

SECTION 3.9
ARCHAEOLOGICAL/PALEONTOLOGICAL
RESOURCES

3.9 ARCHAEOLOGICAL/PALEONTOLOGICAL RESOURCES

3.9.1 INTRODUCTION

This section examines the potential impacts to archaeological and paleontological resources, including Native American cultural resources, that may result from the Proposed Project, and is based on the *Archaeological and Paleontological Resources Technical Report* prepared by DUDEK (May 2009). As further explained below, any potential impacts to archaeological and paleontological resources would be mitigated to a level below significant. The technical report relied upon for preparation of this section is included in **Appendix 3.9** of this EIR.

3.9.2 METHODOLOGY

3.9.2.1 Archaeological Resources

An archaeological records search of data maintained at the South Coastal Archaeological Information Center ("SCIAC") was requested on April 16, 2009, and SCIAC completed the records search on April 21, 2009. The records search, which included the review of relevant archaeological report and site record databases, extended to all areas within 0.25 mile of the Project site. (Please see Appendix A of the technical report, located in **Appendix 3.9**, for a list of the reports and records identified during the records search.)

3.9.2.2 Paleontological Resources

The paleontological resource investigation relied on the following documents: *Geology of the San Diego Metropolitan Area, California* (Kennedy and Peterson, 1975); *Geotechnical Input for Environmental Impact Report* (Southland Geotechnical Consultants (SGC), 2009; see **Appendix 3.4**); and *Paleontological Resources, County of San Diego* (Deméré and Walsh, 1993).

3.9.2.3 Native American Cultural Resources

In order to assess the potential impacts to Native American cultural resources, a letter (dated April 15, 2009) was sent to the Native American Heritage Commission ("NAHC") requesting: (i) that a Sacred Lands File search be conducted for the Project site and neighboring vicinity; and (ii) that a list of local tribal contacts be provided. Correspondence from the NAHC, dated April 17 and 20, 2009, identified no Native American cultural resources within 0.5 mile of the Project site. A letter (dated April 28, 2009) was sent by the EIR preparers to each tribal contact

identified by the NAHC seeking additional information on the existence of undocumented heritage resources within the Project site. As of this writing, no additional information affecting the impacts analysis presented herein has been provided.

3.9.3 EXISTING CONDITIONS

3.9.3.1 General Environment

The Project site is located in an urbanized neighborhood south of the core SDSU campus and surrounding College Avenue. Prehistorically, the area was a flat mesa with characteristic Upper Sonoran chaparral vegetation, including chasmise, oaks, wild lilac, and elderberry. Prehistoric occupation of the Project site and neighboring vicinity was influenced by access to water and drainages. Major ethnohistoric occupation along Adobe Valley and Mission Valley to the north of the Project site suggests that occupation within the Project site would have been more ephemeral at the time of indigenous populations' contact with the Spanish.

3.9.3.2 Ethnography

The prehistoric populations that would have inhabited the Project site and general vicinity are associated with the Kumeyaay tribe. Prior to Spanish contact, the Kumeyaay people occupied an extensive area throughout San Diego County, from the Pacific Ocean coastline north to Escondido, east to El Centro, and as far south as Baja California. Due to the extensive territory occupied, the Kumeyaay implemented a variety of subsistence strategies. Within and near the Project site, hunting and gathering exploited acorns and other plant foods (e.g., seeds, nuts, beans, and fruits) that were milled on bedrock mortars and slicks and on mortars and pestles. Baskets were used for transport and storage. Based on the recovery of smaller dart points and projectile points, hunting emphasized smaller game, though larger deer were most likely exploited, as well. Pottery was introduced around 600 A.D. by Lower Colorado populations to the east. Larger winter villages supported a cluster of subterranean thatched dwellings in canyon bottoms, while summer occupation would have been more transitory, using caves or other windbreaks.

The founding of the Mission San Diego de Alcalá and Presidio in 1769 and the Santa Ysabel branch Mission in 1818 resulted in the conversion of the Kumeyaay neophytes and an abrupt end to their indigenous way of life. Resistance to missionization among these Native Californians, however, was the strongest among indigenous peoples in the state. Eventual dislocation of their lifestyle and disease devastated the Kumeyaay people. In the 79 years

following establishment of the San Diego Mission, and with the end of the Mexican-American War in 1848, the Kumeyaay population decreased from 30,000 to approximately 3,000.

3.9.3.3 History of the Project Area

Various cultural sequences have been defined for coastal California and San Diego County, as described below.

Paleoindian Period (12,000–8,000 B.P.). The Paleoindian period, also known as the San Dieguito complex, dates from circa 12,000 to 8,000 Before Present ("B.P.") and is typified by artifact assemblages consisting of typical hunter-gatherer flaked lithic tools, such as scrapers, scraper planes, choppers, and large projectile points. A cooler and wetter climate during this period resulted in more widespread pinion-juniper and riparian plant communities. Sites occupied during this time suggest that the hunting of deer and smaller mammals was central to the San Dieguito economy. Typical Paleoindian assemblages do not contain millingstone technology.

Although no consensus has been reached among archaeologists, some information suggests that the San Dieguito complex may have evolved into the La Jolla complex or Archaic Period between about 9,000 and 8,000 years B.P. This transitional period is supported by the presence of artifacts, such as eccentric crescents and spire-ground Olivella beads, in both complexes.

Archaic Period (8,000–2,000 B.P.). The Archaic period (La Jolla/Pauma complex) lasted until approximately 2,000 B.P. Archaic period adaptations are expressed in the La Jolla complex as a shift from generalized hunting and gathering to a subsistence strategy focused on the exploitation of marine resources (primarily shellfish and fish). Most La Jolla sites are located along the coast and major drainage systems and are characterized by the appearance of millingstone technology (basin metates and manos), shell middens, cobble tools, discoidals, a small number of Pinto and Elko series points, and flexed burials. In the interior of San Diego County, Archaic adaptations are represented by the Pauma complex. Although the Pauma complex shares similarities with the coastal adaptation, Pauma sites generally reflect reduced exploitation of marine resources, contain a greater frequency of milling equipment, and have fewer hammer/chopper and planning/scraping tools. In addition, archaeological manifestations of the Pauma complex generally are located in upland contexts, overlooking drainages.

Late Prehistoric Period (2,000–200 B.P.). The Late Prehistoric period is characterized by the introduction of ceramics and changes in burial traditions and lithic technology. Small pressure-

flaked projectile points also appear, and there is an increased emphasis on inland plant (especially acorns) food collection, processing, and storage. These changes are believed to be associated with a migration of Yuman-speaking people from the eastern Colorado River region around 2,000 B.P. and Shoshonean speakers after 1,500 B.P. During this period, inland semi-sedentary villages were established along major watercourses, and mountain areas were seasonally occupied to exploit acorns and piñon nuts. In the southern portion of San Diego County, the Late Prehistoric period is characterized by the Cuyamaca complex. The Cuyamaca complex is noted for its steatite industry and numerous millingsstones.

Graham's model was proposed for Late Prehistoric Kumeyaay. In his study area, he considers that prehistoric populations aggregated in the mountains during summer and autumn to collect and store seasonally available grass seeds and acorns. Aggregation gave way in the winter as small groups moved to the desert to forage for patchier, less abundant resources. This model suggests that Late Prehistoric groups practiced collecting as well as foraging strategies in response to seasonal variations in resource abundance and availability.

Recent History and Existing Site Conditions. The Project site and vicinity was used for agriculture in the late 18th and middle 19th centuries, including the Davies ranch, at which dairy cattle, olives, and olive oil were raised and processed. Urbanization began in the early 20th century and, in February 1930, the SDSU campus was moved to its present location atop Montezuma Mesa and operated from the seven Spanish Colonial style buildings surrounding what is still referred to as the "Main Quad." Expansion of the campus initially occurred to the north and southeast. Gradually, the canyon areas were filled with auxiliary uses, including sporting and entertainment venues, as well as various parking lots.

3.9.3.4 Archaeological Resource Conditions

Archaeological resource presence is predicted in part by visible ground surface characteristics. As depicted in **Figure 3.9-1, Project Site Parcels**, the Proposed Project consists of the redevelopment of 24 individual parcels. Parcels 1-18, as described below, have been previously surveyed for archaeological resources; as a group, these parcels have a less than one percent vegetated cover, and visibility of non-developed ground surface is very poor. Parcels 19-24 are individually summarized below because they contain more visible ground characteristics.



- Parcels 1-18:* Pierson (2004) previously surveyed the eastern portion of the Project site, including Parcels 1-18 east of Campanile Drive. Ground visibility was found to be very limited due to "extensive development, which obscured the ground." Verification of the ground surfaces previously evaluated (i.e., Project Parcels 1-18) during the site investigation for the Proposed Project confirmed that nearly all of the area is developed and covered with either buildings or parking lots. Landscaping, including small patches of yard with trees, shrubs, and lawn, covers less than one percent of the total area and is concentrated in Parcels 8 and 9. Overall ground visibility for these parcels is very poor. The verification of the previous archaeological survey efforts is sufficient to characterize the urbanized nature of Parcels 1-18; therefore, no additional investigation was undertaken in these areas.
- Parcel 19:* This area contains a small building with a driveway, mostly cement yard with a small patch of grass, and a palm tree along the edge of the sidewalk, resulting in very poor visibility (0%-5%).¹
- Parcel 20:* This area contains a building with a grass yard in front. A line of shrubs separates it from Parcels 21 and 19. Visibility of Parcel 20 is very poor (0%-5%).
- Parcel 21:* This area contains a parking lot. The entire area is covered with either asphalt or cement, resulting in no visibility.
- Parcel 22:* This area is largely covered by a building with a dry grass lawn in front and shrubs along the edges of the property. The small lawn plot is the only portion of the property with ground visibility. Due to the planted lawn, visibility is very poor to poor (0%-10%).
- Parcel 23:* This area contains a building with a cement driveway and a grass lawn. The small patch of grass at the front of the property offers very poor visibility (0%-5%).

¹ Ground surface visibility is expressed in the approximate percentage of area not otherwise covered by structures, pavement, or landscaping: very poor (0%-5%), or poor (6%-10%).

Parcel 24: This area contains a fraternity building with a fenced-in, mostly cement front yard. The area also includes a small patch of lawn and some trees and shrubs. Visibility within this yard is very poor to poor (0%–10%). A raised planter strip extending along the eastern edge of the property along Campanile Drive is composed of fill sediments, affording no ground visibility.

Overall, all parcels within the Project site are characterized by very poor to poor ground surface visibility, predominantly obscured by structures, parking lots, or sidewalks. The results of this and the previous survey of the Project site are considered unreliable in evaluating the potential existence of prehistoric cultural remains in the area.

3.9.3.5 Paleontological Resource Conditions

Paleontological resource presence is predicted by an understanding of the geological history and depositional environments that underlie a project site, which influence the probability of prehistoric life being preserved as a fossil. Generally speaking, the geologic formations in the County of San Diego have been assigned a paleontological resource sensitivity rating by Deméré and Walsh (1993). A "High" rating indicates a high probability of encountering paleontological resources, a "Moderate" rating indicates a moderate probability of encountering paleontological resources, and a "Low" rating indicates a low probability of encountering paleontological resources.

As discussed below, the sediments underlying the Project area are associated with four geologic formations, based on the geologic map prepared by Kennedy and Peterson (1975) and the *Draft Geotechnical Input for Environmental Impact Report* (SGC, 2009). In some areas of the SDSU campus, these formations are overlain by artificial fill that has no paleontological resources sensitivity.

3.9.3.5.1 Linda Vista Formation

The Linda Vista Formation is a marine and non-marine terrace deposit. The formation is Pleistocene in age (approximately 0.5–1.5 megannum ("Ma")). In the Project area, the formation is 5 to 15 feet in depth, and typically consists of coarse-grained, pebbly sandstones, and pebble conglomerates with locally common deposits of claystones.

Fossils are not common in the Linda Vista Formation, and the formation generally has been assigned a Moderate paleontological resource sensitivity by Deméré and Walsh (1993). However, due to the lack of known fossil occurrences associated with the Linda Vista

Formation within one mile of the SDSU Campus, the formation has been assigned a Low paleontological resource sensitivity in the Project area by Deméré and Walsh (1993).

3.9.3.5.2 San Diego Formation

The San Diego Formation is a marine sedimentary deposit that is Late Pliocene in age (1.5–3 Ma). This formation typically consists of fine-grained friable sandstones; however, poorly sorted gravels, pebble conglomerates, and claystones also occur within the formation.

Two previous reports prepared by Kennedy (see the 2007 *Paleontological Resources Assessment for San Diego State University 2007 Campus Master Plan Revision* and 2005 *Paleontological Monitoring Report, SDSU Sorority Row Sewer Improvement Project*) noted fossil occurrences within the San Diego Formation within the vicinity. Kennedy indicated that it is possible a thin section of the San Diego formation underlies the Linda Vista Formation in parts of the SDSU campus.

The San Diego Formation is highly fossiliferous and has been assigned a High paleontological resource sensitivity by Deméré and Walsh (1993).

3.9.3.5.3 Mission Valley Formation

The Mission Valley Formation is a fine-grained marine sandstone of Eocene age. In the Project area, the formation underlies the Linda Vista Formation, or San Diego Formation where present, and overlies the Stadium Conglomerate.

The Mission Valley Formation has abundant and generally well-preserved fossils, with known fossil localities in the SDSU campus area. The Mission Valley Formation has been assigned a High paleontological resource sensitivity by Deméré and Walsh (1993).

3.9.3.5.4 Stadium Conglomerate

The Stadium Conglomerate is a poorly sorted cobble conglomerate of Eocene age. In the Project area, the formation underlies the Mission Valley Formation.

The Stadium Conglomerate has produced variably abundant and important fossil remains, and there are known localities within the area of the SDSU campus. The Stadium Conglomerate has been assigned a High paleontological resource sensitivity by Deméré and Walsh (1993).

3.9.4 THRESHOLDS OF SIGNIFICANCE

According to Appendix G of the CEQA Guidelines, the Proposed Project would result in a significant impact to archaeological and/or paleontological resources if it would:

- (a) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5.
- (b) Disturb any human remains, including those interred outside of formal cemeteries.
- (c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

3.9.5 PROJECT IMPACTS

3.9.5.1 Archaeological Resources

Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?

Four previous cultural resource surveys have been performed within 0.25 mile of the Project site; of these, one investigation addressed the eastern portion of the Project site. No prehistoric archaeological sites were recorded on the Project site or within the 0.25 mile radius. In addition, previous development disturbances required scarification and recompaction prior to foundation construction and trenching for utilities between 18 and 36 inches below the native ground surface, resulting in a low potential for the discovery of archaeological resources.

As described above, the Project site is completely urbanized; nearly all ground surfaces are covered by existing structures or paving (parking areas, sidewalks, etc.). Minor amounts of sidewalk strips and private yard landscaping are visible, but these areas do not provide a reliable indication of the potential for prehistoric resources underneath existing vegetation. Therefore, the overall ground surface visibility within the Project area is poor, and no reliable conclusions regarding the presence of buried archaeological resources are possible.

In an effort to conservatively assess potential impacts and acknowledge the limited potential for isolated pockets of prehistoric resources to be located beneath the disturbed zone, mitigation is recommended to ensure that impacts remain less than significant. The mitigation measure would require that a supplemental archaeological survey of ground surfaces be undertaken subsequent to demolition and removal of structures and pavement. If potentially important resources were identified, the survey results would identify the need for standard measures,

including limited archaeological excavations and construction monitoring, to ensure that the Proposed Project would not cause a substantial adverse change in the significance of an archaeological resource.

3.9.5.2 Paleontological Resources

Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Excavation associated with the Proposed Project would affect the Linda Vista Formation and possibly the underlying San Diego Formation, Mission Valley Formation, or Stadium Conglomerate. However, construction activity within the Linda Vista Formation would not result in significant impacts to paleontological resources due to the Low paleontological resource sensitivity rating. With respect to the other formations (San Diego Formation, Mission Valley Formation and Stadium Conglomerate), although the precise stratigraphy in the Proposed Project area is not yet known, all three formations with the potential to occur below the Linda Vista Formation have a High paleontological resource sensitivity rating. Accordingly, construction activities extending below the Linda Vista Formation would have the potential to directly or indirectly destroy a unique paleontological resource, thereby resulting in a significant impact. Mitigation is recommended, requiring implementation of a paleontological resource monitoring and mitigation plan, to reduce potential impacts to paleontological resources to a less-than-significant level.

3.9.5.3 Native American Cultural Resources

Would the project disturb any human remains, including those interred outside of formal cemeteries?

Four previous investigations have occurred within the Project vicinity, but none have uncovered recorded Native American sites. Further, the Project site is not listed on the NAHC's Sacred Lands Inventory, and it is unlikely that there are contemporary Native American heritage resources located within this urbanized area. However, consultation with individual Native American tribes, who may have additional information on important, undocumented heritage resources, has been initiated.

If Native American human remains exist on the site of the Proposed Project, or if there is a probable likelihood of such existence, CSU/SDSU must work with the NAHC for treating or disposing of such remains. (Cal. Code Regs., tit. 14, §15064.5, subd. (d).) As noted above, the

NAHC has not identified any sacred sites within one-half mile of the Project site. Nonetheless, to reduce any potential impacts, a mitigation measure addressing the accidental discovery of any human remains on the Project site is proposed. (*Id.* at §15064.5, subd. (e).)

3.9.6 CUMULATIVE IMPACTS

Future projects within the City of San Diego potentially would contribute to cumulative impacts to archaeological and paleontological resources. In addition, resources potentially would be impacted by other past, present, and probable future development projects in undeveloped areas near the Project area. However, in many cases, site redesign or use of fill could minimize these adverse impacts. Total avoidance of the resources would not be reasonably expected, however, and increased human activity in the vicinity of cultural resources would lead to greater exposure and potential for illicit artifact collection and inadvertent disturbance during construction. Therefore, impacts to archaeological and paleontological resources caused by past, present, and probable future projects in the vicinity are considered cumulatively considerable.

The City and County of San Diego both maintain guidelines and protocols for addressing impacts to cultural resources, including requiring systematic surveys in areas of high site location potential to ensure resource identification and treatment. The Proposed Project would result in potentially, though unlikely, direct and indirect impacts to unknown prehistoric resources below previously disturbed soils. Since no archaeological sites are recorded within the Project site and vicinity, and any intact archaeological and paleontological resources identified as a result of the proposed mitigation would be treated consistently with professional procedures, the Proposed Project's contribution would not be cumulatively considerable.

3.9.7 MITIGATION MEASURES

The following measures would reduce potential impacts to archaeological and paleontological resources to a level below significant:

- ARCH-1** Subsequent to demolition and removal of existing structures and pavement from the Project site, CSU/SDSU, or its designee, shall retain a qualified archaeologist to complete an archaeological survey of ground surfaces within the Project area. In the event the survey identifies potentially intact concentrations of prehistoric archaeological materials, limited data recovery archaeological excavations shall be undertaken prior to the commencement of construction. If a historical and/or archaeological resource within the meaning of CEQA Guidelines section 15064.5 is uncovered, appropriate

mitigation measures shall be developed and implemented prior to the commencement of construction activities at that location. In the event the feature is determined to be a historical and/or archaeological resource, grading activities may continue on other parts of the building site while appropriate mitigation is implemented.

PAL-1 Prior to commencement of Project construction, CSU/SDSU, or its designee, shall retain a qualified paleontologist to prepare a paleontological resources mitigation and monitoring plan. Components of the mitigation and monitoring plan shall include, but not be limited to:

- The paleontologist shall inform the grading and excavation contractors of the paleontological resource mitigation program.
- A paleontological monitor shall be on site during the original cutting of previously undisturbed sediments of Moderate to High resource sensitivity to inspect cuts for contained fossils.
- In the event that the monitoring results in the discovery of paleontological resources, the monitor will have the authority to halt excavation at that location and direct that the discovery be evaluated immediately by a qualified paleontologist. Following evaluation, if the resource is determined to be "unique" within the meaning of the CEQA Guidelines, appropriate mitigation shall be developed at that time prior to resuming grading activities at that location. In the event the resource is determined to be a unique paleontological resource, grading activities may continue on other parts of the building site while appropriate mitigation is implemented.

Recovered fossils, along with copies of pertinent field notes, photographs, and maps, shall be deposited in a scientific institution with paleontological collections. A final summary report that outlines the results of the mitigation program shall be completed. This report shall include discussion of the methods used, stratigraphy exposed, fossils collected, and significance of recovered fossils.

NA-1 If, during any phase of Project construction, there is the discovery or recognition of any human remains in any location other than a dedicated cemetery, the following steps, which are based on Public Resources Code section 5097.98, shall be taken (Cal. Code Regs., tit. 14, §15064.5(e)(1)):

1. There will be no further excavation or disturbance of the site or any nearby area reasonably susceptible to overlying adjacent human remains until:
 - a. The San Diego County Coroner is contacted to determine that no investigation of the cause of death is required; and
 - b. If the Coroner determines the remains to be Native American:
 - (i) The Coroner shall contact the Native American Heritage Commission within 24 hours.
 - (ii) The Native American Heritage Commission shall identify the person or persons it believes to be the most likely descendant from the deceased Native American; and
 - (iii) The most likely descendent may make recommendations to CSU/SDSU for means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods as provided in Public Resources Code section 5097.98, or,
2. Where the following conditions occur, CSU/SDSU, or its designee, shall rebury the Native American human remains and associated grave goods with appropriate dignity on the property in a location not subject to further subsurface disturbance (Cal. Code Regs., tit. 14, §15064.5(e)(2)):
 - a. The Native American Heritage Commission is unable to identify a most likely descendant or the most likely descendant failed to make a recommendation within 24 hours after being notified by the Commission.
 - b. The descendant identified fails to make a recommendation; or
 - c. CSU/SDSU, or its designee, rejects the recommendation of the descendant, and mediation by the Native American Heritage Commission fails to provide measures acceptable to CSU/SDSU.

3.9.8 LEVEL OF SIGNIFICANCE AFTER MITIGATION

Implementation of the mitigation measures identified above would mitigate any potential impacts to unique archaeological and paleontological resources that may be discovered on the

Project site to a level below significant. Therefore, implementation of the Proposed Project would not result in any significant and unavoidable impacts to these types of resources.