

## **8. Cultural Resources and Tribal Cultural Resources**

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This chapter describes the regulatory framework and existing cultural resources and tribal cultural resources in Livermore. This chapter uses the term “Livermore” to cover the City of Livermore together with the immediately surrounding area within the Urban Growth Boundary (UGB) and Sphere of Influence (SOI). See the Introduction for more information on these boundaries.

### **8.1 REGULATORY FRAMEWORK**

#### **8.1.1 FEDERAL REGULATIONS**

##### **8.1.1.1 NATIONAL HISTORIC PRESERVATION ACT**

The National Historic Preservation Act of 1966 established the National Register of Historic Places (National Register) as the official designation of historical resources, including districts, sites, buildings, structures, and objects. For a property to be eligible for listing on the National Register, it must retain integrity in terms of location, design, setting, materials, workmanship, feeling, and association. A property demonstrating eligibility:

- a. Is associated with events that have made a significant contribution to the broad patterns of California’s history and cultural heritage;
- b. Is associated with the lives of persons significant in our past;
- c. 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; or
- d. Has yielded, or may be likely to yield, information important to history or prehistory. (National Park Service 2014).

Eligible properties are typically relevant to American history, architecture, archaeology, engineering, or culture and, unless historically exceptional, must be 50 years of age or more. Resources that are determined to qualify as historic properties under National Register criteria are also considered eligible to the California Register. A listing on the National Register does not prohibit demolition or alteration of a property.

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### **8.1.2 STATE REGULATIONS**

#### **8.1.2.1 CALIFORNIA REGISTER OF HISTORICAL RESOURCES**

The California State Historic Preservation Office maintains the California Register of Historical Resources (California Register). Historic properties listed or formally designated as eligible to be listed on the National Register, and State Landmarks and Points of Interest, are automatically listed on the California Register. Properties designated under local preservation ordinances or through local historical resource surveys may also be listed.

Eligibility for the California Register requires that a resource retain sufficient integrity to convey significance and importance. Location, design, setting, materials, workmanship, feeling, and association are key elements in considering a property's integrity. In addition, an important archaeological, historical, or tribal cultural resource is one that meets one or more of the below criteria:

- 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.
- Is associated with the lives of persons important to local, California, or national history.
- It embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of a master or possesses high artistic values.
- It has yielded, or may be likely to yield, information important to the pre-history or history of the local area, California, or the nation.

#### **8.1.2.2 CALIFORNIA ENVIRONMENTAL QUALITY ACT**

The California Environmental Quality Act (CEQA) (Public Resources Code Sections 21000 et seq.), and the CEQA Guidelines (California Code of Regulations Sections 15000 et seq.), requires lead agencies to determine if a proposed project would have a significant effect on historical resources, including archaeological resources. A project that may cause a "substantial adverse change in the significance of a historical resource" is considered to have a significant environmental effect (State of California 2021a:sec. 21084.1). A "substantial adverse change in the significance of an historical resource" means "physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of a historical resource would be materially impaired" ((State of California 1986:sec. 15064.5(b)). The significance of a historical resource is "materially impaired" when a project does one of the following:

- [D]emolishes or materially alters in an adverse manner those physical characteristics of a historical resource that convey its historical significance and that justify its inclusion in, or eligibility for inclusion in the California Register; or
- demolishes or materially alters in an adverse manner those physical characteristics that account for its inclusion in a local register of historical resources... or its identification in a historical resources survey..., unless the public agency reviewing the effects of the project establishes by a preponderance of evidence that the resource is not historically or culturally significant; or

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- demolishes or materially alters in an adverse manner those physical characteristics of a historical resource that convey its historical significance and that justify its eligibility for inclusion in the California Register as determined by a lead agency for purposes of CEQA. (CEQA Guidelines Section 15064.5(b)).

The term “historical resource” includes, but is not limited to: (1) a resource listed in, or determined to be eligible by the State Historical Resources Commission for listing in, the California Register; (2) a resource included in a local register of historical resources, as defined in PRC Section 5020.1(k) or identified as significant in a historical resource survey meeting the requirements of PRC Section 5024.1(g); or (3) any object, building, structure, site, area, place, record, or manuscript that 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 lead agency’s determination is supported by substantial evidence in light of the whole record (State of California 1986:sec. 15064.5(a)).

CEQA applies to effects on archaeological sites as well. A lead agency must first determine whether the archaeological site is a historical resource pursuant to CEQA Guidelines Section 15604.5(a). If so, CEQA Section 21084.1 applies. If an archaeological site does not qualify as a historical resource, but meets the definition of a unique archaeological resource, the site shall be treated in accordance with the provisions of CEQA Section 21083.2. A unique archaeological resource is “an archaeological artifact, object, or site about which 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:

- Contains information needed to answer important scientific research questions and that 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.” (State of California 2021a:sec. 21083.2[g])

If an archaeological resource is neither a unique archaeological resource nor a historical resource, the effects of the project on that resource shall not be considered a significant effect on the environment with respect to that particular, cultural resource (State of California 1986:sec. 15064.5[c][4]).

### 8.1.2.3 PUBLIC RESOURCES CODE SECTION 5097

PRC Section 5097.5(a) specifies that a person shall not knowingly and willfully excavate upon, or remove, destroy, injure, or deface, any historic or prehistoric ruins, burial grounds, or archaeological sites, which can include fossilized footprints, inscriptions made by human agency, rock art, or any other archaeological or historical feature, situated on public lands, except with the express permission of the public agency having jurisdiction over the lands. In addition, PRC Section 5097.98 sets a procedure for handling and notification pertaining to the discovery of Native American human remains.

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### **8.1.2.4 HEALTH AND SAFETY CODE SECTIONS 7050.5 AND 7052**

Health and Safety Code (2021b) Section 7050.5 requires that construction or excavation be stopped in the vicinity of discovered human remains until the County Coroner can determine whether the remains are those of a Native American. If the remains are determined to be Native American, the Coroner must contact the California Native American Heritage Commission (NAHC). Health and Safety Code Section 7052 regulates the disturbance of Native American cemeteries as a felony. This provision protects human remains and prohibits the disturbance or removal of human remains from any location other than a dedicated cemetery. The provision further identifies steps to follow in the event of accidental discovery or recognition of any human remains, directs the County Coroner to determine whether the remains are those of a Native American, and, if so, the coroner is required to contact the NAHC.

### **8.1.2.5 SENATE BILL 18**

Senate Bill (SB) 18, which went into effect January 1, 2005, set forth requirements for local governments (cities and counties) to consult with Native American tribes to aid in the protection of traditional tribal cultural places through local land use planning.<sup>1</sup>

The aim of SB 18 is to mitigate impacts to cultural places by offering California Native American tribes the chance to be a part of land use decisions at an early stage, both in general plans specific plans.

The State of California's Tribal Consultation Guidelines (2005) emphasize that California Native American tribes "represent distinct and independent governmental entities with specific cultural beliefs and traditions and unique connections to areas of California that are their ancestral homelands. SB 18 recognizes that protection of traditional tribal cultural places is important to all tribes, whether federally recognized or not, and it provides all California Native American tribes with the opportunity to participate in consultation with city and county governments for this purpose".

Cultural places are defined as follows (PRC Section 5097.9 and 5097.995):

- Native American sanctified cemetery, place of worship, religious or ceremonial site, or sacred shrine.
- Native American historic, cultural or sacred site, that is listed or may be eligible for listing in the California Register of Historical Resources pursuant to Section 5024.1, including any historic or prehistoric ruins, any burial ground, any archaeological or historic site.

Under SB 18, it is the responsibility of city and county governments to initiate consultation with, and provide project plans to tribes. According to the State of California's 2005 consultation guidelines (Governor's Office of Planning and Research 2005), the process of notification is as follows:

- Prior to the adoption or any amendment of a general plan or specific plan, a local government must notify the appropriate tribes (on the contact list maintained by the NAHC) of the opportunity to conduct consultations for the purpose of preserving, or mitigating impacts to, cultural places located

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<sup>1</sup> SB 18 amended Government Sections (GC) 65040.2, 65092, 65351 and 65560, while adding GC sections 65352.3, 65352.4 and 65562.5.

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on land within the local government's jurisdiction that is affected by the proposed plan adoption or amendment. Tribes have 90 days from the date on which they receive notification to request consultation, unless a shorter timeframe has been agreed to by the tribe (Government Code §65352.3).

- Prior to the adoption or substantial amendment of a general plan or specific plan, a local government must refer the proposed action to those tribes that are on the NAHC contact list and have traditional lands located within the city or county's jurisdiction. The referral must allow a 45 day comment period (Government Code §65352). Notice must be sent regardless of whether prior consultation has taken place. Such notice does not initiate a new consultation process.
- Local governments must send notice of a public hearing, at least 10 days prior to the hearing, to tribes who have filed a written request for such notice (Government Code §65092).

### 8.1.2.6 ASSEMBLY BILL 52

Assembly Bill 52 (AB 52), known as the Native American Historic Resource Protection Act, was implemented on July 1, 2015. AB 52 specifically applies to projects in which a notice to prepare an environmental document pursuant to CEQA is required. While SB 18 applies to city and county governments, AB 52 applies to all CEQA lead agencies.

As an amendment to CEQA, this bill requires that lead agencies, "... begin consultation with a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project, if the tribe requested to the lead agency, in writing, to be informed by the lead agency of proposed projects in that geographic area and the tribe requests consultation, prior to determining whether a negative declaration, mitigated negative declaration, or environmental impact report is required for a project."

AB 52 also established tribal cultural resources (TCRs) as a new category of resources to be considered with respect to the scientific and the archaeological value of a resource in the determination of impacts and mitigation. TCRs are defined as either:

(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 PRC 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 PRC Section 5024.1(c). In applying the criteria set forth in PRC Section 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.

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(b) A cultural landscape that meets the criteria of PRC Section 5024.1(a) is a tribal cultural resource to the extent that the landscape is geographically defined in terms of the size and scope of the landscape.

(c) A historical resource described in CEQA Section 21084.1, a unique archaeological resource as defined in CEQA Section 21083.2(g), or a “nonunique archaeological resource” as defined in Section 21083.2(h) may also be a tribal cultural resource if it conforms with the criteria of CEQA Section 21083.2 (a).

According to “Tribal Consultation under AB 52: Requirements and Best Practices”, a document issued by the Native American Heritage Commission (NAHC) (2015), the process of implementing AB 52 begins with a request in writing from the tribe to the lead agency. This request notifies the lead agency that the tribe wishes to be formally notified of future projects within the area of traditional tribal affiliation.

Once a specific project is approved, lead agencies have 14 days to notify the tribes who have requested consultation for that area. This notice must be in writing, include project location information, and include notice of a 30-day window for the tribe to request project-specific consultation.

For the tribe to request consultation, they must respond to the request within 30 days. Upon receiving the request, the lead agency then has 30 days to begin the process of consultation. This process must begin before a negative declaration/mitigated negative declaration or an environmental impact report is issued.

During the process of consultation, the parties consult on potential impacts and mitigation measures. Consultation concludes with either an agreement on avoidance or mitigation of impacts, or a conclusion that—after “good faith and reasonable effort”—no mutual agreement was reached. If agreement is not reached, best practices call for documentation of efforts.

Under the requirements of AB 52, no information or documents provided by the tribe shall be included in project reports or made publicly available (Govt. Code Sections 6254(r) and 6254.10).

Certification of environmental documents can take place once consultation has concluded (Robinson and Native American Heritage Commission 2015).

### **8.1.3 LOCAL REGULATIONS**

#### **8.1.3.1 LIVERMORE 2003-2025 GENERAL PLAN**

The City of Livermore 2003-2025 General Plan, adopted January 9, 2004, laid out Community Character Element objectives with the aim of preserving the characteristics that give Livermore its distinct identity. Cultural Resources are encompassed by Goal CC-3: “Preserve and enhance the City’s cultural and historic resources not merely as positive reminders of the past, but also as relevant and unique alternatives for the present and the future- a source of community identity, architecture, and social, ecological and economic vitality.”

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Within this broader goal, specific objectives are defined. Archaeological resources are included in Objective CC-3.4, which aims to “Identify and protect archaeological and paleontological resources that enrich our understanding of early Livermore and the surrounding region.” Policies within the objective are as follows:

- P1. The City shall require proper archaeological or paleontological testing, research, documentation, monitoring, and safe retrieval of archaeological and cultural resources as part of a City established archaeological monitoring and mitigation program.
- P2. Whenever there is evidence of an archaeological or paleontological site within a proposed project area, an archaeological survey by qualified professionals shall be required as a part of the environmental assessment process.
- P3. If an archaeological site is discovered during construction, all work in the immediate vicinity shall be suspended pending site investigation by qualified professionals. If, in the opinion of a qualified professional, the site will yield new information or important verification of previous findings, the site shall not be destroyed.
- P4. Archaeological sites should be preserved for research and educational programs. Where possible, such sites shall be made accessible to the public as part of the open space/recreation/educational system.
- P5. The City shall consult with Native American organizations before implementation of any project in the vicinity of Brushy Peak Regional Park.

### 8.1.3.2 LIVERMORE DEVELOPMENT CODE

The City of Livermore Development Code Section 9.02 (*Historic Preservation and Certificates of Appropriateness*) defines the applicability of the objectives outlined in the City’s General Plan and requires a certificate of appropriateness to “... implement these policies by protecting structures, improvements, natural features, and objects of known or potential historic significance from any alteration or demolition that would have an adverse effect thereon.”

## 8.2 EXISTING CONDITIONS

### 8.2.1 ENVIRONMENTAL CONTEXT

The Livermore Valley is a broad, flat valley that measures approximately 12 miles east to west by about 6 miles north to south. It is bounded by rolling hills to the north, the Coast range and Altamont pass to the east, and steep and rugged hills of sedimentary rock to the south and west. Arroyo Mocho, Arroyo Valle, and Arroyo Seco/Arroyo Las Positas flow westward through the valley, draining its bounding hills and carrying alluvial sediment downslope to the valley floor. The alignments of the old arroyos and creeks have been altered by development, especially at the west end of the valley. These alterations, initially related to agriculture, date back to the 19<sup>th</sup> century and have continued to the early 21<sup>st</sup> century as warranted by increasing urbanization.

In precontact times, the Livermore Valley was a rich environment that supported many wild plants and animals. The upland slopes of the surrounding hills once housed stands of valley oak (*Quercus lobata*),

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coast live oak (*Quercus agrifolia*), blue oak (*Quercus douglasii*), and Nuttall's scrub oak (*Quercus dumosa*). Willows (*Salix spp.*), alder (*Alnus spp.*), poplar (*Populus spp.*), western sycamore (*Platanus racemosa*), tules (*Schoenoplectus acutus*), cattails (*Typha latifolia*) and other rushes and sedges (*Juncus spp.*, *Scirpus spp.*) were and still are found along streams and in wet marshy places. Berries such as wild currants (*Ribes spp.*) were also present.

The wet and marshy areas also supported local and anadromous fish, freshwater mussels (*Anodonta spp.*, *Gonidea angulata*, and *Margaritifera margaritifera*), turtles and frogs. California quail (*Callipepla californica*), black-tailed jackrabbits (*Lepus californicus*), and jackrabbits (*Lepus spp.*) lived in many brushy areas close to water. Black-tailed deer (*Odocoileus hemionus*), pronghorn antelope (*Antilocapra americana*), and tule elk (*Cervus elaphus nannodes*) complete the major faunal list in the valley.

### 8.2.2 HISTORY OF LAND USE AND OCCUPATION

Archaeological resources in North America are generally divided into two primary periods, which in addition to time, also often reflect stark changes in technology and demographics. Prehistoric Period resources are associated with peoples and cultures that lived in the area at any time *prior* to European contact and Historic Period resources are those associated with people who lived *after* European contact. Although a helpful standard, such time distinctions are not hard and fast across the landscape because different areas were colonized at different times. Furthermore, the broad time periods say nothing of cultural identity. To the greatest extent possible, any potentially significant cultural resources of either time period should be assessed within robust cultural, ethnographic, technological, and historical contexts.

#### 8.2.2.1 PREHISTORIC PERIOD

For thousands of years, Native Americans inhabited the area surrounding what is now the San Francisco Bay. The earliest traces of human habitation found on the San Francisco peninsula date to around 7,700 years ago (William Self Associates 2015, Personal Communication, Sally Morgan of San Francisco Planning Department, January 22, 2020), and human occupation may have been continuous since then. Finds predating about 2,500 years ago have been rare. Ethnographic studies, explorer's accounts, and the archaeological record provide more information on more recent Native American populations; however, this body of knowledge is still very limited. Present-day descendant communities, whose interest in cultural deposits goes beyond the informational value discussed herein, are part of the legal environmental impact evaluation process.

At the time of contact with Spanish explorers, the Costanoan/Ohlone language family, was the most widespread of five distinct languages in the San Francisco Bay Area (Milliken 1995:24). Costanoan dialects included Ramaytush on the San Francisco Peninsula, Tamyen in the Santa Clara Valley, Chochenyo in much of the East Bay, and Karkin near the Carquinez Strait (Golla 2011:32). Today, many Native American descendants prefer the term "Ohlone" to describe a related tribal identity based on the Costanoan language.

According to the extensive research of anthropologist and historian Randall Milliken, at the time of European contact, much of Livermore was inhabited by the Chocheño Costanoan-speaking Pelnen people



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(2007:100). The Penlen, along with a small, related group known as the Caburan, were widespread throughout much of the western Amador-Livermore Valley. Surrounding the valley lowlands were other tribal groups who lived in the hilly areas and probably accessed the lowland valley margins for resources. In the arid hills to the east and northeast were the Yulien/Ssaoam, to the north were the Ssouyen, to the west the Senuen, and in the Sunol Valley to the southwest- the Causen (Milliken 1995; Milliken et al. 2007:100). Portions of Livermore may extend into what was once the edges of Yulien/Ssaoam and/or Ssouyen territories.

All of the tribal groups in and around the Amador/Livermore Valley region spoke Chocheño Costanoan/Ohlone. Tied together by “bonds of commerce and economic reciprocity as well as by bonds of intermarriage” (Milliken 1995:24), the tribal groups traded, allied, disputed, and attended communal ceremonies. Although there is much disagreement over the precise political organization of the Ohlone, it is clear that at the time of Spanish incursion, tribal districts were neither unified nor insular (Voss 2008:51). Usually composed of about 15 individuals, the family household was the basic social unit, and each village center would have been home to several families.

The Ohlone were semi-sedentary gatherers and hunters of fish and game. Of major importance to the diet were acorns, which were pounded by stone mortar and pestle to create flour or mush. Other key food resources included mollusks, fish, waterfowl, land and sea mammals, and plant seeds. Vegetal material was used for making nets, cords, baskets, and shelters; animal remains and shells for tools and ornamentation; pelts and feathers for clothing and bedding; and local rock and mineral resources for tools and trade. Controlled burning of the land was practiced in order to renew the succession of plant communities (Bolton 1927; Galvan 1968; Kroeber 1925:467; Lewis 1973).

It is estimated that in 1770 the Ohlone of the Bay Area numbered at most around 10,000 (Levy 1978) perhaps fewer (Kroeber 1925). Forty years later, by about A.D. 1810, much of the native population and much of the traditional culture of these people had been destroyed in the face of relentless European encroachment and its devastating impacts – disease, warfare, displacement and, above all, the California mission system (Cook 1943).

### 8.2.2.2 HISTORIC PERIOD

The centuries following European contact in California is known as the Historic Period and is commonly divided into three primary time periods: Spanish, Mexican, and American. The following sections provide contextual information relevant to an understanding and interpretation of Historic Period archaeological resources.

#### Spanish Period (1775-1821)

Between the appearance of the first Spanish ship to sail through the Golden Gate in 1775 (the ship *San Carlos* under the command of Lieutenant Juan Bautista de Ayala) and the mid-19th-century discovery of gold at Sutter’s Mill, population growth and maritime traffic in the San Francisco Bay was limited.

Spanish exploration parties consisting of scouts, soldiers, priests, and servants set out to identify favorable locations to construct missions, presidios, and pueblos. In 1776, the Anza expedition, an overland Spanish

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party headed by Juan Bautista de Anza, reached the San Francisco Peninsula and established the first settlements (Voss 2008:45).

Mission San Francisco de Asís, now more commonly called Mission Dolores, was established in 1776 in what is now San Francisco, and Mission Santa Clara de Asís was established in 1777. Conversion and catechism were largely facilitated by the church's emphasis on routine and ritual, as well as the bestowing of presents of clothing and food to native families that moved into the villages or adjacent to the missions, beginning a process of missionization that would irreversibly alter indigenous life. The indigenous population living at the missions experienced a high death rate due to disease and poor living conditions; by 1818, 41,000 of 61,000 baptized native people in missions throughout California had perished (Bancroft 1886:250). Populations in villages further and further to the north and east of the bay were decimated as individuals were forced and coerced into the missions. The peak of activity at Mission Dolores occurred during the early decades of the 19<sup>th</sup> century.

Close to the turn of the 19<sup>th</sup> century, swelling populations began to outgrow the missions. In the 1790s, severe problems resulting from overcrowding and lack of resources at Mission Dolores led to inhabitants fleeing the mission, and Mission San José was established in what is now Fremont in 1797 (Holmes 1997:8; Milliken 1995:137).

The native peoples from within and adjacent to the Livermore Valley moved or were compelled to relocate to Mission San José from 1797 through 1808. Specifically, the Pelnen "joined Mission San José between 1798 and 1805" (Milliken 1995:251). There were eleven Causen people baptized there between 1803 and 1808 (Milliken 1995:238). The Souyen ties to Mission San José can be seen through baptisms and intermarriage, "from 1797 through 1805" (Milliken 1995:255). The Seunen "went to Mission San José between 1801 and 1804" but there were four Seunen people who went to Mission San Francisco from 1801 to 1802 (Milliken 1995:254). The Ssaoams, "went to Mission San Jose from 1802 through 1805, eighty-seven between October of 1804 and February of 1805" (Milliken 1995:255). The Yuliens, a potential alias/subgroup of Ssaoams, had nineteen people join Mission San José from 1803 to 1808 (Milliken 1995:255).

### **Mexican Period (1821-1848)**

Following the transition of Alta California from Spanish to Mexican rule in 1821 at the conclusion of the Mexican War of Independence, activity at the missions began to slow. Spanish supply ships, once providers of necessary goods at colonial outposts, ceased to arrive, and the Mexican government, depleted by wartime costs, did not replace them (Holmes 1997:41).

In 1834, amidst much debate, California governor José Figueroa finalized the secularization of the missions. While mission properties were supposed to be granted to the neophyte population as part of their transition into the Mexican culture, this did not occur. No formal regulations were in place to limit the discretionary powers of civil administrators (Hittell 1897:295). Mission lands and resources were distributed to individuals, often in exchange for military service, who established large ranchos and claimed the missions' animals and equipment.

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Cattle ranching was the primary industry in Alta California during the Mexican era. The hide and tallow trade was the principal foundation for early commercial interest on the California coast and the San Francisco Bay (Phelps 1983:25), to the extent that hides were sometimes called “California bank notes” (Nickel 1978).

The namesake of the current city and valley, Robert Livermore, was one of the earliest European-born residents in the area. A native of England, Livermore served in the United States Navy, worked as a British mercenary in Peru on behalf of revolutionary forces funded by Chile, deserted a trading ship in California, and entered the ranching business of Mexican Alta California. By the early- to mid-1830s, he had his own free grazed herds of cattle and horses in what is now known as the Livermore Valley.

In 1839, Livermore and his business partner Jose Noriega obtained the almost 9,000-acre Rancho Las Positas Mexican land grant and built an adobe building along Las Positas Creek to serve ranching operations. Not long after, Livermore brought his family to the ranch. He and Noriega then expanded their landholdings by purchasing the almost 18,000-acre Rancho Canada de los Vaqueros just to the north/northeast.

With the rancho system as the primary socioeconomic institution of the state, native populations, deprived of their land base, were forced to adapt. Most of their former villages had been depopulated by missionization, then abandoned. The once-resource-rich landscape had been transformed by the introduction of livestock (who overgrazed and drove out larger wild mammals), by the disruption of environmental burning practices, and by the diversion of waterways for agricultural irrigation (Milliken 1995:221).

Once the mission system broke down, one of the few viable options for former mission residents was to enter employment as rancho laborers. This arrangement ranged from slavery to wage labor. Typically, a system of peonage was created where a landowner provided housing, food, and basic support in exchange for labor. Mission records show that rancho families brought in “orphans” (i.e., indigenous children of non-Christian parents) to be baptized, and there is some evidence that the capture of children from remaining indigenous hunter-gatherer communities was a common practice (Milliken et al. 2009:153–167).

### **American Period (1848-Present)**

California was claimed for the United States in 1846 during the Mexican-American War, and the Treaty of Guadalupe Hidalgo confirmed the transfer in 1848. Despite having previously obtained Mexican citizenship, Robert Livermore managed to stay rather neutral during the Mexican-American War.

Gold was discovered in the Sierra Nevada foothills in 1848, and the shock waves from the California Gold Rush’s population influx cannot be overstated. Robert Livermore was uniquely positioned to profit from the event. He not only had a great number of cattle for meat, hides, and tallow (raw materials needed for making items essential to miners), but the geographic location of his rancho was ideally situated as a stopover for prospectors traveling from coastal ports to the mountains. There are several historical accounts of hospitality and generosity towards travelers (Livermore Heritage Guild), and the rancho even served as the post office from 1851 to 1853.

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The Livermore family prospered; in 1851, they had a new wooden house shipped around Cape Horn from the east coast and erected on the property. The influx of people also brought “squatters”, and the hilly uplands of Los Vaqueros was especially attractive for smaller-scale homesteaders and shepherds. In accordance with the American Land Act of 1851, Livermore filed a claim with the United States Public Land Commission for both Rancho Las Positas and Rancho Canada de los Vaqueros (Livermore Heritage Guild). This kicked off a long and messy land dispute wherein Livermore double-crossed his longtime partner, Jose Noriega. Robert Livermore died in 1858 with numerous land issues very much still in dispute.

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In 1864, a young man from Maine by way of Boston named Alphonso Salmon Ladd took advantage of the confusion and ambiguity of the land title situation by building a hotel along the wagon trail on a portion of Rancho Las Positas. Ladd died four years later, but in the years between 1864 and 1868, the community he created, known as Laddsville, was a bustling little frontier town complete with blacksmiths, a druggist, a brewery, two hotels, and a general store (Nale). Anticipating a lucrative business opportunity, developer William Mendenhall bought 100 acres just east of Laddsville and then made a property “donation” to the railroad to ensure direct service to his holdings. Mendenhall named the town Livermore after his deceased friend. In its early years, Livermore was a mill town and trading hub that served as Laddsville’s “twin city” until a series of fires beginning in 1871 decimated Laddsville. It was not rebuilt, and most of its population permanently relocated to Livermore.

As demand for cattle waned during the late 19<sup>th</sup> and early 20<sup>th</sup> centuries, wheat and hay fields were slowly replaced by fruit orchards and vineyards. The valley had coal and petroleum mining as well as a brick factory. In the 1940s, the United States government purchased a large tract of land for a Navy training facility to support World War II efforts. In 1951, the military installation was transferred to the Atomic Energy Commission and it became the Lawrence Livermore National Laboratory. Later that decade, the Livermore facility of the Sandia National Laboratories was established. The two labs remain the single largest employer for the current residents of the City of Livermore.

### 8.2.3 CULTURAL RESOURCES IN LIVERMORE

All potentially significant near-surface and subsurface archaeological resources within Livermore were identified in the archives of the California Historical Resources Information System (CHRIS). An independent literature review was also performed.

#### 8.2.3.1 CHRIS ARCHIVES

A search of the CHRIS records on file at the Northwest Information Center was conducted by Juliana Quist on September 24, 2021 (Access Agreement #21-0438). As shown in Table 8-1, the search identified 18 archaeological resources within the boundary of Livermore.

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TABLE 8-1 CALIFORNIA HISTORICAL RESOURCES INFORMATION SYSTEM ARCHIVAL RESULTS

Number of Resources	Primary Number	Trinomial <sup>a</sup>	Type	Time Period	Description	Recorded by/Year	Potential for Resources/Included in Analysis?
<b>Relevant Cultural Resources Included for Further Evaluation</b>							
1	01-002108	CA-ALA-430/H	Site	Both	Robert Livermore Adobe Site ca. 1839; Prehistoric-era stone tool fragments	O'Neal, 1981	Yes
2	01-002122	CA-ALA-516H	Site	Hist.	Remnants of a ranch or homestead. Appears on 1940 aerial imagery. Area is now a parking lot at Lam Research.	Dames & Moore, 1990	Yes* but potentially destroyed
3	01-002146	CA-ALA-570H	Site	Hist.	House foundation and trash dating to prior to 1900	Strudwick & King, 1998	Yes
4	01-002147	CA-ALA-569	Site	Prehist.	Lithic scatter with dark sediments, adjacent to springs	Strudwick & King, 1998	Yes
5	01-002195	CA-ALA-584H	Site	Hist.	Identified as the "Jim Anderson House", instead consistent with a barn. ca. 1914- 1945. Structure appears on 1940 and 1958 aerial imagery but not extant today. Well and well house elements reported but not excavated. Location not developed.	Dougherty, Barton, & Bakic, 2000	Yes
6	01-002198	-	Iso	Prehist.	Sandstone mano fragment	Barton & Dougherty, 2000	Yes
7	01-002199	-	Iso	Prehist.	Sandstone metate	Barton & Dougherty, 2000	Yes
8	01-002203	-	Iso	Prehist.	Bifacially modified flake/tool	Fitzgerald & Gmoser, 2000	Yes
9	01-010526	-	Site	Both	Lithic scatter and farmstead remnants now on airport grounds	McKale, 2002	Yes
10	01-011431	CA-ALA-652H	Site	Hist.	Early to mid-20 <sup>th</sup> century farmstead with well	Beard, 2013	Yes
11	01-012085	-	Burial	Prehist.	Native American burial	Ambro, 2004	Yes
12	C-669 (informal resource)	-	Site	Prehist.	FCR <sup>b</sup> with animal bone frags and charcoal flecking	Holman, 1985	Yes
13	C-1283	-	Site	Prehist.	Likely midden soil with FCR <sup>b</sup> along creek	Holman, 1985	Yes

**CULTURAL RESOURCES AND TRIBAL CULTURAL RESOURCES**

**TABLE 8-1 CALIFORNIA HISTORICAL RESOURCES INFORMATION SYSTEM ARCHIVAL RESULTS**

Number of Resources	Primary Number	Trinomial <sup>a</sup>	Type	Time Period	Description	Recorded by/Year	Potential for Resources/Included in Analysis?
<b>Not Relevant for Further Evaluation <sup>c</sup></b>							
14	01-000067	CA-ALA-47	site	Prehist.	“sandy midden” reported but later investigation eliminated this ID	McGeein & Mueller, 1951; Holman, 1992	No
15	01-002124	CA-ALA-518H	Site	Hist.	Former dairy complex, has since been removed during construction of a businesspark in the mid-2000s. “Did not have the potential to yield significant archaeological data”	Canzonieri, 2006. Gillies, Bowler, Martin, 2000; Macdougall, Doyle, Walsh, 1990	No
16	01-002194	-	Iso	Hist.	Metal lined, wooden trough for animal feed/water	Dougherty, Barton, & Bakic, 2000	No
17	01-002196	-	Iso	Hist.	Barbed with fence with wooden posts, associated with Ramke Ranch	Dougherty, Barton, & Bakic, 2000	No
18	01-011507	-	Iso	Hist.	3 historic trash frags recovered from a field	Garcia and Associates, 2009	No

Note:

a. All recorded historical resources in California are assigned a primary number, which in Alameda County takes the form of P-01-####; additionally, archaeological sites may be identified by a trinomial (CA-ALA-###). Archaeological sites that have been assigned trinomials are usually referred to by their trinomial rather than their primary number.

b. FCR, Fire Cracked Rocks, are indicators of a hearth area.

c. Sites are not included for further evaluation due to the lack of potential to yield significant archaeological data.

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Each resource was evaluated for inclusion in the current study based on the potential to yield significant archaeological data. Factors assessed include physical site integrity and potential affiliation with significant individuals. One resource (P-01-67) was eliminated because it could not be confirmed to exist due to errors in recordation; one resource (P-01-2124) was eliminated because this very minor site is presumed to have been completely destroyed by development; and three resources (P-01-2194, 2196, -11507) were isolated, above-ground historic-period elements with no likely potential to yield further information.

Following the elimination process, 13 relevant cultural resources were identified within Livermore. Four (4) of those are historic-era sites and isolated resources associated with the late 19<sup>th</sup> and early 20<sup>th</sup> century, 7 are prehistoric period sites or artifact isolates, and 2 locations include both historic and prehistoric-era components. Therefore, accounting for sites with both time periods represented, the archival review resulted in the identification of 6 historic-era and 9 prehistoric era resources within the footprint of Livermore.

Table 8.1 presents all 18 resources identified during the CHRIS archival review and the significance determination for inclusion of each. The spatial boundaries of all resources included in the analysis were manually digitized and added to the project GIS. Note, due to the confidential information of these archaeological resources, detailed maps are not available for public review.

A great number of archaeological studies have been conducted within the boundaries of Livermore. The record search identified 155 separate archaeological reports dating from 1974 to the present. The investigations range from archival review and reporting of negative findings to archaeological data recovery of a human burial. Key areas of past study include highway construction and widening, long range utility infrastructure, housing development, greenspace improvements, and the management and expansion of national laboratory facilities. Archeo-Tec has been involved in research in the area for several decades and has conducted several archaeological investigations within Livermore including the Arroyo Las Positas Realignment/Arroyo Mocho Widening Project (Pastron 2004) and the Shoppes at Livermore Project (Archeo-Tec 2018; 2017).

### **8.2.3.2 ADDITIONAL LITERATURE REVIEW**

In addition to the specific resources identified in the CHRIS archive, historic maps and other historic literature sources were used to identify and further refine locations of potential archaeological significance within and immediately adjacent to Livermore. In total, 4 prehistoric-period and 4 historic period resources were either added to the analysis, or the footprint of a known resource was expanded. The additional prehistoric resources include two artifact isolates (P-01-2201, -2202), and two locations of bedrock mortars (Benny 2015).

### **8.2.3.3 NATIVE AMERICAN CONSULTATION AND 8.2.3.3 TRIBAL CULTURAL RESOURCES**

At this time, a Tribal consultation and a review of the Sacred Lands File has not yet been completed.



**CULTURAL RESOURCES AND TRIBAL CULTURAL RESOURCES****8.3 CULTURAL SENSITIVITY ANALYSIS**

The goal of this cultural sensitivity analysis is to identify those locations within the boundaries of the General Plan Sphere of Influence (SOI) and Urban Growth Boundary (UGB) that are sensitive for potentially significant archaeological resources. The sensitivity analysis consists of two parts: a sensitivity model of Prehistoric Period resources associated with land use by Native Americans prior to European contact and colonization, and an identification of Historic Period archaeological resources (including both known resources and areas where historic maps suggest high sensitivity) dating from the time of European contact to the early 20<sup>th</sup> century. The Prehistoric Period Archaeological Sensitivity Map can be found in Figure 8-1 and the Historic Period Archaeological Resources Map is Figure 8-2.

For this analysis, Archeo-Tec examined the spatial merge of Livermore data layers as provided by the City of Livermore.

**8.3.1 PREHISTORIC PERIOD RESOURCES**

This section provides information about the specific methods employed to execute the Prehistoric Period archaeological sensitivity analysis. Prehistoric Period cultural resource sensitivity was based on two principal factors: proximity to freshwater resources, and proximity to known archaeological resources. A third factor, selected landcover classification, was also included for reference and discussion, but was not an analysis variable.

The data for this project include a historic streams layer generated from early 20<sup>th</sup> century United States Geological Survey (USGS) maps, cultural resource information obtained from the archival and literature review, and a 2001 landcover layer obtained from the National Landcover Dataset (NLCD). The analysis was conducted in ArcGIS software using a series of buffer, clip, erase and merge tools. In keeping with archaeological standards, the metric system (meters and kilometers) was employed for prehistoric resource studies.

**8.3.1.1 PROXIMITY TO WATER**

Access to fresh water is a key component of site selection for human settlement, especially in an arid environment such as the Livermore Valley. Water, in addition to its importance for drinking and washing, is the foundation of living ecosystems that support human food supplies, whether those be hunted and gathered or farmed. The City of Livermore provided a spatial dataset representing current hydrology delineations, but many of the waterways in Livermore have been significantly altered by both natural processes and modern re-routing, culverting, and channelization. Therefore, it was important to identify the oldest reliable alignments of streams so that an optimally accurate representation of recent past environmental conditions could be created.

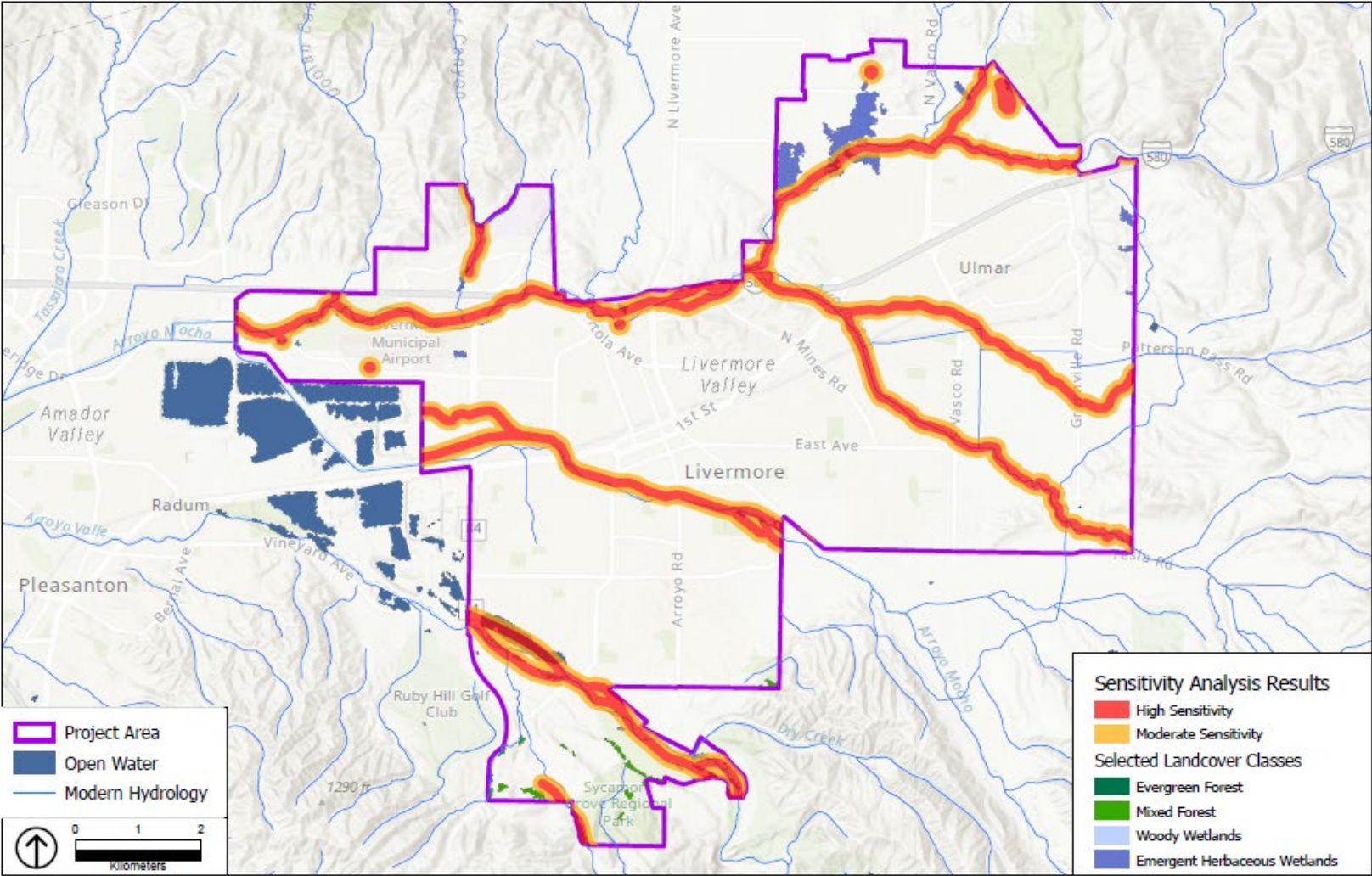
An historic streams dataset was developed from two USGS quadrangle maps dating to the early 20<sup>th</sup> century (1906 USGS Pleasanton Quad [based on 1904 survey] & 1907 Tesla Quad [surveyed 1905]). The maps were projected and georeferenced, and then water features were manually digitized. Although this

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method is not perfect due to imprecisions in both old maps and manual digitizing, the result is a more accurate depiction of unaltered hydrology than the modern hydrology feature layer. Additional water features such as natural springs were also identified from historic maps and added to the hydrology dataset. This includes the location of Positas Springs, which was located on what was the property of Robert Livermore, Jr., during much of the 19<sup>th</sup> century.

### CULTURAL RESOURCES AND TRIBAL CULTURAL RESOURCES

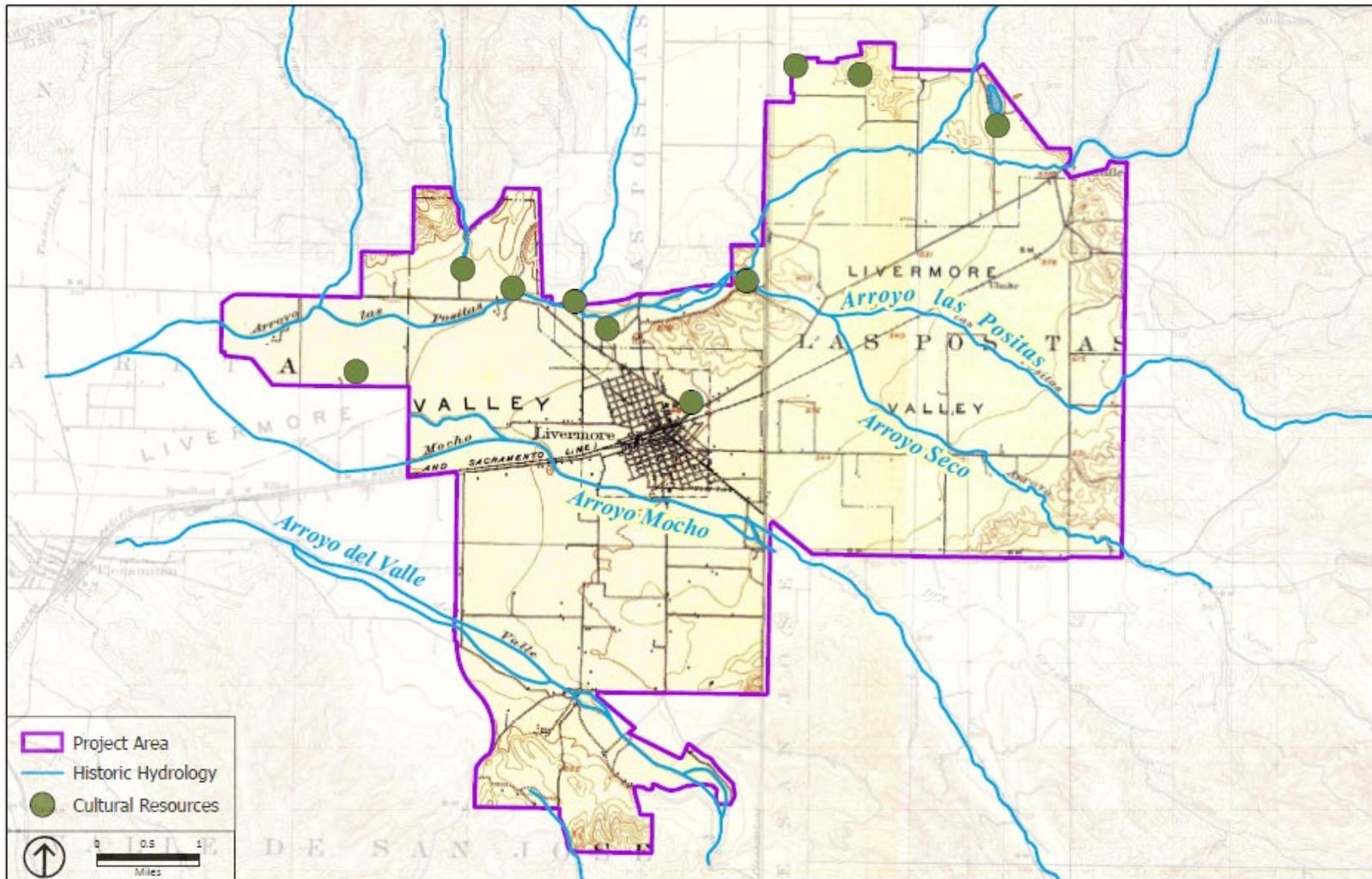
Figure 8-1 Prehistoric Period Archaeological Sensitivity Map



Sources: ESRI, City of Livermore, USGS-NLCD, NWIC  
J. Quist, Archeo-Tec, October 2021

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Figure 8-2 Historic Period Archaeological Resources Map



Sources: USGS Pleasanton(1906) and Tesla (1907) Quads, NWIC, City of Livermore  
J. Quist, Archeo-Tec, October 2021

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A 75-meter buffer zone was defined around all water features. This area was classified as High Sensitivity because it represents an optimal zone for prehistoric human habitation based on proximity to freshwater resources. A 150-meter buffer was also created to define a Moderate Sensitivity zone around water features.

### 8.3.1.2 PROXIMITY TO KNOWN SITES

Another key predictor of potential subsurface cultural sensitivity is the nearby presence of known prehistoric archaeological sites. Proximity to known sites is one way to predict an area’s desirability and therefore its potential for yielding additional sites, even in cases where the reasons for site selection are otherwise unclear.

As previously described and shown in Table 8-1, during the CHRIS archival review, 9 prehistoric period cultural resources were identified within Livermore. These included 6 sites and 3 artifact isolates. The subsequent literature review identified an additional 4 prehistoric period cultural resources (2 sites and 2 isolates), which were located just outside the boundary of Livermore. Due to their close proximity, the 4 resources were deemed relevant to the analysis. Therefore, a total of 13 prehistoric period resources were included in the spatial analysis (8 sites and 5 artifact isolates).

The prehistoric period cultural resources were then categorized by resource type (sites and isolates) and the following sensitivity zones were defined:

- The spatial footprints of the 8 known prehistoric period archaeological *sites* were classified as extreme sensitivity. As with the hydrology layer, 75- and 100-meter buffers representing High and Moderate Sensitivity zones, were defined around the sites.
- A 50-meter buffer representing Moderate Sensitivity was defined around each of the 5 isolated surface artifacts for which no associated site has been identified.

### 8.3.1.3 SPATIAL MERGE

The two High and three Moderate Sensitivity layers defined by proximity to historical hydrology and proximity prehistoric-period cultural resources were then merged, dissolved, and clipped to Livermore. Table 8-2 provides a summary of the approach. The result is two spatial layers: one depicting High Sensitivity and another showing Moderate Sensitivity. Those layers are the primary analysis product of this research, and they are presented in Figure 8-1.

**TABLE 8-2 SPATIAL ANALYSIS APPROACH**

	High Sensitivity	Moderate Sensitivity
Historic Hydrology	75m buffer	150m buffer
Prehistoric Sites (n=8)	75m buffer	150m buffer
Prehistoric Isolates (n=5)	-	50m buffer

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### **8.3.1.4 LANDCOVER CLASSIFICATION**

Resource acquisition, processing, and storage would have been an important motivating factor for human activities and movements in the prehistoric-period Livermore Valley. As has been recorded in ethnographic accounts and is reflected in archaeological studies throughout Northern California, people moved about their tribal territorial range in order to extract choice resources based on availability, which was often tied to seasonality.

Modern landcover classification data can help identify areas that may have been especially rich in resources and thus desirable locales for exploitation by Native peoples. Although not a precise correlate due to time and natural environmental changes, general patterns may be inferred.

The 2001 National Landcover Dataset (NLCD) (the oldest available for this product class, and thus least affected by modern urbanization) was used to identify forests and wetlands as areas of heightened cultural sensitivity due to their potential to attract and support prehistoric-period human populations. The selected landcover layer is included as an intuitive visual reference in the sensitivity map (Figure 8-1) but, due to the limitations explained, it was not used as an actual input to the sensitivity assessment.

#### **Forests**

Prior to European contact, acorns were a staple carbohydrate food resource. They were harvested from oak trees in the fall, pounded by stone mortar and pestle to remove the husks and form a mush, leached in water to remove the bitter tannic acids, and then cooked, baked, or dried to make a flour, which could then be stored. A successful and efficient acorn harvest would therefore have required access to productive oak trees, reasonably close access to water, and stone mortars for labor intensive processing. Although not usually associated with long-term habitation, intensive acorn processing sites were commonly seasonal encampments that are readily identified today by the presence of numerous bedrock mortars (BRMs) and stone hand tools for grinding (manos and pestles).

#### **Wetlands**

In addition to active stream channels, wetlands would have served as an abundant source of plant and animal resources, primarily waterfowl and fish for food and vegetal resources for nets, cords, baskets, and clothing.

### **8.3.2 HISTORIC PERIOD RESOURCES**

During the CHRIS archival review, 10 locations of Historic Period archaeological resources were identified as lying within the Project footprint. As noted, 4 of those were eliminated from the study due to the lack of potential to yield additional information.

In addition to the specific resources identified in the CHRIS archive, historic maps and other historic literature sources were consulted in order to identify and further refine locations of potential archaeological significance within and immediately adjacent to the Project area.

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Two new potential Historic Period sites were identified: the grounds of the home of Robert Livermore, Jr., and the former town of Laddsville. Also based on the research, the spatial footprint of The Robert Livermore Homestead (CA-ALA-430/H) was expanded. Finally, one additional Historic Period cultural resource (P-01-2197) was identified as lying just outside the boundaries of Livermore; although not specifically within the Project footprint, it proved relevant to the current study and was added to the historic resources map.

In keeping with archaeological standards, the English system (feet and miles) was employed for historic resource studies.

### 8.3.3 ANALYSIS RESULTS

The current study resulted in two primary map products: 1) a Prehistoric Period Archaeological Sensitivity Map (Figure 8-1); and a generalized, point-located Historic Period Archaeological Resources Map (Figure 8-2).

#### 8.3.3.1 PREHISTORIC PERIOD RESOURCES

The emphasis of this analysis was on the identification of locations suitable for prehistoric human habitation. The results of the spatial analysis are presented in the Prehistoric Period Archaeological Sensitivity Map (Figure 8-1). Of the almost 34 square miles encompassed by Livermore, approximately 2.95 square miles were classified as Highly Sensitive and 2.75 square miles were classified as Moderately Sensitive for buried and near surface Prehistoric Period cultural resources. The fact that most of the known sites are proximate to the historic stream channels (and their respective sensitivity buffer zones) supports the validity of the model. Indeed, the one clear outlier appears to lie upon an extinct stream channel that predated modern mapping. It is also important to note that, because they were likely to lie along streams, sites may have become buried under protective layers of alluvium as waterways meandered across the landscape over millennia.

The Prehistoric Period Archaeological Sensitivity Map also displays forested and wetland areas derived from the 2001 NLCD landcover dataset. Although not specifically assigned sensitivity values, these serve as an indicator of potential specialized resource acquisition and processing sites dating to the Prehistoric Period.

In the Springtown district of northern Livermore, several natural springs and seeps have created a marshy wetland environment that has not been fully destroyed by modern development. At least two Prehistoric Period sites have been found in the area, and special care should be taken in the future to identify any as-yet-unidentified archaeological sites and adequately mitigate any impacts prior to development in that zone.

A few resource processing areas (most often associated with bedrock mortars) have been identified in the foothill margins around the valley, and it is anticipated that future development will encroach upon and threaten as-yet-unidentified sites of this type. Care should be taken to archaeologically survey planned development areas for stone tools and exposed bedrock outcrops in marginal hillside areas—especially those near smaller, seasonal water channels. Specifically, the hilly region in and around Sycamore Grove

## **CULTURAL RESOURCES AND TRIBAL CULTURAL RESOURCES**

Park is a candidate for elevated sensitivity for Prehistoric Period acorn harvesting and processing sites. In addition, although apparently no longer forested today, the hilly areas around the margins of the Valley to the north and northeast should be considered potentially sensitive.

### **8.3.3.2 HISTORIC PERIOD RESOURCES**

A visually generalized map of archaeologically sensitive Historic Period locations was made for this study. Figure 8-2 shows the 10 places of known and potential archaeological sensitivity that may contain subsurface archaeological resources dating to the Historic Period. These locations are associated with early European and European-American presence in the Livermore Valley. Key among those are the residences of Robert Livermore and his son, Robert Livermore, Jr., as well as the former site of the town of Laddsville. Although the map cannot be considered exhaustive—indeed, some chance of finding unexpected resources is almost always present—the information is intended as a planning tool for future development. Further information about specific Historic Period sites can be found in Confidential Appendix 8-1 of this report.

There are numerous historic homes, businesses, and public buildings in Livermore that are of cultural significance, and it is possible that the oldest of these could contain associated archaeological resources. Any proposed ground disturbance near current or former historic structures may warrant additional study and/or field investigations.

### **8.3.4 DISCLAIMER**

The sensitivity study conducted for this report is an approximation based on the factors and methods presented. The model findings are intended as a guide and cannot be considered a definitive substitute for physical soils and ground inspection. Certainly, unanticipated identification of and impacts to cultural resources remains a possibility. However, previously unidentified and potentially significant archaeological sites are relatively rare. Even the smallest evidence of prehistoric-period populations, and of very early European inhabitants, is extremely important.



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