WINGS LANDING TIDAL HABITAT RESTORATION PROJECT

CEQA ADDENDUM

APPENDIX G

Cultural Resources Report

WINGS LANDING TIDAL HABITAT RESTORATION PROJECT

Cultural Resources Inventory and Evaluation Report

Prepared for:
Natural Resources Group, Inc.

August 2019

ESA

WINGS LANDING TIDAL HABITAT RESTORATION PROJECT

Cultural Resources Inventory and Evaluation Report

Prepared for:
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August 2019

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Project Site Location:
Vicinity of Suisun City, CA

USGS Quadrangle:
Fairfield South, California

Acreage:
290 acres

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Acreage:	290 acres

STATEMENT OF CONFIDENTIALITY

This report identifies the locations of archaeological resources in the vicinity of Suisun City, Solano County, California. Disclosure of this information to the public may be in violation of both federal and state laws. Such applicable federal regulations include, but may not be limited to, Section 304 of the National Historic Preservation Act (54 United States Code [USC] § 307103) and the Archaeological Resources Protection Act (16 USC § 470h). Applicable state regulations include, but may not be limited to, California Government Code Section 6250 et seq. and Section 6254 et seq. Disclosure of site location information to individuals other than those meeting the U.S. Secretary of the Interior's Professional Qualifications Standards or the California State Personnel Board criteria for Associate State Archaeologist or State Historian II violates the California Office of Historic Preservation records access policy.

EXECUTIVE SUMMARY

Environmental Science Associates (ESA) prepared this report to document the methods and results of a cultural resources inventory and evaluation completed for the Wings Landing Tidal Habitat Restoration Project (Project), near Suisun City, Solano County, California. Natural Resources Group, Inc. proposes the Project, which would restore a portion of Suisun Marsh's tidal marsh ecosystem and reconnect the high order marsh-adjacent subtidal channels in Boynton, Peytonia, and Suisun Sloughs to the newly restored tidal and sub-tidal marsh within the Project Site. Because the Project requires a permit from the U.S. Army Corps of Engineers (USACE) under Section 404 of the Clean Water Act, it is subject to federal environmental regulations, including the National Environmental Policy Act (NEPA) and the National Historic Preservation Act of 1966 (NHPA). The USACE is acting as the lead federal agency for NEPA/NHPA purposes. The Project is also subject to state environmental regulations, including the California Environmental Quality Act (CEQA), for which the California Department of Water Resources is the lead reviewing agency.

This document records the existing conditions of the Project Site with regard to cultural resources, for use in required Project documentation for compliance with Section 106 of the NHPA (Section 106) and CEQA. Work performed consisted of the following: a records search of the California Historical Resources Information System (CHRIS); research on existing cultural resources literature; an intensive-level pedestrian survey of the Area of Potential Effects (APE); a significance evaluation of the identified cultural resource; and a Finding of Effects recommendation.

CHRIS has no record of any previously recorded cultural resources in the APE. During the pedestrian survey, ESA identified one historic-era architectural resource, a historic-era levee designated WL-01, in the APE. A California Native American Heritage Commission Sacred Lands File search for the Project returned negative results for sacred sites in the APE. This study recommends WL-01 as not eligible for listing in the National Register of Historic Places (National Register). As such, the resource does not qualify as a historic property, pursuant to the NHPA. This study also recommends WL-01 as not eligible for listing in the California Register of Historical Resources (California Register); therefore, the resource would not qualify as a historical resource under CEQA.

In summary, this study did not identify any historic properties, as defined in the NHPA, in the APE; therefore, ESA anticipates a ***Finding of No Historic Properties Affected*** for the Project for Section 106 purposes. Also, based on this study, ESA does not foresee that the Project would result in any adverse change in the significance of a historical resource or unique archaeological resource, as defined in CEQA.

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CHAPTER 1

Introduction

Environmental Science Associates (ESA) prepared this report to document the methods and results of a cultural resources inventory and evaluation completed for the Wings Landing Tidal Habitat Restoration Project (Project), in Solano County, California (**Maps 1** and **2**). All maps referenced in the document are included in **Appendix A**. Natural Resources Group, Inc., (NRG) proposes the Project, which would restore a portion of Suisun Marsh's tidal marsh ecosystem. The Project would reconnect the high order marsh-adjacent subtidal channels in Boynton, Peytonia, and Suisun Sloughs to the newly restored tidal and sub-tidal marsh within the Project site.

Because the Project requires a permit from the U.S. Army Corps of Engineers (USACE) under Section 404 of the Clean Water Act, it is subject to federal environmental regulations, including the National Environmental Policy Act (NEPA) and the National Historic Preservation Act of 1966 (NHPA). The USACE is acting as the lead federal agency for NEPA/NHPA purposes. The Project is also subject to state environmental regulations, including the California Environmental Quality Act (CEQA), for which the California Department of Water Resources (DWR) is the lead reviewing agency.

This document records the existing conditions of the Project Site with regard to cultural resources, for use in required Project documentation for review under Section 106 of the NHPA (Section 106) and CEQA. Work performed consisted of the following: a records search of the California Historical Resources Information System (CHRIS); research on existing cultural resources literature; an intensive-level pedestrian survey of the Area of Potential Effects (APE); a significance evaluation of the identified cultural resource; a Finding of Effects recommendation; and correspondence with relevant Native American representatives.

In accordance with Section 106, this cultural resources study was conducted in order to:

- Identify cultural resources, including indigenous and historic-era archaeological resources, buildings, structures, and places of importance to Native Americans within the APE;
- Evaluate cultural resources according to the criteria set forth by the National Register of Historic Places (National Register);
- Analyze whether the Project would result in an adverse effect to historic properties, as defined by the NHPA; and,

- Recommend procedures for avoidance or resolution of adverse effects to historic properties, as defined by the NHPA.

This cultural resources study was also conducted to assess the following for CEQA purposes:

- Identify cultural resources, including indigenous and historic-era archaeological resources, buildings, structures, and places of importance to Native Americans within the APE;

- Evaluate cultural resources according to the criteria set forth by the California Register of Historical Resources (California Register);

- Analyze whether the Project would result in a substantial adverse change in the significance of historical resources or unique archaeological resources, as defined by CEQA; and

- Recommend procedures for avoidance or mitigation of substantial adverse changes in the significance to historical resources and unique archaeological resources, as defined by CEQA.

ESA archaeologist Robin Hoffman, MA, acted as Principal Investigator for this study and co-authored this report. Hoffman is a Registered Professional Archaeologist (RPA), meets the Secretary of the Interior's Professional Qualifications Standards (SOI PQS) for Archeology and History, and meets the Society for California Archaeology (SCA) standards for Principal Investigator. ESA archaeologist Ashleigh Sims, MA, RPA, who meets the SOI PQS for Archeology, conducted background research for and was primary author of this report. ESA architectural historian Katherine Cleveland, MA, who meets the SOI PQS for Architectural History and History, co-authored this report, specifically those portions pertaining to architectural resources.

The term *indigenous*, rather than *prehistoric*, is used as a synonym for *Native American-related* (except when quoting), while *pre-contact* is used as a chronological adjective to refer to the period prior to Euroamerican arrival in the subject area. *Indigenous* and *pre-contact* are often, but not always, synonymous, since the former refers to a cultural affiliation and the latter chronological. Also, imperial units are used except when original field measurements were taken in metric or when item(s) to which measurement applies is customarily measured using metric.

CHAPTER 2

Project Background

Location

The Project is within the Suisun Marsh, south of Suisun City, in Solano County, California (Maps 1 and 2). Specifically, the Project is within unsectioned portions of wetlands, extrapolated as within Township 4 North Range 2 West (Mount Diablo Base Meridian), as depicted in the Fairfield South, California, U.S. Geological Survey (USGS) 7.5-minute topographic quadrangle map (USGS, 1980). The extent of the Project footprint is 290 acres, which includes 267 acres of proposed restored marsh, 2 acres to be used as a staging area, and 21 acres of open water (**Map 1** and **Map 2**).

The Project Site is owned by NRG and has been managed intermittently as a duck club since the 1940s, and continuously since the 1960s. The Project Site is adjacent to Peytonia Slough to the north, Suisun Slough to the east, and Boynton Slough to the south. The Project Site contains managed marsh, open water, and uplands, which are regularly managed by disking, mowing, flooding, draining, and contouring to improve conditions for waterfowl and waterfowl hunting. The northern end of the Project Site contains an approximately 19-acre brood pond, which is a small area of managed marsh at the north end of the Project Site that is managed for waterfowl nesting.

The Project includes restoration of the managed marsh, managed perennial channels, managed seasonal channels, and uplands to a tidal marsh ecosystem. The Project would reconnect the high order marsh-adjacent subtidal channels in Boynton, Peytonia, and Suisun Sloughs to the newly restored tidal and sub-tidal marsh within the Project Site. Returning the Project Site to natural tidal influence would restore previously inaccessible managed marsh into spawning, rearing, and/or food production habitat for Delta Smelt (*Hypomesus transpacificus*), Longfin Smelt (*Spirinchus thaleichthys*), and salmonids within the north-central Suisun Marsh.

Purpose and Need

The Project goal is to restore unrestricted tidal connectivity to the interior of the Project Site and restore tidal marsh and channels to benefit native fish. Restored acres on the Project Site would contribute to the 8,000-acre tidal restoration obligations of the Fish Restoration Program Agreement, satisfying the requirements of the U.S. Fish and Wildlife Service (USFWS) 2008 Biological Opinion for Delta Smelt (USFWS, 2008), the 2009 National Marine Fisheries Service (NMFS) Biological Opinion for the Coordinated Operations of the State Water Project (NMFS, 2009), and the 2009 California Department of Fish and Wildlife (CDFW) Incidental Take Permit

(CDFG, 2009). The Project is also identified as a priority restoration project under the California Natural Resources Agency California EcoRestore program.

The Project includes the following objectives:

- Create appropriate habitat for salmonids, Delta Smelt, Longfin Smelt, and other native fish species.
- Enhance available food web productivity for Delta Smelt, Longfin Smelt, and other native fish species within, adjacent to, and in the vicinity of the Project Site.
- Enhance the quality of habitats to support more special-status and native wildlife that have the potential to occur on and in the vicinity of the Project Site.
- Avoid promoting conditions, such as invasive species infestations, that are in conflict with the above Project objectives.

Description

The Project would restore an approximately 267-acre managed marsh to a tidal marsh ecosystem. Existing tidal marsh on the exterior of the levees would be enhanced and protected, while managed marsh habitat interior of the levees would be restored to tidal marsh. The Project would result in a net increase of 244.2 acres of tidal wetlands including tidal channels and tidal marsh.

The Project has been modeled, evaluated, and designed through an iterative and collaborative process to maximize achievement of the Project objectives. **Map 3** and **Map 4** depict the Project Site and Project elements, respectively, which are the following:

- Cross Berm Enhancement;
- Tidal Depressions;
- Tidal Channel Restoration;
- Channel Plugs;
- Structure Removal; and
- Levee Breaches.

Cross Berm Enhancement

Cross Berm Enhancement includes two elements, described in more detail below:

- Cross Berm Improvement: The cross berm on the southwest boundary would be raised to provide appropriate protection to Walnut Creek Gun Club (WCGC) and support water management capabilities for duck club management.

- Borrow-ditch Restoration: The borrow-ditch adjacent to the improved cross berm would be restored to vegetated tidal marsh to buffer against tidal pressure and reduce the need for maintenance on the cross berm.

Cross Berm Improvement

The southwest boundary of the Project Site is a 2,473-foot berm (cross berm). Following construction, the cross berm would continue to be utilized as a water management feature for WCGC duck hunting purposes. In its current configuration, the cross berm has a crest-width of 15 feet, and a wide, gentle sloping nature. This is due to the fact that the berm was converted from two levees to a single levee in the mid-1980s by borrowing material on both sides of the previous levees and filling in the channel between them. As part of the Project, the cross berm would be improved such that it continues to provide WCGC with protection from unplanned inundation, wave, and wind fetch.

The cross berm would be raised to 9.1 feet elevation and would have a crest width of 12 feet. For the benefit of upland species, including salt marsh harvest mouse, transitional habitat with gentle transitional slopes would be constructed on the north and south ends of the cross berm. These slopes would connect the main managed marsh with potential refuge habitat on contiguous levees during high tide and would provide climate change/sea level rise accommodation. Material used to improve the cross berm would be generated onsite with material harvested from the inboard side of the existing exterior levees on the Project Site. Prior to placing material on the cross berm, the approximately 1,550 cubic yards would be stripped using a mower and scraper. Excess soil material would be pushed to the side of the cross berm to establish a seed bank to help protect the structure post-restoration. The total amount of material added to the cross berm top would take into consideration settling rates and would depend on the composition of the material, which would be collected onsite from the existing levees as close as possible to the cross berm. The impact area for cross berm improvement would be 3.88 acres.

Borrow-ditch Restoration

The borrow-ditch located adjacent to the cross berm on the Project Site side was originally created to generate material for the creation and maintenance of the cross berm. The borrow-ditch would be restored to tidal marsh habitat at approximately marsh plain elevation. This, along with cross berm improvement and recruitment of emergent vegetation would provide the cross berm with additional protection from wave and wind action. Restoring this borrow-ditch would reduce future cross berm maintenance by facilitating marsh vegetation establishment, buffering wind-wave action against the cross berm, reducing water intrusion, and strengthening and stabilizing the base of the levee.

Borrow-ditch restoration would be accomplished by adding material generated onsite by creation of the large tidal depression until the elevation reaches 3 feet. The impact acreage for borrow-ditch restoration would be 7.35. Material placed in the restored borrow-ditch is expected to recruit native vegetation naturally post-restoration, and if necessary would be enhanced with the placement of marsh vegetation salvaged onsite.

Tidal Depressions

Seven tidal depressions would be created on the Project Site including six smaller depressions around the center channel plug, and one large depression west of the center plug, south of Breach 2. Tidal depressions would increase bathymetric diversity and were designed to mimic an approximately 6-acre depression that exists in the southeast corner of the Project Site. In addition to increasing bathymetric diversity, tidal depressions are anticipated to contribute to a slight increase in residence time and provide onsite material necessary for borrow-ditch restoration and channel plug creation. Tidal depressions would be concentrated near the center of the Project Site, with the largest being constructed closer to the borrow-ditch to facilitate easy transfer of material onto the restored borrow-ditch. Material generated by the creation of the tidal depressions in excess of that necessary for borrow ditch restoration would be sidecast in mounds to create bathymetric diversity.

Tidal depressions would be excavated to an elevation of 1.24 feet, the mean lower low water elevation. This elevation and slope would increase residence time while still allowing full tidal exchange. The largest depression would be approximately 8.5 acres in area, while the smaller six depressions average 0.27 acres, ranging from 0.10 to 0.41 acres. Material generated from the tidal depressions would beneficially reused onsite for borrow-ditch restoration, channel plugs, or to increase bathymetric topographic diversity. The impact acreage of all tidal depressions would be 10.85.

Tidal Channel Restoration

Tidal Channel Restoration includes two elements:

- Created Channels: Channels would be created to maximize tidal action and distribute water to and from the interior of the Project Site.

- Enhanced Channels: Certain existing channels would be enhanced to improve water transport to the interior of the Project Site.

The existing channel network would be strategically modified by enhancing and creating tidal channels. New channel reaches would be created in locations where natural, historic tidal channels existed. This strategy endeavors to restore the site-specific historic hydrologic regime to increase the extent and natural development of sinuous, dendritic channels. Enhanced channels would be contoured from straight to meandering to increase overall channel length, as well as increase channel heterozygosity and complexity in order to mimic the more natural historic tidal channel conditions in this portion of the Suisun Marsh. This connectivity would facilitate the exchange of water and food production onsite with the other parts of the Suisun Marsh.

Created and enhanced channels would be constructed with a 6-foot base width at a maximum elevation of 1 foot. This elevation would ensure that the channels remain unvegetated. Created and enhanced channels would have banks that allow for a vegetated transition from tidal open water to tidal marsh. Channel creation would result in an impact area of 1.56 acres. Channel enhancement would require an impact area of 2.03 acres. Material excavated from created and

enhanced channels would be used to construct channel plugs, and side-cast to create variable elevation habitat berms and mounds along the channels, simulating areas of natural accretion along tidal channels, maximizing topographic and bathymetric diversity, and increasing the Project Site's resilience to sea level rise. These constructed berms and mounds would vary in elevations from mid to high marsh and are anticipated to support emergent marsh vegetation. The tops of these berms would be high marsh below the mean higher high water (MHHW) elevation, and therefore would be available as high marsh refugia during the majority of the tidal cycle. Tidal emergent vegetation (e.g., tules) is expected to quickly colonize these new tidal areas, including the habitat berms, and would provide additional high tide refugia during extreme high tide events.

Channel Plugs

Ten channel plugs would be strategically constructed to guide water movement within the Project Site and encourage full tidal exchange between the restored marsh and adjacent sloughs. These channel plugs would block water flow to some existing channels and direct water movement into desired locations, such as the enhanced and created channels and the tidal depressions in the interior of the Project Site. Nine channel plugs are located along the perimeter channel and would direct tidal exchange in the interior of the Project Site. One large center channel plug would direct water to enter and exit the Project Site via breaches and prevent it from flowing across the Project Site in the existing interior channels.

Channel plugs would remain below the mean higher high water MHHW elevation to ensure that they support tidal marsh vegetation. Channel plugs would improve topographic variability and overall habitat quality of the Project Site by serving as high tide refugia as well as mediate the effects of climate change and sea level rise onsite. Fill material placed to create the channel plugs is anticipated to recruit native vegetation naturally with tidal action post-restoration, but may be supplemented with marsh vegetation clumps salvaged onsite.

Channel plugs would have a maximum elevation of 5 feet with a rounded top to approximate a natural topographic feature. Channel plugs would be constructed using material excavated during channel creation, channel enhancement, and/or tidal depression creation as close to the channel plugs as possible. All channel plugs would be located in close proximity to tidal depressions, levee breaches, created channels, or enhanced channels. The impact area for channel plugging would be 0.86 acres.

Structure Removal

There are five water control structures that would not be levee breach locations. These water control structures would need to be removed in order to minimize future maintenance of these features and to prevent unplanned levee breaches at those locations. These water control structures would be removed and the levee backfilled using material harvested from the inboard side of the exterior levees. This would exclude water passage from those areas and force all tidal flow through the proposed breaches. The repaired levee in those locations would be constructed to match the adjacent levee geometry.

After removing water control debris and structures, the levee would be backfilled by placing material in the newly open areas to match the elevation, top width, and geometry of the adjacent levees. Revegetation with native plants is expected to occur by natural recruitment after breaching. The impact acreage of structure removal would be 0.03.

Levee Breaches

Five levee breaches would restore tidal influence and maximize tidal excursion for unimpeded movement of water, sediments, nutrients, and biota to and from the Project Site. Breaches 1, 2, 3, and 5 would re-connect the Project Site to adjacent sloughs, and Breach 4 would connect the restored brood pond to the restored main tidal marsh. Breaches were located to capitalize on existing water control structures in order to minimize impacts to special-status plants and wildlife, as well as for ease of construction. Perimeter levees would be retained as upland "islands" to provide high tide refuge, wave sheltering, and sea-level rise/climate change accommodation.

After removing water control debris and structures, the levees would be excavated. Levee breaches would have a bottom width of 25 feet, aside from Breach 4, which would have a width of 6 feet. Breaches would be excavated to various depths: Breaches 1, 2, and 5 would be excavated to -2 feet NAVD88, while Breaches 3 and 4 would be excavated to 1.24 and 3.5 feet NAVD88, respectively, to support improved food web benefits. Areas surrounding breaches would be expected to revegetate with native plants by natural recruitment after breaching, but revegetation may be supplemented where necessary by marsh vegetation salvaged during excavation.

Construction

Staging Areas

The Project footprint includes all staging areas, excavations, access roads, and fill areas. An existing staging area already developed for use by the duck club would be utilized to prevent impacts that would result from creating new areas. The staging area is approximately 2 acres and is along the northeastern edge of the Project Site.

Earthwork

Earthwork (grading, excavation, and redistribution of material) would be necessary to breach the levees, remove water control structures, construct the tidal channel network, create a series of tidal depressions, fill the borrow-ditch, and enhance the cross berm. Prior to earthmoving, the topsoil layer (less than 6 inches) along with debris from mowing, would be stripped back by a bulldozer with a blade and temporarily placed in disturbed areas, including levee tops and other haul routes, the staging area, and areas within Project element construction footprints. This would be used later as mulch for exposed mineral soils. Grading includes excavating tidal channel networks and basins throughout the Project Site and transporting excavated materials to construct the cross berm and other Project elements.

The Project is a balanced cut-and-fill project; no soil would be brought to or hauled off the Project Site. Excavated material would be picked up and transported within the Project Site, then spread with a variety of equipment, depending on the moisture content of the material and the haul distance within the Project Site. Some excavated material may first be used to construct haul routes throughout the Project Site. A portion of the material excavated from the lower order tidal channels would be used for other Project elements, and the remaining material would be side-cast in a diffuse pattern or mounded in the area immediately surrounding the channel network, allowing wetland vegetation to colonize the spoils within a single growing season.

CHAPTER 3

Regulatory Framework

Federal

National Historic Preservation Act

Historic properties are considered through the NHPA, as amended, (54 USC § 307103) and its implementing regulations (54 USC § 307103, 36 CFR § 800, 36 CFR § 60, and 36 CFR § 63). The NHPA establishes the federal government's policy on historic preservation and the programs, including the National Register, through which that policy is implemented. Under the NHPA, historic properties include "any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the [National Register]" (54 USC § 300308).

Because implementation of the Project would require a federal permit from the USACE, as described above, the Project is required to comply with Section 106 of the NHPA. It is generally the federal agency's responsibility to consider the effects of the undertaking on historic properties, and to consult with the State Historic Preservation Officer (SHPO), Indian tribes, and other interested parties before granting permits, funding, or other authorization of the undertaking.

Prior to implementing an undertaking (e.g., issuing a federal permit), Section 106 requires federal agencies to consider the effects of the undertaking on historic properties, in consultation with the SHPO, Indian tribes, and other interested parties, and to afford the Advisory Council on Historic Preservation and the SHPO a reasonable opportunity to comment on any undertaking that would adversely affect properties eligible for listing on the National Register. Section 101(d)(6)(A) of the NHPA allows properties of traditional religious and cultural importance to an Indian tribe or Native Hawaiian organization to be determined eligible for inclusion in the National Register.

Under NHPA, a find is significant if it meets the National Register listing criteria at 36 CFR § 60.4, as stated below:

> The quality of significance in American history, architecture, archaeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association and:
>
> A. That are associated with events that have made a significant contribution to the broad patterns of our history, or
>
> B. That are associated with the lives of persons significant in our past, or

C. That embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction, or

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

In addition to meeting one of the above criteria, a resource must also retain integrity to be considered historic property. Integrity is measured by the degree to which the resource retains its historical attributes and conveys its historical character, the degree to which the original fabric has been retained, and the reversibility of changes to the resources.

Certain types of resources are usually excluded from consideration for listing in the National Register, but can be considered if they meet special requirements in addition to meeting one or more of the National Register listing criteria. The following seven Criteria Considerations deal with resources usually excluded from listing in the National Register: religious resources, moved resources, birthplaces and graves, cemeteries, reconstructed resources, commemorative resources, and resources that have achieved significance within the past 50 years.

American Indian Religious Freedom Act

The American Indian Religious Freedom Act of 1978, codified at 42 USC § 1996, protects and preserves the right of Native Americans to believe, express, and exercise traditional religious rights and cultural practices, including access to sites of religious importance to Native Americans.

State

The State of California consults on implementation of the NHPA and also oversees statewide comprehensive cultural resource surveys and preservation programs. The California Office of Historic Preservation (OHP), as an office of the California Department of Parks and Recreation, implements the policies of the NHPA statewide. The Office of Historic Preservation also maintains the California Historical Resources Inventory. The SHPO is an appointed official who implements historic preservation programs within the State's jurisdiction.

California Environmental Quality Act

CEQA (codified at California Public Resources Code [PRC] § 21000 et seq.) is the principal statute governing environmental review of projects occurring in the State. CEQA requires lead agencies to determine if a project would have a significant effect on historical resources or unique archaeological resources.

The State implements provisions in CEQA through its statewide comprehensive cultural resources surveys and preservation programs. Typically, a resource must be more than 50 years old to be considered as a potential historical resource. The OHP advises recordation of any resource 45

years or older, since there is commonly a five-year lag between resource identification and the date that planning decisions are made.

Historical Resources

CEQA Guidelines recognize that a historical resource includes: (1) a resource in the California Register; (2) a resource included in a local register of historical resources, as defined in PRC § 5020.1(k) or identified as significant in a historical resource survey meeting the requirements of PRC § 5024.1(g); and (3) any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California by the lead agency, provided the lead agency's determination is supported by substantial evidence in light of the whole record.

If a lead agency determines that an archaeological site is a historical resource, the provisions of PRC § 21084.1 and PRC § 15064.5 apply. If an archaeological site does not meet the criteria for a historical resource contained in the *CEQA Guidelines* (codified at PRC § 15000 *et seq.*), then the site may be treated in accordance with the provisions of PRC § 21083, pertaining to unique archaeological resources.

Unique Archaeological Resources

As defined in PRC § 21083.2 a "unique archaeological resource" is an archaeological artifact, object, or site, about which it can be clearly demonstrated that without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

- Contains information needed to answer important scientific research questions and there is a demonstrable public interest in that information;
- Has a special and particular quality such as being the oldest of its type or the best available example of its type; or,
- Is directly associated with a scientifically recognized important prehistoric or historic event or person.

CEQA Guidelines note that if an archaeological resource is not a unique archaeological, historical resource, the effects of the project on those cultural resources shall not be considered a significant effect on the environment (PRC § 15064.5[c][4]).

California Register of Historical Resources

The California Register is "an authoritative listing and guide to be used by State and local agencies, private groups, and citizens in identifying the existing historical resources of the State and to indicate which resources deserve to be protected, to the extent prudent and feasible, from substantial adverse change" (PRC § 5024.1[a]). The criteria for eligibility for the California Register are based upon the criteria for listing on the National Register (PRC § 5024.1[b]). Certain resources are determined by the statute to be automatically included in the California

Register, including California properties formally determined eligible for, or listed in, the National Register.

To be eligible for the California Register, a cultural resource must be significant at the local, State, and/or federal level under one or more of the following four criteria:

1. Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
2. Is associated with the lives of persons important in our past;
3. 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; or
4. Has yielded, or may be likely to yield, information important in prehistory or history.

A resource eligible for the California Register must be of sufficient age, and retain enough of its historic character or appearance (integrity) to convey the reason for its significance. Additionally, the California Register consists of resources that are listed automatically and those that must be nominated through an application and public hearing process. The California Register automatically includes the following:

- California properties listed on the National Register and those formally Determined Eligible for the National Register;
- California Registered Historical Landmarks from No. 770 onward; and
- Those California Points of Historical Interest that have been evaluated by the OHP and have been recommended to the State Historical Commission for inclusion on the California Register.

Other resources that may be nominated to the California Register include:

- Historical resources with a significance rating of Category 3 through 5 (those properties identified as eligible for listing in the National Register, the California Register, and/or a local jurisdiction register);
- Individual historic resources;
- Historic resources contributing to historic districts; and
- Historic resources designated or listed as local landmarks, or designated under any local ordinance, such as a historic preservation overlay zone.

California Public Resources Code § 5097

California PRC § 5097.99, as amended, states that no person shall obtain or possess any Native American artifacts or human remains that are taken from a Native American grave or cairn. Any person who knowingly or willfully obtains or possesses any Native American artifacts or human

remains is guilty of a felony, which is punishable by imprisonment. Any person who removes, without authority of law, any such items with an intent to sell or dissect or with malice or wantonness is also guilty of a felony which is punishable by imprisonment. PRC § 5097.5 specifies that any unauthorized removal of paleontological remains is a misdemeanor.

California Native American Historic Resource Protection Act

The California Native American Historic Resources Protection Act of 2002 imposes civil penalties, including imprisonment and fines up to $50,000 per violation, for persons who unlawfully and maliciously excavates upon, removes, destroys, injures, or defaces a Native American historic, cultural, or sacred site that is listed or may be listed in the California Register.

California Health and Safety Code § 7050.5

Section 7050.5 of the California Health and Safety Code (HSC) protects human remains by prohibiting the disinterring, disturbing, or removing of human remains from any location other than a dedicated cemetery. PRC § 5097.98 (and reiterated in PRC § 15064.59[e]) also identifies steps to follow in the event of the accidental discovery or recognition of any human remains in any location other than a dedicated cemetery.

Area of Potential Effects and Area of Direct Impact

According to the implementing regulations of Section 106, as amended, the APE is defined as:

> …the geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties, if any such properties exist. The APE is influenced by the scale and nature of an undertaking and may be different for different kinds of effects caused by the undertaking (36 CFR § 800.16[d]).

Due to the nature of the Project and its minimal potential for indirect effects, a single APE has been defined to account for impacts to archaeological and architectural resources. The APE includes both the horizontal and vertical maximum extents of potential Project effects on historic properties, as defined by the NHPA (54 USC § 300308), and encompasses the Project footprint and the entire area that would be inundated and restored to tidal marsh as a result of the Project. However, because the potential effects to historic properties for the majority of the APE would be restricted to inundation and general return of the area to tidal marsh, rather than direct ground-disturbing Project activities, an Area of Direct Impact (ADI), herein defined as areas where Project-related ground-disturbing construction activities (including staging and access areas) would occur, has been established to focus historic property identification efforts and the overall cultural resource analysis. The APE comprises approximately 290 acres and the ADI comprises approximately 46.8 acres. Both extend vertically to the maximum depth of proposed Project ground-disturbing activities, varying according to specific location. **Table 1**, below, provides the anticipated maximum depths of Project ground disturbance for Project elements (i.e., the maximum extend of the vertical APE), and **Map 3** and **Map 4** depict the APE and ADI, respectively.

TABLE 1
VERTICAL APE/ADI BY PROJECT ELEMENT

Element	Vertical APE Below Ground Surface (feet)
Cross Berm Improvement	>1
Borrow-ditch Restoration	>1
Tidal Depressions	5
Channel Creation	5
Channel Enhancement	3
Channel Plugs	>1
Structure Removal	3
Breach 1	6
Breach 2	6
Breach 3	4
Breach 4	4
Breach 5	6

CHAPTER 4

Background Setting

Environment

This section presents a brief overview of the natural and cultural environment of the Suisun Marsh, in Solano County. The APE is within the Suisun Marsh, just south of Suisun City and Fairfield. The Suisun Marsh is part of the San Francisco tidal estuary, within the Central Valley.

Geology and Soils

The APE is in the southwestern portion of the Sacramento Valley, within the northern portion of California's Great Valley Geomorphic Province. The Great Valley, also called the Central Valley, is a nearly flat alluvial plain that lies between the Sierra Nevada on the east and the Coast Ranges on the west. Its south end is defined by the Tehachapi Mountains north of Los Angeles, and its north end is defined by the Klamath Mountains. Subdivided into the Sacramento Valley to the north and the San Joaquin Valley to the south, the Great Valley has an average width of about 50 miles and is about 400 miles long overall (Norris and Webb, 1990:412-417; Bartow, 1991:1). The Sacramento Valley contains thousands of feet of accumulated fluvial, overbank, and fan deposits resulting from erosion of these surrounding ranges (Hackel, 1966). The sediments vary from a thin veneer at the edges of the valley to 50,000 feet in the west-central portion. The Sacramento River is the main drainage of the northern Sacramento Valley, flowing generally south from the Klamath Mountains to its discharge point into the Suisun Bay in the San Francisco Bay area. The underlying geology of the APE consists of Holocene estuarine deposits (bay mud) (California Geological Survey, 1998). Soils in the APE are very deep Suisun peaty muck with some areas covered by water (USDA, 2019). **Map 5** and **Map 6** depict the surficial geology and soil units, respectively, in the APE.

Ethnography

Patwin Indians historically inhabited the APE. The Patwin territory was an extensive region within north-central California and included the lower portion of the west side of the Sacramento Valley west of the Sacramento River from about the location of the town of Princeton in the north to Benicia in the south (Kroeber, 1925). The Patwin were bounded to the north, northeast, and east by other Penutian-speaking peoples (the Nomlaki, Wintu, and Maidu, respectively), and to the west by the Pomo and other coastal groups. Within this large territory, the Patwin have traditionally been divided into River, Hill, and Southern Patwin groups, although in actuality a more complex set of linguistic and cultural differences existed than is indicated by these three geographic

divisions. Near the APE, the Patwin are believed to have reached the Carquinez/Suisun area by about 1500 years before present (BP) (McCarthy, 1985).

As with most of the hunting-gathering groups of California, the *tribelet* represented the basic social and political unit. Typically, a tribelet chief would reside in a major village where ceremonial events were also typically held. The status of such individuals was patrilineally inherited among the Patwin, although village elders had considerable power in determining who actually succeeded to particular positions. The chief's main responsibilities involved administration of ceremonial and economic activities. Such individuals decided when and where various fishing, hunting, or gathering expeditions would occur, and similarly made critical decisions concerning the more elaborate ceremonial activities. He also played a central role in resolving conflicts within the community or during wars which occasionally broke out with neighboring groups. Apparently, a Patwin chief had more authority than his counterparts among many of the other central California groups (McKern, 1922; Kroeber, 1925).

The onslaught of Euroamerican culture negatively impacted Patwin culture and peoples. By 1871-72, when Stephen Powers surveyed the state gathering ethnographic information, the Patwin culture appeared to him to be virtually extinct. Euroamerican influences within Patwin territory increased dramatically as ranching and farming became popular in the area. Euroamerican settlers, especially within the Sacramento Valley, quickly made inroads into lands occupied by Native Americans. Conflicts grew in number, and Patwin populations continued to decline from military skirmishes, vigilante raids, and other causes. In 1972, the Bureau of Indian Affairs listed only 11 remaining Patwin descendants (Johnson, 1978:352). Despite the massive decline in population, the Patwin still reside in Solano County and continue as a strong community (Johnson, 1978:352).

Pre-contact Period

Rosenthal et al. (2007) provide a framework for the interpretation of the Central Valley prehistoric record and have divided human history in the region into three basic periods: *Paleo-Indian* (13550 to 10550 BP), *Archaic* (10550 to 900 BP), and *Emergent* (900 to 300 BP). The Archaic period is subdivided into three sub-periods: *Lower Archaic* (10550 to 7550 BP), *Middle Archaic* (7550 to 2550 BP), and *Upper Archaic* (2550 to 900 BP) (Rosenthal et al., 2007). Economic patterns, stylistic aspects, and regional phases further subdivide cultural patterns into shorter phases. This scheme uses economic and technological types, socio-politics, trade networks, population density, and variations of artifact types to differentiate between cultural periods. The following summary of the region's prehistory is derived principally from Rosenthal et al. (2007) and Moratto (2004).

Paleo-Indian Period (13550 to 10550 BP)

Humans first entered the Central Valley sometime prior to 13,000 years ago. At that time Pleistocene glaciers had receded to the mountain crests leaving conifer forests on the mid and upper elevations of the Sierra Nevada and a nearly contiguous conifer forest on the Coast Ranges. The Central Valley was covered with extensive grasslands and riparian forests. The central

California Delta system had not yet developed. The Central Valley was home to a diverse community of large mammals, which soon became extinct. People were likely focused on large game hunting, although evidence remains scant, as does understanding of lifeways during this period.

Lower Archaic Period (10550 to 7550 BP)

Climate change during the Lower Archaic led to the rapid expanse of oak woodland and grassland prairies across the Central Valley. After 10550 BP, a significant period of soil deposition ensued in the Valley, capping older Pleistocene formation. This was followed around 7000 BP by a second period of substantial soil deposition in the Valley.

It was during this period that the first evidence of milling stone technology appears, indicating an increased reliance on processing plants for food. Milling stones include hand stones and milling slabs and are frequently associated with a diverse tool assemblage including cobble-based pounding, chopping, and scraping tools. Milling tools were used for processing seeds and nuts. The Lower Archaic also saw the development of well-made bifaces used for projectile points and cutting tools, commonly formed from meta-volcanic greenstone and volcanic basalts.

Middle Archaic Period (7550 to 2550 BP)

After about 7550 BP, California was marked by a change in climate with warmer and drier conditions throughout the region. Oak woodland expanded upslope in the Coast Ranges and conifer forest moved into the alpine zone in the Sierra Nevada. Rising sea levels led to the formation of the Sacramento-San Joaquin Delta and associated marshlands. An initial period of upland erosion and lowland deposition was followed by a long period of stabilization of landforms. Scant evidence of human occupation from this period has been found in the Sacramento Valley or the adjacent Coast Ranges. Most evidence comes from the Sierra Foothills in Calaveras and Tuolumne counties.

Upper Archaic Period (2550 to 900 BP)

Evidence for Upper Archaic human occupation in the Central Valley is much more extensive than for earlier periods. The development of the Holocene landscape buried older deposits, resulting in the identification of more sites from the Upper Archaic than from older periods of development. Alluvial deposition was partially interrupted by two consecutive droughts known as the Medieval Climatic anomaly.

Two fundamental adaptations developed side-by-side during the Upper Archaic period, evidenced by a diversification in settlements patterns. Populations in the Valley tended towards large, high-density, permanent settlements. These villages were used as hubs from which the populace roamed to collect resources, utilizing a wide range of technologies. The populations in the foothills and mountains lived in less dense settlements, moving with the seasons to maximize resource returns. Tools tended to be expedient and multipurpose for use in a wide variety of activities. Village sites show extended occupation as evidenced by well-developed midden,

frequently containing hundreds of burials, storage pits, structural remains, hearths, ash dumps, and extensive floral and faunal remains.

Emergent Period (900 to 300 BP)

A major shift in material culture occurred around 900 BP, marking the beginning of the Emergent Period. Particularly notable was the introduction of the bow and arrow. The adoption of the bow occurred at slightly different times in various parts of the Sacramento Valley, but by 750 BP it was in use in the Delta region. The bow was accompanied by the Stockton Serrated point, a seemingly indigenous invention, distinctive from point types used in other parts of the State. Another key element of material culture from this period includes big-head effigy ornaments thought to be associated with the Kuksu religious movement. In areas where stone was scarce, baked clay balls are found, presumably for cooking in baskets. Other diagnostic items from this period are bone tubes, stone pipes, and ear spools. Along rivers, villages are frequently associated with fish weirs, with fishing taking on an increasing level of importance in the diet of the local populace.

Historic Period

Spanish and Mexican Period

The vicinity of the APE was first explored by Euroamericans in 1823 by Father José Altamira and Alfred José Sánchez. Fearing Russian encroachment, they headed north from San Francisco, passing through San Rafael and Olompali, exploring the Sonoma, Napa, and Suisun Plains for potential sites for new missions (Beck and Haase, 1974:18). Mission San Francisco Solano, the northernmost Spanish Mission, was established in 1823 in Sonoma. Following secularization of the missions in 1833, the awarding of land grants accelerated and encouraged the European and American settlement of the area.

In 1832, General Mariano Vallejo awarded Francisco Solano, Chief of the “Suisun Indians”, and a captain in the Mexican army, the area including present-day Fairfield, Suisun City, and portions of Suisun Bay, including the APE. By 1837, Solano received a provisional grant for this land, and in 1842 sold the land to Vallejo, who then sold the land to Archibald A. Ritchie, in 1850.

American Period

In 1848, after a brief conflict, Mexico ceded California to the U.S. With the discovery of gold that same year and the subsequent gold rush of the early 1850s, the population of California grew exponentially. Captain Josiah Wing was one of the first to develop the area around present-day Suisun City, which was an island surrounded by navigable sloughs, around 1851. Immigrants to the town began to reclaim the land from the water using levees and dikes, and the island became an important port in the region. By 1854, Wing and another Suisun City resident laid out the town site. Many immigrant Euroamerican families who settled in the arable land around Fairfield and Suisun City cultivated wheat and later fruit orchards, for which the area is still known. From the mid- to late-1800s, Suisun City served as the port for most of the produce and other raw materials

that were exported from the Suisun Valley to Sacramento and the San Francisco Bay Area (Hunt and Gunn, 1926).

History of Wings Landing

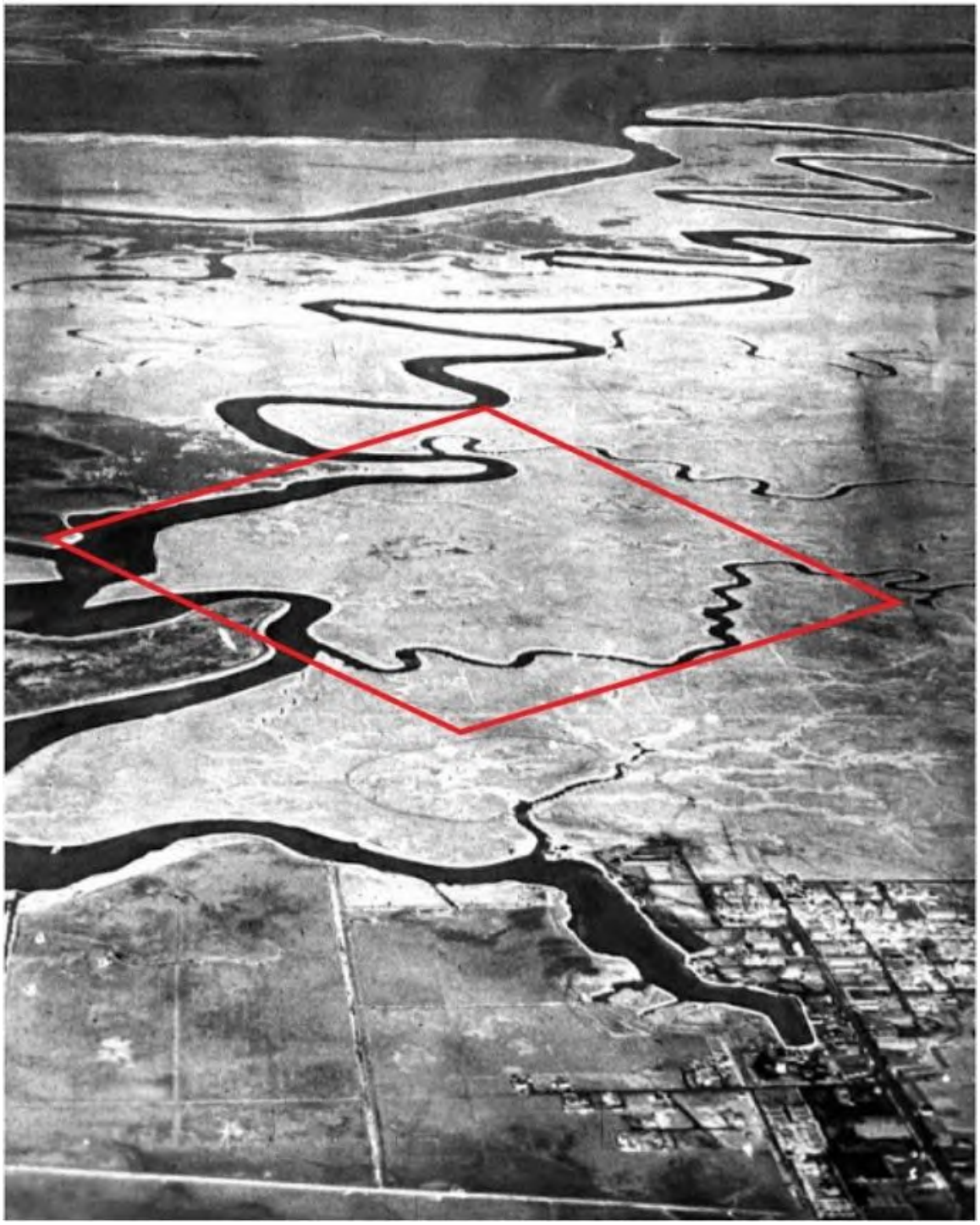
The origin of the place name "Wings Landing", by which the APE is currently known, may relate to Josiah Wing or his family. However, the current study found no specific documentary link between the Wing family and the APE.

Josiah Wing, Jr., originally of Massachusetts, was a ship captain who traveled to San Francisco in 1850 just after the discovery of gold in the area. Wing was one of the first to travel up Suisun Slough in Suisun Bay and build a warehouse on an "island" (actually the flooded site of Suisun), which he used to store wheat from farms in Suisun and Green Valley that he would sell in Sacramento. Wing built log bridges across the marsh slough and, as newcomers also began to settle on this island, built a wharf, a store, and housing for farmers bringing their crops to the budding town. By 1854, Wing and another early settler to the town, John Owens, laid out the townsite for what would be known as Suisun City (Delaplane, 1995). The Wing family continued to live in and near Fairfield and Suisun City into the 1900s.

Professional hunters began frequenting Suisun Marsh as early as the 1860s in order to provide birds to markets in the San Francisco Bay Area. Due to the large presence of waterfowl and proximity to San Francisco, the first private duck clubs in the area were organized around 1880. By 1930, waterfowl hunting became the primary use of the Suisun marshlands (DWR, 1999).

The APE was never part of an official Reclamation District, and aerial and historic topographic map research did not identify any structures or features within the APE until the 1960s. Vegetation maps from 1930 show the area as primarily populated with pickleweed and salt grass, and review of historic aerial photographs from 1932 and 1948 did not indicate the presence of any levees, buildings, or structures associated with duck hunting during this period (Meyer et al., 2013; Fairchild Aerial Surveys, 1932). The majority of the current levee alignment appears in 1965 aerial photographs, although the northern bisecting levee does not appear until the modern period, circa 1980 (Cartwright Aerial Surveys, 1965).

NRG provided a summary of the recent history of the APE, provided below. Land including the APE was ditched for agricultural reclamation efforts starting around the turn of the century through the 1930s (1898-1932). These ditches are visible in aerial imagery from the 1930s, but not visible in more recent aerials. In the 1930s and 1940s, the area was used intermittently as a duck club. During this time a water diversion channel was constructed along the southwest side of the APE, between Peytonia and Suisun Sloughs. This channel was modified sometime between 1952 and 1957, when levees were constructed on either side. By 1981, the water diversion channel had been filled, joining the two levees together, creating the larger, wider levees currently in the APE at that location. Historic aerials and topographic maps depicting the APE and vicinity are provided in **Map 7**. **Figure 1** provides a 1909 aerial photograph of the APE and vicinity.



SOURCE: Moyle et al., 2014

Wings Landing Tidal Habitat Restoration Project

Figure 1
1909 Oblique Aerial View of Suisun Marsh, with Suisun City in lower right corner (Red box indicates approximate boundary of APE)

CHAPTER 5

Background Research

CHRIS Records Search

On October 25, 2016, ESA staff conducted a records search for the APE and vicinity at the Northwest Information Center (NWIC), at Sonoma State University, Rohnert Park (File # 16-0640). The NWIC maintains the official CHRIS records of previous cultural resources studies and recorded cultural resources for the APE and vicinity. The study area for the records search consisted of the APE with a 0.5-mile buffer. The purpose of the records search was to: (1) determine whether known cultural resources have previously been recorded in or adjacent to the APE; (2) assess the likelihood for unrecorded cultural resources to be present based on historical references and the distribution of nearby resources; and (3) develop a context for the identification and preliminary evaluation of cultural resources. The records search consisted of an examination of the following documents:

- **NWIC base maps:** Fairfield South, CA

- **Resource Inventories:** *National Register of Historic Places-Listed Properties and Determined Eligible Properties* (Solano County, through May 2012)*, California Register of Historical Resources* (Solano County, through 2012), *California Points of Historical Interest* (2012)*, California Inventory of Historical Resources* (1976), *California Historical Landmarks* (2012)*, Historic Properties Directory* (Solano County, through May 2012), *Archaeological Determinations of Eligibility* (Solano County, through April 5, 2012), Caltrans Historic Bridge Inventory (Solano County, through August 2016).

Appendix B provides documentation of the records search, including relevant site records.

Previously Recorded Resources

The NWIC has record of one previously recorded cultural resource in the records search area. This resource, the Suisun Channel, is outside but adjacent to the APE. The Suisun Channel is one of five navigable historic-era channels in the Suisun Marsh recorded together as P-48-000978 by Brookshear and Roberts in 2013. The Suisun Channel consists of the harbor and turning basin at Suisun City, and a wide cut (channel) extending south from Suisun City for approximately 2 miles—the channel runs north-south adjacent to the east edge of the APE. The channel cut is approximately 100 feet wide and approximately 8 feet deep. The channel, harbor, and turning basin were constructed in 1913-1914 and improved in 1945-1946. P-48-000978 was evaluated by JRP Historical Consulting, LLC, in 2013 and recommended as not eligible for listing in the

National Register or California Register. The NWIC has no record of a formal determination of eligibility or associated SHPO concurrence with this eligibility recommendation. **Table 2** summarizes the previously recorded cultural resource identified in the records search.

TABLE 2
PREVIOUSLY RECORDED CULTURAL RESOURCE IN RECORDS SEARCH AREA

Primary [P-]	Trinomial	Type	Age/Affiliation	Name/Description	Recorder (Year)	Relation to APE
48-000978	[none]	Architectural	Historic	Suisun Marsh Channels	Brookshear and Roberts (2013)	Borders E edge

SOURCE: NWIC, 2016

Previous Cultural Resources Studies

The NWIC has record of eight previous cultural resources studies that have been conducted in the records search area, two (S-43268, S-43268a) of which included a portion of the APE. All of these studies except S-43268 included field surveys, though S-43268a analyzed only architectural resources. S-43268 consisted of a records search, background research, and geoarchaeological analysis of the entire Suisun Marsh. Neither of the two previous studies that included the APE identified any cultural resources in the APE. **Table 3** summarizes the previous cultural resources studies conducted in the records search area.

TABLE 3
PREVIOUS CULTURAL RESOURCES STUDIES IN RECORDS SEARCH AREA

NWIC Study [S-]	Title	Author (Year)	In APE
11509	An Archaeological Evaluation of Rush Ranch, Solano County, California (ARS 88-98)	Flynn et al. (1989)	No
20035	RE: Cultural Resources Inventory of Proposed Anomaly Excavation Areas in Line Section 25, Solano County, CA	William Self Associates (1997)	No
22817	Cultural Resources Survey for the Level (3) Communications Long Haul Fiber Optics Project Segment WS01: Sacramento to Oakland	Nelson and Carpenter (2000)	No
25311	Cultural Resources Assessment Report SFPP, L.P. Proposed Concord to Sacramento Pipeline Project	Martin and Self (2002)	No
28622	Archaeological Inventory Report, Report No.: CA930-Incident 04-1, Suisun Slough Pipeline Spill	Horne (2004)	No
33061	Cultural Resources Final Report of Monitoring and Findings for the Qwest Network Construction Project, State of California	SWCA Environmental Consultants (2006)	No
43268	Suisun Marsh Habitat Management, Preservation, and Restoration Plan Cultural Resources Contextual Report, Volume 1 – Archaeological Resources	Meyer et al. (2013)	Yes
43268a	Suisun Marsh Cultural Resources Contextual Report, Volume 2 – Built Environment	Brookshear and Herbert (2013)	Yes

SOURCE: NWIC, 2016

Native American Correspondence

ESA contacted the California Native American Heritage Commission (NAHC) on March 25, 2019 in request of a search of the NAHC's Sacred Lands File (SLF) and a list of Native American representatives who may have interest in the Project. The NAHC replied to ESA on April 25, 2019, in which they stated that the SLF has no record of sacred sites in the APE. Documentation of the NAHC outreach for the Project is provided in **Appendix C**.

Buried Archaeological Site Sensitivity

One goal of this study is to identify portions of the APE that may yield archaeological resources, with particular attention given to the relationship between the likelihood of the presence of any such deposits and their potential for significance. This study uses the term "sensitivity" to discuss this relationship, whereby an area with high sensitivity would be an area with both a high likelihood of encountering archaeological deposits and a high likelihood of any such deposits being significant (i.e., qualifying as an historic property, for Section 106 purposes, or as a historical resource or unique archaeological resource, for CEQA purposes). **Table 4** summarizes this framework.

Landforms that predate the earliest estimated periods for human occupation of the region are considered to have very low potential for the presence of buried archaeological sites, while those that postdate human occupation are considered to have a higher potential for presence of buried archaeological sites. The degree of buried site potential presence is inversely related to the estimated date range of a landform. Currently, archaeological research indicates that the earliest evidence for human occupation of California dates to the Late Pleistocene, which ended approximately 11500 BP. Therefore, the potential for presence of buried archaeological deposits in landforms from or predating the Late Pleistocene is very low (Meyer and Rosenthal, 2008:160-161).

As discussed earlier, Holocene estuarine deposits (California Geological Survey, 1998) underlie the APE, and soils in the APE consist of Suisun peaty mud (USDA, 2019). Based on the Holocene age of the APE's surficial geology and soils in the APE, the APE's potential for presence of buried indigenous archaeological deposits is high (see Meyer and Rosenthal, 2007:15). However, because these tidal deposits overlie the locations of pre-contact stream channels, as the sloughs would have meandered in the past over time, there is a very low potential for pre-contact archaeological sites to occur (Meyer et al., 2013).

Historic-era and modern improvement activities, specifically those associated with the construction of the hunting club buildings and modern modification of the landscape for hunting, have disturbed much of the APE, though the specific depths of this disturbance vary. This has reduced the potential for intact shallow buried indigenous deposits and surficial indigenous archaeological deposits in such areas. Also, indigenous surficial deposits that may have been present prior to historic-era and modern use of the APE could have been covered, thus "capped", by the historic-era and modern ground-disturbing activities throughout the APE. However, these same activities may also have damaged or destroyed any such indigenous surficial deposits. The

potential significance of any indigenous archaeological resources in the APE, if present, is hard to gauge since such deposits may be intact or disturbed from historic-era and modern activities. Regardless, the potential significance of any intact indigenous archaeological resources in the APE is moderate, since such resources could provide data important to our understanding of the area's prehistory (National Register/California Register Criterion D/4). Based on the above analysis, the APE has a low sensitivity for both surficial and buried indigenous archaeological resources (low potential presence with moderate potential significance). These conclusions are supported by archaeological sensitivity modeling conducted as part of a previous study that included the APE (Meyer et al., 2013). Meyer et al.'s combined sensitivity model suggests a very low potential for buried or surficial indigenous archaeological deposits in the APE.

TABLE 4
ARCHEOLOGICAL SENSITIVITY FRAMEWORK

Sensitivity	Potential for Presence	Potential for Significance
Low	Low	Moderate
	Moderate	Low
	High	Low
Moderate	Low	High
	Moderate	Moderate
	High	Moderate
High	Moderate	High
	High	Moderate
	High	High

As with indigenous resources, predicting the potential presence and significance of any intact historic-era archaeological resources in the APE, if present, is difficult. The historic-era development activities and associated use that occurred in the APE may have resulted in the creation of surficial and buried historic-era archaeological deposits, such as water control features, foundations, and refuse. Therefore, the potential presence for both surficial and buried historic-era archaeological deposits in the APE is moderate.

Background research of historic topographic maps and aerial photographs did not indicate any clear avenues for significance for the National Register or California Register for any buried historic-era archaeological deposits in the APE, if present. Also, based on known historic-era archaeological resources previously recorded in similar settings in the Project vicinity, the potential significance of any intact historic-era archaeological resources in the APE is low. In summary, the APE has a low sensitivity for historic-era archaeological resources (moderate potential presence with low potential significance).

CHAPTER 6

Fieldwork Methods and Results

Methods

On July 9, 2019, ESA archaeologists Robin Hoffman, MA, RPA, and Deanna Keegan, MA, RPA, conducted a cultural resources pedestrian survey of the ADI. Intensive pedestrian survey methods were used in non-inundated areas without dense vegetation cover (which did not allow for any ground visibility). Reconnaissance-level pedestrian survey methods were used in all other areas. Intensive survey methods consisted of walking parallel transects spaced at no more than 10 meters apart and inspecting the surface for cultural material (archaeological or architectural) or evidence thereof, while reconnaissance-level survey methods consisted of visiting select locations to assess ground conditions and inspect the surface for cultural material. Notes on any identified cultural resources were collected to meet or exceed site recordation guidelines based on the OHP's *Instructions for Recording Historical Resources* (OHP, 1995) and CHRIS recommendations. Digital photographs were taken to document ground conditions, and all observations were recorded in the field. Intensive survey methods were used at the proposed staging area and at the majority of proposed access routes, while reconnaissance survey methods were used for the remainder of the ADI. The entirety of the APE was not surveyed because this area would not be directly impacted by Project construction-related activities. While the Project would result in increased water levels in this area, currently subsurface or underwater cultural resources not identified in the current study due to a lack of survey coverage would not be affected by the increased water level, since the introducted water would be slow-moving and not prone to scouring. Survey coverage is depicted in **Map 8**.

During the surveys, ground visibility was variable throughout the APE: from 25 to 90%, averaging 50%, in the staging area (**Figure 2**); 0 to 75%, averaging 25%, along the access roads (**Figure 3**); and 0% in all other areas surveyed (**Figure 4**). Vegetation observed during the survey consisted of: short, low-density grasses and large trees in the staging area; short grasses and forbs on the perimeter access road/levee; sparse short grasses and forbs mixed with recently deposited marsh sediment in the interior access roads; and tall, dense reeds, rushes, and other wetland species in all other areas. Some modern duck hunting blinds and signage, and modern water control features (levee culverts) are present at various locations in the APE. Several modern buildings (clubhouse, cabin, sheds/garages, dog kennels, boathouse), wooden walkways and docks, storage containers, and mechanical equipment are present in the staging area portion of the APE.

SOURCE: ESA, 2019

Wings Landing Tidal Habitat Restoration Project

Figure 2
APE at Staging Area, View S

SOURCE: ESA, 2019

Wings Landing Tidal Habitat Restoration Project

Figure 3
APE along N levee, View SW

SOURCE: ESA, 2019

Wings Landing Tidal Habitat Restoration Project

Figure 4
APE at Center of Haul Road Intersection, View NE

SOURCE: ESA, 2019

Wings Landing Tidal Habitat Restoration Project

Figure 5
Flooded Area in SW Portion of APE, View NE

Results

During the pedestrian survey, ESA identified one cultural resource, a historic-era levee designated WL-01, in the APE. WL-01 is a previously unrecorded levee along the perimeter of the APE. The resource is discussed in detail in the following section, and its location depicted in **Map 9**. A site record for WL-01 is provided in **Appendix D**.

CHAPTER 7

Cultural Resources Identified in APE

Through background research and field survey conducted for the Project, one cultural resource (WL-01) was identified in the APE. WL-01 is a previously unrecorded historic-era levee along the perimeter of the APE. WL-01 is described below and is herein evaluated as not eligible for listing in the National Register, as well as not eligible for the California Register. The resource's location is depicted in **Map 9** and a site record for the resource is included in **Appendix D**.

WL-01

Description

The resource consists of a 3-mile-long ring of earthen trapezoidal levee, which surrounds Wings Landing, in addition to a roughly east-west earthen trapezoidal levee that crosses through the northern portion of Wings Landing (i.e., APE). It is bordered on the north by Peytonia Slough, on the east and south by Suisun Slough, and to the west by marshlands. The levee is widest in the areas bordering Suisun Slough and additional marshland. This widest portion of the levee measures approximately 15 feet wide at the top, 25 feet wide at the base, and 3 to 5 feet tall. The other portions of the levee, including the portion crossing through the middle of the APE, are smaller, measuring 10 feet wide at the top, 15 feet wide at the base, and 2 to 3 feet tall. A one-lane dirt access road tops the levee. The portion of the levee crossing through the middle of the APE is shown in **Figure 3**, while **Figure 6** and **Figure 7** depict the levee's wider sections, at its western and southern ends.

Based on review of historic aerials and topographic maps of the APE available at National Environmental Title Research (NETR['s]) historicaerials.com, as well as those maintained by the University of California, Santa Barbara, Frame Finder, it appears that WL-01 was constructed in its original alignment sometime between 1948 and 1965. Alterations to the levee alignment along the southwest end, separating Wings Landing from other marshlands, were constructed between 1967 and 1969. Additionally, the portion of the levee on the northeast end, bisecting the outer levee ring, appear to date to some time between 1968 and 1988. This timeline is corroborated by the brief history of the area provided by NRG. The historic maps and historic photography reviewed included the following:

- NETR, Historic Aerial Photographs (1948, 1968, 1993, 2005, 2009, 2010, 2012, 2014);
- NETR, Historic Topographic Maps (1898, 1901, 1906, 1911, 1922, 1926, 1933, 1942, 1943, 1950, 1954, 1959, 1963, 1965, 1967, 1969, 1980, 1985, 2012, 2015)

- UCSB Frame Finder, Historic Aerial Photographs (1927, 1932, 1937, 1965, 1984, 1988, 1999, 2001).

SOURCE: ESA, 2019 Wings Landing Tidal Habitat Restoration Project

Figure 6
Western Portion of WL-01, View WNW

SOURCE: ESA, 2019 Wings Landing Tidal Habitat Restoration Project

Figure 7
Southern Portion of WL-01, View SW

Evaluation

Criterion A/1 and B/2

Archival review failed to identify any significant associations between the levee and events or persons important to history, or any special significance of any individual connected to the construction of the WL-01 who achieved prominence due to their association with the levee. As described in the historic setting section above, the APE was never part of an official Reclamation District, and aerial and historic topographic map research did not identify any structures or features within the APE until approximately the 1950s. WL-01 appears to have been a small, local levee constructed in the mid-twentieth century by local interests for the purposes of improving the duck hunting property. No specific individual or group was determined to have constructed the levee, and WL-01 does not appear to reflect any direct connection with Josiah Wing, after whom the APE is potentially named. As such, WL-01 does not appear to be associated with events or persons significant in our past and, therefore, does not appear to be National Register-/California Register-eligible under Criterion A/1 or B/2 as an individual resource.

Criterion C/3

WL-01 is an architecturally indistinct earthen levee, with no distinctive designs or materials. The trapezoidal shape and earthen construction are not distinctly representative of a specific architectural style. The levee is a vernacular structure constructed by local interests from immediately available local materials. The levee prioritized function and does not embody the distinct characteristics of a type or period, or method of construction, nor does it represent the work of a master or possess high artistic values. Therefore, the levee does not appear to be eligible under National Register/California Register Criterion C/3 as an individual resource.

Criterion D/4

Finally, there are no known artifacts associated with the levee and such vernacular, small, local levees typically do not have high potential to contain historic-era artifacts. Though levees throughout California have been shown to have the potential to contain indigenous archaeological resources, background research for the Project did not indicate the presence of any indigenous archaeological resources or sacred sites in or in close proximity to the APE, and the archaeological sensitivity study conducted for the Project concluded that the APE has low sensitivity for surficial and buried indigenous archaeological resources. As such, WL-01 does not appear to have the potential to yield information important in history. Therefore, WL-01 does not appear to be eligible under National Register/California Register Criterion D/4 as an individual resource.

Summary

In summary, WL-01 does not appear eligible under any of the four National Register or California Register criteria. Therefore, this study recommends WL-01 as not eligible for listing in the National Register or California Register as an individual resource.

CHAPTER 8

Conclusions and Recommendations

Conclusions

The background research conducted for the current investigation did not identify any previously recorded cultural resources in the APE. During the pedestrian survey, ESA identified one cultural resource, a historic-era levee designated WL-01, in the APE. This study recommends WL-01 as not eligible for listing in the National Register. As such, the resource does not qualify as a historic property, pursuant to the NHPA. Similarly, this study recommends WL-01 as not eligible for listing in the California Register and, as such, the resource would not qualify as a historical resource, under CEQA.

In summary, this study did not identify any historic properties, as defined in the NHPA, in the APE. Therefore, ESA anticipates a ***Finding of No Historic Properties Affected*** for the Project for Section 106 purposes, pursuant to 36 CFR § 800.4. Also, based on the results of this study, ESA does not foresee that the Project would result in any adverse change in the significance of a historical resource or unique archaeological resource, as defined in CEQA. Recommendations for protocol for inadvertent discovery of archaeological resources or human remains during Project construction are detailed below.

Recommendations

No additional cultural resources studies are recommended as a result of this study. However, because the Project would involve ground-disturbing activities, there is the chance that previously unrecorded archaeological material, including human remains, could be encountered during Project construction activities. If such materials are identified, ESA recommends that the following procedures be implemented:

Unanticipated Discovery Protocol for Archaeological Resources

If pre-contact or historic-era archaeological resources are encountered by construction personnel during Project construction, all construction activities within 100 feet shall halt until a qualified archaeologist, defined as one meeting the SOI PQS for Archeology, can assess the significance of the find. Pre-contact archaeological materials might include obsidian and chert flaked-stone tools (e.g., projectile points, knives, scrapers) or toolmaking debris; culturally darkened soil (midden) containing fire-affected rock, artifacts, or shellfish remains; groundstone artifacts (e.g., mortars,

pestles, handstones); and battered stone tools, such as hammer stones and pitted stones. Historic-era materials might include stone, concrete, or adobe footings and walls; filled wells or privies; and deposits of metal, glass, and/or ceramic refuse.

If it is determined that the Project could damage a historic property, as defined by the NHPA, construction shall cease in an area determined by the archaeologist until a mitigation plan has been prepared and implemented to the satisfaction of the qualified archaeologist, the USACE, and, if the resource is indigenous, relevant Native American representatives. The mitigation plan shall recommend preservation in place, as a preference, or, if preservation in place is not feasible, data recovery through excavation. If preservation in place is feasible, this may be accomplished through one of the following means: (1) modifying the construction plan to avoid the resource; (2) incorporating the resource within open space; (3) capping and covering the resource before building appropriate facilities on the resource site; or (4) deeding the resource site into a permanent conservation easement.

If preservation in place is not feasible, a qualified archaeologist shall prepare and implement a detailed treatment plan to recover the scientifically consequential information from the resource prior to any excavation at the resource site. The treatment plan shall be prepared in consultation with the USACE, and, if the resource is indigenous, relevant Native American representatives. Treatment for most resources would consist of (but would not necessarily be limited to) sample excavation, artifact collection, site documentation, and historical research, with the aim to target the recovery of important scientific data contained in the portion(s) of the significant resource to be affected by the Project. The treatment plan shall include provisions for analysis of data in a regional context, reporting of results within a timely manner, curation of artifacts and data at an approved facility, and dissemination of reports to local and state repositories, libraries, and interested professionals.

Unanticipated Discovery Protocol for Human Remains

If potential human remains are encountered by construction personnel during Project construction, all work will halt within 100 feet of the find and the USACE shall be contacted by on-site construction crews. The USACE shall contact the Solano County Coroner in accordance with PRC § 5097.98 and HSC § 7050.5. If the Coroner determines the remains are Native American, the Coroner shall contact the NAHC. As provided in PRC § 5097.98, the NAHC shall identify the person or persons believed most likely to be descended from the deceased Native American (most likely descendant). The most likely descendent shall make recommendations for means of treating, with appropriate dignity, the human remains and any associated grave goods as provided in PRC § 5097.98.

CHAPTER 9

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APPENDIX A

Maps

SOURCE: ESRI 2019; ESA 2019

Wings Landing Restoration Project. 150233.01

Map 1

Project Vicinity

SOURCE: USGS 7.5' Topographic Quadrangle (Fairfield South, CA); ESA 2019

Wings Landing Restoration Project. 150233.01

Map 2

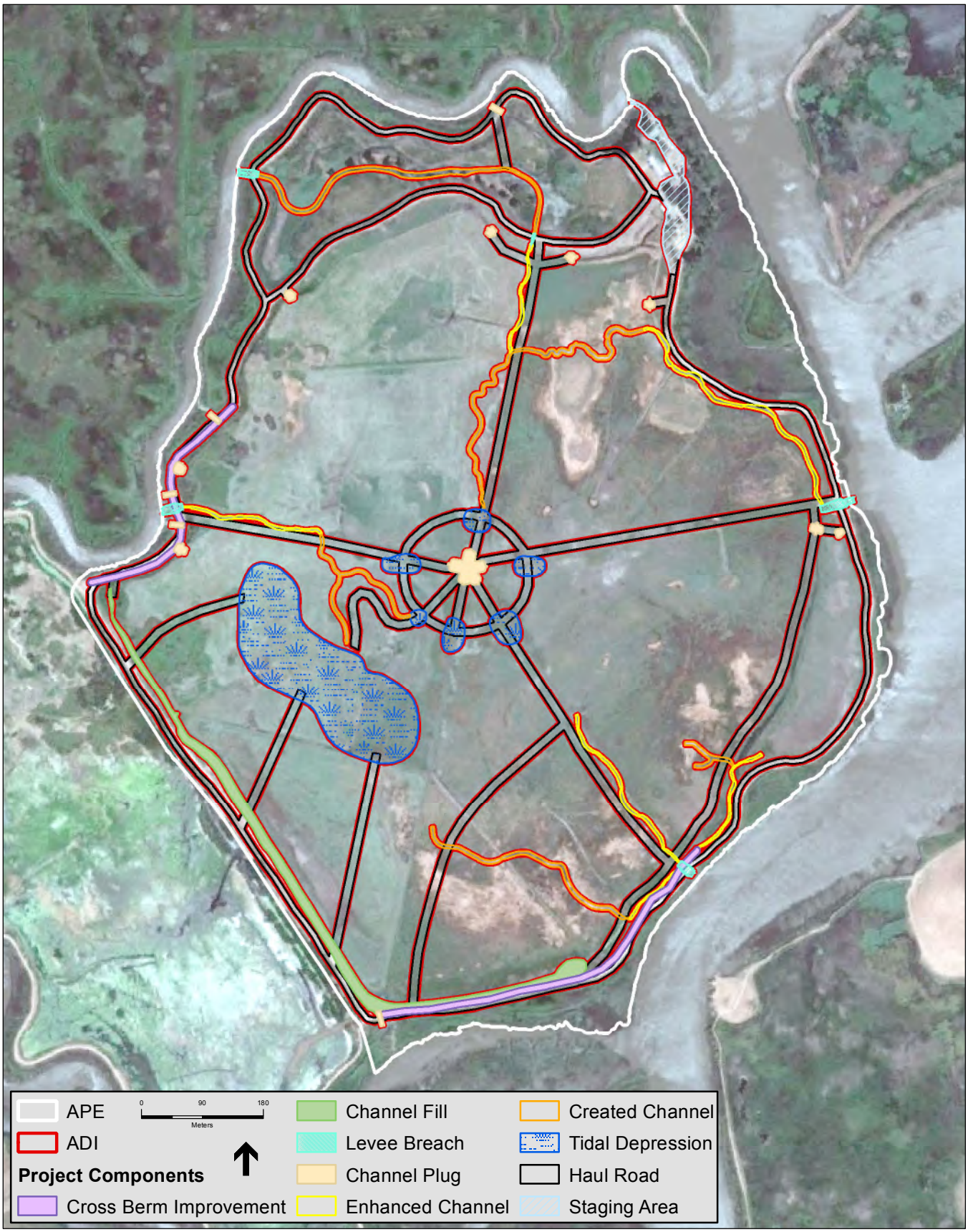
Project Location

SOURCE: USGS 7.5' Topographic Quadrangle (Fairfield South, CA); ESA 2019

Wings Landing Restoration Project. 150233.01

Map 3

APE

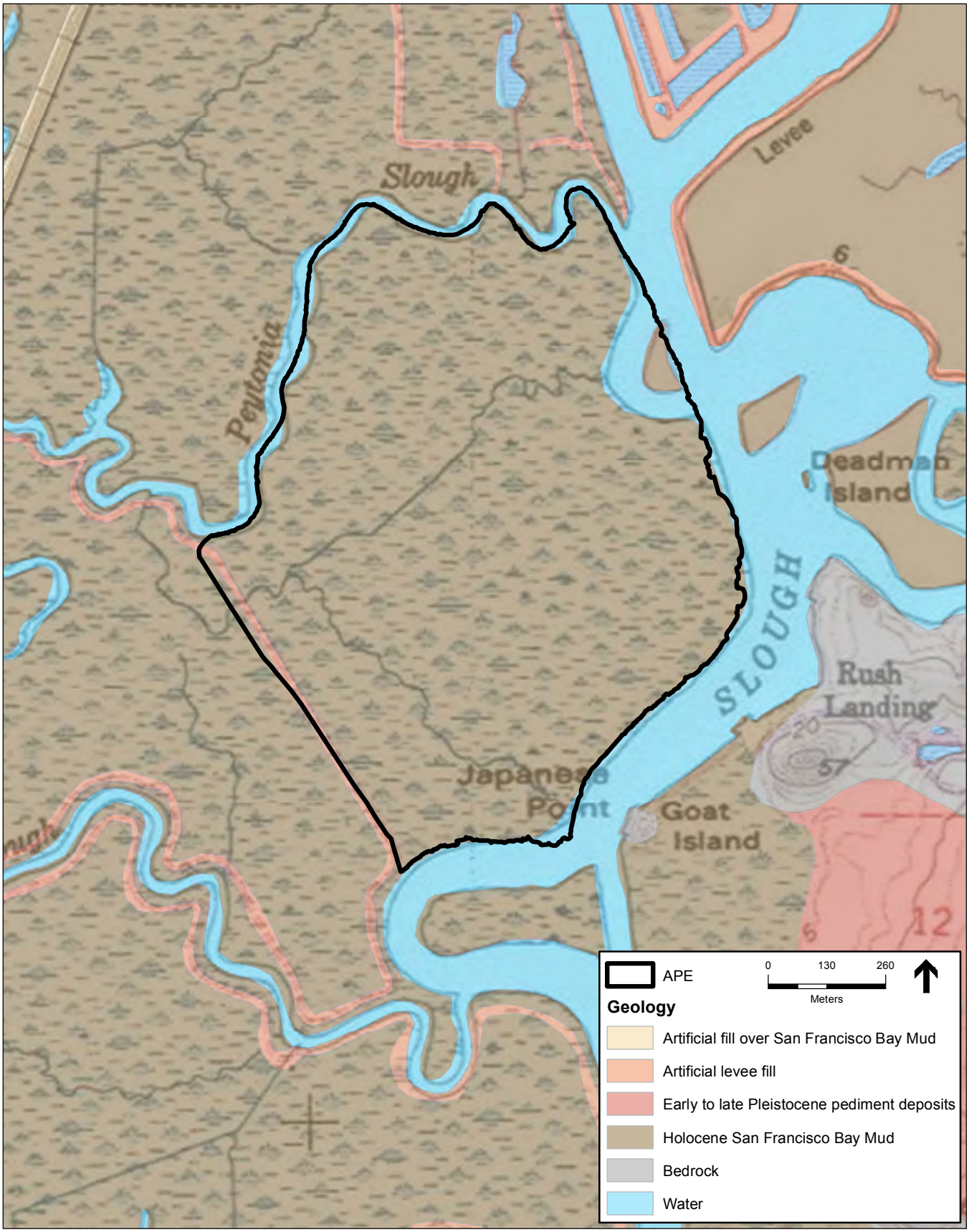


SOURCE: ESRI, 2019; ESA, 2019

Wings Landing Restoration Project. 150233.01

Map 4

Project Components

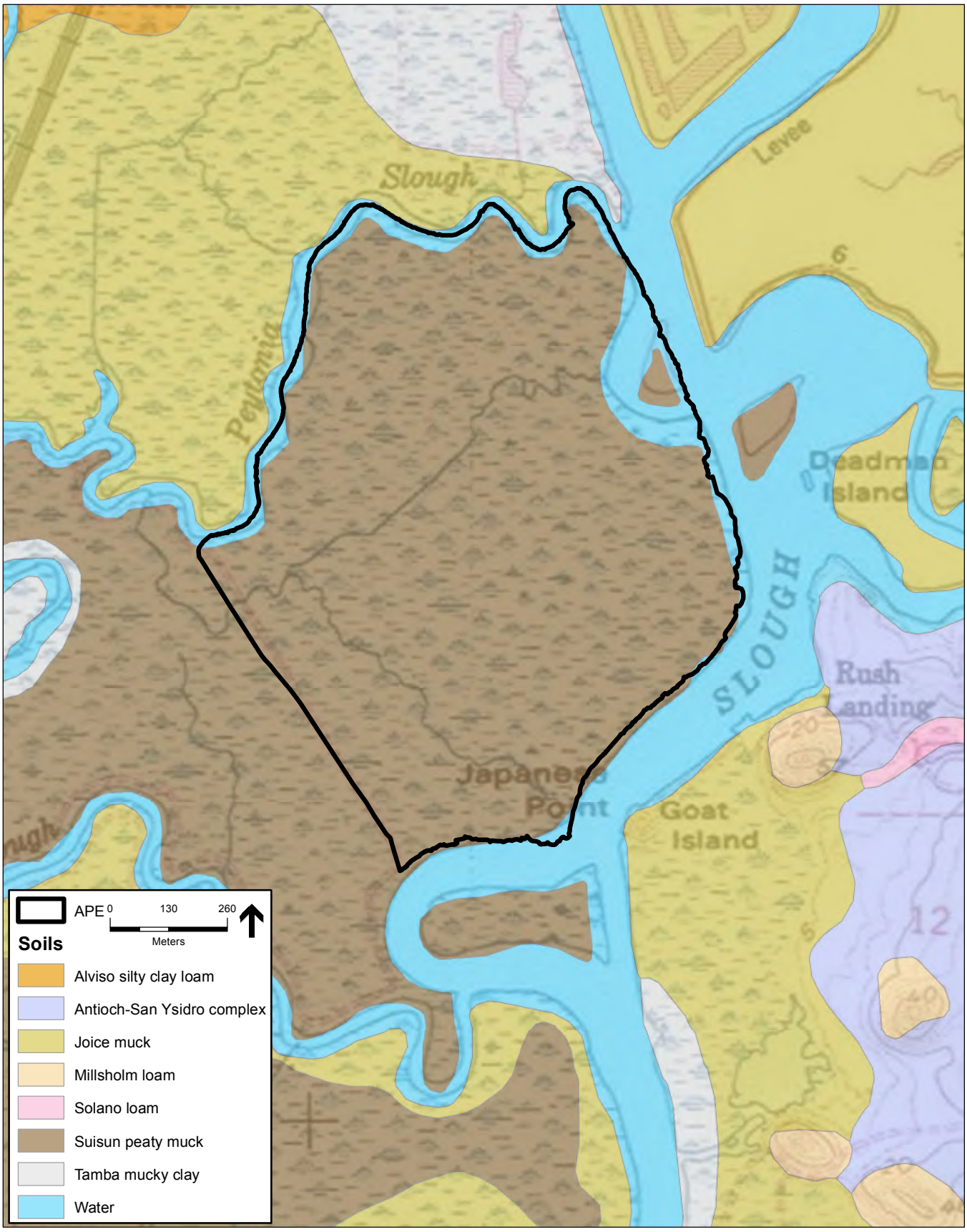


SOURCE: USGS 2019; ESA 2019

Wings Landing Restoration Project. 150233.01

Map 5

Surficial Geology of APE



SOURCE: USGS 2019; USDA, 2019; ESA 2019

Wings Landing Restoration Project. 150233.01

Map 6

Soil Units in APE

SOURCE: UCSB FrameFinder, 2019; U.S. Coast and Geodetic Survey, 1922; ESA 2019

Wings Landing Restoration Project. 150233.01

Map 7

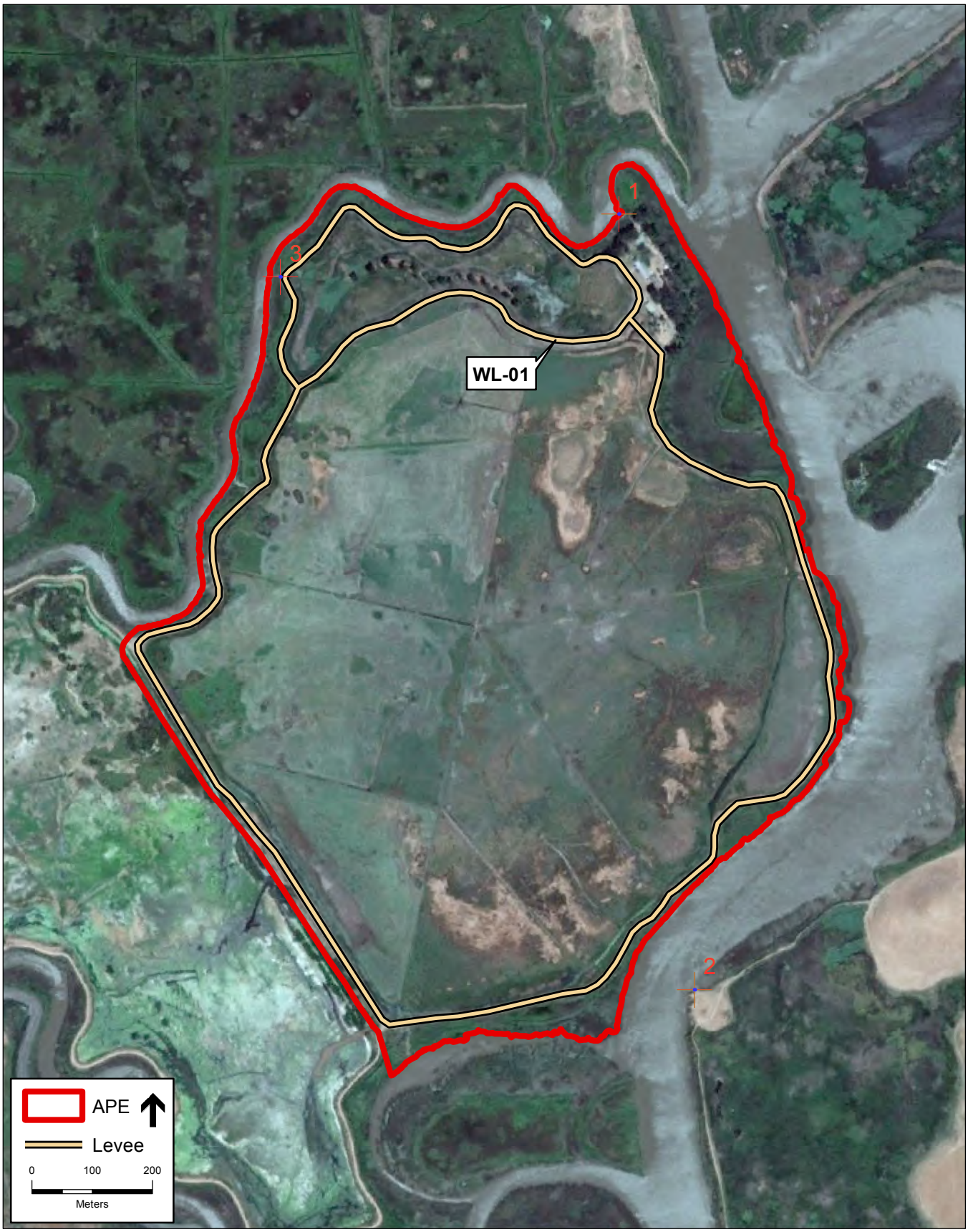
Historic Topographic and Aerial Imagery

SOURCE: ESRI, 2019; ESA 2019

Wings Landing Restoration Project. 150233.01

Map 8

Survey Coverage of the APE



SOURCE: ESRI, 2019; ESA 2019

Wings Landing Restoration Project. 150233.01

Map 9

Cultural Resource Identified in APE

APPENDIX B

CHRIS Records Search

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

Primary # P-48-000978
HRI #
Trinomial
NRHP Status Code 6Z
Other Listings
Review Code Reviewer Date

***Resource Name or #** (Assigned by recorder) Suisun Marsh Channels

P1. Other Identifier: Suisun Channel, Cordelia Slough Cut, Joice Island Cut (Hunter Cut)

***P2. Location:** ☐ **Not for Publication** ☒ **Unrestricted** ***a. County** Solano

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

***b. USGS 7.5' Quad** Fairfield South and Port Chicago **Date** 1980

c. Address _____ City Suisun Zip _____

d. UTM: (give more than one for large and/or linear resources) Zone _____; _____mE/ _____mN

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

Suisun channel runs southeast from Suisun city into the marsh, ending at the foot of the Potrero Hills. The Cordelia slough cut is located north east of the Cygnus railroad stop along Cordelia Slough. Hunter Cut bisects Joice Island connecting Montezuma Slough and Suisun Slough at the fourth bend of Suisun Slough above Cordelia Slough. (see Sketch Map)

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

Channels within the marsh are largely natural sloughs which have been slightly modified through dredging to construct levees. The marsh contains five natural navigable channels Cordelia Slough, Goodyear Slough, Suisun Slough, Montezuma Slough and Nurse's Slough. Each of these channels has been modified to a degree from dredging both to create and maintain levees and clear navigation channels. The sides of the sloughs have been smoothed through this action. Navigation though the north half of Cordelia Slough has been abandoned and it is not maintained. Cordelia Slough and Goodyear slough are the smallest channels in width averaging in 10-15 feet in depth. (See Continuation Sheet)

***P3b. Resource Attributes:** (List attributes and codes) HP39 – Other – Navigation channel

***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 #) Suisun harbor and channel, camera facing south from Suisun, February 5, 2013

***P6. Date Constructed/Age and Sources:**
☒ Historic ☐ Prehistoric ☐ Both
1913 USACE

***P7. Owner and Address:**
US Federal Government under management of
US Army Corps of Engineers
San Francisco District
1455 Market St #16
San Francisco, CA 94103

***P8. Recorded by:** (Name, affiliation, address)
Cheryl Brookshear & Ann Roberts
JRP Historical Consulting, LLC 2850 Spafford Street
Davis, CA 95618

***P9. Date Recorded:** February 2013

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

***P11. Report Citation:** (Cite survey report and other sources, or enter "none.") JRP Historical Consulting LLC, *Suisun Marsh Cultural Resources Contextual Report*, 2013.

***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) _____

*NRHP Status Code 6Z
*Resource Name or # (Assigned by recorder) Suisun Marsh Channels

B1. Historic Name: Suisun Slough, Cordelia Slough, Hunters Cut
B2. Common Name: Suisun Slough, Suisun Channel, Cordelia Slough, Hunters Cut
B3. Original Use: Navigation channel B4. Present Use: Navigation channel
*B5. Architectural Style: Utilitarian
*B6. Construction History: (Construction date, alteration, and date of alterations) Suisun channel – 1913-1914 initial harbor improvements and channel widening; 1920 rock outcrop removal; 1946 channel cut, 1990 last maintenance dredging. Cordelia Slough cut – 1925-1937.

*B7. Moved? ☒ No ☐ Yes ☐ Unknown Date: _____ Original Location: _____
*B8. Related Features: _____

B9. Architect: USACE b. Builder: USACE
*B10. Significance: Theme n/a Area n/a
Period of Significance n/a Property Type n/a Applicable Criteria n/a
(Discuss importance in terms of historical or architectural context as defined by theme, period, and geographic scope. Also address integrity.)

The manmade channels within Suisun Marsh do not appear to meet the criteria for listing in the National Register of Historic Places (NRHP) or the California Register of Historical Resources (CRHR). These properties has been evaluated in accordance with Section 15064.5(a)(2)-(3) of the CEQA Guidelines, using the criteria outlined in Section 5024.1 of the California Public Resources Code, and do not appear to be a historical resource for the purposes of CEQA

Historic Context

Geographic positioning made the marsh a component of long distance river transportation and local waterborne transport. During the 1850s, as American settlers spread through the state, the marsh provided routes for settlement into the fertile agricultural Green Valley and Suisun Valley. The marsh's principal waterways -- Cordelia Slough, Suisun Slough, Montezuma Slough, and Nurse's Slough -- provided access to uplands suited to more extensive settlement and agricultural development. Located at the base of the valleys, and west of the stock farms of the Montezuma Hills, the marsh offered water transportation points – landings -- for products of those prosperous uplands to San Francisco's active markets. (See Continuation Sheet.)

B11. Additional Resource Attributes: (List attributes and codes) ____
*B12. References: USACE, *Report of the Chief of Engineers US Army* (Washington, D.C.: Government Printing Office, multiple years); USCGS, *Suisun Bay Chart 5534* (Washington, D.C.: USCGS, 1925); (See Footnotes.)

B13. Remarks:

*B14. Evaluator: Cheryl Brookshear

*Date of Evaluation: February 2013

(This space reserved for official comments.)

(Sketch Map with north arrow required.)

See continuation sheet.

P3a. Description (continued):

Nurse Slough is slightly larger in the northwestern portion of the marsh and averages about 15 feet in depth. Suisun and Montezuma Sloughs are the largest averaging approximately 20 feet in depth. Suisun Slough maintains a fairly even width through the marsh. Montezuma Slough is wider at the western end and narrows near the eastern end where it is regulated by the Suisun Marsh Salinity Control Gate.

Limited manmade channels have been created to improve navigation, the largest of which is Suisun Channel. The channel includes the harbor and turning basin at Suisun City, and a wide cut south of the city removing several loops of the natural Suisun Slough.

Two small navigational cuts are located within the marsh Joice Island is bisected at a narrow isthmus between Susiun Slough and Montezuma Slough. The cut is approximately 175 feet wide and approximately1000 feet long with levees on either side indicated probable construction by a dredger.

A second small cut removes a loop from Cordelia Slough in the far western edge of the marsh. This cut now operates as the main channel for Cordelia Slough. The cut is just over 500 feet in length and approximately 60 feet wide.

B10. Significance (continued):

American entrepreneurs and sailors navigated the marsh and established trading points at the head of the Cordelia, Suisun, and Nurse Sloughs. In 1850, Captain Robert Waterman arrived in California. Seeking new ventures, he purchased an undivided share in Suisun Rancho along the northwest edge of the marsh. Waterman navigated a major slough along the western border of the marsh and established the town of Cordelia, which, like the slough, he named in honor of his wife, as a point of trade for his acquired land.[1] Just two years later, Captain Josiah Wing traveled up Suisun Slough and founded the town of Suisun, east of Cordelia, and at the base of both Green and Suisun Valleys.[2] In 1853, settlers established a third landing at the northeastern end of the marsh on Nurse Slough, which ran northwards from Montezuma Slough. Dr. Stephen K. Nurse, a dentist, built his home and a landing at the head of the slough. Originally known as Nurse's Landing, the small village was later renamed Denverton.[3] None of these communities was located within the boundaries of the marsh; however, they provided a basis for the agricultural development which spread into the marsh during the 1870s and persisted into the 1940s.

Suisun became the largest of these settlements, in large part owing to its superior location. Suisun was more centrally positioned to transport goods from both the Green and Suisun Valleys, whereas the other landings were situated such that they served only one or the other. Suisun's location and physical attributes resulted in its obtaining better transportation routes. Suisun Slough was the larger of the three sloughs and thus able to accommodate larger shipments. By 1908, traffic along Suisun Slough was sufficient to cause the Army Corps of Engineers [hereafter Corps] to study potential navigational improvements. At the time over 67,000 tons of goods were being shipped through Suisun's harbor. Items shipped included fuel oil, hay, lumber, sand, potatoes, cream, barley and brick. In its natural state the slough ranged from 600 feet wide at its mouth to 80 feet wide near Suisun. The depth varied from 17 feet to zero feet at low tide along its 17 mile route. The Corps' proposed improvements were to cut through two miles of meandering loops at the northern end with a 3,000 foot long cut off with a depth of six feet at low tide, and included expansion of the harbor. The Corps recommended the

[1] Jerry Bowen, . "Captain Waterman finds his land legs," *Historical Articles of Solano County*, 2003 June 29, Vacaville Historical Commission Database, http://www.solanohistory.org/collection/, Accessed October 10, 2012.
[2] Nancy Dingler, "Bridges Replace Ferries for Bay Area Transport," *Historical Articles of Solano County*, 2003 August 16, Vacaville Historical Commission Database, http://www.solanohistory.org/collection/, Accessed October 10, 2012.; Jerry Bowen, "Captain Waterman finds his land legs."; J.P. Munro-Fraser, *History of Solano County*, (San Francisco: Wood, Alley & Co., 1879) 290.
[3] Jerry Bowen, "Denverton was once Known as Nurse's Landing," *Historical Articles of Solano County*, 2000 August 7, Vacaville Historical Commission Database, http://www.solanohistory.org/collection/, Accessed October 10, 2012.; Munro-Fraser, *History of Solano County*, 304.

improvement plan to Congress in 1908, which was approved in 1910. Local residents donated the right-of-way for the new channel; however, no construction was begun.[4]

After additional study, the Corps determined that the original plan was not feasible, and changed the proposed improvements. The less ambitious 1913 plan called for retaining the natural route, and dredging the channel to a width of 150 feet and to a depth of six feet, and retaining proposed harbor improvements. Congress again approved the project, in part in the hope that more favorable shipping conditions would result in freight rates that could compete with the railroad. The railroad was Suisun's other advantage over its neighboring communities. Cordelia had relocated from the slough side to its current site along the railroad in 1878. Suisun retained its slough side location and improved transportation to the railroad station a mile north, thereby accessing both means of transport. Denverton was completely bypassed by the railroad. The Corps began dredging the natural channel and undertook expansion of Suisun's harbor in 1913. The work was completed in 1914, except for removal of a rocky outcrop two miles south of Suisun that was accomplished in 1920. Suisun Slough improvements were relatively minor compared to the regular maintenance and dredging undertaken in the shipping channels through Suisun Bay, on the Sacramento and San Joaquin rivers, and at other locations in California with more commercial traffic and larger vessels. The Corps' improvements, unfortunately, did not have the hoped-for results in freight savings, and the amount of tonnage shipped from Suisun remained erratic. The Corps revisited navigation of the slough in 1935 and 1936, again presenting Congress with a plan to cut four curves from the upper end of the slough, reduce the sharpness of several bends closer to the mouth, and further enlarge Suisun harbor. While the project was approved in 1937, it was delayed during the war. Dredging to construct the Suisun Channel's 100 foot wide cuts and dredge the entire channel to eight feet deep began in 1945 and continued into 1946. The Corps completed construction with clamshell and pipeline (suction) dredges.[5] This configuration has been maintained since that time with the last maintenance dredging occurring in 1990.[6] Continued changes in agricultural patterns, packing procedures, and urban development led to the eventual replacement of commercial shipping of agricultural products by recreational navigation at Suisun.

As mentioned, the village of Cordelia abandoned its position on the slough in favor of another along the railroad. As a result, Cordelia Slough remained largely unimproved. Landowners removed a large loop of the slough by dredging a short cut between 1925 and 1937.[7] This, along with a small cut bisecting Joice Island, was local improvement conducted by private owners to more easily access their land.

Evaluation

Navigation channels with in Suisun Marsh are not significant for their associations with the development of adjacent communities (NRHP Criterion A/ CRHR Criterion 1). Sites for historic and pre-historic human communities are frequently related to the surrounding geography. Accessibility of water, food, shelter and transportation routes play an important role in the selection of habitation sites. While playing an important role in the development of a community, these features common to many settlements can hardly be considered distinctly significant. The modifications of the Suisun Slough and construction of the Suisun Channel were typical projects for the Army Corps of Engineers found throughout the country.

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[4] USACE, *Report of the Chief of Engineers US Army*, (Washington, D.C.: Government Printing Office, 1910) 2354.

[5] USACE, *Report of the Chief of Engineers US Army 1910*, 2354; USACE, *Report of the Chief of Engineers US Army* (Washington, D.C.: Government Printing Office, 1913) 1287-1288; USACE, *Report of the Chief of Engineers US Army* (Washington, D.C.: Government Printing Office, 1914)1327-1328; USACE, *Report of the Chief of Engineers US Army* (Washington, D.C.: Government Printing Office, 1920) 2906; USACE, *Report of the Chief of Engineers US Army* (Washington, D.C.: Government Printing Office, 1924) 1643-1644; USACE, *Report of the Chief of Engineers US Army* (Washington, D.C.: Government Printing Office, 1936) 1461; USACE, *Report of the Chief of Engineers US Army* (Washington, D.C.: Government Printing Office, 1945) 2087-2090; USACE, *Report of the Chief of Engineers US Army* (Washington, D.C.: Government Printing Office, 1946) 2281; *Sacramento Bee*, "Suisun Channel Bid Opening is Set April 25th," 1946 March 29, 11.

[6] USACE, *Suisun Channel (Slough) Operations and Maintenance*, http://www.spn.usace.army.mil/projects/suisunchannelo&m.html, Accessed January 25, 2013.

[7] USCGS, *Suisun Bay Chart 5534* (Washington, D.C.: USCGS, 1925); USACE, *Carquinez Quadrangle*, (Fort Belvoir, VA: 30th Engineer Battalion Reproduction Plant, 1942).

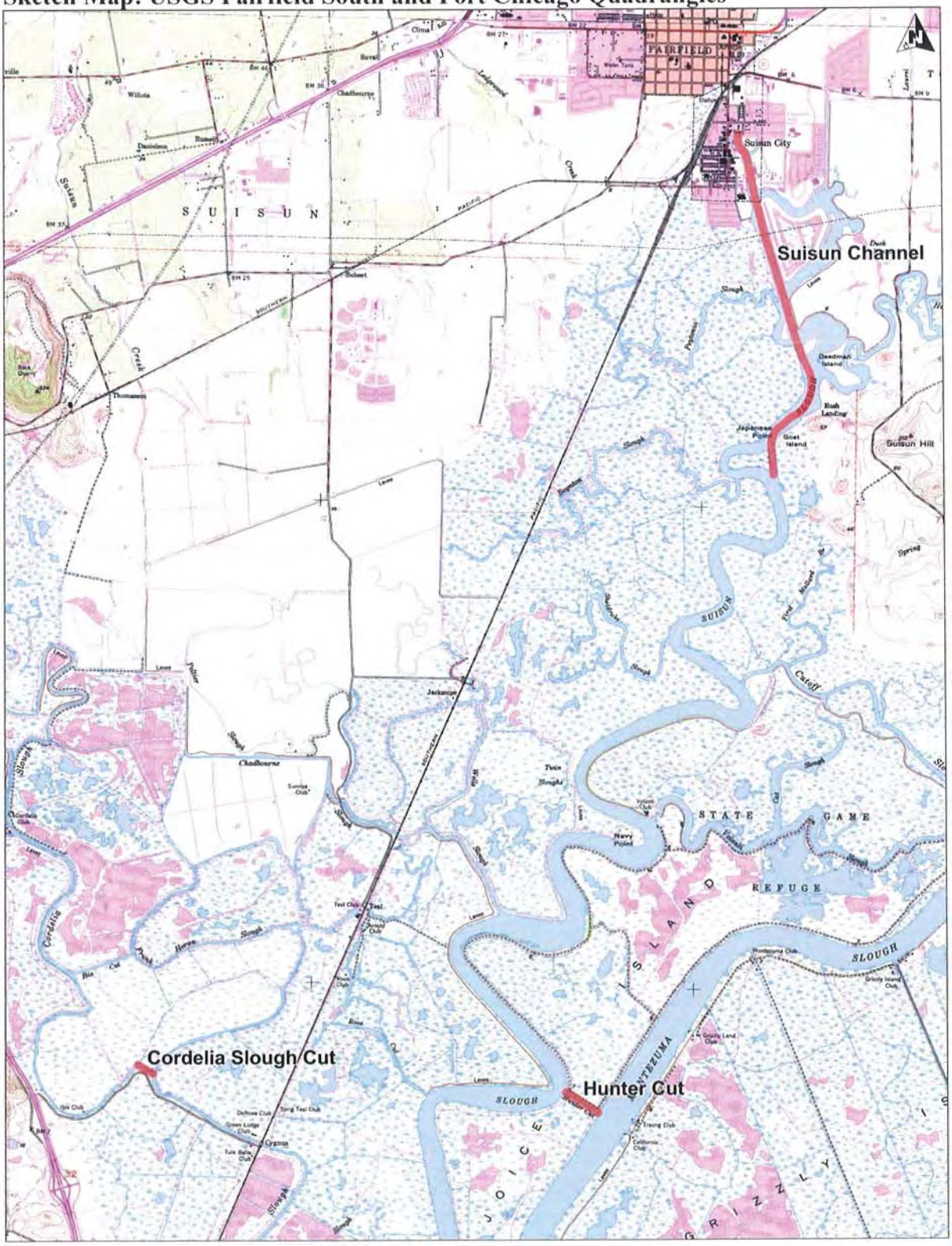
This project supported existing commercial traffic in Suisun and did not significantly impact the community. Smaller private cuts on Cordelia Slough and through Joice Island only benefited private owners and have no significance.

The modified channels of the Suisun Marsh are not associated with any individuals significant to the past (NRHP Criterion B/ CRHR Criterion 2). While the sloughs were explored by Captains Waterman and Wing, who established communities in the vicinity, these waterways are not illustrative of the significance of their productive lives; rather, the sloughs have supported activities of many individuals and cannot be limited to a single person.

Suisun Channel and the small cuts on Cordelia Slough and Joice Island are not significant as examples of a type, period or method of construction (NRHP Criterion C/ CRHR Criterion 3). These channels and cuts were constructed using established dredging techniques, and are not distinctive in their size or scope. Private dredging occurred throughout the marsh resulting in a system of levees and modified channels modest in their scope. The larger Suisun Channel is typical of the work undertaken by the Army Corps of Engineers across the state and nation.

The Suisun Channel and cuts in Suisun Marsh do not appear to be a principal source of important information regarding history (NRHP Criterion D/ CRHR Criterion 4). Information regarding dredging, Army Corps of Engineers activities, and the marsh's soils is well documented elsewhere.

Sketch Map: USGS Fairfield South and Port Chicago Quadrangles



APPENDIX C

NAHC Outreach

Robin Hoffman

From:
Sent:
To:
Subject:
Attachments:

I would like to request a Sacred Lands File search and list of Native American contacts for the Wings Landing Restoration Project, in Solano County. This request is to support cultural resources mitigation measures required the California Environmental Quality Act and Section 106 of the National Historic Preservation Act. The formal request form and project location map are attached. Please let me know if you have any questions.
Thank you,

Robin Hoffman, MA, RPA
Senior Archaeologist

ESA | Environmental Science Associates
Celebrating 50 Years of Work that Matters!

1425 N. McDowell Ave., Suite 200
Petaluma, CA, 94954
707.795.0900 main
707.796.7006 direct
707.494.3349 mobile
rhoffman@esassoc.com | esassoc.com

Follow us on LinkedIn | Facebook | Twitter | Instagram | Vimeo

Sacred Lands File & Native American Contacts List Request

Native American Heritage Commission
1550 Harbor Blvd, Suite 100
West Sacramento, CA 95691
916-373-3710
916-373-5471 – Fax
nahc@nahc.ca.gov

Information Below is Required for a Sacred Lands File Search

Request Date: March 25, 2019

Project: Wings Landing Restoration Project

County: Solano

USGS Quadrangle Name: Fairfield South, CA

Township: 4N **Range:** 2W (Mount Diablo BM) **Section(s):** 1, 2, 12

Company/Firm/Agency: Environmental Science Associates

Street Address: 1425 N. McDowell Blvd., Ste. 200, Petaluma, CA 94954

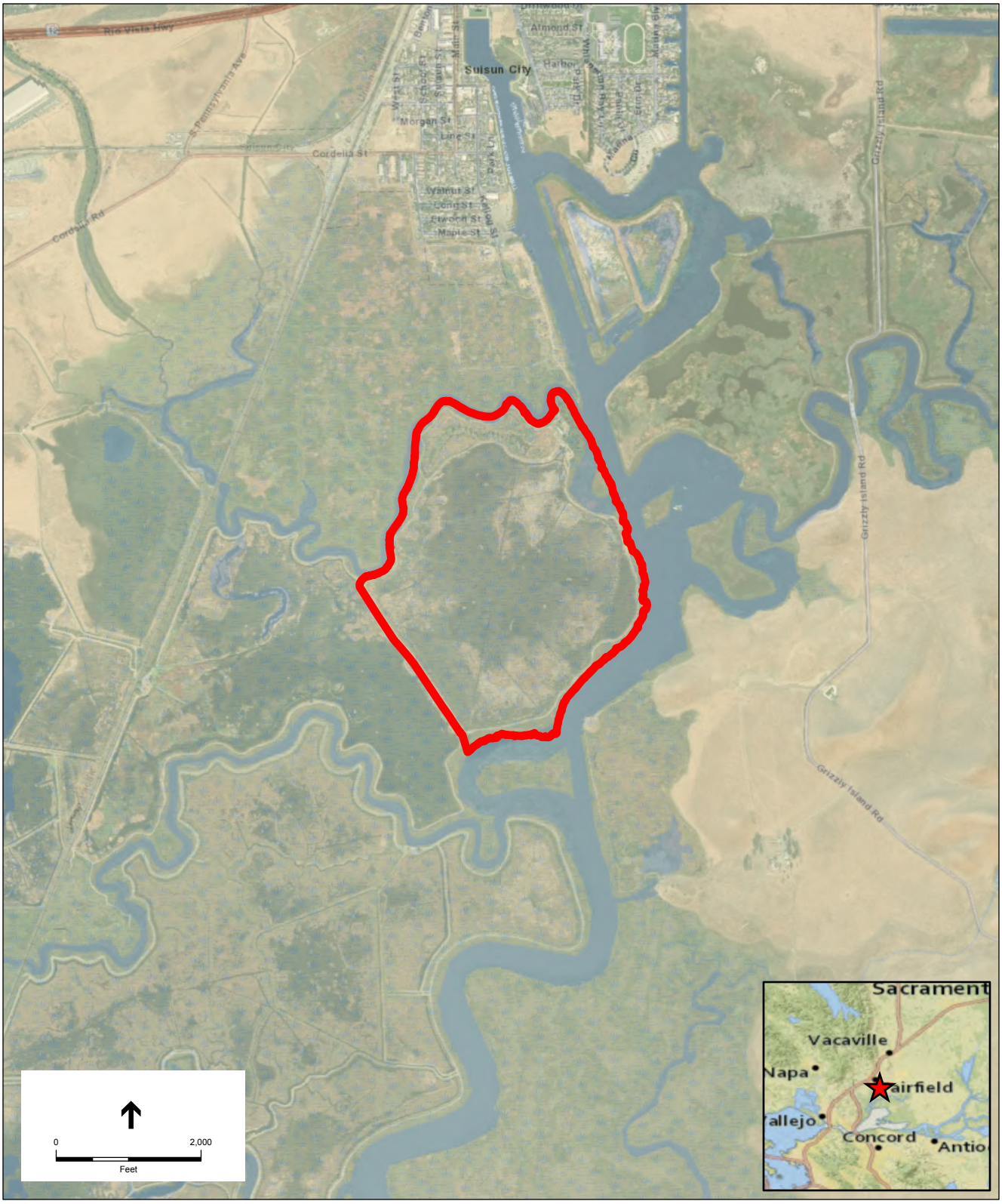
Phone: 707-796-7006

Fax: 707-795-0902

Email: rhoffman@esassoc.com

Project Description:

The California Department of Water Resources (DWR) proposes the Wings Landing Restoration Project (Project), which would restore an approximately 267-acre area (Project Area) through restoring managed marsh, managed perennial channels, managed seasonal channels, and uplands to a tidal marsh ecosystem. The Project Area is located just south of Suisun City, Solano County, California. The Project is subject to compliance with the California Environmental Quality Act (CEQA) and the National Historic Preservation Act (NHPA), with DWR and the U.S. Army Corps of Engineers, respectively, acting as lead reviewing agencies. Please include in your results a list of Native American representatives that should be contacted about potential resources of importance to Native Americans to support compliance with CEQA and the NHPA.



Default Folder: U:\GIS\GIS\Projects\15xxxx\D150233_WingsLanding\03_MXDs_Projects\Cultural\Wings Landing

SOURCE: ESRI, 2019; ESA, 2019

Wings Landing Restoration Project. 150233.01

Figure 1
Project Area

NATIVE AMERICAN HERITAGE COMMISSION
Cultural and Environmental Department
1550 Harbor Blvd., Suite 100
West Sacramento, CA 95691
Phone: (916) 373-3710
Email: nahc@nahc.ca.gov
Website: http://www.nahc.ca.gov
Twitter: @CA_NAHC

April 25, 2019

Robin Hoffman
Environmental Science Associates

VIA Email to: rhoffman@easssoc.com

RE: Wings Landing Restoration Project, Solano County.

Dear Ms. Hoffman:

A record search of the Native American Heritage Commission (NAHC) Sacred Lands File (SLF) was completed for the information you have submitted for the above referenced project. The results were negative. However, the absence of specific site information in the SLF does not indicate the absence of cultural resources in any project area. Other sources of cultural resources should also be contacted for information regarding known and recorded sites.

Attached is a list of Native American tribes who may also have knowledge of cultural resources in the project area. This list should provide a starting place in locating areas of potential adverse impact within the proposed project area. I suggest you contact all of those indicated; if they cannot supply information, they might recommend others with specific knowledge. By contacting all those listed, your organization will be better able to respond to claims of failure to consult with the appropriate tribe. If a response has not been received within two weeks of notification, the Commission requests that you follow-up with a telephone call or email to ensure that the project information has been received.

If you receive notification of change of addresses and phone numbers from tribes, please notify me. With your assistance, we can assure that our lists contain current information. If you have any questions or need additional information, please contact me at my email address: katy.sanchez@nahc.ca.gov.

Sincerely,

KATY SANCHEZ
Associate Environmental Planner

Attachment

Native American Heritage Commission
Native American Contacts List
4/24/2019

Cortina Rancheria - Kletsel Dehe Band of Wintun Indians
Charlie Wright, Chairperson
P.O. Box 1630 Wintun / Patwin
Williams ,CA 95987
(530) 473-3274 Office
(530) 473-3301 Fax

United Auburn Indian Community of the Auburn Rancheria
Gene Whitehouse, Chairperson
10720 Indian Hill Road Maidu
Auburn ,CA 95603 Miwok
bguth@auburnrancheria.com
(530) 883-2390 Office
(530) 883-2380 Fax

Yocha Dehe Wintun Nation
Anthony Roberts, Chairperson
P.O. Box 18 Wintun (Patwin)
Brooks ,CA 95606
aroberts@yochadehe-nsn.gov
(530) 796-3400
(530) 796-2143 Fax

This list is current as of the date of this document and is based on the information available to the Commission on the date it was produced.

Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code,Section 5097.94 of the Public Resources Code, or Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans Tribes for the proposed: Wings Landing Restoration Project Solano County.

NATIVE AMERICAN HERITAGE COMMISSION
Cultural and Environmental Department
1550 Harbor Blvd., Suite 100
West Sacramento, CA 95691 Phone: (916) 373-3710
Email: nahc@nahc.ca.gov
Website: http://www.nahc.ca.gov

April 26, 2019

Robin Hoffman
ESA

VIA Email to: rhoffman@esassoc.com

RE: Native American Tribal Consultation, Pursuant to the Assembly Bill 52 (AB 52), Amendments to the California Environmental Quality Act (CEQA) (Chapter 532, Statutes of 2014), Public Resources Code Sections 5097.94 (m), 21073, 21074, 21080.3.1, 21080.3.2, 21082.3, 21083.09, 21084.2 and 21084.3, Wings Landing Restoration Project, Solano County

Dear Ms. Hoffman:

Pursuant to Public Resources Code section 21080.3.1 (c), attached is a consultation list of tribes that are traditionally and culturally affiliated with the geographic area of the above-listed project. Please note that the intent of the AB 52 amendments to CEQA is to avoid and/or mitigate impacts to tribal cultural resources, (Pub. Resources Code §21084.3 (a)) ("Public agencies shall, when feasible, avoid damaging effects to any tribal cultural resource.")

Public Resources Code sections 21080.3.1 and 21084.3(c) require CEQA lead agencies to consult with California Native American tribes that have requested notice from such agencies of proposed projects in the geographic area that are traditionally and culturally affiliated with the tribes on projects for which a Notice of Preparation or Notice of Negative Declaration or Mitigated Negative Declaration has been filed on or after July 1, 2015. Specifically, Public Resources Code section 21080.3.1 (d) provides:

> Within 14 days of determining that an application for a project is complete or a decision by a public agency to undertake a project, the lead agency shall provide formal notification to the designated contact of, or a tribal representative of, traditionally and culturally affiliated California Native American tribes that have requested notice, which shall be accomplished by means of at least one written notification that includes a brief description of the proposed project and its location, the lead agency contact information, and a notification that the California Native American tribe has 30 days to request consultation pursuant to this section.

The AB 52 amendments to CEQA law does not preclude initiating consultation with the tribes that are culturally and traditionally affiliated within your jurisdiction prior to receiving requests for notification of projects in the tribe's areas of traditional and cultural affiliation. The Native American Heritage Commission (NAHC) recommends, but does not require, early consultation as a best practice to ensure that lead agencies receive sufficient information about cultural resources in a project area to avoid damaging effects to tribal cultural resources.

The NAHC also recommends, but does not require that agencies should also include with their notification letters, information regarding any cultural resources assessment that has been completed on the area of potential effect (APE), such as:

1. The results of any record search that may have been conducted at an Information Center of the California Historical Resources Information System (CHRIS), including, but not limited to:

- A listing of any and all known cultural resources that have already been recorded on or adjacent to the APE, such as known archaeological sites;

- Copies of any and all cultural resource records and study reports that may have been provided by the Information Center as part of the records search response;

- Whether the records search indicates a low, moderate, or high probability that unrecorded cultural resources are located in the APE; and

- If a survey is recommended by the Information Center to determine whether previously unrecorded cultural resources are present.

2. The results of any archaeological inventory survey that was conducted, including:

    - Any report that may contain site forms, site significance, and suggested mitigation measures.

      All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum, and not be made available for public disclosure in accordance with Government Code section 6254.10.

3. The result of any Sacred Lands File (SLF) check conducted through the NAHC was negative.
4. Any ethnographic studies conducted for any area including all or part of the APE; and
5. Any geotechnical reports regarding all or part of the APE.

Lead agencies should be aware that records maintained by the NAHC and CHRIS are not exhaustive and a negative response to these searches does not preclude the existence of a tribal cultural resource. A tribe may be the only source of information regarding the existence of a tribal cultural resource.

This information will aid tribes in determining whether to request formal consultation. In the event that they do, having the information beforehand will help to facilitate the consultation process.

If you receive notification of change of addresses and phone numbers from tribes, please notify the NAHC. With your assistance, we can assure that our consultation list remains current.

If you have any questions, please contact me at my email address: steven.quinn@nahc.ca.gov.

Sincerely,

Steven Quinn

Steven Quinn
Associate Governmental Program Analyst

Attachment

Native American Heritage Commission
Native American Contacts List
4/26/2019

Cortina Rancheria - Kletsel Dehe Band of Wintun Indians
Charlie Wright, Chairperson
P.O. Box 1630 Wintun / Patwin
Williams ,CA 95987
(530) 473-3274 Office
(530) 473-3301 Fax

United Auburn Indian Community of the Auburn Rancheria
Gene Whitehouse, Chairperson
10720 Indian Hill Road Maidu
Auburn ,CA 95603 Miwok
bguth@auburnrancheria.com
(530) 883-2390 Office
(530) 883-2380 Fax

Yocha Dehe Wintun Nation
Anthony Roberts, Chairperson
P.O. Box 18 Wintun (Patwin)
Brooks ,CA 95606
aroberts@yochadehe-nsn.gov
(530) 796-3400
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This list is current as of the date of this document and is based on the information available to the Commission on the date it was produced.

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This list is only applicable for contacting local Native Americans Tribes for the proposed:
Wings Landing Restoration Project.

APPENDIX D

WL-01 Site Record

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

 ***Resource Name or #:** WL-01

P1. Other Identifier: Wing's Landing Levee

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

- ***a. County** Solano
- ***b. USGS 7.5' Quad** Fairfield South **Date** 1980; within unsectioned wetlands extrapolated within **T** 4 N; **R** 2 W**.**
- c. Address City Zip
- d. UTM: Zone 10, westernmost point closest to access road: 583584 mE/ 4230613 mN NAD 83
- e. Other Locational Data:

***P3a. Description:** Earthen levee, bordered on the north by Peytonia Slough, on the east and south by Suisun Slough, and to the west by marshlands. The levee is widest in the areas bordering Suisun Slough and additional marshland. This widest portion of the levee measures approximately 15 feet wide at the top, 25 feet wide at the base, and 3 to 5 feet tall. The other portions of the levee, including the portion crossing through the middle of the ring of levee, are smaller, measuring 10 feet wide at the top, 15 feet wide at the base, and 2 to 3 feet tall. A one-lane dirt access road tops the levee.

***P3b. Resource Attributes:** HP21. Dam

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

P5b. Description of Photo:
Overview of resource northern narrow segment

***P6. Date Constructed/Age and Source:**
☒ Historic ☐ Prehistoric
☐ Both

***P7. Owner and Address:**
Natural Resources Group, Inc.
West Sacramento, CA

P8. Recorded by:
Robin Hoffman and Deanna Keegan
Environmental Science Associates,
Petaluma, CA

***P9. Date Recorded:**
08 June 2019

***P10. Survey Type:**
Reconnaissance survey

***P11. Report Citation**:
Sims, Ashleigh, Kathy Cleveland, and Robin Hoffman
2019 *Wings Landing Tidal Habitation Restoration Project: Cultural Resources Inventory and Evaluation Report*. Prepared by Environmental Science Associates, Sacramento. Prepared for Natural Resources Group, Inc., West Sacramento, CA.

***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):

BUILDING, STRUCTURE, AND OBJECT RECORD

***Resource Name or #** WL-01 ***NRHP Status Code**

B1. Historic Name: unknown
B2. Common Name: Wing's Landing Levee
B3. Original Use: B4. Present Use:
***B5. Architectural Style:**
***B6. Construction History:**

***B7. Moved? ☒ No ☐ Yes ☐ Unknown Date: Original Location:**
***B8. Related Features:**

B9a. Architect: unknown b. Builder: unknown
***B10. Significance: Theme** n/a **Area** n/a
Period of Significance n/a Property Type n/a Applicable Criteria n/a

Josiah Wing, Jr., originally of Massachusetts, was a ship captain who traveled to San Francisco in 1850 just after the discovery of gold in the area. Wing was one of the first to travel up Suisun Slough in Suisun Bay and build a warehouse on an "island" (actually the flooded site of Suisun), which he used to store wheat from farms in Suisun and Green Valley that he would sell in Sacramento. Wing built log bridges across the marsh slough and, as newcomers also began to settle on this island, built a wharf, a store, and housing for farmers bringing their crops to the budding town. By 1854, Wing and another early settler to the town, John Owens, laid out the townsite for what would be known as Suisun City (Delaplane, 1995).

The origin of the place name of Wings Landing may relate to Josiah Wing or his family, who continued to live in and near Fairfield and Suisun City into the 1900s. However, no documentary link was found between the Wing family and the area within and around the resource. Professional hunters began frequenting Suisun Marsh as early as the 1860s in order to provide birds to markets in the San Francisco Bay Area. Due to the large presence of waterfowl and proximity to San Francisco, the first private duck clubs in the area were organized around 1880. By 1930 waterfowl hunting became the primary use of the Suisun marshlands (DWR, 1999).

The location of WL-01 never part of an official Reclamation District, and aerial and historic topographic map research did not identify any structures or features within the APE until the 1960s. Vegetation maps from 1930 show the area as primarily populated with pickleweed and salt grass, and review of historic aerial photographs from 1932 and 1948 did not indicate the presence of any levees, buildings, or structures associated with duck hunting during this period (Meyer et al., 2013; Fairchild Aerial Surveys, 1932). The majority of the current levee alignment appears in 1965 aerial photographs, although the northern bisecting levee does not appear until the modern period, circa 1980 (Cartwright Aerial Surveys, 1965). (See continuation sheet)

B11. Additional Resource Attributes: (List attributes and codes)
***B12. References:**
(See continuation sheet)

B13. Remarks:

***B14. Evaluator:** Kathy Cleveland
***Date of Evaluation:** July 2019

(Sketch Map with north arrow required.)
See Sketch Map and Location Map on pages 5 and 6.

(This space reserved for official comments.)

L1. Historic and/or Common Name:

L2a. Portion Described: ☒ Entire Resource ☐ Segment ☐ Point Observation **Designation:** Narrow and Wide Segments

b. Location of point or segment:

Narrow Segment: Northwestern third of levee ring and bisecting segment in northern section along Peytonia Slough
W endpoint: 583586 mE, 4230622 mN
E endpoint: 584397 mE, 4231162 mN

Wide Segment: Southern section of levee ring that borders Suisun Slough and other wetlands
W endpoint: 583586 mE, 4230622 mN
E endpoint: 584397 mE, 4231162 mN

L3. Description:

Earthen levee around Wings Landing with narrow and wide segments. Wings Landing is a 290-acre portion of Suisun March bordered by Peytonia and Suisun Sloughs to the north, east, and south.

L4. Dimensions:

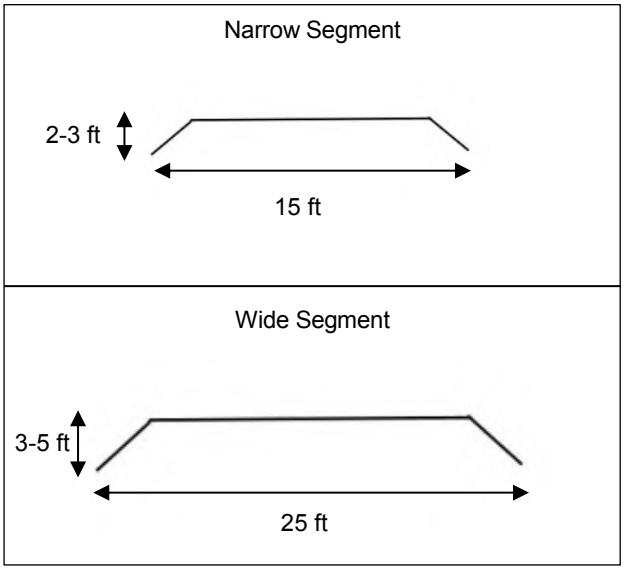
a. Top Width
Narrow Segment: 10 ft
Wide Segment: 15 ft

b. Bottom Width
Narrow Segment: 15 ft
Wide Segment: 25 ft

c. Height or Depth:
Narrow Segment: 2-3 ft
Wide Segment: 3-5 ft

d. Length of Segment:
Narrow Segment: 1.4 mi
Wide Segment: 1.6 mi

L4e. Sketch of Cross-Section Facing:



L5. Associated Resources:

L6. Setting:

L7. Integrity Considerations:

L8a. Photograph, Map or Drawing

L8b. Description of Photo, Map, or Drawing

L9. Remarks:

L10. Form Prepared by: (see P8. Recorded by) **L11. Date:** 17 July 2019

***B10. Significance:**

Based on review of historic aerials and topographic maps of the area available at National Environmental Title Research (NETR['s]) historicaerials.com, as well as those maintained by the University of California, Santa Barbara, Frame Finder, it appears that WL-01 was constructed in its original alignment sometime between 1948 and 1965. Alterations to the levee alignment along the southwest end, separating Wings Landing from other marshlands, were constructed between 1967 and 1969. Additionally, the portion of the levee on the northeast end, bisecting the outer levee ring, appear to date to some time between 1968 and 1988.
Evaluation

Criterion A/1 and B/2

Archival review failed to identify any significant associations between the levee and events or persons important to history, or any special significance of any individual connected to the construction of the WL-01 who achieved prominence due to their association with the levee. The area was never part of an official Reclamation District, and aerial and historic topographic map research did not identify any structures or features in the area until approximately the 1950s. WL-01 appears to have been a small, local levee constructed in the mid-twentieth century by local interests for the purposes of improving the duck hunting property. No specific individual or group was determined to have constructed the levee, and WL-01 does not appear to reflect any direct connection with Josiah Wing, after whom the area is potentially named. As such, WL-01 does not appear to be associated with events or persons significant in our past and, therefore, does not appear to be National Register-/California Register-eligible under Criterion A/1 or B/2 as an individual resource.

Criterion C/3

WL-01 is an architecturally indistinct earthen levee, with no distinctive designs or materials. The trapezoidal shape and earthen construction are not distinctly representative of a specific architectural style. The levee is a vernacular structure constructed by local interests from immediately available local materials. The levee prioritized function and does not embody the distinct characteristics of a type or period, or method of construction, nor does it represent the work of a master or possess high artistic values. Therefore, the levee does not appear to be eligible under National Register/California Register Criterion C/3 as an individual resource.

Criterion D/4

Finally, there are no known artifacts associated with the levee and such vernacular, small, local levees typically do not have high potential to contain historic-era artifacts. Though levees throughout California have been shown to have the potential to contain indigenous archaeological resources, background research for WL-01 did not indicate the presence of any indigenous archaeological resources or sacred sites in or in close proximity to the resource, and the archaeological sensitivity study conducted for the area in the vicinity of the resource concluded that the area has low sensitivity for surficial and buried indigenous archaeological resources (Meyer et al., 2013). As such, WL-01 does not appear to have the potential to yield information important in history. Therefore, WL-01 does not appear to be eligible under National Register/California Register Criterion D/4 as an individual resource.

Summary

In summary, the WL-01 does not appear eligible under any of the four National or State Register criteria, and as such is recommended not eligible for listing in the National Register or California Register as an individual resource.

***B12. References:**

Cartwright Aerial Surveys, 1965. CAS-65-130. Prepared for the California Division of Highways. <http://mil.library.ucsb.edu/apcatalog/report/report.php?filed_by=CAS-65-130>

Delaplane, Kristin, 1995. Suisun City becomes 1880s commerce center. Echoes of Solano's Past, 30 July. http://www.solanoarticles.com/history/pdf/pdf_files/suisun_city_becomes_1880s_commerce_center.pdf, accessed July 2019.

DWR, 1999. Suisun Marsh Monitoring Program Reference Guide. November 1999. <https://water.ca.gov/LegacyFiles/suisun/docs/SuisunMarshMonitoringProgramReferenceGuideVersion1.pdf>

Fairchild Aerial Surveys, 1932. Potrero Hills area from SR 12 to Montezuma Slough. Prepared for the Rio Grande Oil Company. <http://mil.library.ucsb.edu/apcatalog/report/report.php?filed_by=C-2090>

Meyer, Jack, Julia Costello, Patricia Mikkelsen, Melissa Johnson, and Naomi Scher., 2013. Suisun Marsh Habitat Management Preservation and Restoration Plan Cultural Resources Contextual Report. Prepared for the Bureau of Reclamation. December 2013. <https://www.academia.edu/24722903/Archaeological_Resources_Suisun_Marsh_Habitat_Management_Preservation_and_Restoration_Plan_Cultural_Resources_Contextual_Report_2013_>;

State of California — Natural Resources Agency
DEPARTMENT OF PARKS AND RECREATION

LOCATION MAP

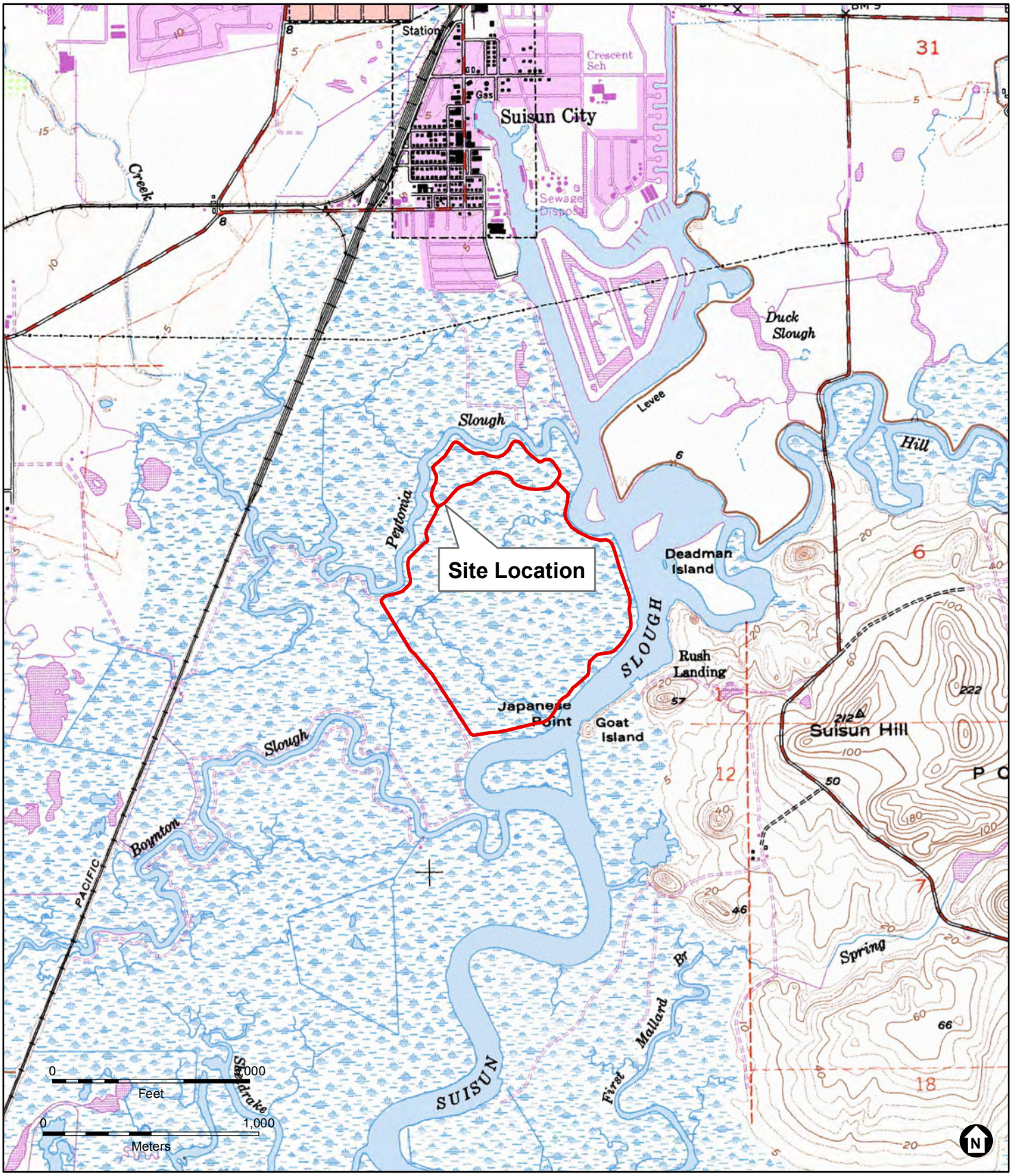
Primary #
HRI #
Trinomial:

***Resource Name or Number:** WL-01

***Map name:** Fairfield South, CA

***Scale:** 1:24000

***Date of Map:** 1980



* Required Information

State of California- The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

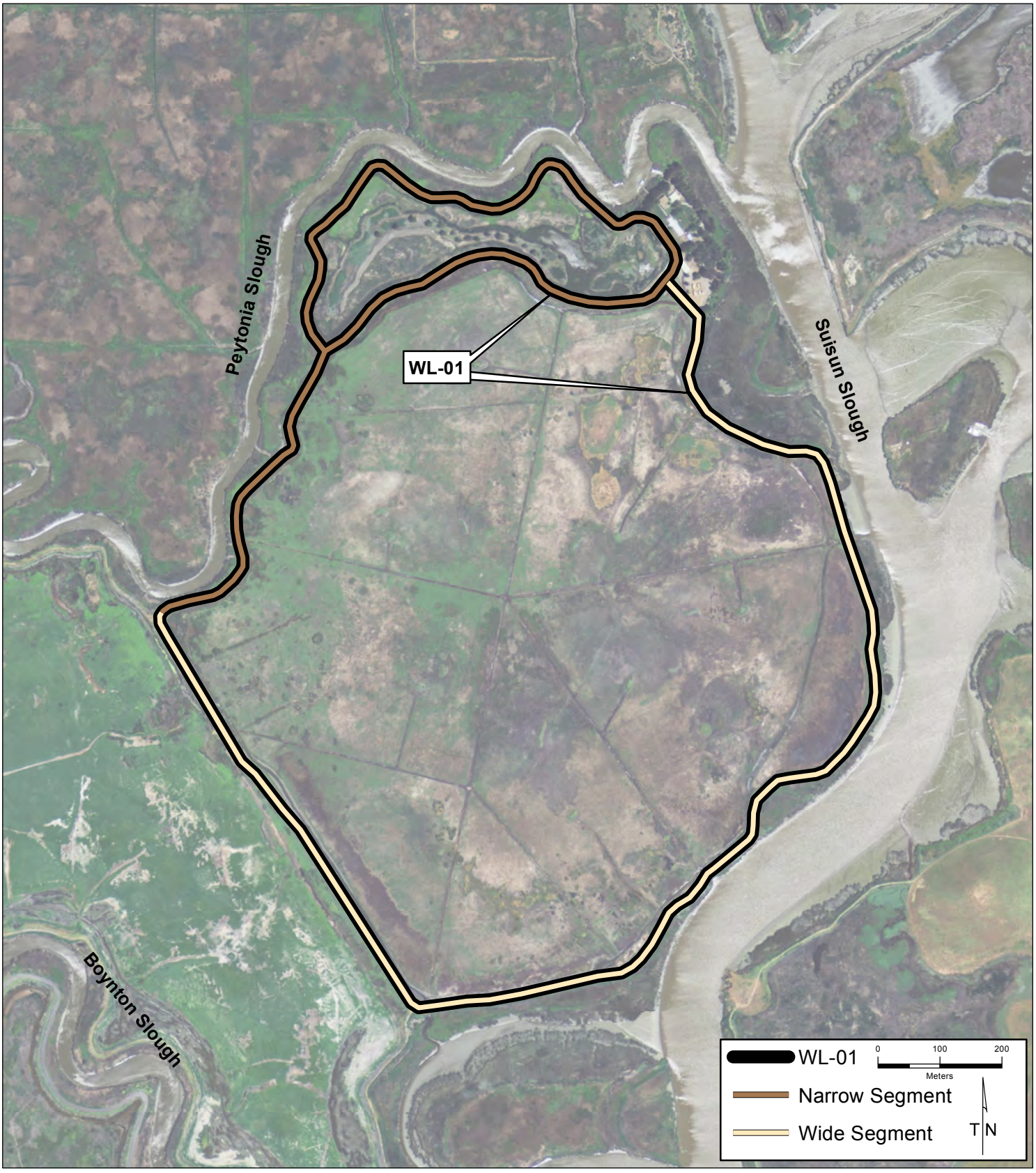
SKETCH MAP

Primary #:
HRI #
Trinomial:

*** Resource Name or Number:** WL-01

***Drawn By:** Ashleigh Sims

***Date:** July 19, 2019



*** Required Information**