

## 3.4 Cultural and Paleontological Resources

This section addresses the potential impacts of the proposed project to cultural resources in the project vicinity in accordance with the significance criteria established in Appendix G of the California Environmental Quality Act (CEQA) Guidelines. This chapter is based on the report, *DWR Lake Perris Emergency Release Facility Project Phase I Cultural Resources Study*, prepared by ESA, 2014 (**Appendix D**).

Cultural resources are defined as prehistoric and historic sites, structures, districts, and landscapes, or any other physical evidence associated with human activity considered important to a culture, subculture, or community for scientific, traditional, religious, or any other reasons. Under CEQA, paleontological resources, although not associated with past human activity, are grouped within cultural resources. For the purposes of this section, cultural resources may be categorized into four groups: archaeological resources, historic resources (including architectural/engineering resources), contemporary Native American resources, and paleontological resources.

### 3.4.1 Environmental Setting

#### General Setting

The proposed project is located in an unincorporated portion of western Riverside County partially within the Lake Perris State Recreation Area (SRA) and the Lake Perris Fairgrounds. The Lake Perris SRA is situated to the south of Moreno Valley and to the east of the city of Perris, with the lake and associated recreational area bounded on the southeast by the Bernasconi Hills and on the north-northeast by the Russell Mountains. Vegetation in this area is a mixture of California Coastal Sage Scrub, Chaparral, and non-native grasslands, situated within the Southern California Mountains and Valleys ecological section, Perris Valley and Hills Subsection. Primary plant communities within the project area include, but are not limited to, non-native grassland and Riversidean sage scrub.

#### Prehistoric Setting

The chronology of Southern California is typically divided into three general time periods: the Early Holocene (11,000 to 7,600 Before Present [B.P.]), the Middle Holocene (7,600 to 3,600 B.P.), and the Late Holocene (3,600 B.P. to Anno Domini [A.D.] 1769). This chronology is manifested in the archaeological record by particular artifacts and burial practices that indicate specific technologies, economic systems, trade networks, and other aspects of culture.

#### Early Holocene (11,000 to 7,600 B.P.)

While it is not certain when humans first came to California, their presence in Southern California by about 11,000 B.P. has been well documented. At Daisy Cave, on San Miguel Island, cultural remains have been radiocarbon dated to between 11,100 and 10,950 years B.P. (Byrd and Raab, 2007). On the mainland, radiocarbon evidence confirms occupation of the Orange County and San Diego County coast by about 9,000 B.P., primarily in lagoon and river valley locations

(Gallegos, 2002). In western Riverside County, a few Early Holocene sites are known to exist. One is site CA-RIV-2798, which contains deposits dating to as early as 8,580 calibrated years before the present (cal. B.P.) (Grenda, 1997). During the Early Holocene, the climate of Southern California became warmer and more arid, and the human population, residing mainly in coastal or inland desert areas, began exploiting a wider range of plant and animal resources (Byrd and Raab, 2007).

The primary Early Holocene cultural complex in coastal Southern California was the San Dieguito Complex, occurring between approximately 10,000 and 8,000 B.P. The people of the San Dieguito Complex inhabited the chaparral zones of southwestern California, exploiting the plant and animal resources of these ecological zones (Warren, 1967). Leaf-shaped and large-stemmed projectile points, scraping tools, and crescentics are typical of San Dieguito Complex material culture.

### **Middle Holocene (7,600 to 3,600 B.P.)**

During the Middle Holocene, there is evidence for the processing of acorns for food and a shift toward a more generalized economy in coastal and inland Southern California. The processing of plant foods, particularly acorns, increased; a wider variety of animals were hunted; and trade with neighboring regions intensified (Byrd and Raab, 2007).

The Middle Holocene La Jolla Complex (8,000–4,000 B.P.) is essentially a continuation of the San Dieguito Complex. La Jolla groups lived in chaparral zones or along the coast, often migrating between the two. Coastal settlement focused around the bays and estuaries of coastal Orange and San Diego Counties. La Jolla peoples produced large, coarse stone tools, but also produced well-made projectile points and milling slabs. The La Jolla Complex represents a period of population growth and increasing social complexity, and it was also during this time period that the first evidence of the exploitation of marine resources and the grinding of seeds for flour appears, as indicated by the abundance of milling stones in the archaeological record (Byrd and Raab, 2007).

Contemporary with the La Jolla Complex, the Pauma Complex has been defined at coastal and adjacent inland sites in San Diego and Orange Counties, as well as in inland Riverside County (Caricco et al., 2003; True, 1958). The Pauma Complex is similar in technology to the La Jolla Complex; however, evidence of coastal subsistence is absent from Pauma Complex sites (Moratto, 1984). The Pauma and La Jolla Complexes may be indicative of separate inland and coastal groups with similar subsistence and technological adaptations, or, alternatively, may represent inland and coastal phases of one group's seasonal rounds. The latter hypothesis is supported by the lack of hidden and deeply buried artifacts at Pauma sites, indicating that these sites may have been temporary camps for resource gathering and processing.

### **Late Holocene (3,600 B.P. to A.D. 1769)**

During the Late Holocene, native populations of Southern California were becoming less mobile and began to gather in small sedentary villages with satellite resource-gathering camps (Byrd and Raab, 2007). Evidence indicates that the overexploitation of larger, high-ranked food resources

may have led to a shift in subsistence toward a focus on acquiring greater amounts of smaller resources, such as shellfish and small-seeded plants (Byrd and Raab, 2007).

Around 1,000 B.P., an episode of sustained drought, known as the Medieval Climatic Anomaly (MCA), occurred. Although the effects of this environmental change on prehistoric populations are still being debated, it did likely lead to changes in subsistence strategies in order to deal with the substantial stress on resources (Jones and Schwitalla, 2008). In coastal Southern California, beginning before the MCA but possibly accelerated by it, conditions became drier and many lagoons had been transformed into saltwater marshes. Because of this, populations abandoned coastal mesa and ridge tops to settle nearer to permanent freshwater resources (Gallegos, 2002).

Although the intensity of trade had already been increasing, it reached its zenith in the Late Holocene, with asphaltum (tar), seashells, and steatite being traded from Southern California to the Great Basin. Major technological changes appeared as well, particularly with the advent of the bow and arrow, which largely replaced the use of the dart and atlatl (Byrd and Raab, 2007). Small projectile points, ceramics, including Tizon brownware pottery, and obsidian from Obsidian Butte (Imperial County) are all representative artifacts of the Late Holocene.

It has been postulated that as early as 3,500 B.P., a Takic-speaking people arrived in coastal Los Angeles and Orange Counties, having migrated west from inland desert regions (Kroeber, 1925; Warren, 1968; Sutton, 2009). By around 1,500 to 1,000 B.P., Takic language and cultures had spread to the south and inland to the east. These new arrivals, linguistically and culturally different from earlier coastal populations, may have brought new settlement and subsistence systems with them, along with other new cultural elements. This migration has been postulated as being a factor in several of the significant changes in material culture seen in the Late Holocene (such as the use of smaller projectile points and pottery), as well as the introduction of cremation as a burial practice.

The San Luis Rey culture (divided into San Luis Rey I [A.D. 1400 to 1750] and San Luis Rey II [A.D. 1750 to 1850]) represented the Late Period in southwestern Riverside County, northern San Diego County, southern Los Angeles County, and the interior mountains of Orange County (Meighan, 1954; Moratto, 1984). San Luis Rey I village sites contain manos (hand stones), metates (grinding slabs), bedrock mortars, shell artifacts, and triangular arrow points. In addition to having these features, San Luis Rey II sites are characterized by the presence of pottery, pictographs, and the cremation of the dead (Moratto, 1984).

San Luis Rey settlement patterns in the upper San Luis Rey River drainage are typified by seasonally occupied lowland villages located in proximity to water sources and highland villages occupied in the late summer and fall for acorn collection (True and Waugh, 1982). However, settlement patterns within southwestern Riverside County are less known. The available information, stemming primarily from survey data, indicates that four primary site types existed within the region during the Late Period: field camps, resource procurement locations, residential bases, and villages (Mason, 1999). Resource procurement locations and field camps, the most common site types, contain a limited assemblage of artifacts and subsistence remains, primarily lithic debitage, some tools, fire-affected rock, and small amounts of animal bones and charred

seeds and nuts. This indicates that these types of sites were used primarily for focused activities and short-term occupancy.

Villages and residential bases, on the other hand, show evidence for long-term occupation by large groups of people. Villages were occupied year-round, while residential bases were occupied seasonally. Artifacts and features found at both village and residential bases, including large amounts of faunal and botanical remains, numerous high-quality tools, fire-affected rock, and anthrosols, indicate a wide range of activities (Mason, 1999). Bedrock mortars point to the processing of seeds and acorns, and ceremonial activities are evidenced by the presence of pictographs, petroglyphs, and cupules within village sites.

## **Ethnographic Setting**

### **Luiseno**

The Luiseno were named after the Mission San Luis Rey, to which many of them were relocated. The language of the Luiseno people has been identified as belonging to the Cupan group of the Takic subfamily, which is part of the larger Uto-Aztecan language family (Bean and Shipek, 1978). Luiseno territory was bordered by Agua Hedionda Creek on the south and Aliso Creek on the northwest, encompassed most of the drainage of the San Luis Rey River and the Santa Margarita River, and extended east as far as the San Jacinto Mountains. Today, this area is located within northern San Diego, southern Orange, and Riverside Counties, and would have encompassed a diverse environment including lagoons and marshes, coastal areas, inland river valleys, foothills, and mountains.

The Luiseno subsisted on small game, coastal marine resources, and a wide variety of plant foods such as grass seeds and acorns. Luiseno houses were conical thatched reed, brush, or bark structures. The Luiseno inhabited permanent villages centered around patrilineal clans, with each village headed by a chief (Sparkman, 1908). Seasonal camps associated with villages were also used. Each village or clan had an associated territory and hunting, collecting, and fishing areas. Villages were typically located in proximity to a food or water source, or in defensive locations, often near valley bottoms, streams, sheltered coves or canyons, or coastal strands (Bean and Shipek, 1978). It is estimated that there may have been around 50 Luiseno villages with a population of about 200 each at the time of the first Spanish contact (Bean and Shipek, 1978).

Today, there are six federally recognized tribes in California who share Luiseno tribal affiliation, language, and culture, including the La Jolla Band of Luiseno Indians (La Jolla), Rincon Band of Luiseno Indians (Rincon), Pauma Yuima Band of Mission Indians (Pauma), Pechanga Band of Luiseno Indians (Pechanga), Pala Band of Mission Indians (Pala), and Soboba Band of Luiseno Indians (Soboba).

### **Cahuilla**

The Cahuilla spoke a language belonging to the Cupan group of the Takic subfamily (Bean, 1978). The Cahuilla are generally divided into three groups based on their geographic setting: the Pass Cahuilla of the Beaumont/Banning area; the Mountain Cahuilla of the San Jacinto and Santa Rosa Mountains; and the Desert Cahuilla from the Coachella Valley, as far south as the Salton

Sea. The Cahuilla occupied territories that ranged from low or moderately low desert to the mountain regions of the Transverse and Peninsular ranges.

Villages were located near canyons that received substantial precipitation or were adjacent to streams and springs (Bean, 1978). House structures of the Cahuilla ranged from “brush shelters to dome-shaped or rectangular structures 15–20 feet long” (Bean, 1978). The Cahuilla social structure revolved around clans and exogamous moieties (components connected through inter-marriage). Hunting, in conjunction with the exploitation of a variety of available resources, governed the Cahuilla subsistence strategy. The material culture of the Cahuilla was extensive and varied and included pottery, ornamental items, and a number of knapped stone tools.

Prior to European contact, population estimates for the Cahuilla range from 3,600 to as high as 10,000 persons. As a result of European diseases, such as smallpox, the Cahuilla population was decimated during the 19th century. However, unlike other Native American populations in Southern California, the Cahuilla were able to retain their autonomy even after the arrival and increasing control of European explorers and the settling governments that followed. It was not until 1891 that the Cahuilla culture and its population began to succumb to the pressure of European and, later, U.S. governing bodies (Bean, 1978).

Today, there are nine federally recognized tribes in California who share Cahuilla tribal affiliation, language, and culture, including the Agua Caliente Band of Cahuilla Indians (Agua Caliente), Augustine Band of Cahuilla Indians (Augustine), Cabazon Band of Mission Indians (Cabazon), Cahuilla Band of Mission Indians, Los Coyotes Band of Cahuilla and Cupeño Indians (Los Coyotes), Morongo Band of Mission Indians (Morongo), Ramona Band of Cahuilla Indians (Ramona), Santa Rosa Band of Cahuilla Indians (Santa Rosa), and Torres-Martinez Desert Cahuilla Indians (Torres-Martinez).

## **Historical Setting**

### **Spanish Period (1769–1821)**

The first European presence in what is now Southern California came in 1542, when Juan Rodriguez Cabrillo led an expedition along the coast. Europeans did not return until 1769, when the expedition of Gaspar de Portola traveled overland from San Diego to San Francisco. Juan Bautista de Anza was the first recorded European visitor to the area. He is credited with the discovery of an inland route from Sonora to the northern coast of California in 1774, bringing him through much of what is now known as Riverside County, via the San Jacinto Mountains (Rolle, 2003). With de Anza, the colonization of Alta California began in earnest. With the opening of the overland route, Spanish pueblos were established, evolving into the Spanish system of governance.

In the late 18th century, the Spanish began establishing missions in California and forcibly relocating and converting native peoples (Horne and McDougall, 2003). The purpose of the missions was to encourage, by any means necessary, the assimilation of Native populations to adopt the Spanish customs, language, and religion. The mission strategy relied upon an agricultural economy and, as such, locations selected for the construction of a mission depended

upon three factors: arable soil for crops, an adequate supply of fresh water, and a large local Indian population for labor (Rolle, 2003). Because of this, no missions were constructed in the immediate vicinity of the current project area, but it has been documented that the San Gabriel Mission used the fertile grasslands of the inland valleys as pasture for their cattle (Schmid, 2008).

### **Mexican Period (1821–1846)**

In 1821, Mexico, which included much of present-day California, became independent from Spain, and during the 1820s and 1830s the California missions were secularized. Mission property was supposed to have been held in trust for the Native Californians, but instead was handed over to civil administrators and then into private ownership as land grants. The project area is located within the former San Jacinto Nuevo y Potrero land grant. The 48,861-acre land grant was bestowed upon Miguel Pedorena in 1846 by Governor Pio Pico (Shumway, 2007). After secularization, many former Mission Indians were forced to leave the Missions and seek employment as laborers, ranch hands, or domestic servants (Horne and McDougall, 2003).

### **American Period (1846–Present)**

In 1846, the Mexican-American War broke out. Mexican forces were eventually defeated in 1847 and Mexico ceded California to the United States as part of the Treaty of Guadalupe Hidalgo in 1848. California officially became part of the United States in 1850. While the treaty recognized the right of Mexican citizens to retain ownership of land granted to them by Spanish or Mexican authorities, the claimant was required to prove their right to the land before a patent was given. The process was lengthy and generally resulted in the claimant losing at least a portion of their land to attorney's fees and other costs associated with proving ownership (Starr, 2007).

When the discovery of gold in northern California was announced in 1848, a huge influx of people from other parts of North America flooded into California. As a result of the discovery of gold and the mass migration of fortune hunters to both southern and northern California, the population of the region exploded and development of urban areas grew. The transcontinental railroad came to the region in 1869, bringing industry and settlers to the area; the City of Riverside became the first of these colonized areas in what is now Riverside County. Cattle ranches were slowly replaced by citrus farming and agriculture, industries of major importance to the populace of the area now known as Riverside County.

The city of Perris, California, came into its own with the construction of the Santa Fe Railway, which required the routing of the line through Perris en route to San Diego (1881). With this new access channel, settlers amassed in the area and by 1885 the city of Perris was under construction. Even with the passing of the railroad, the region's development of an agriculturally based economy kept Perris afloat. As a result of the construction of the Colorado River Aqueduct during the 1930s and other efforts to bring water to the region by the Eastern Municipal Water District in the 1950s, agriculture in the area shifted from dry farming crops to a more diverse collection of crops, including alfalfa, the King potato, and sugar beets (City of Perris History, 2007).

### ***State Water Project***

The State Water Project (SWP) is the nation's largest state-built water and power development and conveyance system. Planned, designed, constructed, and currently operated and maintained by the Department of Water Resources (DWR), the SWP provides water to 25 million Californians (about two-thirds of the state's population) and over 750,000 acres of irrigated farmland. The SWP includes: 34 water storage facilities, reservoirs, and lakes; 20 pumping plants; 4 pumping-generating plants; 5 hydroelectric power plants; and about 700 miles of canals and pipelines. Canals in the SWP system include the North Bay Aqueduct and the South Bay Aqueduct, which move water to the San Francisco Bay Area, and the California Aqueduct, which moves water to the San Joaquin Valley and Southern California (DWR, 2012).

### ***The California Aqueduct***

In 1960, construction began on the California Aqueduct and its related infrastructure. The SWP delivered water to long-term contractors in the San Joaquin Valley by 1968. Because the aqueduct was the largest and most vital element of the SWP system, contractors worked on it through the entire construction period of the SWP. The trapezoidal aqueduct, similar in geometry to the Perris Valley Channel's main canals, was lined with unreinforced concrete except in special areas where reinforced concrete was essential. As the aqueduct carries water south and makes deliveries along the way, it becomes narrower. At the northern end of the project, the canal's bottom width is 40 feet; where it crosses the Tehachapi's into Southern California, that width is reduced to 24 feet (JRP and Caltrans, 2000). The aqueduct was constructed to the Tehachapi Range in 1971; the aqueduct delivered water to Lake Perris, its southernmost point in 1973, completing the initial SWP facilities (DWR, 1974). In total length, the completed California Aqueduct measures 444 miles.

### ***Perris Dam and Lake Perris***

As the southernmost reservoir in the SWP, Lake Perris was designed for water supply, recreation, and fish and wildlife enhancement. Water deliveries from the reservoir would be through the Metropolitan Water District (Metropolitan), a consortium of cities and water districts that was formed in 1928. Because Metropolitan was the only agency that would be withdrawing water from the reservoir, the reservoir was designed to meet their specified requirements.

An initial assessment of water needs for Metropolitan set the requirements at 100,000 acre feet; however, as Metropolitan made plans to expand its service area, a new assessment in 1965 revealed that additional reservoir capacity would be needed. Several amendments to the water contract between DWR and Metropolitan were signed, with Amendment 5 written in October 1966 to state that the dam and appurtenant facilities would be sized for an initial capacity of 100,000 acre feet, with provisions for the dam to be raised, in any number of stages, to an ultimate capacity of 500,000 acre feet (DWR, 1974).

## Identification of Cultural Resources within the Project Area

### ***Archival Research***

A records search for the project was conducted on June 28, 2013, at the California Historical Resources Information System (CHRIS) Eastern Information Center (EIC) housed at the University of California, Riverside. The records search included a review of all recorded archaeological sites within a 1-mile radius of the project area, as well as a review of cultural resource reports on file. The records search also included a review of the National Register and the California Office of Historic Preservation (OHP) Historic Property Directory (HPD). Additional archival research was conducted for the project, including a review of all available historic maps and aerial photographs.

The records search indicated that 45 cultural resources studies have been conducted within a 1-mile radius of the project area (see Appendix D). Of these 45 studies, 7 included portions of the project area. The entire project area has been included in past cultural resources surveys.

The records search indicated that 58 cultural resources have been previously recorded within a 1-mile radius of the project area (see Appendix D, Table 2). These resources include: 51 archaeological sites; 3 historic-era built resources; and 4 isolated artifacts. None of the 58 previously recorded resources are located within the project area. The closest previously recorded resource to the project area, CA-RIV-8381, is a prehistoric site consisting of milling features and is located approximately 250 feet south of the southeastern terminus of the SRA Segment.

Of the 51 archaeological sites, 42 are prehistoric sites, 5 are historic-era sites, 3 are multi-component sites, and 1 site is of unknown age. The vast majority of the 42 prehistoric archaeological sites consist of bedrock milling features, some with associated lithic, groundstone, and/or ceramic artifacts. Of the five historic-era archaeological sites, one is a homestead with an associated water conveyance system, two are reservoirs, one is a water conveyance system, and one is the remnants of the Perris Indian School. Of the three multi-component sites: one consists of a prehistoric habitation area with a historic well and retaining wall; one includes a prehistoric rock art panel and bedrock milling features, as well as the remnants of a historic period structure and garden; and one consists of prehistoric milling features and a historic benchmark dating to 1931.

Of the three historic-era built environment resources, one includes segments of the Colorado River Aqueduct, one is a single-story house constructed in 1946, and one is a well house constructed of concrete.

Of the four previously recorded isolates, three are prehistoric and one is historic.

### ***Historic Map and Aerial Review***

Historic maps and aerial photographs were examined to provide historical information about the project area and to contribute to an assessment of the project area's archaeological sensitivity. Available historic maps include the 1901 Lake Elsinore 30-foot topographic quadrangle, 1943 Perris 15-foot topographic quadrangle, and 1953 and 1967 Perris 7.5-foot topographic

quadrangles. Historic aerial photographs from 1967, 1978, and 2005 were also examined (historicaerials.com, 2013) (see Appendix D).

### ***Native American Contact***

The California Native American Heritage Commission (NAHC) maintains a confidential Sacred Lands File (SLF) that lists sites of traditional, cultural, or religious value to the Native American community. The NAHC was contacted by Environmental Science Associates (ESA) on June 14, 2013, with a request for a search of the SLF. The NAHC responded to the request in a letter dated June 18, 2013. The letter did not indicate that Native American cultural resources are known to be located within the project area on the Perris 7.5-foot USGS quadrangle. The letter also included a list of Native American contacts.

Contact letters to all individuals and groups indicated by the NAHC as having affiliation with the project area were prepared for DWR and mailed on July 10, 2013. The letters described the proposed project and included a map depicting the location of the project area. Recipients were requested to reply with any information they were able to share about Native American resources that might be affected by the project. To date, four tribes have responded, including the Pechanga, Pala, Soboba, and Morongo.

DWR receive a response letter dated July 31, 2013 from the Cultural Analyst for the Pechanga, stated that the project area is located within the Pechanga's ancestral territory. The letter requested copies of documents pertaining to the project and continued government-to-government consultation with DWR to discuss details of the project and mitigation measures.

DWR received a subsequent letter dated October 9, 2013, formally requesting that the Pechanga be notified and involved in the entire CEQA review process for the duration of the project. In an email correspondence dated August 2, 2013, DWR provided information on the project, including the time and location of the public scoping meeting. The Pechanga also requested engineering/construction plans and the specifics relating to the public scoping meeting.

DWR received a letter dated August 6, 2013, from the Tribal Historic Preservation Officer for the Pala, which stated that the project area is located outside the boundaries of the territory that the Tribe considers its Traditional Use Area. The Pala representative expressed no objections to the project and deferred to the wishes of tribes in closer proximity to the project area.

DWR received a letter dated August 30, 2013 from the Director of Cultural Resources for the Soboba, which stated that the project falls within the bounds of the Tribe's Traditional Use Area. The Soboba requested to initiate consultation with DWR and to approve of mitigation measures proposed for the project. The Tribe also requested a face-to-face meeting between representatives from DWR and the Soboba Cultural Resources Department.

On September 9, 2013, DWR emailed the Pechanga, Soboba and Morongo tribes information concerning the Notice of Preparation (NOP) and public meeting for the project.

On November 14, 2013 DWR representatives met with representatives from the Pechanga, Soboba and Morongo tribes at Lake Perris. Details of the project were discussed as were mitigation measures and individual tribal involvement.

Emails were sent to the Pechanga, Soboba and Morongo tribes on December 2, 2013, following the meeting at Lake Perris to provide project status information. Additional emails were sent to the same parties in early March 2014 to notify them of the proposed and ultimate cultural resources survey date. The Pechanga provided a Native American monitor to accompany the surveyors on March 18, 2014.

An updated list of Native American contacts was received from the Native American Heritage Commission on May 24, 2016.

### ***Geoarchaeological Review***

The project area is located within the Peninsular Ranges, a series of north-south-oriented mountain ranges in Southern California. Structural blocks within the province are separated from one another by north-south-trending faults, resulting in well-defined low-lying troughs between the uplands. The project area is on the Perris Block, a structurally stable mass of Cretaceous-aged (145–66 million years ago [mya]) granite and metasedimentary basement rock. The block, which is bounded by the Santa Ana Block to the west and the San Jacinto Block to the east, contains interior geological features, including low mountains and hills, bedrock plains, and valleys filled by eroded sediments. The project area is within the Perris Valley, south and west of the Bernasconi Hills and Russell Mountains, which surround Perris Reservoir on three sides. Weathering and erosion of the mountain rock resulted in westward building of a large alluvial fan during the early to middle Pleistocene (2.6–0.5 mya) (Morton et al., 2003; Morton and Miller, 2006 [see Dibblee and Minch, 2003]). While several monadnocks (bedrock islands) remain in the vicinity of the project area, in most places bedrock is buried by several feet to 150 or more feet of alluvial fan deposits. A small portion of the project area between Evans Road and the Perris Valley Channel is mapped as Holocene-aged (within the last 12,000 years) alluvial fan deposits. Runoff from the Bernasconi Hills and Russell Mountains was curtailed with construction of Perris Dam in the early 1970s. The vicinity of the project area was likely used for agriculture since at least the 1930s, but in recent decades it has been subject to urbanization, including road construction.

Soils within the alluvial fan portion of the project area consist of a series of loamy textures, which generally become finer-grained (siltier) as one moves downslope along the alluvial fan. Soils close to the Bernasconi Hills consist of Hanford coarse sandy loam, Greenfield sandy loam, and Ramona sandy loam, with Exeter sandy loam, and then Domino silt loam at the western terminus of the project near the Perris Valley Channel (Natural Resources Conservation Services, 2014). A significant aspect of these soils is that they generally contain a shallow (20–60 inches below surface) hardpan resulting from the presence of silica, iron oxides, and/or carbonates.

Native American archaeological sites within a 1-mile radius of the project area cluster strongly toward the south and east as a series of milling sites in the Bernasconi Hills. Sites appear as

surface manifestations containing one or more milling slick (a bedrock surface with evidence for plant grinding) and/or mortars (small boulders with grinding surfaces); smaller items, such as manos (grinding hand stones) and chipped stone flakes, tend to appear in limited numbers. The location of these sites appears to be closely tethered to granite rock outcrops. Erosion within the hills tends to work against burial and preservation of these sites, although the major diagnostic artifacts—milling slicks and mortars—are highly immobile and resistant to destruction.

The majority of the project area along the Ramona Expressway is situated on an alluvial fan surface that dates to the early to middle Pleistocene (Morton and Miller, 2006). While the mechanics of alluvial fans make them suited to bury and preserve archaeological resources, particularly in gently sloping, lower-energy toe positions, the extreme age of this fan largely precludes the presence of deeply buried archaeological remains within most of the project area. Furthermore, the presence of duripan or cemented layers at shallow depths (Natural Resources Conservation Services, 2014), the formation of which may take thousands of years and is indicative of a stable landform, would further limit the potential for any buried archaeological resources. Although there may be some shallowly buried archaeological deposits overlain by windblown sediments scattered through the vicinity, on the whole, the potential for encountering subsurface archaeological deposits within the project area is moderate.

### ***Cultural Resource Survey***

A pedestrian cultural resources survey of the approximate 57-acre project area was conducted on March 18, 2014, by ESA archaeologists Michael Vader and Mathew Gonzalez. Loren Garcia, Native American monitor for the Pechanga, accompanied the surveyors. All accessible portions of the project area were surveyed in a systematic manner with transect intervals spaced no greater than 15 meters (approximately 50 feet) apart. No subsurface investigation was performed and no artifacts were collected during the pedestrian survey.

Survey conditions and accessibility varied somewhat across the portions of the project area, which included three segments: (1) the SRA Segment; (2) the Fairgrounds Segment; and (3) the Western Segment. Approximately 90 percent of the project area was surveyed, with the remaining 10 percent unsurveyed because of inaccessibility and/or lack of ground surface visibility due to paved surfaces. No cultural resources were identified during the survey. Surface conditions and observations for each segment are provided below:

1. The SRA Segment largely consisted of open ground covered in non-native grasses and chamise, which resulted in ground surface visibility that ranged from 25 to 50 percent. Disturbances in this portion of the project area included a number of dirt roads that bisected the segment, as well as the east-west-trending Martin Street, which bisected the western portion of the segment. The southern terminus of the segment consisted of a graded and paved fenced-off area that housed operational facilities and was not surveyed because of its highly disturbed nature. Within the central portion of the segment were four staging areas that were either paved or based with gravel and had no visible ground surfaces and thus were not surveyed.

2. The Fairgrounds Segment consisted of a motocross arena within its eastern half and a graded dirt lot within its western half. The motocross arena was not surveyed because of the highly disturbed nature of the area. The western half consisted of open ground with ground surface visibility that was 100 percent.
3. The Western Segment consisted primarily of open ground that included disturbed portions along the shoulder of the Ramona Expressway and along an east-west-trending ditch along its southern half. The northern quarter of the Western Segment, and within the proposed staging and stockpiling areas, consisted of agricultural fields where ground surface visibility was 100 percent. Along the southern three-quarters, ground surface visibility ranged from zero percent in the area west of Evans Road, which was covered in thick tumbleweed, to 75 to 100 percent in the area east of Evans Road.

### ***Paleontological Resources***

The following discussion of paleontological resources is based primarily on the *Paleontological Resource Monitoring and Mitigation Plan (PRMMP): Department of Water Resources Lake Perris Dam Remediation Project* (Aron and Kelly, 2013).

A records search conducted by San Bernardino County Museum staff indicated that no fossils have been found within a 1-mile radius of the project area. However, numerous significant Pleistocene vertebrate fossils (including rabbit, rodent, and lizard) have been recovered from Romoland (to the south), as well as from the Diamond Valley Lake construction area further to the southeast, which produced world-class specimens of mammoth, mastodon, bison, saber-toothed cat, and sloth, among others.

Based on the geologic maps, the majority of the project area is underlain by Quaternary very old alluvial fan deposits (Qvof) that date to the middle to early Pleistocene (2.58 million to 300,000 years ago). This unit is generally described as moderately to well consolidated silt, sand, gravel, and conglomerate. Quaternary very old alluvial fan deposits have the potential to produce scientifically important fossils of land mammals, invertebrates, and plants in this area, and have been assigned a high sensitivity ranking within the County of Riverside (Aron and Kelley, 2013).

The western half of the Western Segment is underlain by Young alluvial valley deposits (Qyvsa) that date to the late Pleistocene and Holocene (approx. 11,700 years ago to present). This unit is generally described as a mixture of slightly to moderately consolidated coarse-grained sand and cobble and gravel-sand deposits (Smith, 2012). Because of its age, this unit has a low paleontological sensitivity and is unlikely to produce in situ fossils. However, the City of Perris General Plan Conservation Element indicates that the project area is in Area #4: Low to High Sensitivity: Younger alluvium overlying older valley alluvium at depth (estimated to be 5 feet below ground surface) (City of Perris, 2005). Excavation below 5 feet is considered to extend into sediments with high paleontological sensitivity.

## 3.4.2 Regulatory Framework

### Cultural Resources

Numerous laws and regulations require federal, state, and local agencies to consider the effects a project may have on cultural resources. These laws and regulations stipulate a process for compliance, define the responsibilities of the various agencies proposing the action, and prescribe the relationship among other involved agencies.

#### Federal

Archaeological resources are protected through the NHPA of 1966, as amended (16 U.S. Code 470f), and its implementing regulations, Protection of Historic Properties (36 Code of Federal Regulations [CFR] Part 800), the Archaeological and Historic Preservation Act of 1974, and the Archaeological Resources Protection Act of 1979. Prior to implementing an “undertaking” (e.g., issuing a federal permit), Section 106 of the NHPA requires federal agencies to consider the effects of the undertaking on historic properties and to afford the Advisory Council on Historic Preservation and the SHPO a reasonable opportunity to comment on any undertaking that would adversely affect properties eligible for listing in the National Register. As indicated in Section 101(d)(6)(A) of the NHPA, properties of traditional religious and cultural importance to a Tribe are eligible for inclusion in the National Register. Under the NHPA, a resource is considered significant if it meets the National Register’s listing criteria at 36 CFR 60.4.

#### *National Register of Historic Places*

The National Register was established by the NHPA as “an authoritative guide to be used by federal, State, and local governments, private groups and citizens to identify the Nation’s historic resources and to indicate what properties should be considered for protection from destruction or impairment” (Code of Federal Regulations [CFR] 36 Section 60.2). The National Register recognizes both historic-period and prehistoric archaeological properties that are significant at the national, state, and local levels.

To be eligible for listing in the National Register, a resource must be significant in American history, architecture, archaeology, engineering, or culture. Districts, sites, buildings, structures, and objects of potential significance must meet one or more of the following four established criteria (U.S. Department of the Interior, 1995):

- A. Are associated with events that have made a significant contribution to the broad patterns of our history
- B. Are associated with the lives of persons significant in our past
- C. Embody the distinctive characteristics of a type, period, or method of construction or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction
- D. Have yielded, or may be likely to yield, information important in prehistory or history

Unless the property possesses exceptional significance, it must be at least 50 years old to be eligible for National Register listing (U.S. Department of the Interior, 1995).

In addition to meeting the criteria of significance, a property must have integrity. Integrity is defined as “the ability of a property to convey its significance” (U.S. Department of the Interior, 1995). The National Register recognizes seven qualities that, in various combinations, define integrity. To retain historic integrity, a property must possess several, and usually most, of these seven aspects. Thus, the retention of the specific aspects of integrity is paramount for a property to convey its significance. The seven factors that define integrity are location, design, setting, materials, workmanship, feeling, and association.

## **State**

The State implements the NHPA through its statewide comprehensive cultural resources surveys and preservation programs. The OHP implements the policies of the NHPA on a statewide level. The OHP also maintains the California Historical Resources Inventory. The SHPO is an appointed official who implements historic preservation programs within the State’s jurisdictions.

### ***California Environmental Quality Act***

CEQA is the principal statute governing environmental review of projects occurring in the state. CEQA requires lead agencies to determine if a proposed project would have a significant effect on archaeological resources. CEQA is codified at PRC Section 21000 et seq. As defined in Section 21083.2 of CEQA, 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 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

In addition, the CEQA Guidelines recognize that certain historical resources may also have significance. The CEQA Guidelines recognize that “historical resource” could include: (1) a resource in the California Register; (2) a resource included in a local register of historical resources, as defined in Public Resources Code, Section 5020.1(k) or identified as significant in a historical resource survey meeting the requirements of Public Resources Code Section 5024.1(g); and (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 by the lead agency, provided the lead agency’s determination is supported by substantial evidence in light of the whole record.

If a lead agency determines that an archaeological site is a historical resource, the provisions of Section 21084.1 of the Public Resources Code and Section 15064.5 of the CEQA Guidelines apply. If an archaeological site does not meet the criteria for a historical resource contained in the CEQA Guidelines, then the site is to be treated in accordance with the provisions of Public Resources Code, Section 21083, which designate the site as a unique archaeological resource. The CEQA Guidelines note that if an archaeological resource is neither a unique archaeological nor a historical resource, the effects of the project on those resources shall not be considered a significant effect on the environment (CEQA Guidelines Section 15064.5[c][4]).

### ***California Register of Historical Resources***

The California Register is “an authoritative listing and guide to be used by State and local agencies, private groups, and citizens in identifying the existing historical resources of the State and to indicate which resources deserve to be protected, to the extent prudent and feasible, from substantial adverse change” (Public Resources Code, Section 5024.1 subd [a]). The criteria for eligibility for the California Register are based upon National Register criteria (Public Resources Code, Section 5024.1 subd [b]). Certain resources are determined by the statute to be automatically included in the California Register, including California properties formally determined eligible for, or listed in, the National Register.

To be eligible for the California Register, a prehistoric or historical-period property must be significant at the local, state, and/or federal level under one or more of the following four criteria:

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

A resource eligible for the California Register must meet one of the criteria of significance described above and retain enough of its historic character or appearance (integrity) to be recognizable as a historical resource and to convey the reason for its significance. It is possible that a historic resource may not retain sufficient integrity to meet the criteria for listing in the National Register but potentially still be eligible for listing in the California Register.

Additionally, the California Register consists of resources that are listed automatically and those that must be nominated through an application and public hearing process. The California Register automatically includes the following:

- California properties listed on the National Register and those formally determined eligible for the National Register
- California Registered Historical Landmarks from No. 770 onward

- California Points of Historical Interest that have been evaluated by the OHP and have been recommended to the State Historical Commission for inclusion on the California Register

Other resources that may be nominated to the California Register include:

- Historical resources with a significance rating of Category 3 through 5 (those properties identified as eligible for listing in the National Register, the California Register, and/or a local jurisdiction register)
- Individual historical resources
- Historical resources contributing to historic districts
- Historical resources designated or listed as local landmarks, or designated under any local ordinance, such as an historic preservation overlay zone

#### ***California Public Resources Code Section 5024***

PRC Section 5024 provides direction to a state agency for treatment of historic resources under its jurisdiction, which requires state agencies to preserve and maintain all state-owned historic resources that are listed in, eligible, or considered potentially eligible for inclusion in the National Register. Under PRC Section 5024(f), each state agency shall submit to the SHPO for comment documentation for any project having the potential to affect historical resources listed in or potentially eligible for inclusion in the National Register or registered as or eligible for registration as a state historical landmark.

#### ***California Health and Safety Code Section 7050.5***

California Health and Safety Code Section 7050.5 requires that in the event human remains are discovered, the County Coroner be contacted to determine the nature of the remains. In the event the remains are determined to be Native American in origin, the Coroner is required to contact the California NAHC within 24 hours to relinquish jurisdiction.

#### ***California Public Resources Code Section 5097.98***

PRC Section 5097.98, as amended by Assembly Bill 2641, provides procedures in the event human remains of Native American origin are discovered during project implementation. PRC Section 5097.98 requires that no further disturbances occur in the immediate vicinity of the discovery, that the discovery is adequately protected according to generally accepted cultural and archaeological standards, and that further activities take into account the possibility of multiple burials. PRC Section 5097.98 further requires the NAHC, upon notification by a County Coroner, designate and notify a MLD regarding the discovery of Native American human remains. Once the MLD has been granted access to the site by the landowner and has inspected the discovery, the MLD then has 48 hours to provide recommendations to the landowner for the treatment of the human remains and any associated grave goods.

In the event that no descendant is identified, or the descendant fails to make a recommendation for disposition, or if the landowner rejects the recommendation of the descendant, the landowner

may, with appropriate dignity, reinter the remains and burial items on the property in a location that will not be subject to further disturbance.

## **Paleontological Resources**

### ***Federal***

A variety of federal statutes specifically address paleontological resources. They are generally applicable to a project if that project includes federally owned or federally managed lands or involves a federal agency license, permit, approval, or funding. Federal legislative protection for paleontological resources stems from the Antiquities Act of 1906 (PL 59-209; 16 U.S. Code 431 et. seq.; 34 Stat. 225), which calls for protection of historic landmarks, historic and prehistoric structures, and other objects of historic or scientific interest on federal lands.

### ***State***

Paleontological resources are also afforded protection by CEQA. Appendix G (Part V) of the CEQA Guidelines provides guidance relative to significant impacts on paleontological resources, stating that a project will normally result in a significant impact on the environment if it will "...disrupt or adversely affect a paleontologic resource or site or unique geologic feature, except as part of a scientific study." Section 5097.5 of the PRC specifies that any unauthorized removal of paleontological resources is a misdemeanor. Further, the California Penal Code Section 622.5 sets the penalties for the damage or removal of paleontological resources.

## **3.4.3 Impacts and Mitigation Measures**

### **Significance Criteria**

The following criteria from Appendix G of the CEQA Guidelines are used as thresholds of significance to determine the impacts of the proposed project as related to cultural resources. The proposed project would have a significant impact if it would:

- Cause a substantial adverse change in the significance of a historical or archaeological resource as defined in CEQA Guidelines Section 15064.5
- Disturb or indirectly destroy a unique paleontological resource or site or unique geologic feature
- Disturb of any human remains, including those interred outside of formal cemeteries

### ***Methodology***

CEQA provides that a project may cause a significant environmental effect where the project could result in a substantial adverse change in the significance of a historical resource (PRC Section 21084.1). CEQA Guidelines Section 15064.5 defines a "substantial adverse change" in the significance of a historical resource to mean 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" (CEQA Guidelines, Section 15064.5, subd [b][1]). Actions that would materially impair the significance of a historical resource are any actions that would demolish or adversely alter those physical characteristics of a historical resource that

convey its historical significance and qualify it for inclusion in the California Register or in a local register or survey that meet the requirements of PRC Sections 5020.1(k) and 5024.1(g).

## Impact Analysis

### **Impact 3.4-1: The project could have a significant impact if it would cause a substantial adverse change in the significance of a historical or archaeological resource, as defined in CEQA Guidelines Section 15064.5.**

Perris Dam and the outlet tower are facilities of the SWP. Neither structure appears to meet the criteria to be individually listed on the National Register and/or the California Register. If the SWP was determined to be eligible for the National Register and/or the California Register, then Perris Dam and the outlet tower would be eligible for the same as contributors to the SWP. The project would include modification of the dam's existing release structure; however, the proposed changes would not significantly alter Perris Dam or the outlet tower in a way that would substantially diminish their integrity to the extent they would not be considered contributors to the SWP. After completion of the project, Perris Dam and the outlet tower would continue their basic functions of impounding and releasing water at the SWP's southernmost reservoir at the terminus of the California Aqueduct. The project changes would not result in a substantial adverse change to the SWP facilities. No archaeological resources were identified in the project area. However, ground visibility was generally poor and vegetation, pavement, and gravel may have obscured archaeological materials. Also, approximately 10 percent of the project area was inaccessible to surveyors. Archival research indicates that the surrounding region is highly sensitive for cultural resources and one prehistoric archaeological site (CA-RIV-8381), consisting of bedrock milling features, is located near the project area. Moreover, the Pechanga and Soboba both stated that the project vicinity contains sensitive cultural resources and have expressed concerns that project-related construction may impact these resources. Furthermore, the geoarchaeological review indicates there is potential to encounter buried archaeological deposits at shallow depths and the project area should be considered moderately sensitive for the presence of archaeological resources. Additionally, the City of Perris General Plan Conservation Element indicates that the Perris Valley Channel and the Fairgrounds Segments are located in an area of Medium Density Site Probability (two or more sites per quarter mile) (City of Perris, 2005). Because the proposed project includes ground-disturbing activities that will extend to depths of 11 feet below ground surface, there is a potential to disturb previously undocumented cultural resources that could qualify as historical resources or unique archaeological resources. Because of the cultural sensitivity of the project area, **Mitigation Measures CUL-1, CUL-2, and CUL-3** would be implemented to reduce impacts to historical and archaeological resources to less than significant.

## Mitigation Measures

**CUL-1:** Construction personnel shall be trained in the identification of cultural resources. Prior to earthmoving activities, cultural resources sensitivity training shall be presented to all construction personnel. Construction personnel shall be informed of the types of archaeological resources that may be encountered, and of the proper procedures to be enacted in the event of an inadvertent discovery of archaeological resources or human remains. DWR shall ensure that construction

personnel are made available for and attend the training and retain documentation demonstrating attendance.

**CUL-2:** An archaeological monitor (working under the direct supervision of a qualified archaeologist meeting the Secretary of the Interior’s Professional Qualifications Standards for archaeology [U.S. Department of the Interior, 2008]) shall be present during initial ground-disturbing activities to assess subsurface conditions. A Native American monitor shall be invited to be present. Based on observations made by the archaeological and Native American monitors, monitoring activities may be modified at the recommendation of the qualified archaeologist in coordination with DWR.

**CUL-3:** In the event of the unanticipated discovery of archaeological materials, DWR shall immediately cease all work activities in the area (within approximately 100 feet) of the discovery until it can be evaluated by a qualified archaeologist. Prehistoric archaeological materials might include obsidian and chert flaked-stone tools (e.g., projectile points, knives, scrapers) or tool-making debris; culturally darkened soil (midden) containing heat-affected rocks, artifacts, or shellfish remains; and stone milling equipment (e.g., mortars, pestles, handstones, or milling slabs); and battered stone tools, such as hammerstones and pitted stones. Historic-period materials might include stone or concrete footings and walls; filled wells or privies; and deposits of metal, glass, and/or ceramic refuse. Construction shall not resume until the qualified archaeologist has conferred with DWR on the significance of the resource.

If it is determined that the discovered archaeological resource constitutes a historical resource under CEQA, avoidance and preservation in place is the preferred manner of mitigation. Preservation in place maintains the important relationship between artifacts and their archaeological context and also serves to avoid conflict with traditional and religious values of groups who may ascribe meaning to the resource. Preservation in place may be accomplished by, but is not limited to, avoidance, incorporating the resource into open space, capping, or deeding the site into a permanent conservation easement. In the event that preservation in place is demonstrated to be infeasible and data recovery through excavation is the only feasible mitigation available, a Cultural Resources Treatment Plan shall be prepared and implemented by a qualified archaeologist in consultation with DWR that provides for the adequate recovery of the scientifically consequential information contained in the archaeological resource. DWR shall consult with appropriate Native American representatives in determining treatment for prehistoric or Native American resources to ensure cultural values ascribed to the resource, beyond that which is scientifically important, are considered.

**Significance Determination:** Less than Significant with Mitigation.

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**Impact 3.4-2: The project could have a significant impact if it would directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.**

The records search conducted by San Bernardino County Museum staff indicated that no fossils have been found within a 1-mile radius of the project area. However, numerous significant Pleistocene vertebrate fossils (including rabbit, rodent, and lizard) have been recovered from Romoland (to the south), as well as from the Diamond Valley Lake construction area further to the southeast. Additionally, the majority of the project area (eastern half of the Western Segment, all of the Fairgrounds Segment, and all but the northwestern tip of the SRA Segment) is underlain by Quaternary very old alluvial fan deposits (Qvof), which have the potential to produce scientifically important fossils of land mammals, invertebrates, and plants in this area, and have been assigned a high sensitivity ranking within the County of Riverside. Moreover, the City of Perris General Plan Conservation Element indicates that the project area is located in an area of low to high sensitivity for paleontological resources, where excavation below 5 feet is considered to extend into sediments with high paleontological sensitivity. Because of the depth of excavation, there is a potential for paleontological resources to be unearthed during construction of each segment. Implementation of **Mitigation Measure CUL-4** would ensure that fossils encountered during excavation are recovered and recorded appropriately. Impacts to paleontological resources would be less than significant.

#### **Mitigation Measure**

**CUL-4:** During ground excavation greater than 5 feet, construction activities will be monitored for paleontological resources. DWR shall retain a qualified paleontologist to oversee the monitoring effort and determine the appropriate duration of monitoring needed. In the event of the discovery of fossils or fossil-bearing soils during construction of the project, the contractor shall immediately report the finding to DWR. The qualified paleontologist will evaluate the finding and establish further collection and monitoring protocols. Construction in the vicinity of the finding will be halted until the qualified paleontologist has evaluated the finding.

**Significance Determination:** Less than Significant with Mitigation.

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#### **Impact 3.4-3: The project could have a significant impact if it would disturb any human remains, including those interred outside of formal cemeteries.**

No known human remains exist within the project area. However, since the nature of the proposed project would involve ground-disturbing activities, it is possible that such actions could unearth, expose, or disturb previously unknown human remains. In accordance with PRC Section 5097.98 and Health and Safety Code Section 7050.5, if human remains are encountered, DWR would halt work in the vicinity (within 100 feet) of the find and contact the Riverside County Coroner. If the County Coroner determines that the remains are Native American, the NAHC will be notified in accordance with Health and Safety Code Section 7050.5, subdivision (c), and PRC Section 5097.98 (as amended by AB 2641). The NAHC will designate an MLD for the remains per PRC Section 5097.98. Until the landowner has conferred with the MLD, DWR would ensure that the immediate vicinity where the discovery occurred is not disturbed by further activity, is adequately protected according to generally accepted cultural or archaeological standards or practices, and that further activities take into account the possibility of multiple burials.

Adherence to established regulations would ensure that impacts to human remains would be considered less than significant.

**Significance Determination:** Less than Significant.

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