

IS/MND Appendix D

Historic Resources Evaluation Report

Hicks Canyon Channel Restoration Project

Historic Resources Evaluation Report

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ACRONYMS AND ABBREVIATIONS

BERD	Built Environment Resources Directory
CCR	California Code of Regulations
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CHRIS	California Historical Resources Information System
City	City of Irvine
Client	BKF Engineers
CRHR	California Register of Historical Resources
DPR	Department of Parks and Recreation
HELIX	HELIX Environmental Planning, Inc.
HRER	Historic Resource Evaluation Report
I-	Interstate
NETR	Nationwide Environmental Title Research, LLC
NHPA	National Historic Preservation Act
NPS	National Park Service
NRHP	National Register of Historic Places
PRC	Public Resources Code
project	Hicks Canyon Channel Restoration Project
PVC	polyvinyl chloride
SCCIC	South Central Coastal Information Center
SR	State Route
USGS	U.S. Geological Survey

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EXECUTIVE SUMMARY

Purpose and Scope

BKF Engineers (Client) retained HELIX Environmental Planning, Inc. (HELIX) to provide historic resource consulting services in support of the Hicks Canyon Channel Restoration Project (project) in the City of Irvine (City), Orange County, California. Located east of Highway 261 and northeast of Interstate 5, the project area is within the boundaries of Hicks Canyon Wash. The proposed project proposes 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. The purpose of this report is to provide the substantial evidence necessary to determine whether the subject property meets federal, state, or local eligibility criteria and therefore qualifies as a historical resource pursuant to the California Environmental Quality Act (CEQA).

This intensive-level historic resource evaluation report (HRER) relied on a literature review, archival research, a site inspection, and an evaluation of the property in accordance with applicable eligibility criteria. The property was also recorded on California Department of Parks and Recreation (DPR) Series 523 forms.

All activities were conducted in accordance with the requirements of the Public Resources Code (PRC) and CEQA, as well as the applicable best practices and regulations. The City of Irvine is the lead agency under CEQA.

Dates of Investigation

HELIX staff requested a record search of the California Historical Resources Information System (CHRIS) at the South Central Coastal Information Center (SCCIC) on December 1, 2021. The results of the SCCIC record search were completed on December 7, 2021. On October 28, 2022, HELIX Senior Architectural Historian Khrustaleva, MA, and HELIX Assistant Cultural Resources Project Manager Trevor Gittelough conducted a site visit. Field investigation consisted of examination and photography of the exterior of the structures and features within the Hicks Canyon Channel Restoration project area. Field notes included resource descriptions, current conditions, alterations/integrity, and character-defining features. Ms. Khrustaleva served as a principal investigator and co-author of this study. Ms. Khrustaleva meets the Secretary of the Interior's Professional Qualification Standards for architectural history, as codified in 36 CFR Part 61. All evaluation results are documented in this report; the compiled DPR set follows this report in Appendix A, and key staff resumes follow as Appendix B.

Summary of Findings

As a result of this intensive-level evaluation, the 13.5-acre portion of the Hicks Canyon Channel covered by this project **does not appear eligible** for either federal or state. In addition, it is not included on the State Built Environment Resources Directory (BERD). The City of Irvine currently does not have a Historic Preservation Ordinance or the City's inventory of historic resources, or the City's register of designated properties; it is also not a contributor to one of the City's designated historic districts. Therefore, the property **does not qualify as a historical resource under CEQA**.

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1.0 INTRODUCTION

BKF Engineers (Client) retained HELIX Environmental Planning, Inc. (HELIX) to provide historic resource consulting services in support of the Hicks Canyon Channel Restoration Project (project) in the City of Irvine (City), Orange County, California. Hicks Canyon is located in northeastern Irvine, with Culver Drive to the west and Portola Parkway to the east. The project proposes improvements to approximately 13.5 acres of the Hicks Canyon Wash storm drain conveyance, including bank remediation for stability and access, storm drain extensions, and landscaping. The project area includes existing dams, channel walls, storm drains, and a pedestrian crossing.

The purpose of this report is to provide the substantial evidence necessary to determine whether any of the of-age components within the project area, in whole or in part, meet federal, state, or local eligibility criteria as a historic landmark or historic district and therefore qualify as a historical resource pursuant to the California Environmental Quality Act (CEQA). This intensive-level historic resource evaluation report (HRER) assesses the subject property, which includes buildings, structures, and features, in accordance with the criteria of the National Register of Historic Places (NRHP), the California Register of Historical Resources (CRHR), and the City of Irvine General Plan.

All activities were conducted in accordance with the requirements of the Public Resources Code (PRC) and CEQA, as well as the applicable best practices and regulations. The City of Irvine is the lead agency under CEQA.

1.1 PROJECT LOCATION

The project is located in the City of Irvine in Orange County (Figure 1, *Regional Location*), approximately 0.64 mile east of State Route (SR) 261, approximately 1.62 miles west of SR 241, and approximately 1.25 miles northeast of Interstate (I-) 5. It spans two U.S. Geological Survey (USGS) 7.5-minute topographic map quadrangles, those for Tustin and El Toro, in Section 83, Township 5 South and Ranges 9 and 8 West (Figure 2, *USGS Topography*). The project site is bordered by Culver Drive to the west and by residential development to the north, south, and east (Figure 3, *Aerial Photograph*). The Hicks Canyon Hiking and Riding Trail is parallel and adjacent to the project to the north.

1.2 PROJECT DESCRIPTION

The project proposes to regrade and landscape along the channel slopes through Hicks Canyon Wash in compliance with 100-year flow management practices in order to prevent further erosion of the channel, stabilize the channel banks, and protect adjacent residential properties along the southern edge of the channel. The project would also extend the five existing storm drains to connect to the existing 120-inch diameter pipe, thereby allowing the existing 120-inch diameter pipe to convey additional flows. At each storm drain extension, the channel bottom would be excavated to access the existing drainpipe. An additional pipe segment would be installed and connected to the 120-inch diameter pipe using a junction structure and concrete collar and attached to the existing storm drainpipe. The proposed grading would include creating a compacted fill berm over each pipe extension to provide a trail or access crossing. All existing concrete structures are proposed to be removed and disposed of.

2.0 REGULATORY FRAMEWORK

This section describes the applicable regulatory framework considered in this study.

2.1 FEDERAL

2.1.1 National Register of Historic Places

The National Register of Historic Places was established by the National Historic Preservation Act (NHPA) of 1966 as “an authoritative guide to be used by Federal, State, and local governments, private groups and citizens to identify the Nation’s cultural resources and to indicate what properties should be considered for protection from destruction or impairment” (36 CFR [Code of Federal Regulations] 60.2). The NRHP recognizes properties that are significant at the national, state, and local levels. To be eligible for listing in the NRHP, a resource must be significant in American history, architecture, archaeology, engineering, or culture. A property is eligible for the NRHP if it:

- Criterion A** Is associated with events that have made a significant contribution to the broad patterns of our history; or
- Criterion B** Is associated with the lives of persons significant in our past; or
- Criterion C** Embodies the distinctive characteristics of a type, period, or method of installation, or represents the work of a master, possesses high artistic values, or represents a significant and distinguishable entity whose components may lack individual distinction; or
- Criterion D** Has yielded, or may be likely to yield, information important in prehistory or history.

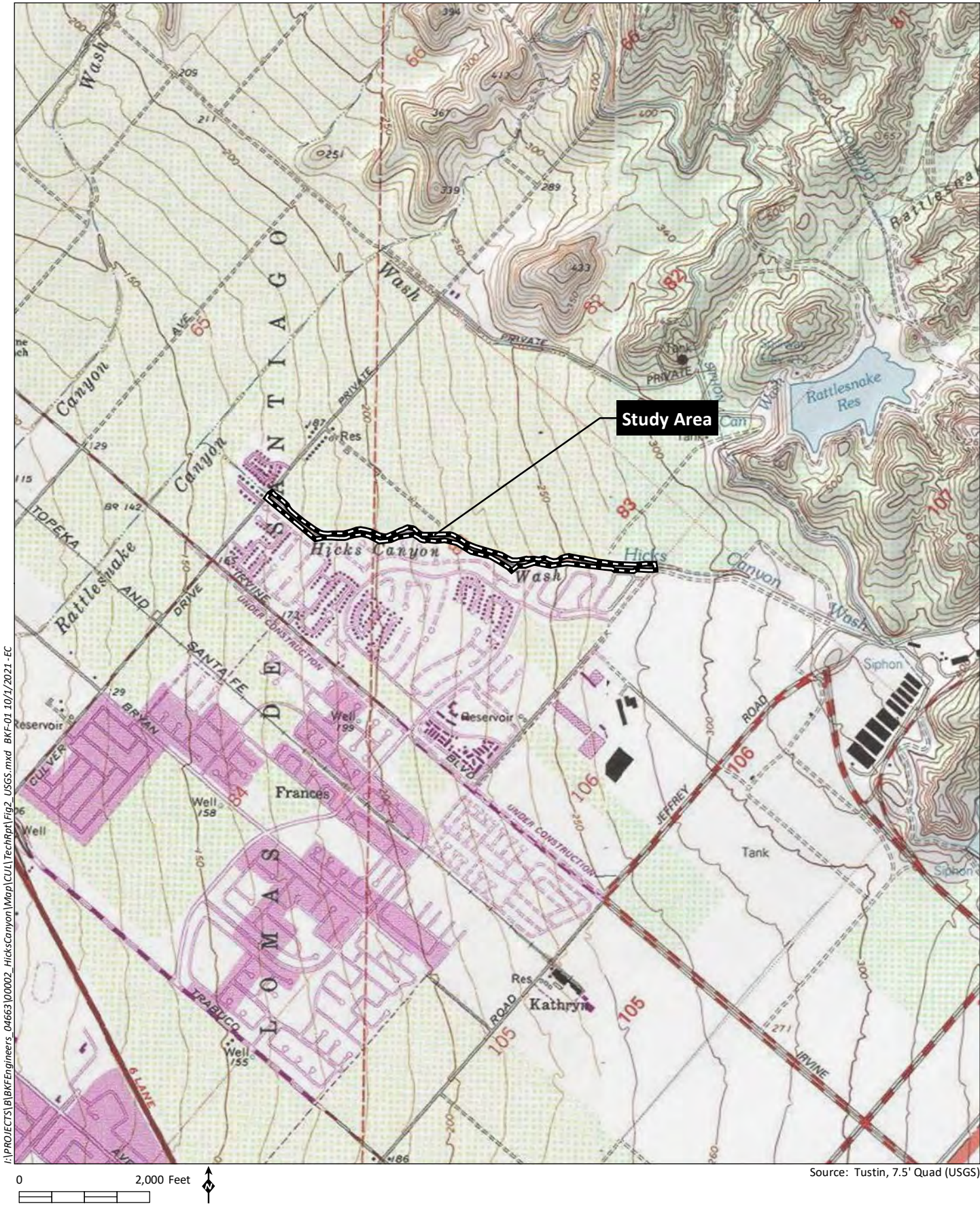
In addition to meeting these criteria, a property must retain historic integrity, which is defined in National Register Bulletin 15 as the “ability of a property to convey its significance” (National Park Service 2002). In order to assess integrity, the National Park Service recognizes seven aspects or qualities that, considered together, define historic integrity.

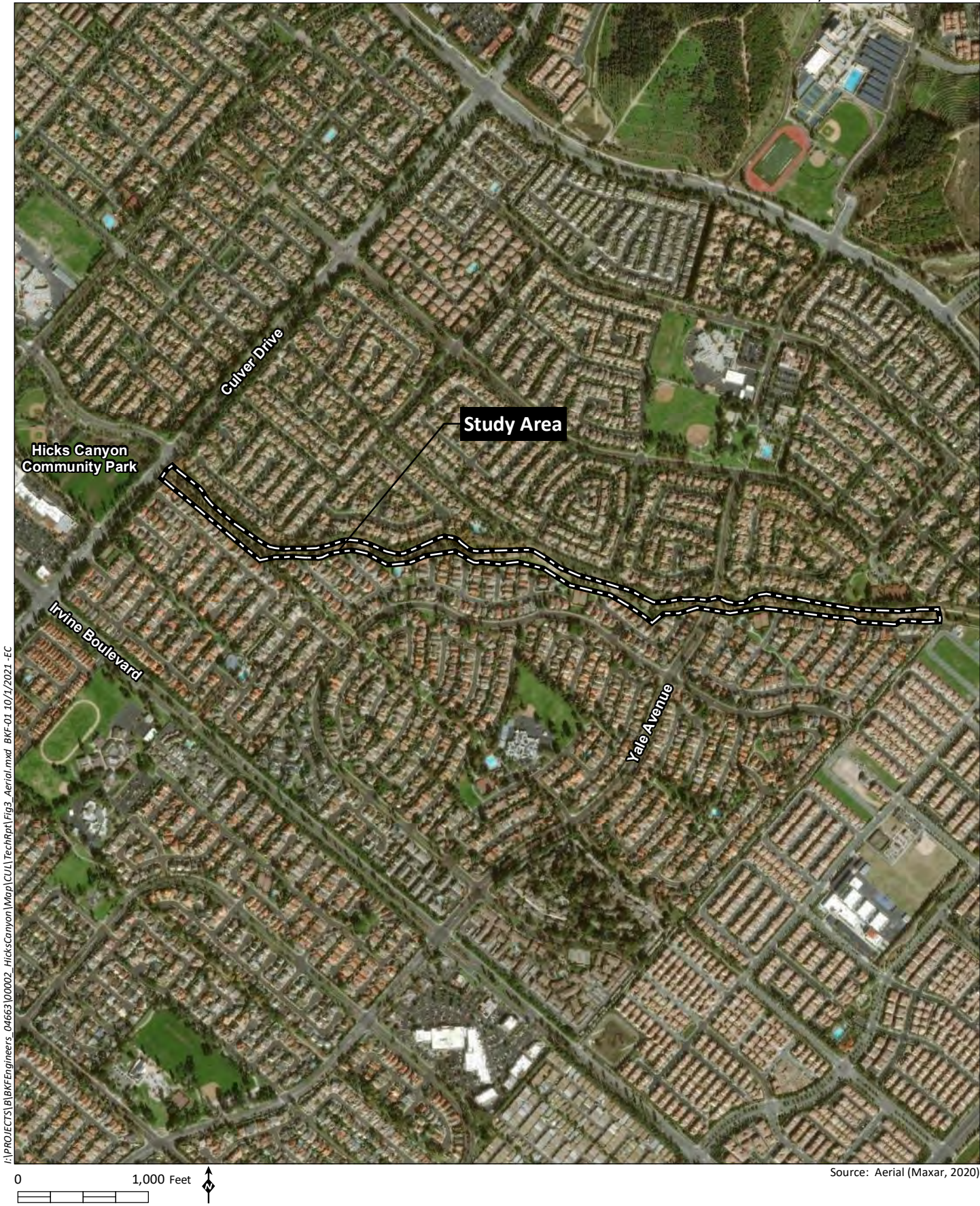
To retain integrity, a property must possess several, if not all, of these seven qualities, which are defined in the following manner in National Register Bulletin 15:

1. **Location.** The place where the historic property was constructed or the place where the historic event occurred.
2. **Design.** The combination of elements that create the form, plan, space, structure, and style of a property.
3. **Setting.** The physical environment of a historic property.
4. **Materials.** The physical elements that were combined or deposited during a particular period of time and in a particular pattern or configuration to form a historic property.



Figure 1





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5. **Workmanship.** The physical evidence of the crafts of a particular culture or people during any given period in history or prehistory.
6. **Feeling.** A property's expression of the aesthetic or historic sense of a particular period of time.
7. **Association.** The direct link between an important historic event or person and a historic property.

Some aspects of integrity may be accorded more weight than others, depending on the type of resource being evaluated and the applicable eligibility criteria. Integrity can be assessed only after it has been concluded that a resource is significant.

Under Section 106 of the NHPA, actions that alter any of the characteristics that qualify a property for eligibility for listing in the NRHP "in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association" (36 CFR 800.5[a]) constitute an adverse effect to the historic property.

2.1.2 Secretary of the Interior's Standards for Rehabilitation

In accordance with the National Park Service and CEQA Guidelines, projects that comply with the *Secretary's Standards for the Treatment of Historic Properties* and the *Secretary's Standards for Rehabilitation* (*Secretary's Standards*) are projects that retain the historic integrity of the resource. According to the CEQA Guidelines, a project that complies with the *Secretary's Standards* is generally considered to be a project that will not cause a significant adverse impact to a historical resource.

The goal of the *Secretary's Standards* is to outline treatment approaches that allow for the retention of and/or sensitive changes to the distinctive materials and features that lend a historical resource its significance. The *Secretary's Standards and Guidelines* offer general recommendations for preserving, maintaining, repairing, and replacing historical materials and features, as well as designing new additions or making alterations. These standards also provide guidance on new construction adjacent to historic districts and properties in order to ensure that there are no indirect adverse impacts to historic properties.

Rehabilitation is the most flexible treatment approach of the *Secretary's Standards*. The ten *Secretary's Standards for Rehabilitation* are:

1. A property shall be used for its historic purpose or be placed in a new use that requires minimal change to the defining characteristics of the building and its site and environment.
2. The historic character of a property shall be retained and preserved. The removal of historic materials or alteration of features and spaces that characterize a property shall be avoided.
3. Each property shall be recognized as a physical record of its time, place, and use. Changes that create a false sense of historical development, such as adding conjectural features or architectural elements from other buildings, shall not be undertaken.
4. Most properties change over time; those changes that have acquired historic significance in their own right shall be retained and preserved.

5. Distinctive features, finishes, and construction techniques or examples of craftsmanship that characterize a property shall be preserved.
6. Deteriorated historic features shall be repaired rather than replaced. Where the severity of deterioration requires the replacement of a distinctive feature, the new feature shall match the old in design, color, texture, and other visual qualities and, where possible, materials. Replacement of missing features shall be substantiated by documentary, physical, or pictorial evidence.
7. Chemical or physical treatments, such as sandblasting, that cause damage to historic materials shall not be used. The surface cleaning of structures, if appropriate, shall be undertaken using the gentlest means possible.
8. Significant archeological resources affected by a project shall be protected and preserved. If such resources must be disturbed, mitigation measures shall be undertaken.
9. New additions, exterior alterations, or related new construction shall not destroy historic materials that characterize the property. The new work shall be differentiated from the old and shall be compatible with the massing, size, scale, and architectural features to protect the historic integrity of the property and its environment.
10. New additions and adjacent or related new construction shall be undertaken in such a manner that if removed in the future, the essential form and integrity of the historic property and its environment would be unimpaired.

The *Secretary's Standards and Guidelines* offer general recommendations for preserving, maintaining, repairing, and replacing historical materials and features, as well as designing new additions or making alterations. The *Secretary's Standards for Rehabilitation* also provide guidance on new construction adjacent to historic districts and properties, in order to ensure that there are no adverse indirect impacts to integrity as a result of a change in setting. Applying the *Secretary's Standards* to new construction adjacent to historic resources helps ensure the avoidance of indirect impacts, and the retention of the setting and feeling of the historic resource and its surrounding environment.

Secretary's Standards compliance begins with the identification and documentation of the "character-defining," or historically significant, features of the historical resource. According to Preservation Brief 17, *Architectural Character: Identifying the Visual Aspects of Historic Buildings as an Aid to Preserving Their Character*, there is a three-step process to identifying character-defining features (Nelson 1988). Step 1 involves assessing the physical aspects of the building exterior as a whole, including its setting, shape and massing, orientation, roof and roof features, projections, and openings. Step 2 looks at the building more closely—at materials, trim, secondary features, and craftsmanship. Step 3 encompasses the interior, including individual spaces, relations, or sequences of spaces (floor plan), surface finishes and materials, exposed structure, and interior features and details. Alterations and replacement of character-defining features over time can impair a historic property's integrity and result in a loss of historic status. Therefore, to ensure that a historic property remains eligible after the implementation of projects, character-defining features should be identified and preserved.

2.2 STATE

The policies of the NHPA are implemented at the state level by the California Office of Historic Preservation, a division of the California Department of Parks and Recreation. The Office of Historic Preservation is also tasked with carrying out the duties described in the Public Resources Code and maintaining the California Historic Resources Inventory and CRHR. The state-level regulatory framework also includes CEQA, which requires the identification and mitigation of substantial adverse impacts that may affect the significance of eligible historical and archeological resources.

2.2.1 California Register of Historical Resources

Created in 1992 and implemented in 1998, the CRHR is “an authoritative guide in California to be used by state and local agencies, private groups, and citizens to identify the state’s historical resources and to indicate what properties are to be protected, to the extent prudent and feasible, from substantial adverse change” (PRC Sections 21083.2 and 21084.1). Certain properties, including those listed in or formally determined eligible for listing on the NRHP and California Historical Landmarks, numbered 770 and higher, are automatically included on the CRHR.

According to PRC Section 5024.1(c), a resource, either an individual property or a contributor to a historic district, may be listed in the CRHR if the State Historical Resources Commission determines that it meets one or more of the following criteria, which are modeled on NRHP criteria:

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

Properties that do not retain sufficient integrity for NRHP listing can still qualify for listing in the CRHR. Historical resources eligible for listing in the California Register must meet one of the criteria of significance described above and retain enough of their historic character or appearance to be recognizable as historical resources and to convey the reasons for their significance.

2.2.2 California Environmental Quality Act

CEQA requires a lead agency to analyze whether historic and/or archaeological resources may be adversely impacted by a proposed project. Under CEQA, a “project that may cause a substantial adverse change in the significance of a historic resource is a project that may have a significant effect on the environment” (PRC Section 21084.1). Answering this question is a two-part process: first, the determination must be made as to whether the proposed project involves cultural resources; second, if cultural resources are present, the proposed project must be analyzed for a potential “substantial adverse change in the significance” of the resource.

According to CEQA Guidelines Section 15064.5, historic resources are:

1. A resource listed in, or formally determined eligible for listing in, the California Register of Historical Resources (PRC 5024.1, Title 14 CCR, Section 4850 et seq);
2. A resource included in a local register of historical resources, as defined in PRC Section 5020.1(k), or identified as significant in a historic resources survey meeting the requirements of PRC Section 5024.1(g);
3. Any building, structure, object, site, or district that the lead agency determines eligible for national, state, or local landmark listing; generally, a resource shall be considered by the lead agency to be historically significant (and therefore a historic resource under CEQA) if the resource meets the criteria for listing on the California Register (as defined in PRC Section 5024.1, Title 14 CCR, Section 4852), including the following:
 - a. The resource is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage.
 - b. The resource is associated with the lives of persons important to our past.
 - c. The resource embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values.
 - d. The resource has yielded, or is likely to yield, information important to prehistory or history.

Resources nominated to the CRHR must retain enough of their historic character or appearance to convey the reasons for their significance. Resources whose historic integrity (as defined in section 2.1.1) does not meet NRHP criteria may still be eligible for listing in the CRHR.

According to CEQA, the fact that a resource is not listed in or determined eligible for listing in the California Register or is not included in a local register or survey shall not preclude the lead agency from determining that the resource may be a historical resource (PRC Section 5024.1). Pursuant to CEQA, a project with an effect that may cause a substantial adverse change in the significance of a historical resource may have a significant effect on the environment (CEQA Guidelines, Section 15064.5(b)).

CEQA Guidelines specify that "substantial adverse change in the significance of an historical resource means physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of a historical resource would be materially impaired" (CEQA Guidelines, Section 15064.5). Material impairment occurs when a project alters in an adverse manner or demolishes "those physical characteristics of an historical resource that convey its historical significance and that justify its inclusion" or eligibility for inclusion in the NRHP, CRHR, or local register. In addition, pursuant to CEQA Guidelines Section 15126.2, the "direct and indirect significant effects of the project on the environment shall be clearly identified and described, giving due consideration to both the short-term and long-term effects."

2.3 LOCAL

2.3.1 City of Irvine General Plan

The Cultural Resources subsection of the 2000 General Plan (updated in 2015) provides guidance on managing cultural and paleontological resources in the City. The subsection states the County's overarching goal and identifies the policies and programs designed to achieve it (City of Irvine 2015). It describes the City's desire to ensure the proper disposition of historical, archaeological, and paleontological resources to minimize adverse impacts and to develop an increased understanding of the region's history.

Objective E-1. Identify and obtain information on the existence and significance of historical, archaeological, and paleontological sites and encourage land use planning which incorporates this information.

Policy (a). Require appropriate surveys and necessary site investigations in conjunction with the earliest environmental document prepared for a project, in accordance with California Environmental Quality Act (CEQA) and the City's CEQA procedures.

Policy (b). Require surveys, prior to discretionary approval, for areas where the possibility of encountering sites exists. Additional specific site investigations may also be required in order to obtain sufficient information to determine the site's significance. The project sponsor shall fund this level of investigation.

Policy (c). Require a written report be submitted to the City following a survey or investigation describing the findings and making recommendations as to the site's significance, future disposition, and the amount of further investigation which should be undertaken. Copies of site survey records and reports shall be filed with the appropriate clearinghouse.

Policy (d): Encourage, if appropriate, removal of all materials collected during the survey/investigation to local museums, universities, or other depositories providing access for public review or scientific research.

Policy (e): Funding of Archaeological Excavations: Use the following in the case of archaeological salvage excavations: 75 percent project sponsor; 25 percent City or other public or quasi-public agency or organization. The costs of other mitigation measures may also be shared by the landowner or developer, the City, and other agencies or organizations.

Policy (f): Maintain information on areas surveyed, numbers of sites located, their status and the names and addresses of individuals or organizations knowledgeable of the sites.

Policy (g): Maintain specific locations of unprotected sites as confidential information to avoid vandalism and the resultant irretrievable loss of the historic and prehistoric record of the community.

Policy (h): Determine the proper disposition of each historical site prior to approval of zoning or discretionary development applications. Disposition determinations shall be

based upon a detailed historical report, including an inventory form, a written evaluation, and slides documenting the building and its location. This information shall be reviewed by staff and the approval authority for discretionary development cases. Each historical report shall be filed at the Irvine Historical Museum and the City of Irvine Community Development Department.

Policy (i): Buffer and protect the integrity of an historic site and/or resources contained therein, if the Planning Commission, during review of a discretionary development case, determines preservation is required.

Objective E-2. Evaluate surveyed sites for their present and potential cultural educational, recreational, and scientific value to the community and region, and determine their proper disposition prior to the approval any project which could adversely affect them.

Policy (a): Ensure that sites determined to be significant are protected through the City's planning policies, ordinances, approval conditions, and mitigation measures.

Policy (b): Encourage the nomination of significant historical sites to the National Registry of Historic Places.

Policy (c): Include sites which are appropriate for educational or recreational purposes as an integral part of either public or community facilities or as part of the Citywide bikeway, pedestrian, and equestrian trail systems. Encourage agencies, organizations, and individuals to develop interpretive and educational programs in order to properly utilize the site for the benefit of the entire community.

Policy (d): Ensure that appropriate staff is available to act in matters relating to the implementation of this element to include identification of costs, and to coordinate the investigation and disposition of sites between City departments and Commissions, The Irvine Company, and other agencies, institutions, organizations, and individuals.

Policy (e): Determine the methods and means of preservation on a case-by-case basis according to a site's importance and disposition methods available. These may include public or private acquisition or one of the following, provided extreme care is exercised not to adversely affect the site:

- Including the site within greenbelts, parks, open space spines, preservation areas or other open space.
- Covering surface or sub-surface sites by adequate fill, pavement, or buildings.
- Using the site for nondestructive public interest or educational purposes, such as museums, interpretive centers, or outdoor classrooms.
- Moving buildings for preservation as part of a consolidated historic site.
- Using significant historic buildings in a preserved state as a part of their functional capacity (e.g., a building preserved and used as an office, restaurant, or home).

Policy (f): Encourage site preservation through economic incentives such as increased building densities, reduced taxes, credit toward park dedication, or reduction of other amenity requirements. Where incentives are not sufficient, the land owner shall be directly compensated by the City or other public or quasi-public agencies or organizations for land preserved as an archaeological, paleontological, or historical site. The costs of site preservation may be the principal responsibility of the City, other public, or quasi-public agencies, or other organizations.

Policy (g): Ensure that adverse impacts of a proposed project on cultural resources are mitigated in accordance with CEQA, as well as other appropriate City policies and procedures, where preservation of a significant site is not practical.

Policy (h): Assign the Community Services Commission the responsibility to oversee implementation programs for sites or buildings which have been acquired by the City.

Policy (i): Identify and implement revenue sources which can be expended in support of this objective.

Policy (j): Undertake a comprehensive survey to inventory the remaining historical resources within the City of Irvine incorporated territory and adopted Sphere of Influence, including the location and significance of all remaining tenant farm homes over 50 years of age. This survey shall be used to determine the appropriate disposition of the resources located within any area not designated for preservation as a historical resource.

The City of Irvine is currently preparing a focused update to its General Plan, a state-required document representing the long-range vision of the City for the next 20 to 25 years. The update will focus on Housing Element and a new element on environmental protection and climate action. The Cultural Resources Element will not be updated at this time.

The City of Irvine does not have a Historic Preservation Ordinance, a Historic Resources Inventory, a Historic Context Statement, or a Citywide Historic Resources Survey.

2.3.2 City of Irvine Urban Forestry Ordinance

In 1976, the City of Irvine adopted the Urban Forestry Ordinance which required the preservation of eucalyptus windrows throughout the City. It now constitutes Chapter 4 of the City of Irvine Zoning Code.

Section 5-7-404.2 contains a definition of a significant tree and includes:

All trees in eucalyptus windbreaks or any tree included in a remnant of a eucalyptus windbreak. A remnant of a eucalyptus windbreak is any tree or trees of the species *Eucalyptus globulus* that are approximately the same age as other known windbreak trees in the City.

Section 5-7-408 outlines the goals of the Urban Forestry Ordinance, including Goal A:

To protect trees for their historical, biological, or aesthetic value, including, but not limited to, native oaks, native sycamores, and eucalyptus windbreaks.

The General Plan also includes eucalyptus windrow preservation policy as contained in City Council Resolution No. 81-7:

- a. Eucalyptus windbreaks are an important cultural and environmental resource to the community and shall be an integral part of the community design of the planning area. Preservation of the existing windbreak trees shall be the goal for the planning area. Development applications shall address windbreak preservation goals by utilizing the windbreaks to enhance the aesthetic character and environmental quality of the planning area to the greatest extent possible. Improvements shall be planned and designed to accommodate windbreak preservation and maintenance wherever feasible.

3.0 ARCHIVAL RESEARCH METHODS AND RESULTS

3.1 RECORDS SEARCH

HELIX staff received the results of a record search of the California Historical Resources Information System (CHRIS) from the South Central Coastal Information Center (SCCIC) on December 7, 2021, to identify previously documented archaeological resources within a one-mile radius of the project site. The SCCIC maintains records of previously documented archaeological and historic-era resources (and technical studies). Confidential CHRIS results include specific information on the nature and location of sensitive archaeological sites, which are exempt from the Freedom of Information Act; as such, the record search results should not be disclosed to the public or unauthorized persons. The search included previously recorded archaeological and historic-era resources within the project site and the surrounding one-mile area. A review of the California Historical Resources and the state Office of Historic Preservation historic properties directories was also conducted.

The records search results identified 13 previous cultural resource studies within the record search limits (Table 1, *Previous Studies within One Mile of the Study Area*). Eleven of the previous studies overlap with the project site. The studies are comprised of monitoring reports, management and planning reports, and an annual report.

Table 1
PREVIOUS STUDIES WITHIN ONE MILE OF THE STUDY AREA

Report Number (OR-)	Year	Author	Report Title
00142*	1976	Roger J. Desautels	Archaeological Survey Report on the North Irvine Assessment District Located in The "Frances" Area of the City of Irvine, California.
00252*	1978	Roger J. Desautels	Cultural Resources Report- Preliminary Assessment on the Proposed San Diego Creek Watershed Erosion and Sedimentary Control System in Hicks Canyon, Hicks Canyon Wash, Rattlesnake Creek Wash, San Diego Creek, and the San Joaquin Marsh Located in Orange County
00305*	1979	Adella Schroth	The History of Archaeological Research on Irvine Ranch Property: the Evolution of a Company Tradition

Report Number (OR-)	Year	Author	Report Title
00752*	1984	Roger D. Mason	Eastern Corridor Alignment Study, Orange County, California; Volume II: Prehistory and History
00762*	n.d.	Michael L. Ahlering	A Discussion of Scientific Cultural Resources in Relation to the North Irvine Precise Land Use Plan
00847*	1985	Beth Padon	Archaeological Resource Inventory City of Irvine and its Sphere of Influence
01394*	1994	Paul G. Chace	A Cultural Resources Survey for the Northwood Point Planned Community (Northwood 5), County of Orange, Tentative Tract Map No. 14540
01625*	1997	Steven W. Conkling and Joan M. Medina	Results of Archaeological and Paleontological Monitoring of the Northwood 5 Development (Tentative Tract 14540), Lots 4 and 5, Irvine, California
02225*	1978	Hardy Strozier	The Irvine Company Planning Process and California Archaeology- A Review and Critique
02518	2001	Ronald M. Bissell	Peer Review of "A Phase I Cultural Resources Inventory for Planning Area 5b, Irvine, California", Dated 20 March 2001. Author, Christopher Drover, Ph.D. Prepared by The Keith Companies, Incorporated for the Irvine Community Development Company
02534*	1976	Archaeological Research Inc.	Annual Report to The Irvine Company from Archaeological Research, Inc.
03314*	1976	Marie G. Cottrell	Results of Archaeological Survey on a 30-40 Acre Plot of Land at the Corner of Culver Drive and Hicks Canyon Wash, Orange County, California
03816	2001	Christopher Drover	A Phase I Cultural Resources Inventory for Planning Area 5B, Irvine, CA

* intersects with the project site.

The SCCIC record search contained nine previously recorded cultural resources within a one-mile radius of the project site (Table 2, *Previously Recorded Resources within One Mile of the Study Area*). One of these nine resources was mapped partially within the project area, a prehistoric archaeological resource. The other resources recorded within the search radius consist of one prehistoric archaeological site, two prehistoric isolates, one historic archaeological site, one multi-component archaeological site, one historic ranch complex, one historic canal, and one historic warehouse.

Table 2
PREVIOUSLY RECORDED RESOURCES WITHIN ONE MILE OF THE STUDY AREA

Primary Number (P-30-#)	Trinomial (CA-ORA-#)	Age	Description	Recorder, Date
000361	361	Prehistoric	Habitation site; noted in 2005 as no longer extant	Elliott and Houser, 1972; Fulton, 2005
000513*	513*	Prehistoric	Light artifact scatter; noted in later reports as having been destroyed	Rice and Cottrell, 1976

Primary Number (P-30-#)	Trinomial (CA-ORA-#)	Age	Description	Recorder, Date
001238	1238/H	Multi-component	Extremely light lithic scatter and a small amount of historic refuse	Sorensen, Texier, Brown, and Fulton, 1990; Strudwick, King, Duke, and Schroth 1998
001755		Historic	Historic refuse deposits	Freeberg, 2015
100496		Prehistoric	Isolated mano	Breece, 1982
100498		Prehistoric	Isolated metate	Freeberg, 2015
161858		Historic	Irvine Ranch Complex	Cannon, 1982
176748		Historic	Highline Canal	Sawyer, 2003
176808		Historic	Frances Packing House	Unknown, 1977; Lusigana, 2006

* Partially within project area

A search of the Built Environment Resource Directory (BERD) identified no historical resources located within the one-mile search radius of the project site. Likewise, no historic built environment resources are located within the project site. The nearest recorded built environment resource listed in the BERD, a residence referred to historically as the Krauss Home, is located approximately 1.12 miles to the northwest. The next nearest recorded built environment resource, a residence referred to historically as the Spencer Home, is located approximately 1.71 miles due south of the project site. The third nearest recorded built environment resource, the Commissary of the old Marine Corps Air Station in Tustin, is located approximately 1.83 miles due west of the project site.

3.2 FIELD SURVEY

HELIX Senior Architectural Historian Marina Khrustaleva, MA, and HELIX Assistant Cultural Resources Project Manager Trevor Gittelhough conducted the field survey of the project site on October 28, 2022. Field investigation consisted of examination and photography of the structures and features within the Hicks Canyon Channel Restoration project area. Field notes included resource descriptions, existing conditions, alterations, character-defining features, and integrity.

The field survey focused on remnants of check dams and retaining walls within Hicks Canyon Wash boundaries. Existing bridges, culverts, and storm drainage pipes are considered modern. The Department of Parks and Recreation (DPR) form for this resource is included as Appendix A to this report.

3.3 ARCHIVAL RESEARCH

Research conducted by HELIX for this study included a variety of primary and secondary sources. Online sources consulted for this study included the Irvine Historical Society, the Tustin Area Historical Society, City of Irvine Building Permit Records and Public Works records, City of Irvine Online Parcel Search, U.S. Army Corps of Engineers Digital Library, USC Digital Library, Orange County Archives, Orange County Land Records, Orange County Historical Aerial Imagery, USGS Historical Topographic Map Explorer, Nationwide Environmental Title Research (NETR), UC Santa Barbara Aerial Photo Collection, Online

Archive of California, California State Library, Calisphere.com, Ancestry.com, Newspapers.com, California Digital Newspaper Collection, Hathitrust.org, and Google Books.

Additionally, Ms. Khrustaleva consulted with representatives of the City of Irvine Public Works Department, GIS Department, and the Irvine Historical Society. They were not able to provide any specific information regarding the existing Hicks Canyon Wash structures.

3.4 PROJECT PERSONNEL

HELIX Senior Architectural Historian, Marina Khrustaleva served as principal investigator and co-author of this study. HELIX Cultural Resources Project Manager Nikki Falvey and HELIX Assistant Cultural Resources Project Manager Trevor Gittelough assisted in co-authoring this study. HELIX Cultural Resources Group Manager Mary Robbins-Wade, RPA, provided quality control and strategic oversight. Ms. Khrustaleva meets the Secretary of Interior's Professional Standards for architectural history. Resumes for key HELIX project personnel are presented in Appendix B.

4.0 HISTORIC SETTING AND CONTEXT

National Register Bulletin 24, *Guidelines for Local Surveys*, states that the historic context developed in support of historic resource surveys should analyze and describe the "broad pattern of historical development in a community or its region that may be represented by historic resources" (U.S. Department of the Interior 1985: 14). Developing a historic context for survey areas is described in NPS guidelines as vital for providing the basis for a survey effort, helping researchers successfully identify all significant resources, and helping eliminate unintended biases. Through a review of the history and prehistory of the state and region under consideration, the historic context should define important patterns of development that may be reflected in the area's historic resources.

The National Register further defines context as "a body of information about our history according to the stages of development occurring at various times and places" (U.S. Department of the Interior 1997: 7). Theme, place, and time are the basic elements that define a historic context.

Historic context is linked to the built environment through the concept of property type. A property type is "a grouping of individual properties based on a set of shared physical or associative characteristics. Physical characteristics may relate to structural forms, architectural styles, building materials, or site type. Associative characteristics may relate to the nature of associated events or activities, to associations with a specific individual or group of individuals" (U.S. Department of the Interior 1985: 14). Historic contexts, therefore, become useful tools for gauging the relative importance and integrity of properties.

In order to provide a contextual framework for the assessment of the Hicks Canyon Channel Restoration Project, this section provides the historic setting and context for the property, divided chronologically and according to themes of significance. Given the history of the project area, the context and theme that apply most closely include the following evaluative framework:

- Context: Irvine Ranch and the City of Irvine Development
Theme: Agriculture, Irrigation, and Flood Control
Property Type: Industrial/Check Dams and Retaining Walls

The following sections briefly summarize Irvine's early history, followed by descriptions of the context/theme used in the evaluation of the Hicks Canyon Channel Restoration Project. This focused historic context section draws on original research as well as information from The Irvine Ranch History presented on the Irvine Historical Society website. Additional sources utilized in this section and report are included in Section 8 ("References").

4.1 GEOGRAPHICAL SETTING AND HYDROLOGY

Hicks Canyon Wash belongs to the Northern Flatlands ecosystem in the valley of the Santa Ana River. The flatlands extend from the Lomas de Santiago foothills to the Santa Ana Freeway (I-5). This area, known as the Tustin Plain, is nearly flat and gradually slopes from the northeast to the southeast. The watershed is drained by San Diego Creek, which originates in the Santiago Hills and flows westerly towards Upper Newport Bay. Hicks Canyon Wash is one of the minor drainages along with Agua Chignon Wash, Bee Canyon Wash, Bonita Canyon Creek, Borrego Canyon Wash, Bommer Canyon Creek, Laguna Canyon Wash, Peters Canyon Wash, Rattlesnake Canyon Wash, Round Canyon Wash, Sand Canyon Wash, Serrano Creek, Shady Canyon Creek, and Trabuco Channel. As with most of these drainages, Hicks Canyon Wash is characterized as a natural ephemeral drainage in the upper undeveloped portion and is partially channelized in its lower developed portion within the City of Irvine boundaries. The drainage downstream of Portola Parkway is routed underground and flows southwesterly into Peters Canyon Wash (U.S. Army Corps of Engineers 2000; 2009: 3-43).

4.2 MEXICAN RANCHOS AND EARLY AMERICAN PERIOD

The Hicks Canyon Wash watershed is located within the historic boundaries of Rancho Lomas de Santiago, which was bordered by Rancho Santiago de Santa Ana to the north and Rancho San Joaquin to the west (State Lands Commission 1982). Teodosio Juan Yorba, who served as auxiliary Alcalde in the Santa Ana area, was granted the lands of Rancho Lomas de Santiago by Governor Pio Pico in 1846.

With the cession of California to the United States following the Mexican-American War, the 1848 Treaty of Guadalupe Hidalgo provided that the land grants would be honored. According to a critical remark by Barnes, "the United States government could have incorporated these latifundia, still almost totally unpopulated, into the public domain, or ordered them divided into small farms for settlers. It chose probably without much thought to swallow them whole and to allow them to remain private" (Barnes 1972: 1960). As was required by the Land Act of 1851, a claim for Rancho Lomas de Santiago was filed with the Public Land Commission. The 47,226.61-acre rancho was patented to Teodosio Yorba in 1868 (Willey 1886).

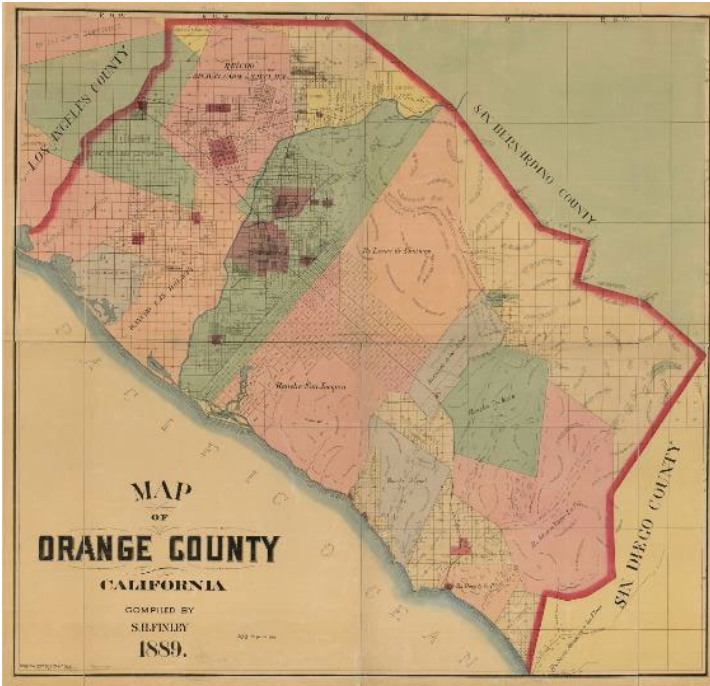


Plate 1. Map of Orange County. 1889.
Courtesy Orange County Archives

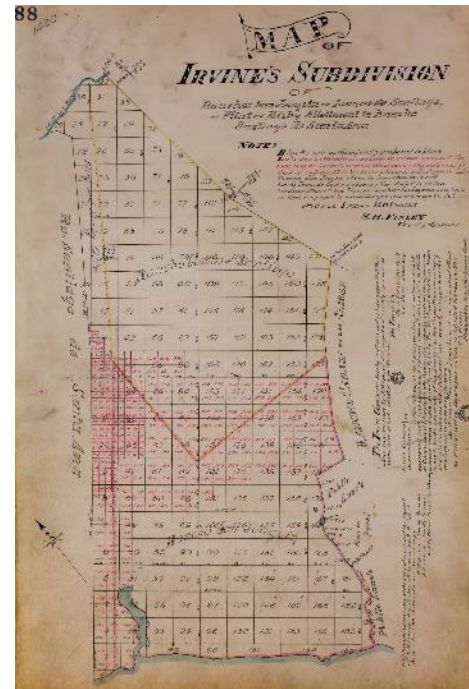


Plate 2. Irvine Ranch Subdivision Map.
1889. Courtesy Orange County Archives

In 1860, Yorba sold Rancho Lomas de Santiago to William Wolfskill, a trader and trapper from New Mexico, who used it as a stock ranch. In 1866, Wolfskill sold it to James Irvine, Benjamin Flint, Thomas Flint, and Llewellyn Bixby. James Irvine acquired the rancho into his sole ownership through deeds executed in 1868 and 1876 (Robinson 1993: 307). James Irvine Sr., an Irish immigrant who came to San Francisco during the Gold Rush and became a successful merchant, managed to combine Rancho Lomas de Santiago, Rancho San Joaquin, and a portion of Rancho Santiago de Santa Ana into the Irvine Ranch. After his death in 1886, his son, James Irvine II, took over the agricultural development of the ranch. In 1894, the title was placed in The Irvine Company.

4.3 IRVINE RANCH AND SAN JOAQUIN FRUIT COMPANY

The Irvine Ranch stretched 22 miles long by nine miles wide, covering almost 120,000 acres between the Santa Ana Mountains and the ocean. It was one of the largest landholdings in Southern California of its time, comprising one-fifth of today's Orange County. Over the years, the Irvine family experimented with various agricultural uses. From the beginning, they ran longhorn cattle and Merino sheep; grew row field crops such as hay, grains, barley, black-eyed and lima beans, alfalfa, beets, chili peppers, and tomatoes; and developed the fruit industry. The Irvine Ranch was one of the pioneers of citrus growing in Southern California; besides oranges, they grew lemons, grapefruit, walnuts, persimmons, and avocados (Sackman 2005: 141).

In the early 1890s, ranch manager George Whidden planted over 11,000 eucalyptus trees, supplied by a dealer in Anaheim, both wood and windbreaks. They protected crops from severe Santa Ana winds, known then as the Riverside winds. More trees were planted annually on hillsides to conserve water (Cleland 1966: 96; Irvine Historical Society 2020b: 1). Eucalyptus trees on the banks of Hicks Canyon Wash likely date back to the 1890s. On the earliest available aerial photograph from 1938, they look to

be tall mature trees (see Plate 3). The stumps, some over four feet in diameter, prove that the cut trees were over 100 years old.

The first orange groves took root in what is now the Village of Northwood, south of Hicks Canyon Wash. In 1906, James Irvine II, Charles Edward Utt, the president of the First National Bank of Tustin, and Sherman Stevens, director of the same bank, formed the San Joaquin Fruit and Investment Company. The Irvine Company provided 1,000 acres to Irvine, Utt, and Stevens and enabled irrigation water to be lifted from the swampy lowlands to the orchards, all at the expense of the three lessees. They planted 400 acres of lemon trees and Valencia orange trees, and 600 acres of walnut trees and apricot trees. Before the orchard came into full bearing, lima beans, peanuts, chili, and nursery stock were planted between the trees with success. Under the terms of the agreement, The Irvine Company was to sell the orchard to Irvine, Utt, and Stevens at the end of four years. Irvine eventually deeded all 1,000 acres to his partners (Dawson 1938: 100; Cleland 1966: 116; Lovret 2008; Irvine Historical Society 2020c: 7; Jepsen 2021). The final land deed to San Joaquin Fruit and Investment Company was recorded on March 7, 1940, in Book 1036, page 118, of the Official Record (City of Irvine 1971).



*Plate 3. Aerial photo, 1938.
Courtesy UC Santa Barbara*



*Plate 4. City of Irvine annexation boundaries,
12.28.1971*

In the 1920s, the San Joaquin Fruit Company produced several hundred carloads of fruit and nuts every year (The Los Angeles Times 1928). The company owned three packing houses along Santa Fe railroad tracks ("Venta Spur" ran parallel to the current Irvine Boulevard). The packing houses, and later neighborhoods around them, originally were named after members of the Irvine family: James Irvine II's son Myford, wife Frances, and daughter Kathryn. Myford Packing House (later Irvine Citrus Association packing house) was the northernmost one. Frances Packing House (Frances Citrus Association) was built in 1916 at the intersection of Venta Spur and Shop Road (now Yale Avenue), in the middle of the Village of Northwood. It was listed on the National Register of Historic Places in 1977 and demolished the same year. One wall of the building was saved and incorporated into a bank in the Walnut Shopping Center (Bell 2012). Kathryn Packing House (built in 1927, later named Irvine Valencia Growers packing house) was located at the end of the railroad at Kathryn, southwest of the intersection of Jeffrey Road and Irvine Boulevard. It was demolished by 2004; its location is marked with a memorial plaque at the beginning of the Jeffrey Open Space Trail. The rails of the Venta Spur were removed in 1984 (Lancaster 2002).

Packing houses are labeled on early topographic maps and visible on aerial photographs. The 1938 aerial photograph from the UC Santa Barbara collection shows regular lots of San Joaquin Fruit Company

bordered by wavy Hicks Canyon Wash on the north (Plate 3). Citrus and nut orchards covering the current Village of Northwood are separated by eucalyptus windbreaks; Hicks Canyon Wash is also aligned with two rows of eucalyptus trees. North of Hicks Canyon Wash lays undeveloped land. A farm homestead is visible at the intersection of Hicks Canyon Wash and two minor farm roads, approximately where Stonebrook and Edenbrook cross today. Unlike packing houses, this farm homestead is not labeled on topographic maps. It was one of many rental farmhouses around the Irvine Ranch. It remains on aerial photographs until the late 1960s and then disappears. The last remnant of this homestead is the creek crossing described in the Architectural Description section below.

The Irvine Ranch headquarters, located northwest of the project area at the southeast corner of Irvine Boulevard and Jamboree Road, was preserved as the Irvine Ranch Historic Park. Orange County Parks adopted a Master Planning Program for the Irvine Ranch Historic Park that established the prime historic period from 1876 to 1947 as a guide for future restoration and interpretation of the historic property (Orange County Parks 2022). Several historic farm structures from around the ranch were relocated to the Irvine Ranch Historic Park grounds. In the 1990s, three other farmhouses built in the early 1900s were relocated to the Irvine Ranch Water District campus at San Joaquin Marsh & Wildlife Sanctuary (Irvine Ranch Water District 2011). There is no evidence that any of these salvaged houses was originally located next to Hicks Wash Canyon.

In 2006, a 36,398-acre area within the northern portion of Irvine Ranch was designated as a National Natural Landmark significant for its Mediterranean shrublands and geologic history. The Hicks Canyon Area was not a part of any abovementioned designations.

4.4 IRRIGATION AND FLOOD CONTROL

Irrigation was always the key challenge for the agricultural industry in California. The Irvine Ranch owners explored all possible ways of delivering water to crops and orchards. In the early 1890s, James Irvine II experimented with a walnut grove, irrigating the trees with water brought in by tank wagons. California experienced severe drought from 1896 to 1900, and barley and bean crops on the Irvine Ranch suffered great damage. This led to drilling deep-water wells using the underground water of the Santa Ana Valley basin. Overall, 1,200 wells were dug around the ranch, many 1,200 feet deep. The wells were pumped with gasoline and later with electric engines, providing a temporary answer to the problem of irrigation (Irvine Historical Society 2020b: 21). The next severe drought hit between 1911 and 1912. In the 1910s, The Irvine Company constructed and laid about 50,000 feet of concrete pipelines and had a total of about 30 miles of pipeline and ditch for irrigation and drainage purposes.

When the wells began to fail in the 1920s, the Frances Mutual Water District began to implement an extensive reservoir and dam system to capture the rainfall and the water runoff. The first reservoir to be built was Lambert Reservoir (1929). It was soon followed by the Santiago Canyon Dam (1931-32), Peters Canyon Dam Number 1, Laguna Dam, and Bonita Dam (all between 1937 and 1938), Peters Canyon Dam Number 2 (1940), Sand Canyon Dam (1942), Syphon Canyon Dam (1948-49), and Rattlesnake Canyon Dam (1960), along with canals to deliver water to the reservoirs and more than 2,500 miles of irrigation pipelines (Irvine Historical Society 2020b: 32; Scott 1976: 220). In 2011, the Irvine Ranch Irrigation System was designated as an Orange County Historic Civil Engineering Landmark by the American Society of Civil Engineers. The landmark memorial plaque is located at Peters Canyon Regional Park in Orange, California. The historic research provided to support this designation does not include any dam or flood control structures in Hicks Canyon Wash (Nelson 2009).



*Plate 5. Citrus Groves, 1910s.
Courtesy Irvine Historical Society*



Plate 6. Storm damage along Rattlesnake Canyon Wash, 1969. Courtesy Orange County Archives

While droughts and lack of accessible water presented constant threats to crops, rare floods brought comparable losses. The most devastating winter floods of 1938 and 1969 washed away bridges and roads in the area. Peters Canyon Wash, Rattlesnake Canyon Wash, and Hicks Canyon Wash were significantly damaged and overflowed. Rock and mud were carried by high-velocity flood flows from the foothills of the Santa Ana Mountains and were deposited on extensive areas of flat farmlands, ruining citrus orchards, asparagus fields, and other crops. A portion of Hicks Canyon Wash, improved with gunite, east of the current project area, was badly damaged in the February 1969 flood (U.S. Army Corps of Engineers 1974: 6, see also Plates 11-12).

In 1977, in conjunction with the City's contract to construct the streets and storm drains in the Village of Northwood, a concrete-lined levee was constructed on the south side of the Hicks Canyon Wash from the city limits to Jeffrey Road, east of the current project area. This levee, designed by engineer W. Church, was intended to protect the northeast part of Northwood from flooding; however, it had eroded by the mid-1980s (City of Irvine 1983). The need to provide containment of the 100-year storm flow was continuously brought to the City Council's agenda through the 1980s and 1990s.

4.5 THE CITY OF IRVINE DEVELOPMENT

With the land boom that occurred after World War II, farmers in California saw a reason to stop their groves and began to sell their land to developers. In the 1960s, the "quick-decline" disease, which decimated area orange groves, provided an additional impulse. The Irvine Company chose to be in charge of redeveloping their land. The Irvine family members, James Irvine II's son Myford Irvine and granddaughter Joan Irvine Smith, still were on the Board of Directors and played a key role in envisioning the new future. In 1959, the Irvine Company gifted 1,000 acres of land to the University of California for a new campus, and in 1960, it adopted the Irvine Ranch Master Plan for new urban development. Designed with the participation of architect William Pereira, the Master Plan combined residential, commercial, and industrial zones with greenbelts, parks, and large natural open-space areas (Smith 2000: 19). The City of Irvine, based on this Master Plan, incorporated on December 28, 1971.

The City was designed as a collection of master-planned "villages." The Village of Northwood (Planning Area 8), built in 1977, became one of the earliest developments. It replaced citrus groves on the San Joaquin Fruit Company property that was sold by James Irvine II to his partners in 1940 and was referred to as one of the "windows" in the ranch. Former agricultural land between Culver Drive and Jeffrey

Road, and from Trabuco Road to Hicks Canyon Wash, changed its status to “Suburban Residential” (Orange County Board of Supervisors 1971: 10). Hicks Canyon Wash became the northerly boundary of the City, until 1995, when the portion to the north was annexed to give start to Northwood Pointe neighborhood (or Northwood 5, after Planning Area 5). By 2001, the entire area was completely developed with residential neighborhoods.

In the course of residential development, Hicks Canyon Wash was designated as an Open Space Spine. Two hundred feet on both sides of the channel’s axis were preserved for pedestrian, bicycle, and equestrian use. In 2000, Hicks Canyon Community Park and Hicks Canyon Trail officially opened to the public.

5.0 ARCHITECTURAL DESCRIPTION

Hicks Canyon Wash originates in the Santa Ana foothills east of the project area and flows southwesterly into Peters Canyon Wash. Its upper undeveloped portion is characterized as natural ephemeral drainage; the drainage downstream of Portola Parkway is routed underground. Within the boundaries of the Hicks Canyon Channel Restoration project area, the soft-bottom trapezoidal channel with earthen slopes exhibits significant slope erosion and an accumulation of sediment along the channel bottom. The project area of about 1.15 miles (in length) is comprised of Assessor Parcels # 530-201-18, 530-152-32, and 530-281-25.

Two rows of mature eucalyptus trees were planted along both sides of the wash, likely in the 1890s, to serve as a windbreak, reinforce the slopes, and conserve water. On the earliest available aerial photograph from 1938, they appear as tall mature trees (see Plate 3). Many of the trees have overgrown their lifespan and were removed in the late 1990s during the adjacent residential development and creation of the Hicks Canyon Trail. The stumps, some over four feet in diameter, prove that the cut trees were over 100 years old.

The project area contains over 40 constructed features, some of them presumably historic (over 50 years old). Non-historic features include bridges, granite riprap sites, and storm drainage pipes. Historic features include gunite and concrete channel walls, concrete dams, and a creek crossing with cobblestone retaining walls.

5.1 NON-HISTORIC FEATURES

Hicks Canyon Wash is crossed by three bridges built circa 1994, concurrently with the development of the Northwood Pointe neighborhood. Two of them are parts of automobile streets, Culver Drive and Yale Avenue, and include pedestrian undercrossings north of the channel (plans 754 and 755 accessed via Street Improvement Plans Online Database). The third wooden bridge, dedicated to Irvine Mayor and Councilmember David G. Sills, is aligned with Canyonwood Street to the north. All three bridges are equipped with concrete storm drainage culverts. Riprap sites consisting of large granite stones on a concrete layer are found next to the bridges and were likely constructed at the same time to protect channel slopes from erosion.

The channel slopes are penetrated with multiple storm drainage pipes of various types. Two 22” and two 34” concrete drainage pipes are present on the south slope of the channel, and one 34” concrete drainage pipe is present on the north slope of the channel next to the Yale Avenue bridge. These pipes’

locations match the 1977 Street, Sewer & Water, and Storm Drainage Plans for Northwood Village (plans 9322 and 9355 accessed via Street Improvement Plans Online Database).

The north slope is improved with a 1' seamed iron drainage pipe, three corrugated metal drainage pipes (39", 18", and 26" in diameter), and nine polyvinyl chloride (PVC) drainage pipes surrounded with patches of cobblestones on a concrete layer. These pipes were likely installed between 1994 and 1995 in the Northwood Pointe neighborhood (Street, Sewer & Water, and Storm Drainage Plans 14916, 14988, and 15384 accessed via Street Improvement Plans Online Database).

5.2 HISTORIC FEATURES

Historic features present in Hicks Canyon Wash within the boundaries of the project area include gunite and concrete channel walls, concrete dams, and a creek crossing with cobblestone retaining walls. The following description mentions these features going downstream, from the eastmost point at Eastwood Path to the westmost point at Culver Drive. Historic features are shown on DPR Form Sketch Map.

5.2.1 Gunite Channel Walls

The eastern portion of Hicks Canyon Wash within the project boundaries, from Eastwood Path to Edenbrook Lane, is improved with 14 segments of gunite channel walls (Plates 7-10). Except for the westmost fragment, all channel walls are built in pairs supporting both north and south slopes. The width of the channel walls varies from 14.5' to 20'; the visible height varies from 2.5' to 5' (some bottoms of the walls are covered with sediment); the length varies from 10.5' to 13'. The poured-in-place concrete is reinforced with wire rebar. The ends of each wall are reinforced with 4" x 4" wood posts. Some of the channel walls exhibit imprints of wood boards, burlap, or wire mesh used as casing.

1.	Gunite channel walls, 14.5' wide, 2.5' high, 12' long
2.	Gunite channel walls, 15' wide, 3' high, 12' long
3.	Gunite channel walls, 15.5' wide, 5.5' high, 11' long
4.	Gunite channel walls, 16' wide, 5' high, 12' long
5.	Gunite channel walls, 15' wide, 5' high, 12' long
6.	Gunite channel walls, 20' wide, 4.5' high, 12' long South wall with a bench-like recession
7.	Gunite channel walls, 14' wide, 5.5' high, 12' long 12" board imprint
8.	Gunite channel walls, 15' wide, 5' high, 12' long (at the channel curve)
9.	Gunite channel walls, 14.5' wide, 6' high, 12' long
10.	Gunite channel walls, 14' wide, 5' high, 12' long
11.	Gunite channel walls, 14' wide, 3' high, 12' long
12.	Gunite channel walls, 15' wide, 5' high, 10.5' long Burlap imprint
13.	Gunite channel walls, 15' wide, 5' high, 13' long
14.	Gunite channel wall on the southeast corner of the creek crossing



*Plate 7. Guniting channel wall #6
(southwest perspective)*



*Plate 8. Guniting channel wall #8
(west perspective)*



*Plate 9. Guniting channel wall #9
(northeast perspective)*



*Plate 10. Guniting channel wall #12
(east perspective)*

The exact date of construction of these channel walls is unknown. They are not shown on any of the available archival documents. A U.S. Army Corps of Engineers report mentions that a portion of Hicks Canyon Wash along the plant nursery was improved with guniting, east of the current project area (between Eastwood Path and Jeffrey Road). According to the report, this portion of the channel was badly damaged in the February 1969 flood (U.S. Army Corps of Engineers 1974: 6, 18; Plates 11-12). The type of construction and materials make it possible to date these structures between 1907 and 1964.

Guniting (or shotcrete) is concrete or mortar conveyed through a hose and pneumatically projected at a high velocity onto a vertical surface. It was invented in 1907 by American taxidermist Carl Akeley to repair the crumbling façade of the Field Columbian Museum in Chicago. Since then, it became widely spread to reinforce excavations, tunnel walls, subways, and natural slopes. Guniting is typically reinforced by steel rods, steel mesh, or fibers. The dry sand and cement mixture is blown through a hose using compressed air, with water being injected at the nozzle to hydrate the mixture as it is released. This relatively cheap construction method does not require significant training and allows pouring walls in place following the shape of the surface.



Figure 19 — Extensive channel erosion took place on Hicks Canyon Wash, at Jeffrey Road, during the flood of February 1969. A portion of the improved gunite channel still remains (upper center of photo) several feet above the new channel invert. (Photo courtesy of the Irvine Company.)



Figure 20 — Debris and sediment were deposited among agricultural housing adjacent to Culver Drive when Hicks Canyon Wash overflowed its channel in February 1969. (Photo courtesy of the Irvine Company.)

Plates 11-12. U.S. Army Corps of Engineers 1974 report, page 18

The 4" x 4" wood posts serve as another date marker. Historically, rough lumber was expected to be of full nominal size, often in dry condition. After World War I, the increasing demand for construction lumber led to the first national size standard in 1924. After several revisions, gradually reducing nominal lumber size, the final set of standards was adopted in 1964. The nominal lumber size of 4" became an equivalent of 3-5/8" in dry condition (Forest Products Laboratory 1964: 24). The presence of 4" x 4" (full size) wood posts makes it possible to date Hicks Canyon Wash channel walls to the pre-1964 period.

All 14 fragments of channel walls are significantly damaged: their upper and side edges are chipped and eroded, bottom portions are covered with silt and sediment, and the wall surfaces are bent and partially recede from the earthen slopes.

5.2.2 Creek Crossing

A severely damaged concrete-paved road crosses Hicks Canyon Wash where Edenbrook Lane approaches it from the north. This crossing marks the intersection of historic farm roads of the San Joaquin Fruit Company. An unidentified homestead was located north of the crossing (Plates 13-14).

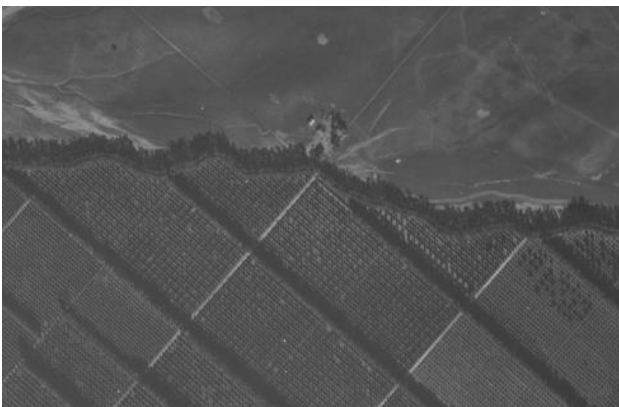


*Plate 13. Aerial photo, 1947.
Courtesy UC Santa Barbara*



*Plate 14. Aerial photo, 1953.
Courtesy UC Santa Barbara*



*Plate 15. Creek crossing retaining walls
(west perspective)*



*Plate 16. "2-2-22" inscription
(northwest perspective)*



*Plate 17. Creek crossing retaining walls
(southwest perspective)*



*Plate 18. Creek crossing retaining walls
(northwest perspective)*

Northwest and southwest corners of the crossing are improved with curved cobblestone retaining walls. The walls are approximately 5' high and 17' long. Rough cladding includes stones of various sizes and colors, probably brought by the stream and gathered in the surrounding fields, with a few shell inclusions. A concrete patch on the northwest corner exhibits an inscription: "2-2-22 FLS". It may refer to a possible date of the wall construction, February 2, 1922.

The retaining walls are damaged by eucalyptus roots and by flooding. Some stones are missing; mortar with a high volume of gravel has significantly deteriorated. A vertical crack on the southwest corner has been repaired with concrete that did not hold long. The bottom of the walls is covered with sediment.

The cobblestone retaining walls at the creek crossing may be the earliest surviving remnant of the San Joaquin Fruit Company's agricultural history and the last trace of historic farm roads.

5.2.3 Check Dam Structures

The section of Hicks Canyon Wash west of the creek crossing contains the remnants of three check dams, or ditch gate dams. Such dams were used on seasonal streams to counteract erosion by reducing water flow velocity, and to promote water infiltration to adjacent agricultural lands (Person 1936: 58). During dry seasons, the gate, made of lagging, flash-boards, or stop-logs, remained in place to maintain water level. When the larger flow had to be passed, a larger opening was created by removing part of the gate (Portland Cement Association 1937: 25).

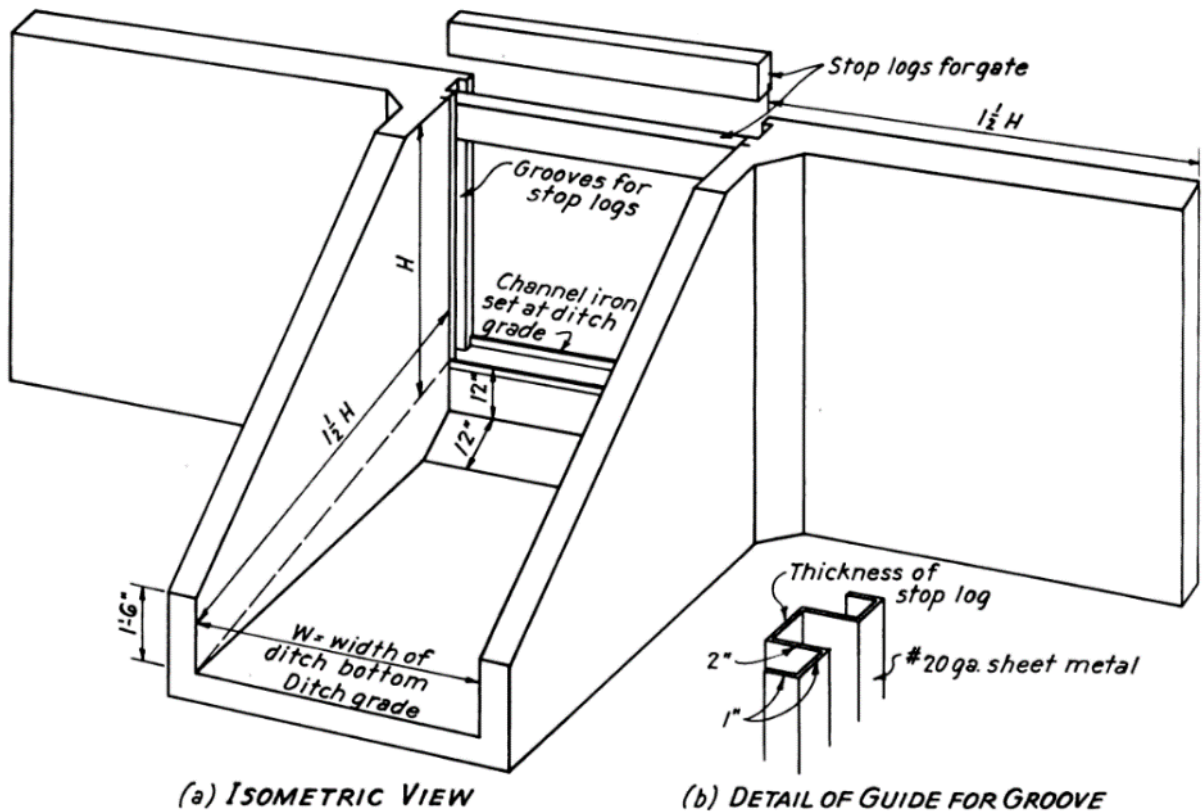


Fig. 35. Ditch gate dam. (From U.S.D.A. Farmers' Bulletin 1243. Samuel Fortier.)

Plate 19. Portland Cement Association.

Concrete structures for flood control, soil and water conservation. 1937. Page 26

Check Dam # 1 is located north of Ribera Lane. Check dams #2 and 3 are located northeast of Quebrada Lane. They are constructed of concrete with a high volume of gravel poured into wood board casing and reinforced with metal rebar (Plates 20-26). Their sizes are:

1.	Check dam structure, 20' wide, 4' high, 80" long, walls 5" thick
2.	Check dam structure, 17.5' wide, 6' high, 80" long, walls 5-7" thick with burlap imprint
3.	Check dam structure, 16' wide, 6.5' high, 80" long, walls 5-7" thick



*Plate 20. Check dam # 1
(west perspective)*



*Plate 21. Check dam # 1, metal rebar
(southwest perspective)*



*Plate 22. Check dam # 2
(southeast perspective)*



*Plate 23. Check dam # 2, burlap imprint
(northwest perspective)*



*Plate 24. Check dam # 3
(southwest perspective)*



*Plate 25. Check dam # 3
(northeast perspective)*



Plate 26. Check dam # 3
(west perspective)

SERIAL NUMBER 2123	1. NAME (PRINT) WARNER	171	BLED SOE	ORDER NUMBER 1509
2. ADDRESS (PRINT) RD 2 Box 135 SANTA ANA ORANGE CO CAL				
3. TELEPHONE no	4. AGE IN YEARS 32	5. PLACE OF BIRTH Humboldt Tenn	6. COUNTRY OF CITIZENSHIP U S A	
7. NAME OF PERSON WHO WILL ALWAYS KNOW YOUR ADDRESS Mrs LOUISE VERA BLED SOE				
8. ADDRESS OF THAT PERSON RD 2 Box 135 SANTA ANA ORANGE CO CAL				
9. EMPLOYER'S NAME San Joaquin Fruit Co				
10. PLACE OF EMPLOYMENT OR BUSINESS RD 2 Box 135				
I AFFIRM THAT I HAVE VERIFIED ABOVE ANSWERS AND THAT THEY ARE TRUE.				
REGISTRATION CARD D. S. S. FORM 1				
Warner Bledsoe				

Plate 27. Warner Bledsoe's U.S. Army draft card.
1940. [Ancestry.com](https://www.ancestry.com)

The southwest top surface of Check dam # 3 contains an inscription: “FEB 23 1939 W BLED SOE” (Plate 25). Warner W. Bledsoe (1907-1980) was a farm worker with the San Joaquin Fruit Company. He was one of six children of a Tennessee farmer, Joseph King Bledsoe. In the 1930 United States Federal Census, Warner Bledsoe is registered as Farm Hand, in 1940 – as Irrigator, and in 1950 – as Tractor Operator. He was registered as a Tustin resident with his wife Louise and daughter Carrol. However, they lived and met friends at their “San Joaquin Fruit Ranch home” (Santa Ana Register 1936: 12).

His occupation in 1940, an irrigator, correlates with the possibility of him being a dam builder in 1939. His handwriting on his 1940 U.S. Army draft card matches the inscription on the dam’s surface (Plate 27). That allows attributing all three check dams to 1939. It is likely that they were built after the devastating flood of 1938.

All three check dams are significantly damaged and have not been in use for a long time. The walls are shifted by erosion and dented. Ditch grade walls are partially destroyed. Ditch bottom floors are destroyed or covered with sediment. Metal or wood gate elements are missing.

The fourth check dam of a different design is located on the west end of the project area, northeast of the intersection of Seville and Brena Lanes (Plates 28-31). The remaining concrete structure consists of two massive side posts and a stepped horizontal ditch grade beam. The structure is 16’9” wide and 44” high. The inner surfaces of the side posts have slits for the gate doors and traces of the hinges. There is a vertical slit in the middle of the grade beam, probably, for the gate lock. It looks like the posts had extensions in the east and west directions, parallel to the slopes of the channel; however, these extensions have been destroyed. The exact date of construction for Check dam # 4 is unclear.



*Plate 28. Check dam # 4
(west perspective)*



*Plate 29. Check dam # 4
(southwest perspective)*



*Plate 30. Check dam # 4
(northeast perspective)*



*Plate 31. Check dam # 4
(southwest perspective)*

5.2.4 Concrete Walls

A large fragment of a concrete retaining wall supports the south slope of Hicks Canyon Wash northeast of the intersection of Brillantez and Brena Lanes (Plates 32-33). The wall is constructed of concrete with a high volume of gravel poured into wood board casing and reinforced with metal square rebar, similar to the 1939 check dam structures described above. The wall is 30' long and 7.5' high, with its top portion slightly bending back from the channel. The wall is buttressed: it is 18" thick at the bottom and 7" thick on the top.

The retaining wall is adjacent to an unpaved sidewalk, running from Culver Drive in a southeasterly direction parallel to Brena Lane. The sidewalk is crossed by a remnant of a demolished concrete dividing wall running from the retaining wall at 45 degrees. It connects to a concrete side wall along the south edge of the sidewalk (Plates 34-35). The sidewalk wall is 410' long, 3' high, and 6" thick. It followed the eucalyptus windbreak seen on aerial photographs, now almost completely gone.



*Plate 32. Concrete retaining wall
(southwest perspective)*



*Plate 33. Concrete retaining wall, fragment
(northeast perspective)*



*Plate 34. Concrete sidewalk wall
(southeast perspective)*



*Plate 35. Concrete sidewalk wall, fragment
(southeast perspective)*

6.0 EVALUATION

This section includes historical significance evaluations for the property under the NRHP and CRHR significance criteria. Resources that are found to be significant under one or more of the NRHP and/or CRHR significance criteria must also be evaluated for integrity. If a resource is not found to be historically significant under any of the criteria, then an integrity evaluation is not applicable. The following NRHP/CRHR evaluation adheres to the NPS guidelines for evaluation as provided in *National Register Bulletin 15: How to Apply the National Register Criteria for Evaluation* (NPS 2002).

The City of Irvine does not have a Historic Preservation Ordinance or a landmark designation procedure. The General Plan Cultural resources element does not provide significance criteria for potential historic resources. Therefore, the property is not evaluated for significance on the local level.

6.1 SIGNIFICANCE CRITERIA A/1

NRHP Criterion A: Is associated with events that have made a significant contribution to the broad patterns of our history

Criterion 1: It is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage

The Hicks Canyon Wash structures **do not appear eligible** under Criteria A/1. Gunite channel walls, check dam structures, and cobblestone and concrete retaining walls were built in the first half of the twentieth century as part of the Irvine Ranch / San Joaquin Fruit Company operations. Archival research did not associate these structures with any historically significant events at the state or federal level.

Dam structures and gunite channel walls may be considered as belonging to the theme "Irrigation and Flood Control." However, they were not included as significant features in the Irvine Ranch Irrigation System research prepared for the Orange County Historic Civil Engineering Landmark designation (Nelson 2009).

The cobblestone retaining walls at the creek crossing may be the earliest surviving remnant of the San Joaquin Fruit Company's agricultural history and the last trace of historic farm roads in this area. They might be significant at the local level; however, they do not elevate to the significance at the state or federal level.

Therefore, the subject property **does not appear eligible** under Criteria A/1.

6.2 SIGNIFICANCE CRITERIA B/2

NRHP Criterion B: Is associated with the lives of persons significant in our past

Criterion 2: It is associated with the lives of persons important in our past

The Hicks Canyon Wash structures **do not appear eligible** under Criteria B/2. Research conducted for this study did not suggest that the subject property is significant for an association with important individuals who made significant contributions at the state or national level. The only name associated with the subject structures is Warner W. Bledsoe, irrigator and potential builder of the 1939 check dam structures and concrete retaining walls. He was an active citizen of the City of Tustin and a long-term employee of the San Joaquin Fruit Company; however, he does not appear to be a historically significant individual at the state or federal level.

Therefore, the subject property **does not appear eligible** under Criteria B/2.

6.3 SIGNIFICANCE CRITERIA C/3

NRHP Criterion C: Embodies the distinctive characteristics of a type, period, or method of installation, or represents the work of a master, possesses high artistic values, or represents a significant and distinguishable entity whose components may lack individual distinction

Criterion 3: It embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values

The Hicks Canyon Wash structures **do not appear** eligible under Criteria C/3. Dam structures, gunite channel walls, and cobblestone and concrete retaining walls exhibit typical rather than distinctive characteristics of their building type and period. They do not reflect outstanding or distinctive design, the work of a master, the method of construction, or possess high artistic value. The dam structures were likely built without an engineer's involvement, based on the schemes from professional literature of the time.

Therefore, the subject property **does not appear** eligible under Criteria C/3.

6.4 SIGNIFICANCE CRITERIA D/4

NRHP Criterion D: It has yielded, or may be likely to yield, information important in prehistory or history

Criterion 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

The Hicks Canyon Wash project area **does not appear** eligible under Criterion D/4. This criterion is most relevant for archaeological sites, but it can be applied to historic built-environment resources if further study has the potential to yield information that cannot be obtained from other sources. A prehistoric site P-30-000513 (CA-ORA-513), identified and recorded in 1976 and located along the southern edge of Hicks Canyon Wash, has been destroyed in the course of residential development (Gittelhough and Robbins-Wade 2022).

Therefore, the subject property **does not appear** eligible under Criterion D/4.

7.0 CONCLUSION

As noted previously, the Hicks Canyon Channel Project proposes to regrade and landscape along the channel slopes through Hicks Canyon Wash in compliance with 100-year flow management practices in order to prevent further erosion of the channel, stabilize the channel banks, and protect adjacent residential properties along the southern edge of the channel. All existing concrete structures are proposed to be removed and disposed of.

As a result of this intensive-level evaluation, the existing Hicks Canyon Wash structures **do not appear eligible for federal or state listing**. In addition, they are not included on the State Built Environment Resources Directory. The City of Irvine currently does not have a Historic Preservation Ordinance or a City inventory of historic resources. Therefore, the property **does not qualify as a historical resource under CEQA**.

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c) <https://irvinehistory.org/wp-content/uploads/2020/10/Irvine-Development-into-1950s.pdf>.
d) <https://irvinehistory.org/wp-content/uploads/2020/10/Irvine-Ranch-gives-way-to-Urban-Development-53b1eeef-438f-4e73-bd98-b48163cc07ef-converted.pdf>.
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Appendix A

Department of Parks and Recreation
Series 523 Forms

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
PRIMARY RECORD

Primary #
HRI #
Trinomial
NRHP Status Code

Other Listings
Review Code

Reviewer

Date

Page 1 of 14

*Resource Name or #: HCW-S-001

P1. Other Identifier: Hicks Canyon Wash

***P2. Location:** ☐ Not for Publication ☐ Unrestricted

***a. County:** Orange

and (P2b and P2c or P2d. Attach a Location Map as necessary.)

***b. USGS 7.5' Quad:** Tustin & El Toro **Date:** 2018

T 5S; R9W & 8W; ¼ of ¼ of Sec; San Bernardino **B.M.**

c. Address:

City: Irvine

Zip: 92620

d. UTM Zone: 11; 428863 mE/ 3731819 mN (G.P.S.) West End

UTM Zone: 11; 430653 mE/ 3731506 mN (G.P.S.) East End

e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, etc., as appropriate) Elevation:

From the intersection of Interstate-5 and Culver Drive, take Culver Drive northeast for approximately 1.25 miles. Resource will be on the right side, opposite of the Hicks Canyon Park.

***P3a. Description:** (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)

Cultural Resource HCW-S-001 is a historic resource comprised of 21 historic structures associated with the use of Hicks Canyon Wash dating back to the first half of the 20th century. Located in the city of Irvine at the foothill of Loma Ridge of the Santa Ana Mountains, Hicks Canyon Wash runs east/west. The site is situated within the creek itself, running from the Eastwood Path west to Culver Drive. Features consist of 14 gunite channel walls, a cobblestone and concrete creek crossing, four dams, a concrete retaining wall and a sidewalk wall. Construction techniques vary between these features, with gunite and framed monolithic pours used for the channel walls, dams, and retaining wall, and concrete and cobble stone construction for the creek crossing. Visibility is good (26-50%) with duff from riparian vegetation and eucalyptus trees, as well as sediment from waterflow through the creek, obscuring visibility.

***P3b. Resource Attributes:** (List attributes and codes) HP21. Dam; HP46. Walls/gates/fences

***P4. Resources Present:** ☐ Building ☒ Structure ☐ Object ☐ Site ☐ District ☐ Element of District ☐ Other (Isolates, etc.)

P5a. Photo or Drawing (Photo required for buildings, structures, and objects.)



P5b. Description of Photo: (View, date, accession #)

Overview of Hicks Canyon Wash from the east end; west perspective;
10/28/2022; IMG_6198.

***P6. Date Constructed/Age and Sources:** ☒ Historic

☐ Prehistoric ☐ Both

***P7. Owner and Address:**

City of Irvine

***P8. Recorded by:** (Name, affiliation, and address)

Marina Khrustaleva
HELIX Environmental Planning, Inc.
16485 Laguna Canyon Road,
Suite 150
Irvine, CA 92618

***P9. Date Recorded:** 10/28/22

***P10. Survey Type:** (Describe)

Intensive Pedestrian

***P11. Report Citation:** (Cite survey report and other sources, or enter "none.")

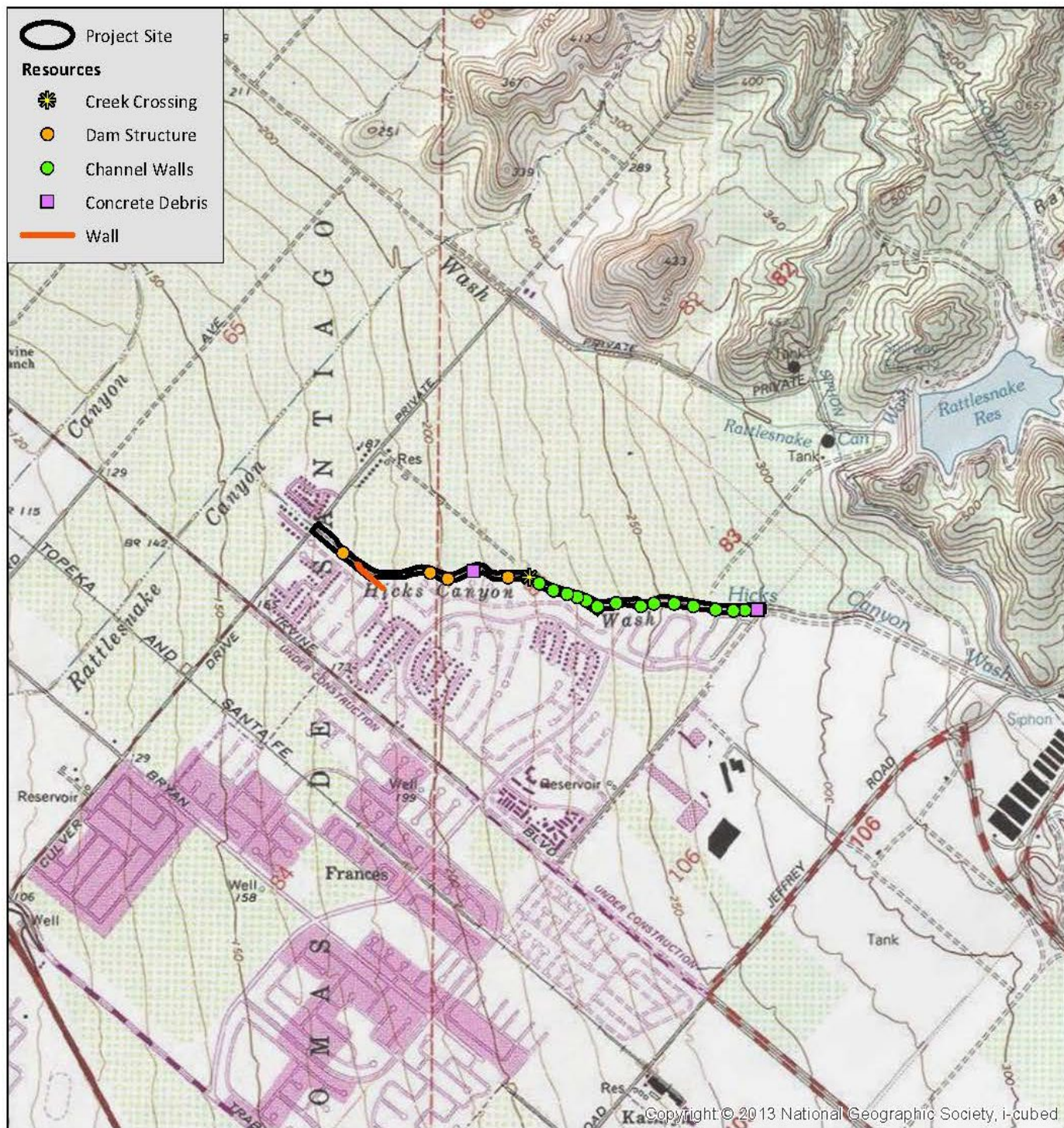
Historic Resources Evaluation Report Hicks Canyon Channel Restoration Project. Prepared for: BKF Engineers, 04663.00002.001. HELIX Environmental Planning, Inc., 2023.

***Attachments:** ☐ NONE ☒ Location Map ☒ Sketch Map ☒ Continuation Sheet ☒ Building, Structure, and Object Record
☐ Archaeological Record ☐ District Record ☐ Linear Feature Record ☐ Milling Station Record ☐ Rock Art Record
☐ Artifact Record ☐ Photograph Record ☐ Other (List):

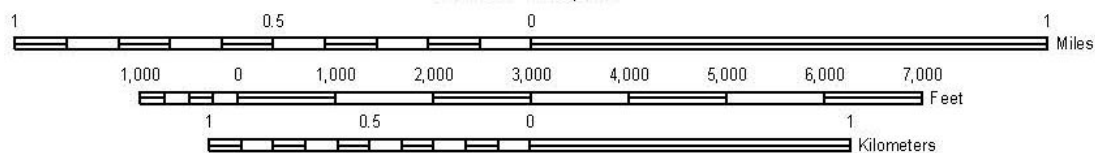
*Map Name: Tustin

*Scale: 1:24,000

*Date of Map: 1978



SCALE 1:24,000



TRUE NORTH

SKETCH MAP

Page 3 of 14

Primary #
HRI#

Trinomial:

*Resource Name or # (Assigned by recorder) HCW-S-001

*Drawn by: Rebecca Kress

*Date of map: 11/02/2022



BUILDING, STRUCTURE, AND OBJECT RECORD

Page 4 of 14

*NRHP Status Code

*Resource Name or # (Assigned by recorder) HCW-S-001

B1. Historic Name:

B2. Common Name: Gunite Channel Walls

B3. Original Use: Channel Walls

B4. Present Use: Significantly damaged, out-of-use

*B5. Architectural Style: n/a

*B6. Construction History: (Construction date, alterations, and date of alterations)

The eastern portion of Hicks Canyon Wash, from Eastwood Path to Edenbrook Lane, is improved with 14 segments of gunite channel walls. Except the westmost fragment, all channel walls are built in pairs supporting both north and south slopes. The width of the channel walls varies from 14.5' to 20'; the visible height varies from 2.5' to 5' (some bottoms of the walls are covered with sediment); the length varies from 10.5' to 13'. The poured-in-place concrete is reinforced with wire rebar. The ends of each wall are reinforced with 4" x 4" wood posts. Some of the channel walls exhibit imprints of wood boards, burlap, or wire mesh used as casing.

The exact date of construction of these channel walls is unknown. The U.S. Army Corps of Engineers 1974 report mentions a portion of Hicks Canyon Wash along the plant nursery that was improved with gunite, east of the current project area (between Eastwood Path and Jeffrey Road). According to the report, this portion of the channel was badly damaged in the February 1969 flood. The type of construction and materials, such as gunite and 4" x 4" wood posts, indicate dates for these structures between 1907 and 1964.

*B7. Moved? ☒No ☐Yes ☐Unknown Date:

Original Location:

*B8. Related Features: n/a

B9a. Architect: n/a

b. Builder: Unknown

*B10. Significance: Theme: Early water infrastructure development

Area: Irvine Ranch

Period of Significance: 1907-1971

Property Type: Channel Walls

Applicable Criteria: none

(Discuss importance in terms of historical or architectural context as defined by theme, period, and geographic scope. Also address integrity.)

The gunite channel walls were built in the first half of the 20th century as part of the Irvine Ranch / San Joaquin Fruit Company operations. Water conservation and floods were equally challenging for the fruit industry. The most devastating winter floods of 1938 and 1969 washed away bridges and roads in the area. Peters Canyon Wash, Rattlesnake Canyon Wash, and Hicks Canyon Wash were significantly damaged and subject to overflow.

The gunite channel walls may be considered as belonging to the theme "Irrigation and Flood Control." However, they were not included as significant features in the 2009 Irvine Ranch Irrigation System research prepared for the Orange County Historic Civil Engineering Landmark designation.

Archival research did not associate these structures with any historically significant events, persons, styles, or masters. All fourteen fragments of channel walls are significantly damaged: their upper and side edges are chipped and eroded, bottom portions covered with silt and sediment, the wall surfaces are bent and partially recede from the earthen slopes. The channel walls exhibit typical rather than distinctive characteristics of their building type and period. They do not retain integrity and do not appear significant at either the state or federal level.

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
CONTINUATION SHEET

Page 5 of 14

Primary #
HRI#

Trinomial:

*Resource Name or # (Assigned by recorder) HCW-S-001

Recorded by: Marina Khrustaleva, HELIX Environmental

*Date: 10/28/2022

■ Continuation ☐ Update

B11. Additional Resource Attributes: (List attributes and codes)

*B12. References: See Continuation Sheet page 14

B13. Remarks:

*B14. Evaluator: Marina Khrustaleva, HELIX Environmental Planning

*Date of Evaluation: 10/28/2022



*Gunit channel wall # 6, southwest perspective
10/28/2022; IMG_6169*



*Gunit channel wall # 8, west perspective
10/28/2022; IMG_6153*



*Gunit channel wall # 9, northeast perspective
10/28/2022; IMG_6147*



*Gunit channel wall # 12, east perspective
10/28/2022; IMG_6128*

BUILDING, STRUCTURE, AND OBJECT RECORD

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*NRHP Status Code

*Resource Name or # (Assigned by recorder) HCW-S-001

B1. Historic Name:

B2. Common Name: Creek Crossing

B3. Original Use: Creek Crossing

B4. Present Use: Creek Crossing

*B5. Architectural Style: n/a

*B6. Construction History: (Construction date, alterations, and date of alterations)

A severely damaged concrete-paved road crosses Hicks Canyon Wash where Edenbrook Lane approaches it from the north. This crossing marks the intersection of historic farm roads of the San Joaquin Fruit Company. An unidentified homestead was located just north of the crossing.

Northwest and southwest corners of the crossing are improved with curved cobblestone retaining walls. The walls are approximately 5' high and 17' long. Rough cladding includes stones of various sizes and colors, probably brought by the stream and gathered in the surrounding fields, with a few shell inclusions. A concrete patch on the northwest corner exhibits an inscription: "2-2-22 FLS". It may refer to a possible date of the wall construction, February 2, 1922.

*B7. Moved? ☒No ☐Yes ☐Unknown Date:

Original Location:

*B8. Related Features: n/a

B9a. Architect: n/a

b. Builder: Unknown

*B10. Significance: Theme: Early agricultural development

Area: Irvine Ranch

Period of Significance: 1922-1971

Property Type: Retaining walls

Applicable Criteria: none

(Discuss importance in terms of historical or architectural context as defined by theme, period, and geographic scope. Also address integrity.)

The first orange groves at the Irvine Ranch took root in what is now the Village of Northwood, south of Hicks Canyon Wash. In 1906, James Irvine II, Charles Edward Utt, and Sherman Stevens formed the San Joaquin Fruit and Investment Company. They planted 400 acres of lemon trees and Valencia orange trees and 600 acres of walnut trees and apricot trees.

The 1938 aerial photograph from the UC Santa Barbara collection shows the regular lots of San Joaquin Fruit Company bordered by the wavy Hicks Canyon Wash on the north. North of Hicks Canyon Wash lays undeveloped land. A farm homestead is visible at the intersection of Hicks Canyon Wash and two minor farm roads, approximately where Stonebrook and Edenbrook cross today. The creek crossing is the last remnant of this unidentified homestead. The cobblestone retaining walls may be the earliest surviving remnant of the San Joaquin Fruit Company agricultural history and the last trace of historic farm roads.

The retaining walls have been damaged by eucalyptus roots and by flooding. Some stones are missing; mortar with a high volume of gravel has significantly deteriorated. A vertical crack on the southwest corner has been repaired with concrete that did not hold long. The bottom of the walls is covered with sediment. The concrete crossing pavement is severely damaged. Archival research did not associate the creek crossing with any historically significant events, persons, styles, or masters. The retaining walls exhibit typical rather than distinctive characteristics of their building type and period. They do not retain integrity and do not appear significant at either the state or federal level.

(This space reserved for official comments.)

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DEPARTMENT OF PARKS AND RECREATION
CONTINUATION SHEET

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Primary #
HRI#

Trinomial:

*Resource Name or # (Assigned by recorder) HCW-S-001

Recorded by: Marina Khrustaleva, HELIX Environmental

*Date: 10/28/2022

■ Continuation ☐ Update

B11. Additional Resource Attributes: (List attributes and codes)

*B12. References: See Continuation Sheet page 14

B13. Remarks:

*B14. Evaluator: Marina Khrustaleva, HELIX Environmental Planning

*Date of Evaluation: 10/28/2022



*Creek crossing retaining walls, west perspective
10/28/2022; IMG_6118*



*"2-2-22" inscription, northwest perspective
10/28/2022; IMG_6114*



*Creek crossing retaining walls, southwest perspective
10/28/2022; IMG_6117*



*Creek crossing retaining walls, northwest perspective
10/28/2022; IMG_6116*

BUILDING, STRUCTURE, AND OBJECT RECORD

Page 8 of 14

*NRHP Status Code

*Resource Name or # (Assigned by recorder) HCW-S-001

B1. Historic Name:

B2. Common Name: Check Dam Structures

B3. Original Use: Check Dams

B4. Present Use: Significantly damaged, out-of-use

*B5. Architectural Style: n/a

*B6. Construction History: (Construction date, alterations, and date of alterations)

The section of Hicks Canyon Wash west of the creek crossing contains the remnants of three check dams, or ditch gate dams. Such dams were used on seasonal streams to counteract erosion by reducing water flow velocity and to promote water infiltration to adjacent agricultural lands. During dry seasons, the gate, made of lagging, flashboards, or stop-logs, remained in place to maintain water level. When the larger flow had to be passed, a larger opening was created by removing part of the gate.

Check Dam # 1 is located north of Ribera Lane. Check dams #2 and 3 are located northeast of Quebrada Lane. They are constructed of concrete with a high volume of gravel poured into wood board casing and reinforced with metal rebar. Their sizes are:

1. Check dam # 1: 20' wide, 4' high, 80" long, walls 5" thick
2. Check dam # 2: 17.5' wide, 6' high, 80" long, walls 5-7" thick with burlap imprint
3. Check dam # 3: 16' wide, 6.5' high, 80" long, walls 5-7" thick

The southwest top surface of Check dam # 3 contains an inscription: "FEB 23 1939 W BLEDSOE". Warner W. Bledsoe (1907-1980) was a farm worker with the San Joaquin Fruit Company. He was one of six children of a Tennessee farmer Joseph King Bledsoe. In 1930 United States Federal Census, Warner Bledsoe is registered as Farm Hand, in 1940 - as Irrigator, in 1950 - as Tractor Operator. He was registered as Tustin resident with his wife Louise and daughter Carrol. However, they lived and met friends at their "San Joaquin Fruit Ranch home."

His occupation in 1940, an irrigator, correlates with a possibility of him being a dam builder in 1939. His handwriting on his 1940 U.S. Army draft card matches the inscription on the dam surface. That allows attributing all three check dams to 1939. It is likely that they were built after the devastating flood of 1938.

The fourth check dam, of a different design, is located on the west end of the project area, northeast of intersection of Seville and Brena Lanes. The remaining concrete structure consists of two massive side posts and a stepped horizontal ditch grade beam. The structure is 16'9" wide and 44" high. The inner surfaces of the side posts have slits for the gate doors and traces of the hinges. There is a vertical slit in the middle of the grade beam, probably for the gate lock. It looks like the posts had extensions in east and west directions, parallel to the slopes of the channel; however, these extensions have been destroyed. The exact date of construction for Check dam # 4 is unclear.

*B7. Moved? ☒No ☐Yes ☐Unknown Date:

Original Location:

*B8. Related Features: n/a

B9a. Architect: n/a

b. Builder: Warner W. Bledsoe

(This space reserved for official comments.)

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Primary #
HRI#

Trinomial:

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*Resource Name or # (Assigned by recorder) HCW-S-001

Recorded by: Marina Khrustaleva, HELIX Environmental

*Date: 10/28/2022

■ Continuation ☐ Update

*B10. Significance: Theme: Early water infrastructure development

Area: Irvine Ranch

Period of Significance: 1939-1971

Property Type: Dam

Applicable Criteria: none

(Discuss importance in terms of historical or architectural context as defined by theme, period, and geographic scope. Also address integrity.)

The check dam structures were built in the first half of the 20th century as part of the Irvine Ranch / San Joaquin Fruit Company operations. Water conservation and floods were equally challenging for the fruit industry. The most devastating winter floods of 1938 and 1969 washed away bridges and roads in the area. Peters Canyon Wash, Rattlesnake Canyon Wash, and Hicks Canyon Wash were significantly damaged and overflowed.

The check dam structures may be considered as belonging to the theme "Irrigation and Flood Control." However, they were not included as significant features in the 2009 Irvine Ranch Irrigation System research prepared for the Orange County Historic Civil Engineering Landmark designation. The dams exhibit typical rather than distinctive characteristics of their building type and period.

Archival research did not associate these structures with any historically significant events, persons, styles, or masters. The only name associated with the subject structures is Warner W. Bledsoe, irrigator and potential builder of the 1939 check dam structures and concrete retaining walls. He was an active citizen of the City of Tustin and a long-term employee of the San Joaquin Fruit Company; however, he does not appear to be a historically significant individual.

All four check dams are significantly damaged and have not been in use for a long time. The walls are shifted by erosion and dented. Ditch grade walls are partially destroyed. Ditch bottom floors are destroyed or covered with sediment. Metal or wood gate elements are missing. They do not retain integrity and do not appear significant at either the state or federal level.

B11. Additional Resource Attributes: (List attributes and codes)

*B12. References: See Continuation Sheet page 14

B13. Remarks:

*B14. Evaluator: Marina Khrustaleva, HELIX Environmental Planning

*Date of Evaluation: 10/28/2022

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HRI#

Trinomial:

*Resource Name or # (Assigned by recorder) HCW-S-001

Recorded by: Marina Khrustaleva, HELIX Environmental

*Date: 10/28/2022

■ Continuation ☐ Update



*Check dam # 1, west perspective
10/28/2022; IMG_6108*



*Check dam # 1, metal rebar, southwest perspective
10/28/2022; IMG_6107*



*Check dam # 2, southeast perspective
10/28/2022; IMG_6095*



*Check dam # 2, burlap imprint, northwest perspective
10/28/2022; IMG_6098*



*Check dam # 3, southwest perspective
10/28/2022; IMG_6201*



*Check dam # 3, northeast perspective
10/28/2022; IMG_6091*

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Primary #
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Trinomial:

*Resource Name or # (Assigned by recorder) HCW-S-001

Recorded by: Marina Khurstaleva, HELIX Environmental

*Date: 10/28/2022

■ Continuation ☐ Update



Check dam # 3, west perspective
10/28/2022; IMG_6088

SERIAL NUMBER 2123	1. NAME (Print) WARNER		2. NAME (Print) BLED SOE		ORDER NUMBER 1509
3. ADDRESS (Print) RD 2 Box 135 SANTA ANA ORANGE CAL					
4. TELEPHONE 210	5. AGE IN YEARS 32		6. PLACE OF BIRTH Humboldt		7. COUNTRY OF CITIZENSHIP USA
8. DATE OF BIRTH Nov 20 1907					
9. NAME OF PERSON WHO WILL ALWAYS KNOW YOUR ADDRESS Mrs LOUISE VERA BLED SOE					
10. ADDRESS OF THAT PERSON RD 2 Box 135 SANTA ANA ORANGE CAL					
11. PLACE OF EMPLOYMENT OR BUSINESS San Joaquin Fruit Co					
12. I AFFIRM THAT I HAVE VERIFIED ABOVE ANSWERS AND THAT THEY ARE TRUE.					
REGISTRATION CARD D. S. Form 1					
15-17105 Warner Bledsoe					

Warner Bledsoe's U.S. Army draft card. 1940
Ancestry.com



Check dam # 4, west perspective
10/28/2022; IMG_6054



Check dam # 4, southwest perspective
10/28/2022; IMG_6203



Check dam # 4, northeast perspective
10/28/2022; IMG_6058



Check dam # 4, southwest perspective
10/28/2022; IMG_6056

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*Resource Name or # (Assigned by recorder) HCW-S-001

Recorded by: [Name], HELIX Environmental

*Date: [Date]

☒ Continuation ☐ Update

B1. Historic Name:

B2. Common Name: Retaining and Sidewalk Walls

B3. Original Use: Retaining and Sidewalk Walls B4. Present Use: Retaining and Sidewalk Walls

*B5. Architectural Style: n/a

*B6. Construction History: (Construction date, alterations, and date of alterations)

A large fragment of a concrete retaining wall supports the south slope of Hicks Canyon Wash northeast of intersection of Brillantez and Brena Lanes. The wall is constructed of concrete with a high volume of gravel poured into wood board casing and reinforced with metal square rebar, similar to 1939 check dam structures described above. The wall is 30' long and 7.5' high, with its top portion slightly bending back from the channel. The wall is buttressed: it is 18" thick at the bottom and 7" thick on the top.

The retaining wall is adjacent to an unpaved sidewalk running from Culver Drive in a southeasterly direction parallel to Brena Lane. The sidewalk is crossed by a remnant of a demolished concrete dividing wall running from the retaining wall at 45 degrees. It connects to a concrete side wall along the south edge of the sidewalk. The sidewalk wall is 410' long, 3' high, and 6" thick. It followed the eucalyptus windbreak seen on aerial photographs, now almost completely gone.

*B7. Moved? ☒ No ☐ Yes ☐ Unknown Date:

Original Location:

*B8. Related Features:

B9a. Architect: n/a

b. Builder: probably, Warner W. Bledsoe

*B10. Significance: Theme: Early water infrastructure / agricultural development Area: Irvine Ranch

Period of Significance: 1939-1971

Property Type: Wall

Applicable Criteria: none

(Discuss importance in terms of historical or architectural context as defined by theme, period, and geographic scope. Also address integrity.)

The concrete retaining wall and sidewalk wall were built in the first half of the 20th century as part of the Irvine Ranch / San Joaquin Fruit Company operations. Archival research did not associate these structures with any historically significant events, persons, styles, or masters. The walls exhibit typical rather than distinctive characteristics of their building type and period. They are partially damaged and do not appear significant at either the state or federal level.

B11. Additional Resource Attributes: (List attributes and codes)

*B12. References: See Continuation Sheet page 14

B13. Remarks:

*B14. Evaluator: Marina Khurstaleva, HELIX Environmental Planning

*Date of Evaluation: 10/28/2022

(This space reserved for official comments.)

*Required information

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Primary #
HRI#

Trinomial:

*Resource Name or # (Assigned by recorder) HCW-S-001

Recorded by: Marina Khrustaleva, HELIX Environmental

*Date: 10/28/2022

■ Continuation ☐ Update



*Concrete retaining wall, southwest perspective
10/28/2022; IMG_6063*



*Concrete retaining wall, fragment, northeast perspective
10/28/2022; IMG_6064*



*Concrete sidewalk wall, southeast perspective
10/28/2022; IMG_6073*



*Concrete sidewalk wall, fragment, southeast
perspective. 10/28/2022; IMG_6072*

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*Resource Name or # (Assigned by recorder) HCW-S-001

Recorded by: Marina Khurstaleva, HELIX Environmental

*Date: 10/28/2022

■ Continuation ☐ Update

***B12. References (Continued):**

Armor, Samuel

- 1921 *History of Orange County, California: with biographical sketches of the leading men and women of the county who have been identified with its earliest growth and development from the early days to the present.* Los Angeles, Historic Record Co. Accessed via Hathitrust.org.

Cleland, Robert Glass

- 1966 *The Irvine Ranch.* The Huntington Library, San Marino, California.

Dawson, Ray Elmer

- 1938 *A History of Tustin California with Special Emphasis upon its Citrus Development.* A Thesis Presented to the Faculty of the Department of History University of Southern California. Electronic documents available at: <https://digitalibrary.usc.edu/C.aspx?VP3=pdfviewer&rid=2A3BF1WJTB2T>, accessed in November, 2022.

Irvine Historical Society

- 2020 *The Dawn of the Irvine Ranch* (5 chapters based on Bell 2011 and Gauntt 1990). Electronic documents available at: <https://irvinehistory.org/>, accessed in November, 2022.

Nelson, Carl R.

- 2009 *A History of Water Resources Development on the Irvine Ranch Orange County, California.* Electronic document available at: [http://www.asceoc.org/images/uploads/A History of Water Resources Development on the Irvine Ranch.pdf](http://www.asceoc.org/images/uploads/A_History_of_Water_Resources_Development_on_the_Irvine_Ranch.pdf), accessed in November, 2022.

Person H.S. with the cooperation of E. Johnston Coil, Robert T. Beall

- 1936 *Little waters: a study of headwater streams & other little waters, their use and relations to the land.* Washington: G.P.O. Accessed via Hathitrust.org.

Portland Cement Association

- 1937 *Concrete structures for flood control, soil and water conservation.* Chicago, Illinois. Accessed via Hathitrust.org.

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Scott, M. B.

- 1976 *Development of Water Facilities in the Santa Ana River Basin, CA 1810-1968.* USGS Open File Report #77-398. Menlo Park CA. Electronic document available at: <https://pubs.usgs.gov/of/1977/0398/report.pdf>, accessed in November, 2022.

The Los Angeles Times

- 1928 *Development of Southland Groves Like a New Arabian Nights Wonder.* The Los Angeles Times, March 11, 1928. P. 142. Accessed via Newspapers.com.

U.S. Army Corps of Engineers

- 1974 *Flood Plain Information Report, Upper Peters Canyon Wash, Orange County, California.* United States, U.S. Army Corps of Engineers, Los Angeles District. Accessed via U.S. Army Corps of Engineers Digital Library: <https://usace.contentdm.oclc.org/digital>

Appendix B

Resumes of Key Personnel

Summary of Qualifications

Ms. Khrustaleva is a qualified historian and architectural historian with more than 27 years of experience preparing historic background information and historic contexts, evaluating buildings and structures under federal, state, and local regulatory requirements. She has prepared Historic American Building Surveys and Historic American Engineering Records as well as Historic Resources Evaluation Reports for properties throughout southern California. Ms. Khrustaleva has served as a guest lecturer at USC, UCLA, Caltech, and University of Erasmus (Rotterdam).

Selected Experience

Downey Big Box Historic Resources Evaluation Report (HRER), City of Downey, Downey, California (2022). Architectural Historian for the preparation of an HRER for the Prologis Stewart and Gray Road Warehouse Project in Downey. The subject structures operated as a facility of Pasadena's Department of Water and Power from the late nineteenth century through 2020. Evaluation included an analysis of the historic integrity of the complex and its components, a consideration of the complex as a potential historic district, the establishment of a period of significance, the identification of primary and secondary contributors, and recordation of the resource on the appropriate California Department of Parks and Recreation (DPR) Series 523 forms. Work performed for Gray and Pape.

Hicks Canyon Channel Restoration Project Historic Resources Evaluation Report, Irvine, Orange County, California (2022-2023). 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. Led an intensive-level historic resource evaluation report (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 buildings on California Department of Parks and Recreation (DPR) Series 523 forms. Work performed for the City of Irvine under contract to BKF Engineers.

Pure Water Southern California Project Cultural Resources Survey/Constraints Analysis, Los Angeles County, California (2022). 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 area. Prepared resource descriptions, details of architectural style and sub-style, modern

Education

Master of Arts,
Moscow Higher
School of Social and
Economic Sciences
/University of
Manchester, UK,
Cultural Policy and
Management,
Historic Preservation
(2002)

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

Bachelor of Arts,
Russian State
University of
Humanities, Art
History/Architectural
History (1995)

Professional Affiliations

South Pasadena
Preservation
Foundation, Board
Member, Vice-
President of
Preservation,
Outreach, and
Communications,
(2017-2020)

California
Preservation
Foundation,
Educational and
Conference
Program Committee
member

"My Liveable City"
magazine, Editorial
Board member

Marina Khrustaleva, MA

Architectural Historian

modifications and additions, and information on current condition and integrity. Work performed for Metropolitan Water District of Southern California.

Interim Associate Planner, City of South Pasadena, Planning Department, Pasadena, California (2021).

Architectural Historian and Archival Manager, Stamps & Stamps Architectural Studio, Pasadena, California (2019-2020)

Assistant Planner City of Pasadena, Planning & Community Development Department, Design & Historic Preservation Section, Pasadena, California (2016-2018)

Committee Chair, South Pasadena Churches Walking Tour and Exhibition, Pasadena, California (2019)

Coordinator, Pasadena Preservation Award, Pasadena, California (2017-2018)

Program Director, School of Heritage, Moscow, Russia (2014-2016). Served as Program Director for a public educational project in Russia.

Co-founder, Center for the Heritage Capitalization, Moscow, Russia (2013-2015),

Chair and Board member, Moscow Architecture Preservation Society (MAPS), Moscow, Russia (2004-2012)

Exhibition Curator, Riverfront Factories, Museum of Moscow, Moscow, Russia (2014)

Exhibition Curator and Panel Moderator, Moscow Culture Forum “Culture: Look into the Future”, Moscow Manege, Moscow, Russia (2014)

Exhibition Curator and Round Table Moderator, Old Country Estates of New Moscow, Museum of Moscow, Moscow, Russia (2013)

Summary of Qualifications

Ms. Falvey is a professional archaeologist and environmental planner. She has worked on approximately 100 prehistoric and historic cultural resource management projects and over 100 NEPA categorical exclusions. Ms. Falvey has served in lab, field, and office capacities, completed record searches, co-authored technical reports, and authored NEPA process documents. Projects include transportation, commercial and residential developments, wind farms, utilities projects, and rail and road expansions. Project activities include pedestrian surveys, test excavations, data recovery programs, construction monitoring, project managing, research, and technical report authoring. Ms. Falvey specializes in the National Historic Preservation Act, the National Environmental Policy Act, and the California Environmental Quality Act.

Selected Project Experience

East County Advanced Water Purification Project (2022). Cultural Resources Project Manager for this multi-phase utility pipeline project. The Joint Powers Authority is the lead agency.

Interstate 5 North Coast Corridor (2020-2022) Archaeological Project Manager responsible for coordinating construction monitoring for the construction phase of the I-5 expansion from San Elijo Lagoon north to Jefferson Street in San Diego County.

State Route 163 Bridge Rail (2020-2022) Environmental Planner for this project proposing to upgrade the bridge rails of four historic bridges spanning the SR-163 in the National Register of Historic Places-listed Cabrillo Historic District in the City of San Diego.

Archaeological Survey for the Alpine 21 Project (2016 - 2017). Crew Chief for this proposed residential development in the City of Alpine. Conducted records search, supervised field survey crew, and co-authored technical report.

Archaeological Monitoring for the Paseo Del Norte Project (2016 - 2016). Staff Archaeologist for this commercial development in the City of Carlsbad. Conducted cultural resources construction monitoring.

Keystone Way Archaeological Survey Project (2016 - 2016). Staff Archaeologist for this proposed commercial development in the City of Vista. Conducted records search, conducted field survey, and co-authored technical report. The City of Vista was the lead agency.

Presidio Apartments Survey Project (2016 - 2016). Staff Archaeologist for this proposed multi-family residential development in the City of Oceanside. Conducted

Education

Bachelor of Arts,
Anthropology with a
concentration in
Archaeology,
University of
California, San Diego,
2013

Associate of Arts,
Anthropology, Mira
Costa Community
College, California,
2011

Registrations/ Certifications

North County Transit
District (NCTD)
Roadway Worker ID
#C00901, 2015

HAZWOPER, 24
hours

Professional Affiliations

San Diego County
Archaeological
Society, Board of
Directors, Second
Vice President (2014-
2015), First Vice
President (2015-
2016)

Society for California
Archaeology, Member

Nicole Falvey

Cultural Resources Project Manager

records search, conducted field survey, and co-authored technical report. The City of Oceanside was the lead agency.

City of Oceanside As-Needed Environmental Consulting Services (2013 - 2015). Staff Archaeologist for construction of a new facility at the Mission Basin Desalting Facility near the San Luis Rey River. Responsible for field monitoring, coordination with construction crew and Native American monitors, identification of prehistoric artifacts and cultural features, and daily field notes. Work performed for the City of Oceanside.

Vista Grande Archaeological Testing (2015 - 2016). Crew Chief for this proposed residential development in the City of Vista. Responsible for supervising test excavation of the prehistoric archaeological site, including placing shovel test pits (STPs), plotting in STPs using a Trimble GPS, supervision of a three-person crew in excavating STPs, completing documentation, collecting surface artifacts, and coordination with a Native American monitor. Co-authored technical report. Work performed for the City of Vista.

City of Carlsbad Trails Master Plan Constraints Analysis (2015 - 2015). Staff Archaeologist for the constraints analysis for this proposed trails master plan in the City of Carlsbad. Assisted in research for the cultural resources portion of the constraints analysis, including locating previously recorded prehistoric archaeological sites within the proposed trail system and determining their potential for effects. Work performed for the City of Carlsbad.

Pujols Shearwater Monitoring (2015 - 2016). Staff Archaeologist for this residential development in the City of Temecula, Riverside County. Conducted cultural resources construction monitoring, completed Department of Parks and Recreation forms for prehistoric resources, and co-authored technical report.

Ticonderoga Street and Morena Boulevard (2015 - 2015). Staff Archaeologist for this proposed residential development in the City of San Diego. Co-authored technical report.

Campo Creek Bridge Replacement Monitoring (2016 - 2017). Staff Archaeologist for this bridge replacement project in the community of Campo, San Diego County. Conducted cultural resources monitoring. Work performed for CalTrans.

Grandview Pointe IS/MND Survey and Structures Evaluation (2016 - 2018). Staff Archaeologist for this proposed residential development in the City of Oceanside. Conducted a historical evaluation and reconnaissance survey of the two historical residences on the property and co-authored technical report. Work performed for the City of Oceanside.

Archaeological Testing for the Buena Sanitation District Green Oak Sewer Replacement Project (2016 - 2017). Staff Archaeologist for this sewer main replacement project located in the City of Vista. Assisted in prehistoric archaeological testing set-up and co-authored technical report. Work performed for the City of Vista.

Nicole Falvey

Cultural Resources Project Manager

Archaeological Survey for the Riverpark Project (2015 - 2017). Crew Chief for this mitigation bank project near the community of Nuevo in Riverside County. Supervised the survey of this 613-acre property with a three-person crew, including the recordation of encountered prehistoric cultural resources.

964 Urania Avenue Archaeological Testing (2017 - 2018). Crew Chief for this proposed residential development in the City of Encinitas. Responsible for supervising a two-person crew in excavating shovel test pits (STPs), including the completion of notes and the collection and labeling of artifacts. Completed Department of Parks and Recreation forms for prehistoric archaeological sites and co-authored technical report. Work performed for the City of Encinitas.

Daisy Avenue Archaeological Testing Project (2014 - 2018). Staff Archaeologist for this proposed residential development in the City of Long Beach, Orange County. Participated in prehistoric archaeological testing and co-authored technical report.

Villa Storia Archaeological Evaluation (2014 - 2015). Crew Chief for the cultural resources assessment of this property in the City of Oceanside. Responsible for supervising a four-person crew in archaeological testing by the excavation of shovel test pits (STPs).

Buena Creek Due Dilligence Study (2015 - 2015). Staff Archaeologist for this proposed residential development near the City of Vista, San Diego County. Conducted records search, conducted field survey, and co-authored technical report. The County of San Diego is the lead agency.

312-400 South Euclid Historic Building Evaluation (2016 - 2017). Staff Archaeologist for this proposed residential development in the City of Anaheim, Orange County. Conducted records search, conducted site visit, including historical building assessment, and co-authored technical report. Work performed for KB Homes.

Lakeside 6 Survey (2016 - 2016). Staff Archaeologist for this proposed residential project in the community of Lakeside, San Diego County. Conducted cultural resources field survey, conducted historical property research, and co-authored technical report. Work performed for KB Homes.

San Elijo Joint Powers Authority Preliminary Design of Land Outfall Replacement and Permitting/CEQA Compliance Study (2015 - 2016). Staff Archaeologist for this CEQA compliance project in the City of Encinitas. Conducted records search, conducted cultural resources field survey, and co-authored technical report. Work performed for the San Elijo Joint Powers Authority.

Palmdale Water District - Palmdale Regional Groundwater Recharge and Recovery Preliminary Design EIR, EA, FONSI. Staff Archaeologist for this water district project Environmental Impact Report in the Palmdale Water District, Los Angeles County. Co-authored the cultural resources section (section 5.3) of the Environmental Impact Report. Work performed for the Palmdale Water District.

Otay Crossings Commerce Park EIR Survey (2016 - 2019). Staff Archaeologist for this proposed commercial project Environmental Impact Report in the Otay Mesa area of San Diego County. Conducted records search, conducted cultural resources field survey, completed Department of Parks and

Nicole Falvey

Cultural Resources Project Manager

Recreation prehistoric site record update, and co-authored technical report in accordance with Army Corps of Engineers standards. Work performed for the County of San Diego.

Orange County Sanitation District Newhope-Placentia Trunk Sewer Replacement, No. 2-72A (2015 - 2016). Staff Archaeologist for this trunk sewer replacement project in the Orange County Sanitation District, Orange County. Conducted historical research at the Fullerton Library, conducted a site visit to determine the presence of historically significant or potentially significant structures within the project area, and co-authored technical report. Work performed for the Orange County Sanitation District.

Mast Park Monitoring (2015 - 2016). Project Staff Archaeologist for this wetland habitat restoration project in the City of Santee. Conducted cultural resources construction monitoring, completed Department of Parks and Recreation prehistoric site records, and co-authored technical report. Work performed for HELIX Construction Group and the City of Santee.

SDG&E Solar Sites Testing (2014 - 2017). Crew Chief for solar project near Pala Indian Reservation in the County of San Diego. Supervised a three-person crew in Phase II testing; responsible for test unit placement and excavation, prehistoric artifact identification, notes. Also conducted cultural resources construction monitoring for Pala solar project and solar project in the community of Ramona, San Diego County. Co-authored report for Pala solar project. Work performed for Merkel & Associates, Inc.

USD Master Plan and Conditional Use Permit (2015 - 2016). Staff Archaeologist for the cultural resources technical report for USD's Master Plan EIR. Co-authored technical report. Work performed as a subconsultant to M.W. Steele Group, Inc., with University of San Diego as the lead agency.

Archaeological Monitoring for the Old Mission San Luis Rey Cemetery Expansion Project (2016 - 2017). Staff Archaeologist for a cultural resources monitoring program for the expansion of the cemetery at Old Mission San Luis Rey, an area of sensitivity in terms of archaeological, historic, and Native American cultural resources. Conducted cultural resources construction monitoring. Work performed for Old Mission San Luis Rey, with the City of Oceanside as the lead agency.

Interstate 8 Water Main Crossing at Viewside Lane Environmental and Cultural Resources Services (2015 - 2016). Staff Archaeologist for proposed water main crossing in the community of Alpine, San Diego County. Conducted records search, conducted cultural resources field survey, and co-authored technical report. Work performed for the Padre Dam Municipal Water District.

Green Oak Villas Greenhouse Gas and Cultural Resources Testing (2016 - 2016). Staff Archaeologist for proposed residential development in the City of Vista. Conducted records search, conducted cultural resources field survey, acted as co-crew chief for Phase II testing, and co-authored technical report. Work performed for Providence Capital Group, Inc. with the City of Vista as the lead agency.

Archaeological Testing for the F11 Development (2015 - 2017). Staff Archaeologist for a proposed mixed-use commercial and residential tower in downtown San Diego. Participated in Phase II archaeological testing and laboratory work, including cleaning, sorting, labeling, and researching historic

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artifacts. Work performed for the Richman Group of Companies with the City of San Diego as the lead agency.

San Ysidro Community Plan Update (2016 - 2016). Staff Archaeologist for a Program EIR (PEIR) addressing a proposed update to the San Ysidro Community Plan that covers approximately 1,800 acres near the international border with Mexico. Co-authored PEIR Section 4.7 Historical Resources. Work performed for the City of San Diego.

Pottery Canyon Mitigation Monitoring (2014 - 2016). Staff Archaeologist for a cultural resources monitoring program in conjunction with contaminated soils remediation program at a significant historic archaeological site in Pottery Canyon Park in the City of San Diego. Responsible for monitoring of contaminated soils capping, collection and cataloging of artifacts outside the capped area, and co-authoring of a monitoring report. Work performed for the City of San Diego.

Archaeological Monitoring for 28th Street between Island Avenue and Clay Avenue (2014 - 2018). Staff Archaeologist for undergrounding utilities project in the Sherman Heights neighborhood of the City of San Diego. Conducted field, laboratory, and office work including: cultural resources construction monitoring; cleaning, sorting, labeling, cataloging, and researching of artifacts; completing Department of Parks and Recreation site records; and co-authoring technical report. Work performed for the City of San Diego.

Surveys for the Nestor Creek Channel Maintenance - Permitting and MMP Individual Assessments (2015-2016). Staff Archaeologist for creek channel maintenance program assessment in the City of San Diego. Conducted cultural resources field surveys and co-authored IHA. Work performed for the City of San Diego.

Survey for the Smythe Channel Maintenance - Permitting and MMP Individual Assessments (2015-2016). Staff Archaeologist for channel maintenance project in the City of San Diego. Conducted records search, conducted cultural resources field survey, and co-authored IHA. Work performed for the City of San Diego.

Archaeological Survey for the 12 Oaks Winery Resort and Golf Community (2015 - 2018). Staff Archaeologist for a cultural resources survey of approximately 650 acres for a proposed project in the County of Riverside. Participated in cultural resources field survey, completed Department of Parks and Recreation prehistoric site records, and co-authored technical report. Work performed for Standard Portfolio Temecula, LLC.

SR-266 Road Widening D-List Categorical Exclusion (2019-2020). Author for this Federal Highway Administration-approved NEPA document in Rutherford County, Tennessee. Completed the Section 4(f) De Minimis process for multiple recreation areas and authored the report based upon archaeology, historical preservation, ecology, hazardous materials, air and noise, Native American coordination, and multimodal transportation studies.

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SR-13 Road Realignment D-List Categorical Exclusion (2019-2020). Author for this Federal Highway Administration-approved NEPA document in Perry County, Tennessee. Authored the report based upon archaeology, historical preservation, ecology, hazardous materials, air and noise, Native American coordination, and multimodal transportation studies.

Coachella Valley Pole Replacements (2014). Staff archaeologist for electrical pole replacement for the County of Riverside. Conducted record search.

Juan Street Pothole Investigation (2014). Staff archaeologist for storm drain project in the City of San Diego. Assisted in report preparation.

Southern California Edison Pole Surveys (2014). Staff archaeologist for electrical pole replacement for the Counties of Riverside, Mono, and Inyo. Conducted record searched, pedestrian surveys and assisted in report preparation; responsible for artifact identification and field notes.

Sunset Cliffs Archaeological Monitoring (2014). Staff archaeologist for sewer pipeline in the City of San Diego. Conducted cultural resource monitoring; responsible for artifact identification, monitoring notes, and assisting in report preparation.

Verizon Rose Creek Data Recovery (2014). Staff archaeologist for cell phone tower installation in the City of San Diego. Participated in Phase I data recovery; responsible for excavation of shovel test pits, field notes.

Mission Cove Archaeological Data Recovery (2014 - 2015). Project Staff archaeologist for residential development in the City of Oceanside. Participated in Phase II data recovery; responsible for excavation of shovel test units, field notes.

San Diego Fish and Game Wetland Rehab Survey (2013). Staff archaeologist for wetland rehabilitation for the County of San Diego in the unincorporated community of Jamul. Conducted a pedestrian survey; responsible for artifact identification.

El Toro Recycled Water Monitoring (2013). Staff archaeologist for recycled water pipeline in the City of El Toro. Conducted cultural resource monitoring; responsible for artifact identification, monitoring notes.

Newland Sierra (2013). Staff archaeologist for commercial development in the City of Escondido. Conducted laboratory analysis; responsible for artifact labeling, analysis, cataloging.

North County Transit District San Onofre Archaeological Monitoring and Testing (2013). Staff archaeologist for the expansion of railroad tracks on Marine Corps Base Camp Pendleton. Conducted cultural resource monitoring, test excavations, laboratory analysis; responsible for artifact identification, monitoring notes, artifact labeling.

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Ortega Highway Interchange Monitoring (2013). Staff archaeologist for highway improvements in the City of San Juan Capistrano. Conducted cultural resource monitoring; responsible for artifact identification, monitoring notes.

Poseidon Desalination Plant Monitoring (2013-2014). Staff archaeologist for water pipeline in the City of Carlsbad. Conducted cultural resource monitoring, laboratory analysis; responsible for artifact identification, monitoring notes, artifact analysis, cataloging.

Rincon Point (2013). Staff archaeologist for residential development in the County of Santa Barbara. Assisted in laboratory analysis; responsible for artifact identification and labeling.

Smoking Tree Survey (2013). Staff archaeologist for the installation of wind turbines in the City of Palm Springs. Conducted pedestrian survey; responsible for artifact identification, field notes.

Yokohl Ranch (2013). Staff archaeologist for residential development in the County of Tulare. Conducted laboratory analysis; responsible for artifact analysis, cataloging, soil flotation, wet screening.

Silver Strand State Beach Monitoring (2012). Archaeological intern for underground utilities in Silver Strand State Beach in the City of San Diego. Conducted cultural resource monitoring; responsible for artifact identification, monitoring notes.

Cuyamaca Rancho School Camp Monitoring (2010). Archaeological intern for landscaping in Cuyamaca Rancho State Park in the County of San Diego. Conducted cultural resource monitoring; responsible for artifact identification, monitoring notes.