

# **APPENDIX D1**

## *Archaeological Constraints Study*



**ARCHAEOLOGICAL CONSTRAINTS STUDY**  
**for the**  
**PURE WATER PROGRAM,**  
**SAN DIEGO COUNTY, CALIFORNIA**  
*City Project No. 438188*

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**USGS Quadrangle:** Multiple (see figures)

**Area:** 162.5 Square Miles **Key Words:** Constraints Study, City of San Diego



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## APPENDIX (CONFIDENTIAL) – BOUND SEPERATELY

A SCIC Records Search Results

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## **MANAGEMENT SUMMARY**

This report presents the results of Dudek's archaeological constraints study for the Pure Water Program, located in the City of San Diego, San Diego County, California. The current study area, measuring 162.55 square miles in size, includes the conceptual path of the proposed pipeline alignments and a surrounding one mile buffer. In general, the study area includes a major portion of southwestern San Diego County, extending from the Otay Reservoir to Chula Vista in the south and San Vicente Reservoir to Point Loma in the north.

South Coastal Information Center (SCIC) staff conducted a records search for the study area on April 16, 2015. In total, 1,236 archaeological resources have been previously recorded within this study area. SCIC records indicate that approximately 19% (30.92 square miles) of the study area has been included as part of one or more previous historical resources technical studies. The remaining 81% (131.63 square miles) appear to have not been subject to previous investigation.

As part of this pre-Phase I archaeological constraints analyses, Dudek compiled a database of all archaeological resources on file at the SCIC within the study area. Archaeological site attributes and significance recommendations were thematically summarized from site record forms and used to inform early-stage regional resource sensitivity recommendations. A map was then generated using generalized grid units (1000 x 1000 meters in size) to provide a visual model of relative archaeological resource sensitivity while maintaining the appropriate level of confidentiality for public dissemination.

The City has developed a mitigation framework for the Pure Water Program as a step-by-step approach for management of archaeological resources under City Guidelines. Prior to issuance of any permit for a future development project implemented in accordance with the Program area that could directly affect an archaeological resource, the City shall require the following steps be taken to determine: (1) the presence of archaeological resources and (2) the appropriate mitigation for any significant resources which may be impacted by a development activity. All work shall be conducted in compliance with this mitigation.

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## 1 INTRODUCTION

### 1.1 Program Location and Description

The Pure Water Program (Program) includes a variety of facilities located throughout the central and southern coastal areas of San Diego County (Figure 1). The Program location can be generally described in three major geographic components: North City, South Bay, and the Central Area. The current constraints study area, covering 162.55 square miles, intersects the following California U.S. Geological Survey Quadrangles: Del Mar, El Cajon, Imperial Beach, Jamul Mountains, La Jolla, La Mesa, National City, Otay Mesa, Point Loma, and San Vicente Reservoir. New advanced water purification facilities (AWPFs) and the majority of pump stations would be located within the corporate boundaries of the City of San Diego (City). Pipelines would traverse a number of local jurisdictions, including the Cities of San Diego, La Mesa, El Cajon, Santee, Chula Vista, National City and the community of Lakeside in unincorporated San Diego County, in addition to federal lands within MCAS Miramar, Naval Base Point Loma and the U.S. Marine Corp Recruit Depot. The Program also includes reservoir augmentation at two City-owned and operated reservoirs outside of the City limits: San Vicente Reservoir and Otay Reservoir.

The Pure Water Program consists of the design and construction of new AWPFs and a new water reclamation plant (WRP); upgrades to existing wastewater treatment facilities; and design and construction of new pump stations and pipelines. The Program would construct AWPFs at the existing North City and South Bay WRPs; and a third AWPF and new WRP would be constructed. Upgrades would occur at the existing NCWRP and SBWRP in order to provide sufficient tertiary influent for the AWPFs. Pump station and pipeline facilities would convey different types of flows to and from the treatment facilities for: 1) diverting wastewater flows to water reclamation facilities; 2) conveying recycled water to advanced water purification facilities; 3) conveying purified water from AWPFs to either the San Vicente or Lower Otay Reservoirs; and 4) transporting waste flows (brine and sludge) from treatment processes to solids handling facilities or back into the Metro System. Upgrades would also occur at MBC and Point Loma Wastewater Treatment Plant (PLWTP) to handle the additional brine and sludge produced by the WRP expansions and advanced water purification process (see Figure 2 for a conceptual map of facilities proposed by the Pure Water Program).

The Program would create 83 MGD of locally controlled potable water and would reduce flows to the PLWTP, which in turn would reduce total suspended solids discharged to the ocean. The Program would construct facilities that have the ability to produce 15 MGD by 2023, 30 MGD by 2027, and 83 MGD by 2035. The NCAWPF could produce a total of 30 MGD of purified

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water. The South Bay AWP could produce up to 15 MGD of purified water. A third, Central Area AWP could produce up to 53 MGD of purified water.

## 1.2 Regulatory Context

The following section provides a summary of the applicable regulations, policies, and guidelines relating to the proper management of historical resources.

### 1.2.1 State Level Regulations

CEQA requires that all private and public activities not specifically exempted be evaluated for the potential to impact the environment, including effects to historical resources. Historical resources are recognized as part of the environment under CEQA. It defines historical resources as “any object, building, structure, site, area, or place, which is historically significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California” (Division I, Public Resources Code, Section 5021.1(b)).

Lead agencies have a responsibility to evaluate historical resources against the California Register criteria prior to making a finding as to a proposed project’s impacts to historical resources. Mitigation of adverse impacts is required if the proposed project will cause substantial adverse change. Substantial adverse change includes demolition, destruction, relocation, or alteration such that the significance of an historical resource would be impaired. The CEQA Guidelines provide that a project that demolishes or alters those physical characteristics of an historical resource that convey its historical significance (i.e., its character-defining features) can be considered to materially impair the resource’s significance.

The California Register is used in the consideration of historic resources relative to significance for purposes of CEQA. The California Register includes resources listed in, or formally determined eligible for some California State Landmarks and Points of Historical Interest. Properties of local significance that have been designated under a local preservation ordinance (local landmarks or landmark districts), or that have been identified in a local historical resources inventory may be eligible for listing in the California Register and are presumed to be significant resources for purposes of CEQA unless a preponderance of evidence indicates otherwise.

Generally, a resource shall be considered by the lead agency to be “historically significant” if the resource meets the criteria for listing on the California Register of Historical Resources (Pub. Res. Code SS5024.1, Title 14 CCR, Section 4852) consisting of the following:

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

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2. It is associated with the lives of persons important to local, California, or national history; or
3. It embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of a master, or possesses high artistic values; or
4. 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 the event that Native American human remains or related cultural material are encountered, Section 15064.5(e) of the state CEQA Guidelines (as incorporated from Public Resources Code section 5097.98 ) and Health and Safety Code Section 7050.5 define the subsequent protocol. In the event of the accidental discovery or recognition of any human remains, excavation or other disturbances shall be suspended of the site or any nearby area reasonably suspected to overlie adjacent human remains or related material. Protocol requires that a county-approved coroner be contacted in order to determine if the remains are of Native American origin. Should the coroner determine the remains to be Native American, the coroner must contact the Native American Heritage Commission (NAHC) within 24 hours. The most likely descendent may make recommendations to the landowner or the person responsible for the excavation work, for means of treating, with appropriate dignity, the human remains and any associated grave goods as provided in Public Resources Code section 5097.98 (California Code of Regulations, Title 14; Chapter 3; Article 5; Section 15064.5(e)).

### ***1.2.1.1 City of San Diego Historical Resources Guidelines***

The City of San Diego Historical Resources Guidelines (City of San Diego 2001) outlines its purpose as follows:

To provide property owners, the development community, consultants and the general public with explicit guidelines for the management of historical resources located within the jurisdiction of the City of San Diego. These guidelines are designed to implement the City's Historical Resources Regulations contained in the Land Development Code (Chapter 14, Division 3, Article 2) in compliance with the applicable local, state, and federal policies and mandates.

The City of San Diego Historical Resources Guidelines (City of San Diego 2001) observe that "historical resource" means:

Site improvements, buildings, structures, historic districts, signs, features (including trees or other landscaping), places, place names, interior elements and fixtures designated in conjunction with a property, or other objects of historical,

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archaeological, scientific, educational, cultural, architectural, aesthetic, or traditional significance to citizens of the city. They include buildings, structures, objects, archaeological sites, districts, or landscapes possessing physical evidence of human activities that are typically over 45 years old, regardless of whether they have been altered or continue to be used.

The Purpose and intent of the Historical Resources Regulation of the Land Development Code (Chapter 14, Division 3, Article 2) is outlined (City of San Diego 2001) as follows:

To protect, preserve and, where, damaged, restore the historical resources of San Diego. The regulations apply to all development within the City of San Diego when historical resources are present on the premises regardless of the requirement to obtain Neighborhood Development Permit or Site Development Permit.

The City of San Diego General Plan Program Environmental Impact Report (PEIR) states the following:

The Historical Resources Regulations require that designated historical resources and traditional cultural properties be preserved unless deviation findings can be made by the decision maker as part of a discretionary permit. Minor alterations consistent with the U.S. Secretary of the Interior's Standards are exempt from the requirement to obtain a separate permit but must comply with the regulations and associated historical resources guidelines. Limited development may encroach into important archaeological sites if adequate mitigation measures are provided as a condition of approval.

Historical Resources Guidelines, located in the Land Development Manual, provide property owners, the development community, consultants and the general public explicit guidance for the management of historical resources located within the City's jurisdiction. These guidelines are designed to implement the historical resources regulations and guide the development review process from the need for a survey and how impacts are assessed to available mitigation strategies and report requirements and include appropriate methodologies for treating historical resources located in the City.

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In order to assess the significance of the Program's effects on Historical Resources, the City of San Diego's Scoping Letter for the Program (City of San Diego 2014), as well as the City's *Significance Determination Thresholds* (City of San Diego 2011a), identifies the following thresholds:

- Result in the alteration or destruction of a prehistoric or historic archaeological site, or adverse physical or aesthetic effects to a prehistoric building, structure, object, or site.
- Result in any impact to existing religious or sacred uses or result in the disturbance of any human remains within the potential impact area

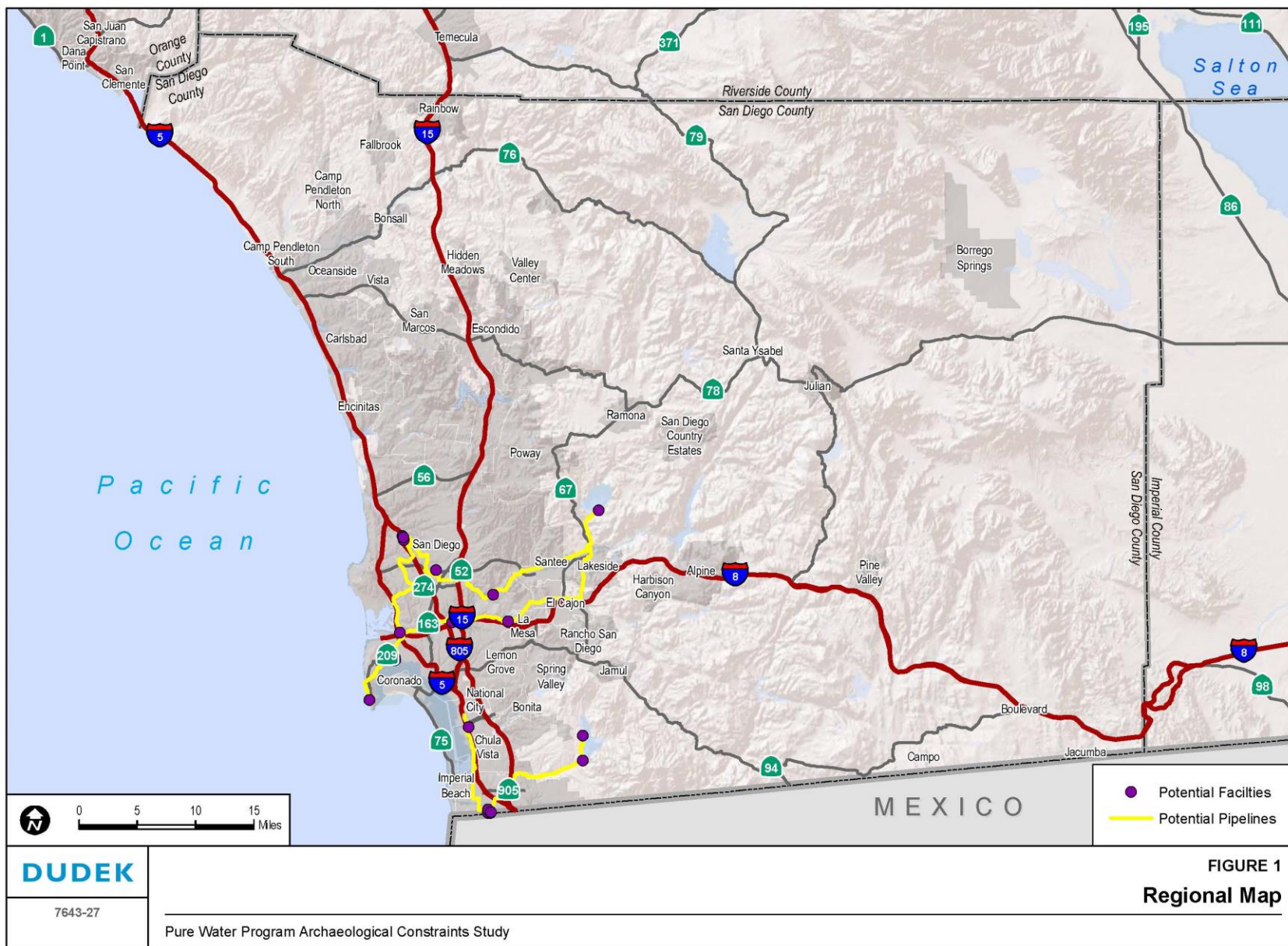
In general, the City's historical resources regulations build on federal and state historical resources laws and guidelines in an attempt to streamline the process of considering impacts to historical resources within the City's jurisdiction, while maintaining that some resources not significant under federal or state law may be considered historical under the City's guidelines. In order to apply the criteria and determine the significance of potential project impacts to a historical resource, the Area of Potential Effects (APE) of the project must be defined for both direct impacts and indirect impacts. Indirect impacts can include increased public access to an archaeological site, or visual impairment of a historically significant viewshed related to a historic building or structure.

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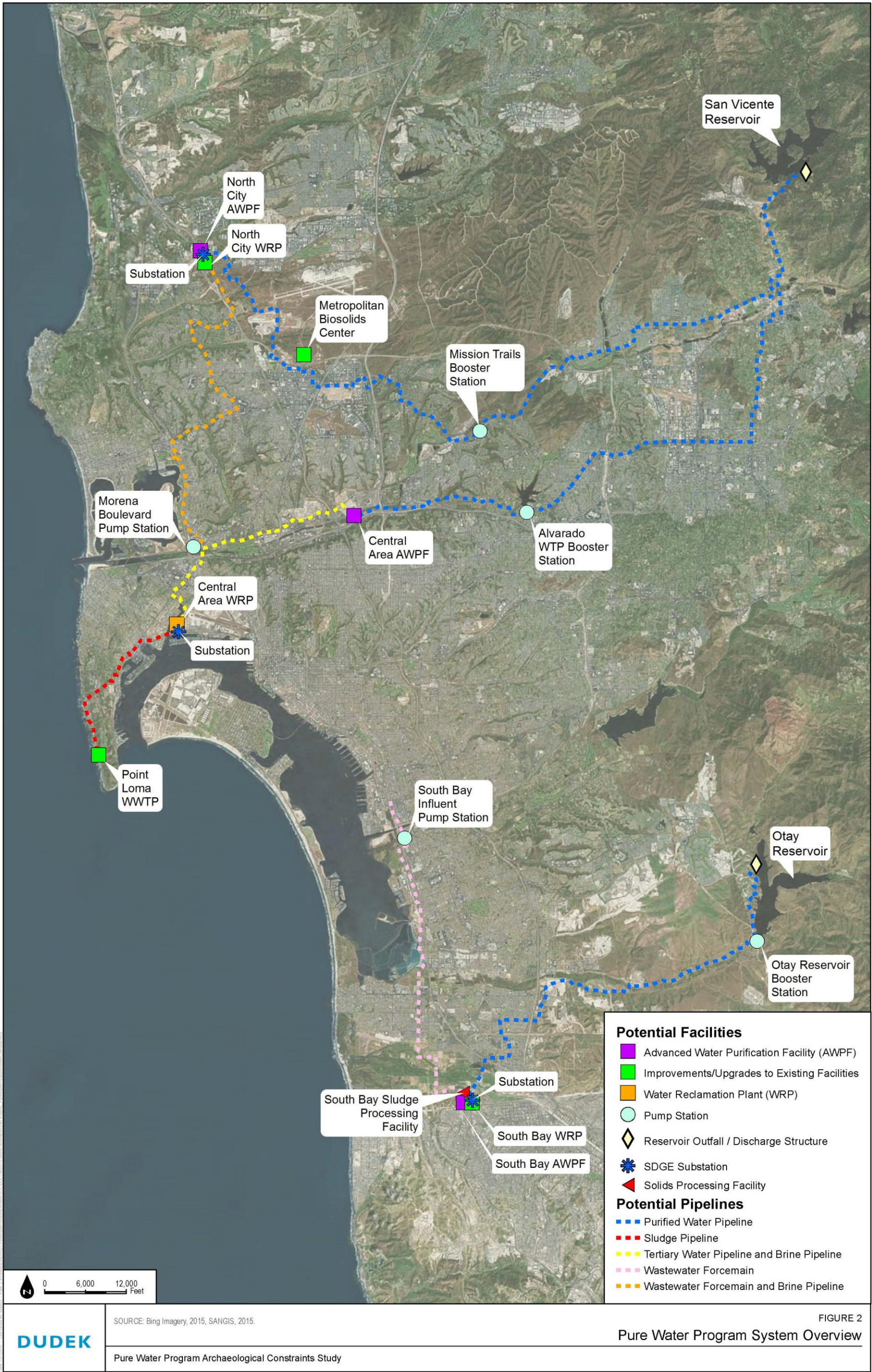
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## **2 PROJECT CONTEXT**

### **2.1 Environmental Context**

The Program will intersect a number of coastal and inland vegetation communities throughout the southwestern portion of San Diego County. For detailed discussion relating to the environmental context of this area, please consult the biological, geological, and other technical studies prepared for the Program.

### **2.2 Cultural Context**

Evidence for continuous human occupation in the San Diego region spans the last 10,000 years. Various attempts to parse out variability in archaeological assemblages over this broad time frame have led to the development of several cultural chronologies; some of these are based on geologic time, most are based on temporal trends in archaeological assemblages, and others are interpretive reconstructions. Each of these reconstructions describes essentially similar trends in assemblage composition in more or less detail. This research employs a common set of generalized terms used to describe chronological trends in assemblage composition: Paleoindian (pre-5500 BC), Archaic (8000 BC.–AD 500), Late Prehistoric (AD 500–1750), and Ethnohistoric (post-AD 1750).

#### **2.2.1 Paleoindian (pre-5500 BC)**

Evidence for Paleoindian occupation in coastal Southern California is tenuous, especially considering the fact that the oldest dated archaeological assemblages look nothing like the Paleoindian artifacts from the Great Basin. One of the earliest dated archaeological assemblages in coastal Southern California (excluding the Channel Islands) derives from SDI-4669/W-12, in La Jolla. A human burial from SDI-4669 was radiocarbon dated to 9,590–9,920 years before present (95.4% probability) (Hector 2007). The burial is part of a larger site complex that contained more than 29 human burials associated with an assemblage that fits the Archaic profile (i.e., large amounts of groundstone, battered cobbles, and expedient flake tools). In contrast, typical Paleoindian assemblages include large stemmed projectile points, high proportions of formal lithic tools, bifacial lithic reduction strategies, and relatively small proportions of groundstone tools. Prime examples of this pattern are sites that were studied by Emma Lou Davis (1978) on China Lake Naval Air Weapons Station near Ridgecrest, California. These sites contained fluted and unfluted stemmed points and large numbers of formal flake tools (e.g., shaped scrapers, blades). Other typical Paleoindian sites include the Komodo site (MNO-679)—a multicomponent fluted point site, and MNO-680—a single

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component Great Basined Stemmed point site (Basgall et al. 2002). At MNO-679 and MNO-680, groundstone tools were rare while finely made projectile points were common.

Turning back to coastal Southern California, the fact that some of the earliest dated assemblages are dominated by processing tools runs counter to traditional notions of mobile hunter-gatherers traversing the landscape for highly valued prey. Evidence for the latter—that is, typical Paleoindian assemblages—may have been located along the coastal margin at one time, prior to glacial desiccation and a rapid rise in sea level during the early Holocene (pre-7500 BP) that submerged as much as 1.8 kilometer of the San Diego coastline. If this were true, however, it would also be expected that such sites would be located on older landforms near the current coastline. Some sites, such as SDI-210 along Agua Hedionda Lagoon, contained stemmed points similar in form to Silver Lake and Lake Mojave projectile points (pre-8000 BP) that are commonly found at sites in California's high desert (Basgall and Hall 1990). SDI-210 yielded one corrected radiocarbon date of 8520–9520 BP (Warren et al. 2004). However, sites of this nature are extremely rare and cannot be separated from large numbers of milling tools that intermingle with old projectile point forms.

Warren et al. (2004) claimed that a biface manufacturing tradition present at the Harris site complex (SDI-149) is representative of typical Paleoindian occupation in the San Diego region that possibly dates between 10,365 and 8200 BC (Warren et al. 2004, p. 26). Termed San Dieguito (Rogers 1945), assemblages at the Harris site are qualitatively distinct from most others in the San Diego region because the site has large numbers of finely made bifaces (including projectile points), formal flake tools, a biface reduction trajectory, and relatively small amounts of processing tools (Warren 1964, 1968). Despite the unique assemblage composition, the definition of San Dieguito as a separate cultural tradition is hotly debated. Gallegos (1987) suggested that the San Dieguito pattern is simply an inland manifestation of a broader economic pattern. Gallegos' interpretation of San Dieguito has been widely accepted in recent years, in part because of the difficulty in distinguishing San Dieguito components from other assemblage constituents. In other words, it is easier to ignore San Dieguito as a distinct socioeconomic pattern than it is to draw it out of mixed assemblages.

The large number of finished bifaces (i.e., projectile points and non-projectile blades), along with large numbers of formal flake tools at the Harris site complex, is very different than nearly all other assemblages throughout the San Diego region, regardless of age. Warren et al. (2004) made this point, tabulating basic assemblage constituents for key early Holocene sites. Producing finely made bifaces and formal flake tools implies that relatively large amounts of time were spent for tool manufacture. Such a strategy contrasts with the expedient flake-based tools and cobble-core reduction strategy that typifies non-San Dieguito Archaic sites. It can be inferred

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from the uniquely high degree of San Dieguito assemblage formality that the Harris site complex represents a distinct economic strategy from non-San Dieguito assemblages.

If San Dieguito truly represents a distinct socioeconomic strategy from the non-San Dieguito Archaic processing regime, its rarity implies that it was not only short-lived, but that it was not as economically successful as the Archaic strategy. Such a conclusion would fit with other trends in southern California deserts, wherein hunting-related tools are replaced by processing tools during the early Holocene (Basgall and Hall 1993).

### **2.2.2 Archaic (8000 BC–AD 500)**

The more than 1500-year overlap between the presumed age of Paleoindian occupations and the Archaic period highlights the difficulty in defining a cultural chronology in the San Diego region. If San Dieguito is the only recognized Paleoindian component in the San Diego region, then the dominance of hunting tools implies that it derives from Great Basin adaptive strategies and is not necessarily a local adaptation. Warren et al. (2004) admitted as much, citing strong desert connections with San Dieguito. Thus, the Archaic pattern is the earliest local socioeconomic adaptation in the San Diego region (Hale 2001, 2009).

The Archaic pattern is relatively easy to define with assemblages that consist primarily of processing tools: millingstones, handstones, battered cobbles, heavy crude scrapers, incipient flake-based tools, and cobble-core reduction. These assemblages occur in all environments across the San Diego region, with little variability in tool composition. Low assemblage variability over time and space among Archaic sites has been equated with cultural conservatism (Byrd and Reddy 2002; Warren 1968; Warren et al. 2004). Despite enormous amounts of archaeological work at Archaic sites, little change in assemblage composition occurs until the bow and arrow is adopted at around AD 500, as well as ceramics at approximately the same time (Griset 1996; Hale 2009). Even then, assemblage formality remains low. After the bow is adopted, small arrow points appear in large quantities and already low amounts of formal flake tools are replaced by increasing amounts of expedient flake tools. Similarly, shaped millingstones and handstones decrease in proportion relative to expedient, unshaped groundstone tools (Hale 2009). Thus, the terminus of the Archaic period is equally as hard to define as its beginning because basic assemblage constituents and patterns of manufacturing investment remain stable, complimented only by the addition of the bow and ceramics.

### **2.2.3 Late Prehistoric (AD 500–1750)**

The period of time following the Archaic and prior to Ethnohistoric times (AD 1750) is commonly referred to as the Late Prehistoric (M. Rogers 1945; Wallace 1955; Warren et al.

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2004). However, several other subdivisions continue to be used to describe various shifts in assemblage composition, including the addition of ceramics and cremation practices. In northern San Diego County, the post-AD 1450 period is called the San Luis Rey Complex (Meighan and True 1977), while the same period in southern San Diego County is called the Cuyamaca Complex and is thought to extend from AD 500 until Ethnohistoric times (Meighan 1959). Rogers (1929) also subdivided the last 1,000 years into the Yuman II and III cultures, based on the distribution of ceramics. Despite these regional complexes, each is defined by the addition of arrow points and ceramics, and the widespread use of bedrock mortars. Vagaries in the appearance of the bow and arrow and ceramics make the temporal resolution of the San Luis Rey and Cuyamaca complexes difficult. For this reason, the term Late Prehistoric is well-suited to describe the last 1,500 years of prehistory in the San Diego region.

Temporal trends in socioeconomic adaptations during the Late Prehistoric period are poorly understood. This is partly due to the fact that the fundamental Late Prehistoric assemblage is very similar to the Archaic pattern, but includes arrow points and large quantities of fine debitage from producing arrow points, ceramics, and cremations. The appearance of mortars and pestles is difficult to place in time because most mortars are on bedrock surfaces; bowl mortars are actually rare in the San Diego region. Some argue that the Ethnohistoric intensive acorn economy extends as far back as AD 500 (Bean and Shipek 1978). However, there is no substantial evidence that reliance on acorns, and the accompanying use of mortars and pestles, occurred prior to AD 1400. True (1980) argued that acorn processing and ceramic use in the northern San Diego region did not occur until the San Luis Rey pattern emerged after approximately AD 1450. For southern San Diego County, the picture is less clear. The Cuyamaca Complex is the southern counterpart to the San Luis Rey pattern, however, and is most recognizable after AD 1450 (Hector 1984). Similar to True (1980), Hale (2009) argued that an acorn economy did not appear in the southern San Diego region until just prior to Ethnohistoric times, and that when it did occur, a major shift in social organization followed.

### **2.2.4 Ethnohistoric (post-AD 1750)**

The history of the Native American communities prior to the mid-1700s has largely been reconstructed through later mission-period and early ethnographic accounts. The first records of the Native American inhabitants of the San Diego region come predominantly from European merchants, missionaries, military personnel, and explorers. These brief, and generally peripheral, accounts were prepared with the intent of furthering respective colonial and economic aims and were combined with observations of the landscape. They were not intended to be unbiased accounts regarding the cultural structures and community practices of the newly encountered cultural groups. The establishment of the missions in the San Diego region brought more extensive documentation of Native American communities, though these groups did not become

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the focus of formal and in-depth ethnographic study until the early twentieth century (Boscana 1846; Fages 1937; Geiger and Meighan 1976; Harrington 1934; Laylander 2000). The principal intent of these researchers was to record the precontact, culturally specific practices, ideologies, and languages that had survived the destabilizing effects of missionization and colonialism. This research, often understood as “salvage ethnography,” was driven by the understanding that traditional knowledge was being lost due to the impacts of modernization and cultural assimilation. Alfred Kroeber applied his “memory culture” approach (Lightfoot 2005, p. 32) by recording languages and oral histories within the San Diego region. Kroeber’s 1925 assessment of the impacts of Spanish missionization on local Native American populations supported Kumeyaay traditional cultural continuity (Kroeber 1925, p. 711):

San Diego was the first mission founded in upper California; but the geographical limits of its influence were the narrowest of any, and its effects on the natives comparatively light. There seem to be two reasons for this: first, the stubbornly resisting temper of the natives; and second, a failure of the rigorous concentration policy enforced elsewhere.

In some ways this interpretation led to the belief that many California Native American groups simply escaped the harmful effects of contact and colonization all together. This, of course, is untrue. Ethnographic research by Dubois, Kroeber, Harrington, Spier, and others during the early twentieth century seemed to indicate that traditional cultural practices and beliefs survived among local Native American communities. These accounts supported, and were supported by, previous governmental decisions which made San Diego County the location of more federally recognized tribes than anywhere else in the United States: 18 tribes on 18 reservations that cover more than 116,000 acres (CSP 2009).

The traditional cultural boundaries between the Luiseño and Kumeyaay Native American tribal groups have been well defined by anthropologist Florence C. Shippek:

In 1769, the Kumeyaay national territory started at the coast about 100 miles south of the Mexican border (below Santo Tomas), thence north to the coast at the drainage divide south of the San Luis Rey River including its tributaries. Using the U.S. Geological Survey topographic maps, the boundary with the Luiseño then follows that divide inland. The boundary continues on the divide separating Valley Center from Escondido and then up along Bear Ridge to the 2240 contour line and then north across the divide between Valley Center and Woods Valley up to the 1880-foot peak, then curving around east along the divide above Woods Valley. [1993 summarized by the San Diego County Board of Supervisors 2007:6]

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Based on ethnographic information, it is believed that at least 88 different languages were spoken from Baja California Sur to the southern Oregon state border at the time of Spanish contact (Johnson and Lorenz 2006, p. 34). The distribution of recorded Native American languages has been dispersed as a geographic mosaic across California through six primary language families (Golla 2007, p. 71). Based on the project location, the Native American inhabitants of the region would have likely spoken both the Ipai or Tipai language subgroup of the Yuman language group. Ipai and Tipai, spoken respectively by the northern and southern Kumeyaay communities, are mutually intelligible. For this reason, these two are often treated as dialects of a larger Kumeyaay tribal group rather than as distinctive languages, though this has been debated (Luomala 1978; Laylander 2010).

Victor Golla has contended that one can interpret the amount of variability within specific language groups as being associated with the relative “time depth” of the speaking populations (Golla 2007, p. 80). A large amount of variation within the language of a group represents a greater time depth than a group’s language with less internal diversity. One method that he has employed is by drawing comparisons with historically documented changes in Germanic and Romantic language groups. Golla has observed that the “absolute chronology of the internal diversification within a language family” can be correlated with archaeological dates (2007, p. 71). This type of interpretation is modeled on concepts of genetic drift and gene flows that are associated with migration and population isolation in the biological sciences.

Golla suggested that there are two language families associated with Native American groups who traditionally lived throughout the San Diego County region. The northern San Diego tribes have traditionally spoken Takic languages that may be assigned to the larger Uto–Aztecan family (Golla 2007, p. 74). These groups include the Luiseño, Cupeño, and Cahuilla. Golla has interpreted the amount of internal diversity within these language-speaking communities to reflect a time depth of approximately 2,000 years. Other researchers have contended that Takic may have diverged from Uto–Aztecan ca. 2600 BC–AD 1, which was later followed by the diversification within the Takic speaking San Diego tribes, occurring approximately 1500 BC–AD 1000 (Laylander 2010). The majority of Native American tribal groups in southern San Diego region have traditionally spoken Yuman languages, a subgroup of the Hokan Phylum. Golla has suggested that the time depth of Hokan is approximately 8,000 years (Golla 2007, p. 74). The Kumeyaay tribal communities share a common language group with the Cocopa, Quechan, Maricopa, Mojave, and others to east, and the Kiliwa to the south. The time depth for both the Ipai (north of the San Diego River, from Escondido to Lake Henshaw) and the Tipai (south of the San Diego River, the Laguna Mountains through Ensenada) is approximated to be 2,000 years at the most. Laylander has contended that previous research indicates a divergence between Ipai and Tipai to have occurred approximately AD 600–1200 (Laylander 1985). Despite



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the distinct linguistic differences between the Takic-speaking tribes to the north, the Ipai-speaking communities in central San Diego, and the Tipai southern Kumeyaay, attempts to illustrate the distinctions between these groups based solely on cultural material alone have had only limited success (Pignuolo 2004; True 1966).

The Kumeyaay generally lived in smaller family subgroups that would inhabit two or more locations over the course of the year. While less common, there is sufficient evidence that there were also permanently occupied villages, and that some members may have remained at these locations throughout the year (Owen 1965; Shipek 1982; Shipek 1985; Spier 1923). Each autonomous triblet was internally socially stratified, commonly including higher status individuals such as a tribal head (Kwaaypay), shaman (Kuseyaay), and general members with various responsibilities and skills (Shipek 1982). Higher-status individuals tended to have greater rights to land resources, and owned more goods, such as shell money and beads, decorative items, and clothing. To some degree, titles were passed along family lines; however, tangible goods were generally ceremonially burned or destroyed following the deaths of their owners (Luomala 1978). Remains were cremated over a pyre and then relocated to a cremation ceramic vessel that was placed in a removed or hidden location. A broken metate was commonly placed at the location of the cremated remains, with the intent of providing aid and further use after death. At maturity, tribal members often left to other bands in order to find a partner. The families formed networks of communication and exchange around such partnerships.

Areas or regions, identified by known physical landmarks, could be recognized as band-specific territories that might be violently defended against use by other members of the Kumeyaay. Other areas or resources, such as water sources and other locations that were rich in natural resources, were generally understood as communal land to be shared amongst all the Kumeyaay (Luomala 1978). The coastal Kumeyaay exchanged a number of local goods, such as seafood, coastal plants, and various types of shell for items including acorns, agave, mesquite beans, gourds, and other more interior plants of use (Luomala 1978). Shellfish would have been procured from three primary environments, including the sandy open coast, bay and lagoon, and rocky open coast. The availability of these marine resources changed with the rising sea levels, siltation of lagoon and bay environments, changing climatic conditions, and intensity of use by humans and animals (Gallegos and Kyle 1988; Pignuolo 2005; Warren 1964). Shellfish from sandy environments included *Donax*, *Saxidomas*, *Tivela*, and others. Rocky coast shellfish dietary contributions consisted of *Pseudochama*, *Megastraea*, *Saxidomus*, *Protothaca*, *Megathura*, *Mytilus* and others. Lastly, the bay environment would have provided *Argopecten*, *Chione*, *Ostrea*, *Neverita*, *Macoma*, *Tagelus*, and others. While marine resources were obviously consumed, terrestrial animals and other resources likely provided a large portion of sustenance. Game animals consisted of rabbits, hares (*Leporidae*), birds, ground squirrels, woodrats

## Archaeological Constraints Study for the Pure Water Program

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(*Neotoma*), deer, bears, mountain lions (*Puma concolor*), bobcats (*Lynx rufus*), coyotes (*Canus latrans*), and others. In lesser numbers, reptiles and amphibians may have been consumed.

A number of local plants were used for food and medicine. These were exploited seasonally, and were both traded between regional groups and gathered as a single triblet moved between habitation areas. Some of the more common of these that might have been procured locally or as higher elevation varieties would have included buckwheat (*Eriogonum fasciculatum*), Agave, Yucca, lemonade berry (*Rhus integrifolia*), sugar brush (*Rhus ovata*), sage scrub (*Artemisia californica*), yerba santa (*Eriodictyon*), sage (*Salvia*), Ephedra, prickly pear (*Opuntia*), mulefat (*Baccharis salicifolia*), chamise (*Adenostoma fasciculatum*), elderberry (*Sambucus nigra*), oak (*Quercus*), willow (*Salix*), and Juncus grass among many others (Wilken 2012).

### 2.2.5 The Historic Period (post-AD 1542)

European activity in the region began as early as AD 1542, when Juan Rodríguez Cabrillo landed in San Diego Bay. Sebastián Vizcaíno returned in 1602, and it is possible that there were subsequent contacts that went unrecorded. These brief encounters made the local native people aware of the existence of other cultures that were technologically more complex than their own. Epidemic diseases may also have been introduced into the region at an early date, either by direct contacts with the infrequent European visitors or through waves of diffusion emanating from native peoples farther to the east or south (Preston 2002). It is possible, but as yet unproven, that the precipitous demographic decline of native peoples had already begun prior to the arrival of Gaspar de Portolá and Junípero Serra in 1769.

Spanish colonial settlement was initiated in 1769, when multiple expeditions arrived in San Diego by land and sea, and then continued northward through the coastal plain toward Monterey. A military presidio and a mission were soon firmly established at San Diego, despite violent resistance to them from a coalition of native communities in 1776. Private ranchos subsequently established by Spanish and Mexican soldiers, as well as other non-natives, appropriated much of the remaining coastal or near-coastal locations (Pourade 1960–1967).

Mexico's separation from the Spanish empire in 1821 and the secularization of the California missions in the 1830s caused further disruptions to native populations in western San Diego County. Some former mission neophytes were absorbed into the work forces on the ranchos, while others drifted toward the urban centers at San Diego and Los Angeles or moved to the eastern portions of the county where they were able to join still largely autonomous native communities. United States conquest and annexation, together with the gold rush in Northern California, brought many additional outsiders into the region. Development during the following decades was fitful, undergoing cycles of boom and bust that followed military funding, economic patterns, and a number of other regional and local trends.

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## 2.3 Previous Archaeological Resource Investigations

South Coastal Information Center (SCIC) staff conducted a records search for the study area on April 16, 2015. In total, 1,236 archaeological resources (including isolated finds, archaeological sites, and historical-era resources) have been previously recorded within this study area.

### 2.3.1 Archaeological Resources

A records search conducted at the SCIC by Dudek staff indicates that 1,028 archaeological sites and 208 isolated finds have been previously identified within the Program study area (Table 1). Isolated finds are primarily of prehistoric age (n=198), with the remaining 10 isolates relating to the historical-era. A total of 318 historical-era sites, three (3) Ethnohistoric Kumeyaay village sites, 57 multicomponent sites with both historical-era and prehistoric material, and 846 prehistoric sites have been previously recorded. It is estimated that at least two-thirds of the historical-era sites reflected in Table 1 below are buildings and districts. Two (2) resources are of unknown age and type due to lack of detail provided in their archaeological site records. At least 200 of these resources intersect, or fall within 200 feet, of the City preferred alignments.

**Table 1**  
**Site Type, Frequency, and Inferred Sensitivity within the 1-Mile Study Area**

Resource Age and Sensitivity	Isolate	Site	Grand Total
<i>Historical-era</i>	10	318	328
High Sensitivity	1	191	192
Moderate Sensitivity		66	66
Low Sensitivity		40	40
Very Low Sensitivity	9	21	30
<i>Ethnohistoric</i>		3	3
High Sensitivity		3	3
<i>Multicomponent</i>		57	57
High Sensitivity		34	34
Moderate Sensitivity		8	8
Low Sensitivity		6	6
Very Low Sensitivity		9	9
<i>Prehistoric</i>	198	648	846
High Sensitivity	3	193	196
Moderate Sensitivity		265	265
Low Sensitivity	1	151	152
Very Low Sensitivity	194	39	233

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**Table 1**  
**Site Type, Frequency, and Inferred Sensitivity within the 1-Mile Study Area**

Resource Age and Sensitivity	Isolate	Site	Grand Total
<i>Age Unknown</i>		2	2
Unknown Sensitivity		2	2
<b>Grand Total</b>	<b>208</b>	<b>1028</b>	<b>1236</b>

In order to inform the present pre-Phase I archaeological constraints analyses, Dudek compiled a database of all historical resources on file at the SCIC within the study area. All information is drawn from available site record information, and has not been confirmed through first-hand inspection of reported resources or associated material. Archaeological site attributes and significance recommendations, as well as frequencies, were thematically summarized from site record forms and used to inform early-stage regional resource sensitivity recommendations. From this information, a map was generated using generalized grid units (1000 x 1000 meters in size) to provide a visual model of relative archaeological resource sensitivity while maintaining the appropriate level of confidentiality for public dissemination (Figure 3).

### 2.3.2 Previous Technical Studies

SCIC records indicate that approximately 19% (30.92 square miles) of the study area has been included as part of one or more previous technical studies. The remaining 81% (131.63 square miles) appear to have not been subject to previous investigation. A figure of survey areas can be made available upon request by the City, however is not appropriate for public dissemination due to confidentiality restrictions. These totals have excluded large regional studies aimed at thematic discussions in favor of presenting a more site-specific analysis. Of the 1715 studies previously conducted within the one-mile buffer study area, 269 studies have been conducted in the last five years. An additional 47 studies have no provided date of submittal. It should be noted that, due to the process of required mapping generalization, areas with represented sensitivity in Figure 3 may not have been subject to survey. Additionally, some areas represented as Unknown Sensitivity may have been subject to previous study with negative results.

A constraints analysis was submitted by Mary Robbins-Wade for the Program alignment in January, 2014 (Robbins-Wade 2014). As part of this effort, a records search was conducted at the SCIC for the proposed alignments and a 500 foot applied buffer. The relative cultural sensitivity was inferred for each of the alignments based on the presence and number of archaeological sites that directly intersect the potential alignment and facilities.

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### **2.4 NAHC Sacred Lands File Search**

No search of the Native American Heritage Commission (NAHC) Sacred Lands File has been conducted for the Program. A search of this type requires NAHC staff to review their list for the presence of Native American sites, which are organized spatially based on a Public Land Survey System (PLSS) section grid (measuring one square mile). Once the NAHC-maintained list is reviewed, a results letter is provided with whether this search indicated, or failed to indicate, the presence of Native American resources within these sections. As the present study area is more than 162 square miles in size, it is apparent that a NAHC search of the entire study area would add little information pertaining to relative historical resource sensitivity; any resource that was indicated to be present could fall in any one, or multiple, PLSS sections that are intersected by the study area. One method for gaining more precise relative historical resources information would be to submit separate NAHC Sacred Lands File search requests for discrete sections of the study area. This would be best accomplished once the City preferred alignment and general Area of Potential Effects (APE) have been defined. It is assumed that a search of the NAHC Sacred Lands File will be conducted during the Phase I Inventory conducted for the Program area.

### **2.5 Tribal Correspondence**

No information outreach or other communication with Native American tribal representatives has yet been conducted for the Program. A Contact List will be provided with the results of the NAHC Sacred Lands File search. Any outreach attempts soliciting additional information relating to Native American resources that may be affected by the Program should include the request that the contacted representatives define the general area where these resources, if identified, intersect the Program area. This will help guide communications with tribal groups and representatives that maintain specific traditional associations with particular sections of the Program area.

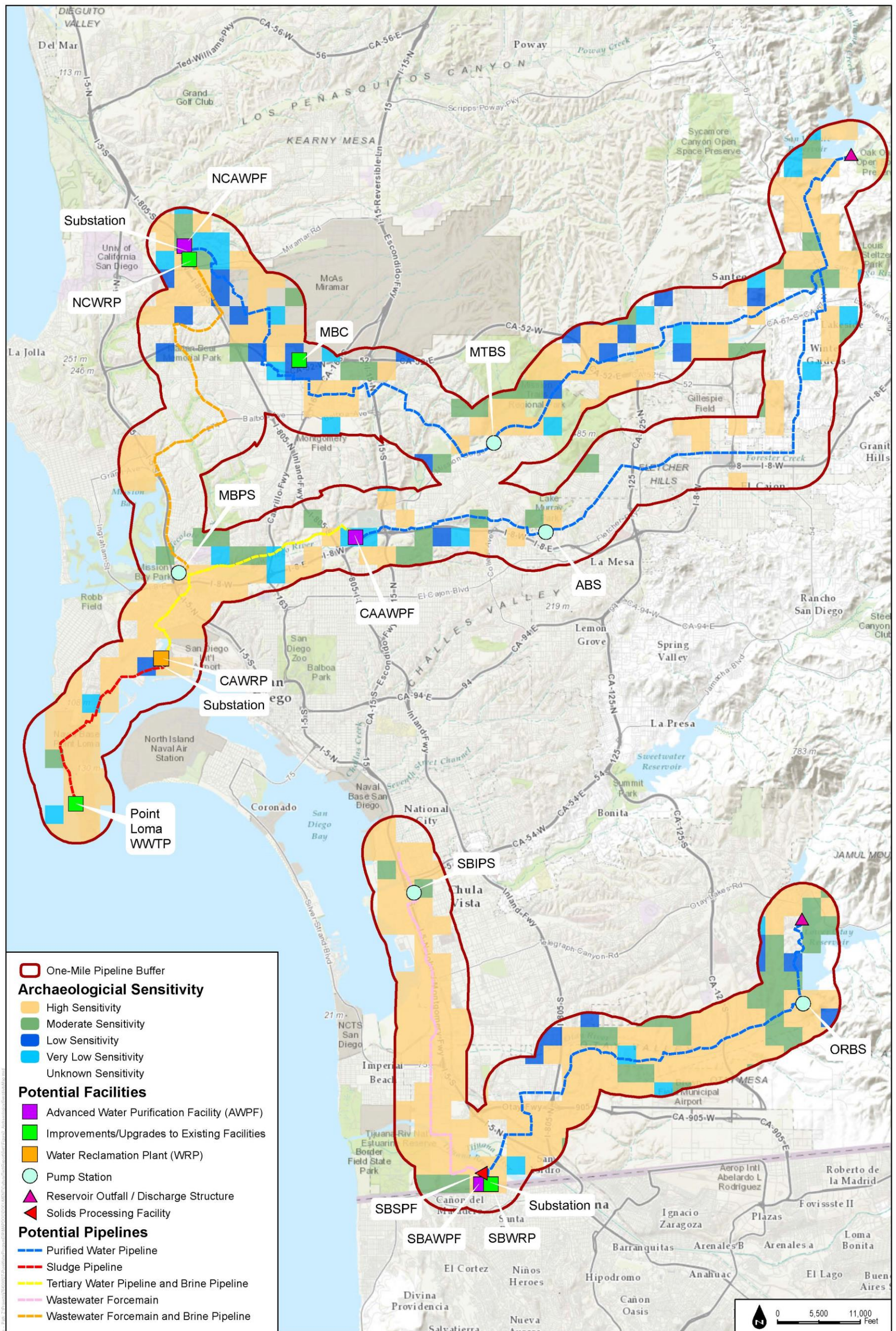
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### **3 METHODS**

The current study is intended to provide a summary of information provided through a search of South Coastal Information Center archives. Relative resource sensitivity has been inferred from the information presented on DPR 523 and other site record forms, as well as data included within GIS data layers. Sensitivity assessments are based on the following criteria: previous evaluation recommendations, variability and frequency of artifact and feature types, indications of subsurface archaeological deposits, the presence of unusual or sensitive items/features (e.g., rock art, historically significant features, human remains, habitation residues), and the first-hand experience of Dudek archaeologists.

Future studies within the Program area should apply methodological strategies with the intent of analyzing impacts to archaeological resources through implementation of the strategies defined within Section III of the City of San Diego Historical Resources Guidelines. The following portion of this section is drawn, in most areas, directly from these Guidelines (2001).

#### **Defining Project Area (Area of Potential Effects)**

Once the Program area has been defined, the associated Area of Potential Effects (APE) will represent the extent of additional historical resources investigation. The APE, as defined by the Historical Resources Guidelines (City of San Diego 2001), is the geographic area (or areas) within which a project may cause changes in the character or use of historical resources. Investigations and surveys are conducted within the APE to identify the presence or absence of historical resources and, if present, to evaluate their significance. The APE should include all historical resources which reasonably can be expected to be affected (resulting in a change to their historical, architectural, archaeological or cultural character) by a proposed project. The APE is project specific and should be large enough to accommodate minor project design changes....Therefore, it is important that the project APE is defined on a case-by-case basis. Any off-site improvements must be included within the project APE. For public works projects, staging areas should also be included in the APE.

Archaeological resources will be most directly affected by Program-related ground disturbing activities. However, indirect effects, such as increased pedestrian or vehicular traffic in the surrounding areas should also be considered and mitigated for.

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### Determining Presence or Absence of Historical Resources

#### *Background Research*

As observed by the Historical Resources Guidelines, *while the level of effort involved in background research may vary depending on the type of investigation, the basic ingredients remain the same: a records search, literature search, interviews and Native American consultation* (City of San Diego 2001). The records search conducted at the South Coastal Information Center for the present pre-Phase I inventory has provided information relating to the results of previous technical studies that have included portions of the Program area. Per City requirements a copy of this records search has been provided as Confidential Appendix A.

#### Native American Consultation

Prior to the onset of field work, the Native American Heritage Commission and the local Native American community shall be consulted for input regarding possible impacts to historical resources within the project area, particularly as they relate to traditional cultural properties and areas of Native American sensitivity.

#### *Field Reconnaissance*

The field reconnaissance, generally consisting of an intensive-level pedestrian survey, must be conducted under the direction of a qualified professional (City of San Diego 2001: Section V).

#### Archaeological Resources

A survey for archaeological resources must be conducted by an archaeologist certified by the Register of Professional Archeologists (RPA), who must participate in the entire field survey. The survey must conform to professional standards and accomplish thorough coverage of the property. The goal of the field reconnaissance should be complete coverage of the property using linear transects, with surveyors spaced 10 to 15 meters apart (10-meter spacing with vegetation, 15-meter spacing with no vegetation). These thresholds should provide complete coverage of the property unless circumstances such as vegetation, steep slopes or existing buildings obstruct ground surface visibility. If the ground surface is not visible, an enhanced reconnaissance may be required.

Extended Phase I subsurface probing may be required in areas of poor visibility, or where the severity and character of past disturbance is unclear within, or surrounding, a previously identified archaeological resource. Mechanical trenching/coring may be employed when all other methods of ground surface clearance are infeasible due to dense vegetation or poor ground surface visibility. It may also be necessary to use mechanical trenches in areas that are subject to

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the rapid accumulation of alluvial soils (e.g., adjacent to river beds, marshes, lagoons, etc.), in areas covered by imported fill, in areas where the likelihood of buried cultural deposits may occur and in areas where historical resources have been previously recorded.

### Traditional Cultural Properties

In the case of Native American traditional cultural properties, guidance must come from the Native American Heritage Commission (NAHC). Resources identified during the field reconnaissance must be evaluated for their importance with all information documented in the survey and evaluation report. Any Native American traditional cultural property encountered should be recorded and filed with the NAHC for inclusion in the Sacred Lands Inventory and forwarded to the local Tribal Commission archives. In addition to the Primary Record form, traditional cultural properties should be recorded on the Building, Structure and Object Record form, Archaeological Site Record form, Linear Feature Record form, Milling Station Record form, Rock Art Record form, Artifact Record form, Photograph Record form, Location Map form, Sketch Map form and Continuation Sheet, as appropriate. The "Remarks and Interpretations" section of the Archaeological Site Record (Part 2) form should include the name of the contact person for the local Native American group. The historical resources forms should also be sent to both the SCIC.

### Historical Resource Documentation

All newly identified historical resources must be recorded on State of California Primary Record forms (DPR 523A). Historical resources forms for previously recorded resources should be updated and submitted in the appropriate manner. Procedures for completing these forms are presented in Instructions for Recording Historical Resources (2010). Consultants are responsible for submitting all historical resources forms to the South Coastal Information Center for assignment of a state trinomial. The state trinomial for each new and/or updated resource must be referenced in all subsequent reports.

### **Evaluating the Significance of Historical Resources**

An acceptable testing program for assessing the significance of historical resources must include documentation and evaluation of both the surface and subsurface components of the resource. The appropriate Native American groups shall be notified prior to any subsurface investigation for input regarding historical resources within the project area. If the Native American community requests the participation of an observer, the request shall be honored. The Native American consultation process shall be meaningful and input shall be solicited in such a manner as to adequately solicit concerns. The views of the Native American community on the resources

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being evaluated shall be documented and considered a formal part of the process. If traditional cultural properties are identified, then the evaluation must include ethnographic analysis to document, to the extent possible, the significance of the resource.

At a minimum, an evaluation program should include a level of effort which is adequate to determine: 1. the horizontal and vertical dimensions of a site, 2. chronological placement, 3. site function, 4. artifact/ecofact density and variability, 5. presence/absence of subsurface features, and 6. research potential (City of San Diego 2001).

Should evaluation of historical resources within the Program area be required, methods of surface and subsurface investigation (including excavation methods), as well as cataloging and analysis are clearly outlined within the Historical Resources Guidelines (City of San Diego 2001).

### **Mitigating Significant Impacts to Historical Resources**

When significant historical resources are present within the Area of Potential Effect, mitigation is required prior to project implementation. The preferred alternative for mitigating impacts to historical resources is avoidance or preservation in place. If preservation is demonstrated to be infeasible, then alternative measures would be required.

Avoidance may be accomplished through project design and planning, use of open space, capping with a layer of sterile soil, or deeding of significant resources into permanent conservation easements.

When avoidance as a means of mitigation is not feasible, it is necessary to implement a research design and data recovery program. The data recovery program involves the scientific excavation of a representative sample of the features and artifacts contained within that part of the site which will be destroyed by project development. The data recovery program should be based on a written research design and is subject to the provisions as outlined in CEQA, Section 21083.2.

### **Archaeological and Native American Monitoring**

Monitoring may be required when significant resources are known or suspected to be present on a project site, but cannot be recovered prior to grading due to obstructions such as, existing development or dense vegetation. The project archaeologist may suggest or recommend monitoring the site as a result of their own previous research of the surrounding area. Monitoring may also be required to mitigate for potentially significant indirect impacts to an archaeological site. An archaeological monitor is defined as an individual having expertise in the collection and salvage of cultural resources and working under the direction of a qualified archaeologist.

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A Native American observer must be retained for all subsurface investigations and disturbances whenever a Native American Traditional Cultural Property or any archaeological site located on City property or within the APE of a City project is the subject of destruction.

Should unanticipated historical resources be encountered during monitoring construction, work should be temporarily halted in the area and the resource evaluated. Human burials are always assumed significant and must be treated according to state law. If the unanticipated historical resource is evaluated to be significant, a Research Design must be developed and Data Recovery carried out as defined by City of San Diego Guidelines (2010).

### **3.1 Current Program Area Integrity and Potential Impacts**

The majority of preferred Program pipeline alignments would run beneath existing roads. Preferred facility locations are also principally located in previously developed areas or at existing facility locations. It is unlikely that intact archaeological resources are present in many of these areas. As many roads and areas of San Diego were constructed prior to the initiation of local, state, and federal regulations managing the treatment of historical resources, it is likely that impacted resources went undocumented during construction. This observed, the relative level of previous disturbance his highly variable throughout the Program area, and does not preclude the potential for significant archaeological or built-environment resources to be present. The level, type, and character of past disturbances throughout the Program study area should be fully documented during Phase I intensive pedestrian survey.

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### **4 HISTORICAL RESOURCE SENSITIVITY**

#### **4.1 Historical Resource Sensitivity**

##### **4.1.1 North City**

##### **North City Advanced Water Purification Facility and North City Water Reclamation Plant**

The immediate footprint of the North City Advanced Water Purification Facility (NCAWPF) and the North City Water Reclamation Plant (NCWRP) appear to be of relatively low archaeological sensitivity (no historical resources constraints). There are a number of resources in the surrounding vicinity, principally consisting of moderate to large prehistoric scatters of lithic material. Some prehistoric habitation debris were noted, indicating the potential for more intensive use. This observed, a number of sites have been determined not eligible for local, state, or federal listing through evaluation.

##### **San Vicente Purified Water Pipeline and Pump Stations**

The purified water pipeline proceeds southeast for approximately 28 miles to the next substation through a relatively dense distribution of recorded historical-era features and sites, as well as prehistoric sites. The pipeline directly intersects one refuse scatter with a possible subsurface deposit. The site should be assumed to be high sensitivity, as it may require additional evaluation. Additionally, the alignment intersects four prehistoric sites with recorded lithic material and shell. These appear to be of moderate to low sensitivity based on previous level of disturbance and size.

The segments in the vicinity of the Mission Trails Regional Park and the San Vicente Reservoir Outfall / Discharge Structure are located in a highly sensitive archaeological area. While many areas are likely to have been highly disturbed, a number of significant historical-era and prehistoric sites (including habitation and rock art sites) are present near the preferred alignment and within the surrounding study area. The areas along this segment within the San Diego River floodplain have potential to contain unidentified subsurface cultural deposits.

##### **Morena Boulevard Pump Station, Wastewater Force Main, and Brine Conveyance**

These pipelines extend generally south from the North City facilities for 11.3 miles and appear to be low to moderate in archaeological sensitivity. The optimal route would follow existing roads through this entire length. No historical resources directly intersect the alignment or facility.

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### **4.1.2 Central Area**

#### **Central Area Water Reclamation Plant**

The approximate footprint of the CAWRP appears to be of relatively low archaeological sensitivity. The CAWRP does not intersect any archaeological resources

#### **Central Area Tertiary Water Pipeline and Brine Pipeline**

The approximate 7.5-mile alignment between the CAAWPF and CAWRP includes a number of highly archaeologically sensitive areas. The alignment directly intersects two potentially complex historical-era archaeological sites, one historic road, and one prehistoric site with a moderately sized distribution of lithic material. The alignment runs through the Old Town historical district, which is a known location of both historical-era and prehistoric archaeological deposits. The area is considered important to the local Native American community and the Descendants of Early San Diego Families (Robbins-Wade 2014). The segment of the pipeline that crosses the San Diego River and immediately north of the river has the potential for encountering buried archaeological resources due to the alluvial soils.

#### **Central Area Advanced Water Purification Facility**

Based on available information regarding the likely location for the CAAWPF and recorded archaeological resources in the vicinity, the CAAWPF footprint appears to be of very low sensitivity for archaeological resources.

#### **Central Area Purified Water Pipeline and Pump Stations**

The 17.48-mile segment of pipeline between the CAAWPF and Willow Road (connection point to the San Vicente Purified Water Pipeline) is of low to moderate sensitivity for encountering archaeological resources based on the available information at the SCIC. The preferred alignment intersects a single prehistoric scatter of groundstone artifacts. The majority of this portion of the study area has not been subject to previous investigation, which may partially account for the reduced density of recorded resources. There is an increased potential for encountering unanticipated cultural deposits in alluvial areas such as Mission and Moreno Valleys during subsurface excavation.

#### **Central Area Sludge Conveyance: CAWRP to PLWTP**

The approximate 5.5-mile pipeline segment between the CAWRP and the PLWTP runs through areas of high archaeological sensitivity. The alignment itself directly intersects two prehistoric



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archaeological sites with known subsurface cultural deposits. There are known subsurface cultural deposits in the vicinity, indicating the potential for the inadvertent discovery of archaeological resources during earth moving activities.

### **Point Loma Wastewater Treatment Plant Improvements**

Facilities to be constructed at the PLWTP include two raw sludge storage tanks, a thickener facility, and a thickened sludge pump station. While the PLWTP and immediate surrounding area are identified as highly sensitive for encountering archaeological resources and historic addresses, previous disturbance associated with construction of the PLWTP suggests that the potential for encountering archaeological resources within the PLWTP boundary would be low.

### **MBC Improvements**

As proposed, improvements at the MBC would include the addition of one sludge degritter and one thickening centrifuge within an existing building. Given that the MBC is an existing facility and improvements would occur within an existing building/developed area, the MBC improvements area is of low sensitivity for encountering archaeological resources.

### **4.1.3 South Bay**

#### **South Bay Pump Station and Forcemain**

The approximate 10.15-mile segment of the wastewater force main runs north from the proposed South Bay Advanced Water Purification Facility (SBAWPF) and is highly sensitive for both historical-era and prehistoric archaeological resources. The preferred alignment intersects 15 previously recorded resources, including at least one Kumeyaay Ethnohistoric village site, prehistoric habitation sites, historic districts, and historic features. There is a high likelihood for encountering subsurface cultural deposits along the preferred alignment, most notably within the Tijuana River Valley.

#### **SBWRP Expansion, South Bay Solids Processing Facility, and SBAWPF**

The South Bay Solids Processing Facility (SBSPF) is proposed to be located on the SBWRP site. SCIC records indicate that the SBWRP and surrounding area (including the SBAWPF site) has a high sensitivity for historical-era and prehistoric archaeological resources.

#### **South Bay Purified Water Pipeline and Pump Stations**

The approximate 14.35-mile segment of pipeline between the SBAWPF east to the Otay Reservoir Outfall /Discharge Structure runs through an area of high prehistoric archaeological

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sensitivity. This section of the study area contains the highest number and density of prehistoric sites in the Program area. The preferred alignment intersects 13 archaeological sites, including prehistoric habitation sites, small single activity sites, and historical-era features. There is high potential for encountering subsurface deposits in the area, notably within the Tijuana River and Otay Valley alluvial areas. Work at the pump station and discharge structure is likely to encounter archaeological resources.

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### **5 SUMMARY AND MANAGEMENT CONSIDERATIONS**

CEQA Guidelines provide that a project that demolishes or alters those physical characteristics of a historical resource that convey its historical significance (i.e., its character-defining features) can be considered to materially impair the resource's significance. 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 (Sections 15064.5(b) and 21084). A substantial adverse change is defined as demolition, destruction, relocation, or alteration activities which would impair historical significance (Sections 15064.5(b)(1) and 5020.1). Any historical resource listed in or eligible to be listed in the California Register of Historical Resources, including archaeologically resources, is considered to be historically or culturally significant. Resources which are listed in a local historic register or deemed significant in a historical resource survey as provided under Section 5024.1(g) are presumed historically or culturally significant unless "the preponderance of evidence" demonstrates they are not. Finally, a resource that is not listed in, or determined to be eligible for listing in, the California Register of Historic Resources, not included in a local register of historic resources, or not deemed significant in a historical resource survey may nonetheless be historically significant, pursuant to Section 21084.1.

In order to best mitigate the effects of the proposed Pure Water Program on historical resources (including prehistoric and historical-age archaeological resources), a reasonable, good faith effort must be applied to identifying potentially impacted historical resources and determining their character and eligibility for listing in the local and state registers (CRHR; Pub. Res. Code SS5024.1, Title 14 CCR, Section 4852).

#### **5.1 Recommendations**

In total, 1,236 historical resources (prehistoric and historical-age archaeological resources) have been previously recorded within this study area. SCIC records indicate that approximately 19% (30.92 square miles) of the study area has been included as part of one or more previous archaeological or built-environment technical studies. The remaining 81% (131.63 square miles) appear to have not been subject to previous investigation.

The City has developed a mitigation framework for the Pure Water Program as a step-by-step approach for management of archaeological resources under City Guidelines. Prior to issuance of any permit for a future development project implemented in accordance with the Program area that could directly affect an archaeological resource, the City shall require the following steps be taken to determine: (1) the presence of archaeological resources and (2) the appropriate mitigation for any significant resources which may be impacted by a development activity. All work shall be conducted in compliance with this mitigation.

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# **APPENDIX A (CONFIDENTIAL)**

*SCIC Records Search Results*

