Appendix D

Cultural Resources Survey and Impacts Assessment

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Pure Water Southern California

Cultural Resources Survey and Impacts Assessment

April 2025 | 00501.00025.002

Prepared for:

The Metropolitan Water District of Southern California
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National Archaeological Database Information

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Firm:	HELIX Environmental Planning, Inc.
Client/Project:	The Metropolitan Water District of Southern California/Pure Water Southern California
Report Date:	April 2025
Report Title:	Cultural Resources Survey and Impacts Assessment for Pure Water Southern California, Los Angeles County, California
Type of Study:	Cultural Resources Survey and Impacts Assessment
New Resources:	PW-S-001, PW-S-002, PW-S-003, PW-S-004, PW-S-005, PW-S-006, PW-S-007, PW-S-008, PW-S-009; PW-S-011; JWPCP-S-001
Updated Sites:	P-19-000182, P-19-001179, P-19-001368, P-19-003117, P-19-003118, P-19-004079, P-19-186110, P-19-186112, P-19-186804, P-19-186868, P-19-187085, P-19-188983, P-19-190501, P-19-190504, P-19-190505, P-19-190508, P-19-190510, P-19-190992, P-19-192309, P-19-192581, P-19-192829, P-19-192850
USGS Quad:	Azusa, Baldwin Park, El Monte, Long Beach, Los Alamitos, Torrance, Whittier 7.5' Quadrangles
Acreage:	Approximately 806 acres; 39 linear miles
Key Words:	Los Angeles County; Azusa, Baldwin Park, Bellflower, Carson, Cerritos, Downey, Duarte, El Monte, Industry, Irwindale, Lakewood, Long Beach, Norwalk, Pico Rivera, Santa Fe Springs; San Gabriel River; Los Angeles River; positive archaeological survey; historic refuse scatters; highly disturbed shell scatter; transmission lines; railroads; Township 3 South, Range 12 West

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ACRONYMS AND ABBREVIATIONS

AMSL	above mean sea level
ASA	Archaeological Survey Association of Southern California
ATSF	Atchison Topeka and Santa Fe Railroad
AWP	Advanced Water Purification
BERD	Built Environment Resource Directory
CCR	California Code of Regulations
CEQA	California Environmental Quality Act
CHRIS	California Historical Resources Information System
CR	California Register
CRHR	California Register of Historical Resources
DPR	direct potable reuse
EC	environmental commitment
EIR	Environmental Impact Report
ESA	Environmentally Sensitive Area
HELIX	HELIX Environmental Planning, Inc.
I-	Interstate
IPR	indirect potable reuse
Joint Treatment Site improvements	Proposed Warren Facility modifications, AWP Facility, DPR treatment facilities at the Joint Treatment Site, and Workforce Training Center
kV	kilovolt
m	meter
Metropolitan	Metropolitan Water District of Southern California
MGD	million gallons per day
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NR	National Register
NRHP	National Register of Historic Places
OHP	Office of Historic Preservation

ACRONYMS AND ABBREVIATIONS (cont.)

PCAS	Pacific Coast Archaeological Society
PRC	Public Resources Code
project	Pure Water Southern California Project
Pure Water	Pure Water Southern California
ROW	right-of-way
Sanitation Districts	Los Angeles County Sanitation Districts
SCCIC	South Central Coastal Information Center
SHPO	State Historic Preservation Officer
Warren Facility	A.K. Warren Water Resource Facility
Weymouth WTP	F.E. Weymouth Wastewater Treatment Plant
WTP	Wastewater Treatment Plant

EXECUTIVE SUMMARY

HELIX Environmental Planning, Inc. (HELIX) conducted a cultural resources study for Pure Water Southern California in Los Angeles County, California (Pure Water; Project). The cultural resources study included a records search, a Sacred Lands File search, a review of historic aerial photographs and maps, and a field survey. This report details the methods and results of the cultural resources study and has been prepared to help Project staff avoid or minimize potential impacts to cultural resources during project design and to support the preparation of an Environmental Impact Report (EIR) in compliance with the California Environmental Quality Act (CEQA), as well as addressing Section 106 of the National Historic Preservation Act (NHPA) for use by federal agencies.

The California Historical Resources Information System (CHRIS) records search results from the South Central Coastal Information Center (SCCIC) indicated that 175 previous cultural resources studies have been conducted within 500 feet of the Pure Water cultural resources survey area, 78 of which overlap the proposed alignments or Joint Treatment Site. The records search results also indicated that a total of 62 cultural resources have been previously recorded within 500 feet of the survey area; of these, 22 resources have been recorded within the proposed alignments and none within the Joint Treatment Site: six archaeological resources and 16 built environment resources. All the resources previously recorded along the alignments are of historic age, with the exception of the ethnographic village of *Sejat* and the Mojave Road, which include both historic and prehistoric/precontact elements.

The field investigations included a historic built environment survey conducted on June 13 and August 18, 2022, by a HELIX architectural historian and HELIX archaeologists, and archaeological surveys of the cultural resources survey area by HELIX archaeologists on August 15 and 22, 2022; January 11, 17, and 29, 2024; and March 18, 2024. The survey area consisted of a 75-foot buffer on either side of the backbone alignment, as well as the Joint Treatment Site. The field surveys resulted in the reidentification of 22 previously recorded resources and the identification of 11 previously unrecorded resources. The newly recorded resources include four historic refuse scatters, four railroad segments, two railroad bridges, and a large shell scatter in a disturbed secondary context. The 33 resources within the survey area consist of 11 archaeological sites and 22 built environment resources.

Some areas of the Project's backbone alignment have a moderate to high sensitivity for the presence of buried cultural resources due to their locations along the San Gabriel and Los Angeles rivers, as well as proximity to mapped historic railways and historic ranchos, and past use of these areas by the Gabrieleno people, even where no prehistoric/precontact resources have been recorded. The remaining portions of the cultural resources survey area are categorized as low-to-moderate sensitivity due to the high degree of past disturbance and developed nature of these areas and the lack of previously recorded cultural material. There continues to be a potential for buried cultural resources in these areas due to the alluvial nature of the sediment, but no cultural resource sites have been previously identified in these areas.

Nine of the 33 resources identified within the survey area would be subject to impacts from Pure Water construction, including trenching and shoring for the backbone pipeline, and construction activities within the Joint Treatment Facility. Seventeen of the remaining 24 resources are either transmission lines that cross over the backbone alignment and whose towers, poles, and other facilities would not be affected, or railroad segments that the backbone pipeline would tunnel beneath; five resources (Santa Fe Springs Park, Pio Pico State Historic Park, a potential location of the Gabrieleno village of *Sejat*, and

two refuse scatters) are in areas that are proposed for tunneling. An oil tank facility, the KMEP Carson Terminal, is not within the path of the alignment, but temporary/other impacts may occur to the northwestern corner of the resource as it is mapped. However, these impacts (from staging/laydown areas, etc.) are proposed in a small area of hardscape that is outside the tanks area.

The San Gabriel River Levee (P-19-190510) would be avoided through project design. The Channelized San Gabriel River has not been formally evaluated under federal designation criteria. However, for the purposes of a separate undertaking, the U.S. Army Corps of Engineers assumed eligibility of the resource. For the purposes of this project, the channel should be assumed eligible under Criterion A: Conservation and under Criterion C: Engineering. Therefore, impacts to it must be treated as significant adverse effects until a significance determination and/or evaluation for eligibility has been completed. Pure Water will endeavor to avoid work within the channel and its embankments but, if work in this area cannot be avoided, then a project impacts analysis must be prepared. It would analyze potential direct and indirect impacts, as defined by CEQA Guidelines and the NHPA, from the proposed project. Character-defining features that have the potential to be affected by the proposed project would be identified and recommendations made for avoiding such impacts as appropriate. If impacts cannot be avoided, then appropriate mitigation measures must be developed and implemented.

Of the nine resources that would be subject to impacts, seven are archaeological in nature; four of these have been previously assessed as not eligible for the National Register of Historic Places (NRHP) or the California Register of Historical Resources (CRHR). Thus, impacts to them do not constitute significant effects. These include three historic-aged refuse scatters and the Amberwood Avenue Property (P-19-190501), which consists of foundations dating to the 1960s. The three newly identified archaeological sites are addressed below.

Of the two built environment resources that would be directly affected by the project, one (the Santa Fe Dam and Flood Control Basin) has been assessed as NRHP- and CRHR-eligible; the other (Woodland Farm) was previously recommended as not eligible for listing. Although the Santa Fe Dam and Flood Control Basin (P-19-192850) is an eligible resource, impacts to it would not be significant since impacts to the contributing elements of the resource would be avoided. This resource was previously recommended eligible for listing in the NRHP and CRHR under Criteria A/1: Conservation for its "association with the development of the Los Angeles County Drainage Area flood control system" and under Criteria C/3: Engineering "as one of the largest compacted earth fill gravity dams, by volume, in the United States" (Van Wormer 2015). The resource consists of the Santa Fe Dam, reservoir, spillway, associated channels and levees, embankment, intake/outlet works, control building, service building, access gallery, silting basin, spreading grounds, and county weights and measures yard. The backbone alignment would trench and backfill within a narrow strip along the west boundary of the earthen spillway. The project would not result in changes to the use of the spillway nor its historic character. When the project is completed, the earthen nature would remain and appear unchanged. Neither the dam itself nor any other associated features would be affected.

Two newly recorded historic refuse scatters and a newly recorded shell scatter would be subject to impacts from construction of Pure Water as currently proposed. The shell scatter appears to be a surficial secondary deposit and is recommended as not eligible for listing, although it was not formally tested. While the two historic refuse sites do not appear to be eligible resources, they have not yet been evaluated. If Pure Water cannot avoid impacts to these two resources, they will need to be formally assessed. Although it appears unlikely that they represent significant resources, if they are found to be

eligible for the NRHP and CRHR, appropriate mitigation measures would need to be developed and implemented.

Due to the potential for subsurface cultural resources in areas of alluvial soils, it is recommended that an archaeological monitoring program be implemented for ground-disturbing activities in areas of alluvial soils. This would include monitoring of activities by an archaeologist, including clearing/grubbing, excavation, trenching, etc. In areas that are found to be subject to past disturbance to the degree that cultural deposits would not be anticipated, monitoring would be reduced or halted.

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1.0 INTRODUCTION

1.1 PROJECT DESCRIPTION AND LOCATION

The proposed Pure Water Southern California (Pure Water) would be a partnership between The Metropolitan Water District of Southern California (Metropolitan) and the Los Angeles County Sanitation Districts (Sanitation Districts) to develop and implement a regional recycled water program.

1.1.1 Overview of Pure Water Southern California

Pure Water would create and distribute a new, sustainable water supply by harvesting the region's largest untapped source of cleaned wastewater. This new water supply would help reduce the region's dependence on imported water and assist in addressing disruptions to imported water supplies. This purified water would not only provide a more diversified water supply to Southern California, it also would enhance Metropolitan's operational resilience, reliability, and flexibility in the face of ongoing challenges, including long-term drought and climate change.

Specifically, Pure Water would involve the purification of cleaned wastewater from the Sanitation Districts' Warren Facility at a new Advanced Water Purification (AWP) Facility to produce approximately 150 million gallons per day (MGD), or nearly 155,000 acre-feet per year, of sustainable, high-quality water predominantly for indirect potable reuse (IPR) and direct potable reuse (DPR).

Proposed facilities to implement Pure Water include modifications to the existing Warren Facility, a new full-scale AWP Facility (which includes a pump station and ancillary facilities) located at the Warren Facility, and a Workforce Training Center (collectively referred to as the Joint Treatment Site improvements); a backbone pipeline; DPR treatment facilities, pipelines, and pump stations; service connections and laterals; and groundwater recharge improvements. Several of the facilities or components of the Project have been developed in enough detail for a project-level analysis in the Environmental Impact Report (EIR) and are the subject of this cultural resources study. These include Joint Treatment Site improvements and the backbone pipeline. These facilities would extend from the City of Carson to the City of Azusa in Los Angeles County. **Figure 1** shows the location of the Joint Treatment Site, as well as the backbone pipeline. **Figure 2** shows the specific location of the proposed AWP Facility and other proposed Joint Treatment Site improvements. Components of Pure Water for which there is not enough detail for a project-level analysis will only be addressed at the program level in the EIR and are not included in this cultural resources study. They will be analyzed further when additional design information is available and will be subject to additional California Environmental Quality Act (CEQA) and, if necessary, National Environmental Policy Act (NEPA) and National Historic Preservation Act (NHPA) documentation.

1.2 DESCRIPTION OF COMPONENTS

1.2.1.1 Treatment Facilities

Pure Water would require the construction and operation of various treatment facilities at the Warren Facility. These would include modifications to the existing Warren Facility treatment facilities and a new full-scale AWP Facility (which includes a pump station and ancillary facilities). In addition, facilities to further treat purified water from the AWP Facility to DPR standards would be required. DPR treatment

facilities may be co-located with the AWP Facility or could be located at Metropolitan's F.E. Weymouth (Weymouth) Wastewater Treatment Plant (WTP) in the City of La Verne or a potential satellite facility to be located between the Santa Fe Dam area and the Weymouth WTP. The exact locations of the potential DPR treatment facilities offsite from the Joint Treatment Site have not been determined at this time. As a result, they will only be addressed at the program level in the current environmental review process and are not included in the analysis in this cultural resources study.

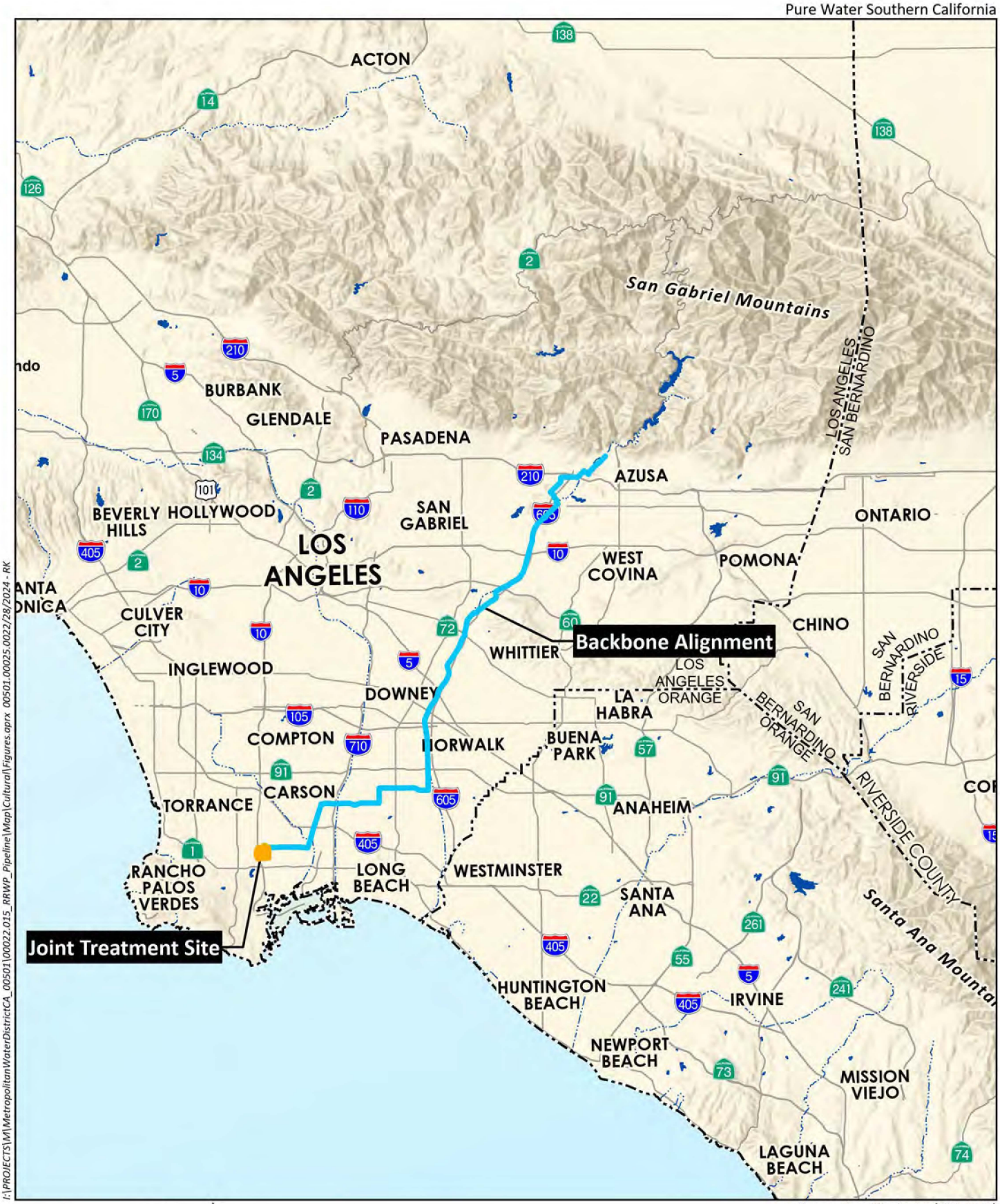
In general, construction activities associated with all of the treatment facilities would include: site clearing; excavation; installation, upgrade, or relocation of utilities; installation of equipment, paving, landscaping, and associated site improvements; construction of buildings and other facilities; and storage of materials and equipment. Operational activities associated with these treatment facilities would include: maintenance of facilities, structures, and equipment; storage of equipment and materials; delivery, storage, and management of treatment chemicals; and monitoring of water quality.

Proposed treatment facilities located at the Joint Treatment Site would be constructed on the Sanitation Districts' property bounded by West Lomita Boulevard to the south, South Main Street to the east, and developed portions of the Warren Facility. In addition to the construction activities described above, construction activities at the Joint Treatment Site would also include demolition of an existing Sanitation Districts' warehouse and maintenance basin and closure of existing oil wells. Most water residuals from the treatment process would be re-routed back into the wastewater stream flowing into the Warren Facility, while the remainder water would be discharged to the Pacific Ocean via the existing Warren Facility ocean outfall tunnels. No modifications to the existing outfall tunnels or their operations are proposed.

1.2.1.2 Conveyance System

The conveyance system would be comprised of two pipelines—the backbone pipeline and the DPR pipeline—and at least five associated pump stations. The backbone pipeline would extend approximately 39 miles from the AWP Facility to the existing San Gabriel Canyon Spreading Grounds in the City of Azusa (**Figure 3**). The southern 25 miles would be 7-foot-diameter pipe and the northern 14 miles would be 9-foot-diameter pipe. The backbone pipeline would potentially pass through the cities of Carson, Long Beach, Lakewood, Cerritos, Bellflower, Norwalk, Downey, Santa Fe Springs, Duarte, Pico Rivera, Industry, El Monte, Baldwin Park, Irwindale, and Azusa, as well as unincorporated portions of Los Angeles County. The pipeline would be buried under public roadways and in rights-of-way (ROWs) situated along the San Gabriel River, currently held by Southern California Edison, Los Angeles Department of Water and Power, Los Angeles County Flood Control District, U.S. Army Corps of Engineers, and private parties.

The backbone pipeline would have the capacity to convey approximately 150 MGD (7-foot portion) to 300 MGD (9-foot portion) of purified water and would provide service connections at various locations along the way for Metropolitan's member agencies and customers to accept this water. Construction activities for the backbone pipeline would be temporary in nature and would utilize a variety of methods based on the characteristics of each portion of the alignment. These methods would include trench excavation and backfill, as well as several different trenchless methods. To the extent feasible, trenchless methods would be used to minimize impacts to the San Gabriel River, major drainage channels, the transportation system, sensitive resources, and areas with limited ROWs.



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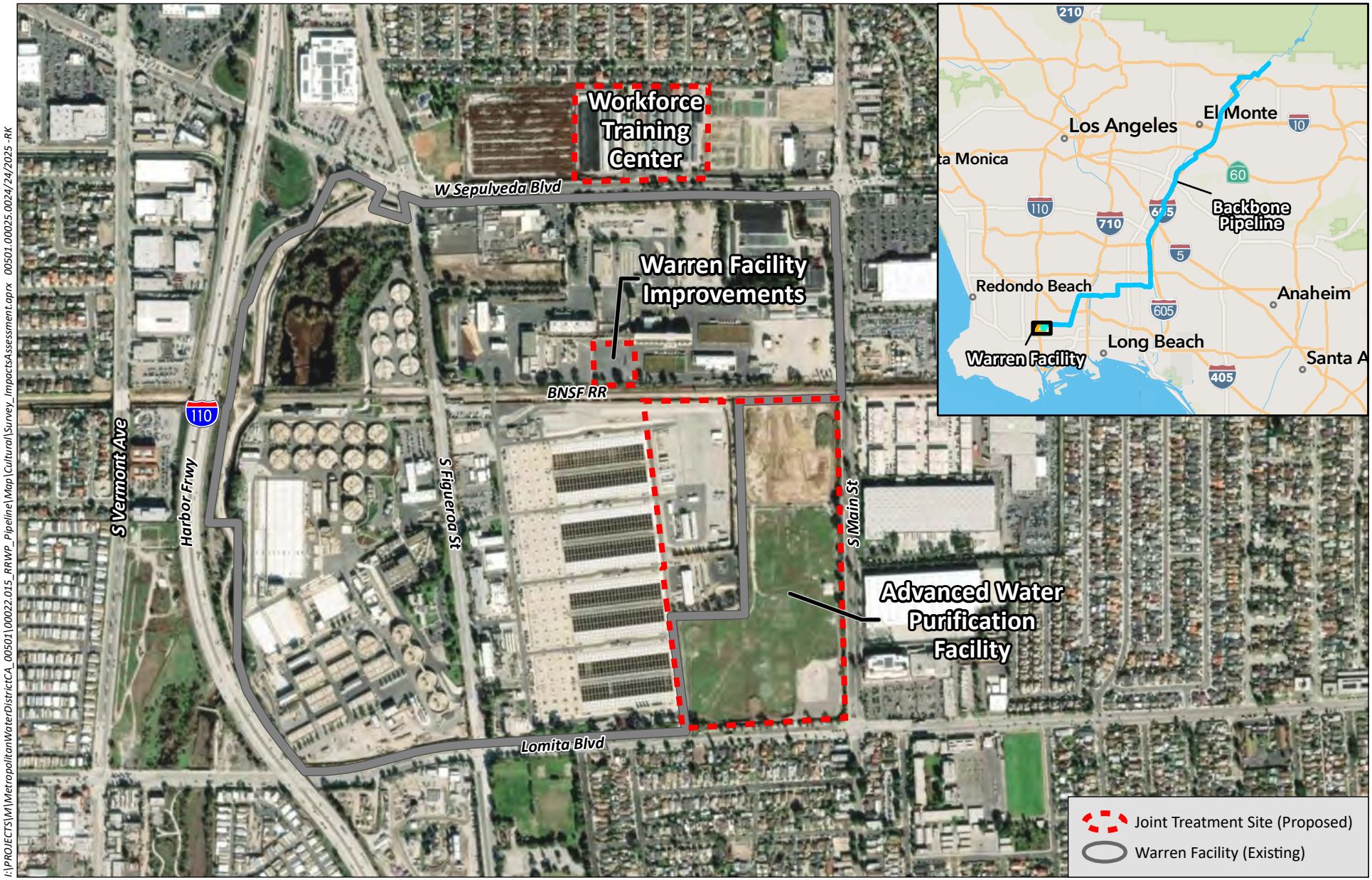
Regional Location

Figure 1



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0 850 Feet

Source: Base Map Layer (Esri)

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Joint Treatment Site

Figure 2

Backbone Alignment

Angeles Forest Adjacent Open Space
San Gabriel Wilderness Area
Los Angeles
La Crescenta-Montrose
Verdugo Mountains Open Space Preserve
La Cañada Flintridge
Burbank
Altadena
Monrovia Wilderness Preserve
Sierra Madre
Glendale
Pasadena
Duarte
Azusa
Glendora
Arcadia
East San Gabriel
San Gabriel
Alhambra
Rosemead
Vincent
West Covina
Covina
El Monte
Monterey Park
Walnut City Parkland
West Puente Valley
South El Monte
Avocado Heights
Valinda
East Los Angeles
Montebello
La Puente
Walnut
Commerce
Maywood
Huntington Park
Bell
Florence-Graham
Cudahy
South Gate
Whittier
Santa Fe Springs
Downey
La Habra
South Whittier
Lynwood
Willowbrook
Norwalk
East Rancho Dominguez
Bellflowe
Fullerton
Cerritos
Buena Park
Lakewood
La Palma
Anaheim
Hawaiian Gardens
Carson
Lomita
Los Alamitos
Signal Hill
Orange
Garden Grove
Long Beach
Naval Weapons Station Seal Beach
Westminster
Santa Ana
Sunset Beach
Fountain Valley
Huntington Beach
Costa Mesa

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0 3 Miles

Source: Aerial (Esri 2021)

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Backbone Pipeline

Figure 3

Temporary construction staging and storage areas would be required along the backbone alignment to support these construction activities. The staging and storage areas would have various uses but generally would include the installation of construction trailers, temporary utility connections, equipment and materials storage, and construction employee parking. To the extent feasible, previously disturbed sites would be selected based on availability during the final design or at the time when construction is ready to proceed. Site preparation for the staging and storage areas would include clearing and grading, minor excavation for utility connections, fencing, and possible gravel placement.

Operational activities for the backbone pipeline would be minimal and would include patrolling the pipeline, maintaining patrol roads and facilities, securing structures, periodically dewatering the pipeline for inspections/testing, and conducting repairs as needed.

A separate DPR pipeline would convey purified water eastward from the Santa Fe Dam area or San Gabriel Canyon Spreading Grounds area to the Weymouth WTP or a satellite location. The alignment of the DPR pipeline has not been selected and design has not yet begun. As a result, it will only be addressed at the program level in the current environmental review process and is not included in the analysis in this cultural resources study.

A minimum of five pump stations would be required to pump water from the AWP Facility and along the backbone and DPR pipelines. Three of the proposed pump stations would pump water along the backbone pipeline from the AWP Facility uphill to the San Gabriel Canyon Spreading Grounds, and two of the proposed pump stations would be required to pump water along the DPR pipeline. One pump station would be co-located with the AWP Facility; therefore, this pump station will be evaluated at the project level and analyzed in this cultural resources study. The exact locations of the remaining four pump stations have not been identified and are not addressed in this cultural resources study.

1.2.1.3 Groundwater Recharge and Service Connections

Metropolitan would provide metered service connections at various locations along the backbone and DPR pipelines to enable agencies to obtain water for non-potable, IPR, and DPR uses.

Construction activities related to groundwater recharge are anticipated to include improvements to existing spreading facilities, construction of new spreading facilities, installation of new injection wells, relocation of existing production wells, and installation of service connections to these facilities. Construction activities associated with service connections for non-potable and DPR uses would include the installation of smaller distribution pipelines and ancillary facilities from the backbone and DPR pipelines.

Operational activities for these facilities would include releasing purified water into and maintaining spreading facilities, injecting purified water into groundwater basins, maintaining and operating injection and production wells, and inspecting, maintaining, and operating service connections and pipelines.

The design for groundwater recharge facilities and service connections from the backbone and DPR pipelines has not yet begun. As a result, they will only be addressed at the program level in the current environmental review process and are not included in the analysis in this cultural resources study.

1.3 REGULATORY FRAMEWORK

1.3.1 State Regulations

1.3.1.1 California Environmental Quality Act

The CEQA Guidelines (California Code of Regulations [CCR] Title 14 Section 15064.5) address determining the significance of impacts to archaeological and historical resources. Cultural resources are defined as buildings, sites, structures, or objects, each of which may have historical, architectural, archaeological, cultural, and/or scientific importance (Office of Historic Preservation [OHP] 1995). Public Resources Code (PRC) Section 21084.1 notes that a project that may cause a substantial adverse change in the significance of an historical resource is a project that may have a significant effect on the environment. Historical resources are defined per PRC 21084.1 and CEQA Guidelines Section 15064.5 as follows:

- Resource(s) listed or eligible for listing in the California Register of Historical Resources (CRHR) (14 CCR Section 15064.5[a][1])

- Resource(s) either listed in the National Register of Historic Places (NRHP) or in a "local register of historical resources" unless "the preponderance of evidence demonstrates that it is not historically or culturally significant" (14 CCR Section 15064.5[a][2])

- Resources identified as significant in a historical resource survey meeting the requirements of Section 5024.1(g) of the PRC (14 CCR Section 15065.5[a][2])

1.3.1.2 California Register of Historical Resources Criteria

For listing in the CRHR, a historical resource must be significant at the local, state, or national level under one or more of the following four criteria:

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;

2. It is associated with the lives of persons important to local, California, or national history;

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; and

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.

Under 14 CCR Section 15064.5(a)(3), the final category of "historical resources" may be determined at the discretion of the lead agency.

1.3.2 Federal Regulations

Federal regulations that would be applicable to Pure Water if there is a federal nexus (e.g., permitting or funding from a federal agency) consist of the National Historic Preservation Act and its implementing regulations (16 United States Code 470 et seq., 36 Code of Federal Regulations Part 800). Section 106 of

the NHPA requires federal agencies to take into account the effects of their undertakings on "historic properties," that is, properties (either built environment or archaeological) that are eligible for the NRHP.

1.3.2.1 National Register of Historic Places Criteria

In order to qualify for the NRHP, a property must be significant at the local, state, or national level, under one or more of four criteria. The quality of significance in American history, architecture, archaeology, engineering, and culture is present in districts, sites, buildings, structures, and objects:

A. That are associated with events that have made a significant contribution to the broad patterns of our history;

B. That are associated with the lives of persons significant in our past;

C. That 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; or

D. That have yielded, or may be likely to yield, information important in prehistory or history.

In addition to meeting one or more of the above criteria, an NRHP-eligible property must also retain sufficient integrity to convey its significance and be at least 50 years of age or of extraordinary importance. Integrity is the authenticity of a historic property's physical identity, evidenced by the survival of characteristics that existed during the resource's period of significance. Resources, therefore, must retain enough of their historic character or appearance to be recognizable as historical resources and to convey the reasons for their significance. Integrity is evaluated with regard to the retention of location, design, setting, materials, workmanship, feeling, and association. In an archaeological deposit, integrity is assessed with reference to the preservation of material constituents and their culturally and historically meaningful spatial relationships. A resource must also be judged with reference to the particular criteria under which it is proposed for nomination.

Although not all seven aspects of integrity need to be present for a property to be eligible, the property must retain enough physical and design characteristics to reflect the property's significance. The seven aspects of historical integrity are:

- **Location** is the place where a resource was constructed or where an event occurred;
- **Design** results from intentional decisions made during the conception and planning of a resource. Design includes form, plan, space, structure, and style of a property;
- **Setting** applies to a physical environment, the character of a resource's location, and a resource's relationship to the surrounding area;
- **Materials** comprise the physical elements combined or deposited in a particular pattern or configuration to form a property;
- **Workmanship** consists of the physical evidence of crafts employed by a particular culture, people, or artisan, which includes traditional, vernacular, and high styles;

- **Feeling** relies on present physical features of a property to convey and evoke an aesthetic or historic sense of past time and place;

- **Association** directly links a historic property with a historic event, activity, or person of past time and place; and requires the presence of physical features to convey the property's historic character.

1.3.3 Local Regulations

1.3.3.1 County of Los Angeles

The County of Los Angeles has the following goals and policies for Historic, Cultural, and Paleontological resources (Los Angeles County 2024):

Goal C/NR 14: Protected historic, cultural and paleontological resources.

> **Policy C/NR 14.1**: Mitigate all impacts from new development on or adjacent to historic, cultural, and paleontological resources to the greatest extent feasible.
>
> **Policy C/NR 14.2**: Support an inter-jurisdictional collaborative system that protects and enhances historic, cultural, and paleontological resources.
>
> **Policy C/NR 14.3**: Support the preservation and rehabilitation of historic buildings.
>
> **Policy C/NR 14.4**: Ensure proper notification procedures to Native American tribes in accordance with Senate Bill 18 (2004).
>
> **Policy C/NR 14.5**: Promote public awareness of historic, cultural, and paleontological resources.
>
> **Policy C/NR 14.6**: Ensure proper notification and recovery processes are carried out for development on or near historic, cultural, and paleontological resources.

1.3.3.2 City of Azusa

The City of Azusa's Historic Preservation Ordinance, adopted in 2000, determines the intent of historic preservation in the City. Landmark designations, historic review procedures, and historic preservation incentives are administered by the Cultural and Historic Preservation Commission. The City is currently preparing the Historic Context Statement and Historic Survey Update.

The original Historic Property Survey List prepared in 2000 included 96 potential historic properties or historical resources and three potential historic districts (the Downtown Historic District, the Foothill Historic District, and the Sunset/San Gabriel Historic District). The Azusa Civic Center, located at 213 East Foothill Boulevard, is the only property within the City recognized by the State Office of Historic Preservation and included on the NRHP.

1.3.3.3 City of Baldwin Park

The City of Baldwin Park established its historic preservation program in 1988, with the adoption of a Historic Resources Code. The ordinance allows for the designation of both individual landmarks and

historic districts: the Municipal Code includes Section 153.080 on Historic Overlay Zones, Part 10 (Sections 153.210.510-153.210.550) on Historic Designation, and Part 11 (Sections 153.210.560-153.210.580) on Historic Structure Work Permit (City of Baldwin Park 2022). Historic designations are approved by the City Council based on the recommendation of the Historic Resources Advisory Committee.

The City has only designated one landmark since the historic preservation program began, the former Central School Auditorium, but it was ultimately de-listed in the mid-1990s. Historic resources conservation is also stated as one of the goals of the Open Space and Conservation Element of the 2020 General Plan prepared in 2002.

1.3.3.4 City of Bellflower

The City of Bellflower does not currently have a historic preservation ordinance.

1.3.3.5 City of Carson

The City of Carson does not currently have a historic preservation ordinance.

1.3.3.6 City of Cerritos

The City of Cerritos does not currently have a historic preservation ordinance. The General Plan adopted in 2004 includes goal LU-11, "Preserve and enhance existing community and neighborhood character and sense of place" and acknowledges the architectural, cultural, or historical character of unique districts and neighborhoods.

1.3.3.7 City of Downey

The City of Downey does not currently have a historic preservation ordinance. The General Plan adopted in 2005 includes Goal 8.4, which suggests the identification, preservation, and enhancement of the City's existing cultural resources. Issue 8.4, Cultural Resources, recognizes the role of cultural amenities, including those of historical, architectural, and archaeological value. It outlines a short list of Downey's significant built environment resources, consisting of six properties (none formally designated as a City landmark): the Rives Home at Paramount Boulevard and Third Street (listed in the NRHP and CRHR), Casa de Parley Johnson at 7749 Florence Avenue (listed in the NRHP and CRHR), McDonald's Restaurant at 10207 Lakewood Boulevard (eligible for listing in the NRHP; listed in the CRHR), Rancho Los Amigos Medical Center (approximately 40 buildings, some of which have been assessed as NRHP- or CRHR-eligible), the Dismukes House at Apollo Park, and the Historical Arch at Civic Center Drive. The latter two resources do not appear to be listed on the NRHP or CRHR, and the preservation ordinance does not indicate whether they have been formally assessed for eligibility.

1.3.3.8 City of Duarte

While the City of Duarte does not have an established historic preservation ordinance, it did complete its first citywide survey of architectural resources in 2003. In 2007, Duarte adopted a Historic Preservation Element as part of its General Plan; this includes the following goals, objectives, and policies:

Historic Preservation Goal 3: To promote the preservation of local historical resources.

Objective 3.1 Preserve the City's inventory of historical resources for future generations to enjoy.

Policy HP 3.1.1 Encourage property owners to preserve the character-defining features of historical resources.

1.3.3.9 City of El Monte

The City of El Monte does not currently have a historic preservation ordinance. The City's 2011 General Plan update incorporates Section 9 – Cultural Resources Element, which was envisioned to serve as a guiding document that embodies how El Monte will protect and preserve its cultural heritage. "Preservation of Heritage" is one outlined method, which contains references to preserving, enhancing, and renewing remaining buildings of historic significance. The section suggests an index of cultural resources, including such categories as Historic Structures; Infrastructure, Urban Fabric, and Traces; Characteristics Establishments and Economic History; Key Landscape Features and Natural History; Oral History; Monuments, Public Art, and Landmarks; and Contemporary Culture.

1.3.3.10 City of Industry

The City of Industry does not currently have a historic preservation ordinance.

1.3.3.11 City of Irwindale

The City of Irwindale does not currently have an active historic preservation ordinance. The "Cultural & Historic Resources" section in the City's 2008 General Plan contains a list of "Existing Historic Resources in Irwindale," identifying seven sites of historical significance: the El Divino Salvador Presbyterian Church on Irwindale Avenue at Calle del Norte, Our Lady of Guadalupe Catholic Mission on Arrow Highway, the first post office site in the former Southern Pacific Depot on Irwindale Avenue, the residence located at 2408 Mountain Avenue, the home of Don Gregorio Fraijo at the terminus of Central Avenue, Don Facundo Ayon's home (now City Hall), and Mr. Irwin's Ranch property.

1.3.3.12 City of Lakewood

The City of Lakewood does not currently have a historic preservation ordinance.

1.3.3.13 City of Long Beach

The City of Long Beach has had an active program to recognize buildings and neighborhoods that have special architectural or historical value since 1988. In 2009, the City adopted a historic context statement and conducted a survey of historic-aged built environment resources located within the Downtown Long Beach Planned Development District. The historic preservation ordinance (Chapter 2.63.060 of the City of Long Beach Municipal Code) was last updated in 2015. It establishes the procedures for the designation of individual landmarks and landmark districts administered by the Cultural Heritage Commission. Designated historic landmarks are listed in Chapter 16.52 of the Municipal Code. Designated historic resources, including those eligible for the NRHP, CRHR, or local designation, in the City number over 100 local landmarks and 18 historic districts.

Historic Preservation Element

The City of Long Beach Historic Preservation Element was adopted by the City Council in 2010, in order to create a proactive, focused plan for use by residents, local preservation advocates, City staff, the Cultural Heritage Commission, Redevelopment Agency, Planning Commission, and City Council. The Historic Preservation Element outlines a vision for future historic preservation efforts and the actions that need to be taken to achieve them. Development of the Historic Preservation Element was coordinated with the City's 2030 General Plan update. The Element's five goals include (1) maintaining a citywide historic preservation program; (2) protecting historic resources from demolition and inappropriate alterations; (3) maintaining and expanding the inventory of historic resources; (4) increasing public awareness and appreciation of the City's historic resources; and (5) integrating historic preservation policies into the City's development and economic strategies.

Additional information on the corresponding policies and implementation measures adopted by Long Beach for each of the five historic preservation goals can be found in the Historic Preservation Element of the General Plan.

Local Designation

A resource must meet one or more of the following criteria of significance to be designated as a landmark or landmark district:

Criterion A: It possesses a significant character, interest, or value attributable to the development, heritage, or cultural characteristics of the city, the Southern California region, the state or the nation.

Criterion B: It is the site of an historic event with a significant place in history.

Criterion C: It is associated with the life of a person or persons significant to the community, city, region or nation.

Criterion D: It portrays the environment in an era of history characterized by a distinctive architectural style.

Criterion E: It embodies those distinguishing characteristics of an architectural type or engineering specimen.

Criterion F: It is the work of a person or persons whose work has significantly influenced the development of the city or the Southern California region.

Criterion G: It contains elements of design, detail, materials, or craftsmanship that represent a significant innovation.

Criterion H: It is a part of or related to a distinctive area and should be developed or preserved according to a specific historical, cultural or architectural motif.

Criterion I: It represents an established and familiar visual feature of a neighborhood or community due to its unique location or specific distinguishing characteristic.

Criterion J: It is, or has been, a valuable information source important to the prehistory or history of the city, the Southern California region, or the state.

Criterion K: It is one of the few remaining examples in the city, region, state, or nation possessing distinguishing characteristics of an architectural or historical type.

1.3.3.14 City of Norwalk

The City of Norwalk does not currently have a historic preservation ordinance. The Historic Resources section of the Educational and Cultural Resources Element of Norwalk's General Plan adopted in 1996 lists three historic properties and one historic district: (1) Sproul Museum (historic house), 12237 Sproul Street, "appears to be eligible for the NR [National Register]"; (2) Pattison Ranch, 11951 Imperial Highway, listed in the NRHP and CRHR as "Paddison Ranch Buildings"; (3) Darius David Johnston (Hargitt House), 12436 Mapledale Street, listed in the NRHP and CRHR; and (4) Front Street commercial buildings (not listed in the NRHP or CRHR, apparently not formally evaluated).

1.3.3.15 City of Pico Rivera

The City of Pico Rivera does not currently have a historic preservation ordinance; however, historic resources are addressed in the Land Use Element of the 2014 General Plan (City of Pico Rivera 2014). The City of Pico Rivera, in consultation with the Pico Rivera History and Heritage Society, identified a total of 13 buildings and sites with the potential for historical significance. Only one of the sites, the La Mano building, located at 9235 Whittier Boulevard, is a California-registered historical building. It was the former National Bank of Pico Rivera. None of the other sites are currently listed in federal or state registers, but the Land Use Element notes that the City of Pico Rivera is committed to acknowledging, protecting, and enhancing its historic resources. General Plan goals and policies support this commitment by recommending protection of these sites subject to further study of their historical significance. The following are goals, policies, and implementation actions related to historic resources.

Goal 3.12
Inventory and protection of Pico Rivera's historic and cultural resources.

Policy 3.12-1 Identification. Maintain and periodically update the inventory of historic and cultural resources. This inventory shall include properties that may be eligible for listing in national and state registers as well as properties that do not meet the criteria for these registers but are important to protect in terms of local significance.

Policy 3.12-2 Adaptive Reuse. Encourage the adaptive reuse of buildings of historical significance to serve meaningful contemporary uses while preserving the character, spirit and original identity of the structures.

Policy 3.12-3 Consultation. Consult with appropriate organizations and individuals to minimize potential impacts to historic and cultural resources, including the Pico Rivera History and Heritage Society.

Policy 3.12-4 Education. Support programs to raise the awareness of the city's historic resources and the value of their protection.

Implementation Programs for Policies 3.12-1 to 3.12-4:

- *Adopt a preservation ordinance that would require a special permit to demolish or modify a historic resource.*
- *Work with the Pico Rivera History and Heritage Society, Los Angeles Conservancy and property owners to highlight locations of historic and cultural interest.*
- *Pursue funding for an in depth historic survey of significant properties including those listed on Table 3-1, Potential Historic Buildings and Sites.*
- *Preserve El Camino Real historic markers along Whittier Boulevard, which mark the California Mission Trail.*

1.3.3.16 City of Santa Fe Springs

The City of Santa Fe Springs does not currently have a historic preservation ordinance.

1.3.3.17 City of Whittier

The City of Whittier established its Historic Resources Element in the 1993 Whittier General Plan in order to promote the preservation of historic structures in the City (City of Whittier 2021). The 2021 General Plan contains the following goals and policies as part of the Historic Resources Element:

Goal 1: Historic Resources Identification: Identify historic, cultural, and archaeological resources.

- HR-1.1: Evaluate potential historic resources and evaluate/provide required contextual statements for additional residential and commercial districts, as requested by the City Council and/or individual property owner(s).
- HR-1.6: Understand that areas located along the San Gabriel River and in the Puente Hills have high potential for archeological resources.

Goal 2: Update the City's Historic Preservation Program to align with best practices

- HR-2.1: Enhance, restore, preserve, and protect, as appropriate, historic resources throughout Whittier.
- HR-2.2: Encourage the retention and/pr adaptive reuse of historic residential, commercial, and industrial buildings.

Goal 3: Protect historic and cultural resources from demolition, destruction, or inappropriate actions or consequences.

- HR-3.2: Suspend development activity when archaeological and/or paleontological resources are discovered during construction.
- HR-3.3: Encourage compatible new development of and near buildings, structures, sites, districts, and landscapes with historic designations to ensure limited physical and visual impact to existing historic resources and within older neighborhoods.

The City of Whittier's Historic Resources Ordinance seeks to promote public health, safety, and general welfare. The Ordinance also lists four Historic Districts within the City: the Earlham Historic District, the Hadley/Greenleaf Historic District, the Central Park Historic District, and the College Hills Historic District (City of Whittier 2022).

1.4 PROJECT PERSONNEL

HELIX archaeologist Trevor Gittelhough, M.A., RPA, conducted the initial archaeological survey for the cultural resources study, assisted with the historic built environment survey, and was a co-author of this report. Senior architectural historians Nelson White, M.A., and Marina Khrustaleva, M.A., served as the principal investigators for architectural history and were co-authors of the built environment elements of the report. Kassie Sugimoto, M.A., and Principal Archaeologist Mary Robbins-Wade, M.A., RPA, served as the cultural resources leads for the study and provided project management as well as research for the study; Ms. Robbins-Wade also provided senior technical oversight and was a report co-author. Senior Archaeologist James Turner, M.A., RPA, served as a report co-author and participated in the archaeological surveys. Senior Field Director Julie Roy, B.A., and field technicians Dylan Sparkman, B.A.; Paul Smith, B.A.; Lanice Powless, B.A.; and Samantha Davis, B.A., participated in the archaeological surveys as well. Resumes of key personnel are included as Appendix A.

PROJECT SETTING

1.5 PHYSICAL ENVIRONMENTAL SETTING

The project area is located in the Los Angeles Basin, intersecting the cities of Azusa, Baldwin Park, Bellflower, Carson, Cerritos, Downey, Duarte, El Monte, Industry, Irwindale, Lakewood, Long Beach, Norwalk, Pico Rivera, and Santa Fe Springs, as well as adjacent areas of unincorporated Los Angeles County. The project area consists largely of suburban development; the cultural resources study area is primarily comprised of developed land and disturbed habitats, along with a mix of habitats associated with the San Gabriel River, Santa Fe Dam Recreational Area, and Whittier Narrows.

Pure Water would be located partially along the length of the San Gabriel River, the source of which is in the San Gabriel Mountains. "After leaving the mountains, the San Gabriel divides into two branches near Whittier Narrows. The branch to the west is the Rio Hondo, which flows southwest to its junction with the Los Angeles River approximately six miles from the ocean. The eastern branch continues as the San Gabriel River and discharges into Alamitos Bay six miles east of the mouth of the Los Angeles River. The San Gabriel drains an area of 698 square miles, exclusive of the area tributary to the Rio Hondo" (Van Wormer 2015).

The cultural resources survey area begins at the Joint Treatment Site in Carson and extends approximately 39 miles northeast to near the base of the southern edge of the San Gabriel Mountains. The project area is relatively flat with a general western slope, ranging in elevation from approximately 415 feet above mean sea level (AMSL) at its southern end to approximately 780 feet AMSL at its northern end. Geologically, the survey area is underlain by Quaternary alluvium deposits that are mostly disturbed due to the artificial channelization of the San Gabriel River; active channel and wash silt, sand, and gravel deposits predominate (Tan 1997a, 1997b). Alluvial deposits around the San Gabriel River, San Jose Creek, Walnut Creek, and other tributaries support riparian vegetation and a variety of native species such as oak trees, sage, cacti, yucca, and other plants that would have been used by the

Indigenous people for food, medicine, tools, shelter, ceremonial, and other uses (Bean and Smith 1978: 539). Many of the animal species found in these communities would have been used by native populations as well.

1.6 CULTURAL ENVIRONMENT

1.6.1 Pre-Contact Period

Archaeological research in Southern California has identified several distinct chronological sequences that are used to understand cultural shifts within the region. Wallace (1955, 1978) developed a prehistoric chronology for the Southern California coastal region that was built on early studies and data synthesis, which is widely used to this day and is also applicable to many near-coastal and inland areas. Divided into four distinct periods, Wallace's prehistoric sequence is as follows: Early Man, Milling Stone, Intermediate Prehistoric, and Late Prehistoric. Though the sequence originally did not have a high level of chronological precision from the lack of absolute date information (Moratto 1984), this has been alleviated by the plethora of radiocarbon dates that have been collected in the past several decades by Southern California researchers (Byrd and Raab 2007). Since its creation, several revisions have been made to Wallace's (1955) synthesis using these dates, as well as projectile point assemblages (e.g., Koerper and Drover 1983; Koerper et al. 2002; Mason and Peterson 1994).

Chronological Period	Characteristics	Date Range
Early Man	Diverse mixtures of subsistence combining hunting and gathering but with a greater emphasis on hunting in many places.	Circa 10,000 to 6000 B.C.
Milling Stone	Subsistence strategies shift from hunting/gathering to those centered on collecting plant foods and the hunting of small animals. Begin to see both extended and loosely flexed burials.	6000 to 3000 B.C.
Intermediate	Shifts in strategies to a heavier emphasis on maritime subsistence strategies, along with a wider use of plant foods, that trend towards adaptations to regional and local resources. Fully flexed burials, often placed face-down or face-up, and oriented toward the north or west.	3000 B.C. to A.D. 500
Late Prehistoric	The increased usage of bow and arrow technology, a matching increase in land and sea mammal hunting, along with the continuation of wide-ranging uses of plant foods. Both the diversity and complexity of material culture increase dramatically. Increase in populations, accompanied by the presence of larger, more permanent villages.	A.D. 500 to Historic Contact

1.6.2 Historic Background

1.6.2.1 Spanish Period

The first European explorers to reach Southern California were the members of Juan Rodríguez Cabrillo's 1542 expedition. Between that time and 1769, Spanish, British, and Russian explorers made only limited

excursions into Alta (upper) California, and none established permanent settlements in the region (Starr 2007).

In 1769, the San Diego Presidio was established by Gaspar de Portolá, marking the first Spanish settlement in Alta California. At the same time, Mission San Diego de Alcalá was established by the Franciscan Father Junipero Serra, the first of 21 missions built under the direction of Spanish Franciscan monks in Alta California between 1769 and 1823. Portolá proceeded north, exploring the Arroyo Seco as he passed through the Los Angeles Basin, before heading through the San Fernando Valley, then reaching the San Francisco Bay on October 31, 1769. On September 4, 1781, 12 years after Portolá's initial visit, a dozen families from Sonora, Mexico, founded El Pueblo de la Reina de los Angeles de la Porciúncula ("The Town of the Queen of Angels on the Portiuncula River"; or simply El Pueblo de la Reina de los Angeles, "The Town of the Queen of Angels") under the specific directions of Governor Felipe de Neve.

The Portolá expedition marked the beginning of Spanish military supply routes that serviced the newly established missions, including Mission San Gabriel de Arcángel (1771), the first permanent European settlement in the area. In 1772, Spanish Commander Pedro Fages explored a canyon that passed through the mountains north of present-day Gorman and named the area Cañada de Las Uvas, or Grapevine Canyon. Friar Francisco Garces further explored the region in 1776, and Spanish settlers began establishing ranchos in the San Fernando Valley by the 1790s (Beck and Haase 1974:15).

Almost immediately, the Franciscan padres began attempts at converting the local Indigenous populations to Christianity through baptism, as well as relocating them to mission grounds (Engelhardt 1927a). Twenty-six years after the establishment of Mission San Gabriel de Arcángel, the San Fernando Mission was founded in 1797, as a stopping point between the San Gabriel and San Buenaventura missions (Engelhardt 1927b). Most of the Indigenous population in the Los Angeles Basin, as well as the surrounding foothill and mountain ranges, were persuaded or forced to settle near the two missions. These included Tataviam, Chumash, the Gabrieleno, the Serrano, many Cahuilla as far as the Coachella and San Jacinto valleys, and even some Luiseño of the San Jacinto Valley, as well as Indigenous groups from the southern Channel Islands.

1.6.2.2 Mexican Period

The primary focus of the Spanish during their occupation of California was the construction of the mission system and associated presidios for the purpose of integrating the Native American population into Christianity. While there were incentives provided by the Spanish monarchy to entice settlers to pueblos or towns, only three pueblos were established during the Spanish period, of which only two were successful and remained as California cities (San José and Los Angeles). Several factors hindered growth within Alta California, including the threat of foreign invasion, political dissatisfaction, and unrest among the Indigenous population. In 1821, after more than a decade of intermittent rebellion and warfare, New Spain (Mexico and the California territory) won independence from Spain. A year later, in 1822, the Mexican legislative body in California ended the Spanish isolationist policies of the region and decreed California ports open to foreign merchants.

Although Mexico had gained its independence in 1821, Spanish patterns of culture and influence remained for some time. The missions continued, operating in mostly the same fashion as they had previously, and most of the laws related to the distribution of land did not change throughout the 1820s. Beginning in the 1820s, extensive land grants were established in the interior, partly to increase

the population inland and away from the more settled coastal areas where the Spanish had concentrated their colonization efforts. Furthermore, the secularization of the missions in 1834 resulted in the subdivision of former mission lands and the establishment of additional ranchos. These massive swaths of land were granted to prominent and well-connected individuals as ranchos, ushering in the Rancho Era, with the society making a transition from one dominated by the church and the military to a more civilian population, with people living on ranchos or in pueblos. With the numerous new ranchos in private hands, cattle ranching expanded and prevailed over agricultural activities. During the age of the ranchos (1834 to 1848), landowners focused their resources on the cattle industry and devoted large tracts to grazing. Cattle hides were the primary Southern California export during this time, used to trade for goods from the east and other areas in the United States and Mexico. The influx of explorers, trappers, and ranchers associated with the land grants increased the number of non-native inhabitants of the region, and this rising population contributed further to the decimation of the Indigenous population, from the introduction and rise of diseases foreign to them, and from the violence enacted against them.

1.6.2.3 American Period

The United States took control of California in 1846, seizing Monterey, San Francisco, San Diego, and Los Angeles with little resistance. Los Angeles soon slipped from American control, however, and needed to be retaken in 1847. Approximately 600 U.S. sailors, Marines, Army dragoons, and mountain men converged under the leadership of Colonel Stephen W. Kearney and Commodore Robert F. Stockton in early January of that year to challenge the California resistance, which was led by General José María Flores. The American party scored a decisive victory over the Californios in the Battle of the Río San Gabriel and at the Battle of La Mesa the following day, effectively ending the war and opening the door for increased American immigration (Harlow 1992:193–218). Hostilities officially ended with the signing of the Treaty of Guadalupe Hidalgo in 1848, in which the United States agreed to pay Mexico $15 million for the conquered territory, including California, Nevada, Utah, and parts of Colorado, Arizona, New Mexico, and Wyoming, representing nearly half of Mexico's pre-1846 holdings. California joined the Union in 1850 as the 31st state (Wilkman and Wilkman 2006:15). Though the discovery of gold in northern California in 1848 gave rise to the California Gold Rush, the first California gold was found in Los Angeles County in 1842. The large strike at Sutter's Creek seven years later led to an enormous influx of American citizens in the 1850s and 1860s, and these "forty-niners" rapidly displaced the old rancho families. One year after the discovery of gold, nearly 90,000 people journeyed to the California gold fields. With most miners drawn to central California by its well-known strikes, Los Angeles attracted people who were largely peripheral to the Gold Rush.

The California Gold Rush also affected the Pure Water area. Gold was discovered in San Gabriel Canyon in 1854 and led to the short-lived settlement of El Doradoville in the San Gabriel Valley, where the river forks, about 10 miles northeast of the backbone alignment. The miners who flocked there are said to have extracted gold valued at $12,000,000 from the river before the settlement was flooded out less than a decade later.

1.6.3 Ethnography

Pure Water is located within the region that has traditionally been occupied by the Gabrieleno people (also spelled as Gabrieleño or Gabrielino; Bean and Smith 1978:538; Kroeber 1925: Plate 57). Other Indigenous groups in the surrounding areas include the Chumash to the north and northwest, the Tataviam/Alliklik to the north, the Serrano to the east, and the Luiseño and Juaneño to the south.

Interactions between these groups are well-documented, comprised primarily of trade and intermarriage.

The name Gabrieleno identifies the Indigenous people, who were administered by the Spanish missionaries settled at Mission San Gabriel. This group is now considered to have a regional dialect of the Gabrielino language, along with the Santa Catalina Island and San Nicolas Island dialects (Bean and Smith 1978:538). In the post-European contact period, Mission San Gabriel included natives of the greater Los Angeles area, while also including members of surrounding Indigenous groups from other areas such as Kitanemuk, Serrano, and Cahuilla. There is little evidence that the people we call Gabrieleno had a broad term for their group (Dakin 1978:222); rather, they identified themselves as an inhabitant of a specific community with locational suffixes (e.g., a resident of Yaanga was called a Yabit, much the same way that a resident of New York is called a New Yorker; Johnston 1962:10).

Several native words have been suggested as labels for the broader group of Indigenous people from the Los Angeles region. These include Tongva (or Tong-v; Merriam 1955:7–86) and Kizh (Kij or Kichereno; Heizer 1968:105), though evidence indicated that these terms referred to local places or smaller groups of people within the larger group that we now call Gabrieleno. Nevertheless, many present-day descendants of these people have taken on Tongva or Kizh as preferred group names because they have a native rather than Spanish origin (King 1994:12). As there are multiple tribal groups descended from the Indigenous people of the Los Angeles Basin, the term Gabrieleno is used in the remainder of this report when discussing the Indigenous people of the Los Angeles Basin and their descendants.

The Gabrieleno subsistence economy was centered on hunting and gathering. Due to the rich and varied nature of their environment, the Indigenous population exploited mountains, foothills, valleys, deserts, riparian, estuarine, and open and rocky coastal eco-niches. Acorns served as the staple food, supplemented by the roots, leaves, seeds, and fruits of a variety of flora (e.g., islay, cactus, yucca, sages, and agave). Freshwater and saltwater fish, shellfish, birds, reptiles, and insects, as well as both large and small mammals, were also hunted or collected and served as a large part of their diet (Bean and Smith 1978:546; Kroeber 1925:631–632; McCawley 1996:119–123, 128–131).

A wide variety of tools and implements were used by the Gabrieleno to gather and collect food resources. These included the bow and arrow, traps, nets, blinds, throwing sticks and slings, spears, harpoons, and hooks for hunting and fishing. Those groups located near the ocean used oceangoing plank canoes, or *ti'at*, and tule balsa canoes for fishing, travel, and trade between the mainland and the Channel Islands (McCawley 1996:7). Gabrieleno people processed their resources with a variety of tools, including hammerstones and anvils, mortars and pestles, manos and metates, strainers, leaching baskets and bowls, knives, bone saws, and wooden drying racks. Food was likewise consumed from a variety of vessels, with Catalina Island steatite used to make ollas and cooking vessels (Blackburn 1963; Kroeber 1925:629; McCawley 1996:129–138).

At the time of Spanish contact, the basis of Gabrieleno spiritual life was the Chinigchinich religion, centered on the last of a series of heroic mythological figures. Chinigchinich gave instruction on laws and institutions, and also taught the people how to dance, the primary religious act for this society. He later withdrew into heaven, where he rewarded the faithful and punished those who disobeyed his laws (Kroeber 1925:637–638). The Chinigchinich religion seems to have been relatively new when the Spanish arrived. It was spreading south into the southern Takic groups even as Christian missions were being built and may represent a mixture of Native and Christian beliefs and practices (McCawley 1996:143–144).

The burial practices of the Gabrieleno included both burials and cremations, with inhumation the more common practice on the Channel Islands and the adjacent mainland coastal areas, while cremation was the primary practice on the remainder of the coast and through the inland areas (Harrington 1942; McCawley 1996:157). Remains were buried in distinct burial areas, sometimes associated with villages and sometimes with no clear village association (Altschul et al. 2007). Cremation ashes have been found in archaeological contexts buried within stone bowls and in shell dishes (Ashby and Winterbourne 1966:27), as well as scattered among broken ground stone implements (Cleland et al. 2007). Archaeological data corresponds with ethnographic descriptions of an elaborate mourning ceremony that occurred over several days and included a variety of offerings, such as seeds, stone grinding tools, animal skins, baskets, wood tools, shell beads, bone and shell ornaments, and projectile points and knives. Offerings varied, both with the sex of the deceased individual as well as their status (Dakin 1978:234–365; Johnston 1962:52–54; McCawley 1996:155–165).

1.6.4 Pure Water Southern California Project Area History

1.6.4.1 Historic Ranchos/Land Grants

Rancho Azusa de Duarte was established in 1841 as a 6,596-acre rancho granted to Mexican corporal Andres Duarte. It encompassed the modern cities of Arcadia, Bradbury, Duarte, and portions of Azusa, Irwindale, Monrovia, and Baldwin Park. The San Gabriel River formed the border between Rancho Azusa de Dalton to the west and Rancho Azusa de Duarte to the east (Title Insurance and Trust Company 1919). Duarte and his family homesteaded the land until California ceded, after which he incurred massive debt trying to legally support his claim to the land. To pay off this debt, Duarte sold land in parcels, one of which was sold to Michael Whistler and later Nehemiah Beardslee. Beardslee started developing the town of Duarte. By the time the land was awarded to Duarte by the United States Public Land Commission in 1878, all of Duarte's ranchos had been parceled out (Northrop 1984).

Rancho San Francisquito was an 8,894-acre parcel also granted to Henry Dalton in 1845. It was located south of Rancho Azusa de Duarte, with Ranchos Santa Anita and Duarte forming its northern border and the San Gabriel River forming its eastern border; it included the modern cities of El Monte, Temple City, and part of Irwindale (Title Insurance and Trust Company 1919). After California's cession and a decade-long legal battle, the United States Supreme Court granted the land patent to Dalton in 1867. He sold tracts from the rancho until 1873, including the western 5,929 acres that eventually passed on to Elias Jackson Baldwin (District Courts of Appeal 1914). Baldwin established the City of Baldwin Park at the small farming community formerly called Vineland in 1906, and it was incorporated as a city of Los Angeles County in 1956.

Rancho La Puente was a 48,790-acre land grant located in the modern City of West Covina, with the San Gabriel River forming its western border (Title Insurance and Trust Company 1919). It was originally Pueblo lands owned by Mission San Gabriel. After the Mission was secularized under Mexican rule, John Rowland and William Workman applied for and received the grant between 1842 and 1845. The owners divided the rancho in 1868, and Workman foreclosed on his portion in 1876 when ownership defaulted to his lender, Elias Baldwin. Because an unreliable water supply made agriculture difficult, the land was used primarily for cattle grazing. Starting in 1903, Baldwin began parceling off his section of the rancho for about $175 per acre. Max and Robert Dancer created the first irrigation system in the area in the same year, and these two factors led to an increase in settlers. With the water problem solved, agriculture flourished with pumpkins and walnuts as the primary crops; this led to the land being called Pumpkin Center and then Walnut Center. In 1909, the name West Covina was applied by a journalist in

The Covina Argus, and it stuck. The community rallied together and successfully petitioned to become incorporated as a city in 1923 to prevent the land from becoming a sewer farm for the City of Covina.

Rancho Potrero de Felipe Lugo was a 2,043-acre land grant located in the modern City of El Monte, with the San Gabriel River forming its eastern border (Wright 1898). It was originally Pueblo lands owned by Mission San Gabriel. After the Mission was secularized under Mexican rule, the land was granted to Teodoro Romero and Jorge Morillo by Governor Pio Pico in 1845 (Hoffman 1862). After the Mexican-American War, a claim was filed with the Public Land Commission in 1853 and was granted to Jorge Morillo and Juana Maria Verdugo de Romero in 1871 (Willey 1886). It was sold to Francisco Temple by 1874, who lost it in 1876 when it was foreclosed on by Elias Baldwin, to whom Temple had mortgaged the land.

Rancho La Merced was a 2,363-acre land grant located in the modern cities of Monterey Park and Montebello, between Rancho Potrero Grande and Rancho San Antonio, bordered by the San Gabriel River to the east (Wright 1898). It was originally Pueblo lands owned by Mission San Gabriel, and was granted to Casilda Soto de Lobo, the widow of a soldier stationed at the San Gabriel Mission, in 1844 by Governor Manuel Micheltorena (Hoffman 1862). Casilda sold the rancho to William Workman in 1850, who gifted half of the land to both Francisco Temple and Juan Matias Sanchez, respectively. After the Mexican-American War, a claim was filed with the Public Land Commission in 1853 and was granted to Temple and Sanchez in 1872 (Willey 1886). With the failure of the Temple and Workman bank, Elias Baldwin foreclosed on the rancho, which Temple and Sanchez had mortgaged, and it was then purchased by Alessandro Repetto before being sold to Harris Newmark and four other investors in 1886.

Rancho Paso de Bartolo was a 10,075-acre land grant located in the modern cities of Montebello, Whittier, and Pico Rivera, and bordered on the west by the San Gabriel River (Wright 1898). Originally a part of the 300,000-acre Rancho Los Nietos granted to Manuel Nieto in 1784 by Pedro Fages, approximately half of it, including the portion that was to become Rancho Paso de Bartolo, was petitioned by the San Gabriel Mission on the grounds that it encroached on mission lands. Following the secularization of the missions, Rancho Paso de Bartolo was granted to Juan Perez in 1835 by Governor Jose Figueroa (Hoffman 1862). After the Mexican-American War, former governor Pio Pico purchased portions of the land from Perez's heirs and ended up with 8,991 acres, with a claim filed in 1852 and granted in 1881 (Willey 1886).

Rancho San Antonio was a 29,513-acre land grant located in the present-day Cities of Bell, Bell Gardens, Maywood, Vernon, Huntington Park, Walnut Park, Cudahy, South Gate, Lynwood, and Commerce, bordered by the San Gabriel River to the east (Wright 1898). It was granted to Antonio Lugo in 1810 upon completion of military service and was confirmed by Governor Juan Alvarado in 1838 (Hoffman 1862). A claim was filed with the Public Land Commission in 1852 and was patented to Lugo in 1866, splitting the land between his eight children (Willey 1886).

Rancho Santa Gertrudes was a 21,298-acre land grant located in the modern cities of Downey and Santa Fe Springs, encompassing the Gabrieleno village of Nacugna, bordered on the west by the San Gabriel River (Wright 1898). Originally a part of the 300,000-acre Rancho Los Nietos granted to Manuel Nieto in 1784 by Pedro Fages, when the grant was petitioned by the San Gabriel Mission on the grounds that it encroached on mission lands, Rancho Santa Gertrudes was located within the 167,000-acre portion that continued to be Rancho Los Nietos. In 1834, Governor José Figueroa ordered Rancho Los Nietos to be portioned into five smaller ranchos, including Rancho Santa Gertrudes, which was granted to Josefa Cota (Hoffman 1862). It was purchased by Lemuel Carpenter in 1864, who filed a claim with the Public Land

Commission in 1852. Lemuel Carpenter committed suicide in 1859, and the rancho was sold at auction to John Downey and James McFarland, and 17,602 acres were patented to them in 1870 (Willey 1886). The remaining 3,696 acres was granted to Thomas Colima in 1877, upon his filed claim in 1852 (Willey 1886).

Rancho San Pedro was a 75,000-acre land grant located in the present-day Cities of San Pedro, Torrance, Redondo Beach, Hermosa Beach, Manhattan Beach, Lomita, Gardena, Harbor City, Wilmington, Carson, Compton, and portions of Los Angeles, Long Beach, and Paramount (Wright 1898). It was given to Juan Domínguez by the Spanish Crown in 1784 upon his completion of military service (Gillingham 1961). A portion of the rancho, 48,000 acres, was regranted to his nephew Cristóbal Domínguez in 1822 by the Mexican government (Hoffman 1862). An extended legal battle occurred over the grant between the Sepúlveda and Domínguez families between 1817 and 1883, resulting in the portioning into 17 parcels, with 31,629 acres awarded to the Sepúlveda family in 1882, known as Rancho de Los Palos Verdes (Gillingham 1961). After the Mexican-American War, a claim was filed for the rancho in 1852, with a patent for 43,119 acres granted to Manuel Domínguez (Willey 1886).

1.6.4.2 Historic Flood Control Efforts

The San Gabriel River was channelized as part of the massive Los Angeles County Drainage Area flood control program. Prior to river channelization efforts and dam construction, floods ravaged the Los Angeles Basin, bringing rock, gravel, and debris in addition to floodwaters.

> The earliest recorded incident occurred in the winter of 1771, when the San Gabriel River overflowed its banks. The earliest record of flooding on the Los Angeles River was in 1811. In 1815, the Los Angeles River changed its course, destroying the plaza and agricultural fields of Los Angeles Pueblo. In 1825, the river changed course again, approximating its present channel. Other major floods occurred in 1832, 1842, and 1859. During the winter of 1861-1862, a recordbreaking flood devastated the state. Great rafts of drift wood flowed down the Arroyo Seco and formed dams in the Los Angeles River that forced the swelling current to cut new channels. The deposited driftwood provided fuel for the residents of Los Angeles for several years. The winter of 1867-1868 also saw major flooding. The San Gabriel River cut a new channel and emptied into Alamitos Bay. Formerly, the mouth of the San Gabriel River had been in San Pedro Bay. Other floods occurred in 1876, ’79, ’84, ’86, ’87, ’89, and 1890. In 1891, the San Gabriel again changed course, causing the Rio Hondo and Lexington Wash to become its major channels. Prior to the late 1880s, floods, although causing extensive damage, did not create a general demand for preventive measures. Limited development and subsequent low property values did not warrant the cost of a large-scale flood control project [Van Wormer 2015].
>
> Between the late 1880s and 1920, accelerated development and growth in both rural and urban areas occurred throughout the Los Angeles Basin. Los Angeles County’s population jumped from 101,454 in 1890 to 504,131 by 1910. By the end of the first decade of the twentieth century, growth of the metropolitan, industrial, and agricultural districts in the area had reached a point where floods were a serious problem and threatened the continued existence and further development of Los Angeles. Floods had become more frequent and destructive during the early years of the twentieth century as a result of increased development, which stripped the terrain of its natural

> vegetation, thereby increasing the velocity and destructiveness of flood waters. The winter of 1910-11 saw devastating floods along the San Gabriel River that destroyed bridges and inundated fertile farm land with sterile sand and silt [Van Wormer 2015].

The Los Angeles County Flood Control District was created by an act of the California State Legislature in June 1915, its purpose being "to provide for the control and conservation of flood, storm, and other waste waters and to conserve such waters for beneficial and useful purposes." "By December 1933, works of the Los Angeles County Flood Control District that had either been completed or were in progress included 16 reservoirs; 412 miles of regulated mountain and foothill watersheds; spreading grounds on Thompson Creek, Pacoima Wash, San Antonio Wash, and the San Gabriel River; and 132 miles of permanently improved drainage channels" (Van Wormer 2015). Although additional channel improvements were still needed throughout the Los Angeles Basin, the public voted down bond issues in 1926 and in the early 1930s; an appeal to the federal government for funds was also denied. Unfortunately, on New Year's Day 1934, floodwaters carrying tons of mud, rock, and debris inundated the communities of Glendale, Montrose, and La Crescenta, leaving 41 people dead and millions of dollars in property damage. Federal legislation in the mid- to late-1930s led to the Los Angeles County Drainage Area project undertaken by the U.S. Army Corps of Engineers. Another flood in 1938, which left 100 people dead and $35 million in damages, spurred on the flood control efforts; all the previously installed flood control facilities functioned properly, saving lives and preventing damage. A comprehensive plan for the Los Angeles County Drainage Area was completed in 1940.

> For the Los Angeles River drainage, the project included Hansen, Sepulveda, and Lopez flood control basins; construction of debris basins at the mouth of 17 tributary canyons; improvement of 49.07 miles of main channel, and 53.42 miles of tributary channels; and the reconstruction of 109 bridges. For the San Gabriel River drainage, similar works were approved, including Santa Fe and Whittier Narrows flood control basins, debris basins on seven tributaries to the Rio Hondo; improvement of 35.6 miles of main channel and 69.16 miles of tributary channels on the San Gabriel, as well as an additional 9.76 miles of main channel and 35.23 miles of tributary channels on the Rio Hondo; and the reconstruction of 207 bridges. Improvements were also projected for Ballona Creek, consisting of debris basins in two tributary canyons, 2.3 miles of main channel improvement, 23.67 miles of tributary channel improvement, and reconstruction of 126 bridges [Van Wormer 2015].

Work on the Santa Fe Dam, located adjacent to the backbone alignment in the city of Irwindale, was temporarily halted during World War II, and the dam was completed in 1949.

> The dam functions as a dry dam, with its reservoir empty most of the year. During large floods, water is stored behind the dam and then released as quickly as possible without exceeding the capacity of downstream levees. Releases from Santa Fe are coordinated with Whittier Narrows Dam 10 miles (16 kilometers [km]) downstream, as well as the upstream Cogswell, San Gabriel, and Morris Dams, to provide flood protection to cities along the San Gabriel River. By capacity, it is the second largest dam along the San Gabriel, after Whittier Narrows [Van Wormer 2015].

2.0 STUDY METHODS

HELIX requested a records search of the California Historical Resources Information System (CHRIS) from the South Central Coastal Information Center (SCCIC) on March 29, 2022; which was completed and received on May 3, 2022. Based on revisions to the project subsequent to the original records search, supplemental records searches were requested or conducted on February 28 and November 22, 2022; July 25, 2023; and January 3, 2024. The records searches covered a 500-foot buffer around the Joint Treatment Site and on either side of the backbone alignment and included the locations and records for archaeological and historic built environment resources, historic addresses, locations and citations for previous cultural resources studies, and a review of the state OHP Built Environment Resource Directory (BERD). The records search summary and maps are included as Appendix B (confidential, bound separately) to this report.

In addition to site records, reports of previous archaeological studies were reviewed to assess the cultural resource sensitivity, based on the significance of known cultural resources along the backbone alignment and the Joint Treatment Site.

HELIX archaeologists Trevor Gittelhough, M.A., RPA; Paul Smith, B.A.; Dylan Sparkman, B.A.; and Lanice Powless, B.A., surveyed the backbone alignments for cultural resources on August 15 and 22, 2022. The archaeological survey within portions of the backbone alignment within existing paved roads was conducted as a "windshield" survey, with a pedestrian survey undertaken in areas of open ground. On January 11, 17, and 29, and March 18, 2024, HELIX archaeologists James Turner, M.A., RPA, and Julie Roy, B.A., surveyed the Joint Treatment Site and additional components of the backbone alignment. To the extent feasible, the cultural resources survey area was walked in parallel transects spaced 10 meters (m) apart; however, thick vegetation and urban development in some areas hampered this effort. Additionally, a built environment windshield or reconnaissance-level survey for those properties 50 years of age and older falling within the cultural resources survey area was conducted, as described below.

HELIX architectural historians, Marina Khrustaleva, M.A., and Nelson White, M.A., served as the principal investigators for architectural history. The built environment survey within portions of the backbone alignment within existing paved roads was conducted as a "windshield" survey by Mx. Gittelhough, Ms. Khrustaleva, and Samantha Davis, B.A., on June 13, 2022. The survey area included 75 feet on each side of the backbone alignment, as shown in **Figure 3**. In addition to the survey, Ms. Khrustaleva closely examined Google Earth with a BERD resources layer to identify previously recorded historic-era built environment resources on the street frontages adjacent to the project alignment.

Mx. Gittelhough and Ms. Khrustaleva conducted the second field investigation or reconnaissance-level survey on August 18, 2022. It consisted of closer examination and photography of the exterior of potential historic buildings and structures 50 years of age and older falling within the cultural resources survey area. Field notes included resource descriptions, details of architectural style and sub-style, modern modifications and additions, and information on current condition and integrity.

3.0 CHRIS RECORDS SEARCH RESULTS

The SCCIC has a record of 175 cultural resources studies conducted within the 500-foot search radius of the backbone alignment and Joint Treatment Site, 78 of which cover portions of the survey area. At least

half of the cultural resources survey area has been surveyed for cultural resources in the past, based on the records search maps.

In total, 62 cultural resources have been previously recorded within the 500-foot search radius; 22 of which overlap the backbone alignment or Joint Treatment Site (**Figures 4a-g**; **Table 1**, and **Table 2**, respectively). Of the overlapping resources, 6 are archaeological sites and 16 are built environment resources, all of which are described in Section 4.1 *Previously Recorded Resources*. All the previously recorded archaeological resources overlapping the cultural resources survey area are of historic age with the exception of two: the Gabrieleno village of *Sejat*, and the Mojave Road, which includes both historic and precontact elements. Seven of the built environment resources are considered historical resources for the purposes of CEQA and the NHPA, as described below.

Table 1
PREVIOUSLY RECORDED ARCHAEOLOGICAL RESOURCES OVERLAPPING THE PROJECT SITE

Resource Number (P-19-)	Resource Number (CA-LAN-)	Age and Resource Type*	Description	Recorder, Date
000182	182	Prehistoric Site	The Gabrieleno village of *Sejat.*	Unknown, 1950; Briggs, 1984; Volta, 2018
001179	1179H	Historic Site	The Pio Pico State Historic Park, containing the Pio Pico Adobe.	Woodward and Swiden, 1984; Volta, 2018
001368	1368H	Historic Site	Historic refuse dump with 15 loci and material dating to between 1910 and 1960.	Strudwick, 1988
003117	3117H	Historic Site	Large historic refuse scatter dating to between the 1890s and 1980s.	Schrader and Bischoff, 2010
003118	3118H	Historic Site	Historic refuse scatter and a historic plow dating to the 1940s.	Schrader and Bischoff, 2010
190501	---	Historic Site	The Amberwood Avenue property, consisting of foundations and open space, dating to the 1960s.	Tinsley Becker and Crane, 2010

* General resource type: site, structure, district, etc.

As noted above, a total of 16 built environment resources have been previously recorded within the alignment or project facilities (see **Table 2**). Of these, seven resources are not eligible for the NRHP or the CRHR, four are eligible for listing on the NRHP or the CRHR, three were considered eligible only for the purposes of the I-605 Corridor Improvement Project, one has not been evaluated, and one was noted as “needs to be reevaluated.” Although it is not reflected in the CHRIS data, the resource that was noted as needing to be reevaluated (the San Gabriel River Levee) is a portion of a resource that was

assumed eligible for the purposes of another undertaking, as discussed in section 4.1.2.11. No resources were previously recorded within 500 feet of the Joint Treatment Site.

Table 2
PREVIOUSLY RECORDED BUILT ENVIRONMENT RESOURCES OVERLAPPING THE PROJECT SITE

Resource Number (P-19-)	Resource Name	Description	NRHP/CRHR Eligibility	Recorder, Date
004079	Woodland Farm	A complex of structures, foundations, and ranches dating to between the 1950s and the 1960s that were bisected by the construction of I-605.	Not eligible.	Tinsley Becker, 2010; Cruiess, 2018
186110	Union Pacific Railroad	Segments of the rail line dating to the 1870s.	Considered eligible only for the purposes of the I-605 Corridor Improvement Project.	Ashkar, 1999; Livingstone and Hamilton, 2002; Smith and Harper, 2007; Fieldman, 2018
186112	Union Pacific Railroad	Segments of the rail line dating to the 1870s.	Considered eligible only for the purposes of the I-605 Corridor Improvement Project.	Ashkar, 1999; Herbert, 2002; Ramirez and Smith, 2009; Smith and Steely, 2009; Newcomb, 2017; von Ahrens, 2018
186804	Burlington Northern Santa Fe Railroad	Segments of the rail line dating to the 1880s.	Considered eligible only for the purposes of the I-605 Corridor Improvement Project.	Ballester and Tang, 2002; Ballester, 2002; McCormick, 2007; Smith and Harper, 2007; Daly, 2011; Hill, 2016; Feldman, 2018
186868	KMEP Carson Terminal	A 100-acre storage tank facility site for oil products, constructed in the 1920s with new tanks added between 1932 to the 1950s.	Not evaluated.	Martin, 2003
187085	The Mojave Road	A Native American trail, federal government supply and mail route, a freight and emigrant wagon route, and a recreational trail.	California Historical Landmark # 963 (registered 1985).	Elder 1989; Beherec, 2014

Resource Number (P-19-)	Resource Name	Description	NRHP/CRHR Eligibility	Recorder, Date
188983	The Boulder Dam – Los Angeles 287.5 kV Transmission Line	The Boulder Dam – Los Angeles 287.5 kV Transmission Line, built in the 1930s.	Eligible (Criteria A and C).	Van Wormer and Dolan, 1999; Stewart, 2008; Gibson and Beherec, 2013; Feldman, 2018; Canoff, Barrientos, Hoy, Blood, and Espinoza, 2020
190504	Transmission Line	The Southern California Edison (SCE) Rio Hondo-Amador-Jose-Mesa-Narrows 66 kV Transmission Line, dating to the 1950s.	Not eligible.	Tinsley Becker and Crane, 2010; von Ahrens, 2018
190505	Transmission line	The SCE Mesa-Walnut 220 kV Transmission Line, dating to the 1950s.	Not eligible.	Tinsley Becker and Crane, 2010
190508	Transmission line	The SCE Walnut-Hillgen-Industry-Mesa-Reno 66 kV Transmission Line, dating to the 1950s.	Not eligible.	Tinsley Becker, Crane, and Bassett, 2010; von Ahrens, 2018
190510	Levee	The San Gabriel River Levee, Arcadia-El Monte-Irwindale Span, a levee that dates to the 1950s.	7N - needs to be reevaluated. Considered eligible for the purposes of the Joint Outfall F Unit 3A Trunk Sewer.	Tinsley Becker, 2010
190992	Foothill Blvd. Bridge	Bridge No. 53C0377. T-Girder/Double track vehicular bridge built in 1923 and altered in 1938, 1943, and 1967.	Not eligible.	Elliott, 1988
192309	Transmission Line	The SCE Long Beach-Laguna Bell 60 kV and 220 kV Transmission Lines, dating to the 1920s.	Eligible (Criteria A/1 and C/3).	Williams, 2016
192581	Transmission Line	The SCE Antelope-Mesa 220 kV, dating to the 1940s.	Not eligible.	Tinsley Becker, 2010; Tinsley Becker and Crane, 2010; Leonard, 2014; Williams, 2017; von Ahrens, 2018
192829	---	Santa Fe Springs Park, an approximately 15-acre park dedicated in 1967.	Not eligible.	Hosseini, 2018

Resource Number (P-19-)	Resource Name	Description	NRHP/CRHR Eligibility	Recorder, Date
192850	Dam	The Santa Fe Dam and Flood Control Basin, built in the 1940s.	Eligible (Criteria A/1 and C/3).	Van Wormer, 2015; McDonald and McCroskey, 2020; Polanco, 2021

4.0 STUDY RESULTS

As summarized in the above tables, 22 resources have been previously recorded within the cultural resources survey area. In addition, 11 previously unrecorded resources were identified during the survey conducted by HELIX in August 2022, and one previously unrecorded resource was identified within the Joint Treatment Site during the 2024 field survey. Due to project changes, one of these resources (an abandoned railroad bridge recorded as PW-S-010) is outside the alignment as currently proposed, bringing the total of newly recorded resources within the project area to 11. The newly recorded resources include four historic-aged refuse scatters (PW-S-001, -002, -003, and -004), four railroad segments (PW-S-005, -006, -007, -008), two railroad bridges (PW-S-009 and PW-S-011), and one prehistoric/precontact shell scatter (JWPCP-S-001). The resources are described below, including the recorded descriptions and the resources' current conditions, as noted during the 2022 and 2024 fieldwork. The locations of cultural resources are illustrated in **Figures 5a-c and Figures 6a-g** (Appendix C, confidential, bound separately); California Department of Parks and Recreation forms are in Appendix D (confidential, bound separately).

4.1 PREVIOUSLY RECORDED RESOURCES

4.1.1 Archaeological Resources

4.1.1.1 P-19-000182 (CA-LAN-182)

P-19-000182 (CA-LAN-182) is the mapped location of the Gabrieleno village of *Sejat*, which was first mentioned in native accounts recorded by Father Gerónimo Boscana in 1822. The exact location of *Sejat* is undetermined, and it is noted that establishing its location is controversial because of its connection to *Puvugna*, the birthplace of Chinigchinich (Boxt and Raab 2000; Loewe 2016). Because of this, three presumptive locations are included in the original site record as CA-LAN-182a, CA-LAN-182b, and CA-LAN-182c. Initially described in the 1950 site record as "a knoll of black sandy soil a short distance downstream from Pico Mansion," CA-LAN-182a was arbitrarily established at this location by the SCCIC as partially coinciding with the boundary of P-19-001179 (CA-LAN-182a), the Pio Pico Adobe State Historic Park and extending more than 200 meters to the south. HDR notes that the boundaries of CA-LAN-182b and CA-LAN-182c were mapped in a similar manner, both in Santa Fe Springs.

In 1947 and 1984, excavations within the boundary of CA-LAN-182a were carried out by the Archaeological Survey Association of Southern California (ASA) and the Pacific Coast Archaeological Society (PCAS), respectively. While the results of the 1947 ASA excavations are not included within the site record, the 1984 PCAS excavations resulted in the recovery of "hundreds of small shattered bone fragments" many of which were burned, numerous chert flakes and fire affected rock, and the "occasional piece of fired clay". Unfortunately, there is no spatial information (e.g., maps) pertaining to

these investigations; as such, it is unclear if the SCCIC boundary corresponds to the location of these excavations.

In 2018, HDR contacted Jane Gothold, PCAS Historian/Librarian, who participated in the 1984 excavations. Based on an interview of Ms. Gothold, as well as archival research, HDR determined that the actual location of the site is potentially 400 meters to the south-southwest of the Pio Pico State Historic Park. However, given the lack of spatial data for the excavations, a revised boundary of the site was not proposed.

The backbone alignment, running through Pioneer Boulevard, crosses the southern portion of the mapped location of the resource.

4.1.1.2 P-19-001179 (CA-LAN-1179H)

Initially recorded in 1984 by the Department of Parks and Recreation, P-19-001179 (CA-LAN-1179H) is the Pio Pico State Historic Park, which contains the Pio Pico Adobe, which was built and inhabited by former Governor Pio Pico from 1850 to 1892. At the time of recordation, it was noted that the boundaries, which were arbitrarily designated as the State Historic Park Property boundaries, were designated for the purpose of trinomial acquisition. The backbone alignment crosses through the Park's northeastern corner.

4.1.1.3 P-19-001368 (CA-LAN-1368H)

Site P-19-001368 (CA-LAN-1368H) is a historic archaeological site recorded by Strudwick in 1988, who described it as an extensive multi-use refuse dump site. Strudwick identified 15 loci with concentrated historic materials comprised of glass bottles, bricks, construction debris, ceramic, cans, automobile parts, plastic, and light bulbs, which vary between ages from 1910 to 1960. The site has been extensively impacted by the installation of roads, the Southern Pacific Railroad, and work associated with flood protection. The report associated with the testing of the resource noted that, because the integrity of the site was poor and because the research potential was limited, the resource did not appear eligible for listing on the NRHP (Brock and Elliott 1988).

P-19-001368 (CA-LAN-1368H) was revisited by HELIX in 2022 as part of the field survey. The site has been extensively disturbed through work associated with flood protection, road installation, trail construction, parking construction, and the Southern Pacific Railroad, as noted during the original recordation. No observable change was noted during this survey, and all previously identified loci were relocated. It is bisected by a historic-aged Southern Pacific Railroad line which was also recorded as part of this project (PW-S-006).

4.1.1.4 P-19-003117 (CA-LAN-3117H)

Site P-19-003117 (CA-LAN-3117H) is a historic archaeological site recorded by Schrader and Bischoff in 2010, located in the San Gabriel River floodplain west of Interstate (I-) 605 and south of Lower Azusa Road. They described the resource as a large, extensive, sparse historic refuse scatter comprised of glass bottles and fragments, ceramic fragments, brick fragments, and marine shell consisting of abalone and oyster. Five makers marks were identified, three of which yield dates between 1882 and the present, including two with dates of 1933 to 1968 and 1933 to 1983. The site has been heavily impacted by plowing, grazing, levee construction, and the construction and maintenance of Southern California

Edison transmission lines. This resource was assessed as not eligible for the NRHP or the CRHR (Long et al. 2010).

This site was revisited during the 2022 survey. While all components of the site were observed, the amount of cultural material present was much smaller than originally recorded, likely due to extensive grubbing undertaken by Southern California Edison during maintenance of the transmission lines that bisect the site.

4.1.1.5 P-19-003118 (CA-LAN-3118H)

Site P-19-003118 (CA-LAN-3118H) is a historic archaeological site recorded by Schrader and Bischoff in 2010, located in the San Gabriel River floodplain west of I-605 and north of Ramona Boulevard. They described the resource as a medium-sized, sparse historic refuse scatter comprised of ceramic fragments, glass fragments, and a partially buried iron International Harvester plow from the 1940s. A stacked stone "shrine" was also noted, though it was determined to be modern. The site has been heavily impacted by plowing, grazing, levee construction, and the construction and maintenance of Southern California Edison transmission lines. P-19-003118 was assessed as not eligible for the NRHP or the CRHR (Long et al. 2010).

P-19-003118 (CA-LAN-3118H) was revisited as part of the 2022 survey and found in its original location. However, the site has been heavily impacted, and the only previously recorded material observed during the 2022 survey was the partially buried plow. Additionally, a fragmented cobalt blue medicine bottle was also observed, previously unrecorded as part of this site; it was too damaged to identify the makers mark. The decrease in material is likely due to extensive grading undertaken in association with the use of the area as a construction yard for Southern California Edison and various construction and tree-trimming crews over the past decade.

4.1.1.6 P-19-190501

Site P-19-190501 is a historic-aged resource located between Beverly Boulevard and the San Gabriel River. Originally recorded by Tinsley Becker in 2010, it consists of three concrete slabs that measure approximately 12 feet by 30 feet, likely associated with structures constructed at the site in 1968 for use as a gaging station. The structures and buildings are no longer present, having been removed between circa 1980 and 2003. No associated artifacts were observed at the resource, which was assessed as "6Z," "Found ineligible for NR, CR [California Register] or Local designation through survey evaluation."

HELIX archaeologists visited P-19-190501 during the 2022 field survey. No associated artifacts were observed at the resource, which was found essentially as previously recorded.

4.1.2 Built Environment Resources

4.1.2.1 P-19-004079 (CA-LAN-4079H)

Resource P-19-004079 (CA-LAN-4079H), the Woodland Farm Property, was originally recorded as a historic district by Tinsley Becker in 2010. Woodland Farm is located between Valley Boulevard and Railroad Avenue. It is described as approximately 13 assessor's parcels containing foundational features, water features, refuse scatters, and two extant historic-aged structures associated with the property's uses as a duck farm and equestrian stables. The property was originally owned by Louise Ward between

1913 and 1954, before being acquired by Eigel Bahnsen upon Ward's death. Bahnsen moved the business from its original location near the present-day Narrows Golf Course to its current location. This included relocating several of the buildings, such as the Louise A. Ward Residence. Tinsley Becker recommended the Ward residence individually eligible for listing in the CRHR under Criterion 3: Architecture (Spanish Revival). Much of the property was significantly impacted by the construction of I-605 through portions of the property, and it is no longer in use, with most of the buildings and structures demolished in 2002. Tinsley Becker recommended the district not eligible for the NRHP and the CRHR; assigning it California Historical Resource Status Code 6Z, meaning it was "Found ineligible for NR, CR or Local designation through survey evaluation."

In 2018, Cruiess recommended both the Woodland Farm and the Ward residence not eligible for listing in the NRHP nor the CRHR.

The location of P-19-004079 (CA-LAN-4079H) was revisited by HELIX in 2022 and found to be heavily impacted by the construction/development of a park, with only feature WDF-1, consisting only of its foundation, and the Louise A. Ward Residence still present. A broken concrete pad was also observed that may be part of either WDF-3 or WDF-10. Numerous fragments of concrete and brick foundations are scattered across the site, as well as being concentrated in large spoils piles at various spots, likely the remains of features WDF-2 through WDF-12.

4.1.2.2 P-19-186110

Resource P-19-186110, a segment of the Union Pacific Railroad, was first recorded by Ashkar in 1999. Further segments were recorded as updates in 2002 by Livingstone and Hamilton to include Hobart Tower, in 2007 by Smith and Harper, in 2018 by Feldman, and in 2019 by Kachour. The recorded segments of this site are just portions of the larger Union Pacific Railroad line and include numerous associated features, such as railroad stations, sidings, spurs, and railyards. Furthermore, segments of the rail line were originally other railroad lines that were acquired by Union Pacific throughout its history, including the Southern Pacific, the Pacific Electric, the Los Angeles and San Pedro Railroad, and the Los Angeles and Salt Lake Railroad. These acquired segments have a long history, with the Southern Pacific segments dating to the 1870s. Southern Pacific originally acquired the other railways before itself being acquired by Union Pacific. Pacific Electric rail segments date to 1902, the Los Angeles and San Pedro Railroad to 1868, and the Los Angeles and Salt Lake Railroad to 1901. Both Hobart Tower and the Union Pacific Railroad are considered eligible for listing on the NRHP, though segments of the railroad have been recommended to be not individually eligible for listing in the NRHP. However, in 2019, the State Historic Preservation Officer (SHPO) determined that P-19-186110, as a whole, should be considered as eligible for the NRHP for the purposes of the I-605 Corridor Improvement Project only.

During the 2022 survey, HELIX archaeologists observed two previously unrecorded components of this site, both located south of Firestone Avenue, between the San Gabriel River and I-605. The first feature is an abandoned spur line running west-northwest from the main line and measuring 860 feet in length. The second component is an undefined soil, concrete, and asphalt feature. Beginning on the north side of the rail line, it runs underneath the rail line before continuing southwest for 370 feet. It measures 7 feet high and 37 feet wide, constructed of compacted soil covered with asphalt along its northwest side and concrete at its beginning. It is possible that this was a drainage or access road for the rail line, but no definitive identification or date could be attributed to it. However, as it runs underneath the railroad grade, it can be assumed that it was constructed prior to, or during, the construction of the rail line in the last half of the nineteenth century.

4.1.2.3 P-19-186112

Resource P-19-186112, a segment of the historic Union Pacific Railroad, was first recorded by Ashkar in 1999. Additional portions were updated in 2002 by Herbert, Ramirez and Smith in 2009, Smith and Steely in 2009, Newcomb in 2018, Ahrens in 2018, and Kachour in 2019. The recorded segment of this site is just a portion of the larger Union Pacific Railroad line, which is described above under P-19-186110. As with P-19-186110, SHPO determined that P-19-186112 be considered as eligible for the NRHP, as part of the Union Pacific Railroad, though only for the purposes of the I-605 Corridor Improvement Project.

Portions of P-19-186112 were revisited during the 2022 survey. These portions include the railroad bridge that passes over Peck Road, the intersection of the railroad with Rose Hills Road, and a segment south of Beverly Road and east of the San Gabriel River. HELIX archaeologists noted no change to the resource from its previous recordation.

4.1.2.4 P-19-186804

Site P-19-186804 is the historic Burlington Northern Santa Fe Railway, originally recorded by Ballester and Tang in 2002, with segments added and updated by McCormick in 2007, Smith and Harper in 2007, Daly in 2011, Miller in 2016, Feldman in 2018, and Kachour in 2019. The resource consists of standard gauge freight railroad tracks, on a gravel bed with concrete and wood ties laid perpendicular to the rails. Originally constructed in 1888 by the Southern California Railway Company, the line was acquired by Atchison, Topeka, and Santa Fe Railway in 1905. All components of the railroad have been substantially altered since its original construction, including tracks, ballast, and signal systems. While it has not been found eligible for inclusion to the NRHP, California SHPO recommended in 2019 that the entire line be assumed eligible for the NRHP, for the purposes of the I-605 Corridor Improvement Project alone.

A segment of this site was revisited during the 2022 survey. Located at the intersection of Slauson Avenue and the San Gabriel River, the segment consists of a railway bridge and a portion of a historic-era track. HELIX archaeologists noted no change to the resource from its previous recordation.

4.1.2.5 P-19-186868

P-19-186868 is a 100-acre storage facility site for oil products built in the 1920s; the majority of the large tanks were constructed between 1922 and 1924, with additional tanks being constructed between 1932 and 1933, and in the 1950s (Martin 2003). The facility, now known as the KEMP Carson Terminal, was initially owned by the Flying A Oil Company, which later became Associated Oil Company. Associated Oil Company merged with Tidewater Oil Company in 1940, and the facility was sold to Phillips Oil Company in 1966. In 1976, GATX acquired the facility, and Kinder Morgan would purchase the facility in 2001. As of the date of this report, the portion of the project overlapping the facility has yet to be revisited for Pure Water; however, based on aerial photographs, it is paved.

4.1.2.6 P-19-187085

Resource P-19-187085, the historic alignment of the Mojave Road, was designated California Historic Landmark No. 963 in 1988. Segments were updated in 2014 by Beherec. The Mojave Road is the historic road that connected the U.S. Army Headquarters for Southern California and Arizona Territory at Wilmington, California, to Fort Mojave, Arizona. Prior to that, it also served as an established trail for

Indigenous communities, a freight and mail route, as well as an emigrant wagon route. Later portions of the road were incorporated into the Pacific Electric rail system before being absorbed by the Southern Pacific Railroad. It is currently used by the Southern Pacific Railroad and Los Angeles Metropolitan Transportation Authority light rail.

Portions of P-19-187085 were revisited by HELIX archaeologists in 2022. One portion visited is currently a concrete and asphalt road, Ramona Boulevard, which runs east-northeast-west-southwest through Baldwin Park and El Monte. This is the recorded alignment of the Mojave Road, which has only been recorded through references of historic maps, and so no notable changes were recorded. A second portion was also revisited in 2022, between Del Amo Boulevard and Sepulveda Boulevard. This segment, which was the route of a historic-era Southern Pacific Railroad freight track, is currently in use as a modern Los Angeles Metropolitan Transportation Authority track. A spur line from the freight track was also identified to run west along the south side of Sepulveda Boulevard from the main line for approximately 0.5 mile to access the Shell Oil Refinery and Union Oil Tank Farm, constructed in 1930.

4.1.2.7 P-19-188983

Resource P-19-188983, the Boulder Dam – Los Angeles 287.5 kilovolt (kV) Transmission Line, was originally recorded in 2000 when it was nominated as a historic district for listing in the NRHP under Criteria A and C: Engineering. It was recorded by Stewart in 2008 as an archaeological site, for the segment of the district located in Los Angeles County. Segments of the district continued to be updated, including by Gibson and Beherec in 2013, Feldman in 2018, and Canoff et al. in 2020. The Boulder Dam - Los Angeles 287.5 kV Transmission Line is a 270-mile-long transmission line comprised of two parallel electrical transmission circuits, carried on two sets of steel lattice towers, which runs from Hoover Dam in Nevada to the receiving station at Century Boulevard in Los Angeles. The resource also includes refuse scatters along the alignment, associated with the construction and maintenance of the line. Site record updates note that the resource remains substantially unchanged since its original recording and evaluation. Although this resource does not appear to be listed on the NRHP, an NRHP nomination form was signed by the Acting SHPO in 2000 indicating that the resource is eligible for listing.

Resource P-19-188983 is the historic Boulder Dam – Los Angeles 287.5 kV Transmission Line. Several portions of the site were revisited during the 2022 survey. No change to the resource was noted.

4.1.2.8 P-19-190504

Site P-19-190504 is the historic-aged Southern California Edison Rio Hondo-Amador-Jose-Mesa-Narrows 66 kV Transmission line, located between Montebello and Irwindale. Originally recorded by Tinsley Becker in 2010, and updated by Ahrens in 2018, the resource consists of a 21-mile-long double-circuit transmission line, which runs between the Rio Hondo substation and the Mesa substation, with branching lines connecting to the Amador, Jose, and Narrows substations. The line is comprised of a mixture of steel lattice towers, wooden H-frames, and wooden utility poles, and was constructed in 1951, with a segment of the original line located along Ramona Boulevard and between I-605 and Francisquito Boulevard having been removed. The resource was noted as “6Z,” “Found ineligible for NR, CR or Local designation through survey evaluation.”

Several portions of the site were revisited by HELIX archaeologists during the 2022 survey. No change to the resource was noted.

4.1.2.9 P-19-190505

Site P-19-190505 is the historic-aged Southern California Edison Company Mesa-Walnut 220 kV Transmission line. Originally recorded in 2010 by Tinsley Becker, it consists of a 15-mile transmission line comprised of an electrical transmission double circuit carried on 60 steel lattice towers running from the Mesa substation at Potrero Grande Drive to the Walnut substation at Gale Avenue. Constructed in 1956, this line originally included a mixture of towers and ground wires and was upgraded in 1968, 1971, 1981, and 1982. Eight of the original towers constructed in 1956, located near the Walnut Station on Gale Avenue, are still extant and show no evidence of modifications. This resource was assessed as "6Z," "Found ineligible for NR, CR or Local designation through survey evaluation."

HELIX archaeologists visited P-19-190505 during the 2022 survey; no change to the resource was noted.

4.1.2.10 P-19-190508

Site P-19-190508 is the historic-aged Southern California Edison Company Walnut-Hillgen-Industry-Mesa-Reno 66 kV Transmission line. Originally recorded by Tinsley Becker in 2010, it consists of a 17-mile transmission line comprised of an electric transmission double circuit carried on 75 steel lattice towers that run from the Walnut substation at Gale Avenue to the Mesa substation at Potrero Grande Drive, along with multiple single line extensions to the Hillgen, Industry, and Reno substations. The resource was constructed in 1954 and showed no observable changes from its original construction; it was assessed as "6Z," "Found ineligible for NR, CR or Local designation through survey evaluation."

Several portions of the site were revisited in 2022; no change to the resource was noted.

4.1.2.11 P-19-190510

Site P-19-190510 is the historic-aged San Gabriel Levee, Arcadia-El Monte-Irwindale Span, located between Lower Azusa Road and West Ramona Boulevard. Originally recorded in 2010 by Tinsley Becker, this resource is a segment of the Los Angeles County Drainage Area constructed between 1952 and 1969 by the United States Army Corps of Engineers, Los Angeles District, in concert with the Los Angeles County Flood Control District. It is of concrete construction and measures 460 feet wide by 5,480 feet long. The site record indicates that this resource has not been evaluated for NRHP and CRHR eligibility. While the resource has not been evaluated, the San Gabriel River was assumed to be eligible for the purposes of the Joint Outfall F Unit 3A Trunk Sewer Rehabilitation Project only (408-SPL-2022-0007).

No change to the resource was noted during the 2022 field survey.

4.1.2.12 P-19-190992

This resource, first officially recorded in 1988 by John Elliott, consists of the Foothill Boulevard Bridge (53C0377), which crosses the San Gabriel River. The "T" girder double-track bridge was constructed in the 1920s and extensively remodeled following flood events in 1938 and 1943. Additionally, the railings were replaced in 1967. In 1986, the California Department of Transportation (Caltrans) designated the bridge as a Category 5 historic structure; the bridge was evaluated and found not to be eligible for listing on the NRHP (Hope 2005a).

P-19-190992, the Foothill Boulevard bridge, was observed during the 2022 fieldwork. At this time, no major changes to the bridge were observed, though it is likely that the asphalt within the roadway had been replaced at some point.

4.1.2.13 P-19-192309

Resource P-19-192309, consisting of the Southern California Edison Company Long Beach-Laguna Bell 60 kV and 220 kV Transmission Lines, was originally recorded by Williams in 2016. The resource was constructed in 1927, with the intent to replace the extant network of 33 kV wooden pole lines and required two unique lattice steel towers on either side of Cerritos Channel. The resource consists of a 9.5-mile transmission line comprised of 12 60 kV circuits and a 220 kV double circuit transmission line that runs from the Long Beach substation at Terminal Island to the Laguna Bell substation in Commerce. Williams concluded that the transmission line may be regarded as eligible for listing to the NRHP under Criterion A. Simultaneously, it was recommended eligible for listing in the NRHP under Criterion C: Engineering.

Several portions of P-19-192309 were revisited in 2022, and no change to the resource was noted.

4.1.2.14 P-19-192581

Site P-19-192581 is the historic-aged Southern California Edison Company Antelope-Mesa 60 kV Transmission line. Originally recorded by Tinsley Becker in 2010, it consists of a 118-mile transmission line that runs from the Antelope substation in Antelope Valley to the Mesa substation in Monterey Park. The resource was constructed between 1949 and 1951 as part of the larger Magunden-Mesa Transmission Line and has been previously identified as Big Creek No. 4 – Magunden, Big Creek 3-4 – Mesa, and Big Creek No. 4 Magunden – Mesa. The transmission line itself consists of steel lattice, vertical "A"-frame towers, spaced between 300 and 2,300 feet apart, with an average height of 78 feet. Additional towers were added in 1968, 1973, 1979, and 1981. This resource was assessed as "6Z," "Found ineligible for NR, CR or Local designation through survey evaluation."

Several portions of P-19-192581 were revisited by HELIX in 2022. No change to the resource was noted.

4.1.2.15 P-19-192829

This resource, P-19-192829, consists of the Santa Fe Springs Park, first recorded in 2018 by ICF. The park, dedicated by the City Council in October 1967, consists of a 15-acre open space with a variety of structures, such as an office/bathroom building, a playground, basketball and squash courts, and a fenced-off swimming pool. ICF evaluated the park as not eligible for inclusion on the NRHP or the CRHR.

The Santa Fe Springs Park, P-19-192829, was observed during the 2022 field survey. No changes to the park appeared to have occurred since its initial recordation in 2018.

4.1.2.16 P-19-192850

Resource P-19-192850, the Santa Fe Dam and Flood Control Basin, was first recorded by Van Wormer in 2015 and subsequently updated by McDonald and McCroskey in 2020. Located east of I-605 in Irwindale, construction began on the dam in 1941 but was delayed in 1943 before resuming in 1946 and being completed in 1949. The resource consists of the Santa Fe Dam, reservoir, spillway, associated channels and levees, embankment, intake/outlet works, control building, service building, access gallery,

silting basin, spreading grounds, and county weights and measures yard. The compacted earth-fill gravity dam is 92 feet high by 23,800 feet long, making it one of the largest dams by volume in the United States. The resource was recommended eligible for listing in the NRHP and CRHR under Criteria A/1: Conservation and under Criteria C/3: Engineering.

Portions of the emergency spillway, located on the west side of the flood control basin, were revisited by HELIX in 2022. No significant changes to the feature were observed, with the presence of unhoused individual encampments in the channel and graffiti on the spillway noted. Also observed were isolated historic refuse materials scattered throughout the channel, primarily consisting of individual church-key opened beverage cans.

4.2 NEWLY RECORDED ARCHAEOLOGICAL RESOURCES

The five newly identified archaeological resources are summarized in **Table 3** and described below.

Table 3
NEWLY RECORDED ARCHAEOLOGICAL RESOURCES WITHIN THE PROJECT SITE

Temporary Designation	Age and Resource Type	Description
PW-S-001	Historic-Aged Site	Historic refuse scatter consisting of cans and glass fragments.
PW-S-002	Historic-Aged Site	Large historic refuse scatter comprised of cans, metal fragments and wire, construction debris, glass bottles and fragments, and historic ceramics and sherds.
PW-S-003	Historic-Aged Site	Historic refuse scatter consisting of glass fragments.
PW-S-004	Historic-Aged Site	Historic refuse scatter consisting of glass fragments.
JWPCP-S-001	Prehistoric Site	Large shell scatter.

4.2.1 PW-S-001

PW-S-001 consists of four large, crushed fuel cans, one church-key opened beverage can, two fragments of brown glass, one fragment of green glass, and three fragments of colorless glass. Situated east of the San Gabriel River Trail, the site is located in what appears to be a manufactured ditch formed by the construction of flood control embankments for the San Gabriel River. Sediment consists of coarse silty sand with large granitic boulders, cobbles, and gravels (rounded to subrounded), and visibility is very poor (0 to 25 percent), from vegetation consisting of sagebrush, chamise, buckwheat, and ceanothus.

4.2.2 PW-S-002

Site PW-S-002 is a large and very dense historic-era refuse scatter. The site is comprised of cans, metal fragments and wire, construction materials such as brick, asphalt, and mortar, glass bottles, bottle bases, and fragments of all colors, and historic ceramic fragments and sherds. Located along the east side of the San Gabriel River, it is situated in an elongated north-south oriented depression between the San Gabriel River Trail and the Army National Guard Recruiting office, measuring 25 meters wide by 125 meters long. Sediment consists of coarse light grey silty sand with a high concentration of granitic boulders, cobbles, and gravels (rounded to subrounded) with moderate visibility (26-50 percent) despite dense vegetation comprised of chaparral shrubs and grasses.

4.2.3 PW-S-003

Site PW-S-003 is a sparse historic-aged refuse scatter. The resource consists entirely of glass fragments, comprised of colorless, green, brown, amber, milk-white, aqua, pink, and amethyst glass, approximately 100+ fragments. No diagnostic artifacts or makers marks were observed. Located between the San Gabriel River and I-605, the site is situated in a small depression along the western side of the highway and measures 220 feet (north-south) by 40 feet (east-west). Sediment consists of a light greyish brown coarse silty sand with granitic inclusions comprised of rounded to sub-angular gravels and cobbles. Visibility was poor (0 to 25 percent), due to vegetation comprised of seasonal grasses and shrubs, primarily consisting of invasive weeds and buckwheat.

4.2.4 PW-S-004

Site PW-S-004 is a very sparse historic-era refuse scatter. The resource consists entirely of glass fragments, comprised of colorless, green, brown, amber, milk-white, and aqua glass, approximately 50+ fragments. No diagnostic artifacts or makers marks were observed. Located between the San Gabriel River and I-605, the site is situated next to a small depression along the western side of the highway and measures 165 feet (north-south) by 70 feet (east-west). Sediment consists of a light greyish brown coarse silty sand with granitic inclusions comprised of rounded to sub-angular gravels and cobbles. Visibility was poor (0 to 25 percent), due to vegetation comprised of seasonal grasses and shrubs, primarily consisting of invasive weeds and buckwheat.

4.2.5 JWPCP-S-001

This resource is a large, dispersed, shell scatter, covering much of the eastern half of the Joint Treatment Site survey area and just outside the Warren Facility, with one large locus north of the demolished buildings in the southeast corner of the Joint Treatment Site, and another to the west of the demolished buildings. The observed shell consisted of Pecten, Chione, abalone, and moon snail. Given the disturbed nature of the area, this shell was likely imported and is surficial in nature; rodent burrows in the area contained no shell in the spoils piles, and clumps of shell were present within gravelly areas. Visibility in the area was fair, ranging from 40 to 60 percent due to the presence of gravel, modern irrigation and trash, and grasses.

4.3 NEWLY RECORDED BUILT ENVIRONMENT RESOURCES

As discussed in the Project Description and Location section, Pure Water Southern California would be constructed through the cities of Azusa, Baldwin Park, Bellflower, Carson, Cerritos, Downey, Duarte, El Monte, Industry, Irwindale, Lakewood, Long Beach, Norwalk, Pico Rivera, and Santa Fe Springs, as well as unincorporated Los Angeles County. These cities vary in their historical background and historic preservation regulations. They include one of the oldest cities in Los Angeles County, the City of Long Beach (incorporated in 1897), and comparatively new cities, such as the City of Carson (incorporated in 1968). Some of these cities have comprehensive historic preservation ordinances, with dozens of designated landmarks and historic districts (such as Azusa and Long Beach); many others do not have a historic preservation ordinance or a historic resources inventory (such as Carson, Industry, or Lakewood).

In all cities, the backbone conveyance system would run through suburban development and would not affect downtowns or designated historic districts. It would mostly go through industrial areas,

commercial corridors, post-war residential neighborhoods, and city parks, some of which are immediately adjacent to the San Gabriel River. Construction itself would be mostly beneath pavement and unimproved areas such as parks. The built environment in these areas is predominantly under 50 years of age.

The backbone alignment would be predominantly constructed within existing paved roads. The built environment survey area included a 75-foot buffer both sides of the backbone alignment, as shown in **Figure 3**. In addition to the previously discussed records search results, which indicated 16 resources overlap the backbone alignment, the BERD was reviewed to further identify any built environment resources that may overlap the project alignment. Any resources included in the BERD that are located within the cultural resource survey area were closely examined and photographed during the reconnaissance-level field survey. This consisted of 12 built environment resources: nine buildings and three bridges. Of these, only the three bridges overlap the project alignment, none of which have been individually evaluated; the nine buildings are within the 75-foot survey area but would not be directly affected by the project. A total of six newly identified built environment resources were recorded during the survey (**Table 4**). Following the recordation of the railroad segments, historic topographic maps were utilized to identify the segments as to their ownership/affiliation. These resources are described below.

Table 4
NEWLY RECORDED BUILT ENVIRONMENT RESOURCES THAT OVERLAP THE PROJECT SITE

Temporary Designation	Age and Resource Type	Description
PW-S-005	1960s; Railroad	Two segments of the Southern Pacific Railroad located between the San Gabriel River and I-605.
PW-S-006	Historic-Age Railroad	Three segments of the Pacific Electric Railroad located between the Puente Largo Bridge and Arrow Highway.
PW-S-007	Historic-Age Railroad	Two small segments of the Atchison Topeka and Santa Fe Railroad.
PW-S-008	Historic-Age Railroad	A portion of the Pacific Electric Railroad located between the San Gabriel River and I-605 at Los Nietos Road.
PW-S-009	1923; Bridge	Bridge No. 53C1406 (Main Street Overpass). A steel girder and floorbeam railroad bridge located at Main Street, south of Sepulveda Boulevard within the City of Carson. Oldest bridge of its type in Los Angeles County.
PW-S-011	1950; Bridge	Bridge No. 53C0739 (Del Amo Boulevard Overpass). A riveted plate girder railroad bridge built for the Union Pacific Railroad.

4.3.1 PW-S-005

Resource PW-S-005 is a segment of the Southern Pacific Railroad. The Southern Pacific Railroad is a rail system that runs throughout the southwestern United States but with an emphasis in California. This segment is part of the system of rails in the greater Los Angeles region, with numerous interconnected lines connecting cities and neighborhoods in the region. There are a number of associated features

along its entire length, including railroad stations, sidings, spurs, railyards, and bridges. Only a small portion of this resource was recorded during the field survey due to survey constraints; the recorded portion consists of two segments, with two connected spurs, located between the San Gabriel River and I-605 extending from the Whittier Junction of the Union Pacific to the Whittier Line of Pacific Electric. The main portion of rail was constructed in 1962 to connect to the Los Nietos yard, with the spur line added to connect to the Pacific Electric Whittier Line.

4.3.2 PW-S-006

Resource PW-S-006 is a segment of the Pacific Electric Railroad. The Pacific Electric was a railroad that ran throughout the greater Los Angeles region, with numerous interconnected lines connecting cities and neighborhoods in the region. As with other railroads in the area, a number of associated features can be found, including railroad stations, sidings, spurs, railyards, and bridges. Three segments of an offshoot from the Monrovia-Glendora Line, located between the Puente Largo Bridge (P-19-190993) and Arrow Highway, were recorded as PW-S-006. While the Monrovia-Glendora Line was constructed in 1903, the segment recorded here was constructed in 1952 as a freight line to connect industrial manufacturing in Azusa to the Southern Pacific Railroad main line. Eventually, the line came under the control of Southern Pacific.

4.3.3 PW-S-007

Resource PW-S-007 is a segment of the Atchison Topeka and Santa Fe Railroad (ATSF). The ATSF is a standard gauge railroad that runs across much of the nation, beginning in Chicago, including several lines through the greater Los Angeles area. There are a number of associated features along its entire length. Only a small portion of this resource was recorded for the current project, consisting of two small sections limited to the current cultural resources survey area and 225 feet to either side. The ATSF segment recorded here was constructed in 1887 and ran from San Bernardino to Pasadena. The company extended from Pasadena to downtown Los Angeles in 1906, when the ATSF purchased the Los Angeles and San Gabriel Valley Railroad. It is currently in use as the Gold Line, run by Amtrak, which has controlled the route since 1971. Like many other older rail lines that see continued use, this segment retains few attributes of its early years, due to the numerous modern alterations necessary to keep it in active service, such as upgrades to, and replacements of, track, ballast, and signal systems.

4.3.4 PW-S-008

Resource PW-S-008 is a segment of the Whittier Line of the Pacific Electric Railroad. The segment is located between the San Gabriel River and I-605 at Los Nietos Road, though the line extends from Long Beach to Whittier. This segment was constructed in 1903, with operations beginning in 1904 by the Los Angeles Inter-Urban Electric Railway. Southern Pacific assumed operation of the line in 1908, and it was acquired by them in 1911. The line was abandoned in 1938; however, the proposed West Santa Ana Branch Transit Corridor is expected to use this segment. This rail line exhibits historical characteristics of the Pacific Electric rail system, which, in the 1920s, was the largest railway system in the world.

4.3.5 PW-S-009

Resource PW-S-009 (Bridge No. 53C1406) is a railway bridge, constructed in 1923, as part of the Burlington Northern and Santa Fe Railway. It is the oldest steel girder and floorbeam bridge in Los Angeles County. It crosses over Main Street, 0.25 mile south of Sepulveda Boulevard, in Carson. The

segment recorded as part of the current project is limited to the cultural resource survey area and an additional 75 feet to either side of the cultural resource survey area. The original portion of the Harbor Subdivision was constructed in 1920 to connect the original subdivision at El Segundo to the Los Angeles Harbor. However, this segment was not constructed until 1923. This particular segment consists of an overhead bridge, constructed of steel and set on concrete bases on either side of South Main Street, over which a standard gauge rail line crosses over South Main Street. It was not evaluated as part of the Caltrans Statewide Historic Bridge Inventory Update and is included in Appendix B of that document (Category 4 bridges) (Hope 2005b).

4.3.6 PW-S-011

Resource PW-S-011 (Bridge No. 53C0739) is a railway bridge constructed in 1950 as part of the Union Pacific Railroad, per the Caltrans historic bridge inventory (Hope 2005b). It crosses over Del Amo Boulevard, 0.2 mile west of Atlantic Avenue, in Long Beach. The design of this bridge is similar to Atlantic Boulevard Overpass, built in 1932 just 650 feet away, California bridge number 53C0593. Therefore, the build date may need additional verification.

Both PW-S-009 and PW-S-011 are riveted plate girder bridges (or pony girder bridges with floorbeam system). Per Caltrans, this type of bridge was not individually surveyed and evaluated as part of the bridge survey and evaluation (Hope 2005b) and was given a Category 4 (unevaluated) designation. These are bridges that do not appear to be individually significant but are associated with larger properties that have not been evaluated, including railroads (Hope 2005b). Neither of these bridges would be affected by Pure Water's proposed scope of work because the backbone alignment would be within existing paved roads.

5.0 IMPACTS AND MANAGEMENT RECOMMENDATIONS

5.1 SUMMARY OF CULTURAL RESOURCES

Twenty-two previously recorded cultural resources and 11 newly recorded resources, for a total of 33, have been identified that overlap the backbone alignment or project facilities: 22 built environment resources and 11 archaeological resources. Four of these resources are built environment cultural resources that have been recommended eligible for the NRHP and/or CRHR and/or local designation and therefore are historical resources for the purposes of CEQA and historic properties per the NHPA. An additional four built environment resources have not been formally evaluated but have been assumed eligible for the purposes of specific projects. Seven of the built environment resources have been found not eligible, and the remaining seven have not been evaluated.

Regarding identified archaeological resources, only one, the village site of *Sejat*, has been recommended as eligible. Four of the sites have been recommended as not eligible, and the remaining six have not been evaluated, including the five archaeological resources recorded as part of the current study. Some areas of the backbone alignment have a moderate to high sensitivity for the presence of buried cultural resources, due to their locations along the San Gabriel and Los Angeles rivers, as well as proximity to mapped historic railways and historic ranchos, and past use of these areas by the Gabrieleno people, even where no precontact resources have been recorded.

The remaining portions of the project are categorized as low-to-moderate sensitivity, due to the high degree of past disturbance and developed nature of these areas and the lack of previously recorded cultural material. There continues to be a potential for buried cultural resources in these areas, due to the alluvial nature of the sediment, but no cultural resources sites have been previously identified in these areas.

Regarding identified built environment resources that are historical resources/historic properties, some areas of the backbone alignment would pass near or would channel through or under them. With the exception of the Santa Fe Dam and Flood Control Basin (P-19-192850), the identified built environment resources are unlikely to be affected by the project.

5.2 PROJECT IMPACTS AND SIGNIFICANCE

The NRHP/CRHR eligibility and potential project impacts to the 33 cultural resources that overlap the project area are presented in **Table 5**. Of those cultural resources, 9 would be subject to project impacts and 24 would not. Of the nine resources that would be affected by the project, five have been assessed as not eligible for listing in the NRHP/CRHR or local designation. One newly identified shell scatter is recommended as not eligible, due to its surficial nature and the fact that it appears to be in imported fill. Two newly identified archaeological resources have not yet been evaluated, awaiting access permissions from the landowners. The Santa Fe Dam and Flood Control Basin, P-19-192850, is an eligible resource and would be affected by proposed trenching for the project in the spillway, as addressed in greater detail in section 5.2.2, *Impacts*.

Table 5
NRHP/CRHR ELIGIBILITY AND POTENTIAL PROJECT IMPACTS TO THE CULTURAL RESOURCES THAT OVERLAP THE PROJECT SITE

Resource Number (P-19-)	Description	NRHP/CRHR Eligibility Recommendation	Project Impacts
000182 (CA-LAN-182)	The Gabrieleno village of Sejat.	Eligible, no information on criteria.	No – tunneling
001179 (CA-LAN-1179)	Pio Pico State Historic Park.	Not evaluated.	No – tunneling
001368 (CA-LAN-1368H)	Historic debris dump.	Not eligible.	Yes
003117 (CA-LAN-3117H)	Large historic refuse scatter.	Not eligible.	Yes
003118 (CA-LAN-3118H)	Historic refuse scatter and a historic plow.	Not eligible.	Yes
004079 (CA-LAN-4079H)	A complex of structures, foundations, and ranches dating to between the 1950s and the 1960s.	Not eligible.	Yes
186110	Segments of the Union Pacific Railroad, dating to the 1870s.	Not evaluated; considered eligible only for the purposes of the I-605 Corridor Improvement Project.	No – tunneling

Resource Number (P-19-)	Description	NRHP/CRHR Eligibility Recommendation	Project Impacts
186112	Segments of the Southern Pacific Railroad, dating to the 1870s.	Not evaluated; considered eligible only for the purposes of the I-605 Corridor Improvement Project.	No – tunneling
186804	Segments of the Burlington Northern Santa Fe (Formerly Atchison, Topeka and Santa Fe) Railroad, dating to the 1880s.	Not evaluated; considered eligible only for the purposes of the I-605 Corridor Improvement Project.	No – tunneling
186868	KMEP Carson Terminal.	Not evaluated.	No – potential staging areas on pavement outside tank areas
187085	The historic Mojave Road, a Native American trail, federal Government supply and mail route, a freight and emigrant wagon route, and a recreational trail.	Eligible; California Historic Landmark No. 963.	No – tunneling
188983	The Boulder Dam – Los Angeles 287.5 kV Transmission Line, built in the 1930s.	Eligible for NRHP (Criteria A and C).	No
190501	The Amberwood Avenue property, consisting of foundations and open space, dating to the 1960s.	Not eligible.	Yes
190504	The Southern California Edison (SCE) Rio Hondo-Amador-Jose-Mesa-Narrows 66 kV Transmission Line, dating to the 1950s.	Not eligible.	No
190505	The SCE Mesa-Walnut 220 kV Transmission Line, dating to the 1950s.	Not eligible.	No
190508	The SCE Walnut-Hillgen-Industry-Mesa-Reno 66 kV Transmission Line, dating to the 1950s.	Not eligible.	No
190510	The San Gabriel River Levee, Arcadia-El Monte-Irwindale Span, a levee that dates to the 1950s.	Not evaluated; considered eligible for the purposes of the Joint Outfall F Unit 3A Trunk Sewer Rehabilitation Project only.	No
190992	Foothill Boulevard Bridge.	Not eligible.	No
192309	The SCE Long Beach-Laguna Bell 60 kV and 220 kV Transmission Lines, dating to the 1920s.	Recommended eligible (Criteria A/1 and C/3).	No

Resource Number (P-19-)	Description	NRHP/CRHR Eligibility Recommendation	Project Impacts
192581	The SCE Antelope-Mesa 220 kV Transmission Line, dating to the 1940s.	Not eligible.	No
192829	Santa Fe Springs Park.	Not eligible.	No – tunneling
192850	The Santa Fe Dam and Flood Control Basin, built in the 1940s.	Eligible (Criteria A/1 and C/3).	Yes – trenching in spillway
PW-S-001	Historic refuse scatter.	Not evaluated.	Yes
PW-S-002	Historic refuse scatter.	Not evaluated.	Yes
PW-S-003	Historic refuse scatter.	Not evaluated.	No – tunneling
PW-S-004	Historic refuse scatter.	Not evaluated.	No – tunneling
PW-S-005	Two segments of the Southern Pacific Railroad constructed in the 1960s.	Not evaluated.	No
PW-S-006	Three segments of the Pacific Electric Railroad.	Not evaluated.	No
PW-S-007	Two small segments of the Atchison Topeka and Santa Fe Railroad.	Not evaluated.	No
PW-S-008	A portion of the Pacific Electric Railroad located between the San Gabriel River and I-605 at Los Nietos Road.	Not evaluated.	No
PW-S-009	Bridge No. 53C1406 (Main Street Overpass). Railroad bridge located at Main Street, south of Sepulveda Boulevard within the City of Carson. Oldest bridge of its type in Los Angeles County.	Not evaluated.	No – tunneling
PW-S-011	Bridge No. 53C0593 (Del Amo Boulevard Overpass). Railroad bridge built for the Union Pacific Railroad.	Not evaluated.	No
JWPCP-S-001	Large highly disturbed shell scatter in secondary context.	Recommended as not eligible, although not formally evaluated.	Yes – construction activities related to the Joint Treatment Site

5.2.1 No Impacts

Of those 33 cultural resources that overlap the project alignments and facilities, 24 would not be subject to project impacts. These 24 include the following:

- Thirteen resources are either transmission lines that cross over the backbone alignment and whose towers, poles, and other facilities would not be affected, or they are railroad segments that the backbone pipeline would tunnel beneath.

- Three bridges that cross over or adjacent to the backbone alignment and whose structures would not be affected.

- Two refuse scatters that the backbone pipeline would tunnel beneath.

- Two parks (Santa Fe Springs Park and Pio Pico State Historic Park) that the backbone pipeline would tunnel beneath and would not affect any character-defining features of the park.

- One tank facility, the KMEP Carson Terminal, is not within the path of the alignment, though temporary/other impacts may occur to the northwestern corner of the resource as it is mapped. These impacts (from staging/laydown areas, etc.) are proposed in a small area of hardscape that is outside the tanks area.

- One historic road, Mojave Road; the alignment will tunnel beneath the road at both locations where the resource crosses the alignment.

- One prehistoric/precontact village site, *Sejat*, will not be impacted by the project due to tunnelling of the pipeline alignment.

- The San Gabriel River Levee (P-19-190510) would be avoided through project design. The Channelized San Gabriel River has not been formally evaluated under federal designation criteria. However, for the purposes of a separate undertaking, the U.S. Army Corps of Engineers assumed eligibility of the resource. For the purposes of this project, the channel should be assumed eligible under Criterion A: Conservation for its role in Los Angeles County flood control following a series of floods in the early twentieth century, allowing further development, and under Criterion C: Engineering for its design. Therefore, impacts to it must be treated as significant adverse effects until a significance determination and/or evaluation for eligibility has been completed. Pure Water will endeavor to avoid work within the channel and its embankments but, if work in this area cannot be avoided, then a project impacts analysis must be prepared. It would analyze potential direct and indirect impacts, as defined by CEQA Guidelines and the NHPA, from the proposed project. Character-defining features that have the potential to be affected by the proposed project would be identified and recommendations made for avoiding such impacts as appropriate. If impacts cannot be avoided, then appropriate mitigation measures must be developed and implemented.

5.2.2 Impacts

As previously noted, 9 of the 33 cultural resources observed during the field surveys would be subject to impacts from Pure Water construction. Seven of these are archaeological in nature, four of which are not eligible resources, and three that have not been evaluated. Of the two built environment resources that would be directly affected by the project, one (the Santa Fe Dam and Flood Control Basin) has been assessed as NRHP- and CRHR-eligible, the other has been recommended as not eligible for listing.

- Five historic refuse scatters would be affected along the backbone alignment. Three of these scatters (CA-LAN-1368H, CA-LAN-3117H, and CA-LAN-3118H) were assessed as not eligible for listing in the NRHP and CRHR. In addition, all three of these sites have been subject to extreme amounts of disturbance and, at CA-LAN-3118H, the only item observed during the 2022 survey was the plow; the rest of the site appears to have been destroyed by past use of the area. Two newly recorded historic refuse scatters, PW-S-001 and PW-W-002, would be subject to impacts from Pure Water as currently proposed; the sites have not yet been evaluated for NRHP and CRHR eligibility. The research potential of these sites appears to be limited, and it would be difficult to tie them to persons important in the history of the state or region; thus, they do not appear to be eligible resources. However, if Pure Water cannot avoid impacts to these two resources, they will need to be formally assessed. Although it appears unlikely that they represent significant resources, if they are found to be eligible for the NRHP and CRHR, appropriate mitigation measures would need to be developed and implemented. Testing has not yet occurred for these resources, pending access.

- A shell scatter, JWPCP-S-001, would be impacted by the construction activities within the Joint Treatment Site. This resource consists of a large shell scatter located within a previously disturbed area. This site appears to be a secondary deposit and has been subject to a great deal of disturbance; the shell is surficial and appears to be in imported fill. Thus, this resource is recommended as not eligible for listing in the NRHP or CRHR, although no site testing has been conducted.

- The Amberwood Avenue Property (P-19-190501) consists of foundations dating to the 1960s and open space. It has been assessed as not CRHR- or NRHP-eligible.

- Woodland Farm (P-19-004079) is a built environment resource consisting of a complex of structures, foundations, and ranches dating to the 1950s and 1960s that has been assessed as not eligible for the NRHP or CRHR.

- The Santa Fe Dam and Flood Control Basin (P-19-192850) was previously recommended eligible for listing in the NRHP and CRHR under Criteria A/1: Conservation for its “association with the development of the Los Angeles County Drainage Area flood control system” and under Criteria C/3: Engineering “as one of the largest compacted earth fill gravity dams, by volume, in the United States” (Van Wormer 2015). The resource consists of the Santa Fe Dam, reservoir, spillway, associated channels and levees, embankment, intake/outlet works, control building, service building, access gallery, silting basin, spreading grounds, and county weights and measures yard. The backbone alignment would trench and backfill within a narrow strip along the west boundary of the earthen spillway. The project would not result in changes to the use of the spillway nor its historic character. When the project is completed, the earthen nature would remain and appear unchanged. Neither the dam itself nor any other associated features would be affected.

5.3 MANAGEMENT RECOMMENDATIONS

5.3.1 Environmental Commitments

Environmental Commitments (ECs) represent up-front measures that Metropolitan would undertake as part of responsible design and environmental stewardship. The ECs relevant to this environmental

resource category are listed below and are considered within the impact analysis to determine the extent of potential impacts prior to mitigation.

5.3.1.1 General Measure

GM-EC-1: Environmental Awareness Training. Prior to construction, the Contractor shall attend an Environmental Awareness Training with Metropolitan's construction management team and designated environmental monitors (i.e., qualified biologist, archaeologist, Native American monitor, paleontologist, hazardous materials specialist, as applicable). An Environmental Awareness Training program shall inform all employees of the sensitive resources known or with potential to occur in the local area; the sensitivity of the area in which they will be working; and environmental measures and requirements to comply with project approvals and environmental permits and regulations.

5.3.2 Mitigation Measures

The following mitigation measures would be required to address potentially significant impacts associated with historical and archaeological resources.

CUL-MM-1 **Qualified Archaeologist and Architectural Historian.** Metropolitan shall retain a qualified archaeologist meeting professional standards as defined by the Secretary of the Interior to oversee all aspects of archaeological resource monitoring and treatment as the designated Project Archaeologist. Metropolitan shall also retain a qualified architectural historian meeting professional standards as defined by the Secretary of the Interior to oversee all aspects of built environment resource monitoring and treatment.

CUL-MM-2 **Resource Eligibility Determination.** Resources that have not been formally evaluated for significance and that may be disturbed during construction shall be assessed for National Register of Historic Places (NRHP) and California Register of Historical Resources (CRHR) eligibility. Evaluation for NRHP and CRHR eligibility includes documentation on a State Department of Parks and Recreation form by a qualified archaeologist or architectural historian, as applicable. If found eligible, additional measures, such as Historic American Engineering Record documentation and a data recovery excavation at the archaeological sites, shall be implemented in accordance with CUL-MM-3. Any resource considered eligible for NRHP and CRHR listing shall be considered significant.

CUL-MM-3 **Cultural Resources Monitoring and Treatment.** The Project Archaeologist, in conjunction with Metropolitan, shall implement cultural resource monitoring and treatment tailored to Pure Water. Cultural resource monitoring and treatment shall address the disposition plans for any cultural material (e.g., cultural features and artifacts) inadvertently discovered during construction activities. Cultural resource monitoring and treatment shall include archaeological monitoring for ground-disturbing activities in areas of moderate to high sensitivity for the presence of buried cultural resources, testing to evaluate the significance of archaeological resources inadvertently discovered, and specific resource-type treatment. Components for archaeological monitoring and treatment are specified below:

Archaeological monitoring shall be implemented under the direction of the Project Archaeologist to monitor all ground-disturbing activities in areas designated as moderate to highly sensitive for buried cultural resources, including clearing/grubbing, excavation, and trenching activities. In areas that are found to be subject to past disturbance to the degree that cultural deposits would not be anticipated or due to soil/geological age, monitoring would be reduced or halted. Archaeological monitoring is not required for areas designated as low sensitivity.

Should an inadvertent discovery of an archaeological resource occur during construction, Metropolitan's Project Archaeologist shall develop an archaeological testing plan to assess the inadvertent discovery for significance and, if applicable, prepare and implement a treatment plan. If the potentially significant cultural resource is also determined to be a Tribal Cultural Resource, the procedures in TCR-MM-3 shall be followed.

The testing plan shall describe the methods to be used to evaluate the inadvertent find and shall comply with CUL-MM-2. The treatment plan developed for any significant resource may include one or more of the following: avoidance and preservation; protection such as capping; data recovery; analysis; interpretation; curation; documentation; reparation, rehabilitation, or restoration of the affected environment; methods and protocols for all treatment efforts and the disposition of artifacts; and/or the implementation of off-site mitigation.

Upon completing archaeological testing or other treatment activities, the Project Archaeologist shall prepare a technical report to document the results. The technical report shall include the methods and procedures utilized for testing and/or treatment efforts, document the disposition of artifacts, and record all resources on the appropriate California Department of Parks and Recreation forms. The Project Archaeologist shall submit all project-related reports and California Department of Parks and Recreation forms to the appropriate Information Center via the California Historical Resources Information System.

Should built environment resources be encountered that have not been previously evaluated, including resources that have reached eligible age for listing on the NRHP or CRHR during the life of the program, the measures specified in CUL-MM-2 shall be implemented. The resource shall be documented on California Department of Parks and Recreation forms and evaluated for NRHP and CRHR eligibility. If found eligible, impacts to these resources would be considered significant, and appropriate measures, such as Historic American Engineering Record documentation and/or appropriate treatment measures as determined by a qualified architectural historian, shall be implemented.

CUL-MM-4 **Resource Discovery Protocol.** If an archaeological resource is encountered during construction activities, the contractor shall not disturb the resource and shall immediately cease all work within 100 feet of the discovery, notify Metropolitan's construction manager, and protect the discovery area, as directed by the construction manager. The Project Archaeologist shall assess the significance of the discovery per CUL-MM-2 and CUL-MM-3, and the Metropolitan construction manager shall designate an area surrounding the discovery as restricted. The contractor shall not enter or work

in the restricted area until treatment of the discovery is complete and the construction manager provides authorization.

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Appendix A

Resumes of Key Personnel

MARY ROBBINS-WADE, RPA

Cultural Resources Group Manager

Ms. Robbins-Wade is HELIX's Cultural Resources Group Manager and Principal Archaeologist. With 43 years of experience, she manages and oversees archaeological, historic, and interpretive studies and programs, including contract management; design and implementation of survey, research, data recovery, and construction monitoring programs; preservation plans and report preparation. Ms. Robbins-Wade has experience with a broad range of project types, including private developments and public infrastructure. She manages the preparation of cultural resources studies both as stand-alone reports and also in support of CEQA and NEPA compliance efforts. Ms. Robbins-Wade has a strong working knowledge of local, state, and federal laws addressing the protection of archaeological and historical resources. Her Native American consultation experience includes coordinating Native American tribal consultations conducted pursuant to CEQA as revised by Assembly Bill 52 (2014 Session), as well as providing support for federal agency government-to-government consultations with federally recognized tribes pursuant to Section 106 of the National Historic Preservation Act (NHPA). Ms. Robbins-Wade is a Registered Professional Archaeologist (RPA) and meets the U.S. Secretary of the Interior's Professional Qualifications for prehistoric and historic archaeology.

One Alexandria Square Environmental Consulting. Principal Investigator/Cultural Resources Lead for a cultural resources study for a redevelopment project of existing office/scientific research uses to include additional office/lab space (including underground parking), a parking structure, and retail uses. Due to the presence of a known significant archaeological/cultural resource, responsibilities included researching previous archaeological studies, working with the project team to design the project so as to preserve over 75 percent of the significant resource, developing a research design and data recovery plan to mitigate impacts that could not be avoided through project design, and listing the resource on the City's Historical Landmarks list, as well as serving as senior report author.

San Onofre to Pulgas Double Track Phase 1 Project. Principal Archaeologist to conduct a cultural resources survey in conjunction with permitting for a railroad antenna along the Los Angeles to San Diego (LOSSAN) rail right-of-way through Marine Corps Base (MCB) Camp Pendleton. Oversaw records search update at the South Coastal Information Center; contacted the Native American Heritage Commission (NAHC) for a Sacred Lands File search and list of tribal contacts; responsible for report preparation. Work performed as a subconsultant to HNTB under an on-call contract with SANDAG.

Pasadena Water and Power Sunset Reservoir Replacement Historical Resources Evaluation. Cultural Resources Task Lead for a reservoir replacement project in the City of Pasadena. HELIX conducted a cultural resources (archaeology) study and a historic study. A historic district, eligible for the national, state, and local registers was identified

EDUCATION

Master of Arts, Anthropology, San Diego State University, 1990

Bachelor of Arts, Anthropology, University of California, Santa Barbara, 1981

REGISTRATIONS/ CERTIFICATIONS

Registered Professional Archaeologist No. 10294

Caltrans, Professionally Qualified Staff-Equivalent Principal Investigator for Prehistoric Archaeology

Bureau of Land Management Statewide Cultural Resource Use Permit (California), FLPMA Permit No. CA-18-35

County of San Diego, Approved CEQA Consultant for Archaeological Resources

Orange County Approved Archaeologist

Riverside County Approved Cultural Resources Consultant

PROFESSIONAL AFFILIATIONS

Society for American Archaeology

Society for California Archaeology

San Diego Archaeological Center

San Diego History Center

San Diego Museum of Us

San Diego County Archaeological Society

and documented. Work performed as a subconsultant to Kennedy Jenks, with the City of Pasadena as the lead agency under CEQA.

Upper San Gabriel Valley Municipal Water District Direct Reuse System Support. Cultural Resources Task Leader/Principal Investigator for a project developed to increase non-potable recycled water reuse. The project would include the construction of pipelines, booster stations, and a reservoir to extend non-potable recycled water service to portions of the cities of La Puente, Industry, South El Monte, El Monte, and Pico Rivera. The Project also includes plumbing modifications to convert existing water users' irrigation systems from potable water supply to the recycled water supply. Work for the project included records search and literature review, review of historic maps and aerial photographs, Native American outreach, supervision of the field survey, report authorship, and coordination with the State Water Resources Control Board. Work performed for Upper San Gabriel Valley Municipal Water District.

Upper San Gabriel Valley Municipal Water District Indirect Reuse Replenishment. Cultural Resources Task Leader/Principal Investigator for the construction of a pump station at the San Jose Creek Water Reclamation Plant (SJCWRP) West Plant and an approximately 9-mile, 36-inch pipeline from the SJCWRP pump station to the Santa Fe Spreading Grounds (SFSG). Project also includes four new groundwater monitoring wells that would be installed in the SFSG area. Work for the project included records search and literature review, Native American outreach, supervision of the field survey, supervision of the recording of the historic Santa Fe Dam, report authorship, and coordination with project engineers and U.S. Army Corps of Engineers archaeology staff. Work performed for Upper San Gabriel Valley Municipal Water District.

Oceanside Water Utilities Department As-Needed Environmental Consulting Services, 2013-2015. Cultural Resources Task Lead/Principal Investigator for an on-call contract with the City of Oceanside Water Utilities Department. HELIX is providing on-call environmental consulting services, including CEQA compliance documents, surveys, studies, construction monitoring, and related services. Project types include reservoirs, pump stations, lift stations, pipelines, and treatment plants. Work performed for the City of Oceanside Water Utilities Department.

Rowland Water District Future 3 Recycled Water Pipeline. Cultural Resources Task Lead for the cultural resources study in support of the EIR Addendum for the proposed construction of approximately 7,800 lineal feet of 8-inch diameter recycled water pipeline. The pipeline alignment would begin at the intersection of Los Palacios Drive and Fullerton Road, continuing on to Castleton Street and terminating at the intersection of Albatross Road and Colima Road in the unincorporated County of Los Angeles. Oversaw background research and report preparation. Responsible for Native American outreach and co-authored report. Work performed as a subconsultant to AKM Consulting Engineers, with Rowland Water District as the lead agency.

Santa Margarita Water District 3A Water Reclamation Plant Tertiary Treatment Expansion. Cultural Resources Task Leader/Principal Investigator for a project proposed to increase recycled water production capabilities The project would include: increasing the reliability of the aeration system; expanding and/or replacing the existing filters with more effective tertiary filters; expanding the disinfection system; expanding the tertiary effluent pumps; possibly upsizing the discharge pipeline that connects to the District's recycled water distribution system; modifying various in-plant piping and electrical systems, and adding a standby generator to the facility for use in case of a power outage. All improvements would occur within the existing boundaries of the 3A Treatment Plant property located in southern Orange County. Project work included a records search and literature review, review of historic maps and aerial photographs, Native American outreach, and report authorship. Work performed for Santa Margarita Water District.

EDUCATION

Master of Arts, Anthropology, San Diego State University, 2018

Bachelor of Arts, Biology and Anthropology, San Diego State University, 2015

REGISTRATIONS/ CERTIFICATIONS

Registered Professional Archaeologist No. 17338

PROFESSIONAL AFFILIATIONS

Society for Historical Archaeology

Society for California Archaeology

JAMES TURNER

Senior Archaeologist

Mr. Turner is a Registered Professional Archaeologist (RPA) with a Master's degree in Anthropology and field and college-level teaching experience in archaeology. He has five years of experience in Section 106, the Native American Graves Protection and Repatriation Act (NAGPRA) and writing detailed reports. Mr. Turner has archaeological research and fieldwork expertise throughout southern California. He has also received training in identifying and analyzing animal remains in archaeological contexts, historic artifact identification, and technical writing. Mr. Tuner's experience meets the Secretary of the Interior's Professional Qualification Standards for archaeology.

Casa de las Campanas Project. Archaeologist for a 10.1-acre expansion of the Casa de las Campanas Continuing Care Facility in San Diego, California. Conducted a field survey of the proposed project areas, as well as assisted with the production of the Archaeological Resources Report Form. Work completed for Casa de las Campanas.

Sewer and AC Group 793. Staff Archaeologist for sewer line replacements and improvements in the City of San Diego. Prepared Native American Heritage Commission Sacred Land File Search request letter. Work performed for the City of San Diego.

Bounty & Waring Navajo Canyon Long Term Access Project. Archaeologist for the repair of erosion on a long-term access path for the sewer infrastructure in Navajo Canyon. Performed an intensive pedestrian survey of the project area. Work performed for the City of San Diego.

Aliso Creek Canyon Restoration Project. Archaeologist for an erosion repair project in Lake Forest. Conducted a field survey of the project area, performed background research, and produced a cultural resources report. Work performed for the Orange County Department of Public Works.

Peutz Valley Preserve Cultural Surveys and Report. Archaeologist for the proposed construction of an ecological preserve located in the community of Alpine. Conducted historical and archival research regarding the area surrounding the proposed preserve. Work conducted for the County of San Diego.

Lakeside Equestrian Facility Monitoring. Archaeologist for the construction of a 13.91-acre equestrian facility in Lakeside, California. Created cultural resources monitoring plan and prepared final monitoring report. Work performed for the County of San Diego.

Greg Cox Bike Skills Park Construction Monitoring. Archaeologist for the construction of a 3.2-acre bike park facility in the Otay Valley Regional Park, San Diego, California. Created cultural resources monitoring plan and prepared final monitoring report. Work performed for the County of San Diego.

Temescal Canyon - TR 37153. Archaeologist for a due diligence constraints assessment related to cultural resources for an approximately 14.8-acre property located in an unincorporated area of Riverside County, California. Performed constraints assessment and produced a due diligence report. Work performed for KB Home.

Wasson Canyon Project. Archaeologist for a due diligence constraints assessment related to cultural resources for an approximately 74.6-acre property located in the City of Lake Elsinore, Riverside County, California. Performed constraints assessment and produced a due diligence report. Work performed for KB Home.

Rosetta Hills Project. Archaeologist for a due diligence constraints assessment related to cultural resources for an approximately 49.6-acre property located in the City of Lake Elsinore, Riverside County, California. Performed constraints assessment and produced a due diligence report. Work performed for KB Home.

Lake Morena's Oak Shores Eastside Pipeline Looping Project. Archaeologist for the Lake Morena's Oak Shores Mutual Water Company Eastside Pipeline Looping and Pipeline Abandonment Project. The project consisted of improvements to the existing water distribution system. Conducted archaeological monitoring and wrote a letter report summarizing the methods and results of the monitoring program. Work performed for Lake Morena's Oak Shores Mutual Water Company.

Carmel Mountain Road Life Sciences Project. Archaeologist for a proposed commercial development project in the Torrey Hills Community Plan area. Responsibilities included performing background and archival research and producing an archaeological resources report. Work performed for Allen Matkins Leck Gabme Mallory & Natsis, LLP.

Cordial Road Pipeline. Archaeologist for a pipeline replacement project in the unincorporated portion of the City of El Cajon. Performed background research and field survey. Other responsibilities included the production of a letter report detailing the methods and results of the survey, as well as the completion of a site record update to submit to the South Coastal Information Center. Work performed for the Padre Dam Municipal Water District.

The Triangle Project. Archaeologist for an approximately 40.6-acre development center consisting of restaurant, commercial/retail, theater/entertainment, hotel, and office uses in Temecula, Riverside County, California. Prepared the cultural resources study update report and the records search update memo. Work performed for Domenigoni-Barton Properties, LLC.

General Coatings Project. Archaeologist for a due diligence project for the possible future expansion of the General Coatings property. Conducted background research, which included analyzing a records search and viewing historic maps and aerial photographs of the project area. Additional responsibilities included performing a field survey of the project area and producing a cultural resources due diligence report. Work performed for General Coatings.

EDUCATION

Master of Science, Historic Preservation, School of the Art Institute of Chicago, 2006

Bachelor of Arts, Architectural History and Urban Design, DePaul University, 1999

PROFESSIONAL AFFILIATIONS

California Preservation Foundation

Society of Architectural Historians

NELSON WHITE

Senior Architectural Historian

Mr. White is a federally qualified professional, with over 20 years of experience, who exceeds the Secretary of the Interior's Professional Qualifications Standards for architectural history and history (as defined in 36 Code of Federal Regulations Part 61). He is knowledgeable in the history and development of American cities and suburbs, with a focus on residential development and design. His California state-wide experience includes managing and conducting dozens of historical resource surveys and evaluations in compliance with Section 106 of the National Histroric Preservation Act, the California Environmental Quality Act (CEQA) and local ordinances. He has prepared numerous cultural resource studies that utilize federal, state, and local designation criteria to recommend status as a historic property for the purposes of Section 106, as a historical resource for the purposes of CEQA, or as resource under local ordinances. Mr. White utilizes his understanding of the Secretary of the Interior's Standards to facilitate effective project compliance and design review for adaptive reuse and new construction projects within urban and suburban settings. He works closely with clients, lead agencies, and architects to preserve character-defining features of buildings. He is a frequent volunteer for the California Preservation Foundation (CPF) and has twice served on its annual conference steering committee.

Preliminary Historic Integrity Assessment Memorandum for 638-656 S. Midvale Avenue. Project Manager for the preparation of a preliminary historic integrity memorandum of three multi-family residential buildings in Los Angeles. Contributors to the identified Midvale-Kelton Apartment Historic District, the memorandum presented 1) the current historic status, 2) site history, including building permit history and alterations as identified via field survey, 3) the historic integrity of each, and 4) a comparison of alterations to the subject properties to the alterations of non-contributing properties within the Historic District. Conducted intensive-level field survey, archival research, and integrity assessment. Authored memorandum.

Ramona Community Resource Center Cultural Resources Monitoring. Architectural Historian for a proposed community resource center construction project in Ramona, Colusa County. The proposed construction is immediately adjacent to the NRHP-listed Ramona Main Street Colonnade Historic District, which is significant at the local level under Criterion A: Urban Planning and Development for its collection of eucalyptus trees that serve as a living colonnade that runs along Ramona's Main Street. The methods and results of the survey were documented in the Historical Resources Compliance Report (HRCR). The findings of effect were presented in the Findings of No Adverse Effect (FNAE). All reports conform to Caltrans specifications detailed in the Caltrans Environmental Handbook, Volume 2. Prepared HRCR and FNAE.

Otay Water District 870-2 Reservoir Project (2024). Architectural Historian for the proposed 870-2 Reservoir Project located in unincorporated San Diego County. The

project involves the removal and replacement of a 1963 potable water reservoir consisting of earthen embankments with a geomembrane liner and floating cover. HELIX prepared historic contexts of both the OWD and earthen reservoirs and evaluated the reservoir under federal and state criteria. Conducted archival research. Prepared historic contexts of the OWD and earthen reservoirs, and evaluation. Prepared DPR 523 series resource forms.

University of California Riverside (UCR) Opportunity to Advance Sustainability, Innovation and Social Inclusion (OASIS) Park Project (2024). Architectural Historian for a proposed UCR campus redevelopment project. UCR proposed to demolish an existing Mid-Century Modern-style former hotel (1968 and 1984), that from 1992 to 2018 housed UCR's extension program (UNEX), and to construct a new research and office building. HELIX utilized the existing historic contexts and evaluation guidelines to help evaluate the property under federal and state significance criteria. With partial funding from the U.S. Department of Housing and Urban Development (HUD), CEQA and NEPA requirements were met by presenting the results of the evaluation in DPR 523 series resource forms and in the "Environmental Assessment (EA) and Addendum No. 3 to the Program Environmental Impact Report for the University of California, Riverside 2021 Long Range Development Plan" for the project. Conducted archival research and evaluation. Prepared DPR 523 series resource forms.

Morgan Territory Road Bridges 5.0 and 5.2 Replacement County Project (2024). Architectural Historian for a proposed bridge replacement project in Contra Costa County. The Contra Costa County Public Works Department proposed to remove and replace two functionally obsolete 1954 single-span timber stringer bridges. HELIX conducted an archaeological and built environment records search and an intensive-level field survey within the APE for prehistoric and/or historic resources and evaluated the two bridges under federal and state designation criteria. Results were presented in a combined Cultural Resources Assessment Report. Conducted archival research and bridge evaluations. Co-authored report and prepared DPR 523 series resource forms. Work performed for the Colusa County Department of Public Works with Caltrans as the lead agency.

Finks Road Bridge Project (2023). Architectural Historian for a proposed bridge replacement project in Colusa County. The Colusa County Department of Public Works, in cooperation with the Federal Highway Administration (FHWA), proposed to remove and replace a functionally obsolete 1930 four-span concrete bridge crossing the Glenn-Colusa Main Canal. Although the bridge was previously determined by Caltrans to not be eligible for listing in the NRHP, SHPO guidance stipulated that the canal be assumed eligible. HELIX conducted an intensive-level field survey within the APE for prehistoric and/or historic resources. The methods and results of the survey were documented in the Historic Properties Survey Report (HPSR), Archaeological Survey Report (ASR), and Historical Resources Evaluation Report (HRER). The results of the records search, background research, Native American consultation, and archaeological survey were presented in an Archaeological Survey Report (ASR). The findings of effect were presented in the Findings of No Adverse Effect (FNAE). All reports conformed to Caltrans specifications detailed in the Caltrans Environmental Handbook, Volume 2. Revised and addressed Caltrans comments in all reports and prepared the FNAE.

225 N. Bristol Avenue Historical Resource Assessment (2023). Project Manager for the preparation of an Historical Resource Assessment (HRA) of a 1936 Hollywood Regency-style residence located within a special planning district in Los Angeles. Evaluated the property under federal, state, and local criteria. Conducted intensive-level field survey, archival research, and evaluation. Authored HRA. Prepared DPR 523 series resource forms. Project Manager for the preparation of an Historical Resource Assessment (HRA) of the 1936 Hollywood Regency-style residence located within a special planning district. Evaluated the property under federal, state, and local criteria. Conducted intensive-level field survey, archival research, and evaluation. Authored HRA. Prepared DPR 523 series resource forms.

Trevor Gittelhough, RPA

Cultural Resources Assistant Project Manager

HELIX Environmental Planning

Summary of Qualifications

Trevor H. Gittelhough is an archaeological assistant project manager, specializing in underwater cultural resources, with over a decade of experience in archaeology, including both cultural resources management and academic projects. This experience includes site monitoring; surveys and excavations; laboratory sorting, cataloging, and analysis; and conservation. He has conducted environmental, paleontological, and cultural resources work throughout California, Nevada, Oregon, and Florida in support of compliance with California Environmental Quality Act (CEQA), National Environmental Policy Act (NEPA) and Sections 106 and 110 of the National Historic Preservation Act (NHPA) for public and private sector clients including a range of local, state, and federal agencies such as Southern California Edison, the United States Navy and Air Force, Caltrans, and FEMA.

He has experience in team management in the terrestrial and underwater archaeological management sectors, with expertise in implementation of mitigation and monitoring projects, report production, and coordination with Indigenous groups. Underwater and Indigenous archaeology are Mr. Gittelhough's specialties, which are enhanced by his skill and experience in sailing, diving, and prehistoric technology construction. His research interests include maritime technologies and practices, settlement patterns, trade and exchange, colonial interactions, prehistoric technologies, and anthropological/ archaeological theory. In addition, he has expertise in illustration of artifacts, stratigraphic and excavation unit profiles, site maps, GIS, remote sensing, and underwater excavation and mapping techniques.

Mr. Gittelhough's technical skills include terrestrial and submerged archaeological survey, excavation, and site testing. He has authored numerous site records and technical reports detailing the results of cultural resources work, as well as academic articles. He has also had thorough training in artifact analysis and specializes in lithic analysis and maritime conservation. His academic background includes advanced training in conservation and underwater archaeology. He has extensive training at the graduate level and earned his M.A. from East Carolina University. Mr. Gittelhough is Registered Professional Archaeologist, a member of the Society for American Archaeology (SAA), a member of the Society for Historical Archaeology (SHA), and a member of the Society for California Archaeology (SCA).

Selected Project Experience

Bouquet Canyon Road Project, Los Angeles County, CA (2021). Cultural Resource Specialist serving as lead archaeological monitor and technical report writer for this project in the City of Santa Clarita. This work included monitoring all ground-disturbing

Education

Master of Arts, Maritime Studies, East Carolina University, 2019

Bachelor of Arts, Archaeology, University of California, Santa Barbara, 2011

Registrations/ Certifications

Register of Professional Archaeologists, 2018

HAZWOPER Certification; 2018 – 2021

ESRI GIS Certification
AAUS Scientific Diver
Red Cross First AID
Red Cross CPR DAN
Divers First Aid

Professional Affiliations

Society for American Archaeology
Society for Historical Archaeology
Society for California Archaeology

activities associated with geotechnical studies, such as drilling and trenching. Monitoring was also undertaken during ground penetrating radar studies of portions of the project area.

California Crossings, Attisha Trust Parcel, San Diego County, CA (2021). Cultural Resource Specialist for a cultural resources study in support of biological mitigation measures (burrowing owl habitat creation) for the proposed Project in the County of San Diego. Prepared an archaeological resources assessment in compliance with state and federal regulations. Scope included a cultural resources records search, review of historic maps and aerials, and preparation of a technical report.

Enchanted Hills Park Project, Perris, Riverside County, CA (2021). Cultural Resource Specialist for a monitoring program during initial sitework for this project in the City of Perris, in Riverside County. Prepared monitoring letter report.

Mission Basin Groundwater Purification Facility Well Expansion and Brine Minimization Project, Oceanside, San Diego County, CA (2021). Cultural Resource Specialist for a cultural resources study in support of the proposed Project in the City of Oceanside, in northern San Diego County. Prepared a monitoring results memo for monitoring of geotechnical investigations and assisted with preparation of the cultural resources technical report in compliance with state and federal regulations. Scope included a cultural resources records search, preparation of a letter report/memo, and assistance with the technical report.

Oak Shores/Lake Morena Views MWC Consolidation Project, San Diego County, CA (2021). Cultural Resource Specialist for a cultural resources study in support of the proposed Project in eastern San Diego County. Assisted with preparation of a cultural resources technical report in compliance with state and federal regulations, as well as State Water Resources Control Board. Scope included a cultural resources records search, review of historic maps and aerials, and assistance with preparation of a technical report.

Archaeological Monitoring for the P-586 Missile Assembly Building - San Nicolas Island, Ventura County, CA (2021). Cultural Resource Specialist serving as archaeological monitor and technical report writer. This work included monitoring all ground-disturbing activities, including grubbing, grading, and trenching. Monitoring included close involvement with United States Navy personal and Tribal Members and Observers.

Shady View Residential Project Environmental Impact Report, Chino Hills, San Bernardino County, CA (2021). Cultural Resource Specialist for a cultural resources study in support of the proposed Project in the City of Chino Hills in San Bernardino County. Assisted in the preparation of the technical report in compliance with state and federal regulations. Project scope included a cultural resources records search, review of historic maps and aerials, field survey, and preparation of a technical report.

Marina Khrustaleva, MA

Architectural Historian

HELIX Environmental Planning

Summary of Qualifications

Ms. Khrustaleva is a qualified Historian and Architectural Historian with more than 20 years of experience preparing historic background information and historic contexts, and evaluating buildings and structures under federal, state, and local regulatory requirements. Her expertise includes applying the Secretary of the Interior's Standards for the Treatment of Historic Properties, archival research, historic surveys, significance evaluations, landmark designations, and historic districts documentation. She has completed studies for residential, commercial, military, and industrial properties across California and abroad. She has prepared numerous technical reports including Historical Resources Evaluation Reports (HRERs), Historic Property Survey Reports (HPSRs), Landmark Nomination Forms, and Mills Art Applications to satisfy compliance requirements under California Environmental Quality Act (CEQA) and local governments preservation ordinances. Ms. Khrustaleva has worked for government agencies, non-profit organizations, and private clients in California. She has served as a guest lecturer at the University of Southern California, the University of California at Los Angeles, Caltech, and University of Erasmus (Rotterdam).

Selected Experience

Downey Big Box Historic Resources Evaluation Report (HRER), City of Downey, Downey, California. Architectural Historian for the preparation of an HRER for the Prologis Stewart and Gray Road Warehouse Project in Downey. The subject structures operated as manufacturing and warehouse facilities for Rheem Manufacturing Company and Aerojet General Corporation from 1951 through the early 1990s. Managed an intensive-level HRER that relied on a literature review, archival research, site inspection, and an evaluation of the property in accordance with applicable eligibility criteria. Evaluation included a historic context research for the aerospace industry development in Downey, an analysis of the historic integrity of the complex and its components, and recordation of the resource on the appropriate California Department of Parks and Recreation (DPR) Series 523 forms. Work performed for the City of Downey/Prologis Inc.

Hicks Canyon Channel Restoration Project Historic Resources Evaluation Report, Irvine, Orange County, California. Architectural Historian for the preparation of an HRER for the improvement of a 13.5-acre portion of the existing Hicks Canyon Wash stormwater conveyance, including bank remediation for stability and access, storm drain extensions, and landscaping. Managed an intensive-level HRER that relied on a literature review, archival research, a site inspection, and an evaluation of the property in accordance with applicable eligibility criteria. Documented the subject

Education

Master of Arts in Cultural Management/ Historic Preservation, Moscow Higher School of Social and Economic Sciences /University of Manchester, UK (2003)

Master of Arts, Russian State University of Humanities, Art History/ Architectural History (2000)

Bachelor of Arts, Russian State University of Humanities, Art History/Architectural History (1999)

Professional Certification

International Visitors Leadership Program in Heritage Preservation, USA, 2011

Professional Affiliations

California Preservation Foundation

South Pasadena Preservation Foundation

My Liveable City magazine

Getty Research Institute

structures on California Department of Parks and Recreation (DPR) Series 523 forms. Work performed for BFK Engineers.

Pure Water Southern California Project Cultural Resources Survey/Constraints Analysis, Los Angeles County, California. As Architectural Historian, conducted a historic built environment constraints analysis to support the construction of water purification facilities, a new backbone conveyance system (including pipeline and pump stations), and various appurtenant facilities as required to convey purified water. Conducted a reconnaissance-level survey to examine and photo-document the exterior of potential historic buildings and structures falling within the Pure Water project area. Prepared resource descriptions, details of architectural style and sub-style, modern modifications and additions, and information on current condition and integrity. Work performed for Metropolitan Water District of Southern California.

Frank Gehry Catalogue Raisonné, Volumes 2 and 3. As Architectural Historian, researched Frank Gehry's archive at the Getty Research Institute Special Collections to identify visual materials to be included into the printed catalog and analyzed written documents to reconstruct the history of each project, for the period of 1978-1989. Work performed for Editions Cahiers d'Art (France).

South Pasadena's Design Standards and Design Guidelines for ADUs on Historic Properties. As City of South Padadena's Interim Associate Planner, coordinated the development of Design Standards and Design Guidelines for accessory dwelling units on historic properties. The project was a part of the State Office of Historic Preservation CLG grant program (grants for Certified Local Governments). It was implemented with the help of a consultant, Architectural Resources Group, and received the California Preservation Award in 2022. Work performed for the City of South Pasadena.

South Pasadena Local Landmark Nominations. As Architectural Historian, prepared HRERs, Landmark Nomination forms, Mills Act contract applications for a number of historic resources in South Pasadena, including Rollin Craftsman Cluster historic district and the mid-century Cox Residence by John Galbraith. Work performed for private clients.

Moscow Re:Industrial Report. Principal Historic Resources Analyst and Project Manager for a city-wide context statement on historic industrial resources. Identified and mapped over 150 industrial sites developed between 1850 and 1950; created an overview of their architectural and manufacturing history; analyzed current redevelopment strategies; and suggested best practices for adaptive reuse. The report received Golden Section award by the Moscow Union of Architects in 2021.
Work performed for CENTER Agency for Strategic Development.

Historic Resources Surveys for Cities under 25,000 Residents in Russia. As Architectural Historian, prepared historic context statements and reconnaissance-level historic resources surveys for small historic cities in the Moscow Region (cities of Klin and Ruza, 2014-2015) and Irkutsk Region, Siberia (cities of Tulun, Nizhneudinsk, Zheleznogorsk-Ilimsky, 2020-2021). Surveys were conducted as a part of Specific Plan updates leading to downtown redevelopment projects. Work performed for local governments and redevelopment agencies.

Appendix B

Records Search Results
(Confidential, bound separately)

Appendix C

Cultural Resource Maps
(Confidential, bound separately)

Appendix D

Department of Parks and Recreation Forms
(Confidential, bound separately)