Sidewinder basalt, a locally used toolstone. Two small hills, just outside of the southern edge of the Project area are composed of Paleozoic Marine limestone or dolomite, which was sometimes used by local Native Americans to produce stone tools. A small amount of Permian Marine rock is found just west of the northwestern portion of the Project area. The Lucerne Valley is considered “high desert,” with elevations of around 2,953 ft.

For descriptive purposes, the North Lucerne Valley area can be divided into northwestern and southern sections (Figure 1). A brief description of these two sections is provided below with reference to prehistoric and historic value to human populations.

2.2 Natural Context

2.2.1 Climate

The survey areas for the three project elements are all within North Lucerne Valley between Stoddard Ridge and the Sidewinder Mountains (Figure 2). The survey areas are within the Mojave Desert ecological and geographic province. Minimal precipitation (8–18 centimeters), low humidity (10–40 percent), wide diurnal temperature ranges (up to 77 degrees Fahrenheit), high mean summer temperatures (77–112 degrees Fahrenheit), and strong seasonal winds characterize the modern climate in the Mojave Desert. Average annual precipitation is approximately 4.5 inches. Most months receive 0.4 to 0.5 inches of rainfall, although rainfall in May and June is very rare, and rainfall in August is above average.

2.2.2 Geography

The upper northwestern section of North Lucerne Valley is bisected by the N-S oriented SR-247 (on the south) and the NW-SE oriented Lucerne Valley Cutoff, a well-graded dirt road (on the north). The Lucerne Valley Cutoff is located between California State Route 247 proper (to the southeast) and Stoddard Well Road (to the northwest). The upper North Lucerne Valley is the driest part of the Valley and of the survey area.

The lower southern section of North Lucerne Valley is bisected by California State Route 247 which runs, in its entirety, between the United States Interstate (I-15) Freeway at Barstow (approximately 15-20 miles north of the Project area) and State Route (SR) 62 at Yucca Valley, approximately 35-40 miles southeast of the Project area. SR-247 was designated as a State Highway in 1964, stretching from the community of Lucerne Valley to the community of Yucca Valley, although the portion of today’s SR-247 between the City of Barstow and the community of Lucerne Valley was not constructed (i.e. graded and paved) until 1969.

2.2.3 Hydrology

Figure 2- North Lucerne Valley. Looking Northwest



There are no permanent sources of fresh water in the Project area, which is entirely xeric. Seasonal water is available in part due to snow runoff from the San Bernardino Mountains to the south, and from summer monsoon rains, which in some years result in flooding, sometimes to a considerable degree, in the Project area itself.

Main sources of water in the area include:

The San Bernardino Mountains. Robinson notes (1989) that, “Most of the streams in the western San Bernardino’s . . . flow north into the Mojave River watershed.” This is only true of the streams north and west of Lake Arrowhead. The streams north of Big Bear flow into Lucerne Valley. Some of these waters come to the surface at Rabbit Springs, while other water, undoubtedly brackish, is available at multiple places in the Lucerne Lake playa area.

Mojave River and Mojave Narrows. Located approximately 15 miles to the southwest of the Project area, the north and northeast flowing Mojave River originates from a series of canyons in the western San Bernardino Mountains that are west and northwest of Lake Arrowhead. Although the river becomes subterranean north of the mountains for much of the year, the groundwater comes to the surface at the Victorville Narrows, where it forms a lush desert oasis environment more than a mile long. The Narrows

would have been a day's walk to/from the Lucerne and North Lucerne Valley area. Numerous archaeological sites (e.g. SBR-66, -67, -68, -182) are present at and in the vicinity of the Narrows. Local Native American peoples consider the Mojave Narrows area to have high cultural significance (Bean and Vane 1982).

Rabbit Springs. "The setting of Rabbit Springs is a worn scarp south of the Lucerne playa where groundwater is forced up into a brushy pond" (digital-desert.com). Rabbit Springs is located about five miles south of the southernmost portion of the Project area. More than likely, it was the closest perennial source of fresh water for wild-life and Native Americans in the area and derives from San Bernardino Mountain runoff. Prehistorically, Rabbit Springs was the site of a small Native American community, and historically, a stage stop was established at Rabbit Springs in the late 1800s. The stage ran along a portion of what is now SR-18, between Victor (now Victorville) and Holcomb Valley (what later became Big Bear), generally along the north side of the San Bernardino Mountains. Rabbit Springs was also used to water cattle in the late 19th and early 20th century when herdsman would drive their cattle from the northern San Bernardino Mountains to a railhead in Hesperia (Robinson 1989).

2.2.4 Fauna

Wildlife in the Lucerne Valley generally consists of rabbits, rodents, deer, lizards, desert tortoise, snakes, and various species of birds. Desert Wood Rats (*Neotoma lepida*) and Black Tailed Jackrabbits (*Lepus californicus*) were observed during the Project survey. In fact, Wood rat nests are quite common in the Mojave Yucca/cactus "forest" in the northwest part of the Project area. Ground squirrels were also frequently seen. All three of these small mammal species would have been important sources of meat for the local Native American population (Sutton 1989). Rabbits were also an important source of furs, to make winter clothing and other items (Yoder et al. 2005).

Local residents attest to frequently seeing Desert Tortoise in the valley floor, and Big Horn Sheep are still occasionally seen in the local mountains. These species, as well as the occasional deer and Pronghorn, were also present in the Project area in the past. Native use of Desert Tortoise is discussed in Schneider and Everson (1989).

2.2.5 Flora

Although there is no specific ethnobotanic report for the Native Americans that inhabited the Project area (Serrano and Vanyume), detailed studies exist for the Cahuilla, the tribe to the southeast (Barrows 1967; Bean and Saubel 1972), and for the Kawaiisu, the tribe to the northwest (Zigmond 1981). These two tribes used many of the same plants species that are available in the Project area, and it is safe to assume that the Serrano used the same plants in essentially the same ways. The use of several of the plant species found in the Project area is also discussed by Sutton (1989).

Plants that were utilized by local Native American people, and were observed in the Project area, include the following species:

Cottontop Cactus (*Echinocactus polycephalus*). Cottontop and Barrel Cacti were another source of edible flowers, or if allowed to develop, edible fruits. The flowers were eaten fresh, or sun-dried for later cooking (Bean and Saubel 1972; Zigmond 1981).

Hedgehog Cactus (*Echinocactus engelmannii*). The flowers were probably eaten fresh, or sun-dried for later cooking, as with other species of cactus flowers.

Branched Pencil Cholla (*Cylindropuntie ramosissima*). Seen occasionally within Creosote scrub north of the Project area. Related species flowers were often dried, cooked, and eaten (Bean and Saubel 1972).

Wiggins Cholla (*Cylindropuntia echinocarpa*). Seen very occasionally to often in Creosote scrub community north of site. Related species flowers dried, cooked, and eaten (Bean and Saubel 1972).

Beavertail Cactus (*Opuntia basilaris* var. *basilaris*). Seen occasionally across most of southern two-thirds of the Project area. Edward K. Balls (1972) called this plant “one of the most important of many cactus species” for native peoples in the Mojave Desert. The fruit was eaten fresh or cooked; the flowers were eaten fresh or sun-dried for later use. Fresh pads were stripped of their spines and eaten green, or sun-dried and cooked later. The pulp from older, larger pads could be scraped out and used as a dressing on cuts and wounds (Bean and Saubel 1972; Zigmond 1981).

Chia Sage (*Salvia Columbariae*). Seen occasionally in Project area. The seeds were a valuable food item, when available, and were one of the seed-plants that were used to make pinole, which could be prepared as a gruel or baked into small biscuits. A nutritious drink could also be made from the seeds (Balls 1972; Barrows 1967; Bean and Saubel 1972; Sutton 1989; Zigmond 1981).

Creosote Bush (*Larrea divaricate*). Creosote bush is the dominant plant species across the Northern Lucerne Valley, including all of Project area. It can be used internally for medicinal purposes often as a tea or externally as a wash or a save. Creosote was widely used as firewood and the gum from the plant could be used for basket waterproofing and for mending cracks in pottery (Bean and Saubel 1972; Zigmond 1981). Creosote clones can live for thousands of years. The King Clone creosote, believed to be the oldest living thing on earth, is located about 15 miles east of the Project area.

Desert Mariposa Lily – with orange flowers (*Calochortus kennedyi*). Seen occasionally in Creosote scrub north of the Project area. The bulbs were often eaten raw or baked (Balls 1972; Bean and Saubel 1972).

Ephedra species – Nevada Jointfir (*Ephedra nevadensis*). One specimen was observed in the Project area. The seeds were often processed and eaten. Some of the less woody branches would be steeped and use as a beverage. The same liquid, when cooked down, was used as a medicinal wash (Barrows 1967; Bean and Saubel 1972; Zigmond 1981).

Joshua Tree (*Yucca brevifolia*). Occasionally seen across most of Project area. Joshua Tree seeds were cooked and eaten, and the roots were used as dye for their red or brown colors, in all kinds of baskets. The leaves were used to make sandals and nets (Balls 1972; Bean and Saubel 1972; Zigmond 1981).

Mojave Yucca, AKA Spanish Bayonet (*Yucca schidigera*). Numerous specimens observed in a Mojave Yucca/cactus “forest,” near the northwest corner of the Project area. According to Balls (1972), “Spanish Bayonet was by far the most important plant in the southwest for the production of fiber, apart from the many other uses to which the Indians put it. All parts of the plant were used. Prehistoric Indians made sandals, cords, baskets, simple saddles, and rough kinds of cloth from these fibers. String, twine, and rope were made from the fibers, for all sorts of use.” Paint brushes were made from the leaves. The flowers and fruits were eaten, and the larger fleshy roots were mashed and used as soap for both personal use and for laundry (Balls 1972; Barrows 1967; Bean and Saubel 1972).

Prunus (Desert Peach). The desert peach was observed sparsely within Creosote scrub in the central and southern portions of the Project area. Often fruits and processed seeds were eaten (Barrows 1967; Bean and Saubel 1972). The Kawaiisu used the straightest pieces of the hard wood to make arrow foreshafts. The wood was one of two that was used as fire-making drills (Zigmond 1981).

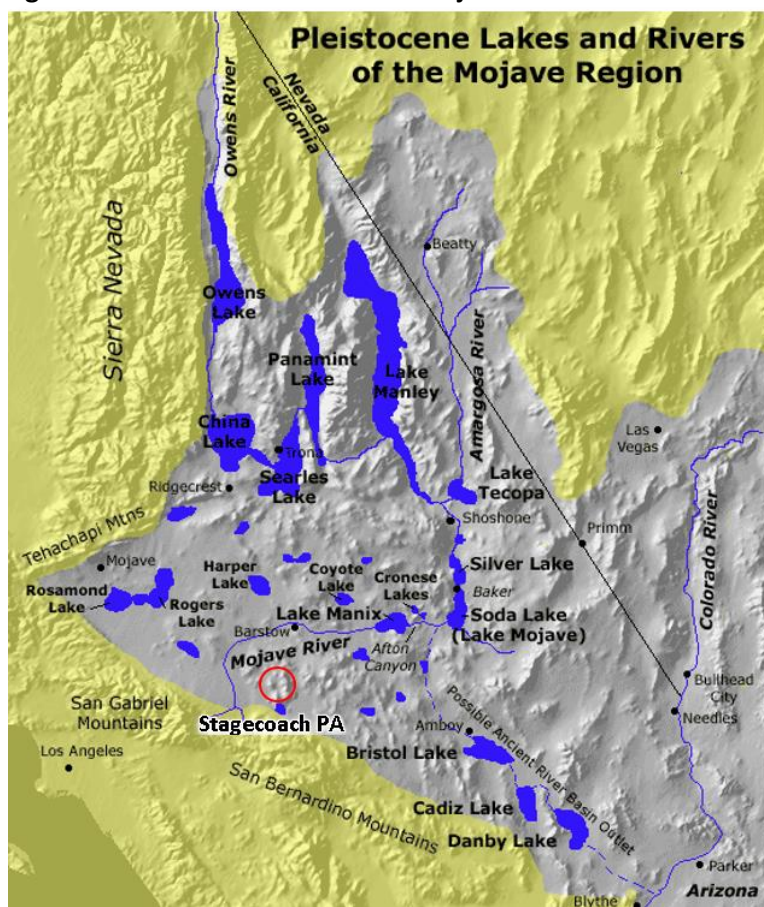
Saltbush (*Atriplex polycarpa*). Saltbrush was observed within the Project area and within the immediate vicinity. Seeds of some species were eaten while the roots were often used for soap (Balls 1972; Bean and Saubel 1972).

2.2.6 Paleoenvironments

There is an increasing volume of evidence for human occupation of the Mojave Desert, including the Project area, during the Late Pleistocene and Early Holocene. The most salient features of the Mojave during these times were the expansive pluvial freshwater lakes that filled the many basins of varying depths throughout the western Great Basin (Figure 3). Most of these lakes had origins as early as 500,000 years ago, but our interest is in the most recent stands of less than 30,000 years ago, labeled as Stage 2. The environments were cool and dry, and the lakeshores were extensive riparian habitats of reeds, willow, hackberry and other plants requiring consistently moist soils. These cool-dry conditions continued into the Holocene with shorelines at the lower basins being maintained by inflows from the Mojave River's origins in the San Bernardino Mountains. The lower lake stands at Lake Mojave that drained into Lake Manly (Death Valley) lasted into the early Holocene, while others at higher elevations, such as those fed from the Owens River, dried up before Holocene times (Giambastiani and Bullard 2010).

Studies of the paleoenvironments and human settlement of the Mojave Desert basins have been focused on the larger lakes including Owens, China, Searles, Manly, and Mojave. Smaller basins, of which there are many and include Lucerne Lake and others nearby, have not received the same attention, and no local studies are available. The one common attribute among the old lakes is the identification of shorelines. All these basins experienced periods of inflow and desiccation that produced very similar effects across the Mojave, and human populations adapted accordingly. At Ivanpah Lake, Robinson, et al. (1999) found the old lake shores and areas settled by the early native populations to be associated with the sand sheets and dune hummocks currently characterized as saltscrub (*Atriplex*) vegetation. The dune hummocks and sand sheets cover paleosols that contain Pleistocene fossil material, evidence of moist-soil plant communities, and a variety of artifacts. Whether these same general features of Pleistocene lake shores can be ascribed to Lake Lucerne has yet to be demonstrated. On the other hand, the orology of the San Bernardino Mountains and hydrography of the Mojave River drainage that filled lakes Manix and Mojave and spilled over to help fill Lake Manly are the same for the San Bernardino Mountain runoff that would have contributed to the Lucerne Lake basin and others to the east. In this regard, the paleoenvironments of Lake Lucerne may have supported Late Pleistocene to Early Holocene flora, fauna and human populations.

Figure 3. Pleistocene Lakes of the Mojave Desert



Source: USGS.gov 2020

2.3 Cultural Contexts

2.3.1 Prehistoric Contexts

Three elements of the cultural setting are important for understanding the cultural resources present in the Project area. These are the prehistoric, ethnographic, and historic records. The Prehistoric overview covers the era prior to European contact (locally post AD 1771), while the Ethnographic overview presents information regarding the Native American inhabitants of the region, as understood through historical accounts and information given to anthropologists by Native Americans. The Historic overview covers the period subsequent to European contact.

Lucerne Valley and the North Lucerne Valley are located 30-35 miles northeast of Cajon Pass. This pass has been the major communications route for human beings, between the southern California coast and the central Mojave Desert and the Great Basin for some 10,000 years. Historical use of the pass is detailed below.

Southern California's desert region has a long history of human occupation. Prehistoric material culture within this region has been organized according to periods or patterns that define technological, social, economic, and ideological elements. Within these periods, archaeologists have defined a chronology specific to the prehistory of the desert region, including the Project area.

The Mojave Desert region is divided into four major periods; Paleoindian Period, Lake Mojave Period, Pinto Period, and the Late Holocene which includes the Gypsum, Rose Springs, and Late Prehistoric complexes. Each of these is briefly described below and the time is presented throughout this section as calibrated years of the Common Era (CE) or Before Common Era (BCE) which roughly equate to calendar years.

2.3.1.1 Paleoindian Period (11,500 to 10,000 years BCE)

The Clovis cultural complex confidently dates to the Pleistocene. It is marked by the characteristic fluted projectile points of the same name. Fluted points appear more often in the north and west than in other sectors of the Mojave with concentrations in the drainage basins of Pleistocene China Lake and Thompson Lake. These were areas of substantial external stream runoff that would have been well watered into the early Holocene. The nature of Paleo-Indian cultural systems remains poorly defined, but they were probably a highly mobile people living in small temporary camps near permanent water sources.

2.3.1.2 Lake Mojave Period (10,000 to 6,000 BCE)

Most Lake Mojave Period sites within the northern Mojave Desert and southwestern Great Basin are very early Holocene lakeshore occupations. Sutton stated that the subsistence strategy during this period was presumably one of hunting and utilization of lacustrine resources (Sutton 1988). The best examples of sites from this period are associated with the shoreline of Pleistocene Lake Mojave (Campbell et al. 1937). Artifacts include percussion-flaked foliate points and knives, Lake Mojave and Silver Lake projectile points, and an unspecialized tool kit of scrapers, graters, and perforating tools. Extra-local materials are common and suggest extensive annual foraging ranges; marine shell beads likewise imply wide spheres of interaction. Small numbers of groundstone implements occur regularly within these components, although wear on these tools is often light and suggests there was little reliance on vegetal resources.

Extensive residential accumulations are known in addition to workshops and small camps. The large sites appear to be functionally the same as smaller ones and represent locations of recurrent use rather than

different settlement types. Thus, the Lake Mojave pattern appears to reflect a forager-like strategy organized around relatively small social units (Sutton et al. 2007). Available settlement data indicate it was not extensive lakeside marshes that attracted human occupation, but rich resource patches in a host of environmental niches. Faunal remains from archaeological sites dating to this period reflect reliance on smaller taxa such as jackrabbits, rabbits, rodents and some reptiles. However, this focus on smaller taxa seems inconsistent with the abundance of heavy projectile points, bifaces and formalized scrapers that appear suited for large game (Sutton et al. 2007; Justice 2002).

2.3.1.3 Pinto Period (6,000 to 2,000 BCE)

The Pinto complex has the most widespread expression of any of the early cultural complexes. There appears to be a broad continuity in the flaked stone technologies of the Lake Mojave and Pinto complexes, both of which are characterized by extensive use of stone tools, and by the regular use of bifacial and unifacial core/tool forms. The signature stemmed, indented-base Pinto series projectile points show high levels of blade reworking and appear to have used the tips for thrusting spears rather than as darts. Reduced stone tool diversity may indicate a reduction in foraging range, meanwhile the continuing presence of marine shell indicates regular interaction with coastal groups (Sutton et al. 2007).

The most important distinction between the Lake Mojave and Pinto assemblages relates to the prevalence of ground stone implements. Milling tools are moderately abundant in nearly all known Pinto deposits and sometimes occur in high frequency. This is a characteristic of a subsistence shift that occurred during this period, with a great focus on the exploitation of plants (Campbell and Campbell 1935). Revised dating indicates that intensive levels of plant processing began by about 7,000 years BP. This coincides with the emergence of similar economies along the coast.

Sites of the Pinto complex occur in a diverse range of topographic and environmental zones. Larger sites correlate with well-watered locations and contain substantial middens with a breadth of cultural debris lacking at earlier, smaller sites. These data are consistent with residential bases that were occupied for prolonged periods by moderate to large numbers of people. Such groups probably consisted of multiple families, inferring a collector-like settlement strategy with centralized site complexes in favorable locations to stage logistical forays into surrounding resource patches. Judging by high frequencies of milling tools at many of these bases, access to plant resources must have been a key determinant for site placement (Sutton et al. 2007). Patterns of animal exploitation are similar to those of the Lake Mojave complex, although deer frequencies drop and reliance on small fauna increases slightly (Justice 2002).

2.3.1.4 Late Holocene; Gypsum Period (2,000 BCE to 200 CE)

The Gypsum complex is defined by the presence of a range of corner-notched (Elko), concave base (Humboldt) and well-shouldered contracting-stemmed (Gypsum) point forms. The most confounding aspect of the Gypsum complex is its evident scarcity in the southern and eastern reaches of the desert. The Gypsum complex emerged during a time when conditions were somewhat wetter and cooler than during the Middle Holocene. During the early part of this complex, it is thought that settlement and subsistence were centered near streams. At the same time, it appears that there were increases in trade and social complexity. Gypsum sites are more numerous than those of preceding occupations and are found over a more diverse array of locations. Artifact assemblages include evidence of ritual activities including quartz crystals, paint and rock art, as well as numerous bifaces. Exploitation of deer, jackrabbits, cottontails, and rodents is also evident (Sutton et al. 2007; Warren 1984).

In apparent association with Gypsum and Elko points forms, perishable artifacts were found in Newberry Cave, south of Box Canyon in the Mojave Desert, approximately 21-miles northwest of the Project area

(Smith et al. 1957; Davis and Smith 1981). Among the artifacts uncovered were an atlatl hook and dart, sandals, cordage, tortoise shell bowls, and split-twig figurines which were dated to approximately 1,000 BCE. Newberry Cave contained other items that pointed to ritual activity such as quartz crystals painted green, pictographs, and red, green, white, black and purple pigment samples.

2.3.1.5 Late Holocene; Rose Springs Period (200-1100 CE)

The Rose Springs complex is marked by the regional appearance of the bow and arrow beginning about 200 CE. Common artifacts include Eastgate and Rose Springs series projectile points, stone knives, drills, pipes, bone awls, various milling implements, marine shell ornaments, and large quantities of obsidian. Rose Springs sites are commonly found near springs, along washes, and sometimes along lakeshores. Evidence of architecture includes wickiups (an oval shaped structure covered with grasses), pit houses (an in-ground structure), and other types of structures suggesting intensive occupation. Populations in the desert appear to have reached their peak during this time. Most of the obsidian has been sourced to the Coso Volcanic Field demonstrating either travel to the southern Owens Valley or trade with people living in that vicinity. The use of sheep, elk, deer, jackrabbits, rabbits, and rodents dominated animal exploitation. As most of the lakes dried up during the Late Holocene, settlement patterns seem to have shifted from association with permanent water sources to more ephemeral ones. By approximately 1100 CE, Numic and Takic speaking ground began to spread across much of the Great Basin (Sutton 1988).

Time-sensitive projectile points from this period include the Rose Spring, Cottonwood, and Desert Side-Notched series. It has been argued that assemblages with Cottonwood points and no Desert Side-Notched points represent an earlier occupation than sites with both Cottonwood and Desert Side-notched points and that the earlier occupation is associated with the Hakataya influence from the Southwest (Warren 1984; Warren and Crabtree 1986). In the western Mojave Desert, diagnostic materials from this period include various types or examples of poorly understood brownware pottery and desert side notch series projectile points (Warren and Crabtree 1986).

2.3.1.6 Late Holocene; Late Prehistoric Period (1100 CE to Contact)

After about 1100 CE, environmental conditions continued to deteriorate, populations appear to have declined, new technologies were introduced, and several separate cultural complexes emerged that are believed to represent the prehistoric aspects of known ethnographic groups. Late Prehistoric occupation sites represent a variety of types including a few major villages with associated cemeteries, special purpose sites, and seasonal sites. Artifact assemblages consist of Desert Side-notched series projectile points, buffware and brownware ceramics, shell and steatite beads, slate pendants, incised stones and a variety of milling tools. Obsidian use dropped off, while the use of cryptocrystalline silica increased (Sutton et al. 2007).

2.3.1.7 Ethnohistory

The tribes that lived in and utilized the Lucerne Valley area were the Desert Serrano (or Vanyume) people. The Desert Serrano/Vanyume population was centered around the well-watered Mojave River area, but their territory probably included most of the north faces of both the San Bernardino and San Gabriel mountains, from as far west as the Elizabeth Lake/Lake Hughes area in Los Angeles County, to as far east as Yucaipa Valley in San Bernardino County. The most important descriptions of the Desert Serrano/Vanyume include: Bean and Smith (1978), Bean and Vane (1982), Benedict (1924), Earle (1990, 2004, 2005, 2010), Johnson, (1965), Kroeber (1925), and Strong (1929). In addition, Chester King (2003, 2004) presents an extended discussion of the Serrano of the San Gabriel Mountains and the Angeles National Forest area. According to Strong (1929):

The central home of the Serrano was the San Bernardino Mountains; to the east their range met that of the Chemehuevi; to the north the Kitanemuk and more alien Kawaiisu; on the west were groups of the Gabrielino [or Tongva]; and to the south in the San Gorgonio Pass were clans of the Pass Cahuilla.

The Serrano, including the Desert Serrano/Vanyume, Cahuilla, and Tongva all spoke languages that were members of the Takic branch of the Northern Uto-Aztecan Language Family. Their neighbors, the Kawaiisu (to the northwest) and the Chemehuevi (to the northeast) spoke languages that were members of the Numic branch of the Northern Uto-Aztecan Language Family. Golla (2011) notes that the Mountain Serrano (Serrano proper) language, “is moderately well documented,” but that little is known about the closely related Desert Serrano/Vanyume dialect. “The existing evidence suggests that the Vanyume dialect was very close to Serrano, although it seems to have shared some features with Kitanemuk” (Golla 2011).

Earle (2004) describes the Serrano Clan Territories on the Mojave River in detail. Earle reports (in part) that, “J.P. Harrington’s unpublished field notes contain detailed information on the political geography of the upper Mojave River and Western Mojave Desert. Harrington’s principal Serrano consultants were Santos Manuel, and his son Tomas Manuel. These consultants confirmed the importance of the Mojave River corridor to the west of the Project area. According to Earle (2004), Harrington recorded that:

***Pat Kaits** (“mountain sheep mountain”) were the hills on the east side of the Mojave River opposite Victorville and to the north. **Maviat** was the area from Victorville north to Barstow: ‘It is the whole heavily wooded section between [Barstow] and Victorville. The region here at Barstow used to be more heavily wooded than it is [in the 19-teens]. Used to be lots of water here at Barstow. The Maviatam lived there. The term **Mave** refers to groves of trees (Anderton 1988). The Tutupeatam were people who lived in the Barstow area. The Newberry Mountains, the Granite Mountains, and the Ord Mountains and the hills and basins east of the upper Mojave River were called Temtak. It may have included regions northeast of the Cushenbury Grade and Lucerne Lake. Desert bighorn and pronghorn sheep were the important resources in the area . . . They [the consultants] mentioned . . . the clan territory of the Amutskayam, associated with the village of Amutskupiabit, which extended to the north and west of Cajon Pass. A second group called the Paeveatam or Perveatum occupied portions of the northern San Bernardino Mountains. They were said to have also controlled the Mojave River east of Barstow, the Lucerne Valley, Rabbit Springs, and Old Woman Springs. This was the far-flung territory of Temtak. Part of the **Pat Kaits** hills east of Victorville may have been claimed by this clan group as well. In other statements the Temtak area was said to have been a shared region. The Paeveatam hunted this region, and had mountain sheep songs which they sang in connection with this hunting . . . (Harrington 1986: III:101:391-457)*

The Serrano relied on hunting and gathering of plants for subsistence, with the occasional fishing. Both large and small mammals were hunted such as deer, antelope, rabbits, small rodents, and various birds like quail. Plant staples included seeds like acorns, pinion nuts and chia, bulbs, blooms, tubers, and roots of various plants like berries, yucca, barrel cactus, and mesquite. It is noted that fire was used as a management tool to increase the yields of certain plants (Bean and Smith 1978; Bean and Vane 1982).

The Serrano lived in rounded dwellings, domed structures with tule thatching built over an excavated area. These structures were built with fire pits and primarily served as sleeping areas with tule mats. The majority of the daily norm was conducted outdoors under square ramadas, or in the open.

The Serrano artifact assemblage is similar to that of the neighboring Cahuilla and includes musical instruments such as rattles and flutes; utensils and ornaments such as fire drills, mortars, metates, pipes, beads, awls, and projectile points from wood, shell, bone, and stone. The Serrano were talented pottery and basket makers. Baskets were often made of deergrass, and yucca fibers. Their pots were made of coiled clay smoothed out with a paddle and set in the sun to dry before being fired in a pit. The brownware pottery was sometimes decorated with circular designs and lines in either red or black (Bean and Smith 1978).

The Serrano were also known for their petroglyphs. Abstract and geometric designs are often seen with representational figures of sheep, lizards and human beings. Some state that their petroglyphs were records of important events, rough maps, and artistic representations of native life.

2.3.2 Historic Contexts

2.3.2.1 Introduction

This Historical Context Statement includes the Project area, and a greater Lucerne Valley region that includes Big Bear and Holcomb Valley on the south, Barstow on the north, Victorville on the west, and Old Woman Springs to the east. The larger geographic region has a complex history extending back to the mid-1850s represented by a variety of built environment features that include ranches and homesteads, single family homes, residential tracts, barns and sheds, and commercial properties. Significant historic architectural styles represented include Pioneer, Craftsman, and Adobe. Much of the architecture represented throughout Lucerne Valley is, however, of a much more prosaic nature that includes the vernacular and builder/contractor architectural styles. Linear features of interest that are found across the Lucerne Valley region include wagon roads, railroads, high-voltage transmission lines, powerlines, pipelines, telephone lines, freeways and highways, county roads, local roads, and various flood control channels. Interesting historic features identified within the much smaller Project area include early springs, homesteads and ranches, mines and mining roads, historic County roads and State highways, WW-II bombing ranges, and various transmission lines and pipelines.

Sources consulted include but are not limited to the following.

- Previously prepared background historical data taken from reports prepared by and approved by various State and local agencies.
- Historic maps ranging in age from the mid-1850s to the mid-1950s detailing the Project Area and the larger Lucerne Valley region.
- Historic and detailed early twentieth century descriptions of the Project area and/or region.
- Historic newspapers articles detailing specific points in time for the Project area.
- Personal accounts of Lucerne Valley residents .

2.3.2.2 American Period Historical Summary (1848-Present)

The American Period is generally defined here as beginning in 1848 following the Treaty of Guadalupe-Hidalgo and extending to the present. The following text describing the American Period in San Bernardino County and the High Desert, is taken from a 2016 Caltrans study by Everson, et al. (2016) within the Project area and the larger Lucerne Valley region.

When gold was discovered in California in 1848, a flood of prospectors, speculators and charlatans poured into the region. The cultural impact upon native tribes was severe; whereas the Spanish and Mexican occupations had never amounted to more than a few

thousand Europeans and Mestizos, mostly clustered in settlements along the coast, the gold rush drew tens of thousands into the California hinterlands overnight. Most were men, and most were, like the mountain men before them, aggressive and rough. Many followed the Old Spanish Trail or the Emigrant Trail (Billington 1960, Lech 2004, Phillips 1996, Rice et al. 2002). In a single year, the non-Indian population in California shot up from about 5,000 to some 70,000. Gold rush “49ers” caused so much trouble for the Colorado River tribes as they crossed into California that by 1850, when California was admitted to the Union, the U.S. Army was compelled to establish Fort Yuma, at the juncture of the Gila and Colorado rivers, and later, Fort Mojave, near Needles, largely to protect miners from Indians bent on revenge (Fort Mojave Indian Tribe n.d.; Lech 2004, Schwarz 1991, Trafzer 2000).

Brigham Young directed a large party of Mormon settlers to establish a colony near Cajon Pass in 1851. Three hundred Mormon colonists from Utah found the Old Spanish Trail east of Barstow and followed it to San Bernardino Valley. They arrived that Spring, purchased land from the Lugo family, and established the town of San Bernardino. The Mormons laid out a city grid, built homes and defensive walls, and commenced farming and ranching. Lumber was harvested from the nearby mountains, and sawmills were in operation in Mill Creek Canyon (east of Redlands) and in Waterman Canyon (north of San Bernardino) by the middle of 1852. San Bernardino quickly took shape as a well-established town. Within two years, a string of small Mormon villages supported a mail route that stretched from Salt Lake to Los Angeles, via San Bernardino, becoming known as the “Mormon Corridor” to southern California. Much of this route followed the Old Spanish Trail across the Mojave Desert (Billington 1960, Robinson 1989, 2005).

The Mormon presence in San Bernardino came to an abrupt end in 1857 when Brigham Young recalled the faithful to Salt Lake City (Robinson 2005, 1989).

An interesting chapter in Mojave Desert history is the U.S. Army’s “Camel Corps” experiment. Much to the dismay of Congress, supplying and supporting far-flung army posts in the vast desert territories that had been acquired from Mexico in 1848 was proving to be alarmingly expensive. Wagon trains required regularly spaced depots to feed and water the draft animals and to make repairs to damaged wagons. In the 1850s, at the behest of Jefferson Davis, the Army purchased some 75 camels from Egypt, Arabia, and Turkey, and hired several camel drovers. Camels and drovers arrived in Texas in 1856. The following year, a train of camels was sent to California, where they were loaned to a number of civilians for pack service while army officers in Los Angeles tried to figure out what to do with them and how to feed them. After several successful excursions using the camels to pack freight, the Army tried to use camels as couriers between Los Angeles and Fort Mojave, following the Old Spanish Trail across the desert to the Colorado River. This experiment failed, as running camels, driven hard, got as far as Barstow and Daggett, then dropped dead. However, camel pack-trains continued to serve on occasional expeditions through California and Arizona. Allowed to plod along at their accustomed pace, they proved strong, hardy and tireless. As the Civil War heated up, camels served briefly and intermittently along a string of desert outposts between Fort Tejon and Fort Mojave, but in 1863, the Army finally closed the book on the camel experiment. The camels were mostly auctioned off, although some were simply turned loose to live out their days in the greater American southwest (Brooks et al. 1981, Richards 2007, Sorenson 2006; Stammerjohan 2002).

Dragging heavy machinery to the mining communities, and hauling crushed ore back to Los Angeles, was slow and difficult for wagons. Potential profits prompted the railroads to vie for the rights to build a rail line through Cajon Pass. The Los Angeles and Independence Railroad (LA&I) sent their chief engineer out to Cajon Pass to stake out a route just three days after the company was incorporated in 1875, and Chinese work crews began to construct a roadbed. Unfortunately, the mining boom began to fizzle out before the rail line had been completed, and the LA&I went bust. In 1880, another railroad, the California Southern (CS), tried again. Building from San Diego, the California Southern got as far as Colton, where the powerful Southern Pacific (SP) Railroad already had a line established between Los Angeles and Yuma. The SP refused to allow the CS permission to cross their tracks, and a volatile stand-off ensued when the SP employed famed western lawman Virgil Earp to lead a mob of heavily armed cowboys in preventing the CS crews from making progress. The stand-off was finally defused in 1883 when Earp accepted a court order to allow the CS crews to continue construction. Meanwhile, yet another railroad, the Atlantic and Pacific (A&P), was building a line through Arizona with the intent of reaching the Pacific coast. The SP temporarily blocked the A&P once they had crossed the Colorado River into Needles. However, the mighty Atchison, Topeka, and Santa Fe (AT&SF) Railway managed to out-manuever the SP by purchasing controlling interests in the A&P and the CS and negotiating a deal to purchase the SP's recently-constructed branch line between Mojave and Needles. By the fall of 1885, the AT&SF had constructed a link through Cajon Pass between San Bernardino and Barstow (Perris Valley Historical Museum n.d.; Robinson 2005).

The railroad also established a water stop and telegraph depot at Lane's Crossing on the Mojave River, a small settlement that had been established by Aaron Lane in 1858 roughly halfway between Barstow and San Bernardino. Lane's Crossing was also known as Mormon Crossing, in reference to its regular use by the Mormons during the 1850s, and indeed, the location has been an important water stop and ford for centuries as part of the Mojave Trail. A veteran of the war with Mexico, Lane believed the desert air was good for his health. His settlement eventually became the community of Victorville, renamed after Jacob Nash Victor, general manager of the California Southern Railway. Victor had been the driving force behind the California Southern, first establishing a line from San Diego to San Bernardino, including the difficult and seriously contested crossing of the Southern Pacific Railroad's tracks in Colton, then building the first successful railroad line through Cajon Pass (Durham 2001; Perris Valley Historical Museum n.d.; Richards 1966).

Bear Valley first enters the history books in 1845, when California Governor Pio Pico sent a militia through the San Bernardino Mountains after a band of renegade Indians. Benjamin (Don Benito) Wilson, leading the group, described in his diary a marshy valley teeming with bears. Wilson's impetuous young troopers lassoed several of the bears, prompting Wilson to give the valley its present name (Big Bear Lake Net n.d.; City of Big Bear Lake 1999; Robinson 1989). Gold was probably first discovered in Bear Valley (now Big Bear Lake) in 1855, although this is not certain. Early prospects evidently did not "pan out" and Bear Valley caught little attention until marginally profitable mining operations began in 1859. The winter of 1859-1860 was harsh; the miners named the area on the south side of what is now Stanfield Cutoff, where they dumped their mine tailings, "Starvation Flat" in honor of their misery. In early 1860, William Holcomb made an even more exciting gold strike in the next valley over the ridges to the north, now known as Holcomb Valley. Although Holcomb did plan to inspect the valley for gold, his initial task was to hunt

for bears. Tracking a bear he'd shot, Holcomb and a companion (this was Ben Choteau, according to Holcomb many years later) descended into a meadow on the west side of Bertha Peak, and noticed flecks of gold in a quartz ledge. Within months, over a thousand miners had swarmed into the two valleys. Most headed into Holcomb Valley, where the gold deposits were richer (J. Robinson 1989, 2005; City of Big Bear Lake 1999).

Within months, the boomtowns of "Belleville" and "Clapboard Town" appeared near Van Dusen Canyon and Polique Canyon, respectively; farther east in Holcomb Valley, "Uniontown" (also known as "Union Flat") sprang up. In his twilight years, Bill Holcomb spun tales of wild west saloons, dance-hall girls, and desperados in these towns (J. Robinson 1989).

Holcomb Valley is located about ten miles south of Lucerne Valley. The old horse trail from San Bernardino up Waterman Canyon and along the ridges to Holcomb Valley was woefully inadequate to carry the supplies the miners needed, so entrepreneurs John Brown, Pio Pico (last Mexican governor of California, and then a Los Angeles business man), W.T.B. Stanford, and Francis Mellus hatched a plan to build a toll road through Cajon Pass, around the north side of the San Bernardino Mountains, up Arrastre Canyon, and into Holcomb Valley (J. Robinson 1989, 2005). After much legal wrangling and the involvement of several politicians, the California Legislature approved the construction of a wagon road through Cajon Pass, and gave Brown and two of his cohorts, Henry Willis and George Tucker, a 20-year franchise to build and operate the road. Brown and his partners built a new roadbed up Coyote (Crowder) Canyon, essentially following the "Old Spanish Trail" where practical and breaking new ground where necessary (J. Robinson 1989, 2005; City of Big Bear Lake 1999).

The new toll road was an instant success, despite frequent washouts and occasional raids on the tollhouse by horse thieves and hostile Indians. In 1861, Francis Mellus had an 8000-lb. boiler hauled from Los Angeles up into Holcomb Valley. Mellus, who had mining investments in Holcomb Valley, planned to establish a steam-powered stamp mill. In an epic feat, Mellus and his crews brought the boiler up the toll road and into Holcomb Valley via Arrastre Canyon, commencing stamp-mill operations by late August. (J. Robinson 1989, 2005).

Unfortunately, the stamp mill failed to turn a profit, and after languishing for years under litigation, the massive boiler was abandoned (J. Robinson 1989).

Miners persisted, however, and in 1873, Barney and Charley Carter established several claims on "Gold Mountain" overlooking the eastern end of Bear Valley. With great excitement, prospectors scrambled to the area, and a flurry of new claims appeared along the ridge. Within a month, wealthy Comstock Lode investor Elias "Lucky" Baldwin acquired a controlling interest in Barney Carter's claims through a series of "front" investors who really worked for Baldwin, despite their names appearing on legal documents. Baldwin, who had never been to southern California, purchased Rancho Santa Anita, and moved there from San Francisco in 1874. With fast purchases through relatives and employees, Baldwin soon acquired 6,000 acres, which included roughly half of Gold Mountain itself and the entire eastern end of Bear Valley. "Bairdstown" (later called "Doble"), another boomtown, appeared as Baldwin's crews set up shop at the foot of the mountain. It is not known how much money he made from his investments, but as the rumor spread that "Lucky" Baldwin was involved, the price of mining stocks throughout the region soared (J. Robinson 1989).

Baldwin had some 150 miners and a 40-stamp mill in place by the end of 1874. In early 1875, he sent a Chinese work crew to build a new road from Cactus Flat, connecting his operations with Lone Valley Road, to provide access to Lucerne Valley in the high desert from the eastern end of Bear Valley. Sadly, the mine went bust within months. In October of 1875, Baldwin pulled the plug on Gold Mountain operations and Bairdstown became another ghost town (J. Robinson 1989). Curiously, Baldwin later allowed his son-in-law, Budd Doble, to try again in 1893. Bairdstown was re-established as "Doble," and mining resumed. The venture failed. Undaunted, other investors tried again. "Gold Mountain" changed hands several times, and more investors lost money. Some residents lingered in Doble until sometime after 1906, when the U.S. Post Office there was closed, but eventually, the boomtown was abandoned again, and buildings gradually fell to ruin (Bellamy and Keller 2006; Core 1993). The mining road, however, remained an open link to the high desert, eventually becoming part of State Route 18 between Big Bear and Lucerne Valley.

Lucerne Valley attracted settlers and travelers because of the presence of Rabbit Springs, located just to the northwest of the town center. The springs were first recorded in 1855 by government surveyors Henry Washington and Henry Hancock. At that time, Washington and Hancock recorded three springs, which they identified individually as "Turtle Springs," "Sweetwater," and "Alkaline Springs" (U.S. General Land Office [GLO] 1856a). By 1914, however, the springs were collectively known as Rabbit Springs, as noted by government surveyors Guy Redwine and A. Parker Warner when the area was re-surveyed by GLO in 1914 (Appendix 2, Figure 1). Also by 1914, Old Woman Springs Road had already branched from its original alignment running directly from Old Woman Springs to Rabbit Springs, to make a western run directly into the growing community of Lucerne Valley from a point where the section corners of Sections 10, 11, 14, and 15 converge in T. 4N, R. 1E, five miles east of Lucerne (GLO 1916a). The community of Lucerne developed near the Box S Ranch, which once served as a stage-stop on the road from Victorville to the mining communities during the late 19th and early 20th centuries. The ranch was first established in 1886 by W.W. Brown. He sold his ranch to cattleman Al Swarthout ten years later. Swarthout's brand was a Bar S, which gave its name to the ranch. In 1897, Swarthout sold the ranch to Jim Goulding, and moved his cattle to Old Woman Spring. With good water available, Goulding began planting alfalfa. He suggested calling the area Lucerne, from the French word for alfalfa. His suggestion was adopted and folks eventually did, indeed, begin calling the area Lucerne Valley. It is Goulding who is generally considered to be the founder of Lucerne Valley (Durham 2001; Owen 2001; J. Robinson 1989). The Bar S Ranch remained the hub of the community, and Bar S Ranch, rather than Lucerne Valley, is the place-name actually identified on maps from the period until about 1916 (Judkins 2001; Core 1993)

Rabbit Springs is located on the northwestern fringe of the community of Lucerne Valley. Miners and prospectors began to congregate around the springs during the 1850s. Conflicts with several Indian tribes, particularly bands of Paiute, Chemehuevi, and Serrano, eventually led to a pitched battle near Chimney Rock, located about two miles west of Rabbit Springs, in 1867. This event is commemorated with California Historical Landmark No. 737. A monument is located adjacent to Highway 18 near the junction with Rabbit Springs Road. White settlers won the battle, and with it, control of the area around Rabbit Springs. At least five different pioneers had lain claim to properties around Rabbit Springs by 1874 (Durham 2001; Owen 2001; J. Robinson 1989).

Increasingly, travelers followed Old Woman Springs Road between Yucca Valley and Lucerne Valley. Near Rabbit Springs, the road split: one route headed directly north to Barstow; the other headed west to Victorville. The road to Victorville split again at Dead Man's Point, and from there, a branch road ran to Hesperia. Barstow, Victorville, and Hesperia all had railroad depots belonging to the California Southern and the Atchison, Topeka & Santa Fe. With reliable water, direct links to three railroad depots, and located at the hub of a growing network of wagon roads, development around Lucerne Valley was inevitable. By 1880, ranchers were regularly grazing cattle in the area. In 1884, Peter Davidson established a way station at Rabbit Springs, serving travelers with fresh water and safe overnight camping. By this time, traffic along the wagon roads was brisk between Lucerne Valley and the railroad depots, and thence between Lucerne Valley and the mining districts of Holcomb Valley, Johnson Valley, Yucca Valley, and Twentynine Palms.

The above Caltrans historical background basically defines select historic areas of interest for the Project area and the larger Lucerne Valley Region. These areas of interest in the American Period are summarized above as exploration, transportation, early settlement, water supply, mining, cattle ranching, and homesteading and agriculture. Additional research conducted by Aspen staff has identified several additional areas of interest, including military history and the establishment of bombing ranges in the vicinity of North Lucerne Valley. These general areas of interest are summarized as:

- Prehistory and Exploration to the Dawn of the Age of Railroads
- Transportation: Wagon Roads, Railroads, Highways, Local Roads, and Other Linear Features
- Mining
- Agriculture (Cattle Ranching and Homesteading)
- The Role of Government (Federal, State, and Local)
- Military

2.3.2.3 Prehistory and Exploration to the Dawn of the Age of Railroads

Several early historic trails cross the Mojave Desert on the periphery of the greater Lucerne Valley region. This includes the "Old Spanish Trail," the Mojave Trail, and the Old Government Road which were first developed as prehistoric Indian trails. The alignments had many side trails and forks, subsequently known to Mission priests, and was ultimately utilized by explorers and traders during the 1830s and 1840s. In the 1850s they were used by Mormon immigrants and Mormon freighting companies trading between Salt Lake City and Los Angeles, and by early immigrants to California.

On March 3, 1853, Congress passed a military appropriations bill allocating funds for the survey of all possible routes for a Pacific railroad. This inaugurated an extensive series of studies including Mojave Desert area surveys made by Lt. Robert Stockton Williamson and Lt. Amiel Weeks Whipple. During the same time period when the railroad surveys were undertaken (1850s to 1860s), traffic and travel across the desert region increased dramatically. One of the pioneer trail blazers was Edward F. Beale. He received the job, using government appropriated funds, of opening a wagon road along the 35th Parallel alignment from the Needles area to Barstow, and he completed the task in 1857. Known as the Old Government Road, the route was increasingly utilized by the military, emigrants, miners, and trade caravans. This, in turn, resulted in a gradual growth of regional settlement. Settlements were isolated, but they did develop in the 1860s and 1870s, prior to completion of the railroad in 1883.

Improved transportation, and a military presence at Fort Mojave, brought the first permanent settlers to the western Mojave/Victor Valley/Lucerne Valley area in the 1860s. The construction of the Southern Pacific line between Needles and Mojave was completed on July 12, 1883. This may well be regarded as a

landmark event in the history of the Mojave Desert, as it quickly and permanently impacted all desert development activity. Many small towns and sidings were established. Agricultural development soon followed with increased settlement throughout the western Mojave. Sheep and cattle ranching predominated during the nineteenth century, with agricultural crops becoming of increasing importance in the first half of the twentieth century.

Please refer to Appendix 2 (Figures 2 and 3) for additional information.

- GLO MAP, T4N R1W, Surveyor General's Office March 19, 1856: Prepared from survey data gathered by Henry Hancock and Henry Washington in 1855.
- U. S. War Department, Chief of Engineers, *Map of California and Nevada*, War Department, Sheet #73, Washington, 1879.

Lucerne Valley Region & Project Area: Early Transportation Routes. The following early historic transportation routes existed on the periphery of the Lucerne Valley region.

Old Spanish Trail/Road to Salt Lake/Mormon Trail (CA-SBR-4411H). The "Old Spanish Trail" was first developed as a prehistoric Indian trade route. It had many side trails and forks, subsequently known to Mission priests, and was ultimately utilized by explorers and traders during the 1830s and 1840s. In the 1850s it was used by Mormon immigrants and Mormon freighting companies trading between Salt Lake City and Los Angeles.

Mojave Trail/Road (CA-SBR-3033H) California Historic Landmark (CHL) #963. The history of this east-west transportation alignment has been documented in great detail by numerous authors. In brief, this alignment appears to have served as one of the most important known prehistoric trails across the Mojave Desert. This was the alignment followed by Francisco Garces in 1776, and was consistently used by explorers, surveyors, traders, immigrants, and miners throughout the period of time extending from the 1850s to the early 1880s (Casebier 1976, 1983, 1986; Robinson 2005; Hatheway 2007), or until the Southern Pacific line between Needles and Mojave was completed on July 12, 1883. In San Bernardino County it ran from Fort Mojave on the Colorado River to Fort Cadiz near what is now known as Newberry Springs.

These were major transportation alignments and they were connected by numerous roads and trails. Within or immediately adjacent to the Project area the following road and trail have been identified:

1. An "Old Trail" appearing on the 1856 GLO Map for T4N R1W (Appendix 2, Figure 2). This was almost certainly a prehistoric trail, and it is likely that dozens of similar trails crisscrossed the entire region.
2. Road to Bear Valley (Appendix 2, Figure 3) as depicted on the 1879 *Map of California and Nevada*. This alignment would later be extended and become known as the road from Victor to Dale and more locally as Old Woman Springs Road. This map also depicts a segment of what would later become known as Stoddard Wells Road which is at the extreme northern end of the Project area.

In summary, prior to the 1883 completion of the railroad alignment from Mojave to Needles, a network of roads and trails had developed across the Lucerne Valley region. One alignment, later known as Stoddard Wells Road, crosses immediately to the north of the Project area. Although not depicted on any early map, it is highly likely that a trail/road cut through North Lucerne Valley at this time to connect with the road depicted on the 1879 War Department map connecting Brown's Toll Road with the road across the southern portion of Lucerne Valley leading to the Cushenberry Grade.

2.3.2.4 Transportation: Railroads, Wagon Roads, and Automobiles

Transportation emerges as perhaps the single-most important feature in the early recorded history of the desert, and transportation is a key component of the Lucerne Valley region and the Project area. Historically, much like today, Lucerne is not a true destination point. The community was and is located at the intersection of a set of roads, and the great majority of travelers pass through on their way to somewhere else. From the very first explorers, miners, and cattle ranchers who stopped at Rabbit Springs, to today's drivers on their way to Big Bear or taking short cuts to Twentynine Palms and Barstow, Lucerne has primarily been a stopping point. This does not discount the rich Lucerne history of mining and homesteading discussed later, but it does put into historical perspective that which has driven the growth and development of the Lucerne Valley region.

The following transportation context is taken, in part, from a 2011 conference paper prepared by Hatheway (2011).

Today's complex network of linear transportation features developed from characteristics deeply rooted in the Central Mojave Desert region's historic past. As noted earlier, many of today's transportation features within the Mojave Desert region are directly and/or indirectly related to much earlier transportation features. In point of fact, many historic wagon roads and routes of exploration in the Mojave Desert were preceded or antedated by Native American trails. Many, if not all, of these wagon roads would eventually be replaced and/or bypassed as transportation corridors by railroad alignments and then by automobile highways.

Various early transportation routes in the vicinity of Lucerne Valley are depicted on a series of 1896-1955 historic maps following completion of the 1883 railroad alignment from Mojave to Needles, and the equally important 1885 completion of the Atchison Topeka and Santa Fe Railroad alignment from Barstow through the Cajon Pass to San Bernardino. This includes but is not limited to the following:

- **Rand McNally & Company, Perris' Miners Map of Southern California, Chicago, 1896** (See Appendix 2, Figure 4). Various roads are depicted including a road leading from Rabbit Springs to Stoddard Well. It also shows a road splitting off to the east from the road to Stoddard Well, and a road from Rabbit Springs to Old Woman Spr. Another alignment is depicted leading from Rabbit Springs to Daggett.
- **Southern California Sheet #1, USGS Quadrangle Map, 1901** (See Appendix 2, Figure 5). By this time, an extensive system of roads had developed in and around Rabbit Springs and the Box S Ranch as homesteaded by pioneer Lucerne Valley resident James Goulding.
- **G. E. Bailey, Saline Deposits of the Southern Portion of California, California State Mining Bureau, Bulletin No. 24, Lewis Aubury, 1902** (See Appendix 2, Figure 6). Various roads are depicted including a road leading from Rabbit Springs to Stoddard Well. It also shows a road splitting off to the east from the road to Stoddard Well, and a road from Rabbit Springs to Old Woman Springs.
- **W.C. Mendenhall, Some Desert Watering Places in Southeastern California and Southwestern Nevada, U.S. Geological Survey Water Supply Paper 224, Washington, 1909 (Map Dated 1908)** (See Appendix 2, Figure 7). This map identifies various roads in the Lucerne Valley region, which are briefly described in the text of Mendenhall's report.
- **Thurston, Albert G., Thurston's Auto – Highway, Mountain and Desert Map, Western Map and Publishing Co., Pasadena, 1915** (See Appendix 2, Figure 8). A nexus of roads including a straight road across Lucerne Valley and the road splitting off to Stoddard Well (today's Lucerne Valley Cutoff), and the road to "Old Woman Spr" are depicted. The importance of this map is that it depicts the Project area at the dawn of the Age of the Automobile.

- **David G. Thompson, PLATE X, Water Supply Paper 490-B, *Routes to Desert Watering Places in the Mohave Desert Region, California*. Washington: Government Printing Office, 1921** (See Appendix 2, Figure 9). This map depicts a road splitting off from Stoddard Well leading to the southeast (today's Lucerne Valley Cutoff).
- **David G. Thompson, PLATE XI, Water Supply Paper 490-B, *Routes to Desert Watering Places in the Mohave Desert Region, California*. Washington: Government Printing Office, 1921** (See Appendix 2, Figure 10). This map depicts a complex system of roads including a straight road heading directly across Lucerne Valley and the lakebed, and the road splitting off to Stoddard Well (today's Lucerne Valley Cutoff).
- **J. Kemmerer, *Map of San Bernardino County, California, Showing Roads, Railroads, Springs, and Mining Districts of the Desert Portion, October 30, 1925***. (See Appendix 2, Figure 11). Roads depicted include a straight road across Lucerne Valley and a road splitting off to Stoddard Well (today's Lucerne Valley Cutoff), and the road to Old Woman Sprs. The majority of roads depicted on this map are limited to those maintained by the County of San Bernardino in 1925. This is why Thompson's 1921 maps depict a much more complex road network.
- ***Ord Mountains, USGS Quadrangle Map, 1955***. (See Appendix 2, Figure 14). In the vicinity of the Project area, this map depicts the newly built Barstow Road (today's Highway 247) and today's Lucerne Valley Cutoff.

Historic maps are an excellent means of establishing a concept of how a transportation system developed, but an idea of what travel was like on these early roads is much more difficult. Fortunately, two early written descriptions exist of travel within the larger Lucerne Valley region and the much smaller Project area.

2.3.2.5 Two Early Historic Descriptions of the Study Area and Lucerne Valley Region

The following excerpt is taken from Mendenhall (1909) (See Appendix 2, Figure 7).

VICTORVILLE ROUTES.

Victorville station, on the Santa Fe Railway, is the starting place for points in the southern portion of the Mohave Desert east of the Santa Fe. A county road crosses Mohave River here by a good bridge, and branches of this road run along the east side of the river to the various mining camps. The main county road runs eastward by way of Dead Man's Point, at the south end of Granite Mountain, to Box S ranch. At this ranch the road forks, a northern branch leading eastward by way of Old Woman Springs, Mean's Well, and Surprise Spring to Twenty-nine Palms Springs and Dale. This road crosses the northern edge of the San Bernardino Range, rises to high altitudes, and has heavy grades. The northern route is the better.

In review, Mendenhall describes a county road alignment from Victorville to Dale across the southern portion of Lucerne Valley. In this same document, Mendenhall describes two springs in the vicinity of the Project area. Springs were critically important to travel across the High Desert. He writes of several locations (numbered per his maps):

- *Spring (no name), San Bernardino County – This is a spring on the south side of a western spur of Granite Mountain, about 14 miles northeast of Victorville, on the main road from Victorville to Daggett. The water is good and the place is well marked by debris left by numerous camping parties. This spring furnishes the only water to be obtained on this road between Victorville and Daggett. The main trend of Granite Mountain is north and south, but at the north end a cross*

ridge runs east and west. This spring is along the south edge of the western extension of this ridge.

- *Ord Spring, San Bernardino County – This spring is located at the western edge of Ord Mountain, on the road that leads southward from Daggett between Ord and Granite mountains. It is an old camping place and is readily found. A road runs southward from it along the east side of Granite Mountain to the county road at Dead Man’s Point, and another connects with the county road from Victorville to Daggett.*
- *Rabbit Springs, San Bernardino County – Rabbit Springs (elevation about 2,900 feet) have for years been a favorite camping place for parties traveling eastward from Victorville along the north flank of the San Bernardino Range. The springs are about 2 miles north of Box S ranch, on the northwest edge of Rabbit Dry Lake, and are marked by a clump of cottonwood trees that can be seen from the low divide 3 miles west. Since artesian water was found at Box S ranch, travelers have generally followed the road that passes it.*
- *Box S ranch, San Bernardino County – The ranch receives its name from the cattle brand of the company that owns it, the brand being a square inclosing the letter S. The ranch is about 24 miles east of Victorville, on the county road that leads to the mines in the San Bernardino Mountains, and eastward into the desert. Several wells have recently been drilled at the ranch and in its vicinity, some of which yield flowing water, so that an abundant supply is now available. The locality is easily recognized because of the ranch buildings, the first to be seen by the traveler after he leaves Mohave River at Victorville. It is an important point for desert travelers, because the water is the first to be had along this road east of the river. Meals also may be obtained here.*

In review, in describing water available at several springs Mendenhall also notes various roads and locations within the Lucerne Valley Region and the Project area.

Another early description of transportation routes across the Lucerne Valley Region and the much smaller Project area is found in Thompson (1921):

BARSTOW AND DAGGETT TO BOX S RANCH AND BEAR VALLEY.

The journey from Barstow or Daggett to Bear Valley can be made by way of Box S ranch, without going to Victorville, by following the road from the two towns to Stoddard Well and turning off from this road 2 miles south of Stoddard Well. From this turn-off the road leads southeast, over a broad pass, and south across the “dry lake” flat north of Box S ranch. The road between these two points was not traversed by the writer and no log is given for it, but the following brief notes may be given.

A traveler from Daggett should follow the log on page 149 and one from Barstow should follow the log just below it to mile 19.6. At this point he should take the branch road to the left and continue on this road in a general southeasterly direction toward Lucerne Valley, marked by a “dry lake” flat. A road comes in on the right at about mile 24.6. Near mile 27.0 the road turns more to the south, and at about mile 33.0 it goes south along a section line across the clay flat, coming to an east-west road near Box S ranch at about mile 41.0. In wet weather it will be necessary to go around the clay flat. There are a number of homesteads in this valley, and roads lead in various directions, so that the traveler may become confused. Box S ranch is about 1.5 miles east of the southernmost point of the mountains that lie to the west of the road which the traveler follows, and it is marked by a grove of trees around it. A smaller clump of trees at Rabbit Springs 1-mile

northwest of the ranch should not be mistaken for the Box S place. Water is obtainable at Box S ranch and other places. From Box S a road leads southeast to Bear Valley (see mile 22.1 of log on p. 143) and a road leads east to Old Woman Spring and other points (see p. 145). No description is given for the road from Box S to Barstow and Daggett.

In review, although Thompson did not travel extensively across the Lucerne Valley Region and the Project area, he does record various roads leading to Barstow and Daggett, Lucerne Valley and the Box S Ranch, and Old Woman Spring.

2.3.2.6 Historic Newspaper Articles Describing Road Development in Lucerne Valley

Historic newspaper articles further detail the history of specific roads within the Lucerne Valley region and the Project area.

The following text is taken from the *San Bernardino County Sun*, September 9, 1933, p. 13.

The county road crew is working on the road from Victorville to Stoddard wells. This route is much used of late. At Stoddard wells it connects with the road from Barstow to Lucerne Valley and Bear Valley, much used by Barstow residents in going to the mountain resorts. The Stoddard wells road is of much convenience to crews working on the Los Angeles power bureau line, the Southern Sierras Boulder dam line and the transcontinental Bell telephone lines. Prospectors and miners are also accommodated by the Stoddard well road and connections.

The following text is taken from the *San Bernardino County Sun*, November 25, 1934, p. 23.

“SERA WORKERS START OPENING WHITE STREET”

The widening and straightening of some of the bad curves on the Bear valley road from Barstow to Box S ranch has practically been completed by SERA labor, using county tools and trucks. This improvement has not only brought employmen[t] to many Barstow men, but has given a short and excellent route to Bear valley from this district. Other county roads in the district, it is understood, will be improved in a short time, but the exact schedule is not known at present.

The following text is taken from the *Grizzly* (Big Bear Lake, California), October 1, 1948, p. 8.

“IMPROVEMENT OF BARSTOW ROAD STUDIED”

Members of the Desert-Mountain Highway Association together with representatives from various chambers of commerce met yesterday noon at the Lucerne Valley home of Louis Lagler to discuss possibilities of obtaining improvements on the Lucerne-Barstow road.

The committee and representatives met with county officials, including Frank Mogle, chairman of the county board of supervisors; Arthur Doran, supervisor from the first district; and Howard Way, highway commissioner.

The following text is taken from the *Desert Star* (Needles, California) (1950):

The board of supervisors at their meeting Monday approved the Lucerne Valley-Barstow road, according to H. George Cunningham, supervisor from this district.

The board also approved the new alignment of the route, Supervisor Cunningham stated, as laid out by the engineering department of County Surveyor, Howard Way's office. The new alignment will straighten out many of the curves and make for even a shorter route between Barstow and Big Bear Lake.

The following text is taken from the Grizzly (Big Bear Lake, California) (1952):

“Geo. Seals Reports on Road Study”

Reporting on road conditions which he has been looking into in the 1st district in his campaign for supervisor, Geo. Seals of Victorville, Tuesday night made the following statement to the Chamber regarding the new Lucerne-Barstow route “In checking into the Barstow-Lucerne Valley road, I find that it is a very fine, nice, wide road, all graded with very fine turns and almost ready for the black top. By this time next year all but about 8 miles will have been black topped.”

2.3.2.7 County Maintained Road System (CMRS) Historic Road Books

The County Maintained Road System (CMRS) historic road maintenance books, a primary source of information and a singularly important historical resource relative to county maintenance of roads, exist for the period extending from 1929 to the present. A very few years are missing. The 1942, 1943, 1945, and 1947 County Road System Maintenance Books do not exist. This would appear to be related to the effects of World War II (perhaps manpower shortages required to produce the books). Despite these missing years, the County Road System Maintenance Books rather clearly represent a virtually continuous countywide record of roadway maintenance from 1929 to the present. They contain a listing of individual County of San Bernardino maintained roadway alignments including the road name, the applicable road maintenance district/yard, a brief description including a beginning and ending point, mileage, type of road (dirt, paved, etc.), and various other identifying and descriptive information including road name changes. Individual roads are variously identified over time by supervisorial district, as primary or secondary roads, and/or more recently in simple alphabetical order. The books were generally published in May-July of any given year and were utilized until May-July of the following year. Handwritten entries for road alignments frequently appear, indicating that a specific named alignment was added to the County maintained system while that specific CMRS historic road maintenance book was being utilized.

The CMRS historic road maintenance books contain a highly detailed wealth of information relative to the history of and development of specific roads within the Project area as follows.

1930 CMRS Historic Road Maintenance Book

<i>Barstow Road</i>	<i>Box S Ranch via Stoddard Well</i>	<i>Earth</i>	<i>21 Miles</i>
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Note: At this time Barstow Road is the same alignment that would later be named Lucerne Valley Cutoff.

1935 CMRS Historic Road Maintenance Book

<i>Barstow Road</i>	<i>Box S Ranch via Stoddard Well</i>	<i>Dirt</i>	<i>38 Miles</i>
<i>Stoddard Well Road</i>	<i>Victorville to Barstow Road</i>	<i>Dirt</i>	<i>16 Miles</i>

Note: At this time Barstow Road is the name for the entire roadway extending from the Box S Ranch at Lucerne north to Barstow.

1936 CMRS Historic Road Maintenance Book

<i>Barstow Road</i>	<i>1 mi. S Barstow to Box S Ranch via Stoddard Well</i>	<i>Dirt</i>	<i>37 Miles</i>
<i>Stoddard Well Road</i>	<i>Victorville to Barstow Road</i>	<i>Dirt</i>	<i>16 Miles</i>

Note: In 1937, an additional 13 roads are maintained under the general heading Lucerne Valley Roads.

1937 CMRS Historic Road Maintenance Book

<i>Barstow Road</i>	<i>1 mi. S Barstow to Rabbit Springs Rd.</i>	<i>Dirt</i>	<i>36 Miles</i>
<i>Barstow Road</i>	<i>Rabbit Springs Road–Old Woman Springs Road</i>	<i>Dirt</i>	<i>1 Mile</i>
<i>Stoddard Well Road</i>	<i>Victorville to Barstow Road</i>	<i>Dirt</i>	<i>18 Miles</i>

Note: In 1937, an additional 14 roads are maintained under the general heading Lucerne Valley Roads.

1940 CMRS Historic Road Maintenance Book

<i>Barstow Road</i>	<i>1.1 mi. S Barstow to Rabbit Springs Road</i>	<i>Dirt</i>	<i>36 Miles</i>
<i>Barstow Road</i>	<i>Rabbit Springs Road–Old Woman Springs Road</i>	<i>Dirt</i>	<i>1 Mile</i>
<i>Stoddard Well Road</i>	<i>Victorville to Barstow Road</i>	<i>Dirt</i>	<i>15 Miles</i>

Note: In 1940, an additional 17 roads are maintained under the general heading Lucerne Valley Roads.

1946 CMRS Historic Road Maintenance Book

<i>Barstow Road</i>	<i>1.1 mi. S Barstow to Rabbit Springs Rd.</i>	<i>Gravel</i>	<i>36 Miles</i>
<i>Barstow Road</i>	<i>Rabbit Springs Road–Old Woman Springs Road</i>	<i>FOM</i>	<i>1 Mile</i>
<i>Stoddard Well Road</i>	<i>5 mi. N Victorville to Barstow Road</i>	<i>Earth</i>	<i>13 Miles</i>

Note: In 1946, an additional 18 roads are maintained under the general heading Lucerne Valley Roads.

1950 CMRS Historic Road Maintenance Book

<i>Barstow Road</i>	<i>U.S Highway 66 to State Highway 43</i>	<i>Earth</i>	<i>38 Miles</i>
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Note: State Highway 43 is known today as Highway 18 from Apple Valley to Lucerne.

1952 CMRS Historic Road Maintenance Book

<i>Barstow Road</i>	<i>State Highway 43 N to South C/L Barstow</i>	<i>Road Mix</i>	<i>33.33</i>
<i>Lucerne Valley Cutoff</i>	<i>Barstow Road N to Stoddard Wells Road</i>	<i>Earth</i>	<i>9.20 Miles</i>

Note: This is when the newly realigned Barstow Road alignment is first recorded. Barstow Road is also listed as a component of the Primary Road System.

1960 CMRS Historic Road Maintenance Book

<i>Barstow Road</i>	<i>State Highway 18 N to Lucerne Valley Cutoff</i>	<i>Road Mix</i>	<i>10.90 Miles</i>
<i>Barstow Road</i>	<i>Lucerne Valley Cutoff N/Barstow CL</i>	<i>Road Mix</i>	<i>22.41 Miles</i>
<i>Lucerne Valley Cutoff</i>	<i>Barstow Road N to Stoddard Wells Road</i>	<i>Earth</i>	<i>9.07 Miles</i>

1970 CMRS Historic Road Maintenance Book

<i>Barstow Road</i>	<i>State Highway 18 N to Lucerne Valley Cutoff</i>	<i>Road Mix</i>	<i>10.90 Miles</i>
<i>Barstow Road</i>	<i>Lucerne Valley Cutoff N/Barstow CL</i>	<i>Road Mix</i>	<i>19.99 Miles</i>
<i>Lucerne Valley Cutoff</i>	<i>Barstow Road N to Stoddard Wells Road</i>	<i>Earth</i>	<i>9.07 Miles</i>

In summary, during the period of time extending from 1930 to 1970 the County of San Bernardino maintained an increasing number of roads through the Lucerne Valley region, including Barstow Road and Lucerne Valley Cutoff within the Project area. **Note:** Rabbit Springs Road is not included in the above listing, but it is known to have been continuously maintained by the County since at least the mid-1930s.

2.3.2.8 Transportation Context Summary: Lucerne Valley Region and Project Area

There are several key characteristics that serve to better define a transportation context within the Lucerne Valley region and the Project area. These are:

- The continued replacement and/or bypassing of earlier with newer transportation routes, alignments, and corridors, creating increasingly complex transportation networks, is perhaps the single-most important key characteristic of the Mojave Desert transportation context.
 - An example of this is the construction of the new Barstow Road alignment from Lucerne to Barstow in 1952 which bypassed the old Barstow Road now known as Lucerne Valley Cutoff. Additional examples include Chuckwalla Road, and Meander Road, each of which were bypassed or made obsolete in 1914.
- Another key characteristic is that transportation destination points in the Mojave Desert change dramatically over time. This, in turn, impacted the historical development of the entire Mojave Desert trans-

portation network. By way of example, early desert transportation alignments were primarily based on travel from one source of water to another.

- An example of this is that throughout the nineteenth century most roads into Lucerne Valley headed for Rabbit Springs, a natural source of water. Later, following Goulding's purchase of the Box S Ranch and his establishment of a deep and plentiful well there, most roads headed for the Box S Ranch.
- Within the Lucerne Valley region and Project area, homesteading, cattle ranching and various forms of agriculture have had an unquestioned impact on developing the local transportation network.
 - An example of this is seen though an examination of the County Maintained Road System (CMRS) historic road maintenance books where the number of maintained County roads increased dramatically from the mid-1920s to the mid-1930s as homesteading and ranching increased.
- In the Lucerne Valley region, from the 1860s to the present, mining activity has undergone "cyclical" highs and lows as dependent upon the discovery of new resources and the fluctuating price of various minerals and metals. Despite differing site-specific and/or regional historical interpretations, all historians agree that transportation is a key to the success of any form of mining activity. Quite simply, if it costs more to mine and ship the product than the final product is worth, then mining activity will shut down.
 - An example of this as noted in the April 16, 1935, San Bernardino County Sun, is where a new road was "being built from the Barstow-Lucerne road [today's Lucerne Valley Cutoff] to the picture marble quarry. The new road is about two miles long and will make the quarry more accessible." In effect, a pre-existing County maintained road helped to promote a mining venture.
- Another key characteristic is the influential role of federal, state, and local government in the development of desert transportation routes, alignments, and corridors. From the early 1850s to the present, actions on the part of various government entities have impacted regional desert transportation in San Bernardino County.
 - An example of this is the set of 1972 negotiations between the County of San Bernardino and the State of California Division of Highways, whereby the State took over maintenance of Barstow Road (now Highway 247) between Lucerne and the City of Barstow, in exchange for the County taking over maintenance of U.S. Highway 66 (now National Old Trails Road) between Daggett and the Mountain Springs Road Exit on the I-40 Freeway.
- Finally, the role of the automobile in the history of Lucerne is pervasive, or as Casebier (1983) puts it "Automobiles caught on early in the desert country where it was so difficult and expensive to maintain horses and mules." Many homesteaders also worked for the mines, and homesteading and ranching activity proliferated, in part, along with the arrival of the automobile.
 - Much as today, roads and automobiles were a key to life in historic Lucerne. As Hemphill-Gobar (1972) puts it "Roads especially were good for a fight at any time, beginning immediately the petition had started the rounds. When its pages were covered with smudged pencil signature, it was taken down to San Bernardino to the highway engineer's office..."

Future evaluation of specific transportation resources throughout Lucerne Valley should include a field inspection and in-depth historical research. Evaluators should consider that roads and trails are ubiquitous across much of the High Desert, and that a demonstrable significant history is of primary importance, along with a well-defined period of significance and long and continued use. **Note:** Transportation as defined herein includes all linear features found across the Lucerne Valley region including trails, wagon

roads, railroads, high-voltage transmission lines, powerlines, pipelines, telephone lines, freeways and highways, county roads, and various flood control channels.

2.3.2.9 Mining

A comprehensive historic context for mining in the Mojave Desert is found in Swope and Carrie (2017), referenced below.

San Bernardino County

The history of mining in San Bernardino County and, specifically, the histories of individual mines have been covered by Shumway (1980) and Vredenburg et al. (1981). A brief overview is provided here. The largest county in the United States, with a size of nearly 20,000 square miles and its varying regional geology, San Bernardino County has produced about 45 mineral commodities. With a mineral output valued at \$48,351,102 in 1950, metals and non-metals comprised about one-sixth of that total. The first comprehensive report dedicated to the mines and minerals of San Bernardino County was written in 1902 (Bailey 1902) by the California State Mining Bureau. The document reported 301 hard-rock quartz mines—224 for primarily gold and silver and 77 for copper—spread throughout the county. By 1902, the following hard-rock minerals were in production within the county: gold, silver, copper, and lead. Other lode minerals known to exist included tin, iron, and zinc (Bailey, 1902; Shumway, 1980; Vredenburg et al. 1981; Wright et al. 1953).

Gold is the most widely distributed metal of commercial value within San Bernardino County and the most predominant metal in 27 of the 45 mining districts. Legend has it that Mexican prospectors first identified gold in today's San Bernardino County near Salt Springs, along the Santa Fe–Salt Lake Trail, in the 1820s. The first confirmed discovery of gold was in 1849 at this location, with placer-mining operations developing in the 1850s. Lode mining started shortly thereafter. Although gold was associated with many of the streams of the San Bernardino Mountains, no gold mines were in operation in 1855. The 1850s remained quiet, and prospectors fanned out in the 1860s and identified many deposits. Gold strikes were made, however, as early as 1855, in Bear and Holcomb valleys (Beattie and Beattie 1939; W. Robinson 1958, J. Robinson 1989). Silver was first discovered in the New York Mountains in 1861, in the Providence Mountains in 1863 (King and Casebier 1981), in the Ivanpah Mountains in the 1860s, and in the Avawatz Mountains in 1870. King and Casebier (1981) stated that mining during the 1860s in the eastern part of the Mojave Desert was done largely to “demonstrate the richness of the mines and not as part of a normal productive operation,” leading to focused work in the Clark and New York districts the following decade. Shumway (1980) noted that mining activity was fairly intense between the late 1870s and World War I, with gold mining surpassing silver mining in the early 1890s. The Bagdad Chase Mine began producing in 1904 and was the principal single source of gold and copper within the county, and the Supply Mine and the Nightingale had the largest production in the Dale District (Shumway 1980; Trask 1856; Vredenburg et al. 1981; Wright et al. 1953).

Copper and lead-silver-zinc deposits are widespread in the county and were produced through short-lived and discontinuous operations. Copper was discovered in the early 1860s, and the years with the highest copper yields included 1889, 1900, 1912, and 1916–1918. The most productive copper mines in the county were the Bagdad Chase gold mine

and the Copper World mine (1899–1920). Whereas lead was predominant in most lead-silver-zinc deposits, zinc was predominant in the Carbonate King Zinc Mine discovered in 1900 and at the Cucamonga Zinc deposit discovered in 1930. Silver primarily came from Calico, discovered in 1881 and most active in 1883–1888, and Randsburg, discovered in 1919 and most active in 1920–1925. The Calico and Randsburg districts were dormant by 1953 (Shumway 1980; Vredenburg et al. 1981; Wright et al. 1953).

Mining was quite active in the region from the turn of the century through World War I. The world's principal borate source was discovered in 1882 in San Bernardino County. Found in colemanite deposits in the Calico Mountains, borate was produced there from 1894 to 1903. Iron mines gained commercial interest in the early 1900s, but production remained small. The iron deposits of the Vulcan and Cave Canyon mines were extensively worked, and several other small-scale operations existed across the county. Tungsten in the Atolia tungsten deposit was first discovered in 1904 and was in nearly continuous production at least through the 1950s. Talc mining was confined to two areas, one deposit near the San Bernardino–Inyo County line that opened in 1910 and another northeast of Silver Lake that opened in 1916 (Baker and Maniery 2015; Wright et al. 1953).

A promotional comment made in 1914 (Southern California Panama Expositions Commission 1914) stated:

[t]he entire country is rich in mineral indications and honeycombed with prospect holes. Stringers of copper, silver and gold lure the prospector, and the county map is a checkerboard of mining locations and patented claims, but there are few developed mines. The man with money for development work and practical knowledge of mining can find in San Bernardino County many interesting localities to explore.

Nevertheless, across the region, mining quieted during the 1920s as a result of low metal prices and inflation. The 1930s saw greater mining activity because of the increase in the price of gold and the lack of work available during the Great Depression. Shumway (1980) remarked that the principal centers of mining activity until World War II were the regions around Barstow, Vanderbilt, Stedman, and Dale. In late 1942, Kaiser Steel began the operations of the Vulcan Mine and produced iron in support of the Kaiser Steel plant in Fontana. It should be noted that both the Vulcan Mine and the Bagdad Chase Mine remained active during World War II. In 1949, rare-earth elements of commercial concentrations were first discovered, with an even larger body identified in 1951. These concentrations produced barite and rare-earth oxides. Also in 1949, the Starbright tungsten deposit was discovered and became a significant source of tungsten in the state. The total value of tungsten ore produced in the county likely exceeds that of any other metal (Shumway 1980; Wright et al. 1953).

Small-scale or limited lode-mining operations in San Bernardino County included production of antimony from 1939 to 1942; asbestos from the Golconda deposit in 1943; barite in 1910–1912 and 1929–1937; magnesite from Sidewinder Mountain and the Needles deposit; manganese in 20 localities, with Owl Hole Spring the principal source in the County; mercury in 1940 and 1941; molybdenum from the Big Hunch deposit; strontium from the Argos and Barstow deposits during World Wars I and II; and tin from the Evening Star Mine, in the Ivanpah Mountains. Other known lode deposits in the county with little or no associated production include uranium and vanadium (Wright et al. 1953).

Key Historic Maps Depicting Mines and Mining

Key historic maps depicting mines and mining in the Lucerne Valley region and the Project area include but are not limited to the following.

- **Rand McNally & Company, Perris' Miners Map of Southern California, Chicago, 1896 (See Appendix 2, Figure 1).** In the vicinity of the Project area this map notes the location of the Oro Grande Mining District, the Black Hawk Mining District, the Ord Mountain Mining District, and the Verde Antique Marble Quarry. Various roads are shown leading to and crossing each of these mining districts.

- **Thurston, Albert G., Thurston's Auto – Highway, Mountain and Desert Map, Western Map and Publishing Co., Pasadena, 1915 (See Appendix 2, Figure 8).**

A Marble Mine is depicted near the road leading from Rabbit Springs to Stoddard Well.

- **David G. Thompson, PLATE X, Water Supply Paper 490-B, Routes to Desert Watering Places in the Mohave Desert Region, California. Washington: Government Printing Office, 1921 (See Appendix 2, Figure 9).**

This map notes the location of two marble quarries adjacent to the road from Lucerne to Stoddard Well.

- **Map of San Bernardino County California, Showing Mines and Mineral Deposits Prepared by Tucker and Sampson, of State Mineralogist's Report XXXIX, October 1943 (See Appendix 2, Figure 12)**

This map notes mines across the Lucerne Valley region. In the vicinity of the Project area it notes the following named mines and mineral deposits: Verde Antique Marble Deposit, McKinney Fluorspar Deposit, Green Hornet Fluorspar Deposit, Ball Magnesite, Richter Dolomite Deposit (Magnesite), and the Ord Mt. Mine (Copper). Stoddard Well and the community of Lucerne are also noted. Various 1943 road systems are also depicted including a straight road heading directly across Lucerne Valley and the lakebed, and the road splitting off to Stoddard Well (today's Lucerne Valley Cutoff).

- **Map of San Bernardino County California, Showing Location of Mines and Mineral Deposits Prepared by Tucker and Sampson, Journal of Mines and Geology, Vol 49 Nos. 1 and 2, Division of Mines, Sacramento, 1953 (See Appendix 2, Figure 13).**

This map notes mines across the Lucerne Valley region. In the vicinity of the Project area it notes the following named mines and mineral deposits from the vicinity of Stoddard Well southeast along Lucerne Valley Cutoff to North Lucerne Valley:

137: Keystone Mine - Gold

421: Verde Antique Marble Mine (Also Known as Gem and Kimball) – Dimension Stone

466: Ball Mine: Magnesite

208: Ball Mine: Iron

419: Three Color Marble – Dimension Stone

455: Richter Mine – Limestone with Magnesite bearing dolomitic lime.

Various 1953 road systems are also depicted including a straight road heading directly across Lucerne Valley and the lakebed, and the road splitting off to Stoddard Well (today's Lucerne Valley Cutoff).

Mining played a significant role in the histories of both the Project area and the larger Lucerne Valley region. In the early 1860s, a toll road was built through the Cajon pass and up the backside of the San Bernardino Mountains leading to the mines in Holcomb Valley. The following text describing mines in the immediate vicinity of the Project area is taken from Wright, et al., 1953.

Map #137: Keystone Mine

Mine or Claim Name: Keystone Mine

Type of Mine/Mineral: Gold

Owner in 1953: James W. Graef, 5121 Sunset Blvd., Los Angeles and John Vader, 5463 Dahlia Ave., Eagle Rock.

Location: Section: 18, Township: 7N, Range: 2W.

Remarks & References: South slope Stoddard Mts. also possibly tungsten. (Knight 42:351; Kerr 46:165; Tucker 30:242; 31:303; herein.)

Map #421: Verde Antique Marble Mine

Mine or Claim Name: Verde Antique Marble Mine (Also Known as Gem and Kimball)

Type of Mine/Mineral: Dimension Stone

Owner in 1953: Mojave Consolidated Development Co., 175 Crocker Bldg., San Francisco (1906)

Location: Section: 28, Township: 7N, Range: 2W.

Remarks & References: Northeast of Victorville. Verde antique quarry opened in late 1800's and operated intermittently. Product was sawed, polished and sold as interior ornamental stone.

Map #466: Ball Mine

Mine or Claim Name: Ball Mine

Type of Mine/Mineral: Magnesite

Owner in 1953: O. H. Ball, 2024 West 62nd St., Los Angeles (1943)

Location: Section: 3, Township: 6N, Range: 2W.

Remarks & References: North slope Sidewinder Mt.

Map #208: Ball Mine

Mine or Claim Name: Ball Mine

Type of Mine/Mineral: Iron

Owner in 1953: O. H. Ball, 2024 W. 62nd St., Los Angeles

Location: Section: 3,4, Township: 6N, Range: 2W.

Remarks & References: (Herein.)

Map #419: Three Colored Marble

Mine or Claim Name: Three Colored Marble

Type of Mine/Mineral: Dimension Stone

Owner in 1953: E. T. Hillis, Barstow (1919)

Location: Section: 11, Township: 6N, Range: 2W.

Remarks & References: Northeast slope Sidewinder Mts. Brecciated marble, mottled in green, black, and white. As much as 200 ft. thick worked only on small scale.

Map #455: Richter Mine

Mine or Claim Name: Richter Mine

Type of Mine/Mineral: Limestone with Magnesite

Owner in 1953: Marter Mining Co., R. M. Richter, pres., 530 W. 6th St., Los Angeles (1947)

Location: Section: 15, Township: 6N, Range: 1W.

Remarks & References: North Lucerne Valley. Magnesite-bearing dolomitic limestone exposed on low hill. Quarried briefly in 1940's.

2.3.2.10 Historic Mines of Interest in the Vicinity of the Project area.

The following text describing mines in the immediate vicinity of the Project area is taken from Cloudman, et al. (1917) It describes two mines accessed, in part, by taking today's Lucerne Valley Cutoff, an historic road that was built in 1914.

Three Colored Marble Quarry is in the unsurveyed portion of T. 7 N., R. 2 W., S.B.M., 22 miles south of Barstow and 10 miles southeast of Hicks Station on the Santa Fe Railroad. The marble is found on the east flank of a bare, rugged ridge, locally known as Stoddard Peak Ridge, and is reached by a good desert road from Barstow. The only water in the district is at Stoddard Well, 6 or 8 miles from the deposit on the road to Barstow. The deposit consists of a number of beds of brecciated mottled green, black, and white marble varying in thickness from a few inches to over 10 ft. Where best developed the marble occurs through a thickness of 200 ft. or more. The deposit is practically undeveloped, only a few hundred feet of stone having been removed, some of which was used in the Stevens building at Santa Barbara. The quarry at present is 25' wide, 20' into the hill, with a 30' face. This deposit is of great commercial value as the marble is a highly ornamental stone. No work is now being done on it. The owner will lease or sell this property. E. T. Hillis, owner, Barstow, Cal.

Verde Antique Marble Quarry, formerly known as the Gem Quarry or the Kimble Mine, is in Sec. 28, T. 7 N., R. 2 W., about 2 miles southwest of the Three Colored Marble Quarry. It was worked years ago, and some of the marble, a mottled serpentinous limestone of yellowish green color, was used for interior decoration in several buildings in Los Angeles and San Francisco. The quarry has been idle for a number of years.

Numerous other deposits of marble occur in the County, none of which have been developed to any extent, and all of which are idle. For detailed descriptions of these deposits see our Bulletin No. 38, pp. 102-106.

Historic Newspaper Articles Describing Mining in Lucerne Valley

Select historic newspaper articles detail the history of specific mines within the Lucerne Valley region and the Project area.

The following text describing one of the many cyclical mining booms across the High Desert is taken from the *San Bernardino County Sun* (1910):

Apple and Lucerne valleys, in the desert country, are scenes of an exciting gold rush, placer gold reported to have been discovered in those localities. From Victorville, Hesperia, Barstow and other sections all manner of people are hurrying to the scene of the reported strikes, pressing into service vehicles of all sorts.

Regarding one of the marble mines as depicted in the 1943 *Mines and Mineral Deposits* (Appendix 2, Figure 12) and the 1953 *Mines and Mineral Deposits* (Appendix 2, Figure 13), the following text is taken from the *San Bernardino County Sun*, (April 16, 1935):

VICTORVILLE, April 15. – The Citrus Belt Mineralogical society gathered at Victorville early Sunday morning for a trek into the mountains near Stoddard Wells.

There are millions of cubic feet of this particular deposit, according to engineers. It was worked to a limited extent years ago, but the roads were not so good and nothing much came of the find. Now there is a good road very near, the graded road from Lucerne valley to Barstow, and the marble can be taken out. This deposit finally came into the hands of George Branch, mining man of Victorville, and capital is promised for its development.

The following text is taken from the *San Bernardino County Sun*, (June 12, 1935):

A road is being built from the Barstow-Lucerne road to the picture marble quarry. The new road is about two miles long and will make the quarry more accessible. Men with capital and experience in handling marble are thinking of securing the deposit from George Branch, owner. The marble is unique in mottles and rainbow colorings and geologists say they never saw its equal anywhere. There is a growing demand for it to be used as table-tops, mantles and decorative objects.

Note: The Barstow-Lucerne Road noted in the above article is referred under varying names as Barstow Road (County CMRS 1930 to 1952), the road to Daggett and Bear Valley (Appendix 2, Figure 15), and finally as the Lucerne Valley Cutoff County (CMRS 1954 to Present).

2.3.2.11 Mining Context Summary: Lucerne Valley Region and Project Area

The history of mining exploration and development in the Mojave Desert including the Lucerne Valley region has been the subject of numerous historical accounts ranging from regional in scope to quite detailed discussions of the history of specific mines.

The importance of and history of mining in the Lucerne Valley Region predominates in cyclical highs and lows from the 1860s to the present. From the development of early mines in Holcomb Valley, to today's massive Mitsubishi Cement Corporation at the foot of Cushenberry Grade, the Robertson's Ready Mix near the intersection of Highway 18 and Camp Rock Road, and the Specialty Minerals Plant at the foot of Meridian Avenue, mining has been a part of Lucerne Valley life. Early on many homesteaders and ranchers worked the mines during frequent lean times. Today, many Lucerne residents work at the three large mineral plants.

Mining activity within the Project area is known to have begun in the late-nineteenth century at the Verde Antique Marble Mine/Quarry. Other marble quarries were prospected and several other gold, magnesite, iron, limestone, and dimension stone prospects and mines were established (Appendix 2, Figure 13), but the reality is that none of these mines were productive to the point of profit.

In conclusion, the rich regional history of mining in and around Lucerne Valley is clearly linked to the history of transportation. In context, both these two historic categories should be regarded as true "industries" that had a profound impact on life in Lucerne. Future evaluation of specific mining resources throughout Lucerne Valley should include field documentation and in-depth historical research. Evaluators should consider that simple prospects are ubiquitous across the High Desert, and that a demonstrable history is of importance.

2.3.2.12 Agriculture (Cattle Ranching and Homesteading)

The greater Lucerne Valley region has a rich agricultural heritage beginning with limited cattle ranching extending from the late-nineteenth century to circa 1940, and with minimal late-nineteenth century homesteading to a massive expansion of homesteading during the first two decades of the twentieth century. Agriculture proliferated on small homesteads and ranches, with readily available water as the

key determining element. This included pig farms, turkey and chicken ranches, and most especially alfalfa farms. Most small single-family farms have disappeared due to a lack of water and the hardscrabble lifestyle required to successfully operate a small farm in the California Desert. Remains of these small farms and ranches are still visible across Lucerne Valley. Today, however, alfalfa is still grown in the eastern portion of Lucerne Valley by a few large growers.

2.3.2.12.1 Cattle Ranching

Cattle ranching in the Lucerne Valley region is generally described by Dicken, et al. (2016):

The Heart Bar Ranch, located in upper Santa Ana Canyon on the western slopes of the San Bernardino Mountains, got its start as a hide-out for a band of cattle rustlers known as the McHaney Gang. Heart Bar Ranch was officially patented by two members of the gang, Charles Martin and Willie Button, in 1884. After a posse chased the gang out of the mountains in 1887, Martin and Button took on an air of legitimacy and continued to raise cattle at Heart Bar Ranch (although stories abound of continued rustling, swindles, and even a murder, for which Martin was the prime suspect). Despite the shady reputations of Martin and Button, the ranch prospered. In about 1897, Al Swarthout, a long-time resident of Wrightwood, acquired Old Woman Springs Ranch, and began to winter his cattle there. Later, in 1907, he purchased a half-interest in Heart Bar Ranch with Martin. Swarthout threw his energies into improving Heart Bar Ranch. He rebuilt the corral and the barn and transformed the ranch into a first-rate cattle operation. With Swarthout at the helm, their cattle spent summers grazing in the mountains around Heart Bar Ranch. As the weather turned cold, Swarthout led cattle drives eastwards, over the mountains through the pass at Onyx Summit, and down the eastern slopes of the mountains through Round Valley and Rattlesnake Canyon to Old Woman Spring. The cattle would graze there until spring.

Old Woman Springs remained the winter quarters for Heart Bar cattle for decades, although ownership changed hands several times. Martin sold his interest to Scott Blair in 1914, and Swarthout sold his share to Bob Bryant in 1918. Bryant bought out Blair in 1920, then was tragically killed with his wife and son while crossing the railroad tracks in Hesperia in 1921. Swarthout bought back his share of the ranch from the Bryant estate, and another businessman, Dale Gentry, picked up Martin's old share at the same time. For years, Swarthout and Gentry got along splendidly. Swarthout handled the cattle and supervised the cowboys, while Gentry took care of business and banking. With Gentry's business acumen, the partners opened a guest lodge at Heart Bar Ranch. Sadly, their partnership collapsed into litigation in 1938. The court eventually awarded Old Woman Springs to Gentry, and Heart Bar Ranch to Swarthout, in 1947. Although Swarthout continued to raise cattle, the surrounding area was rapidly filling up with youth camps and other elements of civilization. The cattle drive era was coming to an end. Swarthout died in 1963. In 1965, Heart Bar Ranch became a California State Park. The ranch was finally taken over by the U.S. Forest Service in 1976 and is now a national forest campground (Robinson, 1989). Old Woman Springs Ranch remains in private hands.

The following text describing cattle ranching in the vicinity of Lucerne Valley is taken from the *San Bernardino County Sun* (1957):

There are communities whose life story seems but the expanded biography of its founders. North of the San Bernardino Mountains and east of Victorville is Lucerne Valley, noted for a climate that grows bumper crops. Once an unfenced cattle range, Lucerne has been, by

turns, a major alfalfa growing section, a poultry center, and now with the opening of the new Permanente cement plant, seems destined to become well known industrially.

GOULDING ARRIVES

The first permanent settler in what is now the business district of Lucerne Valley was a mining engineer from Colorado named James Goulding.

SWARTHOUT BRINGS CATTLE

A year before Goulding settled at Lucerne Valley A. R. (Al) Swarthout filed on land there. Swarthout's interest in the valley was for a summer cattle range. He had not developed water on his location and relinquished it. The original Swarthout location was developed by Goulding, but the brand Box S – the "S" stood for Swarthout – was retained.

After relinquishing his original filing Swarthout utilized the Davidson place for a time as headquarters for winter range and then, in 1907, bought out the original locator at Old Woman Springs where he developed a large water supply. Swarthout's summer range was in the Holcomb-Bear Valley area. He was in partnership, first with the Grimes family and later with the Hitchcocks.

In summary, cattle ranching in the Lucerne Valley begins as early as the 1880s and continues until the late 1940s at Old Woman Springs. Cattle ranching in the larger Lucerne Valley region continued until the early twenty-first century.

2.3.2.13 Homesteading in the Greater Lucerne Valley Region and Project Area

Homesteading in the greater Lucerne Valley region and Project area begins in the 1870s and continues until well into the 1960s. Various homestead acts apply, including but not limited to the following:

1. The original Homestead Act of 1862.
 - a. Many of the early Lucerne Valley homesteads of interest fall into this category.
2. The Desert Land Act of 1891.
3. The enlarged Homestead Act of 1909.
4. The Small Tract Act of 1938.
 - a. These are often referred to as Jackrabbit Homesteads or Recreational Homesteads. They literally exploded across the High Desert in the 1950s.

As noted by Lyman (2000):

One of the questions relating to the history of Victor Valley in the early 20th century is why, after a decade of relative quiescence, the interest in homesteading again climbed toward a peak in the first two decades after 1900.

After the longest economic depression yet experienced in the nation began to subside just prior to the 20th century, a renewed interest in taking up new farmland appeared. More public land was claimed in the 20 years after 1900 than in the 40 years prior to that date.

This was partly stimulated by the rapid increase in the value of farmland during the years after 1890, along with the related price increases of farm commodities. Equally important were the laws Congress passed and amended, making the remaining public lands more easily obtainable. The original Homestead Act of 1862 allowed ownership of 160 acres

providing the claimants resided on the premises for three years. This could actually be shortened to 14 months' residence through the payment of a fee of \$1.25 per acre. The Desert Land Act of 1891 stipulated that if the land so entered was irrigated and producing within three years, it could be permanently patented at that time. And even more attractive, in 1909 the Enlarged Homestead Act was finally passed, which allowed claimants 320 acres of land without having to irrigate it. However, they did need to bring one-eighth of the acreage into cultivation within three years, and it required five years' residence on the land to gain final title.

The eased requirements of the 1909 law can be traced to President Theodore Roosevelt. In 1908 he appointed a Commission of Country Life comprised of men committed to publicize farming as a "dignified and virtuous way of making a living and that ordinarily it was the environment best suited to the raising of responsible and well-adjusted children." The country life movement was gradually transformed into the back-to-the-land movement, which naturally spawned liberalization of the national homesteading policy.

Homesteading activity in Victor Valley accelerated after pronouncements from President Roosevelt and passage of the enlarged Homestead Act of 1909. The transcontinental railroads, including the Santa Fe, offered lower transportation rates from the East and Midwest. For a time, thousands came to California every day to locate on new farmlands. The often-used Desert Land Act stipulated that 20 acres be brought under cultivation each of the second and third years. Fruit trees fit this requirement better than field crops because water to irrigate the trees could be carried by bucket until the more complex water systems were completed.

The following newspaper article from the *San Bernardino County Sun*, (1908) describes early homesteads in the vicinity of Lucerne Valley:

An Oasis.

James Goulding a successful farmer of Box "S" spent the larger part of the week in San Bernardino. He is the owner of a pretty little ranch and wayside station on the road to Gold Mountain. Stage passengers to the mountains are often surprised to see water flowing from open pipes and green alfalfa fields here in the heart of an apparent desert.

Mr. Goulding has recently purchased from Mrs. Hartman the pumping plant which her husband bought and had shipped to Oro Grande a few days before his death. It is his intention to install the plant on his place, increasing the water supply and productiveness of the ranch.

SCOTSMAN SETTLES

Aside from passing travelers, and roving prospectors one of the first persons to locate in the district was Peter Davidson who homesteaded land in what was known as the Rabbit Springs district, somewhat north of the present Lucerne Valley settlement. Davison, who was past middle age when he first settled in the Lucerne area, lived there until his death in 1902.

GOULDING ARRIVES

The first permanent settler in what is now the business district of Lucerne Valley was a mining engineer from Colorado named James Goulding.

60 YEAR RESIDENT

On Nov. 22, 1897 Goulding camped at Lucerne Valley where he now resides. His residence has been a continuous one. Goulding's engineering training caused him to pick a headquarters location where he believed water would be obtainable at a minimum depth. The site chosen was the one which became the famous Box S station. Goulding found an ample water supply at between 10 and 15 feet. At the site of his first well a station grew up which serve freighters and travelers.

A Detailed Historic Description of the Lucerne Valley Region in 1929

The following text is taken from David Thompson's incredible 1929 description of the greater Lucerne Valley region (Thompson 1929). Interestingly, Thompson did not visit the vicinity of the Project area, as the region was generally regarded as too remote.

Lucerne Valley – General Features

Lucerne Valley lies in the southwestern part of San Bernardino County, about 20 miles east of Victorville. The name has been given to the valley in recent years because of its supposed suitability for growing alfalfa, for which the European name is lucerne.

The nearest railroad town is Victorville, about 20 miles distant, which is reached by a good desert road. Just before it enters the valley the road forks. The left branch leads to Lucerne Valley post office and ranches in the central part of the valley. The right branch leads a little farther south to the Box S ranch. At this ranch the main road leads southeastward to Baldwin Lake and Bear Valley by way of the Cushenbury ranch and Cactus Flat. This road is used by many travelers in going to resorts along Bear Lake. On this road water can be obtained at a number of ranches. From the Box S Ranch a road continues eastward to Old Woman Springs and points farther east. In the days of wagon transportation this was a much-traveled route to prospects in the eastern part of the long trough that reaches eastward to Dale. However, east of Lucerne Valley there are several sandy stretches, which in 1918 were impassable for automobiles a few miles beyond Old Woman Springs.

Lucerne Valley may be reached from Barstow and Daggett by following the road that leads to Victorville by way of Stoddard Well and by turning southeast from that road 2 miles south of the well. This road is used by persons who are going from the northern part of the county to Bear Valley. The distance from Barstow to the Box S ranch is about 41 miles and from Daggett about 2 miles farther. The valley also probably can be reached from Daggett by a road that leads southward across Ord Mountain. The writer traveled this road only as far as Sweetwater Spring. The route beyond that spring, as shown on Plate 11, was taken from township plats of the General Land Office. It is reported that there is another road east of Ord Mountain. No definite information could be obtained in regard to either of these roads, and possibly they are no longer passable. In addition to the principal roads mentioned numerous roads lead to ranches and to mine prospects in the mountains that border the valley.

In 1928 there were two stores in the valley. Mail is received at Lucerne Valley post office. The principal activity in the valley is agriculture. Although there are a number of mine prospects in the bordering mountains, in recent years there has been no active mining.

Ground Water

No perennial streams are known to exist in any of the mountains that border Lucerne valley. In several short canyons on the north slope of the San Bernardino Mountains streams probably persist for several days after heavy rains.

There are several springs in the valley, and 40 to 50 wells have been drilled. Data in regard to the wells are given in the table on page 619 and their location is shown on Figure 17. Most of the data on the wells were collected by G. A. Waring, of the United States Geological Survey, in the fall of 1916. The writer obtained information in regard to a few additional wells in December 1917.

Wells

Most of the wells for which definite data were obtained are more than 100 feet deep, and many of them are from 200 to 500 feet deep. One well is 531 feet deep and one is 778 feet deep. The few logs obtained indicate that it is necessary to drill to a depth of more than 100 feet and in some places more than 200 feet in order to strike water-bearing gravel. This condition is shown by the well of Thomas F. Porter, the log of which is given on page 614. In other wells the first gravel encountered does not lie at so great a depth.

The depth at which water is struck ranges from 7 feet to more than 200 feet in the wells for which data were obtained. In general, the depth to water is least in wells near Lucerne Dry Lake and is increasingly greater in wells farther and farther from the playa. The depth to water differs approximately as the altitude of the different wells above the playa. This relation is not everywhere maintained, however, for in wells near the Box S ranch certain local conditions cause the water to stand higher than in wells on lower land between the ranch and the playa. These conditions are discussed below.

The depth to water beneath the playa is about 10 feet, as shown by well 12. Over a considerable area, including approximately the southeast quarter of T. 5 N., R. 1 W., and secs. 19, 20, 29, 30, and 31, T. 5 N., R. 1 E., the depth is not more than 25 or 30 feet. In this area the land slopes rather gently.

On township plats of the General Land Office two springs are shown in canyons on the south slope of the granite ridge that forms the northern border of Lucerne valley. One of these springs, called Taylor Spring, is in sec. 36, T. 7 N., R. 1 W., and the other is about 2 ½ miles farther east, in sec. 4 or 5, T. 7 N., R. 1 W. Taylor Spring is reached by roads that branch from the road between Stoddard Well and Lucerne Valley. The other spring is reached by a branch of a road that leads from Lucerne valley to Ord Mountain. No information was obtained in regard to either of these springs.

Thompson provides an unusual level of detail regarding surface roads, wells, and springs in the greater Lucerne Valley region. Two of Thompson's illustrations, a map (Figure 4) and a table (Table 2) provide highly specific locational and historical data for the Lucerne Valley region and the Project area. Figure 4 depicts numerous wells spread across the Lucerne Valley region. Virtually every one of these wells is associated with a Homestead. Note no wells occur within the Solar Array, Gen-tie Line or Calcite Substation.

Figure 4. Thompson's Map of Springs and Wells in Relation to Project

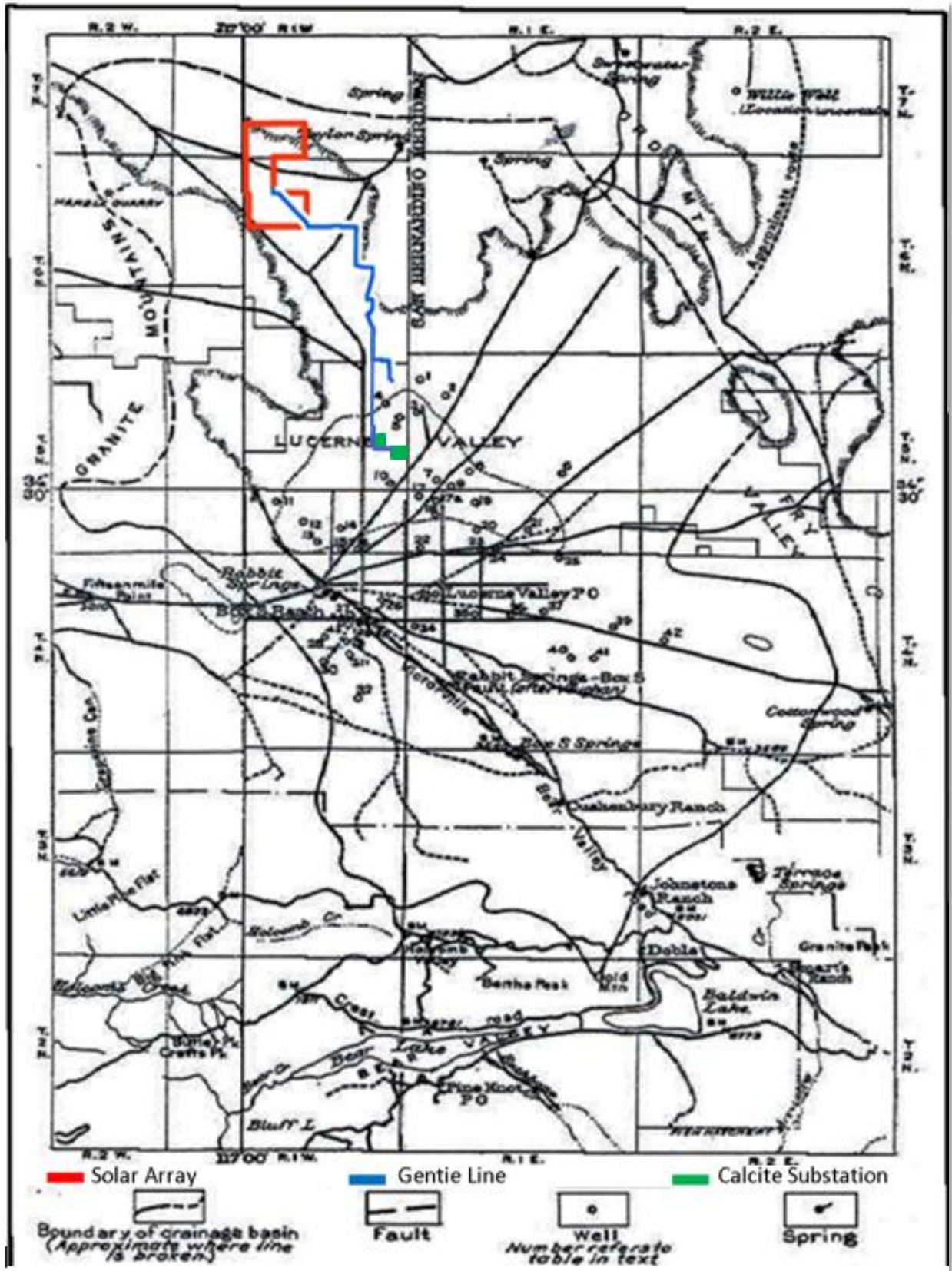


Table 2. Thompson 1929: Table by TR and Section of Well Owners in the Lucerne Valley Region

<i>Records of wells in Lucerne Valley, Calif.</i>								
No. on fig. 17	Location				Name of owner or entryman	Depth of well (feet)	Depth to water (feet)	Remarks
	Quarter	Sec.	T. N.	R.				
1	SW	6	4	1 W	W. R. Collom	150	72	
2	NE	7	5	1 E			45	
3	SW	7	5	1 E	A. R. Scott	100	30	
4	NW	12	5	1 W	F. Taylor	150	42	
5	SE	12	5	1 W	L. E. Hookes	75	31	Yields 180 to 270 gallons a minute.
6	NE	2	4	1 W	Thomas F. Porter	778	20	See p. 614 for log.
7	SE	19	5	1 E	W. F. Lee		17	Dug.
8		20	5	1 E	P. W. Petheram	282	25	See p. 623 for analysis.
9		20	5	1 E	F. H. Fewell		17	Dug. See p. 623 for analysis.
10		24	5	1 W	B. Pocker	300	36	Reported to yield 1,485 gallons a minute.
11		28	5	1 W	Carrie E. Gribben	185	20	
12	SW	27	5	1 W			10	
13		34	5	1 W	V. A. Porter		16	
14		35	5	1 W			14	
15		35	5	1 W	Georgia R. Hodges	^b 220+	16	
16		35	5	1 W			25	
17	NW	30	5	1 E	W. A. White		20	
17a	NE	30	5	1 E	F. H. Lee		17	Dug.
18	SE	30	5	1 E	H. J. Clubb	262	34	
19		29	5	1 E	H. W. Priester		30	
20	NE?	32	5	1 E			25	
21	NW	34	5	1 E		242	42	Yields 450 gallons a minute.
22	SW	31	5	1 E	J. M. Ross		24	Dug.
23	SE	32	5	1 E	J. Holmes	457	42	
24	SW	33	5	1 E	J. A. Wilferth		60	
25		3	4	1 E	— Keyes	531	70	
26	NW	12	4	1 W	J. S. Miller	491	70	
27	SE	11	4	1 W	J. E. Goulding	300+	Flows.	See p. 617 for data in regard to several wells at this place, and p. 623 for analysis.
28	NE	15	4	1 W	C. A. Thatcher	205	7	See p. 617 for additional information.
29		14	4	1 W	J. O. Morris		30	
30		22	4	1 W	August Oberlin	(?)	100	
31	SW	14	4	1 W	Alexander Lynd		60	
32		26	4	1 W	P. P. Painter		215	
33	NE	7	4	1 E	John Koehly		50	See p. 623 for analysis.
34	NW	18	4	1 E	A. C. Stevens		104	
35	SE	8	4	1 E		^c 117	^c 109.8	
36			4	1 E	C. Johnson		110	
37	SE	10	4	1 E	C. H. Von Breton	(^b)	136	
39		13	4	1 E	P. E. Weigle		120	
40		14	4	1 E	Mary J. Miller		150	
41		14	4	1 E	Eliza A. Puterbaugh		175	
42		18	4	2 E	Enoch Hayes		180	
43	NW	14	4	1 W	W. M. Mulholland	250	(?)	Considerable blue clay struck below a depth of 30 feet.

^a The location of well 6, in 1928 owned by Julian S. Gobar, was erroneously given to the writer as in the NE. ¼ SE. ¼ sec. 22, T. 5 N., R. 1 E., and it is incorrectly shown in that location on Figure 17.
^b Drilling not completed when data were obtained.
^c Measured by D. G. Thompson Dec. 6, 1917.

2.3.2.14 The Role of Government (Federal, State and Local)

- The role of federal, state and local government across the entire High Desert, and within the Lucerne Valley region and Project area is simply too large to document here. However, any understanding of how Lucerne Valley developed must take into account the role of government and how actions on the part of federal, state, and local agencies, from the early 1850s to the present, have impacted San Bernardino County desert communities. Historically, life was hard in the California Desert, and the support of government was critical to the development and survival of all desert communities. This includes but is not limited to:
 - **Federal:** homesteads, freeways, U.S. highways, mining claims on federal lands
 - **State:** highways
 - **County:** roads, flood control facilities

County's Road System Gains 35.4 Miles

In an annual report required by the state, County Engineer M. A. Nicholas disclosed that streets and roads maintained by the county in unincorporated areas now measure 4,898 miles. The 35.4-mile increase over the past year is primarily the result of new subdivision developments, particularly on the desert. At the same time, the supervisors approved an agreement finally worked out with the state Division of Highways under which 120 miles of county roads on the desert will be handed over to the state in exchange for the county's willingness to accept 71 miles of Highway 66 in the Amboy area without special upgrading when the stretch is bypassed by the new Interstate 40 freeway and is relinquished by the state. The routes that are to become state highways include Old Woman Springs Road from Yucca Valley to Lucerne Valley, Barstow Road from Lucerne Valley to Barstow and Twentynine Palms Highway and Aqueduct Road from Twentynine Palms Highway to the Colorado River at Earp.

In brief, the State and the County negotiated a mutually agreeable solution in 1972 to the maintenance of select roads. Or, in other words, a deal was cut that benefits the life of every Lucerne resident today.

Government Context Summary: Lucerne Valley Region and Project Area

The Role of Government as a broad-based historical context does not require in-depth research. However, it is suggested that various and specific resources in Lucerne Valley that might require future evaluation might consider the Role of Government in association with Criterion 1.

2.3.2.15 Military

One of the most surprising historical episodes within the greater Lucerne Valley region and Project area is the effect that WW II had on North Lucerne Valley. In the early 1940s, it was determined that the Victorville Army Flying School required a set of nearby bombing ranges with targets to advance the training of cadets at the Victorville Army Airfield (Figure 5). Land was quickly acquired in North Lucerne Valley and multiple targets were laid out. This area was selected due to the fact that it was very sparsely settled, and that land was cheap. There were only a few homesteads in the area as this was one of the least settled areas in Lucerne Valley. The great majority of homesteads in North Lucerne Valley were filed beginning after 1919 or after the most attractive properties had already been taken.

The history of Victorville Army Airfield is well known. The following excerpt is taken from Dorn (1980):

- July 12, 1941 formally launched initial construction of the Victorville Army Flying School with the Los Angeles Army Corps of Engineers turning the first earth. Power shovels and bulldozers plowed through

the land contour of sand and brush. Mesquite and greasewood gave way to scraped burrows, tarantulas and roadrunners. Excavating equipment and trucks capable of hauling 35 yards of earth. Scrapers, tractors, graders, and ditch-digging machines plowed through the soft earth creating long lines of foundations and newly paved streets. Baked bottoms of long dried lakes were converted into emergency landing fields and later the home for gliders. Shortages of water necessitated a well, bored beneath the bed of the Mojave River plus a tie-in with the pre-existing water lines of nearby townships. During the same time period runways 6,500 feet in length and 150 feet wide were being poured at the rate of a quarter mile per day.

- A formal opening of the school was held on January 30, 1942. The first ten men enlisted from a quartermaster replacement center around December 10, 1941.
- Until 1947, the base was known as the Victorville Army Airfield.
- In 1947, when the United States Air Force became a separate branch of the armed forces, the base was redesignated as Victorville Air Force Base.
- On 25 September 1950, the base was renamed George Air Force Base in honor of the late Brigadier General Harold H. George.
- George AFB was first constructed as flying training school under the command of the Army Air Force Western Flying Command. In November 1941, the training of glider pilots was initiated, and the twin engine training was dropped.

World War II Period

Constituted

Air Corps Advanced Flying School, Victorville, California, 26 June 1941. WD Ltr. AG 580 (6-19-41) MR-M, dated 23 June 1941.

Activated

At Victorville, California, on 1 October 1941. GO1, Hq., Air Corps Advanced Flying School, Victorville, California, 1 October 1941, pursuant to WD Ltr. AG 322.2 AAF (6 Aug 41) MR-M-AF, dated 12 August 1941.

Redesignated

Victorville Army Flying School, Victorville, California, 6 February 1942. WD Ltr. AG 680.9 (1-31-42) MR-M-AAF, dated 6 February 1942.

Placed on Standby (Temporary Inactive) Status

On 12 October 1945. GO 113, Hq., Army Air Force Western Flying Training Command, 12 October 1945, in accordance with par. 5, WD Cir. 195, 1945, and AFTRC TWX V2904, 25 September 1945.

Redesignated

Victorville Air Force Base, Victorville, California, 23 January 1948.

Placed on Minimum Operational Status

On 31 December 1948.

Figure 5. Victorville Army Airfield in 1943



Victorville Army Air Field, Victorville, California, 23 April 1943. GO 5, Hq., Victorville Army Airfield, Victorville, California, 23 April 1943.

The comments here are based on an U.S. Army Corps of Engineers document (1998): The document reports on, “. . . the findings of a historical record search and site inspections for ordnance and explosives (OE) located at the Victorville Precision Bombing Range (PBR) No. 5, Victorville, California.” It also states that, “The investigation focused on approximately 691.96 acres that were used as a practice bombing target for the training of bombardiers from 1943 until 1948. The investigation was conducted by experienced ordnance experts through evaluation of historical records, interviews, and on-site visual inspection results.”

The report “. . . focused on approximately 691.96 acres that were used as a practice bombing target.” Much of the bombing range was within the current Project area , but part of the bombing range included parts of the North Lucerne Valley that are outside of the survey area. The report further states:

The purpose of investigation [and the subsequent report] was to characterize the site for potential OE presence to include conventional ammunition and chemical warfare material (CWM). The investigation was conducted by experienced ordnance experts through evaluation of historical records, interviews, and on-site visual inspection results” (1998:1).

The 1998 report includes a considerable amount of information that is not pertinent to the current Project. Therefore, only information that will allow for an adequate understanding of the Project is included here. For those that require additional information, note that the report, “. . . presents the site

history, site description, real estate ownership information, and confirmed ordnance presence (prior to and after site closure), based on available records. Interviews, site inspections, and analysis. The analysis provides a complete evaluation of all information to access current day potential ordnance presence where actual ordnance presence has not been confirmed” (1998:1). This Project report will refer to the former practice bombing range as “PBR No. 5” in order to conform to the information presented in the 1998 report.

1998 (p. 6) Section 4a(1-3) is a *Chronological Site Summary*, that includes the following pertinent background information:

1. *The 691.96-acre PBR No. 5 area was transferred from the U.S. Department of the Interior to the War department, through Public Land order (PLO) 125, in May 1943.*
2. *The U.S. Army Corps of Engineers created a bomb target, “near the center of the site. The target was composed of asphalt strips approximately 5 feet wide configured as three concentric circles with approximate radii of 100, 200, and 300 feet . . . there were two strips of asphalt which transected the concentric circles at right angles to each other (see documents E-1 through E-3.)” That is, the Corps used asphalt to create a bulls-eye that was large enough to be visible from the air (see report documents K-1 and K-2). Note that no residual asphalt was observed during the 2020 field survey.*
3. *PBR No. 5 was transferred back to the Department of the Interior in March 1948, through PLO 948. The 1998 reports that (at the time), “. . . forty-six two-and-one-half acre parcels are owned by private landowners”*

2.3.2.15.1 Military Context Summary Statement: Project Area

The military history of North Lucerne Valley extends from 1943 to 1948 when the bombing ranges established in 1943 were put up for sale. An advertisement in the *San Bernardino Sun* on December 10, 1943 has a Notice of Sale of Government Surplus Property used as Victorville Army Airfield Bombing Ranges. In review, the following conclusions are here made with regards to military sites within the Lucerne Valley region and Project area.

- The Period of Significance for the North Lucerne Valley Bombing Ranges is here defined as 1943-1948.
- There appear to be no unusual engineering or design features associated with the North Lucerne Valley Bombing Ranges.

A massive amount of research has already been compiled regarding the history of military resources in North Lucerne Valley. It is, therefore, suggested that evaluators should consider integrity as a primary consideration and that bomb craters themselves are ubiquitous.

2.3.2.16 An Historical Retrospective of What Life Was Like in Lucerne Valley

The following accounts are presented here as a means of bringing alive conditions in Lucerne’s historical past. The first excerpt is taken from an account of life on a homestead in Lucerne Valley (Gobar, 1969):

Pioneering anywhere is a challenge, and experiences differ but little. Yet, homesteading in the Mojave Desert in the early years of the twentieth century was something else again. Not one acre of this valley was first acquired except through homestead; and I know of no instance where government rules for such acquisition were ignored, that went uncontested. Whether a homesteader remained or left, he had to adhere to the laws governing claims. There were disputes, naturally.

The desert, like the sea, sets up a reaction in the sensitive person that few have explained, though many have tried. From ancient days man sought the quiet of the desert, hoping to acquire something of its peace. In its stillness and deep silence, the spirit gets an inning; and for this reason, so many today come to the desert as often as their busy lives will allow.

Living in the wide-open places, close to the stars, we do acquire a certain inner vision which is clear and true, transcending the human level. But don't expect the subject to be discussed openly and freely. This is a very personal thing. If any is so brash as to go into these intangibles, if addressing an old-timer, he is likely to be met with a self-conscious, "Well, yeah, I guess there's something to that."

The desert communities of San Bernardino and Riverside counties, such as Ontario, Etiwanda, Cucamonga, Hesperia, were promotional. Land and water companies in 1871-83, were very active in these areas. Victorville was not promoted; it seems to have been a necessity, because of its location along the river and the railroad. But Lucerne Valley, unique as to situation and water conditions, had no such advantage. No enterprising businessmen investigated this valley, which is understandable, since at that time, this small area would be bypassed because of the barriers of mountain range and the very poor road over Cajon Pass. There were formidable obstacles, so the valley had to wait its turn, while the more desirable desert regions were made accessible, habitable, productive, and more fit to join the westerly coastal communities.

Lucerne Valley had no such promotional schemes, or has it ever had any. Back in the 1900's, due to the odds already mentioned, the few settlers were engaged in surviving, an occupation that kept them busy for years to come. For every homesteader that came and carried out his well-laid plans in spite of everything, there were half a dozen who came, spent what money they had, then blaming the desert, packed up their belongings and left their land. Their scant improvements, if not removed by man, were scooped up by the wind and carried away into the sage, out of sight, as though Nature, being ashamed of her experiment, sought to cover the mistakes. It is not an uncommon experience to find pieces of boards to which shreds of tar paper still cling by virtue of a nail or two, half buried in the sand, miles from any sign of habitation. We who know can read the signs and give a fleeting thought to the hand that drove those nails, perhaps as hopefully as have we ourselves.

Gobar notes the extreme hardship that was a part of daily life in the Lucerne Valley, and he underscores the effect that the desert has on virtually everyone that spends time there, or where the "spirit gets an inning."

The second excerpt is taken from Hemphill-Gobar (1972) It details how homesteads and other buildings were oftentimes built from scrap, and just how hard it was to build from stone in the desert.

Any kind of building is costly out here. Lumber is expensive anywhere in the state; by the time it is shipped inland to towns like San Bernardino and Victorville, the price is prohibitive for most people. Some of our neighbors found bargains in used lumber at the wrecking yards below, that was suitable for habitable houses, and appeared marvelous to us, when we remembered the grade stuff we built the henhouse and cabin of when we came, and hauled it to the desert ourselves; but the quantity was small and the quality not exactly what one would wish to put into a permanent house. Those neighbors who got those

bargains knew their way around the junkyards. We were impressed with the doors and windows they found.

Knowing the conditions as we did, we often wondered why the settlers didn't utilize the rocks that are to be had for nothing here in the foothills. We did find two cabins in North Valley that were built of rock, and by people who, in one instance, could not afford other material. Instead of cement, these folks used mud.

Until we began to lay rocks, we had suspected that there was some hidden reason why more houses were not built of rock. Then, we learned that the main reason was the very hard work involved, for one thing. Another, many of the homesteaders did not plan on permanent residence, and this may have had something to do with the "used-lumber" material, and the buying of shacks that had already served their purpose, by the homesteader.

3. Methods

3.1 Background Research

Best practices in cultural resource management studies include conducting research into known cultural resources that are known or suspected to occur in a project area. The starting point for background research is a record search (RS) of files including reports, maps, and resource lists at one of nine California Historical Resource Inventory System (CHRIS) facilities throughout California. The CHRIS facility with records pertinent to San Bernardino County and the Stagecoach project is the South Central Coastal Information Center (SCCIC) at California State University Fullerton. These records provide substantiation of what is already known as present in the Project area as well as the extent and condition of the resources.

Following the completion of the RS, additional reference material was consulted to determine the likelihood that other resources, generally historic in age, may be present.

As demonstrated in the Historic contexts above, Aspen has relied heavily on historic documentation available in published newspapers, books, periodicals and government records and reports.

3.1.1 Historic Maps and Imagery

Historic aerial images and maps, and government records as those discussed above in the identification of historic contexts germane to the Project, are a valuable source of information on historic land use. As historical resources are defined in CEQA partly as being at least 50 years old, imagery depicting land use patterns prior to 1970 are instrumental in identifying potential resources, particularly trails, roads, mines and structures.

Our primary sources for historic imagery include the USGS website of historic topographic maps at <https://ngmdb.usgs.gov/topoview/>. Aerial imagery at http://mil.library.ucsb.edu/ap_indexes/FrameFinder/ was also consulted.

Combining the historic imagery with the sources of information from the RS results and the sources consulted for the historic contexts has provided a robust background with which to understand and evaluate the resources present in the Project.

3.1.2 Pedestrian Survey

Two intensive pedestrian surveys have been conducted to identify and inventory cultural resources within the limits of all three Project elements. Appendix 3 provides 1:24,000 scale map coverage of the survey areas and results.

The first intensive pedestrian survey of the Project was conducted by Applied Earthworks (Æ) between June 26 and July 6, 2017. This initial survey included the Solar Array (refer to Figure 1). The survey crew was led by Æ's field supervisor Kurt McLean, Æ's archaeologists Evan Mills and William Borkan, and Aspen's archaeologist Brendon Fitzsimons. The crew was directed by Æ's Senior Archaeologist Matthew Tennyson.

The Æ survey crew conducted the survey using parallel transects spaced 15-meters apart. The ground surface was scanned for elements of prehistoric and historic uses (described in detail below). From October 23-25, 2017, a three-person field crew returned to document resources observed during the

survey. Unexploded Ordnance (UXO) expert Warren Swearingen of ECM Consultants accompanied the survey crew from October 23-25, 2017.

The second intensive pedestrian survey by Aspen supplemented the area included in Æ's Project area by including a larger area to the south of the Solar Array, a buffer area around it, the Gen-tie Line, and additional areas associated with the Calcite Substation. The Aspen survey was conducted during the weeks of May 4 - May 8, May 11-15, and May 18-19, 2020. The survey was led by Aspen's Cultural Resources Group Manager Michael Macko, M.A., RPA. Mr. Macko is qualified under the Secretary of the Interior's Qualification Standards for a professional archaeologist, and he has in-depth familiarity with the prehistoric and historic period cultural resources of the southern Mojave Desert area. Mr. Macko was assisted by Aspen's Cultural Resources Specialist Elliot D'Antin, B.S., and Aspen Archaeological field technicians Albert Knight, B.A., and Marcela Barron, B.A. UXO expert James Rossi from ECM Consultants accompanied the field crew throughout the duration of the survey.

Aspen's intensive pedestrian survey was conducted using systematic, roughly parallel transects spaced 15-meters apart within the Gen-tie line, and 15-20-meters apart within the solar panel footprint and battery storage area. The variation in transect width is entirely a function of coursing around vegetation and other obstacles following a North-South transect or East-West transect. For prehistoric resources, surveyors examined the ground surface searching visually for evidence of cultural material, which typically includes fragments of economically important stone materials used in the production of cutting and hunting tools (e.g., chert, rhyolite, quartzite, obsidian), stone tools used for grinding/pounding plants or animals (e.g., metates, manos, pestles, bedrock milling surfaces), evidence of rock art, remains of dietary materials that may have been consumed in the past (e.g., fragments of bone), and features such as shelters and trails.

For historic resources the ground surfaces were scanned for sites and items related to the historic contexts detailed above, such as aged roadbeds, property markers, standing or fallen wooden posts/fencing, structural remains of buildings, cairns, wells, irrigation systems, prospects, metal or tin debris (e.g., tin cans, abandoned machinery or vehicles), and any other historic feature or structure.

When artifacts or sites were observed, field notes, GPS coordinates, and photographs were taken using both a Trimble Geo7X and an Android tablet with ESRI Collector software. Where available, previously recorded site records were studied prior to fieldwork and electronic site records were taken into the field on a laptop. When previously unrecorded cultural resources were encountered, they were designated as a site or isolated occurrence, assigned a temporary field number, plotted with the Trimble 7X and the ESRI Collector app with associated field notes. Thorough documentation of all resources was done for preparing California Department of Parks and Recreation (DPR) series 523 field recording forms by both the Aspen and Æ survey teams.

3.2 CRHR Evaluations

The criteria for determining whether a cultural resource is eligible for inclusion in the CRHR are presented in Appendix 1. In summary, under CEQA, a resource is generally considered historically significant if it meets the criteria for listing in the CRHR. A resource must meet at least one of the following criteria (PRC 5024.1; 14 CCR Section 15064.5[a][3]):

1. Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage. Title 14, CCR Section 4852(b)(1) adds, "is associated with events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the United States."

2. Is associated with the lives of persons important in our past. Title 14, CCR Section 4852(b)(2) adds, “is associated with the lives of persons important to local, California, or national history.”
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. Title 14, CCR 4852(b)(3) allows a resource to be CRHR eligible if it represents the work of a master.
4. Has yielded, or may be likely to yield, information important in prehistory or history. Title 14, CCR 4852(b)(4) specifies that importance in prehistory or history can be defined at the scale of “the local area, California, or the nation.

Historical resources must also possess integrity of location, design, setting, materials, workmanship, feeling, and association (14 CCR 4852[c]).

An archaeological artifact, object, or site can also meet CEQA’s definition of a unique archaeological resource even if it does not qualify as a historical resource (PRC 21083.2[g]; 14 CCR 15064.5[c][3]). An archaeological artifact, object, or site is considered a unique archaeological resource if “it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria (PRC 21083.2[g]):

- Contains information needed to answer important scientific research questions and there is a demonstrable public interest in that information.
- Has a special and particular quality such as being the oldest of its type or the best available example of its type.
- Is directly associated with a scientifically recognized important prehistoric or historic event or person.

The results that follow present the resources within the Solar Array first. These are followed by the combined results from the Gen-tie Line survey by Aspen (this document) and the Calcite Substation survey by ICF (2016). The latter two survey areas had considerable overlap in the vicinity of the Calcite Substation, so it was impractical to separate them. The results include:

- Records Searches (ICF-Calcite Substation; Æ - Main Solar Array; Aspen- Solar Array additions, Gen-tie, and Calcite Substation additions,
- Historic Imagery by Project element,
- Survey by Project element, and
- CRHR Evaluations by Project element.

4. Results

The following results present the resources identified in the Project from the RS, historic imagery and the intensive pedestrian surveys conducted by Æ (2017) and Aspen (2020). The purpose here is to synthesize the information obtained from all background research and field surveys with information provided in the historic contexts. The results are presented by Project element, and CRHR evaluations conclude each discussion.

4.1 Solar Array

4.1.1 Records Search

The RS for the solar array was conducted on May 30, 2017 by Æ. Table 3 lists the results of the search, which identified two isolated historic cans in the Project and a historic road (P-36-027248) known as the Lucerne valley Cutoff. Table 3 includes six resources that were identified by Æ in a separate study, though none of the latter records had been submitted to SCCIC for assignment of CHRIS Primary Numbers at the time of Aspen’s RS. Records of these six resources have not been prepared as they are within the 1.0-mile RS area but not the Project area.

Table 3. Cultural Resources Previously Recorded Within the Solar Array (bold) and 1-Mile Study Radius

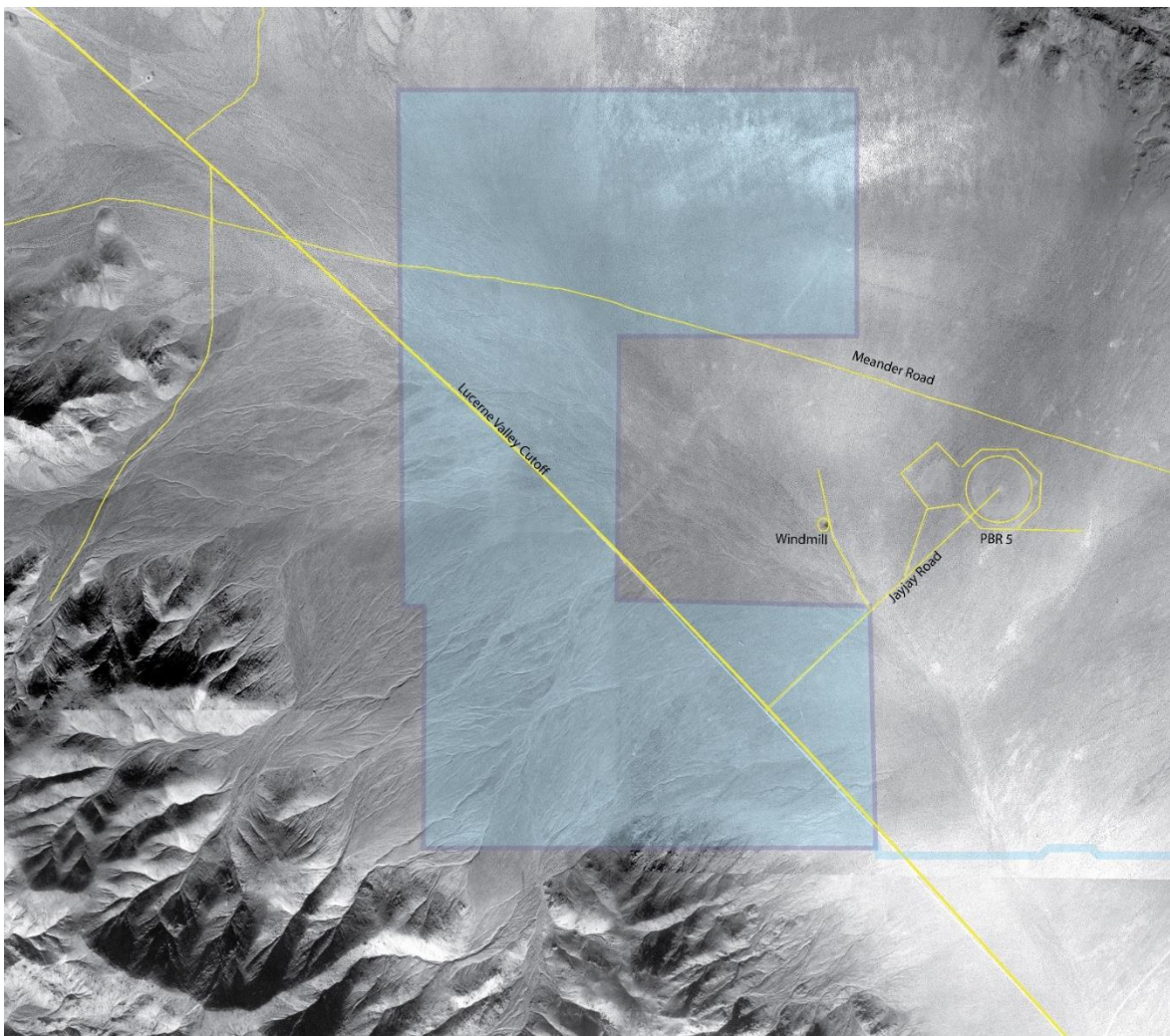
Primary No.	Trinomial	Temporary No.	Age	Attributes	Recording Events
36-027248	CA-SBR-15433H	N/A	Historic	Historic Road	4/2011, 6/2013, 9/2014, 11/2014
36-027423	N/A	N/A	Historic	Isolated sanitary cans	2017
36-027425	N/A	N/A	Historic	Isolated can	9/2014
36-027426	N/A	N/A	Historic	Isolated can	9/2014
36-027427	N/A	N/A	Historic	Isolated can	9/2014
36-027428	N/A	N/A	Historic	Isolated can	9/2014
36-027429	N/A	N/A	Historic	Isolated can	9/2014
36-027430	N/A	N/A	Historic	Isolated can	9/2014
36-027431	N/A	N/A	Historic	Isolated can	9/2014
36-061200	N/A	N/A	Prehistoric	Basalt Flake	Pre-2017
36-061201	N/A	N/A	Historic	Isolated tobacco tins	Pre-2017
N/A	N/A	PL-LUGO-TSIM-004	Historic	Historic refuse scatter	N/A
N/A	N/A	PL-LUGO-TSIM-006	Historic	Historic refuse scatter	N/A
N/A	N/A	PL-LUGO-TSIM-009	Historic	Historic-period dirt road	N/A
N/A	N/A	PL-LUGO-TSIM-013	Historic	Historic refuse scatter, berm, capped well, post molds	N/A
N/A	N/A	PL-LUGO-TSIM-014	Historic	Historic GLO monument and rock cairn	N/A
N/A	N/A	PL-LUGO-TSIM-015	Historic	Historic GLO monument and rock cairn	N/A

4.1.2 Historic Aerial Imagery

Historic imagery of the entire solar array is available only for the years 1952-53 in the images of the Southwestern Aerial Survey flight AXL-1953B, Frame 23K-82, Scale: 1:20,000, which began on October 22, 1952. A close inspection of the details on the ground in 1952-1953 shows several important features, including at least four historic roads, including,

- The Lucerne Valley Cutoff (Bear Lake Road),
- The pre 1950 alignment of Barstow Road,
- A two-track trail heading south from Lucerne Valley Cutoff into and around the Granite Mountains towards an old marble quarry,
- An old trail/road that courses west-east from Lucerne Valley Cutoff to the area of Taylor Springs. This road may be the remnant of a road evident in 1921 and later maps (See Appendix 2, Figure 8). It is labelled in Figure 6 as Meander Road. This label corresponds to portions of Meander Road shown in modern Google Earth maps. The term has its source in land surveying, but its reference is to placement of section markers along navigable streams. The Solar Array does, however, occupy the lower drainages of Northern Lucerne Valley where there are numerous meandering dry washes.

Figure 6. 19532-53 Historic Aerial Imagery of Stagecoach Solar Array



Within the Solar Array the RS results indicate that Lucerne Valley Cutoff had not been previously recorded, although it had been recorded and evaluated several times outside of the Solar Array. The road identified here as Meander Road was designated with a temporary number PL-LUGO-TSIM-009 (Table 4; Appendix 3; Figure 17 in Appendix 2).

4.1.3 Survey

The combined surveys and RS conducted for the Solar Array (Æ 2017, Aspen 2020) identified 16 isolated artifacts (Table 4) and an additional 40 cultural resource sites (Table 5) in this portion of the Project area. The historic isolates previously recorded as P-36-027423 and P-36-027430 (Tables 3 and 4) were not relocated.

4.1.3.1 Isolates

Table 4. Isolated Artifacts Recorded in the Stagecoach Solar Array During Æ and Aspen Surveys (Appendix 3)

Temporary Field No.	Brief Description
3380-ISO-04	Secondary rhyolite flake. 56.75mm x 77.9mm x 16.25mm
3380-ISO-05	Hole-in-top can
3380-ISO-06	Distal fragment of a Chalcedony biface projectile point. 40.8mm x 26.9mm x 5.3mm
3380-ISO-07	Calvert Whiskey bottle. Brown glass. Anchor Hocking maker's mark. "D 126/AH Makers mark/ 67-47/Made in USA/PATD 88 454"
3380-ISO-08	Food can punch open 2.625" D x 3" H
3380-ISO-09	Upright tobacco tin
3380-ISO-10	Basalt biface thinning flake, black. 23.45mm x 32.4mm x 5mm
Æ-3691-001-ISO	Chalcedony bifacial tool or early stage projectile point. 4.6 by 2.7 by 0.9 cm
Æ-3691-002-ISO	Mottled cream and gray chert early stage biface thinning flake, 4.2 by 3.0 by 1.1 cm
Æ-3691-003-ISO	Reddish-brown chert flake tool and a rhyolite flake fragment. The flake tool is 5.0 by 5.1 by 1.6 cm
Æ-3691-004-ISO	A chert biface thinning flake fragment
Æ-3691-006-ISO	Distal fragment of a green, fine-grained quartzite biface thinning flake 2.6 by 1.5 by 0.2 cm
Æ-3691-009-ISO	Reddish-brown chert projectile point tip 4.0 by 2.7 by 0.5 cm
Æ-3691-010-ISO	Unifacial granitic milling slab 30.0 by 23.5 by 10.8 centimeters
P-36-027423	Historic sanitary cans. Not relocated. (Table 3)
P-36-027430	Historic cans. Not relocated. (Table 3)

4.1.3.2 Sites

A total of 21 cultural resource sites have been identified within the Solar Array Project site (Table 5). Three of these are prehistoric and include the bare minimum of artifacts or features necessary to qualify as sites. The 18 other resources are historic. The historic resources include good examples of sites that bear on local historic contexts, particularly transportation, government activity and US military operations.

4.1.3.2.1 Roads

The 18 historic sites include pre-1920 roads that were among the first routes of expansion into the desert following the introduction of the automobile. Several of these roads may have been preceded by wagon roads and/or prehistoric native trails. Each of these routes incorporate linkages to Stoddard Well and Oro

Grande at the Mojave River north of Victorville. The route of 3380-31 (Meander Road) provides a short-cut that takes a southern route from Oro Grande by the Sidewinder Mine to intersect Bear Lake Road. It then continues straight across the north side of the Lucerne Valley to Taylor Springs. Another historic road that is prominent in the Project that bisects the Solar Array from southeast to northwest is the Lucerne Valley Cutoff (P-36-024248). The Cutoff has been recorded three times since 2011 and previously assessed as ineligible to the NRHP and CRHR. This assessment is discussed further below. Please also refer to the recent Aspen 2020 DPR 523 Updates for Lucerne Valley Cutoff and Meander Road in Appendix 4 and/or Appendix 6.

Some of the roads recently recorded appear in the Project around 1970 or later, such as 3360-20. Others described as roads, such as 3380-21 and Æ-3691-007H, may not be roads at all. The latter two resources appear in the upper part of the Valley bottom and consist of disjointed swathes that meander across the low alluvial fans and shallow washes. They do not appear as any identified resource previously recorded in the Mojave. An instance of this form of land modification is described by one of the current authors as bulldozer practice. He witnessed a novice bulldozer operator practicing how to maneuver the machine in a remote area before working on an actual subdivision. The identification of these resources remains unclear.

4.1.3.2.2 GLO Surveys

It is highly likely that two historic roads, Lucerne Valley Cutoff (P-36-24248 and 3380-31) and Meander Road (3380-31) provided means of access for early GLO surveyors to place the numerous GLO survey markers across the Valley in 1917. The survey work began in 1915, and seven of eight GLO markers placed in 1917 were found in the Solar Array Project area. The GLO’s efforts were directed at delineating public lands to open to the public primarily for settlement, farming, ranching, and mining.

4.1.3.2.3 World War II

A ubiquitous occurrence in the Solar Array, particularly in the northern half, is the remains of practice bombs. These bomb remains were noted at 25 locations during the Aspen survey and were recorded as a single site (3380-25). Eighteen such locations were mentioned in the Æ survey of 2017, but none were recorded. There were a few locations marked by the UXO crews that accompanied the Æ cultural resource survey team. The latter are plotted on the results maps in Appendix 3.

These remnants of WWII bombardier training were presumably destined to be dropped on a target within an area designated Precision Bombing Range (PBR) 5 (Figure 5 and Appendix 2, Figure 14). The target is still visible at the end of Jayjay Road. These dispersed fragments have been lumped as resource 3380-25. that would be contributing elements of PBR 5 along with Jayjay Road that was assumed to have been graded originally to build and maintain the bomb target.

Table 5. Cultural Resource Sites Recorded Within the Solar Array

Temporary Field No.	Brief Description
3380-15	Prehistoric Trail.
3380-16	Can scatter/car camp.
3380-17	50s-60s fire ring/campfire.
3380-18	GLO Marker ¼ marker for S7/S18 T6N R1W. Dated 1917.
3380-19	Historic campfire.
3380-20	Road.

Table 5. Cultural Resource Sites Recorded Within the Solar Array

Temporary Field No.	Brief Description
3380-21	15 sections of graded or bladed swathes.
3380-22	Basalt lithic scatter.
3380-23	Historic trash and burned refuse (domestic food containers) adjacent to a fallen historic metal rigging that estimated to have been 211" tall with a base of 72" sq. Rig constructed of primarily 3" angle iron with 2" tubing, 5/8" rod and 5/8" rebar as supporting cross pieces. Not prefab.
3380-24	Quartz lithic scatter. Tall rock outcroppings nearby may have served as hunting blinds.
3380-25	Bomb Debris at 25 Locations and Main Target via Jayjay Road.
3380-26	GLO marker 1917 S31/S32 T7N R1W
3380-27	GLO marker. ¼ marker for section 5. 1917.
3380-28	GLO marker. ¼ marker for section 2. 1917.
3380-29	GLO Marker. Corner marker T6N R1W, sections 5 & 6. 1917.
3380-30	GLO marker. Corner marker T7N R1W, sections 29 & 32. 1958.
3380-31	Historic Road. Recorded by Æ as PL-LUGO-TSIM-009, but no record prepared.
Æ-3691-007H	Consists of multiple segments of a historic road. Æ recorded this resource north of Aspen's 3380-21. Likely related meanderings with no obvious purpose-not roads per se.
Æ-3691-005-ISO	GLO Marker Corner marker T6N, R1 W, Section 6 and T7N, R1W, Section 31. 1917. Æ recorded GLO Markers as isolates. Glo Markers are identified as sites in this report.
Æ-3691-008-ISO	GLO Marker Corner marker T7N, R1W, Sections 6 and 7. 1917. Æ recorded GLO Markers as isolates. GLO Markers are identified as sites in this report.
P-36-024248	Lucerne Valley Cutoff (Bear Lake Road)

4.1.3.2.4 Historic Camps and Dumps

Four historic period resources recorded in the Solar Array include remains of historic camp sites, one (3380-16) with a trash deposit containing a diverse collection of artifacts of domestic food tins, jars, bottles, and cans. The latter are mostly church-key opened beverage containers (pre-1960s). The other is 3380-17, which is an overgrown fire ring with a stack of very old split logs adjacent. These two sites occur along and near the west shoulder of Lucerne Valley Cutoff. A third historic camp is 3380-19, which is a considerable distance south of Lucerne Valley Cutoff. The camp is immediately adjacent to historic road 3380-20, however, which first appears as a road in 1970. The fourth historic trash scatter is 3380-23. Found here is a steel frame structure composed of what looks like salvaged metal pieces of rebar, angle iron and tubing. Its purpose is unknown, but it resembles a makeshift shell frame that one might see on large truck beds. In the immediate vicinity is a small trash dump of burnt materials and domestic refuse.

4.1.4 CRHR Evaluations

The historic cultural resources present in the Solar Array include 14 isolated artifacts. While some may have intrinsic value as collectibles, they do not meet any of the four CRHR criteria identified above. Nor do they meet the criteria as unique archaeological resources as defined in PRC 21083.2[g]).

Per the criteria established for determining resource eligibility for inclusion in the CRHR, cultural resource sites that are excluded from the CRHR include isolated artifacts, prehistoric sparse lithic scatters, trail segments lacking any chronological associations, and historic camps and trash scatters lacking any affiliation with persons or events important to United States, California or local history. While the GLO survey markers identified as isolates in the survey represent an important event with the delineation and opening of public

lands to Americans, they are thoroughly ubiquitous across the area in particular and across the United States as a whole, and therefore do not meet any of the eligibility requirements for listing on the CRHR.

This leaves two resources requiring more detailed CRHR evaluations:

4.1.4.1 Lucerne Valley Cutoff CA-SBR-15433H- P36-024248)

Note: For additional information and a much more detailed history of Lucerne Valley Cutoff refer to the 2020 DPR 523 Update (Appendix 4). This update contains a detailed historical chronology of Lucerne Valley Cutoff, and a discussion of numerous additional historic maps and aerials.

Lucerne Valley Cutoff has been continuously maintained by the County of San Bernardino since at least 1914. It has had many historic names including Barstow Road, Bear Lake Road, Daggett to Bear Valley Road, Barstow to Bear Valley Road, and Lucerne Valley Cutoff. It has been referred to in County Maintained Road System (CMRS) historic road maintenance books as Lucerne Valley Cutoff from 1952 to the Present. Lucerne Valley Cutoff is first clearly mapped on separate sets of 1920 GLO maps and 1921 USGS topo maps prepared from survey data gathered from 1916-1918. It was probably built by or at least greatly improved by County of San Bernardino road crews circa 1914 or, as noted by Virginia C. Hemphill-Gobar in her *Range One East* account of early life in Lucerne Valley, when “In April, 1914, the deputy county surveyor and a road crew came as far as Stoddard Well, from Barstow, to make a preliminary survey of a route from the pass at Sidewinder Road, across the lake, to connect with the Victor-Bear Valley road that came through the Box S settlement. Two weeks later, the county crew came in and built a dike over the dry lake.”

This newly constructed 1914 County road from Lucerne (Box S Ranch) to Stoddard Wells Road replaced several older alignments including the historic road from Daggett to Rabbit Springs (portions of which include Chuckwalla Road) and the historic E/W connector (Meander Road) leading to the historic County maintained road alignment from Daggett to Victorville (Stoddard Wells Road). Today’s Lucerne Valley Cutoff was maintained by the County of San Bernardino using the name Barstow Road from at least 1930 until 1952 when it was renamed Lucerne Valley Cutoff and the newly built road from Lucerne to Barstow (today’s Highway 247) took the name Barstow Road. Today’s Lucerne Valley Road does, therefore, have a well-defined period of significance extending from 1914 to 1952.

Previous recordation of and evaluation of Lucerne Valley Cutoff includes Primary Records, BSO records, Linear Feature Records, Continuation Sheets, Photo Records, Location Maps, and photographs. The first DPR 523 was prepared in 2011. **Note:** Lucerne Valley Cutoff has previously been determined several times to not qualify as eligible for listing in the NRHP and/or CRHR. **Note Also:** The designators Lucerne Valley Cut-Off and Lucerne Valley Cutoff have been used interchangeably over time. The Lucerne Valley Cutoff designator is used herein.

Lucerne Valley Cutoff CRHR Evaluation (DPR 523 CA-SBR-15433H- P36-024248)

The following evaluation has been prepared by Roger Hatheway, a former San Bernardino County CRM transportation specialist who worked for the County of San Bernardino Department of Public Works (DPW) for over twenty years. He has, therefore, a particularly detailed knowledge of available road-related databases, and has been a qualified Principal Investigator/Built Environment specialist since 1979. Mr. Hatheway has previously prepared a Transportation Context for the Central Mojave Desert region. This detailed context has been modified for use in this report. The following CRHR evaluation is offered based on criteria provided above and detailed in Appendix 1.

Criterion 1: The site is associated with events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the United States.

- Lucerne Valley Cutoff has been researched in great detail, and it is known to have been built in 1914 and bypassed by today's Barstow Road (Highway 247) in 1952. Lucerne Valley Cutoff has been continuously maintained by the County of San Bernardino since at least 1914. It has had many historic names including Barstow Road, Bear Lake Road, Daggett to Bear Valley Road, Barstow to Bear Valley Road, and Lucerne Valley Cutoff. From 1914 to 1952, the historic alignment served as the primary route from Barstow to Bear Valley, and it did provide access to minimally productive mines in North Lucerne Valley. However, it immediately became a secondary transportation alignment following County construction of today's Barstow Road (Highway 247) in 1952, clearly establishing the period of significance for the alignment as extending from 1914 to 1952. Lucerne Valley Cutoff does not, therefore, have a long and continuous period of significance. It does not, therefore, appear to have made a significant contribution to the broad patterns of local or regional history through long and continued use. Accordingly, Lucerne Valley Cutoff is here recommended as not eligible for the CRHR under criterion 1.

Criterion 2: *The site is associated with the lives of persons important to local, California, or national history.*

- Lucerne Valley Cutoff has been researched in great detail, and it is known to have been built in 1914 and bypassed by today's Barstow Road (Highway 247) in 1952. All major historical maps, historic aerials, historical surveys and reports, and County Maintained Road System (CMRS) historic road maintenance books have already been consulted in preparing the *Phase I Cultural Resource Assessment for the Stagecoach Solar Project, Northern Lucerne Valley, San Bernardino County, California*, Prepared for: California Lands Commission, Prepared by: Aspen Environmental Group, Inc., 2020. Online databases for historical newspapers and various other digital sources of information have also been consulted in detail. No specific individuals of historical significance have been identified in association with the 1914 construction of Lucerne Valley Cutoff. Due to the fact that no historical associations with persons of significance have been identified with Lucerne Valley Cutoff, those portions of Lucerne Valley Cutoff in the Stagecoach Solar Project APE are here recommended as not eligible for the CRHR under criterion 2.

Criterion 3: *The site 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.*

- Today's Lucerne Valley Cutoff was built in 1914 and bypassed by today's Barstow Road (Highway 247) in 1952. An in-depth review and comparison of the 1920 GLO Map for T6N R1W, with the 1934 USGS Barstow Topo Map, the 1955 USGS Ord Mountains map, and the 1957 USGS Apple Valley map, indicates that the alignment has been both straightened and realigned since 1920. It has also been graded and widened over time. Today, the maximum width of the alignment was determined by field survey to be 38 feet, and according to the 2019 County Maintained Road System (CMRS), Lucerne Valley Cutoff has a minimum width of 26 feet. It is highly unlikely that in 1914 County road crews graded a road 26-38 feet wide when the standard width for desert roads was generally twenty feet wide. The original as-built construction integrity of Lucerne Valley Cutoff has, therefore, been altered over time. Finally, Lucerne Valley Cutoff does not represent the work of an important individual or represent unusual or distinctive methods of construction. Accordingly, the Lucerne Valley Cutoff roadway alignment is here recommended as not eligible for the CRHR under criterion 3.

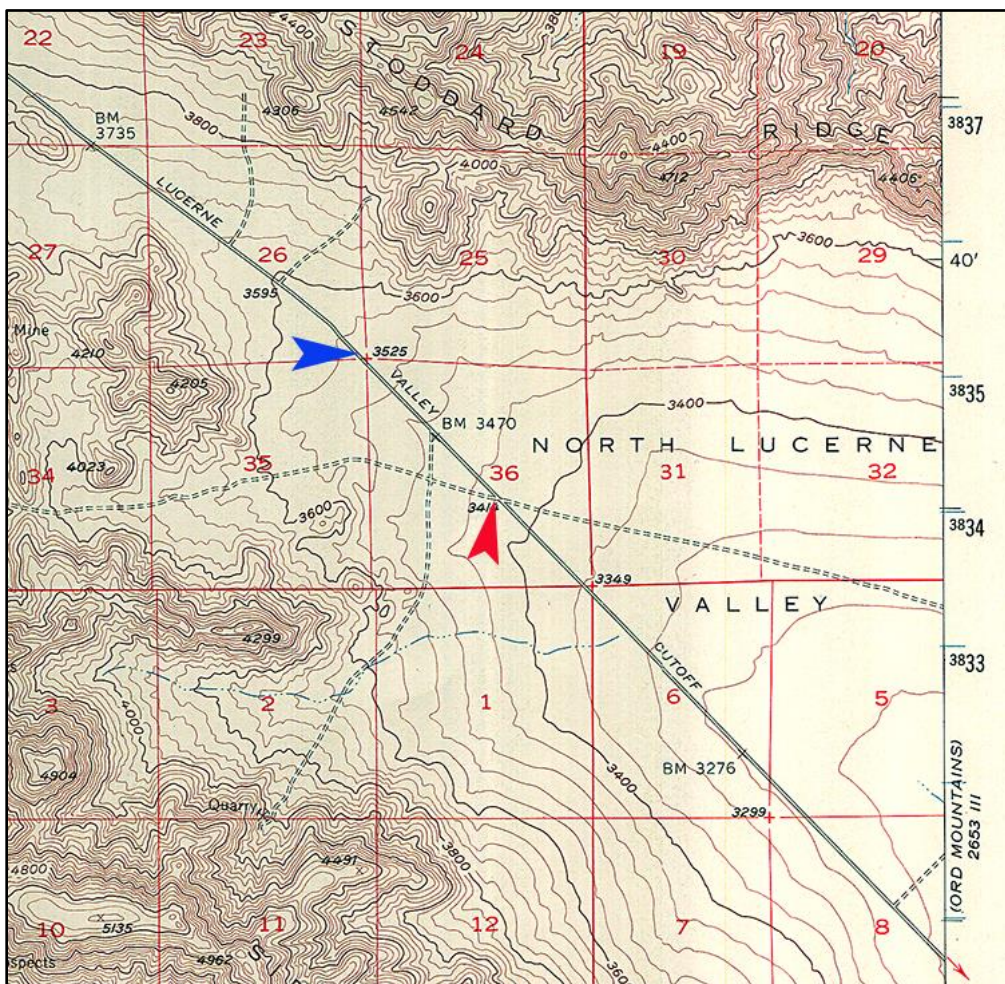
Criterion 4: *The site has yielded, or may be likely to yield, information important in prehistory or history of the local area, California, or the nation.*

- Lucerne Valley Cutoff has been researched in great detail. All major historical maps, historic aerials, historical surveys and reports, and County Maintained Road System (CMRS) historic road maintenance books have already been consulted in preparing the *Phase I Cultural Resource Assessment for the Stagecoach Solar Project, Northern Lucerne Valley, San Bernardino County, California*, Prepared for: California Lands Commission, Prepared by: Aspen Environmental Group, Inc., 2020. Online databases for historical newspapers and various other digital sources of information have also been consulted in detail. It is unlikely that additional research shall yield significant new historical information. Finally, given the fact that to date no significant prehistoric or historic archaeological sites have been identified in specific association with Lucerne Valley Cutoff in the vicinity of the Stagecoach Solar Project APE, this resource is recommended as not eligible under criterion 4 (See also District Evaluation).

District Evaluation of Lucerne Valley Cutoff

As detailed above, Lucerne Valley Cutoff as recorded within the Stagecoach Solar Project APE does not appear to qualify as individually eligible to the CRHR. Although the great majority of Lucerne Valley Cutoff is outside of the Stagecoach Solar Project APE and was not surveyed by Aspen field crews, several portions of Lucerne Valley Cutoff have been previously surveyed by other professional cultural resource management teams and not only was Lucerne Valley Cutoff found to be individually ineligible but no district of resources was identified. Never-the-less, Lucerne Valley Cutoff might still be considered as a contributing feature to a larger and as yet undefined and unevaluated CRHR transportation district of early roads and trails associated with a large High Desert historic transportation network. Despite this possibility, and given the fact that primitive roads/trails are ubiquitous across the High Desert Region, that portion of Lucerne Valley Cutoff within the Stagecoach Solar Project APE cannot reasonably be regarded as part of a significant larger whole without including the survey and evaluation of every interconnected road/trail between Lucerne Valley, Barstow, Daggett, and Victorville. Given the fact that a much larger High Desert historic transportation district has not yet been formally documented or is likely to be documented in the next 5-10 years, it is here determined that Lucerne Valley Cutoff does not appear to qualify as a contributor to a CRHR eligible transportation district. **Note:** It is suggested that should future comprehensive surveys of the entire road network in this entire region ever be completed, that this recommendation should be revisited.

Figure 7. 1957 USGS Map Showing Intersection of Lucerne Valley Cutoff and Meander Road



USGS Topo Map, *Apple Valley Quadrangle Map*, was prepared from aerial photos taken in 1952. Field checked in 1957.

RED ARROW = Meander Road intersection with Lucerne Valley Cutoff.

BLUE ARROW = Today's Lucerne Valley Cutoff roadway alignment.

4.1.4.2 PL-LUGO-TSIM-009 (3380-31 – Meander Road)

Note: For additional information and a more detailed history of Meander Road please refer to the 2020 DPR 523 Update (Appendix 4). This update contains a detailed historical chronology of Meander Road, and a discussion of numerous additional historic maps and aeriels.

Meander Road Historical Summary

Following completion of the railroad alignment between Needles and Mojave on July 12, 1883, many wagon roads were subsequently and very quickly opened up across the High Desert so as to link to various railheads, stations, and sidings along the Santa Fe railroad alignment. Daggett became a major railroad station and shipping point on the Atchison Topeka and Santa Fe Railroad. The 1896 Perris *Miners' Map* depicts many wagon roads, and it may reasonably be assumed that the wagon road leading from Rabbit Springs (near today's Town of Lucerne) to Daggett was first developed in the mid-1880s. Meander Road branches off from this historic alignment known today as Barstow Road (today's Highway 247). The

Meander Road alignment is not depicted on the 1896 Perris *Miners' Map*. The first mapped depiction of Meander Road is on the 1902 map prepared by G. E. Bailey for his study of the *Saline Deposits of the Southern Portion of California*. The first known written description of Meander Road is in 1909 where it is described by Mendenhall as a connector from the County Road at Ord Spring leading from Daggett to Rabbit Springs, to the County Road from Victorville to Daggett. A detailed historical chronology of Meander Road has been developed in the vicinity of the Stagecoach Solar Project APE. This chronology indicates that Meander Road was likely developed as a connector between the N/S County maintained road alignment from Daggett to Rabbit Springs and the E/W County maintained road alignment from Daggett to Victorville at some point between 1896 and 1902. In 1914, Meander Road was replaced as a connector by a newly constructed County road known today as Lucerne Valley Cutoff, which was probably built by County of San Bernardino road crews in April 1914 or, as noted by Virginia C. Hemphill-Gobar in her *Range One East* account of early life in Lucerne Valley, when "In April, 1914, the deputy county surveyor and a road crew came as far as Stoddard Well, from Barstow, to make a preliminary survey of a route from the pass at Sidewinder Road, across the lake, to connect with the Victor-Bear Valley road that came through the Box S settlement. Two weeks later, the county crew came in and built a dike over the dry lake." This establishes an ending point for the period of significance of Meander Road at circa 1914. There is no record in the County Maintained Road System (CMRS) historic road maintenance books, that the County of San Bernardino ever maintained Meander Road from 1929 to the present, and in 1934 the alignment is depicted on the Barstow USGS map as a "poor Public or private road." Additional 1950s historic aerials and maps confirm that the Meander Road alignment was at best an "Unimproved dirt road – Trail." Meander Road does, therefore, have a limited period of significance extending from circa 1900 to circa 1914. As such, it is numbered among hundreds of late Nineteenth Century and early Twentieth Century desert roadways. Meander Road was used locally and for only a very brief period of time as a minor connector between two more historic transportation alignments. It does not, therefore, appear to have made a significant contribution to the broad patterns of local or regional history through long and continued use, the transport of significant numbers of immigrants or local residents, and never appears to have served as a primary route for exploration or mining.

Meander Road (3380-31) CRHR Evaluation

The following evaluation has been prepared by Roger Hatheway, a former San Bernardino County CRM transportation specialist who worked for the County of San Bernardino Department of Public Works (DPW) for over twenty years. He has, therefore, a particularly detailed knowledge of available road-related databases, and has been a qualified Principal Investigator/Built Environment specialist since 1979. Mr. Hatheway has previously prepared a Transportation Context for the Central Mojave Desert region. This detailed context has been modified for use in this report. The following CRHR evaluation is offered based on criteria provided above and detailed in Appendix 1.

Criterion 1: *The site is associated with events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the United States.*

- Following completion of the railroad alignment between Needles and Mojave on July 12, 1883, many wagon roads were subsequently and very quickly opened up across the High Desert so as to link to various railheads, stations, and sidings along the Santa Fe railroad alignment. Daggett became a major railroad station and shipping point on the Atchison Topeka and Santa Fe Railroad. The 1896 Perris *Miners' Map* depicts many wagon roads, and it may reasonably be assumed that the wagon road leading from Rabbit Springs (near today's Town of Lucerne) to Daggett was first developed in the mid-1880s. Meander Road branches off from this historic alignment known today as Barstow Road (today's

Highway 247). The Meander Road alignment is not depicted on the 1896 Perris *Miners' Map*. The first mapped depiction of Meander Road is on the 1902 map prepared by G. E. Bailey for his study of the *Saline Deposits of the Southern Portion of California*. The first known written description of Meander Road is in 1909 where it is described by Mendenhall as a connector from the County Road at Ord Spring leading from Daggett to Rabbit Springs, and to the County Road from Victorville to Daggett. A detailed historical chronology of Meander Road has been developed in the vicinity of the Stagecoach Solar Project APE. This chronology indicates that Meander Road was likely developed as a connector between the N/S County maintained road alignment from Daggett to Rabbit Springs and the E/W County maintained road alignment from Daggett to Victorville at some point between 1896 and 1902. There is no record in the County Maintained Road System (CMRS) historic road maintenance books, that the County of San Bernardino ever maintained Meander Road from 1929 to the present, and in 1934 the alignment is depicted on the Barstow USGS map as a "poor Public or private road." Additional 1950s historic aerials and maps confirm that the Meander Road alignment was at best an "Unimproved dirt road – Trail." Meander Road does, therefore, have a limited period of significance extending from circa 1900 to circa 1914. As such, it is numbered among hundreds of late Nineteenth Century and early Twentieth Century desert roadways. Meander Road was used locally and for only a very brief period of time as a minor connector between two more historic transportation alignments. It does not, therefore, appear to have made a significant contribution to the broad patterns of local or regional history through long and continued use, the transport of significant numbers of immigrants or local residents, and never appears to have served as a primary route for exploration or mining. Accordingly, those portions of Meander Road in the Stagecoach Solar Project APE are here recommended as not eligible for the CRHR under criterion 1.

Criterion 2: *The site is associated with the lives of persons important to local, California, or national history.*

- In-depth historical research conducted by Aspen staff as part of the Stagecoach Solar Project has not identified any significant historical events or individuals associated with the Meander Road alignment. This alignment is best viewed as a minor, ubiquitous, and unimportant local transportation route with a limited period of significance. Due to the fact that no historical associations with persons of significance have been identified with Meander Road, those portions of Meander Road in the Stagecoach Solar Project APE are here recommended as not eligible for the CRHR under criterion 2.

Criterion 3: *The site 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.*

- The Meander Road alignment is a two-track one-lane dirt trail. Meander Road does appear to retain much of its original context of construction and location. However, a comparison of the 1920 GLO Map for T6N R1W, with the 1934 USGS *Barstow Topo Map*, the 1955 USGS *Ord Mountains map*, and the 1957 USGS *Apple Valley map*, indicates that the alignment has been straightened and realigned since 1920. It does retain a high degree of integrity of construction, but it is most appropriately viewed as a minor, ubiquitous, and unimportant local transportation route with a limited period of significance. It does not represent the work of an important individual or represent unusual or distinctive methods of construction. Accordingly, those portions of Meander Road in the Stagecoach Solar Project APE are here recommended as not eligible for the CRHR under criterion 3.

Criterion 4: *The site has yielded, or may be likely to yield, information important in prehistory or history of the local area, California, or the nation.*

- The Meander Road/trail alignment is best viewed as a minor, ubiquitous, and unimportant local transportation route with a limited period of significance extending from circa 1900 to circa 1914. There are limited databases available for the conducting of additional research for an unnamed roadway alignment. All major historical maps, historic aerials, and historical surveys and reports have already been consulted in preparing the *Phase I Cultural Resource Assessment for the Stagecoach Solar Project, Northern Lucerne Valley, San Bernardino County, California*, Prepared for: California Lands Commission, Prepared by: Aspen Environmental Group, Inc., 2020. Online databases for historical newspapers and various other digital sources of information have also been consulted in detail. It is unlikely that additional research shall yield significant new historical information. In addition, an interconnecting system of minor roads and trails is clearly visible on Google Earth imagery. Without surveying the entire desert region between Lucerne Valley, Barstow, Daggett, and Victorville, it will be impossible to identify a single minor wagon road/trail alignment as being more important than another minor alignment. Finally, given the fact that to date no significant prehistoric or historic archaeological sites have been identified in specific association with Meander Road in the vicinity of the Stagecoach Solar Project APE, this resource is recommended as not eligible under criterion 4 (See also District Evaluation).

District Evaluation of Meander Road

As detailed above, Meander Road as recorded within the Stagecoach Solar Project APE does not appear to qualify as individually eligible to the CRHR. Although the great majority of Meander Road is outside of the Stagecoach Solar Project APE and was not surveyed by Aspen field crews, a desktop Google Earth reconnaissance indicates that however altered it is, major portions of this almost entirely unsurveyed alignment appear to exist today. As such, Meander Road might be considered as a contributing feature to a larger and as yet undefined and unevaluated CRHR transportation district of early roads and trails associated with a High Desert transportation network. Despite this possibility, and given the fact that primitive roads/trails are ubiquitous across the High Desert Region, that portion of Meander Road within the Stagecoach Solar Project APE, cannot reasonably be regarded as part of a significant larger whole without including the survey and evaluation of every interconnected road/trail between Lucerne Valley, Barstow, Daggett, and Victorville. Given the fact that a much larger High Desert historic transportation district has not yet been formally documented or is likely to be documented in the next 5-10 years, and the fact that in-depth historical research has clearly established Meander Road as a minor, ubiquitous, and relatively unimportant local transportation connector route with an extremely brief period of significance, it is here determined that Meander Road within the Stagecoach Solar Project APE does not appear to qualify as a contributor to a CRHR eligible transportation district. **Note:** It is suggested that should future comprehensive surveys of the entire road network in this entire region ever be completed, that this recommendation should be revisited.

4.2 Gen-tie Line

4.2.1 Records Search

The RS for the Gen-tie Line was requested from the SCCIC on March 18, 2020. Due to the Covid-19 restrictions that were in place at the time of the request, results were not received until June 12, 2020 after fieldwork had been completed (Table 6). But the area covered in the current Gen-tie RS overlapped the previous RS by ICF conducted for SCE in 2016. The results are identical with the exception of newer results that supplement the 2016 ICF work. All previously recorded sites from the Calcite Project surveys were identified in the Aspen survey. All previously identified sites were found to be recorded fully in the existing and most recent records, so no updates were prepared.

Table 6. Cultural Resources Previously Recorded within the Gen-Tie Line (bold) and 1-Mile Study Radius

Primary No.	Trinomial	Temporary No.	Age	Attributes	Recording Events
36-002145	CA-SB-2145	N/A	Prehistoric	Flaked stone tools, debitage, milling tools	1940 (Gerald Smith); 2015 (ASM), who could not relocate site.
36-002336	CA-SBR-2336H	N/A	Historic	House slabs, refuse scatter and stone wall	1977 (deSart); 2013 (Pacific Legacy)
36-002337	CA-SBR-2337H	N/A	Historic	Homestead and Orchard	1977 (deSart); 2013 (Pacific Legacy)
36-003750	CA-SBR-3750	N/A	Prehistoric	Bedrock Milling Surfaces	1979 (G. Fenenga)
36-014876	CA-SBR-13115H	N/A	Historic	SCE Lugo-Pisgah Transmission Line	2008 (URS Corp); 2010 (URS Corp); 2011 (SRI); 2013 (ASM Affiliates); 2013 (Pacific Legacy); 2013 (Far Western); 2014 (Michael Brandman Associates); 2015 (SRI); 2019 (Kautz Environmental Consultants)
36-014943	N/A	N/A	Historic	Isolated church key can	2009 (URS Corp)
36-021160	CA-SBR-13657	N/A	Historic	Historic foundations and refuse	2009 (SWCA); 2016 (Dudek)
36-021163	N/A	N/A	Prehistoric	Isolated Granite Metate	2009 (SWCA)
36-021164	N/A	N/A	Prehistoric	Isolated Chert Flake Tool	2009 (SWCA)
36-021165	N/A	N/A	Prehistoric	Isolated Basalt Biface- Likely a projectile Frag.	2009 (SWCA)
36-021166	N/A	N/A	Prehistoric	Isolated Basalt Flake	2009 (SWCA)
36-021200	CA-SBR-13662H	3380-14	Historic	Refuse dump, prospecting pit,	2010 (URS); 2011 (ASM Affiliates); 2013 (Pacific Legacy); 2018 (ASM)
36-021201	CA-SBR-13663H	3380-12	Historic	Uncapped well	2010 (URS Corp); 2015 (Pacific Legacy); 2018 (Dudek)
36-021202	N/A	N/A	Prehistoric	Isolated Chert Flake	2010 (URS); 2018 (Dudek)
36-024156	CA-SBR-15341H	N/A	Historic	Single lane dirt road	2011 (SRI); 2011 (ICF); 2016 (ICF)
36-024157	CA-SBR-15342H	N/A	Historic	Segment of historic road	2011 (Kremkau); 2018 (Dudek)
36-024158	CA-SBR-15343H	N/A	Historic	Segment of historic road	2011 (Kremkau)
36-024189	CA-SBR-15374H	N/A	Historic	Historic dirt road	2011 (Kremkau); 2012 (Pacific Legacy)
36-024190	CA-SBR-15375H	N/A	Historic	Historic dirt road	2011 (Kremkau); 2015 (Pacific Legacy); 2018 (Dudek)
36-024223	CA-SBR-15408H	N/A	Historic	Historic dirt road	2011 (Kremkau); 2012 (Kremkau); 2013 (Pacific Legacy)
36-024224	CA-SBR-15409H	N/A	Historic	Historic dirt road	2011 (Kremkau); 2015 (Pacific Legacy); 2018 (Dudek)
36-024225	CA-SBR-15410H	N/A	Historic	Refuse scatter	2011 (Kremkau); 2018 (Dudek)
36-024245	CA-SBR-15430H	N/A	Historic	Historic dirt road	2011 (Kremkau); 2018 (ASM Affiliates)
36-024246	CA-SBR-15431H	N/A	Historic	Historic dirt road	2011 (Kremkau); 2013 (Pacific Legacy)
36-024247	CA-SBR-15432H	N/A	Historic	Historic dirt road	2011 (Kremkau); 2013 (Pacific Legacy)
36-024248	CA-SBR-15433H	N/A	Historic	Historic dirt road	2011 (Kremkau); 2013 (Pacific Legacy); 2014 (SRI)
36-025668	CA-SBR-16199H	N/A	Historic	Rock ring	2013 (ASM Affiliates)

Table 6. Cultural Resources Previously Recorded within the Gen-Tie Line (bold) and 1-Mile Study Radius

Primary No.	Trinomial	Temporary No.	Age	Attributes	Recording Events
36-025669	CA-SBR-16200H	N/A	Historic	Mining feature and refuse scatter	2013 (ASM Affiliates)
36-027410	CA-SBR-17863H	N/A	Historic	Historic Barstow Road/ Highway 247	2014 (SRI); 2015 (SRI); 2015 (Pacific Legacy); 2018 (Dudek)
36-027880	CA-SBR-17374H	N/A	Historic	Historic refuse scatter	2014 (Pacific Legacy); 2017 (ASM Affiliates)
36-028149	CA-SBR-17557H	N/A	Historic	Foundations and refuse scatter	2012 (Pacific Legacy); 2017 (ASM Affiliates)
36-029775	CA-SBR-29775H	N/A	Historic	Water Conveyance System	2016 (Dudek)
36-029899	N/A	N/A	Prehistoric	Isolated Obsidian Flake	2016 (ICF)
36-029901	N/A	N/A	Historic	Historic homestead and refuse dump	2016 (ICF); 2018 (Dudek)
36-032692	CA-SBR-32692H	N/A	Historic	Historic refuse scatter	2017 (ASM Affiliates)
36-032693	CA-SBR-32693H	N/A	Historic	Historic refuse scatter and dump	2017 (ASM Affiliates)
36-032694	CA-SBR-32694H	N/A	Historic	Historic refuse scatter	2017 (ASM Affiliates)
36-033009	CA-SBR-33009H	N/A	Historic	Historic refuse scatter	2018 (Dudek)
36-033010	CA-SBR-33010H	N/A	Prehistoric/ Historic	Chert flake and historic refuse deposit	2018 (Dudek)
36-033016	N/A	N/A	Prehistoric	Isolated Basalt Lanceolate Biface	2018 (Dudek)

4.2.2 Historic Aerial Imagery

The earliest historic aerial imagery of the Gen-tie Line is available for the years 1952-53 and is contained in the images of the Southwestern Aerial Survey flight AXL-1953B, Frames 22K-116 to 121, Scale: 1:20,000, which began on October 22, 1952. A close inspection of the details in 1952-1953 shows historic features, including several roads and areas of structural remains that are likely old homesteads (Figure 8). The records search identified several old roads that had been recorded in the vicinity of the Gen-tie Line. Figure 8 provides a composite of historic roads, both previously recorded and unrecorded, and areas where structures may be present. One such structure is a possible homestead in the Gen-tie Line.

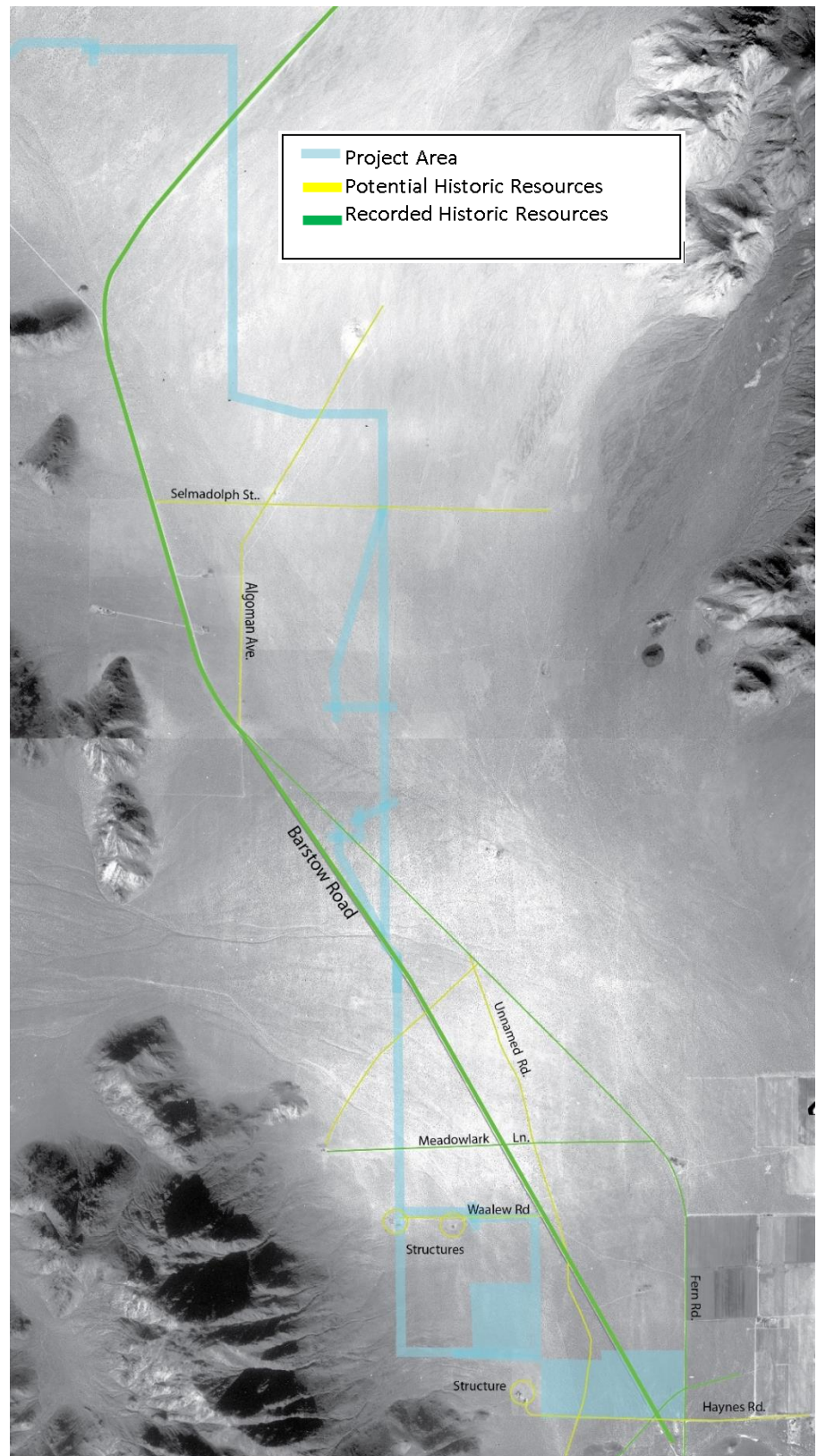
4.2.3 Survey

The ICF (2016) and Dudek (2016) survey results of the Calcite Substation are included in the RS results for the current Project in Table 6. There are five resources within the Calcite project. These include a well-head (P-36-021201), One isolated obsidian flake (P-36-029899), the Lugo-Pisgah Transmission line (P-36-014876), and two very large and sparse scatters of mostly mid-century trash (P-36-021200 and -032694). The Aspen survey that included both the Gen-tie Line and Calcite Substation Projects identified three additional isolated artifacts (Table 7) and an additional 14 cultural resource sites (Table 8) to round out the Calcite Substation survey results.

The ICF survey in 2016 identified one isolated obsidian secondary flake (P-36-029899) in the Calcite Substation area. Aspen noted three isolated artifacts, all historic cans likely dating after 1940. Each of these latter isolates may also be considered as within the boundary for P-36-021200. The latter site was originally recorded to include only a small historic site identified as a prospect or mine exploration with mid-century and recent trash. Aspen noted this same resource and identified it as 3380-14. In 2018 ASM Affiliates resurveyed the area a second time, having first updated the site record in 2011, and identified a very large area of historic isolates around P-36-021200 that spread along the shoulders of Highway 247. Materials noted included dispersed historic artifacts dating primarily to the early and mid-20th century. They lumped the small mining feature with all the isolates that they dubbed “road trash,” which has nothing to do with the possible historic mine or prospect.

The broad isolate distribution should be referred to by other means that might include a distribution of remains that contribute to another site, particularly Barstow Road (P-36-027410, -028005), to which the “road trash” is clearly associated, or a district as yet undefined. This same association exists with site P-36-032694, a very broad scatter of historic “road trash” contiguous to, if not an actual northern and eastern continuation of, the same debris at P-36-021200

Figure 8. 1952-53 Historic Aerial Imagery of the Stagecoach Gen-tie Line and SCE Calcite Substation Showing Historic Features in and near the Project



but dispersed between Highway 247 and Fern Road (Appendix 3). These inconsistencies in defining resources that are broad distributions of isolates as sites creates considerable confusion in the archaeological record.

Table 7. Cultural Resource Sites Recorded by Aspen in the Stagecoach Gen-Tie Project Area

No Previous Temporary Field No.	Brief Description
3380-01	GLO marker 1917 Corner marker for S9/S10/S16/S15 T6N R1W.
3380-02	GLO Marker 1917 1/4/marker for S10/S15 T6N R1W.
3380-03	Historic can scatter.
3380-04	Water tank features.
3380-05	GLO Marker Corner marker for S34/S35/S3/S2. Dated 191(X) – last digit not stamped. Likely 1917.
3380-06	Fence post.
3380-07	Probable mining road.
3380-08	Probable mining road.
3380-09	Enigmatic rock alignment.
3380-10	1936 stone and mortar house built by Lucerne Valley homesteader Bessie Stromberg.
3380-11	Fence and place marker.
3380-12 (P-36-021201)	Well head and scattered glass and nails. Well measures 10 ¼" (D) x 17" (H) dug into small pit measuring 2' deep with diameter of 16'. Bottle base located 2m west of well with makers mark of DL within square and backward slash.
3380-13	Primarily a prehistoric site of considerable age with flakes, flake tools, bifaces, metate and debitage similar to Gypsum Period or possibly earlier Lake Mojave Period occupation ca 10,000 BP. Historic cans and buried historic refuse deposit incidental to the site and non-contributing.
3380-14 (P-36-021200)	Historic prospect or possibly an earthen well. See discussion under 4.2.3.1 Isolates above.

4.2.3.1.1 GLO Surveys

Three GLO markers were identified in the Gen-tie Project area. Placement of each of these survey markers would have been done via the existing Barstow Road in 1917. The survey work began in 1915, and these three markers bring the total number of markers in the Project to 10. As mentioned above, the GLO’s efforts were directed at delineating public lands to open to the public primarily for settlement, farming, ranching and mining. They are ubiquitous and not eligible for inclusion in the CRHR.

4.2.3.1.2 Homesteads

Only one resource was identified in the Project that conveys the historic context of homesteading. This resource is the ruins of a 1930s homestead (3380-10).

On September 27, 1937, Bessie Stromberg was granted a Patent to the “fractional northeast quarter of Section three in Township five north of Range one west of the San Bernardino Meridian, California, containing seventy-seven acres and four hundredths of an acre.”

According to U.S. Census records Bessie Stromberg was born as Bessie Cahn/Cohn in England on September 10, 1889 to parents born in Russia and Poland. The family immigrated to America in 1897. Bessie Cahn married Leon Stromberg on September 13, 1921 in Los Angeles, California. In 1930, she and

her husband Leon Stromberg filed for divorce, and the 1930 US. Census records that Stromberg and her two daughters, Natalie and Constance, were living in a rooming house in San Francisco. Voter Registrations record that Bessie Stromberg was registered to vote in California with an address in Los Angeles in 1930, and in Lucerne Valley from 1934 to 1942. Various newspaper accounts record life in Lucerne for the Stromberg family. On September 4, 1936, an article in the San Bernardino Sun records that Mrs. Stromberg narrowly avoided having an accident when two tires blew out on her car, and a September 18, 1936 article records that Mrs. Stromberg had proved up her property. These articles are important for two reasons. First, that Bessie Stromberg had an automobile in 1936, a relative indication of wealth in the mid-1930s, and that by September of 1936 she had already improved her property in accordance with homestead laws and requirements. By August of 1937, an article in the San Bernardino Sun records that the “younger set of Lucerne Valley gathered at the Stromberg residence and enjoyed a swell watermelon feast.” Several years later, on September 19, 1941, an article in the San Bernardino Sun records that “Joy Stromberg, daughter of Mrs. Leon Stromberg, box 402 Lucerne valley, was awarded a resident student scholarship at Pomona college.” In effect, the Bessie Stromberg family had become an integral part of the Lucerne Valley community beginning in the mid-1930s and extending into the early 1940s. After 1941, there are no historic newspaper articles recording that the Stromberg family continued living in Lucerne Valley, and in 1949 Bessie Stromberg is listed as living in Culver City, Los Angeles, as the widow of Leon Stromberg.

Exactly why the Stromberg Family left Lucerne Valley is not known, but it is highly likely that it is related to the establishment of two nearby Victorville Army Airfield bombing ranges, and maybe to a lesser extent is the fact that several deadly crashes of aircraft occurred on nearby mountains and/or over Lucerne Dry Lake. A July 30, 1941 article in the San Bernardino Sun records that “Two persons were killed, and one was missing today after two army bombers collided last night near the Victorville bombardment training school... The accident occurred over the Lucerne dry lake in Lucerne valley, six miles east of Victorville and 10 miles east of the air base, at 9:25 last night during a routine flight of twin-engine bombers.” A second article in the December 8, 1942 San Bernardino County Sun records another nearby plane crash. It notes “Two officer instructors and two bombardier cadets of the Victorville army flying school were killed late Sunday night when their training plane crashed during a routine bombing mission 20 miles northeast of the air base... The accident occurred on Stoddard Ridge in the Granite mountains north of Lucerne valley.” In addition, nearby WWII practice bomb drops have been recorded in the vicinity of the Stromberg Homestead.

Finally, a September 13, 1950 article in the Los Angeles Times records that Constance Stromberg, daughter of Mrs. Bessie Stromberg of Cheviot Hills, was married to Sylvester E. Richey. Interestingly, the property in question is owned today by John Alan Richey, a presumed heir of Constance Richey (Stromberg) and Sylvester Richey. In brief, the property appears to have been continuously owned by either Bessie Stromberg or her heirs since the Homestead was officially granted on September 27, 1937.

Bessie Stromberg died on April 19, 1961 in Los Angeles.

Based on detailed historic research, it is known that Mrs. Stromberg and her two daughters lived in Lucerne Valley on the Bessie Stromberg Homestead since at least 1936 and are known to have lived in Lucerne till about 1942. Preliminary historic map and historic aerial research indicate that the property does not appear to have been occupied after Mrs. Stromberg and her daughters left Lucerne Valley circa 1942. Therefore, the period of significance for this property is currently estimated as being from 1936 to 1942.

4.2.4 CRHR Evaluations

The historic cultural resources present in the Gen-tie Line include three isolated artifacts not eligible for the CRHR by definition. As discussed above, two resources have been designated sites that are essentially broad sparse scatters of historic isolates along historic roadway alignments. While some isolates may have intrinsic value as collectibles, they do not meet any of the four CRHR criteria identified above. Nor do they retain special qualities identified under the three criteria in PRC 21083.2[g]).

In determining resource eligibility for inclusion in the CRHR, there are cultural resource sites that are generally excluded from the CRHR. These include isolated artifacts, prehistoric sparse lithic scatters or trail segments lacking any chronological associations, and historic camps and trash scatters lacking any affiliation with persons or events important to United States, California or local history. While the GLO survey markers represent an important event with the delineation and opening of public lands to Americans, they are thoroughly ubiquitous across the area in particular and across the United States as a whole and are not eligible for listing on the CRHR.

Only one resource requires a more detailed CRHR evaluation, the Stromberg Homestead (3380-10).

4.2.4.1 3380-10 The Stromberg Homestead

The following CRHR evaluation is offered based on criteria detailed in Appendix 1.

Criterion 1: *The site is associated with events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the United States.*

The Bessie Stromberg homestead represents the expansion of American settlement into the deserts during the difficult times following the great depression and at a time when significant westward migration was occurring to escape the dust bowl of the Southern High Plains. At that time, the Lucerne Valley experienced considerable immigration from farmers. But the remains of the Stromberg homestead are not unique in the Valley, and there are better examples in the town of Lucerne Valley proper. The Stromberg homestead is recommended ineligible for the CRHR.

Criterion 2: *The site is associated with the lives of persons important in our past or are associated with the lives of persons important to local, California, or national history.*

Bessie Stromberg was well known to the community of 1930s Lucerne Valley. No information could be found that would indicate she and her children played a role in the local community other than as residents. Site 3380-10 is recommended ineligible for the CRHR under criterion 2.

Criterion 3: *The site 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.*

The construction of the homestead followed very simple methods and used local materials. There was an attempt to copy a Craftsman architectural style, but the house does not appear to have been built by skilled craftsman. Rather, it has a DIY appearance in terms of materials and finish work. It may be that the construction followed the standard practice of salvaging and recycling materials from other abandoned structures. Due to the lack of distinctive characteristics site 3380-10 is recommended ineligible for the CRHR under criterion 3.

Criterion 4: *The site has yielded, or may be likely to yield, information important in prehistory or history of the local area, California, or the nation.*

The research conducted for the Stagecoach Gen-tie Line is considered here to have exhausted the information potential for the Bessie Stromberg homestead. Site 3380-10 is therefore recommended ineligible for the CRHR under criterion 4.

4.3 Calcite Substation

4.3.1 Records Search

An initial RS for the Calcite substation was conducted on August 10, 11 and 24, 2016 by ICF International under contract with SCE. Their RS conducted at the SCCIC identified 71 previously identified cultural resources and seven cultural resource studies within one mile of their study area. But their study area was far larger than the study area for the current Project. Aspen conducted a record search for the Gen-tie line as presented above. As the two project elements overlap where they connect, the Aspen RS supplements the ICF results. The combined RS results that pertain to the Calcite Substation are presented in Table 8. The results have been parsed to include only the ICF RS relevant to the limits of the Calcite Substation.

Table 8. Cultural Resources Previously Recorded within the Calcite Substation Site (bold) and 1-Mile Study Radius

Primary No.	Trinomial	Temporary No.	Age	Attributes	Recording Events
36-002145	CA-SBR-2145	N/A	Prehistoric	Flaked stone tools,debitage, milling tools	1940 (Gerald Smith); 2015 (ASM), who could not relocate site.
36-003750	CA-SBR-3750	N/A	Prehistoric	Bedrock Milling Surfaces	1979 (G. Fenenga)
36-014876	CA-SBR-13115H	N/A	Historic	SCE Lugo-Pisgah Transmission Line	2008 (URS Corp); 2010 (URS Corp); 2011 (SRI); 2013 (ASM Affiliates); 2013 (Pacific Legacy); 2013 (Far Western); 2014 (Michael Brandman Associates); 2015 (SRI); 2019 (Kautz Environmental Consultants)
36-021160	CA-SBR-13657	N/A	Historic	Historic foundations and refuse	2009 (SWCA); 2016 (Dudek)
36-021163	N/A	N/A	Prehistoric	Isolated Granite Metate	2009 (SWCA)
36-021164	N/A	N/A	Prehistoric	Isolated Chert Flake Tool	2009 (SWCA)
36-021165	N/A	N/A	Prehistoric	Isolated Basalt Biface- Likely a projectile Frag.	2009 (SWCA)
36-021166	N/A	N/A	Prehistoric	Isolated Basalt Flake	2009 (SWCA)
36-021200	CA-SBR-13662H	3380-14	Historic	Refuse dump, prospecting pit,	2010 (URS); 2011 (ASM Affiliates); 2013 (Pacific Legacy); 2018 (ASM)
36-021201	CA-SBR-13663H	3380-12	Historic	Uncapped well	2010 (URS Corp); 2015 (Pacific Legacy); 2018 (Dudek)
36-021202	N/A	N/A	Prehistoric	Isolated Chert Flake	2010 (URS); 2018 (Dudek)
36-024156	CA-SBR-15341H	N/A	Historic	Single lane dirt road	2011 (SRI); 2011 (ICF); 2016 (ICF)
36-024157	CA-SBR-15342H	N/A	Historic	Segment of historic road	2011 (Kremkau); 2018 (Dudek)
36-024158	CA-SBR-15343H	N/A	Historic	Segment of historic road	2011 (Kremkau)
36-024189	CA-SBR-15374H	N/A	Historic	Historic dirt road	2011 (Kremkau); 2012 (Pacific Legacy)
36-024190	CA-SBR-15375H	N/A	Historic	Historic dirt road	2011 (Kremkau); 2015 (Pacific Legacy); 2018 (Dudek)
36-024224	CA-SBR-15409H	N/A	Historic	Historic dirt road	2011 (Kremkau); 2015 (Pacific Legacy); 2018 (Dudek)

Table 8. Cultural Resources Previously Recorded within the Calcite Substation Site (bold) and 1-Mile Study Radius

Primary No.	Trinomial	Temporary No.	Age	Attributes	Recording Events
36-024225	CA-SBR-15410H	N/A	Historic	Refuse scatter	2011 (Kremkau); 2018 (Dudek)
36-024245	CA-SBR-15430H	N/A	Historic	Historic dirt road	2011 (Kremkau); 2018 (ASM Affiliates)
36-025668	CA-SBR-16199H	N/A	Historic	Rock ring	2013 (ASM Affiliates)
36-025669	CA-SBR-16200H	N/A	Historic	Mining feature and refuse scatter	2013 (ASM Affiliates)
36-027410	CA-SBR-17863H	N/A	Historic	Historic Barstow Road/ Highway 247	2014 (SRI); 2015 (SRI); 2015 (Pacific Legacy); 2018 (Dudek)
36-027880	CA-SBR-17374H	N/A	Historic	Historic refuse scatter	2014 (Pacific Legacy); 2017 (ASM Affiliates)
36-028149	CA-SBR-17557H	N/A	Historic	Foundations and refuse scatter	2012 (Pacific Legacy); 2017 (ASM Affiliates)
36-029775	CA-SBR-29775H	N/A	Historic	Water Conveyance System	2016 (Dudek)
36-029899	N/A	N/A	Prehistoric	Isolated Obsidian Flake	2016 (ICF)
36-029901	N/A	N/A	Historic	Historic homestead and refuse dump	2016 (ICF); 2018 (Dudek)
36-032692	CA-SBR-32692H	N/A	Historic	Historic refuse scatter	2017 (ASM Affiliates)
36-032693	CA-SBR-32693H	N/A	Historic	Historic refuse scatter and dump	2017 (ASM Affiliates)
36-032694	CA-SBR-32694H	N/A	Historic	Historic refuse scatter	2017 (ASM Affiliates)
36-033009	CA-SBR-33009H	N/A	Historic	Historic refuse scatter	2018 (Dudek)
36-033010	CA-SBR-33010H	N/A	Prehistoric/ Historic	Chert flake and historic refuse deposit	2018 (Dudek)
36-033016	N/A	N/A	Prehistoric	Isolated Basalt Lanceolate Biface	2018 (Dudek)

4.3.2 Historic Aerial Imagery

Historic imagery of the Calcite Substation is only available for the years 1952-53 and is contained in the images of the Southwestern Aerial Survey flight AXL-1953B, Frames 22K-116 and Frame 47K-25, Scale: 1:20,000, which began on October 22, 1952. A close inspection of the details in 1952-1953 shows historic features, including several roads and areas of structural remains that are likely old homesteads (Figure 8). The records search identified several old roads that had been recorded in the vicinity of the Gen-tie Line. Figure 8 provides a composite of historic roads, both previously recorded and unrecorded, and areas where structures may be present.

4.3.3 Survey

The Calcite Substation Project area is the most studied of the Stagecoach Project elements. The RS studies included in the ICF (2016) and Dudek (2016) provide a thorough summary of previous work.

4.3.3.1 Isolates

Isolated artifacts recorded during the ICF (2016) and Dudek (2016) surveys are listed in Table 8. Aspen (2020) survey results of the Calcite Substation identified three additional isolates (Table 9). Each of these isolates may also be considered as within the boundary for P-36-021200. The latter site was originally recorded to include only a small historic site identified as a prospect or mine exploration with mid-century

and recent trash. Aspen noted this same resource and identified it as 3380-14. In 2018 ASM Affiliates resurveyed the area a second time, having first updated the site record in 2011, and identified a very large area of historic isolates around P-36-021200 that spread along the shoulders of Highway 247. Materials noted included dispersed historic artifacts dating primarily to the early and mid-20th century. They lumped the small mining feature with all the isolates that they dubbed “road trash,” which has nothing to do with the possible historic mine or prospect. The broad isolate distribution should be referred to by other means that might include a distribution of remains that contribute to another site, particularly Barstow Road (P-36-027410, -028005), to which the “road trash” is clearly associated, or a district as yet undefined. This same association exists with site P-36-032694, a very broad scatter of historic “road trash” contiguous to, if not an actual northern and eastern continuation of, the same debris at P-36-021200 but dispersed between Highway 247 and Fern Road (Appendix 3). These inconsistencies in defining resources that are broad distributions of isolates as sites creates considerable confusion in the archaeological record.

Table 9. Isolated Cultural Resources in the Calcite Substation Project Area

Field Number	Brief Description
3380-ISO-01	Hole in top and sanitary can
3380-ISO-02	Sanitary can
3380-ISO-03	Hole in cap can

4.3.3.2 Sites

Seven cultural resource sites have been identified previously within the Calcite Substation Project area. Six are historic and include roads (2), wells (1), large trash scatters (2) as identified above under isolates, and transmission lines (1). One prehistoric cultural resource was also identified. The seven resources noted convey contexts of prehistoric settlement, transportation, transmission systems and, to a much lesser degree, mining.

4.3.3.2.1 Prehistoric Sites

One of the resources identified by Aspen is prehistoric (3380-13). The site contains artifacts that suggest a great antiquity. It is a prime example of a resource that conveys the prehistoric contexts in the Project area and is at least of Gypsum Period age but may also contain remnants of an older Lake Mojave Period occupation. The site is located near the former northern shoreline of Pleistocene Lake Lucerne. Resources previously documented in this portion of the valley include a much larger distribution of prehistoric artifacts recorded as isolates (Table 6) in close proximity to the old lakeshore than are recorded elsewhere in the Project area. The paleoenvironmental contexts presented in Section 2.2.6 are especially germane. No studies of early Holocene occupation have yet been undertaken for the Lucerne Valley, and the paleoenvironmental context of Pleistocene Lake Lucerne is completely unknown.

4.3.3.2.2 Roads

Highway 247 is one of the historic roads identified in the Calcite Substation area. As a resource it is among the youngest of roads noted in the Stagecoach Project. Highway 247 was recorded as P-36-027410 originally in 2014 and then as P-36-028005 in a later update as Barstow Road (Appendix 7). The 2014 site record concludes the resource is CRHR eligible assigning a period of significance to the 1910s-1920s. At that time, however, there was no road to Barstow. All roads instead led to Daggett either by way of the Lucerne Valley Cutoff (Bear Lake Road) and Stoddard Well or another road/trail north from Taylor Spring across west Ord Mountain. The resource as recorded for Highway 247 north of the Lucerne Valley Cutoff is not at all likely to contain any remnants of an earlier trail or road. The second road in the Calcite Project area is P-36-024224. This road is labelled Chuckwalla Road in the record (Appendix 7).

4.3.3.2.3 Mines

Mines are not represented well in the Project. There are, of course, roads that are inferred to have connected to some important, although ephemeral and failed, mines and mining areas in the Project vicinity, but no established mines are present in the Project. Only one resource has been designated as a historic prospect. This site, originally recorded as P-36-21200, is designated with a prospect map symbol on the 1955 USGS 15-minute Ord Mountain quadrangle. It seems obvious that the site would therefore be a mining prospect as the USGS has so designated. The location, however, would be prone to flooding. So, in many ways the site is also an ideal location for an earthen well to collect water.

Site P-36-021200 does not exhibit any qualities that would lead to a recommendation of CRHR eligibility.

4.3.3.2.4 Transmission Systems

The generation of electric power from hydroelectric facilities in Southern California had its first occurrence in San Bernardino in the early 1890s. The construction of the Hoover (Boulder) Dam in the 1930s was made possible by power transmitted from San Bernardino to the dam construction site. Upon its completion, the dam began transmitting power back through lines such as the 220kV lines in the southern portion of the Project area. The original transmission line, then known as the Boulder-Chino North 220 kV Transmission Line ('North' Line) was built between 1938 and 1941. The line is now designated the SCE Lugo-Pisgah Line No. 1.

4.3.4 CRHR Evaluations

In determining resource eligibility for inclusion in the CRHR, there are cultural resources that are generally excluded. These include isolated artifacts, prehistoric sparse lithic scatters or trail segments lacking any chronological associations, and historic camps and trash scatters lacking any affiliation with persons or events important to United States, California or local history. While the GLO survey markers represent an important event with the delineation and opening of public lands to Americans, they are thoroughly ubiquitous across the area in particular, and across the United States as a whole, and are not eligible for listing on the CRHR.

The historic cultural resources present in the Calcite Substation include three isolated artifacts not eligible for the CRHR by definition. As discussed above, two resources have been designated sites that are essentially broad sparse scatters of historic isolates along historic roadway alignments. While some isolates may have intrinsic value as collectibles, they do not meet any of the four CRHR criteria identified above. Nor do they retain special qualities identified under the three criteria in PRC 21083.2[g]).

Three resources identified within the Calcite Project are evaluated here for CRHR eligibility.

4.3.4.1 3380-13 Prehistoric Site

The following CRHR evaluation is offered based on criteria provided above and detailed in Appendix 1.

Criterion 1: *The site is associated with events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the United States.*

The archaeological remains at 3380-13 are unstudied, as are the prehistoric remains throughout the entire area. It is not possible to ascertain whether 3380-13 represents a unique manifestation or local adaptation of Lake Mojave or Gypsum Period settlement and use of the Lucerne Valley. If it does, then the site would be recommended eligible under criterion 1. This site must be subject to additional investigations including

excavation and analysis of recovered materials to identify and determine tool forms and functions and site structure and function. This site is determined as potentially eligible for inclusion in the CRHR.

Criterion 2: *The site is associated with the lives of persons important to local, California, or national history.*

Being a prehistoric cultural resource, the association with the lives of persons important to local, California, or national history is not germane.

Criterion 3: *The site 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.*

There is insufficient information to identify whether the artifacts and possible features at 3380-13 represent any distinctive characteristics. Further evaluation would require detailed comparative analyses to identify possible unique patterns in artifacts distribution and morphology. Site 3380-13 is therefore recommended as potentially eligible under criterion 3.

Criterion 4: *The site has yielded, or may be likely to yield, information important in prehistory or history of the local area, California, or the nation.*

As the entire shoreline of Pleistocene Lake Lucerne is as yet unstudied to determine the prehistoric land use since the region's earliest times into the Holocene, site 3380-13 provides a very unique source of potential data that could contribute significantly to the prehistory of San Bernardino County and California. The site is recommended as eligible to the CRHR under criterion 4.

4.3.4.2 SCE Lugo-Pisgah No. 1 Transmission Line (P-36-014876)

The Lugo-Pisgah No. 1 220 kV transmission line was recorded by URS in 2008 and has been updated by URS in 2010, SRI in 2011, Far Western in 2013 and by Michael Brandman and Associates in 2014. The resource was evaluated for CEQA and NHPA Section 106 eligibility by Pacific Legacy in 2015 and was found eligible as an individual property through survey evaluation (3S) under Criterion A/1 for its direct association with the history of the Boulder Dam/Hoover Dam construction and hydroelectric generation project and for serving as Southern California Edison's first two lines to transmit high voltage electricity to the Los Angeles Region. Very minor modifications have been made to this transmission line over the years and it retains a high level of integrity as to design, location, materials, workmanship, feeling and association.

This transmission line has been evaluated previously as eligible for the NRHP under Criterion A and the CRHR under Criterion 1 for its association with the early operation of Hoover Dam and the provision of electricity to Southern California's World War II industries. This segment of the line appears to retain integrity of location, materials, design, workmanship, feeling, setting, and association. It has been previously recommended as a contributing element of the overall transmission line. Aspen concurs with this assessment.

4.3.4.3 Chuckwalla Road (P-36-024224) CRHR Evaluation

Note: For additional information and a detailed history of Chuckwalla Road please refer to the November 2020 DPR 523 CA-SBR-15409H (Update) P36-024224 (Update) for Chuckwalla Road Appendix 6). This update contains a detailed historical chronology of Chuckwalla Road, and a discussion of numerous additional historic maps and aeriels.

The following evaluation has been prepared by Roger Hatheway, a former San Bernardino County CRM transportation specialist who worked for the County of San Bernardino Department of Public Works (DPW) for over twenty years. He has, therefore, a particularly detailed knowledge of available road-

related databases and has been a qualified Principal Investigator/Built Environment specialist since 1979. Mr. Hatheway has previously prepared a Transportation Context for the Central Mojave Desert region. This detailed context has been modified for use in this report. The following CRHR evaluation is offered based on criteria provided above and detailed in Appendix 1.

Criterion 1: *The site is associated with events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the United States.*

- In-depth historical research conducted by Aspen staff as part of the Stagecoach Solar Project has not identified any significant historical events or individuals associated with Chuckwalla Road in the vicinity of the Stagecoach Solar Project APE. The road/trail alignment is best viewed as a minor, ubiquitous, and relatively unimportant local transportation route originally extending from Rabbit Springs on the south to Daggett on the north.
- This wagon road/trail likely developed beginning in the mid-1880s, following completion of the railroad alignment between Needles and Mojave on July 12, 1883. Many wagon roads were subsequently and very quickly opened up across the High Desert so as to link to various railheads, stations, and sidings along the Santa Fe railroad alignment. Daggett became a major railroad station and shipping point on the Atchison Topeka and Santa Fe Railroad. The 1896 Perris *Miners' Map* depicts many wagon roads leading to railheads across San Bernardino County, and it may reasonably be assumed that the wagon road leading from Rabbit Springs to Daggett was first developed in the mid-1880s. The same basic alignment was minimally utilized until 1914 when it was bypassed by a road built across Lucerne Dry Lake (today's Barstow Road-Highway 247). Chuckwalla Road in the vicinity of the Stagecoach Solar Project APE does, therefore, have a limited period of significance. Chuckwalla Road does not appear to have made a significant contribution to the broad patterns of local or regional history through long and continued use. Those portions of Chuckwalla Road in the Stagecoach Solar Project APE are here recommended as not eligible for the CRHR under criterion 1. This confirms a previous Chuckwalla Road NRHP/CRHR evaluation originally made in 2012.

Criterion 2: *The site is associated with the lives of persons important to local, California, or national history.*

- In-depth historical research conducted by Aspen staff as part of the Stagecoach Solar Project has not identified any significant historical events or individuals associated with Chuckwalla Road. This road/trail alignment is best viewed as a minor, ubiquitous, and unimportant local transportation route with a limited period of significance. Due to the fact that no historical associations with persons of significance have been identified with Chuckwalla Road, those portions of Chuckwalla Road in the Stagecoach Solar Project APE are here recommended as not eligible for the CRHR under criterion 2. This confirms a previous Chuckwalla Road NRHP/CRHR evaluation originally made in 2012.

Criterion 3: *The site 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.*

- Chuckwalla Road is a two-track one-lane dirt road. It was originally and remains today an "Unimproved dirt road – Trail," exactly as it was identified on USGS Maps between 1947 and 1955. It does retain a high degree of integrity of construction, but it is most appropriately viewed as a minor, ubiquitous, and unimportant local transportation route with a limited period of significance. It does not represent the work of an important individual or represent unusual or distinctive methods of construction. Chuckwalla Road is here recommended as not eligible under criterion 3, confirming a previous NRHP/CRHR evaluation originally made in 2012.

Criterion 4: *The site has yielded, or may be likely to yield, information important in prehistory or history of the local area, California, or the nation.*

- The Chuckwalla Road/trail alignment is best viewed as a minor, ubiquitous, and unimportant local transportation route with a limited period of significance extending from the mid-1880s to 1914. There are limited databases available for the conducting of additional research for an unnamed roadway alignment. All major historical maps, historic aerials, and historical surveys and reports have already been consulted in preparing the *Phase I Cultural Resource Assessment for the Stagecoach Solar Project, Northern Lucerne Valley, San Bernardino County, California*, Prepared for: California Lands Commission, Prepared by: Aspen Environmental Group, Inc., 2020. Online databases for historical newspapers and various other digital sources of information have also been consulted in detail. It is unlikely that additional research shall yield significant new historical information. In addition, an interconnecting system of minor roads and trails is clearly visible on Google Earth imagery. Without surveying the entire desert region between Lucerne Valley, Barstow, Daggett, and Victorville, it will be impossible to identify a single minor wagon road/trail alignment as being more important than another minor alignment. Finally, given the fact that to date no significant prehistoric or historic archaeological sites have been identified in specific association with Chuckwalla Road in the vicinity of the Stagecoach Solar Project APE, this resource is recommended as not eligible under criterion 4 (See also District Evaluation). This confirms a previous Chuckwalla Road NRHP/CRHR evaluation originally made in 2012.

District Evaluation of Chuckwalla Road

The Chuckwalla Road/trail alignment as recorded within the Stagecoach Solar Project APE does not appear to qualify as individually eligible to the CRHR. However, a detailed review of historic maps and aerials indicates that along with several variations and alternate interconnecting or braided alignments, a primitive wagon road/trail including that small portion within the Stagecoach Solar Project APE identified herein as Chuckwalla Road/trail, appears to have extended from Rabbit Springs around the west side of Lucerne Dry Lake to Taylor Springs and then to Daggett beginning in the mid-1880s. A desktop Google Earth reconnaissance indicates that major portions of this almost entirely unsurveyed alignment appear to exist today. As such, Chuckwalla Road/trail might be considered as a contributing feature to a larger and as yet undefined and unevaluated CRHR transportation district of early roads and trails associated with a minor and historically unmapped High Desert transportation network. Despite this possibility, and given the fact that primitive roads/trails are ubiquitous across the High Desert Region, that portion of Chuckwalla Road/trail within the Stagecoach Solar Project APE, cannot reasonably be regarded as part of a significant larger whole without including the survey and evaluation of every interconnected road/trail between Lucerne Valley, Barstow, Daggett, and Victorville. Given the fact that a much larger High Desert historic transportation district has not yet been formally documented or is likely to be documented in the next 5-10 years, and the fact that the wagon road extending from Rabbit Springs north to Daggett was a minor, ubiquitous, and relatively unimportant local transportation route, it is here determined that Chuckwalla Road/trail within the Stagecoach Solar Project APE does not appear to qualify as a contributor to a CRHR eligible transportation district. **Note:** It is suggested that should future comprehensive surveys of the entire road network in this entire region ever be completed, that this recommendation should be revisited.

5. Recommendations

The preferred mitigation measure to eliminate impacts to cultural resources is avoidance. In the case of single discrete resources, such as 3380-10, avoidance is often a straightforward matter of incorporating design measures in Project Design that avoid impacts to Historic Resources, and some buffer area around them. Avoidance in these cases is often verified by monitoring during Project construction and may include protective fencing or flagging around the resource and its buffer to ensure equipment does not enter the area.

In the case of resources like 3380-13 in the Calcite Substation Project area, however, the horizontal and vertical extent cannot be known without some level of excavation. As noted above for site 3380-13, it is within an area of low dunes and shifting sands that exhibit occasional deflation of surfaces, and artifacts appear in these exposed areas in greater concentrations. Artifacts similar to those found at 3380-13 have been recorded in identical low dune hummocks adjacent to the north and east as isolates (see Table 4 and Appendix 3). Based on the presence of artifacts in these dune contexts as isolates, it is assumed that should the adjacent dunes become deflated, then additional concentrations of artifacts would likely appear. Therefore, it is recommended that the area east of Highway 247 in the SE¼ of the SE¼ of Section 2 be avoided by Project construction. Appendix 3 shows the boundary of the site. As the dune hummocks and blowouts continue to the north and east, a 200-foot buffer should be added to the site boundary to provide additional protection to artifacts present and potentially buried in the dunes. If any disturbance from grading, trenching, compacting or other earth movement occurs within this area, then a Phase II evaluation should be implemented throughout the site area and buffer to delineate subsurface materials and extent.

In the event that unexpected cultural materials are encountered during future geotechnical testing, construction, or maintenance activities, Aspen recommends the following:

1. Inadvertent Discovery of Cultural Resources. An archaeologist meeting the Secretary of Interior qualifications as a professional archaeologist will be available on call to identify and evaluate previously unidentified cultural resources discovered during construction activities. Upon inadvertent discovery of a potential resource, avoidance measures will be implemented by construction crews and may include halting construction work within 100 feet of the find and directing construction away from the discovery until the archaeologist assesses the significance of the resource. The archaeologist will consult with the appropriate responsible public agency regarding necessary plans for treatment of the find(s), and for the evaluation and mitigation of impacts if the finds are thought to be potentially eligible for the CRHR or may qualify as a unique archaeological resource under CEQA Section 21083.2.
2. Inadvertent Discovery of Human Remains. In the event that human remains, or potential human remains are discovered, construction activities within 100-feet of the find shall be immediately halted. The Construction Project Manager shall immediately notify the appropriate responsible public agency and the County Coroner. The County Coroner will make a determination as to the origin of the remains and, if determined to be of Native American origin, will contact the Native American Heritage Commission (NAHC) by telephone within 24 hours. If the remains are not of Native American origin, the County Coroner will make a determination as to the disposition of the remains. Once contacted by the County Coroner, the NAHC shall immediately identify and notify the Most Likely Descendant (MLD). The MLD has 48 hours to make recommendations to the landowner for treatment or disposition of the human remains. If the descendant does not make recommendations within 48 hours, the appropriate responsible public agency shall reinter the remains in an area of the property secure from further disturbance. If the responsible public agency does not accept the descendant's recommendations, the appropriate responsible public agency or the descendant may request mediation by the NAHC. Construction may continue once compliance with all relevant sections of the California Health and Safety Code have been addressed and authorization to proceed is issued by the County Coroner and the responsible public agency.

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Appendix 1

Regulatory Context

Appendix 1

Regulatory Framework

State

California Environmental Quality Act (1970) (CEQA). CEQA established that historical and archaeological resources are afforded consideration and protection. CEQA Guidelines define significant cultural resources under three regulatory designations: historical resources, unique archaeological resources, and tribal cultural resources.

A historical resource is a “resource listed in, or determined to be eligible by the State Historical Resources Commission, for listing in the [California Register of Historical Resources] CRHR”; or “a resource listed in a local register of historical resources or identified as significant in a historical resources survey meeting the requirements of Section 5024.1(g) of the Public Resources Code”; or “any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California, provided the agency’s determination is supported by substantial evidence in light of the whole record” (14 CCR Section 15064.5[a][3]).

Historical resources automatically listed in the CRHR include California cultural resources listed in or formally determined eligible for the NRHP and California Historical Landmarks list from No. 770 onward (PRC 5024.1[d]). Locally listed resources are entitled to a presumption of significance unless a preponderance of evidence in the record indicates otherwise.

Under CEQA, a resource is generally considered historically significant if it meets the criteria for listing in the CRHR. A resource must meet at least one of the following criteria (PRC 5024.1; 14 CCR Section 15064.5[a][3]):

1. Is associated with events that have made a significant contribution to the broad patterns of California’s history and cultural heritage. Title 14, CCR Section 4852(b)(1) adds, “is associated with events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the United States.”
2. Is associated with the lives of persons important in our past. Title 14, CCR Section 4852(b)(2) adds, “is associated with the lives of persons important to local, California, or national history.”
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. Title 14, CCR 4852(b)(3) allows a resource to be CRHR eligible if it represents the work of a master.
4. Has yielded, or may be likely to yield, information important in prehistory or history. Title 14, CCR 4852(b)(4) specifies that importance in prehistory or history can be defined at the scale of “the local area, California, or the nation.

Historical resources must also possess integrity of location, design, setting, materials, workmanship, feeling, and association (14 CCR 4852[c]).

An archaeological artifact, object, or site can meet CEQA’s definition of a unique archaeological resource even if it does not qualify as a historical resource (PRC 21083.2[g]; 14 CCR 15064.5[c][3]). An archaeological artifact, object, or site is considered a unique archaeological resource if “it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria (PRC 21083.2[g]):

- Contains information needed to answer important scientific research questions and there is a demonstrable public interest in that information.
- Has a special and particular quality such as being the oldest of its type or the best available example of its type.
- Is directly associated with a scientifically recognized important prehistoric or historic event or person.

AB52 changes sections of the Public Resources Code to add consideration for Native American culture within the CEQA process. The goal of AB 52 is to promote the involvement of California Native American tribes in the decision-making process when it comes to identifying and developing mitigation of impacts to resources of importance to their culture. To reach this goal, the bill establishes a formal role for tribes in the CEQA process. Under AB 52, tribal representatives are considered experts appropriate for providing substantial evidence regarding the locations, types, and significance of tribal cultural resources within their traditionally and culturally affiliated geographic area (PRC Section 21080.3.1(a)). The CEQA defines a California Native American tribe as a "Native American tribe located in California that is on the contact list maintained by the Native American Heritage Commission." This definition does not distinguish between federally recognized and non-federally recognized tribal groups and is therefore more inclusive than the federal definition of "Indian tribe" (PRC § 21073).

CEQA lead agencies are required to consult with tribes about potential tribal cultural resources in the Project area, the potential significance of project impacts on those resources, the development of project alternatives, and the type of environmental document that should be prepared. AB 52 specifically states that a project that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment (PRC Section 21084.2).

Tribal cultural resources, as defined by CEQA Section 21074(a)(1) and 5024.1(c), includes either of the following:

1. Sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are either of the following:
 - a. Included or determined to be eligible for inclusion in the California Register of Historical Resources.
 - b. Included in a local register of historical resources as defined in Public Resources Code section 5020.1(k).
2. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in Public Resources Code section 5024.1(c). In applying the criteria set forth in 5024.1(c) for the purposes of this paragraph, the lead agency shall consider the significance of the resource to a California Native American tribe.

Tribal cultural resources are also defined as a cultural landscape where "the landscape is geographically defined in terms of the size and scope of the landscape." However, tribal cultural resources can also include "non-unique archaeological resources" that, rather than being important for scientific value as a resource, can also be significant because of the sacred and/or cultural tribal value of the resource.

San Bernardino County

County of San Bernardino 2007 General Plan, Section V Conservation Element (updated May 22, 2012)

Goal CO-3. The County will preserve and promote its historic and prehistoric cultural heritage.

Policy CO 3.1 Identify and protect important archaeological and historic cultural resources in areas of the County that have been determined to have known cultural resource sensitivity.

1. Require a cultural resources field survey and evaluation prepared by a qualified professional for projects located within the mapped Cultural Resource Overlay area.
2. Mitigation of impacts to important cultural resources will follow the standards established in Appendix K of the California Environmental Quality Act Guidelines, as amended to date.

Policy CO 3.2 Identify and protect important archaeological and historic cultural resources in all lands that involves disturbance of previously undisturbed ground.

1. Require the Archaeological Information Center at the San Bernardino County Museum to conduct a preliminary cultural resource review prior to the County's application acceptance for all land use applications in planning regions lacking Cultural Resource Overlays and in lands located outside of planning regions.
2. Should the County's preliminary review indicate the presence of known cultural resources or moderate to high sensitivity for the potential presence of cultural resources, a field survey and evaluation prepared by a qualified professional will be required with project submittal. The format of the report and standards for evaluation will follow the "Guidelines for Cultural Resource Management Reports" on file with the San Bernardino County Land Use Services Department.

Policy CO 3.3 Establish programs to preserve the information and heritage value of cultural and historical resources.

Policy CO 3.4 The County will comply with Government Code Section 65352.2 (SB 18) by consulting with tribes as identified by the California Native American Heritage Commission on all General Plan and specific plan actions.

1. Site record forms and reports of surveys, test excavations, and data recovery programs will be filed with the Archaeological Information Center at the San Bernardino County Museum, and will be reviewed and approved in consultation with that office. a. Preliminary reports verifying that all necessary archaeological or historical fieldwork has been completed will be required prior to project grading and/or building permits. b. Final reports will be submitted and approved prior to project occupancy permits.
2. Any artifacts collected or recovered as a result of cultural resource investigations will be catalogued per County Museum guidelines and adequately curated in an institution with appropriate staff and facilities for their scientific information potential to be preserved. This shall not preclude the local tribes from seeking the return of certain artifacts as agreed to in a consultation process with the developer/project archaeologist.
3. When avoidance or preservation of an archaeological site or historic structure is proposed as a form of mitigation, a program detailing how such long-term avoidance or preservation is assured will be developed and approved prior to conditional approval.
4. In areas of potential but unknown sensitivity, field surveys prior to grading will be required to establish the need for paleontologic monitoring.
5. Projects requiring grading plans that are located in areas of known fossil occurrences, or demonstrated in a field survey to have fossils present, will have all rough grading (cuts greater than 3 feet) monitored by trained paleontologic crews working under the direction of a qualified professional, so that fossils exposed during grading can be recovered and preserved. Fossils include large and small vertebrate fossils, the latter recovered by screen washing of bulk samples.
6. A report of findings with an itemized accession inventory will be prepared as evidence that monitoring has been successfully completed. A preliminary report will be submitted and approved prior to

granting of building permits, and a final report will be submitted and approved prior to granting of occupancy permits. The adequacy of paleontologic reports will be determined in consultation with the Curator of Earth Science, San Bernardino County Museum.

Policy CO 3.5 Ensure that important cultural resources are avoided or minimized to protect Native American beliefs and traditions.

1. Consistent with SB 18, as well as possible mitigation measures identified through the CEQA process, the County will work and consult with local tribes to identify, protect and preserve “traditional cultural properties” (TCPs). TCPs include both manmade sites and resources as well as natural landscapes that contribute to the cultural significance of areas.
2. The County will protect confidential information concerning Native American cultural resources with internal procedures, per the requirements of SB 922, an addendum to SB 18. The purpose of SB 922 is to exempt cultural site information from public review as provided for in the Public Records Act. Information provided by tribes to the County shall be considered confidential or sacred.
3. The County will work in good faith with the local tribes, developers/applicants and other parties if the local affected tribes request the return of certain Native American artifacts from private development projects. The developer is expected to act in good faith when considering the local tribe’s request for artifacts. Artifacts not desired by the local tribe will be placed in a qualified repository as established by the California State Historical Resources Commission. If no facility is available, then all artifacts will be donated to the local tribe.
4. The County will work with the developer of any “gated community” to ensure that the Native Americans are allowed future access, under reasonable conditions, to view and/or visit known sites within the “gated community.” If a site is identified within a gated community project, and preferably preserved as open space, the development will be conditioned by the County allow future access to Native Americans to view and/or visit that site.
5. Because contemporary Native Americans have expressed concern over the handling of the remains of their ancestors, particularly with respect to archaeological sites containing human burials or cremations, artifacts of ceremonial or spiritual significance, and rock art, the following actions will be taken when decisions are made regarding the disposition of archaeological sites that are the result of prehistoric or historic Native American cultural activity:
 - a. The Native American Heritage Commission and local reservation, museum, and other concerned Native American leaders will be notified in writing of any proposed evaluation or mitigation activities that involve excavation of Native American archaeological sites, and their comments and concerns solicited.
 - b. The concerns of the Native American community will be fully considered in the planning process.
 - c. If human remains are encountered during grading and other construction excavation, work in the immediate vicinity will cease and the County Coroner will be contacted pursuant to the state Health and Safety Code.
 - d. In the event that Native American cultural resources are discovered during project development and/or construction, all work in the immediate vicinity of the find will cease and a qualified archaeologist meeting U.S. Secretary of the Interior standards will be hired to assess the find. Work on the overall project may continue during this assessment period.
 - e. If Native American cultural resources are discovered, the County will contact the local tribe. If requested by the tribe, the County will, in good faith, consult on the discovery and its disposition with the tribe.

Appendix 2

Historic Context Maps
[REMOVED FOR CONFIDENTIALITY]

Appendix 3

Cultural Resource Survey Areas and Results
[REMOVED FOR CONFIDENTIALITY]

Appendix 4

Aspen Cultural Resource DPR Site Records
[REMOVED FOR CONFIDENTIALITY]

Appendix 5

Aspen Cultural Resource DPR Isolate Records
[REMOVED FOR CONFIDENTIALITY]

Appendix 6

Applied Earthworks Temporary DPR Records
[REMOVED FOR CONFIDENTIALITY]

Appendix 7

Previously Recorded Resources in Project
[REMOVED FOR CONFIDENTIALITY]

Appendix 8

Supplemental Phase I
Cultural Resources Assessment

TECHNICAL MEMORANDUM

Date: March 30, 2021
To: California State Lands Commission
From: Lauren DeOliveira, M.S., RPA, Elliot D'Antin, B.A., and James Allan, PhD, RPA
Subject: Supplemental Phase I Cultural Resources Assessment for the Stagecoach Solar Project-
Underground Gen-Tie Alternative Route

This memo provides the results of a cultural resources records search and intensive pedestrian field survey completed by Aspen Environmental Group (Aspen) for the Underground Gen-Tie Alternative Route for the Stagecoach Solar Project (Project).

The study described herein was performed to determine the presence or absence of cultural resources in the Project area and a surrounding 1-mile radius. The study consisted of a search of the California Historical Resources Information System's (CHRIS) cultural resources records, and a pedestrian survey of the approximately 42.36-acre project site located in the central portion of San Bernardino County, California. The Project area is located entirely within San Bernardino County's Right-of-Way (Figure 1).

Project Description

The Project proposes to construct and operate a solar farm which would generate up to 200 megawatts (MW) of solar energy using photovoltaic (PV) and battery storage technologies. This report documents the results of a supplemental record search and pedestrian survey needed for the Project's underground gen-tie alternative route.

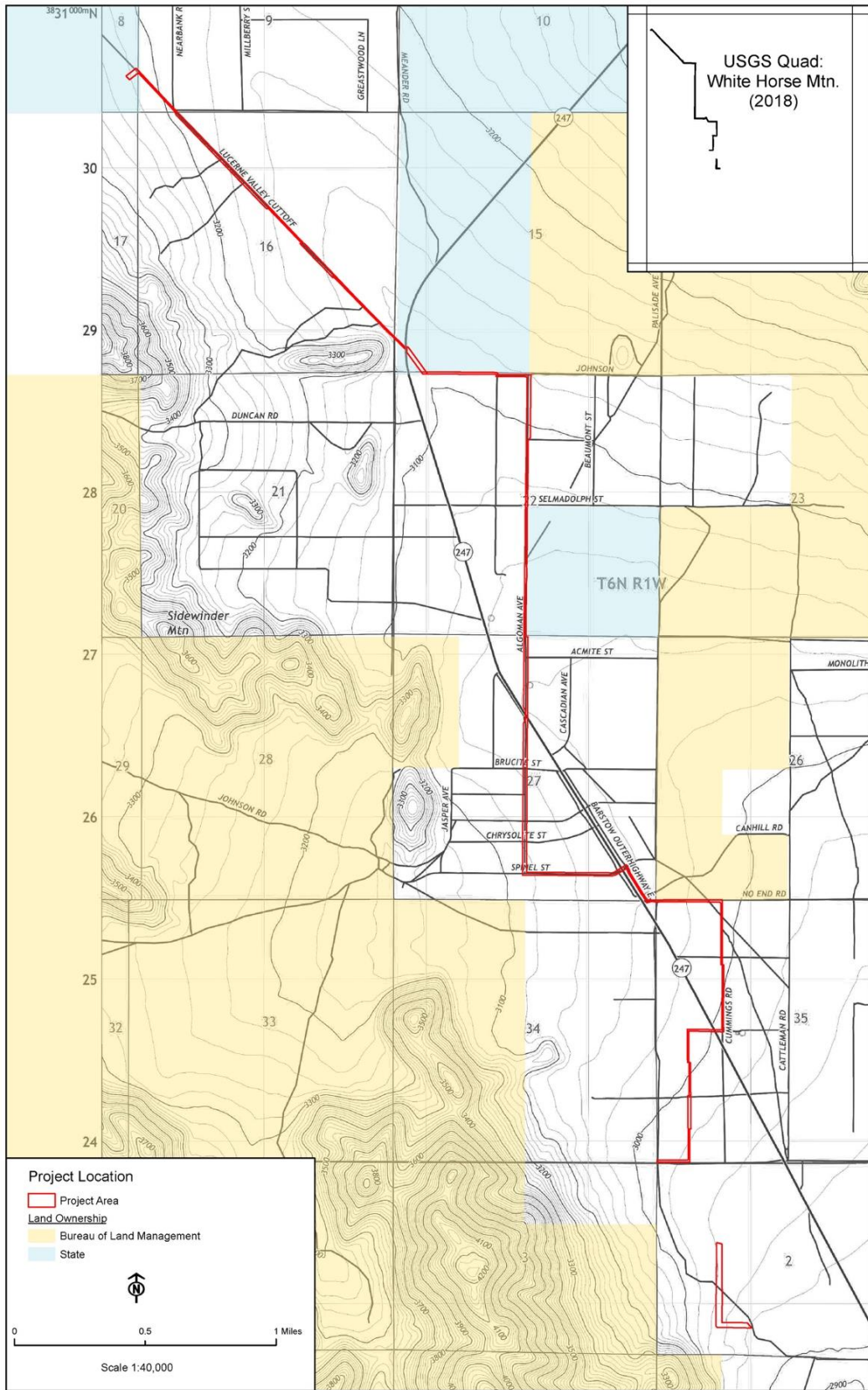
Location and Setting

The Project is located in the central portion of San Bernardino County within North Lucerne Valley, approximately 15 miles south of the City of Barstow and 12 miles northwest of the unincorporated community of Lucerne Valley. It would be located east of Interstate 15, south of Interstate 40, and about 1.5 miles west of State Route (SR) 247/Barstow Road. Sidewinder Mountain is located to the west, Stoddard Ridge is located to the north, and both Goat Mountain and West Ord Mountain are located to the east. Generally, the Underground Gen-Tie Alternative Route follows established, graded dirt roads, but when necessary, follows parallel and adjacent roads within CA State Property.

Regulatory Framework

Laws, ordinances, regulations, and standards on federal, state, and local levels seek to protect and manage cultural resources. The Project is not located on federally owned or managed lands, which precludes the evaluation of the Project under Section 106 of the National Historic Preservation Act. Applicable State of California regulations include the CEQA PRC Sections 21000 et seq., Section 5024, Section 5024.5; California Code of Regulations (CCR) Title 14, Chapter 3, Sections 15000 et seq.; and AB 52.

Figure 1. Project Location



Environmental Setting

The location of the Underground Gen-Tie Alternative Route is typical of the Mohave Desert ecology, with minimal precipitation, low humidity, wide diurnal temperature ranges, high mean summer temperatures, and strong seasonal winds. This climate supports a healthy Creosote Bush Scrub community that is well established in and around the Project area. Notable flora seen within North Lucerne Valley that would have been of interest to Native Americans includes: Cottontop Cactus (*Echinocactus polycephalus*); Hedgehog Cactus (*Echinocactus engelmannii*); Branched Pencil Cholla (*Cylindropuntia ramosissima*); Wiggins Cholla (*Cylindropuntia echinocarpa*); Beavertail Cactus (*Optunia basilaris* var. *basilaris*); Chia Sage (*Salvia Columbaria*); Creosote Bush (*Larrea divaricata*); Desert Mariposa Lily – with orange flowers (*Calochortus kennedyi*); Nevada Jointfir (*Ephedra nevadensis*); Joshua Tree (*Yucca brevifolia*); Mojave Yucca, AKA Spanish Bayonet (*Yucca schidigera*); Prunus (Desert Peach); Saltbush (*Atriplex polycarpa*).

This Creosote Bush Scrub community, in turn, supports a variety of small to medium sized mammals, reptiles, and Bighorn Sheep. Desert Wood Rats (*Neotoma lepida*), Black Tailed Jackrabbits (*Lepus californicus*), and ground squirrels (*Spermophilus mohavensis*) were frequently seen. All three of these small mammal species would have been important sources of meat for the local Native American population (Sutton 1989). Rabbits were also an important source of furs to make winter clothing and other items (Yoder et al. 2005).

Local residents attest to frequently seeing Desert Tortoise in the valley floor, and Big Horn Sheep are still occasionally seen in the local mountains. These species, as well as the occasional deer and Pronghorn, were also present in the Project area in the past. Native use of Desert Tortoise is discussed in Schneider and Dickenson (1989).

The Underground Gen-tie Alternative Route is wholly located within the alluvial deposits of North Lucerne Valley, consisting of Holocene and latest Pleistocene sediments.

Cultural Setting

Three elements of the cultural setting are important for understanding the cultural resources present in the Project area. These are the prehistoric, ethnographic, and historic records. The Prehistoric overview summarizes the era prior to European contact (locally post AD 1771), while the Ethnographic overview summarizes information regarding the Native American inhabitants of the region, as understood through historical accounts and information given to anthropologists by Native Americans. The below information is summarized from the detailed prehistoric, ethnographic, and historic contexts found in Macko et al. (2020).

Prehistoric Contexts

Southern California's desert region has a long history of human occupation. Prehistoric material culture within this region has been organized according to periods or patterns that define technological, social, economic, and ideological elements. Within these periods, archaeologists have defined a chronology specific to the prehistory of the desert region, including the Project area.

The Mojave Desert region is divided into four major contextual periods; Paleoindian Period, Lake Mojave Period, Pinto Period, and the Late Holocene, which includes the Gypsum, Rose Springs, and Late Prehistoric complexes. Additional information related to these four periods can be found in the Macko et al. 2020.

Ethnohistory

The tribes that lived in and utilized the Lucerne Valley area were the Desert Serrano (or Vanyume) people. The Desert Serrano/Vanyume population was centered around the well-watered Mojave River area, but their territory probably included most of the north faces of both the San Bernardino and San Gabriel mountains, from as far west as the Elizabeth Lake/Lake Hughes area in Los Angeles County, to as far east as Yucaipa Valley in San Bernardino County.

The Serrano, including the Desert Serrano/Vanyume, Cahuilla, and Tongva all spoke languages that were members of the Takic branch of the Northern Uto-Aztecan Language Family. Their neighbors, the Kawaiisu (to the northwest) and the Chemehuevi (to the northeast) spoke languages that were members of the Numic branch of the Northern Uto-Aztecan Language Family. Golla (2011) notes that the Mountain Serrano (Serrano proper) language, “is moderately well documented,” but that little is known about the closely related Desert Serrano/Vanyume dialect. “The existing evidence suggests that the Vanyume dialect was very close to Serrano, although it seems to have shared some features with Kitanemuk” (Golla 2011).

Earle (2004) describes the Serrano Clan Territories on the Mojave River in detail. Earle reports (in part) that, “J.P. Harrington’s unpublished field notes contain detailed information on the political geography of the upper Mojave River and Western Mojave Desert. Harrington’s principal Serrano consultants were Santos Manuel, and his son Tomas Manuel. These consultants confirmed the importance of the Mojave River corridor to the west of the Project area.

The Serrano relied on hunting and gathering of plants for subsistence, with the occasional fishing. Both large and small mammals were hunted such as deer, antelope, rabbits, small rodents, and various birds like quail. Plant staples included seeds like acorns, pinion nuts and chia, bulbs, blooms, tubers, and roots of various plants like berries, yucca, barrel cactus, and mesquite. It is noted that fire was used as a management tool to increase the yields of certain plants (Bean and Smith 1978; Bean and Vane 1982).

The Serrano lived in rounded dwellings, domed structures with tule thatching built over an excavated area. These structures were built with fire pits and primarily served as sleeping areas with tule mats. The majority of the daily norm was conducted outdoors under square ramadas, or in the open.

The Serrano artifact assemblage is similar to that of the neighboring Cahuilla and includes musical instruments such as rattles and flutes; utensils and ornaments such as fire drills, mortars, metates, pipes, beads, awls, and projectile points from wood, shell, bone, and stone. The Serrano were talented pottery and basket makers. Baskets were often made of deergrass, and yucca fibers. Their pots were made of coiled clay smoothed out with a paddle and set in the sun to dry before being fired in a pit. The brownware pottery was sometimes decorated with circular designs and lines in either red or black (Bean and Smith 1978).

The Serrano were also known for their petroglyphs. Abstract and geometric designs are often seen with representational figures of sheep, lizards and human beings. Some state that their petroglyphs were records of important events, rough maps, and artistic representations of native life.

Historic Contexts

Introduction

This summary of the in depth Historical Context Statement presented in Macko et al. 2020, includes the Project area, and a greater Lucerne Valley region that includes Big Bear and Holcomb Valley on the south, Barstow on the north, Victorville on the west, and Old Woman Springs to the east. The larger geographic region has a complex history extending back to the mid-1850s represented by a variety of built environment features that include ranches and homesteads, single family homes, residential tracts, barns and

sheds, and commercial properties. Significant historic architectural styles represented include Pioneer, Craftsman, and Adobe. Much of the architecture represented throughout Lucerne Valley is, however, of a much more prosaic nature that includes the vernacular and builder/contractor architectural styles. Linear features of interest that are found across the Lucerne Valley region include wagon roads, railroads, high-voltage transmission lines, powerlines, pipelines, telephone lines, freeways and highways, county roads, local roads, and various flood control channels. Interesting historic features identified within the much smaller Project area include early springs, homesteads and ranches, mines and mining roads, historic county roads and state highways, WW-II bombing ranges, and various transmission lines and pipelines.

Sources consulted include but are not limited to the following.

- Previously prepared background historical data taken from reports prepared by and approved by various State and local agencies.
- Historic maps ranging in age from the mid-1850s to the mid-1950s detailing the Project Area and the larger Lucerne Valley region.
- Historic and detailed early twentieth century descriptions of the Project area and/or region.
- Historic newspapers articles detailing specific points in time for the Project area.
- Personal accounts of Lucerne Valley residents.

American Period Historical Summary (1848-Present)

The American Period is generally defined here as beginning in 1848 following the Treaty of Guadalupe-Hidalgo and extending to the present. The areas of interest in the American Period can be summarized as exploration, transportation, early settlement, water supply, mining, cattle ranching, and homesteading and agriculture. Additional research conducted by Aspen staff has identified several additional areas of interest, including military history and the establishment of bombing ranges in the vicinity of North Lucerne Valley. These general areas of interest are summarized as:

- Prehistory and Exploration to the Dawn of the Age of Railroads
- Transportation: Wagon Roads, Railroads, Highways, Local Roads, and Other Linear Features
- Mining
- Agriculture (Cattle Ranching and Homesteading)
- The Role of Government (Federal, State, and Local)
- Military

Methods

Cultural Resources Record Search and Pedestrian Survey

A cultural resources record search was conducted by the staff at the California Historical Resources Information System (CHRIS) South Central Coastal Information Center (SCCIC) at California State University, Fullerton, California, on February 12, 2021. The SCCIC is the official repository for all cultural resources site records and reports for San Bernardino County. The SCCIC records search results are presented in the results section below.

Records Search Results

The record search identified fifty-seven previously recorded cultural resources and thirteen archaeological studies within the 1-mile records search area. Of these, five previously recorded resources, and one archaeological study are located within or encompassed the Project area and are shown in bold below (Tables 1 and 2).

Table 1. Previous Studies Conducted within 1 Mile of the Project
 Studies located within the Project area are shown in **BOLD**.

SCCIC Report No.	Authors	Report Date	Title	Company
SB-00614	Fowler, Don D., Elizabeth Budy, Dennis Desart, Joyce Banth, And Alma Smith	1978	Final Report: Class II Cultural Resources Field Sampling Inventory Along Proposed IPP Transmission Line Corridors, Utah-Nevada-California	Desert Research Institute, University of Nevada, Reno
SB-02257	Bureau of Land Management	1988	Archaeological Sites of the California Desert Area (Calico, Kramer, Stoddard, Johnson, Morongo, Twentynine Palms) Transect Forms	BLM
SB-04466	Fulton, Phil	2004	Cultural Resources Assessment: Cingular Wireless Facility NO. SB 327-03, San Bernardino County, CA. 19PP	LSA
SB-05579	Leftwich, Brent, Mark Neal, and Craig Woodman	2005	Deteriorated Pole Replacement Project Archaeological Survey of Five Pole Locations on the Rabbit 12kv, Camprock 33kv, And Cushenbury 33kv, Transmission Lines, San Bernardino County, California	URS
SB-06320	Leftwich, Brent, Mark Neal, and Craig Woodman	2010	Class III Cultural Resources Technical Report for the Granite Mountain Wind Energy Project, San Bernardino County, California.	URS
SB-06320	Woodman, Craig	2011	Supplemental Class III Archaeological Survey of a Redundant Fiber Optic Line for the Granite Mountain Wind Energy Project, San Bernardino County, CA	URS
SB-06512	Backes, Clarus, Jessica DeBusk, and John Dietler	2009	Cultural Resources Survey for the Lucerne Valley PV Solar Project, San Bernardino County, California.	SWCA
SB-07020	Woodman, Craig	2011	Supplemental Class III Archaeological Survey of a Redundant Fiber Optic Line for the Granite Mountain Wind Energy Project, San Bernardino County, CA	URS
SB-07273	Orfila, Rebecca S.	2011	Archaeological Survey for the Southern California Edison Company: GRM Project in Lucerne, CA (2012 WCR Rabbit 12kV-BLF Addition: IO 319221/TD520570; RSOC CWA-210.	RSO Consulting
SB-07366	Winslow, Diane and Sherri Andrews	2013	Class III Inventory for the Granite Wind Energy Telecommunication Lines Granite Mountain, Gentie Line and Jasper Substation Interconnection Projects, San Bernardino County, California.	ASM Affiliates, Inc.
SB-07984	Stanton, Patrick B., Kenneth M. Becker, Mark Q. Sutton, and Karen K. Swope	2015	Class III Cultural Resource Inventory of the Line 4000 Anomaly Digs Project, San Bernardino County, California	Statistical Research, Inc.
SB-08217	Roland, Jennifer	2015	Phase I Investigation for the Verizon Wireless Meander Tower Installation Project,	NWB Environmental Services, LLC
SB-08248	Roland, Jennifer	2015	Lucerne Valley, San Bernardino County, California.	NWB Environmental Services, LLC

The five previously recorded resources within the Project area are all historic-era roads that have been previously evaluated and recommended as not eligible for the CRHR. Four of these resources (P-36-24190, P-36-24246, P-36-24248, and P-36-27410) have been relocated and discussed in Macko et al. 2020, and thus not discussed further as part of this report.

Table 2. Previously Recorded Cultural Resources within 1 Mile of the Project

Resources located within the Project area are shown in **BOLD**.

Primary Number	Trinomial	Resource Name	Age	Description	Recorded By
P-36-002145	CA-SBR-002145	Lucerne Dry Lake	Prehistoric	Village, destroyed	1940 (SMITH); 2018 (Diane Winslow, ASM Affiliates)
P-36-002336	CA-SBR-002336H	N/A	Multicomponent	homestead, w/ 1 CCS flake	1977 (DE SART); 2013 (M. O'Neill, Pacific Legacy)
P-36-002337	CA-SBR-002337H	4 SB S40	Historic	Homestead	1977 (DE SART); 2013 (M. O'Neill, Pacific Legacy)
P-36-003750	CA-SBR-003750	N/A	Prehistoric	Bedrock metates/milling slicks	1979 (Gerrit Fenega)
P-36-014876	CA-SBR-013115H	SCE 220-Kv North Transmission Line; Hoover-Chino No. 1	Historic	Transmission line	2008 (K. Erickson, URS Corporation); 2010 (Kristen Erickson, URS); 2011 (Joshua Trampler, SRI); 2011 (J. Trampier, SRI); 2011 (J. Trampier, S. Kremkau, Statistical Research); 2011 (D. Winslow and S. Andrews, ASM Affiliates); 2012 (Wendy L. Tinsley, Pacific Legacy); 2013 (E. Gingerich, Far Western); 2014 (K. A. Crawford, Michael Brandman Associates); 2015 (Matthew Hyland, SRI); 2017 (Shannon Davis, ASM); 2018 (Shannon Davis, ASM); 2018; 2019 (J. Spidell, Kautz)
P-36-014928	CA-SBR-013156H	N/A	Historic	2 rock cairns	2014 (D. Trout, R. Brierty, J. Harrison, S. Lewis, M. O'Neill, Pacific Legacy, Inc)
P-36-014943	N/A	N/A	Historic	Isolated beverage can	2009 (Espada, URS)
P-36-014947	N/A	N/A	Historic	Isolated hole-in-top, condensed milk.	2009 (Espanada)
P-36-021160	CA-SBR-013657H	LV-S1	Historic	Concrete foundations and associated features for agriculture/irrigation	2009 (SWCA); 2016 (Dudek)

Table 2. Previously Recorded Cultural Resources within 1 Mile of the Project
 Resources located within the Project area are shown in **BOLD**.

Primary Number	Trinomial	Resource Name	Age	Description	Recorded By
P-36-021161	CA-SBR-013658H	LV-S2	Prehistoric	Wooden poles and concrete troughs for agriculture	2009 (King Covert; Sherman Hares, SWCA); 2016 (Dudek)
P-36-021163	N/A	N/A	Prehistoric	Isolated metate fragment	2009 (King Covert; Sherman Hares, SWCA)
P-36-021164	N/A	N/A	Prehistoric	Isolated chert flake	2009 (King Covert; Sherman Hares, SWCA)
P-36-021165	N/A	N/A	Prehistoric	Isolated proximal portion of a basalt, biface	2009 (King Covert; Sherman Hares, SWCA)
P-36-021166	N/A	LV-I4	Prehistoric	Isolated basalt flake	2009 (Covert et al., SWCA Environmental Consultants)
P-36-021167	N/A	N/A	Prehistoric	Isolated granitic, metate	2009 (King Covert; Sherman Hares, SWCA)
P-36-021168	N/A	N/A	Prehistoric	Isolated chert flake	2009 (King Covert; Sherman Hares, SWCA)
P-36-021200	CA-SBR-013662H	URS 1-B	Historic	Possible prospect pit w/ refuse artifacts	2010 (Whitney Wilkinson; Brent Leftwich, URS); 2011 (D. Winslow and S. Andrews, ASM Affiliates); 2013 (M. O'Neill, Pacific legacy); 2018 (Diane Winslow, ASM Affiliates)
P-36-021201	CA-SBR-013663H	URS-2B	Historic	Well head	2010 (Whitney Wilkinson; Brent Leftwich, URS); 2012 (M. O'Neill, Pacific legacy, Inc); 2018 (Dudek)
P-36-021202	N/A	ISO-1B	Prehistoric	Isolated red, chert, bifacial thinning flake	2010 (Whitney Wilkinson; Brent Leftwich, URS); 2018 (A. Pham, Dudek)
P-36-024156	CA-SBR-015341H	SRI-64	Historic	Single-lane dirt road	2011 (S Kremkau, SRI); 2012 (L. Schrader, Pacific Legacy); 2016 (Nara Cox and Karolina Chmiel, ICF)
P-36-024157	CA-SBR-015342H	SRI-67	Historic	Road segment	2011 (S Kremkau, SRI); 2018 (Dudek)
P-36-024158	CA-SBR-015343H	N/A	Historic	Road	2011 (S Kremkau, SRI)
P-36-024164	CA-SBR-015349H	N/A	Historic	Two-track, dirt road	2011 (Kremkau)
P-36-024165	CA-SBR-015350H	N/A	Historic	Two-track, dirt road	2011 (Kremkau)

Table 2. Previously Recorded Cultural Resources within 1 Mile of the Project
 Resources located within the Project area are shown in **BOLD**.

Primary Number	Trinomial	Resource Name	Age	Description	Recorded By
P-36-024189	CA-SBR-015374H	SRI-1071	Historic	Unpaved, dirt road and GLO benchmark	2011 (Kremkau, S., Statistical Research, Inc.); 2012 (L. Schrader, Pacific Legacy)
P-36-024190	CA-SBR-015375H	SRI-1072	Historic	Structure, Site	2011 (S Kremkau, SRI); 2013 (M. O'Neill, Pacific Legacy, Inc); 2018
P-36-024195	CA-SBR-015380H	Blake Street	Historic	Two-track, dirt road.	2011 (Kremkau); 2013 (Pacific Legacy Inc); 2018 (Dudek)
P-36-024204	CA-SBR-015389H	Northside Road	Historic	Road	2011 (S. Kremkau, Statistical Research, Inc.); 2018
P-36-024223	CA-SBR-015408H	Algoman Rd, Brucite Rd, Johnson Rd	Historic	Dirt Road	2011 (Kremkau, S., Statistical Research, Inc.); 2013 (B. Webster, Pacific Legacy)
P-36-024224	CA-SBR-015409H	Chuckwalla Road	Historic	Road and can scatter	2011 (S Kremkau, SRI); 2012 (M. O'Neill, Pacific Legacy); 2015 (Patrick Stanton, SRI); 2016; 2018
P-36-024225	CA-SBR-015410H	SRI-3024	Historic	Refuse scatter	2011 (S Kremkau, SRI); 2018
P-36-024231	CA-SBR-015416H	N/A		Two-track, dirt road	2011 (Kremkau)
P-36-024245	CA-SBR-015430H	SRI-4676	Historic	Unpaved road	2011 (S Kremkau, SRI); 2018; 2018 (Shannon Davis, ASM)
P-36-024246	CA-SBR-015431H	SRI-4708	Historic	Dirt road and USGS benchmark	2011 (S. Kremkau, SRI); 2013 (M. O'Neill, Pacific Legacy)
P-36-024247	CA-SBR-015432H	SRI-4713	Historic	Dirt road	2011 (S. Kremkau, SRI); 2013 (M. O'Neill, Pacific legacy)
P-36-024248	CA-SBR-015433H	Lucerne Valley Cutoff	Historic	Dirt road	2011 (S. Kremkau, Statistical Research); 2013 (M. O'Neill, Pacific Legacy); 2014 (J. Lev-Tov, Statistical Research)
P-36-025668	CA-SBR-025668	N/A	Historic	Single, granitic rock alignment	2013 (D. Winslow and S. Andrews, ASM Affiliates, Inc.,)
P-36-025669	CA-SBR-016200H	N/A	Historic	Mining features and artifact concentrations	2013 (D. Winslow and S. Andrews, ASM Affiliates)
P-36-027410	CA-SBR-017863H	Barstow Road / State Route 247; SRI-1105; PL-LUGO-BRK-025	Historic	Road	2013 (M. O'Neill, Pacific Legacy, Inc.); 2014 (Justin Lev-Tov, SRI); 2015 (Patrick Stanton, SRI); 2018

Table 2. Previously Recorded Cultural Resources within 1 Mile of the Project
 Resources located within the Project area are shown in **BOLD**.

Primary Number	Trinomial	Resource Name	Age	Description	Recorded By
P-36-027880	CA-SBR-017374H	PL-CWLTP- MMO-086	Historic	Refuse scatter	2014 (T. Fuerstenberg, Pacific Legacy, Inc.); 2018 (Diane Winslow, ASM)
P-36-028149	CA-SBR-017557H	PL-SOK- LNS-027	Historic	Foundation and refuse scatter	2012 (M. O'Neill, Pacific Legacy, Inc.); 2018 (Diane Winslow, ASM)
P-36-028356	CA-SBR-028356H	SRI-21	Historic	Dirt road	2015 (Patrick B. Stanton, SRI)
P-36-028365	CA-SBR-028365H	Meridian Road	Historic	Two-tack dirt road	2015 (Patrick B. Stanton, SRI); 2018
P-36-028417	N/A	IO-19	Historic	Isolate: beverage can and sanitary food can	2015 (Patrick B. Stanton, SRI)
P-36-028418	N/A	IO-20	Historic	Isolate: beverage can and metal pale	2015 (Patrick B. Stanton, SRI)
P-36-029774	N/A	OM-PK-004	Historic	Homestead	2016 (PK Sharpe-Garcia, Dudek)
P-36-029775	CA-SBR-029775H	OM-PK-009	Historic	4 concrete troughs and a well head	2016 (Dudek)
P-36-029899	N/A	ICF-CAL-001	Prehistoric	Isolated gray banded, secondary, obsidian flake	2016 (N. Cox, ICF International)
P-36-029901	N/A	ICF-CAL-02	Historic	Homestead and unrelated refuse dump	2016 (N. Cox, ICF International); 2018 (A. Pham, Dudek); 2018
P-36-032692	CA-SBR-032692H	ELM-SJM-92	Historic	Refuse scatter	2017 (S. Moore, ASM)
P-36-032693	CA-SBR-032693H	ELM-SJM-93	Historic	Refuse scatter	2017 (S. Moore, ASM)
P-36-032694	CA-SBR-032694H	ELM-SJM-94	Historic	Refuse scatter	2017 (S. Moore, ASM)
P-36-033009	CA-SBR-033009H	CS-S-5	Historic	Refuse scatter	2018 (A. Pham, Dudek)
P-36-033010	CA-SBR-033010/H	CS-S-7	Multi-component	Refuse deposit and 1 white chert flake	2018 (A. Pham, Dudek)
P-36-033016	N/A	CS-I-4	Prehistoric	Isolated, coarse-grained, black, basalt projectile point characteristic of Lake Mohave projectile points	2018 (A. Pham, Dudek)
P-36-061200	N/A	ISOL-SO-3	Prehistoric	Isolated, basalt flake	1990 (GLOVER et al., Far Western Anthropological Research Group, Inc)
P-36-061201	N/A	ISOL-SO-4	Historic	Isolate: 4 Prince Albert Tobacco Tins	1990 (L. Glover et al., Far Western);

Survey Results

Aspen archaeologists surveyed the Project area on March 9, 12, 15, 2021, closely examining all exposed ground surfaces and nearby soil exposures. The survey team remained within the County Right-of-Way (ROW) when conducting the survey for the underground gen-tie alternative and did not venture into private property. Aspen's intensive pedestrian survey was conducted using systematic, parallel transects spaced no more than 15 meters apart within the Project area, but typically 5 to 10 meters apart. The variation in transect width is related to the varying width of the County ROW. The entire Project area was intensively surveyed as the ground visibility was quite high, above 95% visible (Figures 2 through 5). For prehistoric resources, surveyors examined the ground surface searching visually for evidence of cultural material, which typically includes fragments of economically important stone materials used in the production of cutting and hunting tools (e.g., chert, rhyolite, quartzite, obsidian), stone tools used for grinding/pounding plants or animals (e.g., metates, manos, pestles, bedrock milling surfaces), evidence of rock art, remains of dietary materials that may have been consumed in the past (e.g., fragments of bone), and features such as shelters and trails.

For historic resources the ground surfaces were scanned for sites and items related to the historic contexts referenced above, such as aged roadbeds, property markers, standing or fallen wooden posts/fencing, structural remains of buildings, cairns, wells, irrigation systems, prospects, metal or tin debris (e.g., tin cans, abandoned machinery or vehicles), and any other historic feature or structure.

When artifacts or sites were observed, field notes, GPS coordinates, and photographs were taken using an Android tablet with ESRI Collector software. Where available, previously recorded site records were studied prior to fieldwork and electronic site records were taken into the field on a laptop. When previously unrecorded cultural resources were encountered, they were designated as a site or isolated occurrence, assigned a temporary field number, plotted with the ESRI Collector app with associated field notes. Thorough documentation of all resources was done for preparing California Department of Parks and Recreation (DPR) series 523 field recording forms.

One previously recorded resource, P-36-24223, was relocated during the survey. This resource was last updated in 2013. Updated DPR 523 site records were prepared to reflect an extension of this historic-era road (Attachment 1 and 2).

Additionally, four new resources were identified during the survey. The resources were numbered sequentially following the last site and isolate temporary numbers provided by Macko et al. 2020. The appropriate DPR 523 site records were prepared for each of the four newly identified resources (Attachment 1 and 2). A summary of the resources identified and CRHR eligibility recommendations are presented below.

California Register of Historical Resources Evaluation Criteria

The criteria for determining whether a cultural resource is eligible for inclusion in the California Register of Historical Resources (CRHR) is summarized below. A resource is generally considered historically significant if it meets the criteria for listing in the CRHR. A resource must meet at least one of the following criteria (PRC 5024.1; 14 CCR Section 15064.5[a][3]):

1. Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage. Title 14, CCR Section 4852(b)(1) adds, "is associated with events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the United States."

Figure 2: Overview of Project alignment. Stoddard Ridge in background. Facing north.



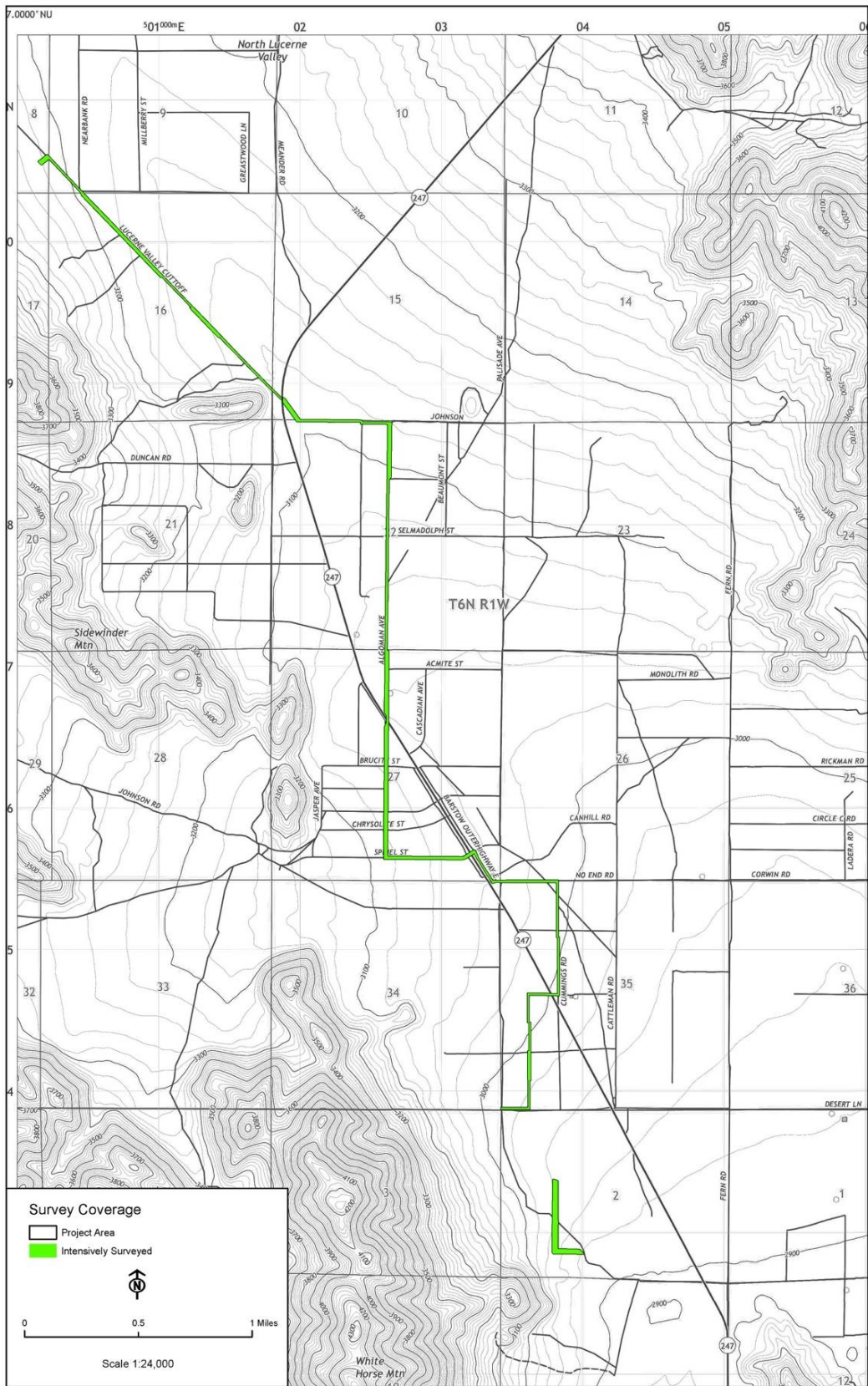
Figure 3: Overview of Project alignment. Granite Mountains in background. Facing south.



Figure 4: Overview of Lucerne Valley, Project area in foreground. Lucerne Lake in background. Facing southeast.



Figure 5. Survey Coverage Map



2. Is associated with the lives of persons important in our past. Title 14, CCR Section 4852(b)(2) adds, “is associated with the lives of persons important to local, California, or national history.”
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. Title 14, CCR 4852(b)(3) allows a resource to be CRHR eligible if it represents the work of a master.
4. Has yielded, or may be likely to yield, information important in prehistory or history. Title 14, CCR 4852(b)(4) specifies that importance in prehistory or history can be defined at the scale of “the local area, California, or the nation.

Historical resources must also possess integrity of location, design, setting, materials, workmanship, feeling, and association (14 CCR 4852[c]).

An archaeological artifact, object, or site can also meet CEQA’s definition of a unique archaeological resource even if it does not qualify as a historical resource (PRC 21083.2[g]; 14 CCR 15064.5[c][3]). An archaeological artifact, object, or site is considered a unique archaeological resource if “it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria (PRC 21083.2[g]):

- Contains information needed to answer important scientific research questions and there is a demonstrable public interest in that information.
- Has a special and particular quality such as being the oldest of its type or the best available example of its type.
- Is directly associated with a scientifically recognized important prehistoric or historic event or person.

Identified Resources and CRHR Eligibility Recommendations

P-36-24223: This resource is described as a historic-era dirt road known as Algoman Ave. It is depicted on a 1955 topographic map and varies in width, ranging from 7 ft to 28 ft wide. This resource was originally recorded in 2011 by S. Kremkau of Statistical Research, Inc, and relocated and updated in 2013 by Pacific Legacy, Inc. Aspen’s archaeologists relocated this resource as part of the March 2021 survey, noting the road to be in the same condition as previously recorded in 2013. However, Aspen’s updated site record includes an extension of the resource north of Barstow Road approximately 1.05 miles, to where it meets with an existing east to west trending road, known as Laurjoe Street, then trends west for 0.12 miles. This resource is also extended approximately 0.4 miles south of Barstow road where it meets with Spinel Street, then trends east approximately 0.16 miles crossing over Barstow road and terminating at the intersection of No End Road. No historic buildings, structures, or objects can be seen on historical imagery along this alignment, nor were any resources associated with this road identified during the 2021 field effort.

CRHR Recommendation

P-36-24223 was previously evaluated and recommended not eligible for the CRHR by Pacific Legacy, Inc. in 2013. At the inventory level, P-36-24223 appears to be a ubiquitous dirt road that cannot be linked to a significant event or important person in state, regional, or local history, and is recommended not eligible under CRHR criteria 1 or 2. This resource is of common construction and does not represent the work of a master or embody any distinctive characteristics and is recommended not eligible under Criterion 3. Lastly, no archaeological deposits are associated with this resource and additional research is unlikely to yield additional information important in prehistory or history and it is recommended not eligible under Criterion 4. Therefore, Aspen concurs with Pacific Legacy’s recommendation of ineligibility.

3380-32: This resource is described as a 1953 Geological Survey Marker placed in a rectangular concrete block that utilized locally sourced gravel as aggregate, the most common marker. These types of markers were used in triangulation surveys starting in the 1900s.

CRHR Recommendation

Geologic survey markers are ubiquitous across the desert area in particular, and across the United States as a whole. While these markers laid the groundwork for map making, their commonality precludes their linkage to a significant event or important person in state, regional, or local history. 3380-32 is recommended as not eligible under CRHR criteria 1 or 2. This resource represents the most common type of marker and additional research would not yield important information in prehistory or history and is recommended as not eligible under criteria 3 or 4. Therefore, 3380-32 is recommended not eligible for listing on the CRHR.

3380-33: This recorded resource is a vertical pipe measuring 2 5/8-in. wide, and 5.5 ft. tall. The pipe is cemented to the ground in a circular footing measuring 18-in. in diameter. It is possible this resource is a historic-era well cap with no associated artifacts, features, or subsurface deposits.

CRHR Recommendation

3380-33 appears to be a historic-era well cap, which are common in this region, with no associated features, artifacts, or subsurface deposits. At the inventory level, this resources cannot be linked to a significant event or important person in state, regional, or local history, and is recommended as not eligible under CRHR criteria 1 or 2. This resource is of common construction and does not represent the work of a master or embody any distinctive characteristics and is recommended as not eligible under Criterion 3. Lastly, no archaeological deposits or features are associated with this resource and further research is unlikely to yield additional information important in prehistory or history and it is recommended as not eligible under Criterion 4. Therefore, 3380-33 is recommended not eligible for the CRHR.

3380-34: This resource is an unnamed graded, two-track, dirt road traveling northwest-southeast from Barstow Road to a nearby well at the southwestern terminus of the Sidewinder Mountains where the road would have intersected with Johnson Road and on to Apple Valley. However, the recorded portion is only 38.6 feet in length and 10 feet wide on CA property, since entering into private property was not allowed during this survey. Although, not depicted on any historic maps, this resource is faintly visible on a 1952 aerial photograph (UCSB 2021).

CRHR Recommendation

Historic-era roads leading to mines or wells are common in this region, and at the inventory level, 3380-34 appears to be an unnamed ubiquitous dirt road that cannot be linked to a significant event or important person in state, regional, or local history, and is recommended as not eligible under CRHR criteria 1 or 2. This resource is of common construction and does not represent the work of a master or embody any distinctive characteristics and is not eligible under Criterion 3. Lastly, no archaeological deposits or historic features are associated with this resource and additional research is unlikely to yield additional information important in prehistory or history and is recommended as not eligible under Criterion 4. Therefore, 3380-34 is recommended not eligible for the CRHR.

3380-ISO-04: This resource is a prehistoric isolated secondary flake from brownish chalcedony. The flake is approximately 2.5cm long x 1.5cm wide x 0.5cm thick.

CRHR Recommendation

Isolated resources, by nature, are not eligible for the CRHR because these resources likely have been removed from their context and cannot be linked to important events or persons significant in state, regional, or local history. This isolate in particular does not represent the work of a master nor is it considered a unique archaeological resource per CEQA. Also, it is unlikely additional research would yield important information to prehistory or history. Therefore, 3380-ISO-04 is recommended not eligible for the CRHR.

Conclusion and Recommendations

The cultural resources record search and intensive pedestrian survey identified a total of five resources within the Project area (one previously recorded and four newly identified resources). All five resources have been recommended not eligible for the CRHR. Therefore, the Project will not impact known historical resources and no additional archaeological investigations are recommended.

In the event that unexpected cultural materials are encountered during future construction or maintenance activities, Aspen recommends the following:

- 1. Inadvertent Discovery of Cultural Resources.** A professional archaeologist meeting the Secretary of Interior qualifications should be available on call to identify and evaluate previously unidentified cultural resources discovered during construction activities. Upon inadvertent discovery of a potential resource, avoidance measures will be implemented by construction crews and may include halting construction work within 100 feet of the find and directing construction away from the discovery until the archaeologist assesses the significance of the resource. The archaeologist will consult with the appropriate responsible public agency regarding necessary plans for treatment of the find(s), and for the evaluation and mitigation of impacts if the finds are thought to be potentially eligible for the CRHR or may qualify as a unique archaeological resource under CEQA Section 21083.2.
- 2. Inadvertent Discovery of Human Remains.** In the event that human remains, or potential human remains are discovered, construction activities within 100-feet of the find shall be immediately halted. The construction Project Manager shall immediately notify the appropriate responsible public agency and the County Coroner. The County Coroner will make a determination as to the origin of the remains and, if determined to be of Native American origin, will contact the Native American Heritage Commission (NAHC) by telephone within 24 hours. If the remains are not of Native American origin, the County Coroner will make a determination as to the disposition of the remains. Once contacted by the County Coroner, the NAHC shall immediately identify and notify the Most Likely Descendant (MLD). The MLD has 48 hours to make recommendations to the landowner for treatment or disposition of the human remains. If the descendant does not make recommendations within 48 hours, the appropriate responsible public agency shall reinter the remains in an area of the property secure from further disturbance. If the responsible public agency does not accept the descendant's recommendations, the appropriate responsible public agency or the descendant may request mediation by the NAHC. Construction may continue once compliance with all relevant sections of the California Health and Safety Code have been addressed and authorization to proceed is issued by the County Coroner and the responsible public agency.

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ATTACHMENT 1:

SURVEY RESULTS MAP

REMOVED FOR CONFIDENTIALITY

ATTACHMENT 2:

NEW AND UPDATED DPR 523 SITE RECORDS

REMOVED FOR CONFIDENTIALITY