

5.4 Cultural Resources

This section describes the applicable laws and policies relating to cultural resources, discusses environmental settings of cultural resources in the Project area, and evaluates potential environmental impacts associated with implementation of the proposed Project. This section also includes a discussion of tribal cultural resources to fulfill California Environmental Quality Act (CEQA) requirements.¹

5.4.1 Regulatory Framework

Federal

National Historical Preservation Act

The principal federal law addressing historic properties is the NHPA, as amended (54 United States Code [USC] 300101 et seq.), and its implementing regulations (36 CFR Part 800). Section 106 requires a federal agency with jurisdiction over a proposed federal action (referred to as an “undertaking” under the NHPA) to take into account the effects of the undertaking on historic properties, and to provide the Advisory Council on Historic Preservation (ACHP) an opportunity to comment on the undertaking.

The term “historic properties” refers to “any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the National Register” (36 CFR Part 800.16(l)(1)). The implementing regulations (36 CFR Part 800) describe the process for identifying and evaluating historic properties, for assessing the potential adverse effects of federal undertakings on historic properties, and for seeking to develop measures to avoid, minimize, or mitigate adverse effects. The Section 106 process does not require the preservation of historic properties; instead, it is a procedural requirement mandating that federal agencies take into account effects to historic properties from an undertaking prior to approval.

The steps of the Section 106 process are accomplished through consultation with the State Historic Preservation Officer (SHPO), federally recognized Native American tribes, local governments, and other interested parties. The goal of consultation is to identify potentially affected historic properties, assess effects to such properties, and seek ways to avoid, minimize, or mitigate any adverse effects on such properties. The agency also must provide an opportunity for public involvement (36 CFR 800.1(a)). Consultation with Native American tribes regarding issues related to Section 106 and other authorities (such as National Environmental Policy Act [NEPA] and Executive Order No. 13007) must recognize the government-to-government relationship between the federal government and Native American tribes, as set forth in Executive Order 13175, 65 FR 87249 (November 9, 2000), and Presidential Memorandum of November 5, 2009.

¹ As discussed in Section 2 Introduction, because West Basin intends to apply to the State Revolving Fund (SRF) Program, environmental review of the project must comply with CEQA-Plus requirements. Here, West Basin must demonstrate to the satisfaction of the SHPO that the project complies with Section 106 of the NHPA.

National Register of Historic Places

The NRHP 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” (36 CFR 60.2). The National Register recognizes a broad range of cultural resources that are significant at the national, state, and local levels and can include districts, buildings, structures, objects, prehistoric archaeological sites, historic-period archaeological sites, traditional cultural properties, and cultural landscapes. As noted above, a resource that is listed in or eligible for listing in the National Register is considered “historic property” under Section 106 of the NHPA.

To be eligible for listing in the National Register, a property must be significant in American history, architecture, archaeology, engineering, or culture. Properties of potential significance must meet one or more of the following four established criteria:

- 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.

In addition to meeting one or more of the criteria of significance, a property must have integrity. Integrity is defined as “the ability of a property to convey its significance” (36 CFR 60.2). The National Register recognizes seven qualities that, in various combinations, define integrity. The seven factors that define integrity are location, design, setting, materials, workmanship, feeling, and association. 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.

Ordinarily, religious properties, moved properties, birthplaces or graves, cemeteries, reconstructed properties, commemorative properties, and properties that have achieved significance within the past 50 years are not considered eligible for the National Register unless they meet one of the Criteria Considerations (A-G), in addition to meeting at least one of the four significance criteria and possessing integrity (36 CFR 60.2).

State

California Environmental Quality Act

CEQA is the principal statute governing environmental review of projects occurring in the state and is codified at Public Resources Code (PRC) Section 21000 et seq. CEQA requires lead agencies to determine if a proposed project would have a significant effect on the environment, including significant effects on historical or unique archaeological resources. Under CEQA (Section 21084.1), a project that may cause a substantial adverse change in the significance of a historical resource is a project that may have a significant effect on the environment.

The CEQA Guidelines (Title 14 California Code of Regulations [CCR] Section 15064.5) recognize that historical resources include: (1) a resource listed in, or determined to be eligible by, the State Historical Resources Commission, for listing in the CRHR; (2) a resource included in a local register of historical resources, as defined in PRC Section 5020.1(k) or identified as significant in a historical resource survey meeting the requirements of PRC Section 5024.1(g); 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. The fact that a resource does not meet the three criteria outlined above does not preclude the lead agency from determining that the resource may be a historical resource as defined in PRC Sections 5020.1(j) or 5024.1.

If a lead agency determines that an archaeological site is a historical resource, the provisions of Section 21084.1 of CEQA 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 may be treated in accordance with the provisions of Section 21083, which is as a unique archaeological resource. 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.

If an archaeological site meets the criteria for a unique archaeological resource as defined in Section 21083.2, then the site is to be treated in accordance with the provisions of Section 21083.2, which state that if the lead agency determines that a project would have a significant effect on unique archaeological resources, the lead agency may require reasonable efforts be made to permit any or all of these resources to be preserved in place (Section 21083.1(a)). If preservation in place is not feasible, mitigation measures shall be required. 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)).

A significant effect under CEQA would occur if a project results in a substantial adverse change in the significance of a historical resource as defined in CEQA Guidelines Section 15064.5(a). Substantial adverse change is defined as "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(b)(1)). According to CEQA Guidelines Section 15064.5(b)(2), the significance of a historical resource is materially

impaired when a project demolishes or materially alters in an adverse manner those physical characteristics that:

- A. Convey its historical significance and that justify its inclusion in, or eligibility for, inclusion in the CRHR.
- B. Account for its inclusion in a local register of historical resources pursuant to section 5020.1(k) of the PRC or its identification in a historical resources survey meeting the requirements of section 5024.1(g) of the PRC, unless the public agency reviewing the effects of the project establishes by a preponderance of evidence that the resource is not historically or culturally significant.
- C. Convey its historical significance and that justify its eligibility for inclusion in the CRHR as determined by a lead agency for purposes of CEQA.

In general, a project that complies with the *Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings* (Standards) (Weeks and Grimer 1995) is considered to have mitigated its impacts to historical resources to a less than significant level (CEQA Guidelines Section 15064.5(b)(3)).

California Coastal Act

The California Coastal Act (PRC Section 30000 et seq.) requires protection of archaeological and paleontological resources. Where development would adversely impact archaeological or paleontological resources as identified by the SHPO, reasonable mitigation measures shall be required (PRC Section 30244).

Assembly Bill 52 and Related Public Resources Code Sections

Assembly Bill (AB) 52 was approved by California State Governor Edmund Gerry “Jerry” Brown, Jr., on September 25, 2014. The act amended California PRC Section 5097.94, and added PRC Sections 21073, 21074, 21080.3.1, 21080.3.2, 21082.3, 21083.09, 21084.2, and 21084.3. AB 52 applies specifically to projects for which a Notice of Preparation (NOP) or a Notice of Intent to Adopt a Negative Declaration or Mitigated Negative Declaration (MND) will be filed on or after July 1, 2015. The primary intent of AB 52 was to include California Native American tribes early in the environmental review process and to establish a new category of resources related to Native Americans that require consideration under CEQA, known as tribal cultural resources. PRC Section 21074(a)(1) and (2) defines tribal cultural resources as “sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American Tribe” that are either included or determined to be eligible for inclusion in the CRHR or included in a local register of historical resources, or a resource that is determined to be a tribal cultural resource by a lead agency, in its discretion and supported by substantial evidence. On July 30, 2016, the California Natural Resources Agency adopted the final text for tribal cultural resources update to Appendix G of the CEQA Guidelines, which was approved by the Office of Administrative Law on September 27, 2016.

PRC Section 21080.3.1 requires that within 14 days of a lead agency determining that an application for a project is complete, or a decision by a public agency to undertake a project, the

lead agency provide formal notification to the designated contact, or a tribal representative, of California Native American Tribes that are traditionally and culturally affiliated with the geographic area of the project (as defined in PRC Section 21073) and who have requested in writing to be informed by the lead agency (PRC Section 21080.3.1(b)). Tribes interested in consultation must respond in writing within 30 days from receipt of the lead agency's formal notification and the lead agency must begin consultation within 30 days of receiving the tribe's request for consultation (PRC Sections 21080.3.1(d) and 21080.3.1(e)).

PRC Section 21080.3.2(a) identifies the following as potential consultation discussion topics: the type of environmental review necessary; the significance of tribal cultural resources; the significance of the project's impacts on the tribal cultural resources; project alternatives or appropriate measures for preservation; and mitigation measures. Consultation is considered concluded when either: (1) the parties agree to measures to mitigate or avoid a significant effect, if a significant effect exists, on a tribal cultural resource; or (2) a party, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached (PRC Section 21080.3.2(b)).

If a California Native American tribe has requested consultation pursuant to Section 21080.3.1 and has failed to provide comments to the lead agency, or otherwise failed to engage in the consultation process, or if the lead agency has complied with Section 21080.3.1(d) and the California Native American tribe has failed to request consultation within 30 days, the lead agency may certify an Environmental Impact Report (EIR) or adopt an MND (PRC Section 21082.3(d)(2) and (3)).

PRC Section 21082.3(c)(1) states that any information, including, but not limited to, the location, description, and use of the tribal cultural resources, that is submitted by a California Native American tribe during the environmental review process shall not be included in the environmental document or otherwise disclosed by the lead agency or any other public agency to the public without the prior consent of the tribe that provided the information. If the lead agency publishes any information submitted by a California Native American tribe during the consultation or environmental review process, that information shall be published in a confidential appendix to the environmental document unless the tribe that provided the information consents, in writing, to the disclosure of some or all of the information to the public.

California Register of Historical Resources

In 1992, the Governor of California signed Assembly Bill (AB) 2881 into law, establishing the CRHR. The CRHR is an authoritative guide in California used by state and local agencies, private groups, and citizens to identify the state's historical resources and to indicate what properties are to be protected, to the extent prudent and feasible, from substantial adverse change. Certain resources are determined by the statute to be included on the CRHR, including California properties formally determined eligible for, or listed in, the NRHP, State Landmarks, and State Points of Interest.

The CRHR criteria are based on NRHP criteria. For a property to be eligible for inclusion on the CRHR, one or more of the following criteria must be met:

- It is associated with the events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the United States.
- It is associated with the lives of persons important to local, California, or U.S. history.
- It embodies the distinctive characteristics of a type, period, region, or method of construction; represents the work of a master; and possesses high artistic values.
- It has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California, or the nation.

In addition to meeting one or more of the above criteria, the CRHR requires that sufficient time has passed since a resource's period of significance to "obtain a scholarly perspective on the events or individuals associated with the resources." (CCR 4852 [d][2].) The CRHR also requires that a resource possess integrity. This is defined as the ability for the resource to convey its significance through seven aspects: location; setting; design; materials; workmanship; feeling; and association. The State Office of Historic Preservation (OHP) has broad authority under federal and state law for the implementation of historic preservation programs in the State of California. The SHPO makes determinations of eligibility for listing on the NRHP and the CRHR.

The appropriate standard for evaluating "substantial adverse effect" is defined in PRC Sections 5020.1(q) and 21084.1. Substantial adverse change means demolition, destruction, relocation, or alteration such that the significance of an historical resource would be impaired. Such impairment of significance would be an adverse impact on the environment.

Cultural resources consist of buildings, structures, objects, or archeological sites. Each of these entities may have historic, architectural, archaeological, cultural, or scientific importance. Under the CEQA Guidelines, a significant impact would result if the significance of a cultural resource would be changed by proposed project activities. Activities that could potentially result in a significant impact consist of demolition, replacement, substantial alteration, and relocation of the resource. The significance of a resource is required to be determined prior to analysis of the level of significance of proposed project activities. The steps required to be implemented to determine significance in order to comply with CEQA Guidelines are:

- Identify cultural resources.
- Evaluate the significance of the cultural resources based on established thresholds of significance.
- Evaluate the effects of a proposed project on all cultural resources.
- Develop and implement measures to mitigate the effects of the proposed project on significant cultural resources.

California Code Sections 6253, 6254, and 6254.10 authorize state agencies to exclude archaeological site information from public disclosure under the Public Records Act. In addition, the California Public Records Act (CPRA; Government Code [GC] Section 6250 et. seq.) and California's open meeting laws (The Brown Act, GC Section 54950 et. seq.) protect the confidentiality of Native American cultural place information. The CPRA (as amended, 2005)

contains two exemptions that aid in the protection of records relating to Native American cultural places by permitting any state or local agency to deny a CPRA request and withhold from public disclosure:

records of Native American graves, cemeteries, and sacred places and records of Native American places, features, and objects described in Section 5097.9 and Section 5097.993 of the PRC maintained by, or in the possession of, the Native American Heritage Commission, another state agency, or a local agency (GC Section 6254(r)).

records that relate to archaeological site information and reports maintained by, or in the possession of, the Department of Parks and Recreation, the State Historical Resources Commission, the State Lands Commission, another state agency, or a local agency, including the records that the agency obtains through a consultation process between a California Native American tribe and a state or local agency (GC Section 6254.10).

Likewise, the California Historical Resources Information System (CHRIS) Information Centers maintained by the OHP prohibit public dissemination of records and site location information. In compliance with these requirements, and those of the Code of Ethics of the Society for California Archaeology and the Register of Professional Archaeologists, the locations of cultural resources are considered restricted information with highly restricted distribution and are not publicly accessible.

Any proposed project site located on non-federal land in California is also required to comply with state laws pertaining to the inadvertent discovery of Native American human remains.

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 Native American Heritage Commission (NAHC) within 24 hours to relinquish jurisdiction.

California Public Resources Code Section 5097.98

California PRC Section 5097.98, as amended by AB 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 Most Likely Descendant (MLD) regarding the discovery of Native American human remains. Once the MLD has been granted access to the site by the landowner and 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 land owner 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.

Regional

There are no regional laws, ordinances, or regulations pertaining to cultural resources.

Local

City of El Segundo General Plan

The *City of El Segundo General Plan* Land Use Element includes concepts and guidelines to manage, preserve, and utilize cultural resources. The following goals, objectives, and policies pertain to the City's cultural and historic resources:

Goal LU2: Preservation and Enhancement of El Segundo's Cultural and Historic Resources. Preserve and enhance the City's cultural heritage and buildings or sites that are of cultural, historical, or architectural importance.

Objective LU2-1: Maintain the distinct character of the existing areas of the City.

Policy LU2-1.1: New development adjacent to a building of cultural, historical, or architectural significance shall be designed with a consistent scale and similar use of materials.

Objective LU2-2: Encourage the preservation of historical and cultural sites and monuments.

Policy LU2-2.1: Take an active role in documenting and preserving buildings of cultural, historical, and architectural significance. This should include residential, non-residential, and publicly-owned buildings.

Policy LU2-2.2: Take an active role in assisting individual owners or groups in documenting and preserving buildings of potential cultural, historical, or architectural significance.

Objective LU2-3: Develop public programs and facilities which will meet the cultural needs of the City's various age, income, and ethnic groups.

City of El Segundo Municipal Code

Title 15, Chapter 14 (Historic Preservation) of the City of El Segundo Municipal Code (ESMC) promotes the public health, safety, and general welfare of the City by providing for the identification, protection, enhancement, perpetuation, and use of historic buildings and structures that reflect unique elements of the city's historical heritage. ESMS Title 15, Chapter 14 Goals include: (a) to safeguard the city's heritage as embodied and reflected in cultural resources and historic sites; (b) to encourage public knowledge, understanding, and appreciation of the city's historic past; (c) to foster civic and neighborhood pride and a sense of identity based on the recognition and preservation of cultural resources; (d) to promote understanding and appreciation of cultural resources for the education of the people of the city; (e) to preserve diverse

architectural styles and design preferences of periods of the city's history and to encourage complementary contemporary design and construction; (f) to promote public awareness of the benefits of preservation; and (g) to take whatever steps are reasonable and necessary to safeguard the property rights of the owners whose building or structure is declared to be a landmark (Ord. 1212, 11-16-1993).

Paleontological Resources

CEQA

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 paleontological resource or site or unique geologic feature, except as part of a scientific study."

California Public Resources Code Section 5097.5

PRC Division 5, Chapter 1.7, Section 5097.5, and Division 20, Chapter 3, Section 30244 prohibit the removal of any paleontological site or feature from public lands without permission of the jurisdictional agency, define the removal of paleontological sites or features as a misdemeanor, and require reasonable mitigation of adverse impacts to paleontological resources from developments on public (state, county, city, and district) lands.

Society of Vertebrate Paleontology

Professional Standards

The Society of Vertebrate Paleontology (SVP) has established standard guidelines for acceptable professional practices in the conduct of paleontological resource assessments and surveys, monitoring and mitigation, data and fossil recovery, sampling procedures, and specimen preparation, identification, analysis, and curation. Most practicing professional paleontologists in the nation adhere closely to the SVP's assessment, mitigation, and monitoring requirements as specifically provided in its standard guidelines. Most California state regulatory agencies accept the SVP standard guidelines as a measure of professional practice.

Paleontological Sensitivity

Paleontological sensitivity is defined as the potential for a geologic unit to produce scientifically significant fossils. This is determined by rock type, past history of the geologic unit in producing significant fossils, and fossil localities recorded from that unit. Paleontological sensitivity is derived from the known fossil data collected from the entire geologic unit, not just from a specific survey. In its "Standard Guidelines for the Assessment and Mitigation of Adverse Impacts to Non-renewable Paleontological Resources," the SVP (1995) defines four categories of paleontological sensitivity (potential) for rock units: high, low, undetermined, and no potential:

- **High Potential.** Rock units from which vertebrate or significant invertebrate fossils or suites of plant fossils have been recovered and are considered to have a high potential for containing significant nonrenewable fossiliferous resources. These units include, but are not limited to, sedimentary formations and some volcanic formations that contain significant nonrenewable paleontological resources anywhere within their geographical extent and sedimentary rock

units temporally or lithologically suitable for the preservation of fossils. Sensitivity comprises both (a) the potential for yielding abundant or significant vertebrate fossils or for yielding a few significant fossils, large or small, vertebrate, invertebrate, or botanical; and (b) the importance of recovered evidence for new and significant taxonomic, phylogenetic, ecologic, or stratigraphic data. Also classified as significant are areas that contain potentially datable organic remains older than Recent, including deposits associated with nests or middens, and areas that may contain new vertebrate deposits, traces, or trackways.

- **Low Potential.** Reports in the paleontological literature or field surveys by a qualified vertebrate paleontologist may allow determination that some areas or units have low potentials for yielding significant fossils. Such units will be poorly represented by specimens in institutional collections.
- **Undetermined Potential.** Specific areas underlain by sedimentary rock units for which little information is available are considered to have undetermined fossiliferous potentials.
- **No Potential.** Metamorphic and granitic rock units generally do not yield fossils and therefore have no potential to yield significant non-renewable fossiliferous resources.

For geologic units with high potential, full-time monitoring is generally recommended during any project-related ground disturbance. For geologic units with low potential, protection or salvage efforts will not generally be required. For geologic units with undetermined potential, field surveys by a qualified vertebrate paleontologist should be conducted to specifically determine the paleontological potential of the rock units present within the study area.

5.4.2 Existing Environmental Setting

Natural Setting

The Project site is situated between the Pacific Coast on the west, industrial uses on the north and east, and residential uses on the south. The local geologic region coincides with the physiographic area known as the Los Angeles Basin. It is characterized as a transverse-oriented lowland basin and coastal plain approximately 50 miles long and 20 miles wide. The basin originated as a deep marine trough during the Pliocene (7 to 2 million years ago) that eventually filled with shallow-water fossil-bearing sediments. By the beginning of the Pleistocene era (approximately 2 million years ago), uplifting created the series of plains and mesas along the coast that now characterize the area; refer to **Appendix 7A, Cultural Resources Assessment for the West Basin Ocean Water Desalination Project** (BCR Consulting 2016).

The Project site elevation ranges from approximately 14 to 86 feet above mean sea level. Local rainfall ranges from 5 to 15 inches annually and runoff tends to flow from west to east. The nearest natural freshwater source is Ballona Creek, located approximately 5 miles to the north. Native local vegetation communities were previously dominated by coastal sage scrub, although urbanization currently prevents its proliferation. Key native plants previously in the Project vicinity would have included black sage, California brittlebush, California buckwheat, California sagebrush, deerweed, golden yarrow, laurel sumac, lemonadeberry, poison oak, purple sage, sticky monkeyflower, sugar bush, toyon, white sage, coastal century plant, coastal cholla, and prickly-pear cactus. These plants were used by local animal species, which included kangaroo rats, California horned lizard, orange-throated whiptail, San Diego horned lizard, brown-headed

cowbird, California gnatcatcher, California quail, cactus wren, darkling beetle, harvester ant, and blue butterfly. Peripheral species included deer, and various rodents and birds—all of which could be useful to prehistoric and historic inhabitants.

Cultural Setting

Prehistoric Setting

The following prehistoric chronology is divided into four major cultural periods: Paleocoastal Period, Millingstone Period, Intermediate Period, and Late Period. These periods correspond to changes in the archaeological record seen across the broader southern California region.

Paleocoastal Period (12,000–8,000 B.P.)

Archaeological evidence from the northern Channel Islands suggests that the first people, known as Paleoindians, migrated down the California coast by as early as 12,000 years before present (B.P.) (Cassidy et al. 2004; Erlandson et al. 2007). At Daisy Cave, on San Miguel Island, cultural materials have been radiocarbon dated to between 11,100 and 10,950 B.P. (Byrd and Raab 2007). Radiocarbon dates from the Arlington Springs Woman site on Santa Rosa Island indicate a human presence in the region by about 13,000 years B.P. (Glassow et al. 2007). On the southern Channel Island of San Clemente, site SCLI-43 (Eel Point) revealed evidence of boat technology dating to around 8,000 B.P. (Cassidy et al. 2004). CA-ORA-64 is one of the few Orange County sites that contains an early component, also dating to about 8,000 B.P. (Cleland et al. 2007). Data from early coastal California sites indicate a reliance on maritime resources, such as shellfish, fish, marine mammals, and birds.

Millingstone Period (8,000–3,000 B.P.)

Southern California coastal sites increase in number dramatically after about 8,000 B.P. This time period, known as the Millingstone Period because of the appearance of ground stone implements, is characterized by regional differentiation and adaptation to local conditions and the intensified use of ground stone (Wallace 1955). Millingstone Period habitation sites are characteristically more sedentary, permanent settlements located adjacent to local water sources, which supported edible plant, animal, and marine resources (Douglas et al. 2015). Settlement patterns during this time period indicate the use of residential bases surrounded by seasonal satellite camps (Glassow et al. 1988; Grenda and Altschul 2002; Koerper et al. 2002; Macko 1998). Early Millingstone sites, beginning around 8,000 B.P., typically contain numerous handstones (manos) and millingstones (metates), while those dating later than 5,000 B.P. often contain a mortar and pestle component as well, suggesting regional exploitation of acorns and other nuts, and small seeds (Vellanoweth and Altschul 2002).

Intermediate Period (3,000–1,000 B.P.)

Between approximately 3,500 and 3,000 B.P., settlement patterns shifted to reflect more sedentary and territorial lifestyles. The number of sites decreased as populations settled into residential bases near freshwater sources and seasonal camps became more infrequent (Koerper et al. 2002). Population increase led to the intensified exploitation of terrestrial and marine resources and the use of increasingly labor-intensive hunting and fishing equipment, such as the circular shell fishhook, and the mortar and pestle for acorn processing (Erlandson 1994;

Raab et al. 1995; Koerper 1979; Koerper et al. 2002). Use of the bow and arrow spread to the coast around 1,500 B.P. (Homburg et al. 2014). Increasing population densities, with ensuing territoriality and resource intensification, may have given rise to increased disease and violence between 3,300 and 1,650 B.P. (Raab et al. 1995).

Late Period (1,000 B.P.–A.D. 1542)

The Late Period is associated with the florescence of the Gabrielino (Wallace 1955). The Gabrielino occupied what is presently Los Angeles County and northern Orange County, along with the southern Channel Islands, including Santa Catalina, San Nicolas, and San Clemente (Kroeber 1925). This period saw the development of elaborate trade networks and use of shell-bead currency. Fishing became an increasingly significant part of subsistence strategies at this time, and investment in fishing technologies, including the plank canoe, are reflected in the archaeological record (Erlandson 1994; Raab et al. 1995; Glassow 1980). Settlement at this time is believed to have consisted of dispersed family groups that revolved around a relatively limited number of permanent village settlements that were located centrally with respect to a variety of resources (Koerper et al. 2002).

Ethnographic Setting

The Project site is located in a region traditionally occupied by the Native American group known as the Gabrielino. The term “Gabrielino” is a general term that refers to those Native Americans who interacted with the Spanish at the Mission San Gabriel Arcángel. Prior to European colonization, the Gabrielino occupied a diverse area that included: the watersheds of the Los Angeles, San Gabriel, and Santa Ana rivers; the Los Angeles Basin; and the islands of San Clemente, San Nicolas, and Santa Catalina (Kroeber 1925). Their neighbors included the Chumash and Tataviam to the north, the Juañeno to the south, and the Serrano and Cahuilla to the east. The Gabrielino are reported to have been second only to the Chumash in terms of population size and regional influence (Bean and Smith 1978). The Gabrielino language is part of the Takic branch of the Uto-Aztecan language family.

The Gabrielino lived in permanent communities located near the presence of a stable food supply. Community populations generally ranged from 50 to 100 inhabitants, although larger settlements may have existed. The Gabrielino are estimated to have had a population numbering around 5,000 in the pre-contact period, prior to the arrival of the Spanish in the late 18th century (Kroeber 1925). Villages are reported to have been the most abundant in the San Fernando Valley, in the Glendale Narrows area north of downtown, and around the Los Angeles River’s coastal outlets (Gumprecht 2001). The nearest villages to the Project site were *Wa’achnga* and *Saa’anga*, located along the southern margin of Ballona Creek near present-day Marina Del Rey, approximately 3.2 miles north of the Project site (McCawley 1996).

Gabrielino society was characterized by patrilineal, non-localized clans, each clan consisting of several lineages. The Gabrielino inhabited large, circular, domed houses constructed of willow poles thatched with tule (Bean and Smith 1978). These houses could sometimes hold up to 50 people. Other village structures of varying sizes served as sweathouses, ceremonial enclosures, and granaries.

Subsistence consisted of hunting, fishing, and gathering. Small terrestrial game were hunted with deadfalls, rabbit drives, and by burning undergrowth, while larger game such as deer were hunted using bows and arrows. Fish were taken by hook and line, nets, traps, spears, and poison (Bean and Smith 1978). The primary plant resources were the acorn, gathered in the fall and processed in mortars and pestles, and various seeds that were harvested in late spring and summer and ground with manos and metates. The seeds included chia and other sages, various grasses, and islay or holly-leafed cherry.

At the time of Spanish contact, many Gabrielino practiced a religion that was centered around the figure Chinigchinich (Bean and Smith 1978). This religion may have been relatively new when the Spanish arrived, and was spreading at that time to other neighboring Takic groups. The Gabrielino practiced both cremation and inhumation of their dead. A wide variety of grave offerings, such as stone tools, baskets, shell beads, projectile points, bone and shell ornaments, and otter skins, were interred with the deceased.

Coming ashore on Santa Catalina Island in October of 1542, Juan Rodriguez Cabrillo was the first European to make contact with the Gabrielino; the 1769 expedition of Portolá also passed through Gabrielino territory (Bean and Smith 1978). Native Americans suffered severe depopulation and their traditional culture was radically altered after Spanish contact. Nonetheless, Gabrielino-Tongva descendants still reside in the greater Los Angeles and Orange County areas and maintain an active interest in their heritage.

Historic Setting

Spanish Period (A.D. 1769–1821)

Although Spanish explorers made brief visits to the region in 1542 and 1602, sustained contact with Europeans did not commence until the onset of the Spanish Period. In 1769 Gaspar de Portolá led an expedition from San Diego, passing through the Los Angeles Basin and the San Fernando Valley, on its way to the San Francisco Bay (McCawley 1996). Father Juan Crespi, who accompanied the 1769 expedition, noted the suitability of the Los Angeles area for supporting a large settlement. This was followed in 1776 by the expedition of Father Francisco Garcés (Johnson and Earle 1990).

In the late 18th century, the Spanish began establishing missions in California and forcibly relocating and converting native peoples. Mission San Gabriel Arcángel was founded on September 8, 1771, and Mission San Fernando Rey de España on September 8, 1797. By the early 1800s, the majority of the surviving Gabrielino had entered the mission system, either at San Gabriel or San Fernando. Mission life offered some degree of security in a time when traditional trade and political alliances were failing and epidemics and subsistence instabilities were increasing (Jackson and Gardzina 1999). This lifestyle change also brought with it significant negative consequences for Gabrielino health and cultural integrity.

On September 4, 1781, El Pueblo de la Reina de los Angeles was established not far from the site where Portolá and his men camped during their 1769 excursion, with a land grant of 28 acres issued to California Governor Felipe de Neve in 1781 (Gumprecht 2001). The pueblo was established in response to the increasing agricultural needs of Spanish missions and presidios in

Alta California. The original pueblo consisted of a central square surrounded by 12 houses and a series of agricultural fields. Thirty-six fields occupied 250 acres between the town and the river to the east (Gumprecht 2001).

By 1786, the flourishing pueblo attained self-sufficiency and funding by the Spanish government ceased. Fed by a steady supply of water and an expanding irrigation system, agriculture and ranching grew, and by the early 1800s the pueblo produced surplus wheat, corn, barley, and beans for export. A large number of livestock, including cattle and sheep, grazed in the surrounding lands (Gumprecht 2001).

Mexican Period (A.D. 1821-1848)

After Mexico gained its independence from Spain in 1821, Los Angeles became the capital of the California territory in 1835 (Gumprecht 2001). Mexico continued to promote settlement of California with the issuance of land grants. In 1833, Mexico began the process of secularizing the missions, reclaiming the majority of mission lands and redistributing them as land grants. According to the terms of the Secularization Law of 1833 and Regulations of 1834, at least a portion of the lands would be returned to the Native populations, but this did not always occur .

Many ranchos continued to be used for cattle grazing by settlers during the Mexican Period. Hides and tallow from cattle became a major export for Mexican settlers in California, known as Californios, many of whom became wealthy and prominent members of society. The Californios led generally easy lives, leaving the hard work to vaqueros and Native American laborers (Pitt 1994; Starr 2007).

American Period (A.D. 1848–present)

Mexico ceded California to the United States as part of the Treaty of Guadalupe Hildalgo in 1848. California officially became one 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 and the population of Los Angeles tripled between 1850 and 1860. The increased population led to additional demand of the Californios' cattle. As demand increased, the price of beef skyrocketed and Californios reaped the benefits. However, a devastating flood in 1861, followed by droughts in 1862 and 1864, led to a rapid decline of the cattle industry; over 70 percent of cattle perished during these droughts (McWilliams 1946; Dinkelspiel 2008). These natural disasters, coupled with the burden of proving ownership, caused many Californios to lose their lands during this period. Former ranchos were subsequently subdivided and sold for agriculture and residential settlement (Gumprecht 2001; McWilliams 1946).

Los Angeles was connected to the transcontinental railroad via San Francisco on September 5, 1876, and the population again exploded. The city would experience its greatest growth in the

1880s when two more direct rail connections to the East Coast were constructed. The Southern Pacific completed its second transcontinental railway, the Sunset Route from Los Angeles to New Orleans, in 1883 (Orsi 2005). In 1885, the Santa Fe Railroad completed a competing transcontinental railway to San Diego, with connecting service to Los Angeles (Mullaly and Petty 2002). The resulting fare wars led to an unprecedented real estate boom. Despite a subsequent collapse of the real estate market, the population of Los Angeles increased 350 percent from 1880 to 1890 (Dinkelspiel 2008). Los Angeles continued on its upward trajectory in the first few decades of the 20th century with the rise of tourism, automobile travel, and the movie industry (McWilliams 1946).

El Segundo

The Project site is located within what was the Rancho Sausal Redondo, a 22,459-acre land grant that was provisionally given to Antonio Ygnacio Avila in 1822 (Scheerer 1938). By 1836, Avila had made improvements to the rancho by constructing a home, building corrals, planting grain, and raising 5,000 head of cattle. After Avila's death in 1850, the rancho was left to his heirs; however, within 10 years the rancho was auctioned to pay the family's debts and was purchased by Sir Robert Burnett, a Scottish Baron, for \$29,500 (Scheerer 1938). In 1873 the rancho was leased to Daniel Freeman and his wife Catherine for a period of 5 years and 4 months. The Freemans grazed sheep and grew hay and grain on the land, which they purchased from Burnett in 1885 (Sheerer 1938). Within 2 years of the purchase, Freeman began subdividing the rancho and selling the subdivisions for large profits.

In 1911, the Standard Oil Company purchased 840 acres of coastal land in the western portion of what was the Rancho Sausal Redondo to build their second California oil refinery. The land was perfect for Standard Oil's needs; it was adjacent to the coastline and accessible by oil tankers, the surrounding lands were undeveloped and relatively inexpensive, and it was adjacent to the city of Los Angeles, from which labor could be drawn (El Segundo Chamber of Commerce 2017). The site of the oil refinery was named El Segundo, Spanish for "the second one," because it would become Standard Oil's second refinery on the west coast. Standard Oil began construction of the refinery immediately and it was ready for production within 5 months (El Segundo Chamber of Commerce 2017). A tent community was initially established for the employees, but soon the El Segundo Land and Improvement Company purchased 1,470 acres of town site property and began subdividing the property into business and residential lots. On January 18, 1917, El Segundo was incorporated as a city within Los Angeles County with a population of 1,000 (El Segundo Chamber of Commerce 2017).

In 1930, the Los Angeles Municipal Airport officially opened north of El Segundo and many aviation companies, including Douglas Aircraft, Hughes Aircraft, Northrop, Interstate, and North American Aviation (Northrop), flocked to the area (City of El Segundo 2017). With the onset of World War II, the aircraft manufacturers drew employees to the area, and following the war the companies transitioned to aerospace and defense.

Electricity in Los Angeles (1882–1970)

Los Angeles's electric infrastructure began with the construction of the city's first power plant in 1882. The plant was constructed by San Francisco-based California Electric Light Company at

the corner of Alameda and Banning Streets, east of downtown Los Angeles. The company was soon taken over by the Los Angeles Electric Company, which “expanded into the private distribution of power and by 1889 had 235 customers” (Prosser 2017). Soon after the establishment of the Los Angeles Electric Company, other private electricity providers emerged from Los Angeles’s electrical industry. In 1902 the West Side Lighting Company merged with the Los Angeles Edison Company, forming what would eventually become known as Southern California Edison. In 1904, Edison constructed the largest of its steam plants at the time. Located at 650 South Avenue 21 in Lincoln Heights, the Los Angeles Number 3 Steam Generating Plant remains extant to this day (Los Angeles Historic-Cultural Monument No. 388) (Prosser 2017).

During the 1920s, Los Angeles city leaders decided a publically owned electrical system made economic sense and began purchasing portions of Southern California Edison’s distribution network. By 1939, “the City and Edison finally reached an agreement, under which all Edison generating and delivery facilities within the now-much-expanded city limits would become municipally owned” (Prosser 2017).

During the 1920s, most of the power in Los Angeles was generated by hydroelectric plants along the Owens Valley Aqueduct. However, the City’s Bureau of Power and Light knew additional power plants would be needed to accommodate the City’s growth. Despite struggles to secure funding for the construction of new plants, the Bureau began planning the construction of a steam plant in Wilmington known as the Harbor Steam Plant (Prosser 2017).

Construction began on the Harbor Plant in 1941–42, just as the United States entered the Second World War. Unit Number One came on line in 1943 and played a role in providing power for defense production in Wilmington and San Pedro. Because of the war, Unit Number Two was not completed until 1947. Three more units were added to the plant by 1950. With its boilers designed to burn either natural gas or fuel oil, the Harbor Plant was a preview of the direction that the Department of Water and Power (DWP) would follow in the postwar years (Prosser 2017).

During the post-World War II years, Los Angeles County experienced significant growth, resulting in the development of new communities throughout the region accommodating the increasing population. Between 1940 and 1970, the population of the county had risen from just under 3 million people to more than 7 million (Historical General Population, n.d.). New industries, affordable property, and comfortable climates attracted families from the Midwest looking to start a new life along the coast. With the rising population came an increased need for services, including fire and police stations, DWP facilities, and new schools. Included in these new services was the need for power stations to satisfy the Los Angeles metropolitan area’s insatiable appetite for electricity.

History of the El Segundo Generating Station (1953–1965)

In 1953, Edison announced plans to construct a new steam generating station in El Segundo to help meet the growing power needs of the Los Angeles metropolitan area. The generating station was to be Edison's seventh steam power generating station and was expected to cost approximately \$44,000,000 to build. "El Segundo was selected as the site according to [H.W.] Tice (Edison Vice President and General Manager), because of the availability of fuel and cooling water" (Los Angeles Times, September 14, 1953). Power generated by the generating station was fed into the electrical grid through its La Fresa substation in nearby Torrance for redistribution.

Beginning in 1955, the El Segundo Generating Station (ESGS) became the subject of local government scrutiny for its use of crude oil to power the plant. The ESGS was denied an operating permit after it was discovered that contaminants were being released into the air from its furnaces. Plans to begin operating a second generator unit were stalled by the Air Pollution Control District (APCD). While the APCD acknowledged the need for additional power output to support the needs of Los Angeles's growing population, they suggested the installation of electrical precipitators to reduce the plant's output of pollutants. In 1958, Edison announced improvements at the ESGS to reduce the amount of pollutants emitted by its smokestacks. With the help of scientist Dr. Arie Jan Haagen-Smit, the plant would begin using gasoline to fuel the boilers instead of crude oil, leading other steam plant operators in the area to follow Edison's example (Los Angeles Times, March 19, 1958).

Dr. Haagen-Smit was previously a professor of bio-organic chemistry at the California Institute of Technology (Caltech) and, in 1948, began to focus his research on Smog in Los Angeles County. He identified a substance called ozone, "a highly reactive form of oxygen widely used as a bleach and a disinfectant," as the source of smog. The professor's research resulted in identifying the source of ozone as hydrocarbons from gasoline and a mixture of oxides of nitrogen. His research determined that vehicle emissions were a leading cause of smog. As a consultant to Southern California Edison during the late 1950s, Dr. Haagen-Smit oversaw research facilities at the ESGS that helped reduce the company's pollution output. By 1959, the ESGS had installed a precipitator costing \$1 million to further reduce the amount of pollutants in the plant's smoke (Los Angeles Times, February 11, 1959). After working for Southern California Edison, Dr. Haagen-Smit continued his research on smog and the effects caused by vehicle emissions. In 1960, Dr. Haagen-Smit became a founding member of California's Motor Vehicle Pollution Control Board. "Haagen-Smit retired from Caltech in 1971 as the skies began to clear, but continued to lead the fight for clean air until his death in 1977" (Fifty Years of Clearing the Skies 2013). Dr. Haagen-Smit's stint as a consultant for Southern California Edison resulted in the reduction of the ESGS pollution output, but Haagen-Smit's significant scientific contributions to the study of air pollution were generated during his work at Caltech and as a founding member of the California Motor Vehicle Pollution Control Board.

In 1955, Edison began planning another steam plant along the El Segundo coastline. Just a half mile north, the new Scattergood Steam Plant would cost nearly \$8 million and consist of two steam turbine generators (Los Angeles Times, May 19, 1955). The Scattergood Plant was named after Ezra Frederick Scattergood, who developed the early hydroelectric power plants along the

Owens Valley Aqueduct (Gnerre 2016). The new Scattergood Steam Plant activated its first generator in 1958, supplying power to the Los Angeles International Airport and surrounding industrial areas (Los Angeles Times, May 19, 1955).

While the Scattergood Steam Plant and the ESGS continued to generate power for Southern California Edison's growing service area, the need for more electricity continued to drive the company's development plans. In 1965, Edison announced the activation of a new generator constructed at the ESGS location. The new generator cost \$30 million but was capable of generating enough power to support 400,000 people.

Steam Power Generating Stations (1882–1960)

Some of the earliest power plants were driven by steam engines. Los Angeles's first electrical power plant, constructed in 1882, included boilers, steam engines, and a "30kw, 9.6 ampere 'Brush' arc lighting equipment for supplying the electric energy" (Early Power Generation, n.d.). By the 1920s, steam turbines replaced engines as the power plant's prime mover. With the addition of steam turbines, the general principal of power plant technology remained with same throughout the 20th century.

Advancements in power plant technology through the century were focused on building larger turbines to produce more electrical power. "As Samuel Insull realized early in the 20th century, the hearty steam turbines could be expanded in size to deliver more power but at lower unit costs. Throughout the decades, the major manufacturers, which included General Electric, Westinghouse, and Allis Chalmers in the United States, built steam turbine-generators of increasingly large capacities" (Powering The Past: A Look Back 2002). Additional advancements in power plant technology included experimenting with different fuel types for the plant's boilers. In 1941, the Los Angeles Bureau of Power and Light began construction of the Harbor Steam Plant in Wilmington. The plant's boilers were designed to burn either fossil fuels or natural gas (Prosser 2017). However, during the 1950s it was discovered that emissions from the combustion of fossil fuels was a significant cause of smog. To reduce the amount of pollutants released into the air, power plants began using the electrostatic precipitator previously employed by other industries.

The electrostatic precipitator was invented by Dr. Frederick Cottrell, a professor of chemistry at the University of California, Berkeley. Cottrell began working on the device in 1906 based on a concept derived in 1824 by German mathematician M. Hohlfeld. A year later, Cottrell started marketing the technology commercially, beginning with an effective demonstration at a sulphuric acid plant in Pinole, California. The success of the precipitator led to its adoption by refineries, coal burning plants, chemical factories, and power plants during the early 20th century. Facilities like the Anaconda Smelter near Butte, Montana, had struggled with complaints and litigation from nearby farmers due to the high level of arsenic emitted by the plant. Cottrell's precipitator removed harmful particles from gases, reducing the pollution emitted by factories, making it a welcome solution to the pollution problems caused by industrialization in the early 20th century (Sinclair, Los Angeles Times, July 29, 1928). In 1912, Dr. Cottrell and other patent holders formed a non-profit patent administrative company to develop the precipitator process worldwide

which was used in a number of industries to reduce emissions (Louie 2005). By 1959, Southern California Edison began using the device at the ESGS, dramatically reducing its pollution output.

Geologic and Paleontological Setting

A geologic map review indicates the Project site is underlain by four geologic units (Diblee and Minch 2007). These units include Beach Sand (Qbs), Elevated Alluvial Sediments (Qae), Old Sand Dunes (Qos), and Older Alluvium (Qoa). The Beach Sands occurs along the coast, extending inland less than 1,000 meters, and underlie the proposed desalination facility site. These sediments are Holocene-age (<11,700 years old) and are too young to preserve fossils. However, these sediments likely overlie older sediments that are of an age to preserve fossils.

Elevated Alluvial Sediments are mapped as occurring to the west of Interstate 405, in the vicinity of Hawthorne and Lawndale and underlie the eastern portion of the proposed conveyance pipeline and alternative pipeline alignments (Diblee and Minch 2007). These sediments consist of gravel, sand, and clay deposited during the Pleistocene (2,588,000 to 11,700 years ago) that have since been slightly elevated and dissected by stream erosion (Diblee and Minch 2007). These sediments are of an age and lithology to preserve fossil resources and have a strong record of fossil preservation throughout the Los Angeles Basin.

Old Dune Sands are mapped as occurring just inland of the younger beach sands and landslide deposits in El Segundo and Manhattan Beach and underlie the western portion of the proposed conveyance pipeline and alternative pipeline alignments (Diblee and Minch 2007). These sediments are similar to the more recent beach sands, but date to the Pleistocene, and have been at least partially stabilized (Diblee and Minch 2007).

Older alluvium occurs to the east of Los Angeles International Airport in Inglewood, north of the older elevated alluvium, and underlie the central portion of the proposed off-site components (Diblee and Minch 2007). These sediments are somewhat similar to the older elevated alluvium, consisting of pebble-gravel, sand, and silt-clay that have been elevated and dissected (Diblee and Minch 2007). These sediments also date to the Pleistocene, and have a similar record of fossil preservation as that discussed above for the older elevated alluvium.

Identification of Resources Within Project Site

Methods

SCCIC Records Search

A records search was conducted at the CHRIS South Central Coastal Information Center (SCCIC) to identify previously documented archaeological, built, and architectural resources within or immediately adjacent to (within 100 feet) the Project site. The records search included a review of all previously recorded cultural resources, as well as survey and excavation reports generated from projects located within 1 mile of the desalination facility Project site and within one-half mile of off-site components (water conveyance alignment and regional pump station optional sites). In addition, a review was conducted of the NRHP, the CRHR, and California Office of Historic Preservation documents and inventories, including the lists of California

Historical Landmarks, California Points of Historical Interest, Listing of NRHP Properties, and Inventory of Historic Structures.

Shipwrecks Database Review

A search of the California State Lands Commission Shipwrecks Database was conducted to determine if previously identified shipwrecks are located within or immediately adjacent to the Project's offshore components.

Geoarchaeological Review

A geoarchaeological review for the Project site and surrounding vicinity was conducted to assess the potential for subsurface archaeological deposits in the Project vicinity (**Appendix 7B, West Basin MWD Ocean Desalination EIR Geoarchaeological Review**). Geologic maps, soils maps, geotechnical reports, and relevant journal articles were reviewed as part of the review.

AB 52 Consultation

On August 28, 2015, a Local Government Tribal Consultation List Request Form was submitted by West Basin to the NAHC for a Native American Contact List. Although the Tribal Consultation List was not received from the NAHC until October 5, 2015, West Basin sent notification letters on September 9, 2015, to four Native American groups identified based on past project experience and best available information. The Tribal Consultation List received on October 5, 2015, identified one additional contact (Robert F. Dorame, Gabrielino-Tongva Indians of California Tribal Council), who was notified on October 6, 2015. All parties identified were notified pursuant to AB 52 and were provided the Project's expanded Notice of Preparation by Certified Mail and Federal Express (**Appendix 7C, Native American Consultation**). The following Native American contacts were notified as part of the initial notification effort:

- Linda Candelaria, Gabrielino-Tongva Tribe
- Sam Dunlap, Gabrielino-Tongva Nation
- Anthony Morales, Gabrielino/Tongva San Gabriel Band of Mission Indians
- Andrew Salas, Gabrielino Band of Mission Indians – Kizh Natio.

The following individual was contacted as part of the October 6, 2015 effort:

- Robert F. Dorame, Gabrielino-Tongva Indians of California Tribal Council.

On May 2, 2016, West Basin received a letter from the Torres Martinez Desert Cahuilla Indians requesting formal notification of proposed projects within West Basin's jurisdiction. In response to this request, the following individual was contacted on May 17, 2016:

- Michael Mirelez, Cultural Resources Coordinator, Torres Martinez Desert Cahuilla Indians

Cultural Resources Field Survey

An intensive cultural resources pedestrian field survey of the Project site was conducted by BCR Consulting on November 2, 2015. The survey of the Project site was conducted by walking parallel transects spaced approximately 20 meters apart across 100 percent of the accessible Project site that exhibited visible surface sediments. Built and paved portions of the off-site

component alignments were subject to a reconnaissance-level survey, and portions of these alignments with visible ground surface were inspected using pedestrian field survey methods described above. Soil exposures, including natural and artificial clearings, were carefully inspected for evidence of cultural resources. Digital photographs were taken at various points within the Project site. These included overviews as well as detailed photographs of all cultural resources. Cultural resources were recorded per the OHP's instructions for recording historical resources in the field using:

- Detailed note taking for entry on DPR Forms (see Appendix 7A)
- Handheld Global Positioning Systems for mapping purposes
- Digital photography of all cultural resources (see Appendix 7A)

Paleontological Resources Records Search and Literature Review

To assess the paleontological sensitivity of the Project site, a paleontological records search was conducted by the Natural History Museum of Los Angeles County (LACM) and a review of current geologic mapping and relevant scientific literature was undertaken. The results of the records search and literature review were used to assign SVP paleontological sensitivity rankings to each of the geologic units occurring within the Project site.

Results

SCCIC Records Research

The SCCIC records search indicates that 34 cultural resources studies have been conducted within the records search study area (**Table 5.4-1**). Of these 34 previous studies, 8 include portions of the proposed desalination facility and the off-site components.

The SCCIC records search indicates that 15 cultural resources have been previously documented within the records search study area (see Table 5.4-1). Of these 15 previously recorded cultural resources, 3 historic-period built environment resources (P-19-188895 [Hawthorne High School], -189423 [apartment building], and -190098 [ESGS]) are located within or immediately adjacent to the Project site. Resources P-19-188895 and -189423 consist of Hawthorne High School and an apartment building, respectively. These resources are located immediately adjacent to the proposed water conveyance pipelines and alternative pipeline alignments. Because the pipelines would be installed beneath the existing street right-of-ways, the Project would not directly impact these two resources, nor would the Project result in permanent visual impacts to the resource. As such, no Project-related impacts to these resources are anticipated.

The ESGS (P-19-190098) is a historic-period built environment resource originally recorded in 2012. The resource is composed of a gas-fired power plant, warehouse structure, two concrete towers, seven administration trailers, several water tanks, Southern California Edison transmission towers, a covered garage area, and a guard house. Parking lots and storage areas are also present. The boiler plant is a six-level, steel and concrete industrial structure. The boiler plant is connected to the other structures by underground piping systems and consists of several levels of open structure with connecting metal staircases and platforms to access the structure's inner areas. The ESGS has been previously evaluated as not eligible for inclusion in the NRHP, but has

not been previously evaluated for inclusion in the CRHR (see CRHR evaluation conducted for this EIR below).

**TABLE 5.4-1
CULTURAL RESOURCES AND REPORTS**

USGS 7.5 Minute Quadrangle	Cultural Resources ¹	Reports ¹
Inglewood, California (1981) Venice, California (1981)	P-19-187150: Historic-period residence (1/4 mile south of off-site components) P-19-187511: Historic-period wooden shed (1/8 mile south of off-site components) P-19-187542: Historic-period college building (1/8 mile south of off-site components) P-19-187544: Historic-period college building (1/8 mile south of off-site components) P-19-187881: Historic-period residence (1/4 mile north of off-site components) P-19-187882: Historic-period residence (1/4 mile north of off-site components) P-19-187883: Historic-period residence (1/4 mile north of off-site components) P-19-187884: Historic-period residence (1/4 mile north of off-site components) P-19-187885: Historic-period water tank (1/4 mile north of off-site components) P-19-188895: Historic-period high school (adjacent north of off-site components) P-19-189240: Historic-period duplex (3/4 mile south/southwest of desalination facility Project site) P-19-189423: Historic-period apartment building (adjacent and south of off-site components) P-19-189986: Historic-period warehouse (1/2 mile north of off-site components) P-19-190051: Historic-period church (1/8 mile south of off-site components) P-19-190098 ² : Historic period El Segundo Power Generating Station (within desalination facility Project site boundaries)	LA-125, 2904,2 2950, 3289, 3494, 4051, 4746, 4836,2 4861, 4907, 5494, 5708, 5758, 6239,2 6240,2 6243, 7070, 7687, 7716, 7722, 8255,2 9924, 10160, 10369, 10567, 10763, 11150, 11382, 11638,2 11971,2 11973, 12078,2 12500, 12608

NOTES:

1 Within 1 mile of desalination facility Project site or 0.5 mile of off-site component.

2 Within or partially within desalination facility Project site boundaries.

SOURCE: BCR Consulting 2016 (Appendix 7A).

Shipwrecks Database Review

A shipwrecks database query failed to yield records of any shipwrecks within 1 mile of the Project site (CSLC 2016). The nearest known shipwreck is of a ship called the Falcon, which was grounded in 1945 on the beach approximately 1.5 miles to the north of the Project site. This distance does not indicate any maritime resource sensitivity concerning the Project, for the Project site or for offshore components.

Geoarchaeological Review

Geology and Soils

The Project site is located in the city of El Segundo in the western portion of the Los Angeles Basin. The Los Angeles Basin is within the Peninsular Ranges physiographic province, near the intersection of this province with the Transverse Ranges province to the north and the Continental Borderland to the west. The Los Angeles Basin overlies a deep structural depression that has been subject to marine and non-marine deposition for roughly 80 million years. At their deepest, sedimentary deposits within the Los Angeles Basin extend to more than 9,000 meters, near the confluence of the Los Angeles and Rio Hondo Rivers (Yerkes et al. 1965), some 6 miles east of the Project site. Since the Late Pleistocene, the basin as a whole evolved into an alluviated coastal plain that slopes gently to the south and west.

The Project site is within the southwestern structural block of the Los Angeles Basin, which is referred to as the West Coast Basin. Basement rock of the West Coast Basin consists of Tertiary (65 to 2.5 million years ago) sedimentary and volcanic rocks, which are overlain by more than 1,000 feet of unconsolidated to semi-consolidated marine and non-marine sediments deposited during the Quaternary (approximately the last 2.5 million years).

During the last Ice Age (approximately 26,000 to 12,000 years ago), global sea level was substantially lower—approximately 120 meters lower 15,000 years ago—than it is currently, and the coastal plain in the vicinity of the Project site extended several miles offshore of its current location. Melting of glacial ice resulted in rapid rise in eustatic sea level until approximately 7,000 years ago, after which the rate of sea level rise slowed dramatically (Bickel 1978; Erlandson 1985; Jones 1991). Thus, the Project site was well inland at the Late Pleistocene/Early Holocene transition. A portion of the Project—a screened intake that would be installed approximately 2,600 feet west of the proposed desalination facility in the Pacific Ocean—would be situated on part of the continental shelf that was exposed during the Late Pleistocene/Early Holocene transition prior to 7,000 years ago.

The Project site is situated on landforms (including the El Segundo Sand Hills) underlain by near surface Pleistocene and Holocene-aged sedimentary deposits. Mapped sedimentary geological units within the Project site include:

- Old Alluvium (Qoa): Fluvial sediments deposited on canyon floors during the Late to Middle Pleistocene
- Old Eolian Deposits (Qos): poorly consolidated wind-blown (eolian) sand dune deposits dating to the Late to Middle Pleistocene
- Young Alluvium (Qae): poorly consolidated floodplain deposits dating to the Late Pleistocene and Holocene
- Eolian Beach Sands (Qbs): unconsolidated wind-blown sand deposits dating to the Late Holocene
- Near-shore Sedimentary Deposits: Submerged, unconsolidated sand deposits dating the Pleistocene

Potential for Subsurface Archaeological Deposits

Much of the western portion of the Project site, which includes the western portions of the proposed conveyance pipeline and alternative pipeline alignment, is underlain by Pleistocene-aged alluvium (Qoa) and sand dunes (Qos). The Late to Middle Pleistocene age of these sediments suggests that they were formed and stabilized entirely prior to the peopling of southern California, which occurred during the Late Pleistocene and Early Holocene. The absence of natural depositional processes needed to bury and preserve archaeological remains suggests that these geological units have a low sensitivity for intact prehistoric archeological deposits.

The eastern portions of the proposed conveyance pipeline and alternative alignments are underlain by Young Elevated Alluvium (Qae) deposits that include floodplain deposits originating from Dominguez Creek as well as alluvial fan deposits. Dominguez Creek, which overlaps the eastern portions of the proposed conveyance pipeline and alternative pipeline alignments, may have been a locus of human activity throughout prehistory as a result of the periodic fresh water and plant and animal resources it may have provided. Accumulation of deposits through alluvial processes have the potential to contain buried archaeological resources, suggesting that these landforms have a higher sensitivity to contain buried, intact archaeological sites.

The proposed desalinization facility and onshore component of the ocean water intake system are underlain by Late Holocene Eolian Beach sand deposits (Qbs). These unconsolidated deposits are relatively recent and unstable compared with other geological units. The sea level stabilized and reached its approximate current location by around 4,000 years ago; thus, human use of the shoreline has occurred in approximately the same location for the last four millennia, suggesting this landform has a higher sensitivity to contain buried prehistoric archaeological deposits.

The offshore portion of the ocean water intake system, which includes the construction of a screened intake facility located 2,600 feet west of the proposed desalination facility, is underlain by Pleistocene sedimentary deposits (Qps). Marine borings near the coastal margin in the vicinity of the proposed desalination facility have been interpreted as “Recent and Upper Pleistocene” (Holocene and Late Pleistocene) dune sands (California State Lands Commission 2016). Since current sea level was established approximately 4,000 years ago, the offshore portion appears to have the potential to contain archaeological deposits dating between approximately 12,000 and 4,000 years ago.

Geoarchaeological Conclusions

Based on this geoarchaeological review, the proposed desalination facility, the eastern portions of the proposed conveyance pipeline and alternative pipeline alignments, and the offshore screened intake facility are underlain by sediments deposited during the Late Pleistocene/Early Holocene, which encompasses the prehistoric use of the region, and thus harbor the potential to encounter buried archaeological deposits. The western portion of the proposed conveyance pipeline and alternative pipeline alignments are underlain by sediments that were deposited and stabilized during the Pleistocene, prior to the peopling of North America, and have lower potential for the presence of buried archaeological deposits.

AB 52 Consultation

To date, one response to West Basin's AB 52 notification efforts has been received. In a letter dated November 8, 2015, Robert F. Dorame of the Gabrielino-Tongva Indians of California explained that the Project site is located within the Tribe's Traditional Use Area, and stated that the vicinity around the Project site was located along a trade route between what is present-day Playa Vista in the north and Redondo Beach in the south. Mr. Dorame states that the Project site and its vicinity are culturally sensitive, but noted support for the proposed Project. Mr. Dorame requested the presence of on-site Native American monitors during Project-related construction activities, and asked for continued notification concerning the proposed Project. However, Mr. Dorame has not requested formal AB 52 consultation.

Field Survey

During the field survey, BCR Consulting personnel carefully inspected the desalination facility Project site and identified the presence of P-19-190098, the historic period ESGS. No other potential cultural resources were noted during the field survey. P-19-190098 has been updated on DPR Forms (see Appendix 7A).

California Register Evaluation of the El Segundo Generating Station (P-19-190098)

The ESGS has been previously evaluated for inclusion in the NRHP, but has not been evaluated for inclusion in the CRHR. The ESGS is associated with historical and architectural themes including: electricity in Los Angeles (1882–1970) and steam power generating stations (1882–1960). The following is a discussion of the ESGS's eligibility for listing in the CRHR.

Under CRHR Criterion 1, a resource is eligible if it is associated with events that have made a significant contribution to the broad patterns of national or state history. While the ESGS is associated with the post–World War II development of Los Angeles County, it did not influence the settlement patterns of the area. The Plant was constructed in 1953 as a response to significant population growth and a growing need for social and government services, which were met by the rapid construction of civic and institutional facilities like the ESGS. However, for a resource to be considered eligible under Criterion 1, its association must be significantly involved with the broad patterns of history. The ESGS was constructed in the midst of the county's suburbanizing phenomenon and, therefore, its construction does not appear to have stimulated a development trend in the area nor is it representative of a significant pattern of development, but is rather a reaction to an event motivated by the area's economic growth. Based on the research of historical themes related to the ESGS, it does not appear to have a significant association with events in power plant history, with the settlement of Los Angeles County, or with any other significant events contributing to the broad patterns of national or state history and cultural heritage. Therefore, the ESGS does not possess the significance required to meet Criterion 1 of the CRHR.

Under CRHR Criterion 2, a resource is eligible if it is associated with the lives of persons important in our past. Research of the ESGS revealed an association with Dr. Arie Jan Haagen-Smit, who made significant contributions to the history of California with the discovery that motor vehicle emissions were a significant cause of smog in Los Angeles. During the late 1950s, Dr. Haagen-Smit worked as a consultant to Southern California Edison, helping the power company reduce its harmful emissions. Although Dr. Haagen-Smit worked in a laboratory

provided by Southern California Edison at the ESGS, his significant discovery related to the causes of smog occurred earlier in his career while working at Caltech and in a laboratory provided by the APCD. Later in his career, Dr. Haagen-Smit promoted stricter vehicle emission standards as a founding member of California's Motor Vehicle Pollution Control Board. While Dr. Haagen-Smit does appear to be a significant person in California history, his contributions to state history occurred over a nearly 30-year career in a variety of settings. His association with the ESGS was minor in view of his overall career and professional accomplishments. Therefore, the ESGS does not possess the significance required to meet Criterion 2 of the CRHR.

Under CRHR Criterion 3, a resource is eligible if it 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. When the ESGS was constructed in 1953, it initially consisted of two power generators utilizing steam turbines and fossil fuel burning boilers. In 1965 two additional steam turbines were added. The use of steam turbines in power plants began in the 1920s and quickly became the preferred method of power generation. The ESGS was constructed over 30 years after steam turbines were first used in the United States and there are no primary or secondary historical sources indicating that the facilities located at the ESGS represent any advancements in steam power generation plant technology. The ESGS is a common example of a steam power generation plant and does not embody the distinctive characteristics of a type, period, region, or method of construction. It is not associated with a significant architect or engineer, and does not represent the work of an important creative individual or possess high artistic values. Therefore, the ESGS does not possess the significance required to meet Criterion 3 of the CRHR.

Under CRHR Criterion 4, a resource is eligible if it has yielded, or may be likely to yield, information important in prehistory or history. While most often applied to archaeological districts and sites, Criterion 4 can also apply to buildings, structures, and objects that contain important information. For these types of properties to be eligible under Criterion 4, they themselves must be, or must have been, the principal source of the important information. The ESGS does not appear to yield significant information that would expand our current knowledge or theories of design, methods of construction, operation, or other information that is not already known regarding steam power plants of this type. Therefore, the plant does not possess the significance required to meet Criterion 4 of the CRHR.

The ESGS, consisting of multiple buildings, structures, and features associated with the steam power generation plant, is recommended not eligible for listing in the CRHR, and therefore does not qualify as a historical resource pursuant to CEQA.

Paleontological Resources Records Search and Literature Review

The LACM records search prepared for the Project indicates that no known fossil localities are located within or immediately adjacent to the Project site (McLeod 2016). However, the LACM has identified six fossil localities (LACM 1180, 2035, 3264, 3789, 4942, and 7332) within and around Los Angeles International Airport located within 1 mile of the Project site. These six localities have been identified in the Older Alluvium (Qoa) and Elevated Alluvial sediments (Qae) that underlie the Project site and include specimens of proboscidean (*Proboscidea*),

mammoth (*Mammuthus*), rodent (Rodentia), speckled sanddab (*Citharichthys stigmaeus*), horse (*Equus*), bison (*Bison*), and rabbit (*Lepus*) (McLeod 2016). These fossil specimens were recovered from depths ranging from 13 to 40 feet beneath the ground surface.

The literature review supports the findings of the LACM records search, and indicates that the Older Alluvium and Elevated Alluvial sediments that overlap the Project site typically contain a rich fossil record of Ice Age terrestrial fauna, such as mammoth, bison, horse, lion, cheetah, wolf, camel, antelope, peccary, mastodon, capybara, and giant ground sloth, as well as small animals such as rodents and lizards (Graham and Lundelius 1994; Jefferson 1991; Miller 1971; Scott 2010; Scott and Cox 2008). A number of Project components occur within sediments mapped as Older Alluvium and Elevated Alluvium, including the eastern portions of the proposed and alternative conveyance and the pipeline alignments.

The literature review indicates that the Beach Sand (Qbs) and Old Sand Dune (Qos) sediments that underlie the western portion of the Project site are not generally known to preserve fossil resources in their upper layers; however, these sediments increase in age with depth, and may preserve fossil resources at deeper levels (McLeod 2016). A number of Project components occur within sediments mapped as Old Dune Sand, including the proposed desalination facility as well as the western portions of the proposed and the alternative conveyance pipeline alignments.

Paleontological Conclusions

Based on the LACM records search and literature review, paleontological sensitivity determinations (high, moderate, low) have been applied to the four geological units underlying the Project site. The Elevated Alluvial Sediments and Older Alluvium formations have both produced fossil specimens of Ice Age terrestrial fauna within the Project vicinity. As such, these two units are highly sensitive for the presence of paleontological resources. The Beach Sand and Old Sand Dune sediments are not known to contain fossiliferous deposits; however, these sediments increase in age with depth and overlie older sediments with high paleontological sensitivity. As such, these two units have a low sensitivity for the presence of paleontological resources at shallow depths, but have a higher sensitivity with increasing depth.

5.4.3 Significance Thresholds and Criteria

CEQA Guidelines Appendix G, Environmental Checklist Form, includes questions pertaining to cultural resources. The issues presented in the Environmental Checklist have been used as thresholds of significance in this section, in addition to CEQA-Plus requirements (see Section 2.0 for more information). Accordingly, the Project would have a significant adverse environmental impact if it would:

- Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5 (refer to Impact CUL 5.4-1).
- Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5 (refer to Impact CUL 5.4-2).
- Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature (refer to Impact CUL 5.4-3).

- Disturb any human remains, including those interred outside of formal cemeteries (refer to Impact CUL 5.4-4).
- Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is (refer to Impact CUL 5.4-5):
 - Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k).
 - A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

Potentially Significant Impacts

The environmental factors determined to be potentially affected by the Project, identified in the Notice of Preparation (see Appendix 1A), are analyzed below. Feasible mitigation measures are recommended, where warranted, to avoid or minimize the Project's significant adverse impacts.

5.4.4 Impacts and Mitigation Measures

Historical Resources

Impact CUL 5.4-1: Would the Project cause a substantial adverse change in the significance of a historical resource, as defined in CEQA Guidelines Section 15064.5 to include physical demolition, destruction, relocation, or alteration of historical resources or of the immediate surroundings of historical resources, such that the significance of the resource could be materially impaired?

The following analysis evaluates potential impacts associated with constructing and operating each of the three primary elements of the Project, including offshore, coastal, and inland project components for both the Local and Regional Projects. **Table 5.4-2** summarizes the impact significance conclusions.

**TABLE 5.4-2
SUMMARY OF IMPACT CUL 5.4-1 HISTORICAL RESOURCES**

	Ocean Water Desalination Facility	Offshore Intake and Discharge Facilities	Inland Conveyance Facilities
Impact CUL 5.4-1: Impacts on historical resources.			
Local Project			
Construction	LTSM	LTSM	LTSM
Operation	NI	NI	NI
Regional Project			
Construction	LTSM	LTS	LTSM
Operation	NI	NI	NI

NOTES:

- NI = No Impact, no mitigation proposed
- LTS = Less than Significant, no mitigation proposed
- LTSM = Less than Significant impact with mitigation

Local Project

Construction-Related Impacts

Ocean Water Desalination Facility – ESGS North and South Sites

Construction of the ocean water desalination facility would occur entirely within the ESGS boundary. One cultural resource (ESGS [P-19-190098]) was identified within the ESGS site. The historic-period power plant was recorded and evaluated for inclusion in the NRHP in 2012 and was recommended as not eligible for listing. As part of the current Project, the resource was evaluated for the CRHR and has been recommended ineligible for listing in the CRHR.

Therefore, the ESGS is not a historical resource under CEQA and impacts to the resource would not be significant. No other cultural resources (including prehistoric or historic-period archaeological sites or historic architectural resources) have been identified within the Local Project ESGS footprint. However, the geoarchaeological review prepared for the Project included as Appendix 7B indicates that the ESGS North and South Sites are underlain by sediments that have the potential to contain subsurface prehistoric archaeological deposits that may qualify as historical resources pursuant to CEQA.

Therefore, construction of the Local Project desalination facility has the potential to encounter subsurface archaeological deposits that qualify as historical resources, and could result in significant impacts. Implementation of **Mitigation Measures CUL-1 through CUL-5** would be required to ensure that the Project’s potential impacts to archaeological resources qualifying as historical resources under CEQA are less than significant. Mitigation Measure CUL-1 requires that a qualified Cultural Resources Specialist be designated. Mitigation Measure CUL-2 requires a Worker Environmental Awareness Program (WEAP). Mitigation Measure CUL-3 outlines the requirements for a Cultural Resources Monitoring and Mitigation Plan (CRMMP). Mitigation Measure CUL-4 specifies instructions in the event a cultural resource is discovered. Finally, Mitigation Measure CUL-5 specifies the requirements for a Cultural Resources Report (CRR).

With implementation of Mitigation Measures CUL-1 through CUL-5, Local Project ocean water desalination facility construction would not cause a substantial adverse change in the significance of an archaeological resource that qualifies as a historical resource under CEQA. With mitigation incorporated, impacts resulting from the Local project ocean water desalination facility construction would be less than significant.

Screened Ocean Intake and Concentrate Discharge

The Local Project screened ocean intake construction would occur up to approximately 2,600 feet offshore. No maritime resources were identified within the offshore study area. However, the geoarchaeological review indicates that the sediments underlying the screened ocean intake and discharge area have the potential to contain buried archaeological deposits that may qualify as historical resources under CEQA.

Therefore, construction of the Local Project ocean intake and concentrate discharge structures has the potential to encounter subsurface archaeological deposits that qualify as historical resources under CEQA, and may result in a significant impact. Implementation of Mitigation Measures CUL-1 through CUL-5 would be required to ensure that the Project's potential impacts to archaeological resources that may qualify as historical resources are less than significant.

Desalinated Water Conveyance Components

No known historical resources were identified within the proposed desalinated water conveyance components as a result of the records search and survey. However, the geoarchaeological review indicates that the sediments underlying the eastern portions of the water conveyance components have the potential to contain buried archaeological deposits that may qualify as historical resources under CEQA. Therefore, Local Project construction of the desalinated water conveyance components has the potential to encounter subsurface archaeological deposits that qualify as historical resources under CEQA, and may result in a significant impact. Implementation of Mitigation Measures CUL-1 through CUL-5 would be required to ensure that the Project's potential impacts to archaeological resources that may qualify as historical resources are less than significant.

Mitigation Measures:

Implement Mitigation Measures CUL-1 through CUL-5 for impacts to historical resources resulting from construction of all Local Project facilities.

Local Project Significance Determination:

Less than Significant Impact with Mitigation Incorporated.

Operational Impacts

Ocean Water Desalination Facility – ESGS North and South Sites

The Local Project ocean water desalination facility operations would occur primarily within enclosed buildings or below grade and entirely within the ESGS. As noted above, no known historical resources have been identified within the ESGS site. Although the geoarchaeological review indicates that the ESGS site is underlain by sediments that have the potential to contain subsurface archaeological deposits, given that the desalination facility operations would not

involve ground-disturbing activities, there would be no potential to encounter subsurface archaeological resources qualifying as historical resources under CEQA. Local Project ocean water desalination facility operations would result in no impact to historical resources under CEQA.

Screened Ocean Intake and Concentrate Discharge

The Local Project operation of the offshore screen ocean intake and concentrate discharge component would not include ground-disturbing activities and there would be no potential to encounter subsurface archaeological resources, and therefore would not impact archaeological resources qualifying as historical resources under CEQA.

Desalinated Water Conveyance Components

The Local Project desalinated water conveyance components would operate within industrial and fully urbanized areas and/or within roadway ROWs. No known historical resources were identified within these areas. These operations would not include ground-disturbing activities so there would be no potential to encounter subsurface archaeological resources qualifying as historical resources. The Local Project desalinated water conveyance components operations would not impact historical resources under CEQA.

Mitigation Measures:

None Required.

Local Project Significance Determination:

No Impact.

Regional Project

Construction-Related Impacts

Ocean Water Desalination Facility – ESGS North and South Sites

Construction of the Regional Project ocean water desalination facility would occur entirely within the ESGS boundary. As noted above in the Local Project Impact CUL-5.4-1 discussion, one cultural resource (the ESGS [P-19-190098]) was identified within the ESGS site, and has been recommended ineligible for listing in the CRHR. Therefore, the ESGS is not a historical resource under CEQA and impacts to the resource would not be significant. However, the geoarchaeological review prepared for the Project indicates that the ESGS North and South Sites are underlain by sediments that have the potential to contain subsurface prehistoric archaeological deposits that may qualify as historical pursuant to CEQA. Therefore, Project-related ground disturbance associated with the construction of the Regional Project ocean water desalination facility has the potential to encounter subsurface archaeological resources that qualify as historical resources under CEQA, resulting in a significant impact. Implementation of Mitigation Measures CUL-1 through CUL-5 would be required to ensure that the Project's potential impacts to archaeological resources that may qualify as historical resources are less than significant.

Screened Ocean Intake and Concentrate Discharge

The offshore construction activities required would be limited to the installation of additional wedgewire screens, and opening up of the pipelines and the diffuser ports that were not used for

the Local Project. No new excavation and seafloor-disturbing work would be conducted. Thus, impacts resulting from offshore construction activities of the Regional Project is less than significant.

Desalinated Water Conveyance Components

As noted above in the Local Project Impact CUL-5.4-1 discussion, no known historical resources were identified within the proposed desalinated water conveyance components as a result of the records search and survey. However, the geoarchaeological review indicates that the sediments underlying the eastern portions of the water conveyance components have the potential to contain buried archaeological deposits that may qualify as historical resources. Therefore, construction of the offshore and onshore portions of the ocean intake and concentrate discharge structures has the potential to encounter subsurface archaeological deposits that qualify as historical resources, resulting in a significant impact. Implementation of Mitigation Measures CUL-1 through CUL-5 would be required to ensure that the Project's potential impacts to archaeological resources that may qualify as historical resources are less than significant.

Mitigation Measures:

Implement Mitigation Measures CUL-1 through CUL-5 for impacts to historical resources resulting from construction of the ocean water desalination facility and the desalination water conveyance components.

Regional Project Significance Determination:

Less than Significant Impact with Mitigation Incorporated.

Operational Impacts

Ocean Water Desalination Facility – ESGS North and South Sites

The Regional Project ocean water desalination facility operations would occur primarily within enclosed buildings or below grade and entirely within the ESGS. As noted above, no known historical resources have been identified within the ESGS site. Although the geoarchaeological review indicates that the ESGS site is underlain by sediments that have the potential to contain subsurface archaeological deposits, desalination facility operations would not involve ground-disturbing activities and would not have the potential to encounter subsurface archaeological resources qualifying as historical resources. The Regional Project ocean water desalination facility operations would result in no impact to historical resources under CEQA.

Screened Ocean Intake and Concentrate Discharge

The operation of the Regional Project offshore screen ocean intake and concentrate discharge component would not include ground-disturbing activities and would not have the potential to encounter subsurface archaeological resources qualifying as historical resources. These operations would result in no impact to historical resources under CEQA.

Desalinated Water Conveyance Components

The Regional Project desalinated water conveyance components would operate within industrial and fully urbanized areas and/or within roadway ROWs. No known historical resources have been identified in these area. These operations would not include ground-disturbing activities and

would have no potential to encounter subsurface archaeological resources qualifying as historical resources. The Regional Project desalinated water conveyance components operations would result in no impact to historical resources under CEQA

Mitigation Measures:

None Required.

Regional Project Significance Determination:

No Impact.

Mitigation Measures:

The following mitigation measures apply to both the Local and Regional Projects, unless otherwise noted.

CUL-1: Prior to ground-disturbing activities, West Basin shall retain a Qualified Archaeologist defined as an archaeologist meeting the Secretary of the Interior's Standards for professional archaeology (U.S. Department of the Interior 2008). The Qualified Archaeologist shall be responsible for implementation of all cultural resources mitigation measures and will oversee Cultural Resource Monitors (CRMs) to monitor Project-related ground-disturbing activities. The CRMs shall have demonstrable monitoring experience and familiarity with the types of resources that may be encountered during Project-related ground-disturbing activities.

West Basin shall ensure that the Qualified Archaeologist oversees construction monitoring, mitigation, and curation activities necessary; fulfills all the requirements of these measures; ensures that the Qualified Archaeologist obtains technical specialists and CRMs; and ensures that the Qualified Archaeologist evaluates any cultural resources that are newly discovered.

A current schedule of anticipated Project activity shall be provided to the Qualified Archaeologist on a weekly basis during ground disturbance.

CUL-2: Prior to the start of any ground-disturbing activity, the Qualified Archaeologist or an archaeologist working under the supervision of the Qualified Archaeologist shall conduct WEAP for all construction personnel. Construction personnel will be informed of the applicable laws and penalties pertaining to archaeological resources, 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. West Basin shall ensure that construction personnel are made available for and attend the training and retain documentation demonstrating attendance.

CUL-3: All Project related ground-disturbing activities occurring within the geological formations that have the potential to contain buried archaeological deposits shall be subject to archaeological and Native American monitoring. Prior to ground-disturbing activities, West Basin shall prepare a CRMMP that summarizes monitoring methodology, identifies specifically the portions of the Project that require monitoring based on archaeological sensitivity of the geological formation underlying the Project components, and provides general and specific measures to minimize potential impacts to inadvertent discoveries of archaeological resources. Copies of the CRMMP shall reside with the Qualified Archaeologist, each monitor, and West Basin.

CUL-4: The Qualified Archaeologist and the CRMs shall have the authority to halt construction if previously unknown cultural resource sites or materials are encountered. All construction activities within 50 feet of the find shall halt, and redirection of ground disturbance shall be accomplished under the direction of the construction supervisor. The Qualified Archaeologist shall determine what, if any, data recovery or other mitigation is needed. Construction in the area shall not resume until the Qualified Archaeologist has completed data collection activities and the resource has been recorded.

CUL-5: Within 90 days after completion of ground-disturbing activities, West Basin shall prepare a CRR that specifies all field activities including dates, times and locations, findings, samplings and analysis. All survey reports, DPR 523 forms, and additional research reports not previously submitted to the CHRIS shall be included as an appendix to the CRR.

West Basin shall provide copies of the CRR to the curating institution (if archaeological materials were collected), the SHPO, and CHRIS.

Archaeological Resources

Impact CUL 5.4-2: Would the Project cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?

The following analysis evaluates potential impacts associated with constructing and operating each of the three primary elements of the Project, including offshore, coastal, and inland project components for both the Local and Regional Projects. **Table 5.4-3** summarizes the impact significance conclusions.

**TABLE 5.4-3
SUMMARY OF IMPACT CUL 5.4-2 ARCHAEOLOGICAL RESOURCES**

	Ocean Water Desalination Facility	Offshore Intake and Discharge Facilities	Inland Conveyance Facilities
Impact CUL 5.4-2: Impacts on archaeological resources.			
Local Project			
Construction	LTSM	LTSM	LTSM
Operation	NI	NI	NI
Regional Project			
Construction	LTSM	LTS	LTSM
Operation	NI	NI	NI

NOTES:

NI = No Impact, no mitigation proposed
LTS = Less than Significant impact, no mitigation proposed
LTSM = Less than Significant impact with mitigation

Local Project

Construction-Related Impacts

Ocean Water Desalination Facility – ESGS North and South Sites

Archaeological resources not qualifying as historical resources as addressed in Impact CUL 5.4-1, may qualify as unique archaeological resources under CEQA. No unique archaeological resources (including prehistoric or historic-period archaeological sites) have been previously identified within the Local Project ESGS footprint. However, the geoarchaeological review prepared for the Project (Appendix 7B) indicates that the ESGS North and South Sites are underlain by sediments that have the potential to contain subsurface prehistoric archaeological deposits that may qualify as unique archaeological resources pursuant to CEQA. Therefore, Project-related ground disturbance associated with the construction of the ESGS North and South Sites has the potential to encounter subsurface archaeological deposits, resulting in a significant impact. Therefore, construction of the Local Project desalination facility has the potential to encounter subsurface archaeological deposits that qualify as unique archaeological resources, resulting in a significant impact. Implementation of Mitigation Measures CUL-1 through CUL-5 would be required to ensure that the Project's potential impacts to archaeological resources qualifying as unique archaeological resources are less than significant.

Screened Ocean Intake and Concentrate Discharge

The Local Project screened ocean intake (offshore) and concentrate discharge structures (onshore portions) construction would occur approximately 2000-3000 feet offshore. No maritime resources were identified within the offshore project area. However, the geoarchaeological review indicates that the sediment underlying the screened ocean intake have the potential to contain buried archaeological deposits. Therefore, construction of the Local Project ocean intake and concentrate discharge structures has the potential to encounter subsurface archaeological deposits that may qualify as unique archaeological resources, resulting in a significant impact. Implementation of Mitigation Measures CUL-1 through CUL-5 would be required to ensure that the Project's potential impacts to archaeological resources qualifying as unique archaeological resources are less than significant.

Desalinated Water Conveyance Components

No known unique archaeological resources were identified within the proposed desalinated water conveyance components as a result of the records search and survey. However, the geoarchaeological review indicates that the sediments underlying the eastern portions of the water conveyance components have the potential to contain buried archaeological deposits. Therefore, Local Project construction of the desalinated water conveyance components has the potential to encounter subsurface archaeological deposits that qualify as unique archaeological resources, resulting in a significant impact. Implementation of Mitigation Measures CUL-1 through CUL-5 would be required to ensure that the Project's potential impacts to archaeological resources qualifying as unique archaeological resources are less than significant.

Mitigation Measures:

Implement Mitigation Measures CUL-1 through CUL-5 for impacts to unique archaeological resources resulting from construction of all Local Project facilities.

Local Project Significance Determination:

Less than Significant Impact with Mitigation Incorporated.

Operational Impacts

Ocean Water Desalination Facility – ESGS North and South Sites

The Local Project ocean water desalination facility operations would occur primarily within enclosed buildings or below grade and entirely within the ESGS. As noted above, no known unique archaeological resources have been identified within the ESGS site. Though, the geoarchaeological review indicates that the ESGS site is underlain by sediments that have the potential to contain subsurface archaeological deposits that qualify as unique archaeological resources. However, given that the desalination facility operations would not involve ground-disturbing activities, there would be no impact to archaeological resources qualifying as unique archaeological resources pursuant to CEQA.

Screened Ocean Intake and Concentrate Discharge

The Local Project operation of the offshore screen ocean intake and concentrate discharge component would not include ground-disturbing activities, and therefore would not impact archaeological resources qualifying as unique archaeological resources pursuant to CEQA.

Desalinated Water Conveyance Components

The Local Project desalinated water conveyance components would operate within industrial and fully urbanized areas and/or within roadway ROWs and would not include ground-disturbing activities. Although the eastern portion of the desalinated water conveyance pipeline alignment and alternative alignments are underlain by sediments that have the potential to contain buried archaeological deposits that may qualify as unique archaeological resources, operations of the pipelines would not include ground-disturbing activities. Therefore, Local Project desalinated water conveyance components operations would not impact archaeological resources qualifying as unique archaeological resources under CEQA.

Mitigation Measures:

None Required.

Local Project Significance Determination:

No Impact.

Regional Project

Construction-Related Impacts

Ocean Water Desalination Facility – ESGS North and South Sites

No unique archaeological resources (including prehistoric or historic-period archaeological sites) have been previously identified within the Local Project ESGS footprint. However, the geoarchaeological review prepared for the Project indicates that the ESGS North and South Sites are underlain by sediments that have the potential to contain subsurface prehistoric archaeological deposits that may qualify as unique archaeological resources pursuant to CEQA. Therefore, Project-related ground disturbance associated with the construction of the ESGS North and South Sites has the potential to encounter unique archaeological resources, resulting in a significant

impact. Implementation of Mitigation Measures CUL-1 through CUL-5 would be required to ensure that the Project's potential impacts to archaeological resources qualifying as unique archaeological resources are less than significant.

Screened Ocean Intake and Concentrate Discharge

The offshore construction activities required would be limited to the installation of additional wedgewire screens, and opening up of the pipelines and the diffuser ports that were not used for the Local Project. No new excavation and seafloor-disturbing work would be conducted. Impacts from offshore construction activities of the Regional Project would be less than significant.

Desalinated Water Conveyance Components

No known unique archaeological resources were identified within the proposed desalinated water conveyance components as a result of the records search and survey. However, the geoarchaeological review indicates that the sediments underlying the eastern portions of the water conveyance components have the potential to contain buried archaeological deposits qualifying as unique archaeological resources. Therefore, Regional Project construction of the desalinated water conveyance components has the potential to encounter subsurface archaeological deposits, resulting in a significant impact. Implementation of Mitigation Measures CUL-1 through CUL-5 would be required to ensure that the Project's potential impacts to archaeological resources qualifying as unique archaeological resources are less than significant.

Mitigation Measures:

Implement Mitigation Measures CUL-1 through CUL-5 for impacts to unique archaeological resources resulting from the ocean water desalination facility and the desalinated water conveyance components.

Local Project Significance Determination:

Less than Significant Impact with Mitigation Incorporated.

Operational Impacts

Ocean Water Desalination Facility – ESGS North and South Sites

The Regional Project ocean water desalination facility operations would occur primarily within enclosed buildings or below grade and entirely within the ESGS. As noted above, no known unique archaeological resources have been identified within the ESGS site. Though, the geoarchaeological review indicates that the ESGS site is underlain by sediments that have the potential to contain subsurface archaeological deposits that may qualify as unique archaeological resources. However, given that the desalination facility operations would not involve ground-disturbing activities, there would be no impact to archaeological resources qualifying as unique archaeological resources pursuant to CEQA.

Screened Ocean Intake and Concentrate Discharge

The Regional Project operation of the offshore screen ocean intake and concentrate discharge component would not include ground-disturbing activities, and therefore would not impact archaeological resources qualifying as unique archaeological resources pursuant to CEQA.

Desalinated Water Conveyance Components

The Regional Project desalinated water conveyance components would operate within industrial and fully urbanized areas and/or within roadway ROWs, and would not include ground-disturbing activities. Although the eastern portion of the desalinated water conveyance pipeline alignment and alternative alignments are underlain by sediments that have the potential to contain buried archaeological deposits that may qualify as unique archaeological resources, operations of the pipelines would not include ground-disturbing activities. Therefore, the Local Project desalinated water conveyance components operations would not impact archaeological resources qualifying as unique archaeological resources under CEQA.

Mitigation Measures:

None Required.

Determination:

No Impact.

Paleontological Resources

Impact CUL 5.4-3: Would the Project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Surface grading or very shallow excavations in the geologic units underlying the Project site are unlikely to encounter paleontological resources. Moreover, no paleontological resources have been previously identified within the Project site. However, the LACM records search and literature review indicate that fossil specimens have been identified within 1 mile of the Project site. The fossil specimens were identified within the same Older Alluvial and Elevated Alluvial sediments that underlie the Project site at depths ranging from 13 to 40 feet below the ground surface. As such, ground-disturbing activities in the Project site that involve excavations greater than 10 feet and extend into older Quaternary alluvial deposits have the potential to reveal significant fossil vertebrate specimens. Therefore, the Project could inadvertently destroy a unique paleontological resource or site or unique geologic feature, should one be discovered during ground-disturbing activities.

The following analysis evaluates potential impacts associated with constructing and operating each of the three primary elements of the Project, including offshore, coastal, and inland project components for both the Local and Regional Projects. **Table 5.4-4** summarizes the impact significance conclusions.

**TABLE 5.4-4
SUMMARY OF IMPACT CUL 5.4-3 PALEONTOLOGICAL RESOURCES**

	Ocean Water Desalination Facility	Offshore Intake and Discharge Facilities	Inland Conveyance Facilities
Impact CUL 5.4-3: Impacts on paleontological resources.			
Local Project			
Construction	LTSM	NI	LTSM
Operation	NI	NI	NI
Regional Project			
Construction	LTSM	NI	LTSM
Operation	NI	NI	NI

NOTES:

NI = No Impact, no mitigation proposed

LTSM = Less than Significant impact with mitigation

Local Project

Construction-Related Impacts

Ocean Water Desalination Facility – ESGS North and South Sites

Local Project ocean water desalination facility construction would involve excavations greater than 10 feet that extend into older Quaternary alluvial deposits and would have the potential to reveal significant fossil vertebrate remains. Therefore, Local Project ocean water desalination facility construction could inadvertently destroy a unique paleontological resource, should one be discovered during ground-disturbing activities. With implementation of **Mitigation Measures CUL-6 through CUL-11**, Local Project ocean water desalination facility construction would result in a less than significant impact to any potential unique paleontological resource or site or unique geologic feature. Mitigation Measure CUL-6 requires that a Paleontological Resources Specialist (PRS) and a Paleontological Resource Monitor be designated. Mitigation Measure CUL-7 requires preparation of a Paleontological Resources Monitoring and Mitigation Plan (PRMMP). Mitigation Measure CUL-8 requires a WEAP and Mitigation Measure CUL-9 specifies instructions in the event a unique paleontological resource or site or unique geologic feature is discovered. Mitigation Measure CUL-11 specifies the requirements for a Paleontological Resources Report (PRR). With implementation of Mitigation Measures CUL-6 through CUL-11, Local Project ocean water desalination facility construction would result in a less than significant impact to a unique paleontological resource or site or unique geologic feature.

Screened Ocean Intake and Concentrate Discharge

Local Project screened ocean intake and concentrate discharge construction would not involve excavations greater than 10 feet or that extend into older Quaternary alluvial deposits. Therefore, Local Project screened ocean intake and concentrate discharge construction would not destroy a unique paleontological resource or site or unique geologic feature and no impact would occur.

Desalinated Water Conveyance Components

The closest known vertebrate fossil localities to the Local Project desalinated water conveyance components occur to approximately 1 mile northeast in or around the Los Angeles International Airport. Local Project desalinated water conveyance components and off-site construction laydown/staging areas would occur within industrial and fully urbanized areas and/or within roadway ROW. However, Local Project desalinated water conveyance components construction could involve excavations greater than 10 feet that extend into older Quaternary alluvial deposits. Therefore, Local Project desalinated water conveyance components construction could destroy a unique paleontological resource or site or unique geologic feature, should one be discovered during ground-disturbing activities. With implementation of Mitigation Measures CUL-6 through CUL-11, impacts would be less than significant.

Mitigation Measures:

Implement Mitigation Measures CUL-6 through CUL-11 for construction-related impacts to the Local Project ocean water desalination facility and the desalinated water conveyance facilities. No mitigation measures required for screened ocean intake and concentrate discharge.

Local Project Significance Determination:

Less than Significant Impact with Mitigation Incorporated.

Operational Impacts

Ocean Water Desalination Facility – ESGS North and South Sites

Local Project ocean water desalination facility operations would not involve any activities that could impact a unique paleontological resource or site or unique geologic feature. All Local Project ocean water desalination facility operations would occur within the ESGS. Therefore, Local Project ocean water desalination facility operations would not impact a unique paleontological resource or site or unique geologic feature.

Screened Ocean Intake and Concentrate Discharge

Local Project screened ocean intake and concentrate discharge operations would not involve any activities which could impact a unique paleontological resource or site or unique geologic feature. Therefore, Local Project screened ocean intake and concentrate discharge operation would not impact a unique paleontological resource or site or unique geologic feature.

Desalinated Water Conveyance Components

Local Project desalinated water conveyance components operations would not involve any activities which could impact a unique paleontological resource or site or unique geologic feature. All Project operations would occur within the Project footprint. Therefore, Local Project desalinated water conveyance components operation would not impact a unique paleontological resource or site or unique geologic feature.

Mitigation Measures:

None Required.

Determination:

No Impact.

Regional Project

Construction-Related Impacts

Ocean Water Desalination Facility – ESGS North and South Sites

As with the Local Project, Regional Project ocean water desalination facility construction would involve excavations greater than 10 feet that extend into older Quaternary alluvial deposits and would have the potential to reveal significant fossil vertebrate remains. Therefore, Regional Project ocean water desalination facility construction could inadvertently destroy a unique paleontological resource or site or unique geologic feature, should one be discovered during ground-disturbing activities. With implementation of Mitigation Measures CUL-6 through CUL-11, ocean water desalination facility construction would result in a less than significant impact to a unique paleontological resource or site or unique geologic feature.

Screened Ocean Intake and Concentrate Discharge

The offshore construction activities required would be limited to the installation of additional wedgewire screens, and opening up of the pipelines and the diffuser ports that were not used for the Local Project. No new excavation and seafloor-disturbing work would be conducted. Therefore, Regional Project screened ocean intake and concentrate discharge modification would not destroy a unique paleontological resource or site or unique geologic feature and no impact would occur.

Desalinated Water Conveyance Components

As described above, the closest known vertebrate fossil localities to the desalinated water conveyance components occur approximately 1 mile to the northeast in or around Los Angeles International Airport. Regional Project desalinated water conveyance components construction and off-site construction laydown/staging areas would occur within industrial and fully urbanized areas and/or within roadway ROW. Regional Project desalinated water conveyance components construction (including the regional pump station) could necessitate excavations greater than 10 feet that extend into older Quaternary alluvial deposits. However, with implementation of Mitigation Measures CUL-6 through CUL-11, Regional Project desalinated water conveyance components construction would result in a less than significant impact to a unique paleontological resource or site or unique geologic feature.

Mitigation Measures:

Implement Mitigation Measures CUL-6 through CUL-11 for construction-related impacts to the Regional Project ocean water desalination facility and the desalinated water conveyance facilities. No mitigation measures required for screened ocean intake and concentrate discharge.

Regional Project Significance Determination:

Less than Significant Impact with Mitigation Incorporated.

Operational Impacts

Ocean Water Desalination Facility – ESGS North and South Sites

Regional Project ocean water desalination facility operations would not involve any activities that could impact a unique paleontological resource or site or unique geologic feature. All Regional Project ocean water desalination facility operations would occur within the ESGS boundaries. Therefore, Regional Project ocean water desalination facility operations would not impact a unique paleontological resource or site or unique geologic feature during operations.

Screened Ocean Intake and Concentrate Discharge

Regional Project screened ocean intake and concentrate discharge operations would not involve any activities that could impact a unique paleontological resource or site or unique geologic feature. Therefore, Regional Project screened ocean intake and concentrate discharge operation would not impact a unique paleontological resource or site or unique geologic feature during operations.

Desalinated Water Conveyance Components

Regional Project desalinated water conveyance components and regional pump station operations would not involve any activities that could impact a unique paleontological resource or site or unique geologic feature. All Project operations would occur within the Project footprint. Therefore, Regional Project desalinated water conveyance components operations would not impact a unique paleontological resource or site or unique geologic feature during operations.

Mitigation Measures:

None Required.

Regional Project Significance Determination:

No Impact.

Mitigation Measures:

The following mitigation measures apply to both the Local and Regional Projects, unless otherwise noted.

CUL-6: Prior to the start of any ground-disturbing activity, a Qualified Paleontologist meeting the SVP's professional standards (SVP 2010) shall be retained by West Basin. The Qualified Paleontologist shall be responsible for implementation of all mitigation measures pertaining to paleontological resources and will oversee Paleontological Resource Monitors (PRMs) to monitor Project-related ground-disturbing activities.

CUL-7: West Basin shall provide to the Qualified Paleontologist, maps and drawings showing the footprint of the Project components, construction laydown areas, and all related facilities. Maps shall identify all portions of Project sites where ground disturbance is anticipated. The plan drawings shall show the location, depth, and extent of all ground disturbances that involve excavations greater than 8 feet and extend into older Quaternary alluvial deposits, which have the potential to reveal significant fossil vertebrate specimens.

CUL-8: West Basin shall ensure that the Qualified Paleontologist prepares a PRMMP in accordance with SVP guidelines. The PRMMP shall function as the formal guide for monitoring, collecting, and sampling activities.

CUL-9: Prior to the start of any ground-disturbing activity, the Qualified Paleontologist shall conduct a WEAP training pertaining to paleontological resources for all construction personnel. Construction personnel will be informed of the types of paleontological resources that may be encountered, and of the proper procedures to be enacted in the event of an inadvertent discovery of paleontological resources. West Basin shall ensure that construction personnel are made available for and attend the training and retain documentation demonstrating attendance.

CUL-10: West Basin shall ensure that the PRMs monitor all construction-related grading, excavation, trenching, and boring in areas that involve excavations greater than 8 feet and extend into older Quaternary alluvial deposits, both at the desalination facility site and desalinated water conveyance pipeline alignment Project components. In the event that the Qualified Paleontologist determines full-time monitoring is not necessary in locations that were identified as potentially fossil-bearing in the PRMMP, monitoring activities may be modified, at the direction of the Qualified Paleontologist.

West Basin shall ensure that the Qualified Paleontologist and PRMs have the authority to stop or redirect construction if a unique paleontological resource or site or unique geologic feature is encountered.

West Basin shall ensure that the Qualified Paleontologist prepares a summary of monitoring and other paleontological activities that will be reported on monthly. The summary will include the name(s) of the Qualified Paleontologist or PRMs active during the month, general descriptions of training and monitored construction activities, and general locations of excavations, grading, and other activities. A section of the report shall include the geologic units or subunits encountered, descriptions of samplings within each unit, and a list of identified fossils. A final section of the report shall address any issues or concerns about the Project relating to paleontological monitoring, including any incidents of noncompliance or any changes to the monitoring plan.

CUL-11: West Basin shall ensure preparation of a PRR by the Qualified Paleontologist. The PRR shall be prepared following completion of the ground-disturbing activities. The PRR shall include an analysis of the recovered fossil materials, if any, and related information.

The PRR shall include, but is not limited to, a description and inventory of recovered fossil materials; a map showing the location of paleontological resources encountered, if any; determinations of sensitivity and significance; and a statement by the Qualified Paleontologist that project impacts to unique paleontological resources or sites or unique geologic features have been mitigated.

Human Remains

Impact CUL 5.4-4: Would the Project disturb any human remains, including those interred outside of formal cemeteries?

The following analysis evaluates potential impacts associated with constructing and operating each of the three primary elements of the Project, including offshore, coastal, and inland project components for both the Local and Regional Projects. **Table 5.4-5** summarizes the impact significance conclusions.

**TABLE 5.4-5
SUMMARY OF IMPACT CUL 5.4-4 HUMAN REMAINS**

	Ocean Water Desalination Facility	Offshore Intake and Discharge Facilities	Inland Conveyance Facilities
Impact CUL 5.4-4: Impacts on human remains.			
Local Project			
Construction	LTSM	LTSM	LTSM
Operation	NI	NI	NI
Regional Project			
Construction	LTSM	LTS	LTSM
Operation	NI	NI	NI

NOTES:

NI = No Impact, no mitigation proposed
LTS = Less than Significant impact, no mitigation proposed
LTSM = Less than Significant impact with mitigation

Local Project

Construction-Related Impacts

Ocean Water Desalination Facility – ESGS North and South Sites

No human remains are known to exist within the EGSG North and South Site. However, since the nature of the Project would involve ground-disturbing activities, it is possible that such actions could unearth, expose, or disturb previously undiscovered human remains. If human remains are found, those remains would require proper treatment in accordance with applicable laws, including Health and Safety Code (HSC) Sections 7050.5-7055 and PRC Sections 5097.98 and 5097.99. HSC Sections 7050.5-7055 describe the general provisions for treatment of human remains. Specifically, HSC Section 7050.5 prescribes the requirements for the treatment of any human remains that are accidentally discovered during excavation of a site. HSC Section 7050.5 also requires that all activities cease immediately and a qualified archaeologist and Native American monitor be contacted immediately. As required by state law, the procedures set forth in PRC Section 5087.98 would be implemented, including evaluation by the County Coroner and notification of the NAHC. The NAHC would then designate the MLD of the unearthed human remains. If human remains are found during excavation, excavation would be halted in the vicinity of the find and any area that is reasonably suspected to overlay adjacent remains shall

remain undisturbed until the County Coroner has investigated and appropriate recommendations have been made for the treatment and disposition of the remains. Compliance with the established regulatory framework (i.e., HSC Sections 7050.5-7055 and PRC Sections 5097.98 and 5097.99) would ensure potential Local Project ocean water desalination facility impacts concerning human remains are reduced to less than significant. Compliance with Mitigation Measures CUL-1 through CUL-4 would further minimize potential impacts to human remains.

Screened Ocean Intake and Concentrate Discharge

No human remains are known to exist within the Local Project screened ocean intake and concentrate discharge area. However, since the nature of the Project would involve ground-disturbing activities, it is possible that such actions could unearth, expose, or disturb previously undiscovered human remains. Compliance with the established regulatory framework, as described above, would ensure potential Project impacts concerning human remains are reduced to less than significant. Compliance with Mitigation Measures CUL-1 through CUL-4 would further minimize potential impacts to human remains to a less than significant level.

Desalinated Water Conveyance Components

No human remains are known to exist within the Local Project desalinated water conveyance components. However, since the nature of the Project would involve ground-disturbing activities, it is possible that such actions could unearth, expose, or disturb previously undiscovered human remains. Compliance with the established regulatory framework, as described above, would ensure potential Project impacts concerning human remains are reduced to less than significant. Compliance with Mitigation Measures CUL-1 through CUL-4 would further minimize potential impacts to human remains to a less than significant level.

Mitigation Measures:

Implement Mitigation Measures CUL-1 through CUL-4 for construction of all Local Project facilities.

Local Project Significance Determination:

Less than Significant Impact with Mitigation Incorporated.

Operational Impacts

Ocean Water Desalination Facility – ESGS North and South Sites

The Local Project ocean water desalination facility operations would occur primarily within enclosed buildings or below grade and entirely within the ESGS. Given that the desalination facility operations would not involve ground-disturbing activities, there would be no impact to human remains.

Screened Ocean Intake and Concentrate Discharge

The Local Project operation of the offshore screen ocean intake and concentrate discharge component would not include ground-disturbing activities, and therefore would not impact human remains.

Desalinated Water Conveyance Components

The Local Project desalinated water conveyance components would operate within industrial and fully urbanized areas and/or within roadway ROWs, and would not include ground-disturbing activities. Therefore, Local Project desalinated water conveyance components operations would not impact human remains.

Mitigation Measures:

None Required.

Local Project Significance Determination:

No Impact.

Regional Project

Construction-Related Impacts

Ocean Water Desalination Facility – ESGS North and South Sites

No human remains are known to exist within the ESGS North and South Sites. However, since the nature of the Project would involve ground-disturbing activities, it is possible that such actions could unearth, expose, or disturb previously undiscovered human remains. Compliance with the established regulatory framework, as described above, would ensure potential Project impacts concerning human remains are reduced to less than significant. Compliance with Mitigation Measures CUL-1 through CUL-4 would further minimize potential impacts to human remains to a less than significant level.

Screened Ocean Intake and Concentrate Discharge

The offshore construction activities required would be limited to the installation of additional wedgewire screens, and opening up of the pipelines and the diffuser ports that were not used for the Regional Project. No new excavation and seafloor-disturbing work would be conducted. Thus, impacts resulting from offshore construction activities of the Regional Project is less than significant.

Desalinated Water Conveyance Components

No human remains are known to exist within the Regional Project desalinated water conveyance components. However, since the nature of the Project would involve ground-disturbing activities, it is possible that such actions could unearth, expose, or disturb previously undiscovered human remains. Compliance with the established regulatory framework, as described above, would ensure potential Project impacts concerning human remains are reduced to less than significant. Compliance with Mitigation Measures CUL-1 through CUL-4 would further minimize potential impacts to human remains to a less than significant level.

Mitigation Measures:

Implement Mitigation Measures CUL-1 through CUL-4 for construction of the ocean water desalination facility and desalinated water conveyance components.

Regional Project Significance Determination:

Less than Significant Impact with Mitigation Incorporated.

Operational Impacts

Ocean Water Desalination Facility – ESGS North and South Sites

The Regional Project ocean water desalination facility operations would occur primarily within enclosed buildings or below grade and entirely within the ESGS. Given that the desalination facility operations would not involve ground-disturbing activities, there would be no impact to human remains.

Screened Ocean Intake and Concentrate Discharge

The Regional Project operation of the offshore screen ocean intake and concentrate discharge component would not include ground-disturbing activities, and therefore would not impact human remains.

Desalinated Water Conveyance Components

The Regional Project desalinated water conveyance components would operate within industrial and fully urbanized areas and/or within roadway ROWs, and would not include ground-disturbing activities. Therefore, Regional Project desalinated water conveyance components operations would not impact human remains.

Mitigation Measures:

None Required.

Regional Project Significance Determination:

No Impact.

Tribal Cultural Resources

Impact CUL 5.4-5: Would the Project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe?

As a result of West Basin's AB 52 consultation efforts documented in Appendix 7C, one response was received from Robert Dorame of the Gabrielino-Tongva Indians of California Tribal Council. Mr. Dorame stated that the Project site and its vicinity are culturally sensitive and that a Native American monitor should be retained to monitor Project-related ground-disturbing activities. This concern is addressed in section 5.4-1 related to impacts to historical resources and in CUL-3. No tribal cultural resources were identified within or adjacent to the Project site as a result West Basin's AB 52 consultation efforts. Therefore, the Project would not cause a substantial adverse change in the significance of a tribal cultural resource listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources, or a resource determined by a lead to qualify as a tribal cultural resource.

The following analysis evaluates potential impacts associated with constructing and operating each of the three primary elements of the Project, including offshore, coastal, and inland project components for both the Local and Regional Projects. **Table 5.4-6** summarizes the impact significance conclusions.

**TABLE 5.4-6
SUMMARY OF IMPACT CUL 5.4-5 TRIBAL CULTURAL RESOURCES**

	Ocean Water Desalination Facility	Offshore Intake and Discharge Facilities	Inland Conveyance Facilities
Impact CUL 5.4-5: Impacts on tribal cultural resources.			
Local Project			
Construction	NI	NI	NI
Operation	NI	NI	NI
Regional Project			
Construction	NI	NI	NI
Operation	NI	NI	NI

NOTES:

NI = No Impact, no mitigation proposed

Local Project

Construction-Related Impacts

Ocean Water Desalination Facility – ESGs North and South Sites

No tribal cultural resources have been identified on the ESGs property as a result of West Basin’s AB 52 consultation efforts. Therefore, the Local Project ocean water desalination facility construction would not cause a substantial adverse change in the significance of a tribal cultural resource, as defined in PRC Section 21074. No impact would occur. The Gabrielino-Tongva will continue to be notified as part of the Project’s noticing process.

Screened Ocean Intake and Concentrate Discharge

No tribal cultural resources have been identified within the Local Project screened ocean intake and concentration discharge components as a result of West Basin’s AB 52 consultation efforts. Therefore, the Local Project screened ocean intake and concentrate discharge construction would not cause a substantial adverse change in the significance of a tribal cultural resource, as defined in PRC Section 21074. No impact would occur. The Gabrielino-Tongva will continue to be notified as part of the Project’s noticing process.

Desalinated Water Conveyance Components

No tribal cultural resources have been identified within the Local Project desalinated water conveyance components as a result of West Basin’s AB 52 consultation efforts. Therefore, the Local Project desalinated water conveyance components construction would not cause a substantial adverse change in the significance of a tribal cultural resource, as defined in PRC Section 21074. No impact would occur. The Gabrielino-Tongva will continue to be notified as part of the Project’s noticing process.

Mitigation Measures:

None Required.

Local Project Significance Determination:

No Impact.

Operational Impacts

Ocean Water Desalination Facility - ESGS North and South Sites

No tribal cultural resources have been identified on the ESGS property as a result of West Basin's AB 52 consultation efforts. Therefore, the Local Project ocean water desalination facility operations would not cause a substantial adverse change in the significance of a tribal cultural resource, as defined in PRC Section 21074. No impact would occur. The Gabrielino-Tongva will continue to be notified as part of the Project's noticing process.

Screened Ocean Intake and Concentrate Discharge

No tribal cultural resources have been identified within the Local Project screened ocean intake and concentration discharge components as a result of West Basin's AB 52 consultation efforts. Therefore, the Local Project screened ocean intake and concentrate discharge operations would not cause a substantial adverse change in the significance of a tribal cultural resource, as defined in PRC Section 21074. No impact would occur. The Gabrielino-Tongva will continue to be notified as part of the Project's noticing process.

Desalinated Water Conveyance Components

No tribal cultural resources have been identified within the Local Project desalinated water conveyance components as a result of West Basin's AB 52 consultation efforts. Therefore, the Local Project desalinated water conveyance components operations would not cause a substantial adverse change in the significance of a tribal cultural resource, as defined in PRC Section 21074. No impact would occur. The Gabrielino-Tongva will continue to be notified as part of the Project's noticing process.

Mitigation Measures:

None Required.

Local Project Significance Determination:

No Impact.

Regional Project

Construction-Related Impacts

Ocean Water Desalination Facility – ESGS North and South Sites

No tribal cultural resources have been identified on the ESGS property as a result of West Basin's AB 52 consultation efforts. Therefore, the Regional Project ocean water desalination facility construction would not cause a substantial adverse change in the significance of a tribal cultural resource, as defined in PRC Section 21074. No impact would occur. The Gabrielino-Tongva will continue to be notified as part of the Project's noticing process.

Screened Ocean Intake and Concentrate Discharge

No tribal cultural resources have been identified within the Regional Project screened ocean intake and concentration discharge components as a result of West Basin's AB 52 consultation

efforts. Therefore, the Regional Project screened ocean intake and concentrate discharge construction would not cause a substantial adverse change in the significance of a tribal cultural resource, as defined in PRC Section 21074. No impact would occur. The Gabrielino-Tongva will continue to be notified as part of the Project's noticing process.

Desalinated Water Conveyance Components

No tribal cultural resources have been identified within the Regional Project desalinated water conveyance components as a result of West Basin's AB 52 consultation efforts. Therefore, the Regional Project desalinated water conveyance components construction would not cause a substantial adverse change in the significance of a tribal cultural resource, as defined in PRC Section 21074. No impact would occur. The Gabrielino-Tongva will continue to be notified as part of the Project's noticing process.

Mitigation Measures:

None Required.

Regional Project Significance Determination:

No Impact.

Operational Impacts

Ocean Water Desalination Facility – ESGS North and South Sites

No tribal cultural resources have been identified on the ESGS property as a result of West Basin's AB 52 consultation efforts. Therefore, the Regional Project ocean water desalination facility operations would not cause a substantial adverse change in the significance of a tribal cultural resource, as defined in PRC Section 21074. No impact would occur. The Gabrielino-Tongva will continue to be notified as part of the Project's noticing process.

Screened Ocean Intake and Concentrate Discharge

No tribal cultural resources have been identified within the Regional Project screened ocean intake and concentration discharge components as a result of West Basin's AB 52 consultation efforts. Therefore, the Regional Project screened ocean intake and concentrate discharge operations would not cause a substantial adverse change in the significance of a tribal cultural resource, as defined in PRC Section 21074. No impact would occur. The Gabrielino-Tongva will continue to be notified as part of the Project's noticing process.

Desalinated Water Conveyance Components

No tribal cultural resources have been identified within the Regional Project desalinated water conveyance components as a result of West Basin's AB 52 consultation efforts. Therefore, the Regional Project desalinated water conveyance components operations would not cause a substantial adverse change in the significance of a tribal cultural resource, as defined in PRC Section 21074. No impact would occur. The Gabrielino-Tongva will continue to be notified as part of the Project's noticing process.

Mitigation Measures:

None Required.

Regional Project Significance Determination:

No Impact.

5.4.5 Cumulative Impacts

For purposes of cultural resource impact analysis, cumulative impacts are considered for cumulative development according to the related projects; see Table 4-1, *Cumulative Projects List*.

As discussed above, the potential exists for undiscovered cultural resources to be adversely impacted during Project construction. With implementation of the specified mitigation measures, Project construction would not cause a substantial adverse change in the significance of such resources; a less than significant impact would occur and this impact would not be cumulatively considerable.

Future cumulative development projects could encounter cultural resources. Thus, the potential exists for cumulative development to result in the adverse modification or destruction of cultural resources, including historical resources, unique archaeological resources, unique paleontological resources or sites or unique geologic features, human remains, and/or tribal cultural resources. Potential cultural resources impacts associated with the individual developments would be specific to each site. As with the Project, most cumulative development in the Project site would undergo environmental and design review on a project-by-project basis in accordance with CEQA requirements, to evaluate and mitigate (as feasible) potential impacts to cultural resources. All new development would be subject to compliance with the existing federal, state, and local regulatory framework concerning the protection of cultural resources on a project-by-project basis. Additionally, implementation of site-specific mitigation measures would reduce potential project impacts to as-yet unidentified cultural resources qualifying as either historical resources or unique archaeological resources, unique paleontological resources or sites or unique geologic features, and/or human remains. Implementation of the regulatory requirements and site-specific mitigation measures would likely reduce potential impacts on cultural resources to less than significant levels.

In addition, all future development with the potential to impact cultural resources would also be required to demonstrate compliance with General Plan goals and policies of the affected jurisdiction, intended to reduce and/or avoid potential adverse environmental effects. As such, cumulative impacts to cultural resources would be mitigated on a project-by-project level, and in accordance with the established regulatory framework, through the established regulatory review process.

Therefore, the combined cumulative impacts to cultural resources associated with the Project's incremental effects and those of the cumulative projects would be less than significant with mitigation incorporated.

5.4.6 Significant Unavoidable Impacts

No significant unavoidable impacts related to cultural resources have been identified following implementation of Mitigation Measures CUL-1 through CUL-11.

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