Appendix C

Cultural Resources Supporting Information

- Archeological Survey Report
- Historic Resource Evaluation Parts 1 and 2
- India Basin Transportation Action Plan
  CEQA Analysis Memorandum

Final
Archeological Survey Report
India Basin Mixed-Use Project
(CASE NO. 2014 002541ENV)

INDIA BASIN SHORELINE PARK, 900 INNES AVE.,
INDIA BASIN OPEN SPACE, AND 700 INNES AVE.,
SAN FRANCISCO, CALIFORNIA

Prepared for:

BUILD and
San Francisco Parks and Recreation Department

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Table of Contents

List of Tables

List of Figures

List of Plates

Appendices

Abbreviations and Acronyms

ACHP	Advisory Council on Historic Preservation
AHPA	Archeological and Historic Preservation Act
APE	area of potential effects
ASA	archeologically sensitive area
Bay	San Francisco Bay
B.C.E.	Before Common Era
bgs	below ground surface
B.P.	before present
ca.	circa
C-APE	CEQA-area of potential effects
CCTS	Central California Taxonomic System
C.E.	Common Era
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CHRIS	California Historical Resources Information System
CRHR	California Register of Historical Resources
DPR	California Department of Parks and Recreation
ft.	foot (feet)
GPS	Global Positioning System
HPC	Historic Preservation Commission
HRE	historic resource evaluation
in.	inch (inches)
KVP	Kelley & VerPlanck Historical Resources Consulting
Landmarks Board	Landmarks Preservation Advisory Board
LTR	Langan Treadwell Rollo
MOHAI	Seattle Museum of History and Industry
msl	mean sea level
NAHC	Native American Heritage Commission
NEM	Northgate Environmental Management
NHPA	National Historic Preservation Act of 1966, as amended
NRCS	U.S. Natural Resources Conservation Service
NRHP	National Register of Historic Places
NWIC	Northwest Information Center
OHP	California Office of Historic Preservation
Planning	City and County of San Francisco Planning Department
PRC	California Public Resources Code
proposed project	India Basin Mixed-Use Project
RPD	San Francisco Recreation and Parks Department
SHPO	State Historic Preservation Officer
SLC	State Lands Commission
survey	archeological pedestrian field survey
USC	United States Code
USGS	U.S. Geological Survey

1. Introduction

BUILD and the San Francisco Recreation and Parks Department (RPD) are proposing to redevelop their respective adjacent parcels along the India Basin shoreline of San Francisco Bay (Bay). The proposed India Basin Mixed-Use Project (proposed project) is being cosponsored by BUILD and RPD and is located in the Bayview Hunters Point neighborhood, in the southeastern quadrant of San Francisco. As shown in Figure 1, the project site is generally bounded by the Bay on the north, the Candlestick–Hunters Point Shipyard Development Project area on the east, Innes Avenue on the south, and Hunters Point Boulevard and Hawes Street on the west. Portions of Innes Avenue adjacent to the site are included within the boundary of the project site.

As co–project sponsors, BUILD and RPD propose to redevelop their respective adjacent parcels along the India Basin shoreline of the Bay. The parcels that are collectively referred to as the 700 Innes property are owned or under contract for purchase by BUILD. There is a small parcel of land adjacent to Griffith Street that BUILD also intends to acquire. The parcels collectively referred to as the India Basin Shoreline Park, 900 Innes, and India Basin Open Space properties are owned by the City and County of San Francisco (City), are operated by RPD. The RPD, Port of San Francisco and San Francisco Public Works all own portions of these open spaces, but RPD will manages the land. Figure 2 shows the project site and the general (and current) property ownership boundaries. The larger India Basin area also includes properties owned by FivePoint (formerly Lennar Urban), Pacific Gas and Electric Company, and the Port of San Francisco, which are not included in the proposed project.

In compliance with measures identified by the City and County of San Francisco Planning Department (Planning) during early stages of the environmental review and permitting process, BUILD retained AECOM to conduct an archeological pedestrian field survey (survey) of the proposed project. The results of the field survey are to be used by Planning to complete its environmental assessment of the proposed project under the California Environmental Quality Act (CEQA).

In addition, a portion of the project site, the 900 Innes property, has a federal nexus because it receives funding for soil remediation activities from the U.S. Environmental Protection Agency and must comply with various permitting requirements of the U.S. Army Corps of Engineers. Because of this federal involvement, via both federal funds and permits, the proposed project is considered a federal undertaking as defined in Title 36, Section 800.16(y) of the Code of Federal Regulations (36 CFR 800.16[y]), thereby necessitating compliance with Section 106 of the National Historic Preservation Act (NHPA).

Given the local, state, and federal regulations, BUILD in collaboration with Planning staff requested that this report be developed to address all applicable regulatory requirements pertaining to cultural resources.

2. Proposed Project and Area of Potential Effects/CEQA-Area of Potential Effects

2.1. Proposed Project

The overall project site (both the publicly and privately owned parcels), including its existing streets, encompasses an area of approximately 38.84 acres. Of this total, BUILD would redevelop 6.2 acres of RPD property (specifically on the India Basin Open Space property) along the shoreline, adjacent to privately owned land, into enhanced wetlands, a boardwalk, and a landside kayak launch. BUILD would also remove a dilapidated pier extending from the India Basin Open Space property and replace the riprap edge with tidal wetlands. On the 700 Innes property, BUILD would develop 17.12 acres of privately owned land plus 5.94 acres of developed and undeveloped public rights-of-way in phases with residential, retail, commercial, office, research and development/laboratory and clinical care space, institutional, flex space, and recreational and art uses (Figure 3).

Two BUILD development options are currently being considered: the proposed residential project (a residential-focused mixed-use development) and the maximum commercial variant (an option referred to in this report as the “variant,” with fewer dwelling units and more commercial development than the proposed residential project). The proposed residential project and the variant require nearly identical grading plans and similar foundation designs; therefore, neither buildout scenario represents a greater potential impact on archeological resources.

As part of both the proposed project and the variant, on the India Basin Shoreline Park and 900 Innes properties, RPD would improve 14.2 acres of publicly owned parcels along the shoreline plus 1.58 acres of unimproved “paper streets” to create a publicly accessible network of new and/or improved parkland and open space. This new shoreline network would extend the

Blue Greenway—a portion of the Bay Trail that will ultimately connect The Embarcadero to the north to Candlestick Point to the south—and would provide pedestrian and bicycle connections to and along the shoreline, fronting the Bay.

On the India Basin Shoreline Park property, RPD would construct an approximately 20-foot (ft.)-wide by 600-ft.-long pier to be used as a boat launch for hand-powered boats, and a dock measuring approximately 125 ft. wide by 225 ft. long, and would replace the riprap edge with tidal wetlands. RPD would also replace two existing piers extending from the 900 Innes property with piers measuring approximately 15 ft. wide by 150 ft. long and 20 ft. wide by 100 ft. long. An eroded marine byway would also be replaced. The piers would be solely for pedestrian access.

Expanding the land mass of the RPD parcels by establishing wetlands and beaches along both India Basin Shoreline Park and the India Basin Open Space would require the placement of an estimated 2,800 cubic yards of fill with the bulk (approximately 2,600 cubic yards) being placed off of India Basin Shoreline Park. With implementation of the proposed project, a currently inundated area of approximately 1.5 acres would be filled.

RPD would also make improvements to the 900 Innes property. This work would include restoring the Shipwright's Cottage for use as a community center, constructing an overlook building in the footprint of a dwelling previously located at 904 Innes Avenue, demolishing and reconstructing a shop building in the boatyard, and constructing an outfitters building on a new dock.

2.2. Area of Potential Effects/CEQA-Area of Potential Effects

According to 36 CFR 800.16(d), the area of potential effects (APE) refers to "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. Planning (CCSF Planning Department 2008) has adopted nearly identical language for the delineation of a CEQA-area of potential effects (C-APE), an APE established for assessment of potential project effects on resources eligible for addition to the California Register of Historical Resources (CRHR), but not developed in consultation with the State Historic Preservation Officer (SHPO). For the current undertaking, the APE and C-APE as defined for archeological resources are identical, and the term "APE" will be used henceforth.

The proposed project includes various ground- and sediment-disturbing activities, including grading, trenching, and on- and offshore pile driving, that could adversely affect archeological resources should such resources be present at the project site. The APE therefore consists of all areas of the project site where ground-disturbing activities for project implementation could directly affect archeological resources (Figure 4). As shown in Figure 4, the APE consists of the entire landside portion of the project site and select areas in the waterside portion of the project site where new features would be constructed. No construction or other sediment-disturbing activities (e.g., dredging or hydroplowing) are proposed in the remainder of the offshore areas within the project site boundary; therefore, these areas are not delineated as part of the APE for the proposed project.

The subsurface vertical extent of the APE must also be considered for the proposed undertaking. Because of the existing topography, underlying soil profile, and proposed project design, the depth of excavation would vary throughout the project site, with areas of both cut and fill being necessary. Based on the proposed construction, the maximum depth of ground excavation in the landside portion of the APE would not exceed 17 ft. below ground surface (bgs) (Bionic, 2016).

Excavation is not the deepest ground-disturbing activity associated with implementation of the proposed project. To support the various proposed structures, both onshore and offshore, pile driving would be required. Some piles would be driven directly into submerged sediments, others into imported fill overlying marine sediments, and still others into soils not underlain by marine sediments. Therefore, substantial differences in the required length of the piles are proposed (see Section 4.0 for a description of the underlying soils).

In the area offshore from RPD's India Basin Shoreline Park, as well as in landside areas near the shoreline in the India Basin Open Space portion of the APE, piles would be driven down to an estimated maximum depth of 110 ft. bgs. Farther southward in the central portion of the APE, a broad area of introduced fill overlying marine sediments is encountered (Langan Treadwell Rollo [LTR], 2014). At this central location, piles would be driven to a maximum depth of 100 ft. bgs. Farther south into the section of the APE fronting Innes Avenue, the historical (circa [ca.] 1859) shoreline is encountered (Figure 5). South of this former shoreline, introduced fill overlying native sands is presumed to occur (LTR, 2015:2). In this area where no marine sediments occur, piles would be driven down 40 ft. below final grading depth. As established above, the maximum extent of

proposed grading would not exceed 17 ft. bgs. Therefore, in the portion of the APE that is landside of the 1859 shoreline, the maximum vertical extent of the APE is 57 ft. bgs.

3. Regulatory Setting

Cultural resources include archeological, Native American, traditional, and built-environment resources, including but not necessarily limited to buildings, structures, objects, districts, and sites. Numerous laws, regulations, and statutes, on both the federal and state levels, seek to protect and target the management of cultural resources. The current investigation focuses solely on archeological resources and their relationship to the proposed project.

3.1. Federal Regulations

3.1.1. Federal Regulations

Historic Sites Act (1935). The Historic Sites Act, Title 16, Section 461 and following of the United States Code (16 USC 461 et seq.), declares a national policy to preserve historic sites, buildings, antiquities, and objects of national significance, including those located on refuges. The Historic Sites Act provides procedures for designation, acquisition, administration, and protection of such sites.

Reservoir Salvage Act, as Amended (1960). The Reservoir Salvage Act (16 USC 469–469c) recognized that federally constructed reservoirs represented a major source of destruction of archeological resources that could not be resolved without a specific source of funding. In 1974, the Reservoir Salvage Act was amended by the Archeological and Historic Preservation Act (AHPA; see below). In effect, the AHPA extended the provisions of the Reservoir Salvage Act to cover all federal construction activities and all federally licensed or assisted activities that cause loss of scientific, prehistoric, or archeological data. The Reservoir Salvage Act requires federal agencies building or permitting the building of reservoirs to notify the Secretary of the Interior when such activities might destroy important archeological, historic, or scientific data. The Secretary of the Interior is authorized to conduct appropriate investigations to protect those archeological data. The Reservoir Salvage Act also authorizes agencies to spend up to 1 percent of their construction funds on the protection of historic and archeological resources. This is the first law to recognize that archeological sites are important for their data content and to provide a source of funding for collecting archeological data.

National Historic Preservation Act, as Amended (1966). The NHPA declares federal policy to protect historic sites and values in cooperation with other nations, states, and local governments. The NHPA establishes a program of grants to assist states with historic preservation activities. Subsequent amendments designated the SHPO as the individual responsible for administering state-level programs. The act also created the President's Advisory Council on Historic Preservation (ACHP). Federal agencies are required to consider the effects of their undertakings on historic resources and to give the ACHP a reasonable opportunity to comment on those undertakings. A lead federal agency will be responsible for project compliance with Section 106 of the NHPA and its implementing regulations, set forth by the ACHP at 36 CFR 800.

National Environmental Policy Act, as Amended (1969). Under the National Environmental Policy Act (42 USC 4321–4327), federal agencies are required to consider potential environmental impacts and appropriate mitigation measures for projects with federal involvement. If the proposed project has federal involvement (e.g., a Section 404 permit under the Clean Water Act), the lead federal agency will be responsible for project compliance with Section 106 of the NHPA and its implementing regulations, set forth by the ACHP at 36 CFR 800.

Archeological and Historic Preservation Act (1974). Under 16 USC 469–469c, the AHPA requires federal agencies to provide notice to the Secretary of the Interior of any dam constructions; and if archeological resources are found, for their recovery or salvage. The law applies to any agency whenever it receives information that a direct or federally assisted activity could cause irreparable harm to prehistoric, historic, or archeological data. Up to 1 percent of project funds could be used to pay for salvage work. The NHPA also authorized additional funding to be made available for this purpose.

American Indian Religious Freedom Act (1978). The American Indian Religious Freedom Act (42 USC 1996 et seq., 43 CFR 7) protects religious practices, ethnic heritage sites, and land uses of Native Americans. The act makes it a policy to protect and preserve for American Indians, Eskimos, Aleuts, and Native Hawaiians their inherent right of freedom to believe, express, and exercise their traditional religions. The American Indian Religious Freedom Act allows them access to sites, use and possession of sacred objects, and freedom to worship through ceremonial and traditional rights. It further directs various federal departments, agencies, and other instrumentalities that administer relevant laws to evaluate their policies and

procedures in consultation with Native American traditional religious leaders to determine changes necessary to protect and preserve Native American cultural and religious practices.

3.1.2. **Relevant Federal Regulations Pertaining to Underwater Cultural Resources**

Federal mandates also cover underwater cultural heritage, including submerged prehistoric sites. These laws would be pertinent in instances where nearshore or offshore cultural resources are detected during construction of the proposed project or related activities. Because the currently proposed India Basin Mixed-Use Project includes offshore areas, these laws are relevant to the current undertaking. Furthermore, the federal laws cited below also apply to resources in state waters. Therefore, these laws are relevant to projects proposed at both the federal and state levels.

Submerged Lands Act (1953). This act is largely superseded by the Abandoned Shipwreck Act, but has been used by states to protect abandoned historic shipwrecks by citing various state-level historic preservation laws. The Submerged Lands Act established state jurisdiction over offshore lands within 3 miles of shore (or 3 marine leagues for Texas and the Gulf Coast of Florida). The Submerged Lands Act reaffirmed the federal claim to the Outer Continental Shelf, which consists of those submerged lands seaward of state jurisdiction. However, the act limited states' claims to the submerged lands inside the landward boundary of the Outer Continental Shelf. For various reasons, several federal courts rejected state positions on historic preservation laws pertaining to shipwrecks within this 3-mile zone. Judicial conclusions from cases involving the Submerged Lands Act were inconsistent and confusing, yet shipwrecks in state waters were still at risk of damage and destruction. These circumstances provided the momentum for the passage of the Abandoned Shipwreck Act.

Abandoned Shipwreck Act (1987). The Abandoned Shipwreck Act (43 USC 2101–2106) is a federal law but also protects shipwrecks found in state waters. This law also states that the laws of salvage and finds do not apply to abandoned shipwrecks protected by the act. Under the Abandoned Shipwreck Act, the United States asserts title to abandoned shipwrecks in state waters that are either:

- embedded in state-submerged lands,
- embedded in the coralline formations protected by a state on submerged lands, or
- resting on state-submerged lands and either included in or determined eligible for the National Register of Historic Places (NRHP).

The Abandoned Shipwreck Act also provides for the simultaneous transfer of title of those abandoned shipwrecks by the federal government to the state(s) in whose waters the wrecks are located.

3.2. State Regulations

In California, cultural resources include archeological and historical objects, sites, and districts; historic buildings and structures; cultural landscapes; and sites and resources of concern to local Native Americans and other ethnic groups. Compliance procedures are set forth in CEQA, California Public Resources Code (PRC) Sections 15064.5 and 15126.4. The primary applicable state laws and codes are presented below.

California Native American Graves Protection and Repatriation Act (2001). In the California Health and Safety Code, Division 7, Part 2, Chapter 5 (Sections 8010–8030), broad provisions are made for the protection of Native American cultural resources. This law sets the state policy to ensure that all California Native American human remains and cultural items are treated with due respect and dignity. The California Native American Graves Protection and Repatriation Act also provides the mechanism for disclosure and return of human remains and cultural items held by publicly funded agencies and museums in California. Likewise, the act outlines the mechanism by which California Native American tribes not recognized by the federal government may file claims to human remains and cultural items held in agencies or museums.

California Public Resources Code, Section 5020. This California code created the California Historic Landmarks Committee in 1939, and authorizes the California Department of Parks and Recreation (DPR) to designate Registered Historical Landmarks and Registered Points of Historical Interest.

California Public Resources Code, Section 5097.9. Section 5097.9 details procedures for actions taken whenever Native American remains are discovered, and specifies that:

> No public agency, and no private party using or occupying public property, or operating on public property, under a public license, permit, grant, lease, or contract made on or after July 1, 1977, shall in any manner whatsoever interfere with the free expression or exercise of Native American religion as provided in the U.S. Constitution and the California Constitution; nor shall any such agency or party cause severe or irreparable damage to any Native American sanctified cemetery, place of worship, religious or ceremonial site, or sacred shrine located on public property, except on a clear and convincing showing that the public interest and necessity so require.

The California Native American Heritage Commission (NAHC) enforces these provisions pursuant to PRC Sections 5097.94 and 5097.97.

California Health and Safety Code, Section 7050.5. This code makes it a misdemeanor to knowingly mutilate, disinter, disturb, or willfully remove human remains from outside a dedicated cemetery without authority of law, except as provided in PRC Section 5097.99. If human remains are discovered outside of a dedicated cemetery, excavation or disturbance of the site must stop until the county coroner has determined the remains to be archeological. If the coroner determines that the remains are not subject to his or her authority and recognizes or believes that the human remains are or may be those of a Native American, the coroner must contact the NAHC by telephone within 24 hours.

California Health and Safety Code, Section 7051. This code prohibits unauthorized removal of human remains that have been interred, or that are awaiting interment or cremation, with intent to sell or dissect the remains.

California Code of Regulations, Title 14, Section 4307. This state preservation law prohibits removal, injury, defacement, or destruction of objects of paleontological, archeological, or historical interest or value.

3.3. Local Regulations

In addition to the aforementioned federal and state regulations, Planning has enacted local regulations targeting the preservation of historic landmarks, districts, and buildings. These regulations typically do not focus on the management of archeological resources but are included here because of the presence of the recently defined India Basin Scow Schooner Boatyard (Page & Turnbull, 2016), a historic vernacular landscape that occurs in the APE. Furthermore, a contributor to this vernacular landscape, the Shipwright's Cottage, was previously designated as San Francisco Landmark #250 under Article 10 of the Planning Code (detailed below).

San Francisco Historic Preservation Commission and Planning Code, Articles 10 and 11. The San Francisco Historic Preservation Commission (HPC) is a seven-member body that makes recommendations on the designation of landmark buildings, historic districts, and significant buildings. The HPC replaced the Landmarks Preservation Advisory Board (Landmarks Board) but retains most of its responsibilities. The Landmarks Board was a nine-member body appointed by the mayor that served as an advisory board to Planning and the San Francisco Planning Commission; it was established in 1967 with the adoption of Article 10 of the Planning Code. The work of the Landmarks Board, Planning, and San Francisco Planning Commission has increased public awareness about the need to protect San Francisco's architectural, historical, and cultural heritage.

The HPC makes recommendations to the Board of Supervisors on designations of landmarks, historic districts, and individual resources in historic districts. It may also review and comment on projects affecting historical resources that are subject to environmental review under CEQA, or projects subject to review under Section 106 of the NHPA. The HPC also approves certificates of appropriateness for landmarks and properties in Article 10 historic districts.

The California Office of Historic Preservation (OHP) has included San Francisco on its list of Certified Local Governments. This means that San Francisco has an approved historic preservation ordinance, HPC, and other formal processes related to historic preservation and cultural resources management. San Francisco, through the HPC and Planning's historic-preservation staff, reviews the historical resources designated under Articles 10 and 11 of the San Francisco Planning Code when it evaluates project impacts on historical resources. Article 10 describes procedures regarding the preservation of sites and areas of special character or special historical, architectural, or aesthetic interest or value, such as officially designated

city landmarks and buildings included in locally designated historic districts. Article 11 of the Planning Code designated six downtown conservation districts.

3.4. Significance Criteria

Federal and state significance criteria, as well as the conformity between these criteria, are presented below. This report is intended to serve both the federal agency requirements for compliance with Section 106 under the NHPA and the proposed project's general compliance with CEQA.

3.4.1. **Federal Significance Criteria**

Criteria for determining a resource's eligibility to the NRHP are identified at 36 CFR 60.4, in accordance with the NHPA implementing regulations outlined in 36 CFR 800. Resources that meet these criteria and retain integrity to their period of historical significance are termed "historic properties." Under the implementing regulations of Section 106 of the NHPA, the lead federal agency must take into account the effects of its undertakings on historic properties.

The quality of significance in American history, architecture, archeology, 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. are associated with events that have made a significant contribution to the broad patterns of our history; or

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

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

D. have yielded, or may be likely to yield, information important in prehistory or history (36 CFR 60.4).

3.4.2. **State Significance Criteria**

At the state level, resources that meet the significance criteria of the CRHR are termed "historical resources." These criteria are set forth in PRC Section 15064.5 and are defined as any resource that:

1. is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage; or

2. is associated with lives of persons important in our past; or

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.

Section 15064.5 of CEQA also assigns special importance to human remains, and specifies procedures to be used when Native American remains are discovered. These procedures are detailed in PRC Section 5097.98.

Impacts on "unique archaeological resources" are also considered under CEQA, as described in PRC Section 21083.2. A unique archeological resource is an archeological 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 one of the following criteria:

1. The archeological artifact, object, or site contains information needed to answer important scientific questions, and there is a demonstrable public interest in that information.

2. The archeological artifact, object, or site has a special and particular quality, such as being the oldest of its type or the best available example of its type.

3. The archeological artifact, object, or site is directly associated with a scientifically recognized important prehistoric or historic event or person.

The lead agency shall first determine whether an archeological resource is a historical resource before evaluating the resource as a “unique” archeological resource (CEQA Guidelines Section 15064.5[c][1]). A non-unique archeological resource is an archeological artifact, object, or site that does not meet the above criteria. Impacts on non-unique archeological resources and resources that do not qualify for listing on the CRHR receive no further consideration under CEQA.

Under CEQA Section 15064.5, a project would have a potentially significant impact if it would cause a substantial adverse change in the significance of one of the following:

- a historical resource (a cultural resource eligible for the CRHR);
- an archeological resource (a unique archeological resource that does not meet CRHR criteria); or
- human remains (where the project would disturb or destroy burials).

3.4.3. **Conformity of Federal and State Evaluation Criteria**

The criteria for eligibility for the CRHR are very similar to the criteria that qualify a property for the NRHP. The NRHP criteria apply when a project has federal involvement (i.e., is a federal undertaking as defined by 36 CFR 800).

Under CEQA, a property that is eligible for the NRHP is also eligible for the CRHR. Eligible resources (i.e., historic properties and historical resources) also are described as “significant.” For federal undertakings, all potential impacts on significant resources must be assessed and addressed under the procedures of Section 106 of the NHPA, set forth at 36 CFR 800. All resources encountered during the project, with the exception of isolate artifacts and isolate features that appear to lack integrity or data potential, would be evaluated for NHPA and CRHR eligibility.

4. Environmental and Cultural Setting

4.1. Natural Setting

The project area is regionally situated in the northeastern portion of the San Francisco Peninsula, in the Coast Range geomorphic province. The project site itself is situated on the eastern shoreline of the Peninsula, with the highest elevation along Innes Avenue at approximately 50 ft. above mean sea level (msl) and the lowest elevation along the shoreline at approximately 5 ft. above msl. The majority of the APE lies north-northeast of the edge of the historical 1859 Bay shoreline (Figure 4). This particular area was filled beginning primarily in the mid-twentieth century, with the majority reclaimed following the close of World War II.

The local climate is typified by clear summer days and mild, cool winters (Josselyn, 1983:21). The climate, sometimes classified as Mediterranean, consists of two seasons. The rainy season extends from late October to mid-April, a period during which 94 percent of the annual precipitation falls (Josselyn, 1983:21). The dry season is influenced by cool marine air along the coast and hot, dry weather inland.

4.1.1. **Geologic Environment**

The San Francisco Peninsula lies in a down-dropped structural block bounded by the East Bay Hills and the Santa Cruz Mountains. The Bay region consists of a varied landscape of estuaries, plains, rolling hills, and rugged ridge lands. Dominating the landscape is the Bay itself, a 50-mile-long inland chain of saltwater estuaries (Milliken, 1995:14). Bedrock on the San Francisco Peninsula consists of highly deformed and fractured sedimentary rocks of the Franciscan assemblage (Jurassic- to Cretaceous-aged).

Data from the U.S. Natural Resources Conservation Service (NRCS) have classified soils in the project area as Urban Land–Orthents Complex (Figure 6). Urban Land–Orthent Complexes are described as shallow soils on recent erosional surfaces that have been altered by construction and obscured by development (NRCS, 2016a and 2016b).

A Phase I/II investigation completed for the 900 Innes parcel discussed five primary geologic units underlying that portion of the project area: artificial fill (Qaf), artificial fill over tidal flat (Qaf/tf), slope debris and ravine fill (Qsr), undifferentiated sedimentary deposits (Qu), and Franciscan Complex (KJs) (Weston Solutions, 2013). A similar series of geologic units was also described by LTR (2014), which completed a sequence of geotechnical borings across the larger 700 Innes parcel. Much of the discussion below is based on LTR's geotechnical study (2014), which provides the only data for the APE based on actual soil borings retrieved from the project site. The characteristics of each soil layer, in the order encountered during LTR's geotechnical investigation, are summarized below and are extrapolated to the other areas of the APE when possible. It should be noted that there is no similar level of data for the vicinity of RPD's India Basin Shoreline Park at this time. However, this area is situated primarily on fill (Figure 4) and as such, should conform fairly similarly to the sequence identified by LTR for the 700 Innes parcel (2014).

Fill—The onshore portion of the APE waterside of the 1859 shoreline is blanketed by 16 to 41 ft. of fill, with the thickness of the fill increasing toward the Bay. The fill consists primarily of loose to medium-dense sand with varying amounts of silt, clay, gravel, concrete, brick, and wood fragments. The fill includes isolated layers of stiff to hard clay.

The portion of the APE landside of the 1859 shoreline (Figure 4) may likewise exhibit a layer of fill underlain by native sands; however, no boring data are available to confirm this premise. In a separate study for the 900 Innes property, LTR indicated that the "portion of the site west[1] of the old shoreline is likely covered by 10 to 15 ft. of fill, underlain by loose to dense sand to depths of at least 30 ft. below existing site grades" (LTR, 2015:2). An estimated depth of 10 to 15 ft. of fill may be too extensive, given the current presence of the Shipwright's Cottage (built ca. 1865), which was constructed along Innes Avenue before major fill efforts were undertaken in this area (see Section 5.2 below).

Bay Mud—A weak and compressible marine clay and silt deposit, referred to as Bay Mud, underlies the fill in those portions of the APE located waterside of the 1859 shoreline. This layer ranges from 2 to 55 ft. in thickness where explored on the project site, and includes occasional layers of clayey sand. The Bay Mud layer is soft to stiff, and extends to depths ranging from 36 to 83 ft. deep. Bay Mud was not encountered in the borings inland of Hudson Avenue, which falls landside of the ca. 1859 shoreline.

Sand—In general, the Bay Mud is underlain by relatively incompressible, dense sand with varying amounts of clay and silt. The sand layer is about 5 to 33 ft. thick and extends to depths ranging from 16 to 98 ft. The sand near the Bay includes 4- to 6-ft.-thick layers of very stiff to hard clay. The top 5 to 10 ft. of the sand layer in some areas of the site consist of medium-dense clayey sand.

Old Bay Clay—A medium-stiff to hard clay and silt layer, locally known as Old Bay Clay, is present beneath the native sand. The thickness of the clay layer varies across the site from 9 to 50 ft. The Old Bay Clay slopes down and becomes thicker in the northeastern corner of the site toward the Bay.

Residual Soil—The Old Bay Clay is underlain by strong, relatively incompressible residual soil (completely weathered rock) consisting of very stiff to hard clay, and very dense sand and gravel. The residual soil is 3 to 14 ft. thick.

Bedrock—Bedrock of the Franciscan Complex consisting of shale, sandstone, and serpentinite underlies the residual soil. The bedrock surface slopes steeply from the ground surface west of the site to a depth of 23 ft. near Innes Avenue, and slopes down to a depth of 149 ft. near the eastern side of the site.

4.1.2. **Paleoenvironment**

The physical evolution of San Francisco is the result of complex natural geologic processes and extensive human alteration of the landscape. The Bay Area has undergone dramatic geomorphic change over the past 13,500 years, roughly the period of human occupation. Perhaps the most dramatic of these changes has been the rise in sea level since the last glacial maximum, around 15,000 years before present (B.P.). At this time, global sea level was more than 300 ft. lower than today. As the ice sheets began to melt, sea levels began to rise substantially. Between 15,000 and 11,000 years B.P., sea levels rose at a rate of approximately 43 ft. every 1,000 years (Masters and Aiello, 2007:44–47; Moratto, 1984:31).

Sea-level rise decreased to about 26 ft. every 1,000 years between 11,000 and 8,000 years B.P. By 10,000 years B.P., the rising sea level began to enter the Franciscan Valley through the Golden Gate, and to dramatically alter hydrologic and ecological conditions in the valley (Sloan, 2006:145–150). New tidal estuarine environments would have been created as

[1] i.e., inland of the circa 1859 shoreline.

riparian corridors and valley floors were lost (Figure 7). This newly formed estuary expanded rapidly, approaching current levels by approximately 6,000 years B.P., at which point sea-level rise slowed considerably and marshes began to develop around the Bay. During this post–6000 B.P. period, numerous shell middens were created as a result of human activity in the Bay Area (Stright, 1990:451). Because of rising sea levels, many early sites may have been destroyed or may currently be submerged.

The growth of the tidal marshes is of archeological interest, because the changing environment would have played a role in shifts in subsistence through time (Bickel, 1978; Moratto, 1984). Most of the Bay shell middens were located close to marshes (Bickel, 1978; Nelson, 1909), which are particularly productive ecosystems. The area's prehistoric populations took advantage of this productivity by harvesting fish, shellfish, birds, and land mammals that live or feed in or near the marsh, as well as the marsh plants themselves (Bickel, 1978:12).

The tidal marshes have been greatly affected by anthropogenic influences, and the appearance of prehistoric marshes can only be inferred (Josselyn, 1983:6). Dramatic changes to the Bay Area occurred during the period of hydraulic mining for gold in the Sierra Nevada (1855–1884). Sediments dislodged by the removal of overburden flowed into streams, and fine sediments reached Suisun and San Pablo bays, causing widespread shoaling (Josselyn, 1983:12). As San Francisco urbanized in the latter half of the nineteenth century and twentieth century, thick deposits of artificial fill were placed around the margins of the Bay to reclaim the marshes and wetlands for human development (Witter et al., 2006). The depth of nearshore Bay waters northeast of the APE in the current extent of India Basin historically ranged from 1 to 3 ft., with depths of up to 14 ft. just offshore (U.S. Coast Survey, 1884). The encroachment of fill is evident in the project area, where the tidal wetlands formerly bordering the eastern edge of the San Francisco waterfront were reclaimed up until the 1950s (Figure 5). Streams and other waterways in San Francisco were also significantly altered from their original courses during the late nineteenth and early twentieth centuries. Watercourses were channelized and moved underground into culverts, obscuring their original routes.

Before development of the project site, native vegetation in the vicinity likely consisted of Northern Coastal Scrub, as defined by Munz and Keck (1973). The Northern Coastal Scrub community occurs primarily at elevations below 500 ft. and is characterized by rather low plants—rarely more than 6 ft. in height—that are sometimes dense, but often with extensive areas of grass (Munz and Keck, 1973:13). A mid-nineteenth-century description of vegetation in San Francisco is found in Blake (1857:160), which stated that the areas protected from the wind were "…covered with a thick growth of dwarf trees and shrubs (*chamisal*)…"

4.2. Cultural Setting

4.2.1. **Prehistoric Background**

Human settlement of the Bay region probably began sometime during the early Holocene, ca. 10,000 years B.P. As discussed above, the msl elevation was considerably lower at this time than it is today, and the area now encompassed by the Bay was 15–30 miles inland from the coastline (Meyer, 2003). The oldest evidence of human occupation from the Bay region was documented in northern Santa Clara County, where radiocarbon assaying has yielded dates of ca. 8000 Before Common Era (B.C.E.). Archeologists have attributed the lack of early sites in northern California to sea-level rise, believing that the majority of these early settlements were either submerged or destroyed by coastal erosion (Byrd et al., 2015:16). Evidence of submerged sites has been documented elsewhere along the California coast near Santa Barbara and San Diego.

Evidence of later occupations is more common. Radiocarbon dates from several sites in the regions of San Francisco and Monterey bays range between ca. 5000 and 2000 B.C.E. Data from these archeological sites indicate that extensive but sparse populations of hunter-gatherers occupied these areas before 2000 B.C.E. Archeological sites from this period are situated in interior hills and valleys, and on bay and ocean shores. These sites are characterized by earth and/or sand midden deposits. Faunal materials indicate that shellfish were an important but not dominant source of food during this time. Hunting and vegetal food processing were of greater importance, as indicated by the presence of millingstones and large projectile points (Moratto, 1984).

Early archeological investigations in the Bay Area generally concentrated on the littoral regions bordering the Bay. The first detailed archeological survey of the Bay Area was conducted by N. C. Nelson during a 1906 to 1908 inventory from Half Moon Bay to the Russian River (Nelson, 1909). This survey resulted in the documentation of 425 midden deposits, including CA-SFR-2, CA-SFR-7, and CA-SFR-19, within the confines of San Francisco.

Several Bay Area shellmounds were excavated early in the twentieth century, including CA-SFR-7, where Nelson and his team systematically excavated 488 cubic meters of the approximately 5-meter-thick shellmound (Byrd et al., 2009). Although the results of this investigation were never fully analyzed or reported, Nelson's notes (on file at the Phoebe Hearst Museum of Anthropology at the University of California, Berkeley) indicate that 23 human burials were recovered from the site, along with stone and bone tools and dietary remains (ASC, 2015:2-9). This site, known as the Crocker or Bayshore Mound, is located in Visitacion Valley approximately 1.5 miles south of the project site. Three additional Nelson shellmound sites, CA-SFR-11/P-38-000011, CA-SFR-12/P-38-000012, and CA-SFR-14/P-38-000014, are the three archeological sites mapped nearest to the project site on Hunters Point (Nichols, 1979a, 1979b, and 1979c). These sites, Nelson Sites 390, 391, and 392a, respectively, have not been relocated since their initial recordation (Pastron et al., 2009a:27).

CA-SFR-6, another San Francisco shellmound, located in the present-day Presidio (ASC, 2015), was excavated by L. L. Loud during this same time period. Loud and his team excavated five 1.8- to 3-meter-square test units in the center of the 2.4-meter-thick mound. The test units extended to a depth of 76 centimeters below surface. Animal bone and shell material were encountered to a depth of 60 centimeters below surface (ASC, 2015:2-9).

Despite the above-mentioned investigations, very little archeological work was conducted in San Francisco until the 1970s, when it became mandated by environmental laws. Since then, a number of prehistoric archeological investigations have been conducted, the majority of which are clustered between Yerba Buena Cove and Mission Bay. Excavated sites in this area include CA-SFR-28, CA-SFR-112, CA-SFR-113, CA-SFR-114, CA-SFR-135, CA-SFR-136/H, CA-SFR-147, CA-SFR-148, CA-SFR-154/H, and CA-SFR-155. At least six prehistoric sites on the city's north side have also been excavated, including CA-SFR-6/26, CA-SFR-21, CA-SFR-29, CA-SFR-30, CA-SFR-31, and CA-SFR-129 (ASC, 2015; Byrd et al., 2009).

Data from early excavations throughout the Bay Area were used to extend the Central California Taxonomic System (CCTS) classifications of the Central Valley cultures to include those in the Bay Area (Beardsley, 1954). One feature of the CCTS is the designation of "horizons," broad cultural units with temporal characteristics. The system recognizes three cultural horizons: Early, Middle, and Late. Each cultural horizon is defined by groups of diagnostic traits and characteristic artifacts called facies. Groups of facies compose a province. The facies and province were defined both culturally by characteristic traits and artifacts and spatially by the locales where the facies were found. For example, the lower strata at the Middle Horizon of the Ellis Landing Site (CA-CCO-295) were used by Beardsley as diagnostic of the Ellis Landing Facies. The upper strata are assigned to the Emeryville Facies. Both of these facies are part of the Coastal Province. Component B at the Fernandez site (CA-CCO-259) was designated to be characteristic of the Emeryville Facies; Component C, characteristic of the Ellis Landing Facies; and Component A was designated as containing the assemblages and characteristics diagnostic of the Late Horizon Fernandez Facies.

The CCTS has been criticized as too simplistic to represent the high complexity and variability of central California prehistory (Gerow and Force, 1968). Fredrickson (1973) attempted a revision of the central California sequence, identifying three broadly defined "patterns" in place of the CCTS horizons. The Windmiller Pattern (3000 to ca. 500 B.C.E.) is characterized by a commonality of mortar fragments, large numbers of baked clay balls, large quantities of projectile points, tridentate fish spears, Haliotis ornaments, and Olivella beads, as well as ground and polished charmstones of alabaster, marble, and diorite. The Windmiller culture did exist in the Bay Area, but was common in the Delta area to the east and northeast (Moratto, 1984:201–207).

The Berkeley Pattern (ca. 500 B.C.E. to Common Era [C.E.] 500) replaces the Middle Horizon, with which it shares major characteristics. These characteristics include predominance of nonstemmed points; diagonally flaked, large, concave-based points; greater presence of ground stone than in Windmiller Pattern sites; a highly developed bone tool industry; and flexed burials, as well as some cremations. A major characteristic is the great reliance on acorns for subsistence (Moratto, 1984:209–211).

Fredrickson (1973) replaces the Late Horizon with the Augustine Pattern (ca. C.E. 500 to contact), characterized by intensive hunting, fishing, and acorn gathering as main staples. Other characteristics are large, high-density populations, shaped mortars and pestles, bone awls, and the bow and arrow. Burial practices vary with social status. High-status individuals may have been cremated. Other burial practices include flex interment and burning of artifacts in the grave (before interment) (Moratto, 1984:211–214).

Sometime between 2500 and 2000 B.C.E., Utian-speaking peoples initially occupied what is now eastern Contra Costa County, and then expanded westward to the Bay. Between the years 2000 and 1000 B.C.E., bayshore- and marsh-adapted peoples began to settle in the Bay Area at sites such as CA-CCO-308, near Alamo in the East Bay. By ca. 1500 B.C.E., Utian

people had settled the area around the southern end of the Bay, from which they expanded to the north, west, and south. By ca. 500 B.C.E., Costanoan peoples, speaking Utian language, occupied essentially the same territory that they would until Euro-American contact (Moratto, 1984:279).

4.2.2. **Ethnographic Background**

The entire APE is situated in lands occupied during the ethnographic period by speakers of *Ramaytush,* or San Francisco *Costanoan*. *Ramaytush* is one of eight *Costanoan* Indian languages spoken in California. *Costanoan* is derived from the Spanish term *Costanos* for "coast people"; however, it does not represent a cohesive ethnic group. Instead, *Costanoan* is a linguistic division, grouping eight languages together because of their phonological similarities. Together with the *Miwokan* languages, *Costanoan* is part of the *Utian* family of languages. In turn, the *Utian* family is part of the larger Penutian linguistic stock. Today, the name *Ohlone* is more commonly used for these peoples (Kroeber, 1976; Levy, 1978; Moratto, 1984; Shipley, 1978). Herein, this group will be referred to as the *Ohlone/Costanoan*, in accordance with the convention used by Milliken et al. (2009).

The territory inhabited by *Ohlone/Costanoan* extended from the Carquinez Strait southward to the Sur River, and from the Pacific Coast eastward to the Diablo Range (Kroeber, 1976:462; Moratto, 1984:225). This area was substantially affected by the Spanish presence in California. Between 1769 and 1776, seven Spanish expeditions entered *Ohlone/Costanoan* lands, and by the close of the eighteenth century, seven missions had been established. At the time of these early contacts, approximately 10,000 *Ohlone/Costanoan* existed, inhabiting roughly 50 politically autonomous tribelets. According to Milliken (1995), the *Ohlone/Costanoan* who inhabited present-day San Francisco at the time of Spanish entrance into the region were the *Yelamu*. The *Yelamu* were composed of three groups that occupied five villages in present-day San Francisco:

- *Chutchi,* which was purportedly situated along Mission Creek;
- *Sitlintac,* which was also along Mission Creek and believed to be affiliated with *Chutchi*;
- *Amuctac,* which was in Visitacion Valley;
- *Tubsinte,* which was also situated in Visitation Valley, and is believed to be affiliated with *Amuctac;* and
- *Petlenuc,* which is believed to have been near the Presidio at the northern tip of the San Francisco Peninsula.

Lastly, *Yelamu* may have also been the name of an additional settlement in the vicinity of Mission Dolores.

Those *Ohlone/Costanoan* who freely moved to mission lands, and those who were captured by the Spanish during punitive expeditions, were often forced to assimilate with individuals of other ethnic or linguistic affiliations, resulting in the disruption of indigenous lifeways. In addition to the loss of their aboriginal culture, the *Ohlone/Costanoan* population was decimated primarily because of introduced diseases to which they had no natural immunity. It is estimated that by 1800, only 41 *Yelamu* had survived, and that number had dropped to 32 by 1806. In 1806, a measles epidemic broke out at Mission Dolores, taking the lives of 10 of the surviving *Yelamu,* among the many casualties. Using mission records, Milliken et al. (2009) calculate that by the close of 1817:

> …the Yelamu contingent at Mission Dolores included 2 tribally-born people who had been young children at the time of the Spanish settlement, 3 mission-born children of Yelamu couples, and 12 mission-born children who had one Yelamu parent.

By 1832, the *Ohlone/Costanoan* population of the Bay Area had declined to fewer than 2,000 individuals. Most of the surviving population relocated to the missions; however, some *Ohlone/Costanoan* sought and received refuge among neighboring aboriginal groups (Cook, 1943a and 1943b).

This early mixing of previously separate groups, compounded by the sharp decline in the population of the indigenous population, prevented nineteenth- and twentieth-century ethnographers from interviewing *Ohlone/Costanoan* individuals knowledgeable about pre-contact lifeways. This in turn resulted in a relatively large gap in understanding of their aboriginal culture. Fortunately, the journals of Spanish explorers and padres, along with the records from the missions, contain valuable data that provide insight into pre-contact lifeways (e.g., Bolton, 1930; Palou, 1924).

The *Ohlone/Costanoan*, like most aboriginal Californians, possessed no larger political organization than the tribelet. Their tribelets were generally composed of one or more loosely affiliated villages and associated logistical camps situated in a

recognized territory. Tribelet leadership was inherited patrilineally, generally passing from father to son, although women could also hold the office (Levy, 1978:487).

Ohlone/Costanoan peoples engaged in trade among themselves, and with Miwok and Yokuts tribelets inhabiting areas to the north and east of their territory. Davis (1961) identifies various coastal commodities (e.g., shellfish and salt) as their exports. Relations between the various *Ohlone/Costanoan* groups or with their neighbors were not always friendly. Skirmishes often occurred on a small scale; however, they were not bloodless. Prisoners, if taken, would be quickly dispatched and the heads of the fallen foes would be displayed with pride (Kroeber, 1976:468–467; Levy, 1978:488).

The subsistence strategy of the *Ohlone/Costanoan* revolved around procuring wild vegetal and animal foodstuffs. Vegetal products were gathered as they became seasonally available, and then were either consumed or stored for future use. Acorns, if regularly available, were the staple plant food. If a particular tribelet inhabited an area devoid of oaks (e.g., the coast), then seed procurement predominated (Kroeber, 1976:467; Levy, 1978:491).

Mammals procured for consumption included black-tailed deer, elk, pronghorn antelope, sea lion, cottontail rabbit, jackrabbit, tree squirrel, ground squirrel, and numerous other small rodents. Birds were also frequently taken, with waterfowl being the most important to the *Ohlone/Costanoan* diet (Kroeber, 1976:467; Levy, 1978:491). Meat was generally obtained through hunting; however, it was reported (Palou, 1924:62–63) that stranded sea mammals, including whales, were scavenged for their flesh. Standard hunting equipment included the bow (both sinew-backed and self-bows) and arrow, clubs, dead falls, nets, traps, and bolas (Levy, 1978:491–493).

Fish and mollusks were a significant component of the diet. Salmonids (i.e., steelhead and salmon) were captured during their spawning migrations by hook and line or seine nets. Mussels and abalone were simply pried from the coastal rocks. Kroeber (1976:466) stated that the shellmounds situated around the Bay are the richest in California, "except perhaps the Santa Barbara Islands," attesting to the importance of mollusks to aboriginal sustenance in this vicinity. He further noted that it is probable that "the upper layers of nearly all" of the shellmounds (in *Ohlone/Costanoan* territory) "must accordingly be ascribed to the Costanoans" (Kroeber, 1976:466).

By the early decades of the twentieth century, three communities of *Ohlone/Costanoan* were found in the Bay Area, each associated with one of the Spanish missions that were founded in their ancestral homelands. None of these communities, however, were associated with San Francisco's Mission Dolores (Milliken et al., 2009). Levy (1978:487) estimated that in the early 1970s, the total number of persons of *Ohlone/Costanoan* descent was greater than 200 individuals. He stated that it was probable that the last known speakers of the *Ohlone/Costanoan* language had died by 1935. In 1971, descendants of the *Ohlone/Costanoan* incorporated as the Ohlone Indian Tribe and received title to the Ohlone Indian Cemetery.

4.2.3. **Regional Historical Background**

Hispanic Period

As a result of the Cabrillo expedition of 1542–1543, the southbound passage of the Manila Galleon along the coast after 1565, and subsequent voyages of exploration by Cermeño (sometimes spelled Cermenho) in 1597 and Vizcaíno in 1602, the California coastline was familiar to navigators by the end of the sixteenth century (Donley et al., 1979). Conversely, the interior remained unknown until the eighteenth century. European exploration of the project vicinity was initiated in 1769 and lasted until 1810. During this period, a number of Spanish expeditions penetrated the territory occupied by the *Costanoan* peoples. Between 1769 and 1776, forays led by Portolá, Ortega, Fages, Fages and Crespi, de Anza (two expeditions), Rivera, and Moraga were carried out. Favorable reports led to the founding of seven missions in the region between 1770 and 1797.

In the spring of 1776, the site of San Francisco was chosen by Juan Bautista de Anza for the establishment of a mission and military post. Later that same year, the Mission San Francisco de Asís (Mission Dolores) and El Presidio Real de San Francisco were officially dedicated, and José Joaquín Moraga (de Anza's lieutenant) took formal possession in the name of King Carlos III (Hoover et al., 1990:331–334). During the mission period, the general project area was undeveloped. The primary activity in the vicinity was likely maritime-related (Byrd et al., 2015:68).

The Spanish annexation and colonization of Alta California, as manifested in the religious-military mission system, produced profound changes in the cultures of the indigenous population. The missions resettled and concentrated the aboriginal hunter-gatherer population into agricultural communities. Analysis of baptismal records, in fact, demonstrates that the last *Ohlone/Costanoan* tribelets living an aboriginal existence had disappeared by 1810. The mission tribes were Christianized and converted to a form of peasantry that was in rapid decline in Europe. As a consequence of the concentration of the population,

coupled with the indigenous people's lack of immunity to European diseases, the mission tribes were decimated by common diseases that were generally not fatal to Europeans. It has been estimated that the *Costanoan* population declined from 10,000 or more in 1770 to less than 2,000 in 1832 (Levy, 1978:486).

Jurisdiction over Alta California was established by Mexico in April 1822. During the Mexican Period (1822–1848), control over this remote area by the central and local Mexican authorities was never strong. Rather, the Mexican Period was one of a slow disintegration of control by the Mexican government. In 1833, the mission lands were secularized, expropriated, and given out as private ranches during the next decade in the form of land grants (Donley et al., 1979). The Rincón de las Salinas y Potrero Viejo land grant, which encompassed modern-day Bayview and Hunters Point, was granted by the Mexican government in 1840 to José Cornelio Bernal, the son of a member of the de Anza expedition. Potrero Viejo consisted of the original grazing lands for Mission Dolores and Rincón de las Salinas, or "corner of a salty marsh," and was near Islais Creek (Olmsted et al., 1981). Bernal's settlement was northeast of the project area, in a neighborhood now known as Bernal Heights (Pastron et al., 2009a:39). Portions of the grant remained in the Bernal family until 1917 (Mahoney, 1926).

Secularization of the missions by the Mexican authorities produced additional cataclysmic change in the indigenous cultures. The majority of the Native Americans gradually left the missions to work as manual laborers on the ranches that were established in the surrounding areas. Among some *Ohlone/Costanoan*, there was a partial return to aboriginal religious customs and some return to aboriginal subsistence practices (Levy, 1978:486–487).

American Period

Captain William A. Richardson, an Englishman and the founder of Yerba Buena ("good herb," San Francisco's original name), first traveled to San Francisco in 1822, shortly after Mexico gained its independence from Spain. Richardson was given permission from outgoing Spanish Governor Pablo Vicente de Solá to settle permanently on the peninsula; and in 1825, Richardson married Maria Antonia Martinez, daughter of the commandant of the Presidio Ygnacio Martinez. Over the ensuing decade, Richardson developed trade and communication on the Bay. In 1835, Richardson was appointed San Francisco's first harbormaster by Governor José Figueroa. In this year, he and his family settled near present-day Chinatown. This early settlement soon attracted other English-speaking immigrants, including Jacob Leese, an American trader who arrived in 1836 (Hoover at al., 1990:334).

A major factor leading to the disintegration of Mexican control of Alta California was pressure from the U.S. following early settlements and visits by private citizens, such as the November 1826 visit by Jedediah Smith to the San Gabriel Mission, and the 1832 stop by Ewing Young at Los Angeles. These and other sojourners brought the news of California back to the U.S., helping trigger the immigration of U.S. citizens into California. The Mexican government became increasingly agitated by the continued influx of U.S. citizens into California. The semi-official 1844 and 1845 expeditions into California by Frémont further distressed the Mexican government (Beck and Haase, 1974).

The continued friction between Mexico and the U.S. ultimately led to the Mexican-American War of 1846. On July 9, 1846, a crew from the sloop-of-war USS *Portsmouth* came ashore and raised the first American flag over San Francisco (Beck and Haase, 1974:47; Hoover et al., 1990:336). However, because Mexico had ceased stationing regular troops in San Francisco following secularization (Hoover et al., 1990:331), the raising of the flag was a symbolic gesture rather than a result of heroic exuberance. California became part of the U.S. as a consequence of the U.S. victory over Mexico in the war. The territory was formally ceded in the treaty of Guadalupe Hidalgo in 1848, and was admitted as a state in 1850 (Beck and Haase, 1974; Bethel, 1969).

Before the discovery of gold at Sutter's Mill on January 24, 1848, development in the area consisted of the Spanish/Mexican facilities (i.e., the Presidio and Mission) and Richardson's settlement of Yerba Buena, situated on the shores of the cove by the same name. Sometime before the Gold Rush, the inhabitants of Yerba Buena officially changed the name of their settlement to San Francisco. After the discovery of gold, San Francisco transformed rather quickly from an isolated hamlet into a bustling center of commerce (Hoover et al., 1990:334–336). The population of San Francisco grew from 375 people in 1847 to 2,000 by February 1849; by the end of 1849, as many as 20,000 people may have been living in the city.

San Francisco became a major city and port almost overnight and grew at a phenomenal rate, replacing Monterey as the coast's principal port. Maritime traffic arrived through three major shipping channels approaching San Francisco. These lanes converge outside the Golden Gate to form the single channel entering the Bay. Through this channel came lumber schooners from the Mendocino coast, along with sealers, whalers, fishermen, traders, and passenger ferries. Large docks were built so that cargo could be discharged directly onto the wharves instead of being ferried by rowboats to shore. From those docks, the cargo was distributed and sometimes reloaded onto smaller vessels to transport to various settlements.

During the early American period, the commercial and residential center of San Francisco was near the waterfront along the Embarcadero. The general project area was in the hinterlands at this time, although the area was not completely uninhabited. The Bernal family began selling portions of their land in the modern day Bayview–Hunters Point area for real estate development starting as early as 1849. Two land speculators, John Townsend and Cornielle de Boom, convinced Bernal to subdivide lots in Hunters Point to create a new city: South San Francisco (Pastron et al., 2009a:40). The Hunter brothers, Robert and Philip, became agents of Townsend and de Boom's failed development project in the 1850s, and although they were not successful, they settled and remained in the area. The 1859 U.S. Coast Survey map (Figure 8) (U.S. Coast Survey, 1859) shows a fenced farmhouse east of the modern-day intersection of Hawes Street and Innes Avenue, possibly at the current location of the Albion Brewery, just south of the project area. The general project area remained undeveloped (Pastron et al., 2009a:42). The 1861 Wackenreuder map depicts only a few buildings on the south side of Hunters Point, well outside the project site (Figure 9). The northern side of Hunters Point was depicted as undeveloped at this time.

Although San Francisco's population grew rapidly during the latter half of the nineteenth century and the city expanded outward to accommodate the newcomers, growth in Hunters Point remained slow. The South San Francisco Homestead and Railroad Association, an association that allowed individuals to join together to buy land for development, was the largest owner of land in Hunters Point in the 1860s (Olmsted et al., 1982:101). The association acquired 2,000 lots, constructed a road to the tip of Hunters Point, and built a wharf at the end of Thomas Avenue, but their efforts did not lead to extensive development. The Long Bridge, which was completed in 1865 and connected Hunters Point with Fourth Street in the South of Market area, led to some residential and commercial development in the vicinity of the project site; but again, this improvement did not markedly change the character of the project area (Pastron et al., 2009a:45).

The Long Bridge did, however, allow "nuisance industries" such as slaughterhouses, tanneries, tallow works, and butchers to move out of the more populous Mission Bay and onto the more remote northern side of Hunters Point (O'Brien, 2005:8). Other small-scale industrial uses of the area included shipyards and dry docks. The California Dry Dock Company's dry dock was constructed at the tip of Hunters Point in 1868 (Pastron et al., 2009a:48), and a small shipbuilding industry prospered in India Basin beginning at about the same time.

Hunters Point was a hub for another maritime industry in the late nineteenth and early twentieth centuries: Chinese shrimp fishing. A camp may have existed in the area as early as 1860, and these camps prospered and continued in the area into the 1950s, following landfilling and a decline in the shrimp population (Pastron et al., 2009a:83–85). A map produced in the 1930s shows that the Chinese shrimp camps were clustered along the northern side Hunters Point, including three that were likely in the APE (Figure 10). More may have been present in the project vicinity at this point or earlier (Chinn et al., 1969, as cited in Pastron et al., 2009a). An extensive overview of the Chinese shrimping industry is provided in Pastron et al. (2009a and 2009b).

India Basin remained a largely rural community well into the early twentieth century. Water service did not arrive until 1924, when the Spring Valley Water Company built a main line up Innes Avenue, with sewer service arriving shortly thereafter (Kelley & VerPlanck Historical Resources Consulting [KVP], 2008:30). The first paved road in India Basin was Innes Avenue, and the road was not paved until 1938. However, a change that occurred in the early twentieth century farther down Innes Avenue and Donohoe Street set the stage for the rapid growth in Hunters Point during World War II. Union Iron Works, a subsidiary of Bethlehem Steel, bought out the California Dry Dock Company (subsequently the San Francisco Dry Dock Company) in 1908, bringing large-scale industrial development to the area.

The U.S. Navy purchased the dry docks at Hunters Point in 1939; following America's entry into World War II, the Hunters Point Naval Shipyards were expanded to meet wartime demand (Page & Turnbull, 2016:57). These shipyards required a large labor force, and the rural land around India Basin was easily developable into war housing. The 1950 Sanborn maps (Figure 11) show the Harbor Slope War Dormitories across Innes Avenue from the APE. The war also brought other development to Innes Avenue, including several restaurants. The naval worker residences on the Hunters Point ridge were demolished in the 1970s, and were replaced by public housing complexes operated by the San Francisco Housing Authority.

The area along the bayshore immediately northwest of the remaining shipyards, previously empty infilled land, became India Basin Shoreline Park in the 1990s, operated by RPD. Another municipal green space created from reclaimed fill—India Basin Open Space—now follows the shoreline along the eastern edge of the remaining India Basin inlet, and then east toward the Hunters Point Shipyard site (Page & Turnbull, 2016:61).

5. Identification of Historical Resources

To identify historical resources in the APE and to determine potential effects of the proposed project on these resources, a number of tasks were completed, including archival research, a records search, contact with the NAHC and local Native American groups and individuals identified by the NAHC and the completion of an intensive pedestrian archeological field survey.

5.1. Records Search

A cultural resources records search (Appendix A) was conducted by staff of the Northwest Information Center (NWIC) of the California Historical Resources Information System (CHRIS), Sonoma State University, on May 31, 2016 (NWIC File No. 15-1629). The NWIC, an affiliate of the OHP, is the official state repository of cultural resources records and studies for San Francisco County. Site records and previous studies were accessed for the APE and a 0.25-mile radius on the *Hunters Point, California* and *San Francisco South, California* U.S. Geological Survey (USGS) 7.5-minute topographic quadrangle maps (USGS, 1947, 1950, 1956a, 1956b, 1968, 1973, 1980, 1993, and 1995). The following references were also reviewed:

- the NRHP,
- the CRHR,
- *California State Historical Landmarks* (OHP, 1996),
- *California Inventory of Historic Resources* (DPR, 1976),
- *California Points of Historical Interest* (OHP, 1992),
- *Five Views: An Ethnic Historic Site Survey for California* (OHP, 1988),
- *California Place Names* (Gudde, 1998),
- *Historic Spots In California* (Kyle et al., 2002), and
- *Historical Atlas of California* (Beck and Haase, 1974).

The record search conducted at the NWIC revealed that no archeological resources have been identified in the APE. The record search also revealed that no previous archeological resources investigations have occurred in or immediately adjacent to the APE. Several studies have addressed the potential for archeological resources in the APE, but did not include archeological reconnaissance work. These studies include *Archeological Resources Investigations for the Waterfront Plan EIR, San Francisco, California: Southern Waterfront* (Hupman and Chavez, 1995) (S-016882) and *Archeological Resources Investigations for the Bayview-Hunters Point Redevelopment Plan, San Francisco, California* (Hupman and Chavez, 2001) (S-025045).

There are four previously recorded archeological sites within 0.25 mile of the APE. The nearest site, P-38-004361, consists of the foundations of the Middle Point War Dwellings. The dwellings were built to house employees of the Hunters Point Shipyards during World War II, and were subsequently demolished (Billat, 2004). The other three sites, Nelson Sites 390 (CA-SFR-11/P-38-000011), 391 (CA-SFR-12/P-38-000012), and 392a (CA-SFR-14/P-38-000014), are mapped in their approximate locations south and east of the APE. N. C. Nelson recorded hundreds of shellmounds around the edge of the Bay in the early twentieth century, but many of these, including the three near the APE, have not been relocated (Nelson, 1909; Pastron et al., 2009a). As with many of Nelson's sites, because of the relatively inexact nature of how these sites were documented in this pioneering study, the exact site locations have not been verified (Nelson, 1909).

The closest recorded built environment resource to the APE is P-38-004611, Submarine Dry Docks #5, 6, and 7, at Hunters Point Shipyard (JRP Historical Consulting Service, 1997).

In addition to the sources on file at the NWIC, other sources provided by BUILD and Planning were reviewed: *Archeological Research Design and Treatment Plan for the Bayview Waterfront Project, San Francisco, California*, Volumes I and II (Pastron et al., 2009a and 2009b); *India Basin Survey, San Francisco, California* (KVP, 2008); and the historic resource evaluation (HRE) prepared as part of the currently proposed project (Page & Turnbull, 2016). These sources were used extensively to identify the potential for historical archeological resources in the APE.

The online State Lands Commission (SLC) Shipwreck Database (SLC, 2016) was also reviewed. The SLC database is a list of shipwrecks by county, and is based primarily on historical accounts of these incidents. It should be noted that most of the location data refer to where the ship went down, and not necessarily where it came to rest on the sea floor, which may be in a different location. Figure 12 depicts the location of the reported shipwrecks. Table 1 lists the reported shipwrecks in the vicinity of the APE. The SLC database does not indicate whether the wrecked vessel was ultimately salvaged. Given the close proximity of these wrecks to the historical shoreline, it would seem likely that these vessels would have been salvaged, or at least demolished, because they would have represented navigational hazards to the ship traffic that was prevalent in this area.

Table 1
Shipwreck Data from the State Lands Commission Database

Ship's Name	Type of Wreck and Year	Vessel Type
Janette	Capsized, 1878	Schooner
Major Tomkins	Grounded, 1854	Steam Screw
TH Allen	Collision, 1889	Pilot Boat
Viola	No data	No data
William L. Mighels	Wrecked, 1873	Schooner
Source: SLC, 2016		

As shown in Figure 12, none of the shipwrecks as found on the SLC database occur in the APE delineated for the India Basin proposed project. Interestingly, the coordinates provided for the *Janette* place the wreck on Hunters Point.

In addition to the records of the NWIC and the SLC, shipwreck locations taken directly from the USGS topographic maps were reviewed. These unnamed and undated wrecks are mapped along much of the Bay. It is unknown whether or not any of these mapped wrecks correspond to those listed in the SLC database. The 1956 USGS map for Hunters Point (photorevised 1967) plots a wreck in the vicinity of current Shoreline Park in the APE. This wreck is included in Figure 12. The HRE report being prepared by Page & Turnbull for the current undertaking was also reviewed (Page & Turnbull, 2016). Although the report has not been submitted to the NWIC, the findings are relevant to the archeological investigation being described here. Page & Turnbull (2016) reported that two of the structures within the project area have been previously recommended as eligible to the CRHR for their association with shipbuilding in India Basin: the Shipwright's Cottage at 900 Innes Avenue (built ca. 1875) and 702 Earl Street (built ca. 1935). Both these structures were assessed by KVP during their completion of the India Basin Survey for the Bayview Historical Society (KVP, 2008). According to Page & Turnbull (2016:6), the findings have not been officially adopted by the San Francisco Historic Preservation Commission. Thus, Planning recognizes the findings of the survey as informational for the purposes of CEQA review.

5.1.1. **Shipwright's Cottage**

As indicated in the HRE (Page & Turnbull, 2016:6), the Shipwright's Cottage at 900 Innes Avenue was found individually eligible for listing in the CRHR by KVP under Criteria 1 and 3 "due to its association with resident shipwrights employed in the boat yards of India Basin and as a rare example of a very early Italianate cottage. It is only one of two remaining nineteenth-century dwellings (the other being 911 Innes) in India Basin." The period of significance for the Shipwright's Cottage was identified as 1870–1938, the fullest possible period considered by the survey.

In 2008, in light of the KVP effort (2008) the Shipwright's Cottage was designated San Francisco Article 10 Landmark #250. The building's designation nomination encompasses only the residence and no surrounding features. The Landmark Designation Report completed for the Shipwright's Cottage found the building to be significant under Criteria A (Events) and C (Architecture), and specified the period of significance as 1870–1930 (which encompasses several years before the building's construction around 1875) (Page & Turnbull, 2016:7).

5.1.2. **702 Earl Street**

702 Earl Street was found individually eligible for listing in the CRHR under Criterion 3, as "one of the best examples of a purpose-built structure associated with the important boatbuilding and repair industry of India Basin. Constructed in 1935, 702 Earl […] embodies distinctive characteristics of a heavy timber construction, platform-frame, purpose-built industrial building."

While not specified on the DPR 523B (Building, Structure, Object) form, the building's period of significance is considered to be 1935–1936, the years of its construction.

5.1.3. **India Basin Scow Schooner Boatyard**

The KVP survey (2008) also identified a potential CRHR-eligible historic district, the India Basin Boatyards Historic District, comprising numerous buildings and other landscape features across eight parcels once associated with the Anderson & Cristofani and adjoining Allemand Brothers Boatyards. A DPR 523D (District Record) form was completed for this district, listing the period of significance as 1893 to 1935. According to Page & Turnbull (2016:6), KVP identified numerous resources within the boundaries of the district but did not specify contributors and noncontributors. Page & Turnbull further noted (2016:6) that several of these listed resources were constructed outside of the identified period of significance.

Page & Turnbull refined KVP's assessment, determining that the boatyard site is most appropriately defined as a vernacular cultural landscape, a type of property that has "evolved through use by the people whose activities or occupancy shaped that landscape. Through social or cultural attitudes of an individual, family, or a community, the landscape reflects the physical, biological, and cultural character of those everyday lives" (Birnbaum, 1994). The India Basin Scow Schooner Boatyard, as it was subsequently designated by Page & Turnbull (2016:19), aligns in some respects with the India Basin Boatyards Historic District that KVP previously identified, although Page & Turnbull has determined that the property is more appropriately described as a site than as a historic district given its numerous landscape features (natural and manmade) that convey its significance (2016:99).

The beginning of the India Basin Scow Schooner Boatyard's period of significance is 1875, the year that Johnson Dircks first established a boatyard at the site, which was later acquired by Henry Anderson and expanded as the Anderson & Cristofani Boatyard. Page & Turnbull (2016:99) finds that 1936 is the most appropriate end date of the period of significance as this year marks the opening of the of the San Francisco–Oakland Bay Bridge. From this point forward, the transportation of goods via vehicle (as opposed to vessel) became predominant in the Bay Area and marks the ultimate end of the era in which wood watercraft (the boatyard's specialty) was integral to the Bay Area's transport economy (Page & Turnbull, 2016:99).

The India Basin Scow Schooner Boatyard is characterized by a range of built and natural features that date to this decades-long use as a boatbuilding and repair yard—including six buildings, four structures, and several small-scale features, in addition to topography, views, circulation routes, and bodies of water (Plate 1). These features continue to convey the spatial and functional relationships that defined the operations of the yard and can be internal to or external to the property boundaries.

Page & Turnbull (2016:99) determined that the India Basin Scow Schooner Boatyard site is:

> historically significant site under Criterion 1, for its associations with San Francisco's wood scow schooner building and repair industry that was centered at India Basin. Scow schooners were integral to the transportation of goods throughout the San Francisco Bay area during the late nineteenth and early twentieth centuries, prior to the era of widespread automobile use and bridge construction. The remote settlement of immigrant shipwrights at India Basin was responsible for building and repairing such vessels and represented an important working community that, while off the beaten path, supported the region's economy through skilled workmanship. Due to gradual development around India Basin and dramatic infilling of the shoreline, much of the landscape conveying the previous era of shipbuilding no longer exists. As the site of the longest consecutively operating boatyards at India Basin, the India Basin Scow Schooner Boatyard is the best remaining physical representation of the area's significant working class community.

The India Basin Scow Schooner Boatyard as defined by Page & Turnbull is particularly relevant to the current investigation because any historic maritime archeological resources occurring in the APE, specifically those that relate to the local boatbuilding industry during the period of 1875–1936, would potentially be contributing features to this vernacular cultural landscape site. Table 2 lists the elements of the India Basin Scow Schooner Boatyard and their construction dates, and identifies whether they are considered contributing features.

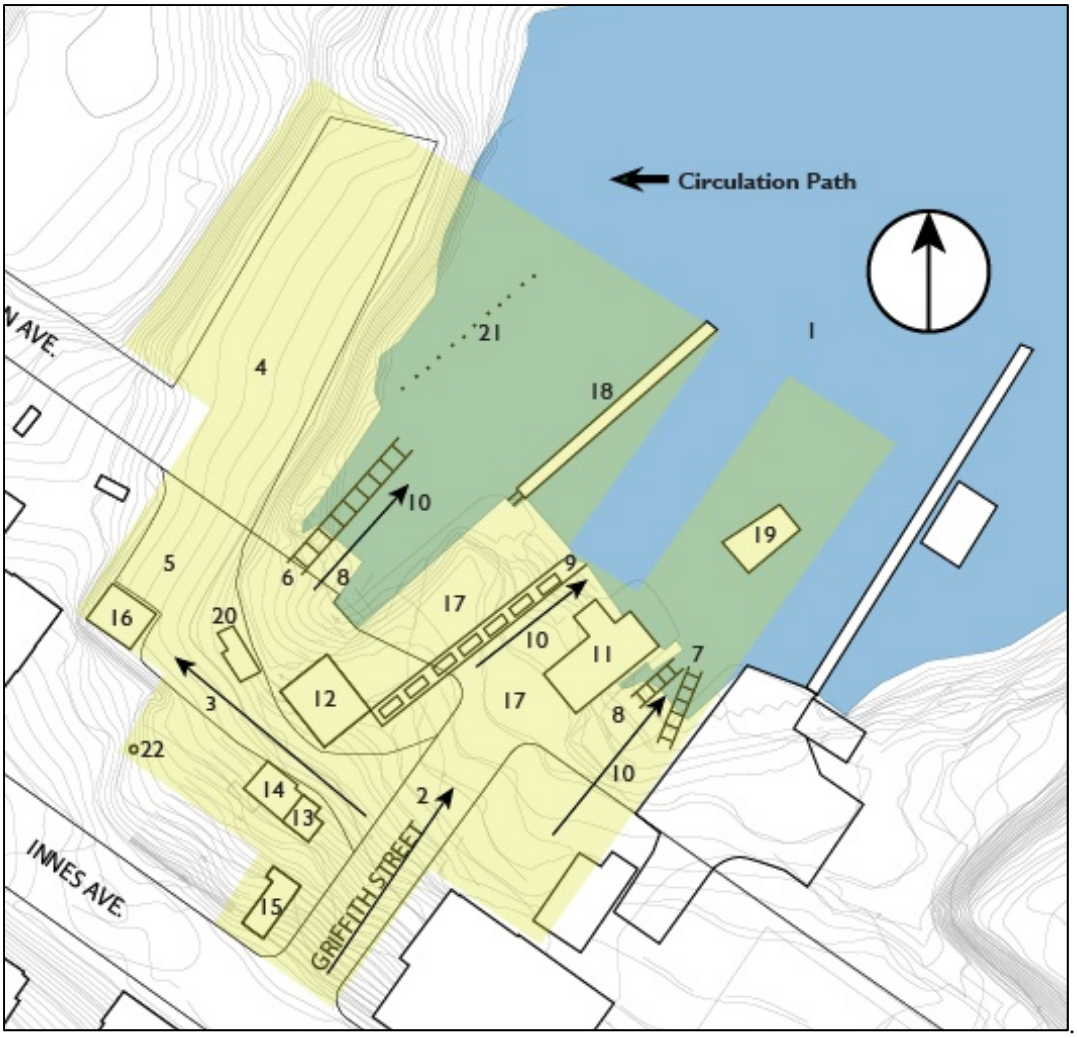

Plate 1. India Basin Scow Schooner Boatyard (source: Page & Turnbull, 2016:20)

Table 2
Elements of India Basin Scow Schooner Boatyard

Name of Feature	Year Constructed	Contributing Status
1. India Basin/San Francisco Bay	N/A	Contributing
2. Griffith Street right-of-way	Pre-1935	Contributing
3. Path between Griffith Street and west marine ways	Pre-1935	Contributing
4. West storage and staging yard	1979–1989	Noncontributing
5. Historic storage and staging yard	Pre-1935	Contributing
6. West marine way tracks	Pre-1935	Contributing
7. East marine way tracks	1938–1946	Noncontributing
8. Poured concrete ramp surfaces at east and west marine ways	ca. 1940s	Noncontributing
9. Central construction way ramp and marine way foundation	1959–1969 (ramp); 1997–2005 (foundation)	Noncontributing
10. Circulation routes and water access at marine ways	Pre-1900	Contributing
11. Blacksmith and machine shop	1938–1946	Noncontributing
12. Paint shop and compressor house	1938–1946	Noncontributing
13. Boatyard office building	1919–1935	Contributing
14. Tool shed and water tank building	Pre-1900	Contributing
15. Shipwright's Cottage	ca. 1875	Contributing
16. Storage building	1979–1989	Noncontributing
17. Concrete wharf	1989–1997	Noncontributing
18. Modern dock	ca. 1980s	Noncontributing
19. East outfitting dock	1938–1946	Noncontributing
20. Steel road undergirding	1938–1946	Noncontributing
21. Water fence posts	Pre-1935	Contributing
22. Sewer standpipe	Unknown (does not appear age-eligible)	Noncontributing
Construction debris throughout site	modern	Noncontributing
Views east toward San Francisco Bay and the East Bay hills	N/A	Contributing
Gradual slope from Innes Avenue to India Basin	N/A	Contributing

Notes: ca. = circa; N/A = not applicable
Source: Page & Turnbull, 2016

5.2. Archival Research

Archival research was conducted, including a review of Sanborn Fire Insurance maps, historical aerial photographs, U.S. Census records, U.S. Coast Survey maps, USGS topographic maps, and other historical maps and illustrations. This search was completed to identify potential areas of increased cultural sensitivity. In addition, the shipwreck database maintained by the SLC was used to augment the data obtained for this unique class of archeological resource. Lastly, Preservation Planner/Archeologist Allison Vanderslice of the Planning staff provided relevant technical documents and information from the geographic information system cultural resource files maintained by Planning.

5.2.1. **Site History**

1850s and 1860s: Initial American Period Development

It is expected that the project site had been largely situated in open Bay waters from the time sea-level rise stabilized during the Late Holocene until the 1950s, except for the narrow strip of land along Innes Avenue (Figure 7). Before this period and before the inundation of the Bay, the project site would have been available for human habitation. The earliest available maps of this portion of the San Francisco peninsula, such as the 1859 U.S. Coast Survey Map, depict the project site largely within the Bay, with just the southern portion of the project site along Innes Avenue on dry land (Figure 8). At this time, the nearest buildings and structures were to the south along the bayshore, including a possible development at the location of the spring at the Albion Brewery, just south of the project area (Figure 8). The 1861 Wackenreuder map (Figure 9) does not show this structure, or any other in the project area (Langley and Wackenreuder, 1861). The next depiction of the project site (Figure 13) is an 1868 bird's-eye view (Goddard, 1868). This bird's-eye view does not show any development in the project area, although a boat is shown offshore and a cluster of development is shown where the Long Bridge connects to Hunters Point. The 1869 U.S. Coast Survey map (Figure 14) (U.S. Coast Survey, 1869) does not show any buildings or structures in the project area, but a dirt road is shown roughly along the current delineation of Innes Avenue.

1870s and the Beginning of the Scow Schooner Industry

Although maps and other images of the India Basin vicinity do not show much development before the 1870s, it is known that the Hunters Point area was beginning to be settled by American and European farmers and Chinese fishermen at this time (1860 U.S. Census, cited in Pastron et al., 2009a:43). Pastron et al. (2009a:47) argue that extensive agricultural cultivation to provide for growing San Francisco was ongoing on Hunters Point during this period. In 1870, the Albion Brewery was established on the southern side of Innes (KVP, 2008:17–18).

During the 1870s, the Hunters Point area continued to draw Chinese immigrants who established shrimping camps, although their exact locations are unknown. India Basin also began to draw European immigrant shipwrights who found the Bay's deep-water access attractive. These shipwrights had previously settled farther north near Islais Creek, but were pushed out by the expansion of Butchertown (Page & Turnbull, 2016:55). The primary type of ship constructed at India Basin was the scow schooner, a shallow draft vessel that transported goods across the Bay and through the Sacramento–San Joaquin Delta, until the establishment of trucking in the twentieth century. The shipwrights and other maritime laborers who settled in India Basin starting in the 1870s established longstanding family-owned businesses, as reflected in the late- nineteenth- and early-twentieth-century census records, maps, and photographs. As cited in Page & Turnbull (2016:56), Roger R. Olmsted, maritime historian of the Bay, describes the area as such (Olmsted, 1988:22):

> Four blocks southeast of Railroad Avenue [present-day Third Street], Hunters Point Road curved around the southern waterfront where many clusters of marine ways on the shallow shoreline beaches appear on maps from 1882 up through 1929. These boatyards shared the water's edge with even more informal Chinese shrimp fishermen who put up clusters of tiny dwellings, dried their shrimp, mended their nets, and launched their junks alongside the scows.

1880s and 1890s: Growth of Industry

The 1880 U.S. Census (Appendix B) lists six families who appear to be living in or near the project area. Most of the children were California-born, but the parents and heads of households were from elsewhere in the United States (Iowa and New York) or overseas, including Canada, Holland, England, Denmark, Sleswig, and Hamburg. One woman had been born at sea. Aside from one daughter of a clergyman who was a music teacher, none of the women were employed outside the home. The men were employed as shipwrights, ship carpenters, sailors, caulkers (for ships), ship joiners, and also engineers, expressmen, and printers. None of these families was still in the project area as listed on the 1900 U.S. Census. Although all U.S. Census

records for San Francisco in 1890 were destroyed, it is known that shipwright Fred Seimer, builder of the scow schooner *Alma*, was working in the project area in 1891 (NPS, 2016).

By the 1890s and the publication of the 1899 USGS San Mateo, California 15-minute topographic quadrangle map (Figure 15) (USGS, 1899), the proposed project vicinity had become more developed and a series of dwellings lined modern-day Innes Avenue, most of them west of Arelious Walker Drive. Fill was not yet beginning to encroach on the Bay waters. Gridded streets lined with buildings were depicted west of the project site, near Islais Creek.

1900s and 1910s: Stability in the Shipyards

The APE did not appear on Sanborn maps until 1900; even then, only the portion of the project site west of Arelious Walker Drive is depicted (Figure 16). Along 9th Avenue South (present-day Innes Avenue) were seven properties in the project area and two that fronted the Bay. The corner of one property at the intersection of 8th Avenue and H Street South was also in the project area. These properties are described below.

- 401½ H Street South was a series of connected single-story buildings and a shed. This location is where present-day Hudson Street and Hunters Point Boulevard intersect.
- "F" 9th Avenue South was a single-story dwelling with a platform and stairs on the western elevation. "E" 9th Avenue South was three connected hog sheds fronting the street. Also on this lot was "C," a barn or stable. This property is present-day 908 Innes Avenue.
- 904 9th Avenue South (present-day 904 Innes Avenue) was a single-story dwelling with a one-story addition on the western elevation. West of the dwelling was an elevated water tank. In the rear yard at 904½ 9th Avenue South was a tool shed connected to two outbuildings, including one with a water tank on the roof. Another outbuilding was located along the west lot line.
- 900 9th Avenue South (the Shipwright's Cottage at present-day 900 Innes Avenue) was a single-story dwelling with two rear additions and a narrow platform with stairs leading to the 904 9th Avenue South property. A two-story outbuilding with a water tank on the roof was also in the yard.
- Behind F/E/C, 904, and 900 9th Avenue South was "H. Anderson Ship Yard" and "Marine Ways." These fronted on the Bay. A storage building was located in the far southwestern corner.
- West of this yard, also fronting the Bay (behind 934 Innes), was "Fred Simer's Ship Yard," "Work Shop," and "Marine Ways." A small building, possibly a privy, was on the lot line between the two yards.
- An unaddressed blacksmith shop with an attached stable was in the middle of G Street South, present-day Griffith Street.
- 836 9th Avenue South (present-day 840 Innes Avenue) was a single-story dwelling with a basement. A small outbuilding fronted the street just west of the dwelling. In the rear yard was a wind mill and "Marine Ways."[2] 836½ 9th Avenue South was a barn or stable with two connected sheds on the east lot line.
- 822 9th Avenue South (present-day 826 Innes Avenue) was a single-story building (the use is illegible) with an attached shed. "Marine Ways" were in the rear along the Bay.

The 1900 U.S. Census lists individuals for most of the properties shown on the Sanborn Map (Appendix B) (Sanborn Fire Insurance Company, 1900). It is more difficult to identify individuals in the areas not on the Sanborn maps. For example, the ranges of addresses along 9th Avenue South that are listed in the census do not appear to correlate with residences that would have reasonably been only a block away. Only addresses that were more definitively in the APE are outlined below.

- 401 H Street South was inhabited by Henry, a shipbuilder, and Gesiare Seimers, both from Germany. A second household was also listed, possibly living at 401½ H Street South: Charles, a ship carpenter, and Henrietta Euuhl, both from Germany, along with their 4-year-old son.
- F/E/C 9th Avenue South likely corresponds with 906 9th Avenue on the census. At this address were Frank and Julia Meeks, from Germany. Frank was a teamster. Their five daughters are also at this address.
- 904 9th Avenue South was inhabited by the Jorgenson family, headed by Ingeborg, a married woman from Norway. Her husband was not listed. Ingeborg had five children, all born in California. The eldest daughter was a clerk in a store and the eldest son worked in a fish store.

[2] Also referred to as a "marine railway," a marine way is composed of a pair of inclined tracks extending into the water so that a ship can be hauled up and out of the water for cleaning or repairs. A marine railway is also used to launch newly constructed vessels.

- 900 9th Avenue South was inhabited by Robert McKinley, a ship carpenter from Scotland; his England-born wife, Elisabeth; and their three young children, born in California.
- Fredrick and Henrietta Seimers, from Germany, were listed at 920 9th Avenue South. This is outside the project area, but Seimers, a shipbuilder, and his marine ways were in the project area. The Seimers had a son, as well as a widowed servant from Germany and her young son.
- 836 9th Avenue South was inhabited by Olif Falencamp, a widower from Denmark. He was a ship carpenter. No other residents were listed.
- Henry and Annie Anderson, a shipbuilder and his wife from Denmark, were listed at 850 9th Avenue South. Although their dwelling was outside the APE, they may have owned the blacksmith shop in G Street South and were involved in shipbuilding in the project area.

Several of the individuals living in the APE in 1900 were employed in maritime trades and were living in close proximity to where they worked. These businesses appeared to lend stability to the neighborhood, because many of the families listed on the 1900 U.S. Census were also on the 1910 U.S. Census:

- 401 8th Avenue South (should be H Street South) was inhabited by Henry and Gesine Seimer, along with their adult son, also named Henry Seimer, and his California-born wife, Dora. The younger couple also had two daughters. The younger Henry was a ship carpenter.
- 906 9th Avenue South was inhabited by Frank and Julia Mix [sic], the same family as in 1900. Frank was listed as a hog raiser on a hog farm. The 1900 Sanborn map showed hog sheds on their property; but by 1914, they had been converted to a dwelling (Figure 17). The Mixes had four daughters at home.
- 904 9th Avenue South was inhabited by the Juergensons [sic], the same family as in 1900. Ingibor [sic] is now listed as widowed. Four children were at home but all were employed: the daughters worked as a typist in a printing office and a stenographer, respectively; the sons were a laborer and a gasoline engineer, respectively.
- 900 9th Avenue South was inhabited by Fred and Inga Seimer and their young son. Fred was a German shipwright and Inga was born in California of Norwegian parents. Inga's mother, Ingeborg, lived next door.
- Fred and Henrietta Seimers were still listed at 920 9th Avenue South, along with two other boarding families headed by an English laborer and a divorced Nevada-born domestic.
- 836 9th Avenue South was inhabited by Andrew Pasquinucci, an Italian boat builder; his California-born wife, Antonette; and their four young children.

The Andersons were still listed at 850 9th Avenue South, outside the APE, but H. Anderson's shipyard was in the APE behind 906/904/900 9th Avenue South. In 1906 and 1907, Anderson's shipyard built Jack London's famous ship, the *Snark* (Plate 2). London wrote a nonfiction book, *The Cruise of the Snark*, about his expedition on the yacht to Hawaii and the southern Pacific Ocean with his wife Charmian and a small crew.

Plate 2. Jack London in Anderson's shipyard with *Snark* under construction, ca. 1906 (source: *The Guardian*, 2016). Note Albion Brewery in background.

Shortly after the collection of the 1910 U.S. Census, another detailed Sanborn map of a portion of the APE was created. The 1914 Sanborn map (Figure 17) (Sanborn Fire Insurance Company, 1914) shows some changes from the 1900 publication, outlined below. The streets had been renamed to their present-day nomenclature.

- 401½ Hawes was a long barn or stable connected to a shed. This location is where present-day Hudson Street and Hunters Point Boulevard intersect.
- The hog sheds at "E" had been replaced by a single-story dwelling with a basement addressed 908 Innes Avenue. The dwelling at "F," now 906 Innes Avenue, appeared unchanged. "C," the barn or stable, was labeled "Wood."
- The dwelling at 904 Innes Avenue appeared unchanged. The elevated water tank west of the dwelling had been removed. The outbuildings in the rear yard at 904½ Innes Avenue were now labeled "Hoist," Eng. Shp.," or engineer's shop, and "Storage." The rooftop water tank had also been removed. The outbuilding along the western lot line was still present.
- The dwelling at 900 Innes Avenue appeared unchanged.
- Behind 908, 906, 904, and 900 Innes Avenue and continuing east and west was a yard labeled "H.B. Anderson Boat Building" and "Marine Ways." These fronted on the Bay. The storage building in the far southwestern corner was now labeled "Carp'r." The yard had been expanded to include the former Seimer yard, and the possible privy along the lot line between the two parcels had been removed.
- The blacksmith shop in the middle of Griffith Street was replaced by a boat building. This building had the address 898 Innes Avenue, and was part of Anderson's yard.

- 892 Innes Avenue, previously vacant, was developed to expand Anderson's yard to the eastern side of Griffith Street. This parcel was developed with three connected buildings: a lumber storage building, a planing mill, and a boat building with an incline leading to the Bay. This is present-day 896–888 Innes Avenue.
- 836 Innes Avenue was a single-story dwelling, but was no longer labeled with a basement. A small outbuilding was west of the dwelling. The wind mill and "Marine Ways" in the rear yard had been removed. One shed was along the eastern lot line.
- 822 Innes was vacant.

The 1920s and 1930s: Changes before World War II

Although there was some change in occupancy in 1920, the U.S. Census taken that year continued to show many of the same families living in India Basin.

- 401 Hawes Street was occupied by Gustive and Anna Busel, from Germany, and their two young sons. Gustive was employed as a machinist.
- A new address, 908 Innes Avenue, was in the APE at the location of the former hog barns. Charles Biggs, a butcher from California, and his wife Rose, also from California, lived at this address with their two daughters.
- 906 Innes Avenue was still occupied by the Mix family. Julia was now widowed and two of her daughters remained in the household. No one was employed outside the home.
- 904 Innes Avenue was still occupied by the Jorgenson family. Ingeborg, listed here as divorced, was the head of household at 72 years of age. Two adult sons lived at the address, and were shown employed as a painter at a shipyard and a radio engineer at a wireless station, respectively. A daughter, Jennie Hanssen, and her two children also lived at this address.
- 900 Innes Avenue was still occupied by Fred and Inga Siemer, along with their three children. Fred was a shipwright in a shipyard.
- 836 Innes Avenue was occupied by the Shiffer family: John, a laborer in a shipyard from Pennsylvania; Laustina, from Manila; and their seven children, aged 2 to 19.
- 826 Innes Avenue, which was likely in the APE (this address is in the APE in 1950), was occupied by several men employed in maritime industries, including a Swedish laborer in the shipyards, a Swedish marine who worked on a steamboat, a German laborer in a packing house, and a California-born ship caulker named Charles Siemer.

By 1930, the neighborhood had become much less populated. Page & Turnbull note that the entire neighborhood had only 60 residents at this time. The need for boatbuilding was beginning to wind down as shipping locally by truck became more common. Only three households were in, or partially in the project site. Interestingly, no one was employed in the maritime trades, but two were automobile mechanics.

- 401 Hawes Street was occupied by Hans and Sophie Blandt and their six children. Hans and the oldest son worked as machinists on automobiles.
- Julia Mix still lived alone at 908 Innes Avenue.
- 904 Innes Avenue was occupied by Jennie Hansen, now listed as widowed, her daughter, and a brother who was employed in the insurance industry.

The 1930 U.S. Census does not list any Chinese shrimp fisherman in the near vicinity of these addresses, but it is likely that these individuals lived and worked in or near the project area. Three shrimp camps extant in 1930 were plotted in the project area (Chinn et al., 1969:39): City Shrimp Co., Quong Sang Shrimp Co., and the Golden West Shrimp Co (Figure 10).

The City Shrimp Co. was just west of 904 Innes Avenue. Pastron et al. (2009b:134) note that the City Shrimp Co. may have consisted of a single structure at the end of a dirt road leading north from Innes Avenue, just east of Hawes Street. The dirt road widened near the structure, suggesting automobile access was required. This camp survived until at least 1935, based on aerial photographs. The City Shrimp Co. employed five men who worked setting and hauling nets from a junk and power junk in 1930 (Pastron et al., 2009b:134). The pier appeared narrow in 1931, with pilings of varying heights (Plate 3).

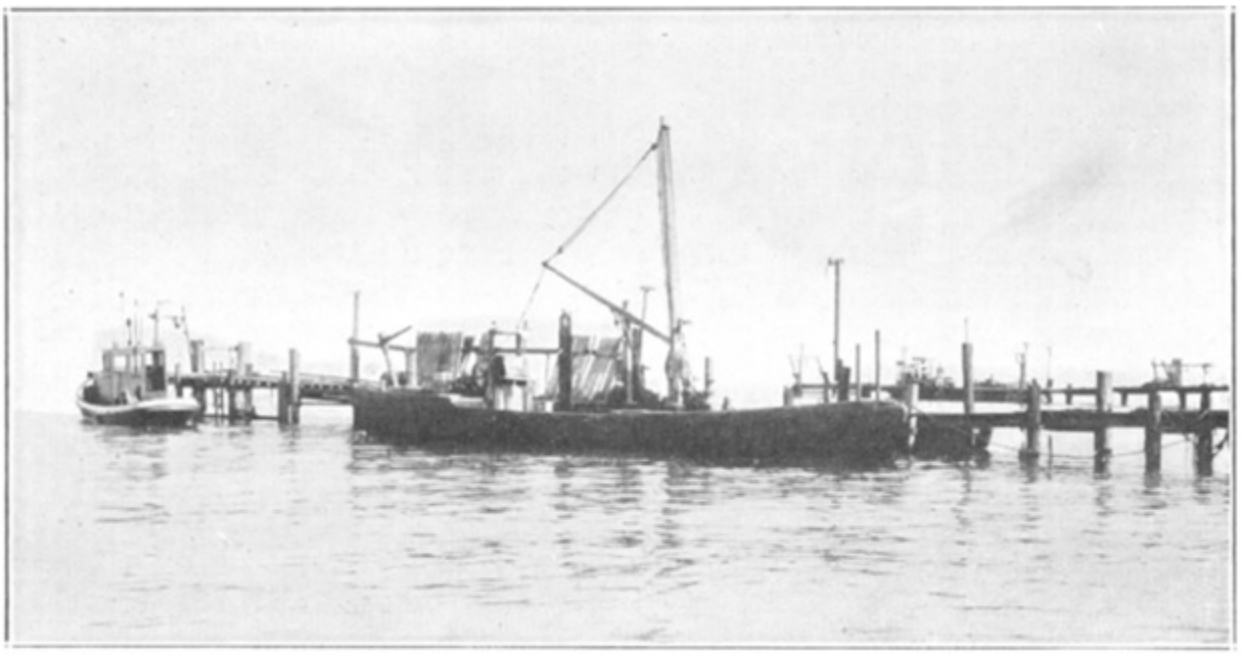

Plate 3. City Shrimp Company (source: Bonnot, 1931).

The Quong Sang Shrimp Co. employed only five men and a single power junk to set and haul 43 nets at two shrimp beds (Pastron et al., 2009b:137). This camp was burned in the late 1930s by the San Francisco Board of Health (Plate 4).

Plate 4. Burning of the Quong Sang Shrimp Camp by the San Francisco Board of Health in the 1930s (source: FoundSF, 2016).

The Golden West Shrimp Co. employed five men to set and haul 50 nets using a junk and a tow boat (Pastron et al., 2009b:139). A photograph of this camp shows a narrow pier supported on irregular pilings of varying diameters and heights (Plate 5).

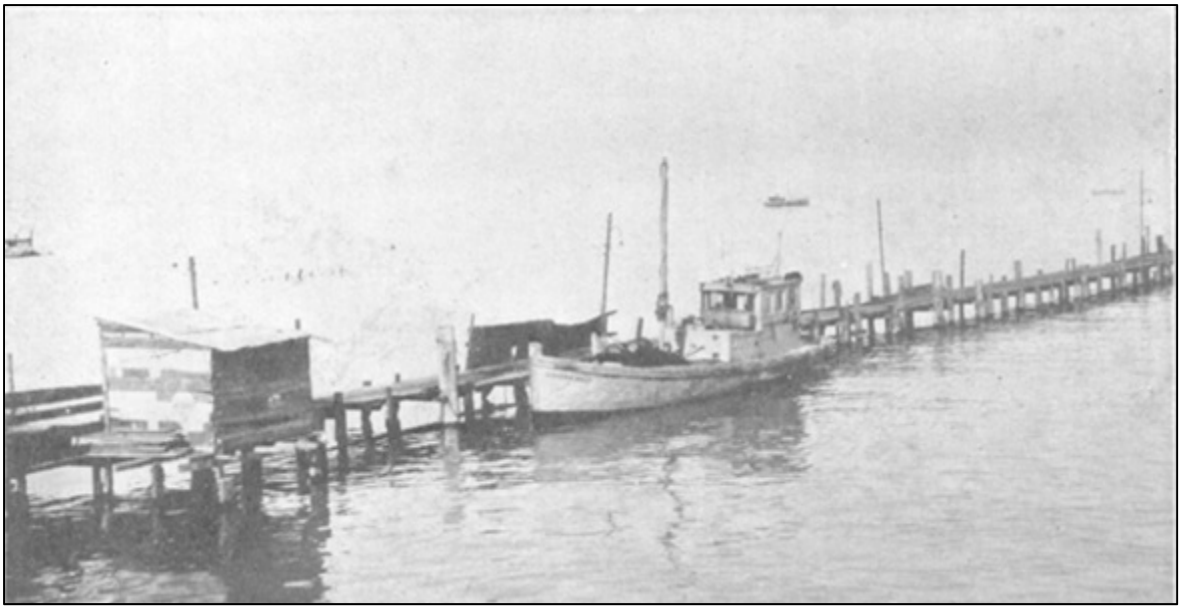

Plate 5. Golden West Shrimp Company (source: Bonnot, 1931).

Eight additional shrimp camps were located nearby. According to property owner J. J. Wintersteen, the California Shrimp Co., at 800 Innes and outside the project area, had a restaurant into the 1950s that featured a shrimp boat on the roof. The next detailed portrait of the neighborhood did not occur until 1938, when Ryker took a series of detailed aerials of San Francisco (Plate 6). The buildings at 908, 906, 904, and 900 Innes are all clearly shown, as are additional piers and marineways extending from Anderson's yard into the Bay that were not depicted on the Sanborn maps. To the west along the shore of the Bay (beneath present-day India Basin Shoreline Park) were numerous small buildings and storage yards. Three or four abandoned hulks are shown within the park vicinity, as are two piers. A series of pilings visible on the aerial align with a "marine fence" noted by Page & Turnbull east of the park property (Page & Turnbull, 2016).

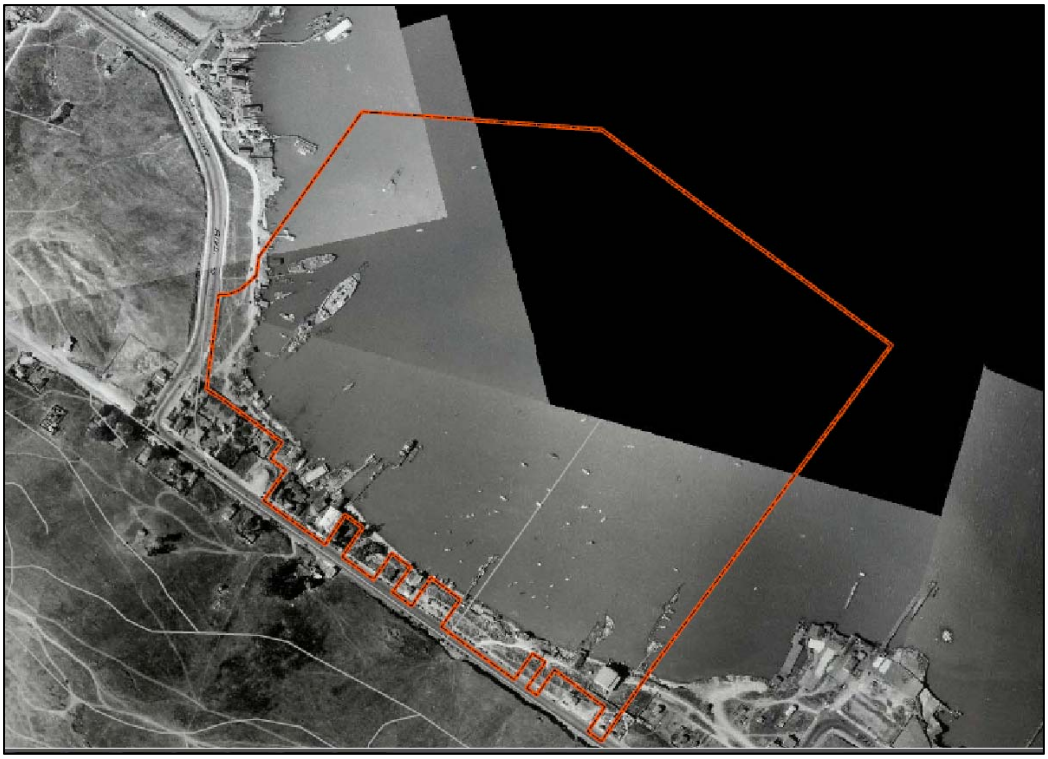

Plate 6. India Basin ca. 1938 before the reclamation efforts that followed World War II. Composite of 1938 Ryker aerials (source: David Rumsey Historical Map Collection).

The 1938 Ryker photograph shows that the boat building, planing mill, and storage buildings shown on the 1914 Sanborn in and south of Griffith Street were extant. It appears that the dwelling at 836 Innes Avenue had been demolished, and the yard was vacant. This parcel was developed with the Hunters Point Restaurant (838 Innes Avenue) around 1938 (Page & Turnbull, 2016:77). Two small buildings fronting the Bay were situated east of this address, but it does not appear that any of the properties in the project area along Innes Avenue were developed. A pier with several docked boats was shown in the approximate right-of-way of present-day Arelious Walker Drive. Between this pier and Earl Street were approximately a half dozen buildings along the Bay. One of the larger buildings to the north of 702 Earl had a set of marine ways leading into the water. The frontage along Innes Avenue was vacant. On the eastern edge of the project area, east of 702 Earl, was a long pier extending north into the Bay.

As late as 1950, the project site remained largely in the Bay, but more filling was apparent, especially at Anderson's boatyard at the end of Griffith Street (Figure 11). Hunters Point Boulevard had been constructed between Innes and Hudson avenues, and 401 Hawes had been removed. The dwellings at 908, 906, 904, and 900 Innes were still present and largely unaltered, but the water tank at 900 Innes had been removed. Anderson's boatyard, now Anderson & Cristofani Boat Building, had reconfigured and enlarged the lumber storage and planing mill complex east of Griffith Street. A new paint shop and compressor house had been built west of Griffith Street, and a blacksmithing and machine shop had been built on filled Baylands. The yard's boat ways extended much farther into the Bay than they had previously. A dock, known as the east outfitting dock, had also been built in this area ca. 1938–1946 (Page & Turnbull, 2016:81).

The 1950 Sanborn map (Sanborn Fire Insurance Company, 1950) shows that east of Griffith Street, 836 Innes had been demolished and a new restaurant, the Hunters Point Restaurant, had been built with the address of 838–840 Innes. This restaurant was two stories with a basement. A single-story dwelling was in the rear yard with the address 830 Innes. A single-story restaurant was developed at 820–826 Innes. In the rear yard was a small single-story dwelling designated as 828 Innes.

After the 1950s, the landscape of India Basin changed dramatically. Large areas of the Bay were filled in the 1960s using material excavated during the construction of Candlestick Park and portions of Interstate 280 (I-280) through San Francisco (Wintersteen, pers. comm., 2016). The piers and abandoned hulks in the Bay that were visible on the 1938 aerial were possibly removed before the filling program, but more likely were demolished and used for fill or simply covered. A portion of one of the hulks is still visible offshore from India Basin Shoreline Park. The current shape of India Basin Shoreline Park was

in place by 1969, after which filling activities were curtailed (Page & Turnbull, 2016:87). Filling at the current location of India Basin Open Space was also completed at this time. This area was regraded during the 1980s, and Arelious Walker Drive was constructed in the 1980s.

5.3. Native American Tribal Outreach

A letter was sent to the NAHC on July 19, 2016, requesting a search of the Sacred Lands File and a list of Native American contacts for the proposed project. Eleven individuals on the NAHC's list were contacted by certified mail on August 4, 2016, with follow-up calls completed on September 16, 2016 (Table 3). The letter to the NAHC, the response from the NAHC, and an example of the letter sent to the tribal members are found in Appendix C.

Table 3
Native American Heritage Commission
Identified Contacts and Contact Efforts

Stakeholder	Contact	Date Letter Sent	Respond	Date Called	Response
Amah Mutsun Tribal Band	Chairperson Valentin Lopez	8-4-2016	No	9-16-2016	Left follow-up message. No response was received.
Amah Mutsun Tribal Band	Mr. Edward Ketchum	8-4-2016	No	N/A	No phone number provided. Follow-up e-mail sent 9-16-2016. Response received 9-16-2016. Stated project is within the lands controlled by the *Ramaytush* and recommended contacting Muwekma Tribal Band.
Amah Mutsun Tribal Band of Mission San Juan Bautista	Chairperson Irenne Zwierlein	8-4-2016	No	9-16-2016	Left follow-up message. No response was received.
Costanoan Ohlone Rumsen-Mutsun Tribe	Chairman Patrick Orozco	8-4-2016	No	9-16-2016	Left follow-up message. No response was received.
Costanoan Rumsen Carmel Tribe	Chairperson Tony Cerda	8-4-2016	No	9-16-2016	No answer during follow up call. Follow-up e-mail sent 9-16-2016. No response was received
Esselen Tribe of Monterey County	Tom Little Bear Nason	8-4-2016	No	9-16-2016	Incorrect number and no e-mail provided. Sent update to NAHC.
Indian Canyon Mutsun Band of Costanoan	Chairperson Ann Marie Sayers	8-4-2016	No	9-16-2016	Recommended archeological monitor and tribal monitor during excavation because of the number of sites in Hunters Point.
Muwekma Ohlone Indian Tribe of the San Francisco Bay Area	Chairperson Rosemary Cambra	8-4-2016	No	9-16-2016	Mailbox was full. Follow-up e-mail sent 9-16-2016. No response was received.
Ohlone/Costanoan-Esselen Nation	Vice Chairperson Christianne Arias	8-4-2016	No	9-16-2016	Left follow-up message. No response was received.
Ohlone/Costanoan Esselen Nation	Chairperson Louise Miranda-Ramirez	8-4-2016	No	9-16-2016	Left follow-up message. No response was received.
The Ohlone Indian Tribe	Mr. Andrew Galvan	8-4-2016	No	9-16-2016	Left follow-up message. No response was received.

Notes: N/A = not applicable; NAHC = Native American Heritage Commission
Source: Data compiled by AECOM in 2016

No responses were received as of September 6, 2016. Follow-up calls were completed on September 16, 2016.

5.4. Archeological Field Survey

A mixed-strategy field survey of the APE was completed by Jennifer Redmond (AECOM Archeologist, M.A., R.P.A.) and Joshua Taylor (AECOM Archeologist) on July 21 and 22, 2016 (see Figure 18 for area covered). J. J. Wintersteen, owner of several of the properties included in the 700 Innes portion of the proposed project, provided access to some of the privately held parcels and provided details on some aspects of the recent history of the project area. The breakdown of each parcel by owner is included in Figure 2.

5.4.1. **700 Innes Property**

BUILD Ownership

The portion of the 700 Innes property owned by BUILD was surveyed using 5- to 10-meter transects, depending on the topography (Figure 18). Aside from a narrow strip of land along Innes Avenue, this land consists of artificial fill, which was transported to the property in the 1950s or later. Much of the original fill came from the construction of Candlestick Park to the south, or from the construction of a section of I-280 through San Francisco. Large piles of sand, gravel, and construction debris are on the property. Unpaved areas were examined for the presence of archeological materials, including redeposited prehistoric materials in the fill. Where exposed soils were present, visibility was good (50 to 75 percent). The property was largely disturbed, and no foundations or features visible on historical maps or aerials (e.g., Plate 11) were identified. No *in situ* archeological resources were identified during the pedestrian survey. Construction materials, sparse, historic-period artifacts—including ceramics and glass—modern debris, and possible redeposited pier/wharf pilings were identified on the property (Plate 7).

Plate 7. 700 Innes: BUILD property, view northeast, showing possible redeposited piling or pier fragment.

Hamman Ownership

The portion of the 700 Innes property owned by Hamman was surveyed in narrow, 5-meter transects. This land was filled in the early twentieth century, and the boathouse on the property (702 Earl Street) was built in 1935. This parcel was landscaped; unpaved areas were examined for the presence of archeological materials. Where exposed soils were present, visibility was poor to good (25 to 50 percent). No archeological resources were identified.

Wintersteen and Zebra Ownership

The portion of the 700 Innes property owned by Wintersteen was surveyed in an intuitive manner (Figure 18). Much of the property was developed, paved, or covered with gravel, debris, vehicles, or shipping containers (Plate 8). Accessible areas were examined for the presence of archeological materials. In the small areas where exposed soils were present, visibility was poor to good (25 to 50 percent). The areas of the property along Innes Avenue that were not covered with fill were cut and graded to allow vehicle access in the twentieth century. No *in situ* archeological resources were identified during the pedestrian survey. Construction materials and modern debris were observed, along with sparse, historic-period artifacts, including small fragments of black glass and stoneware (likely from bottles) on the rear of the 840 Innes Avenue parcel. The Zebra property was not accessible to survey. Based on what can be seen from neighboring areas it appears that there is little, if any, exposed ground surface in this parcel.

Plate 8. 700 Innes: Wintersteen property, view east.

5.4.2. India Basin Shoreline Park and India Basin Open Space Properties

RPD Ownership

RPD's India Basin Open Space and India Basin Shoreline Park were also surveyed using 5- to 10-meter transects, depending on the topography. These areas are also almost entirely composed of artificial fill, except for a small portion in the extreme northwest adjacent to Hunters Point Boulevard. Unpaved areas were examined for the presence of archeological materials, including redeposited prehistoric materials in the fill. Where exposed soils were present, visibility was good (50 to 75 percent).

Offshore components of these areas were also visually examined from the edge of the shoreline during low tide. During completion of the pedestrian survey, what appears to represent the remains of at least one, and possibly two, abandoned ship hulks were observed in Shoreline Park and immediately adjacent waters. The most apparent sunken vessel was identified offshore of Shoreline Park (Plates 9 and 10). The wreck appears to be the remains of an iron and wood vessel extending out from under the fill used to create the Park.

Plate 9. Shoreline Park submerged ship hulk, view northeast.

Plate 10. Shoreline Park submerged ship hulk, view south. Note remains of modern vessel at left of image.

In addition to this vessel, during the completion of the pedestrian survey wood and metal fragments, recognized as possibly associated with a second ship, were identified in a small tidal pond/inlet on the eastern side of Shoreline Park (Plate 11). Neither hulk could be adequately accessed during completion of the pedestrian survey as the portions that are exposed are located within inundated areas. It also appeared that these potential hulks extended beneath the fill that was imported to reclaim the shallow waters of India Basin during the 1950s and 1960s.

Plate 11. Shoreline Park possible entombed vessel in fill and tidal pond/inlet, view north.

It appears that the remains of one of the two potential vessels identified during the survey are depicted on the 1956 (photorevised 1967) USGS topographic map for Hunters Point (Plate 12) (USGS, 1956a). As can be seen in Plate 12, various piers and docks still extend Bay ward from the properties fronting Innes Avenue and a finger of fill now extends northeastward from the vicinity of the 700 Innes parcel (pink land mass at left margin of Plate 12). Just north of this peninsula of fill, a derelict ship hull is visible as represented by the cross hatching within the shallow waters (stippled) of the Bay.

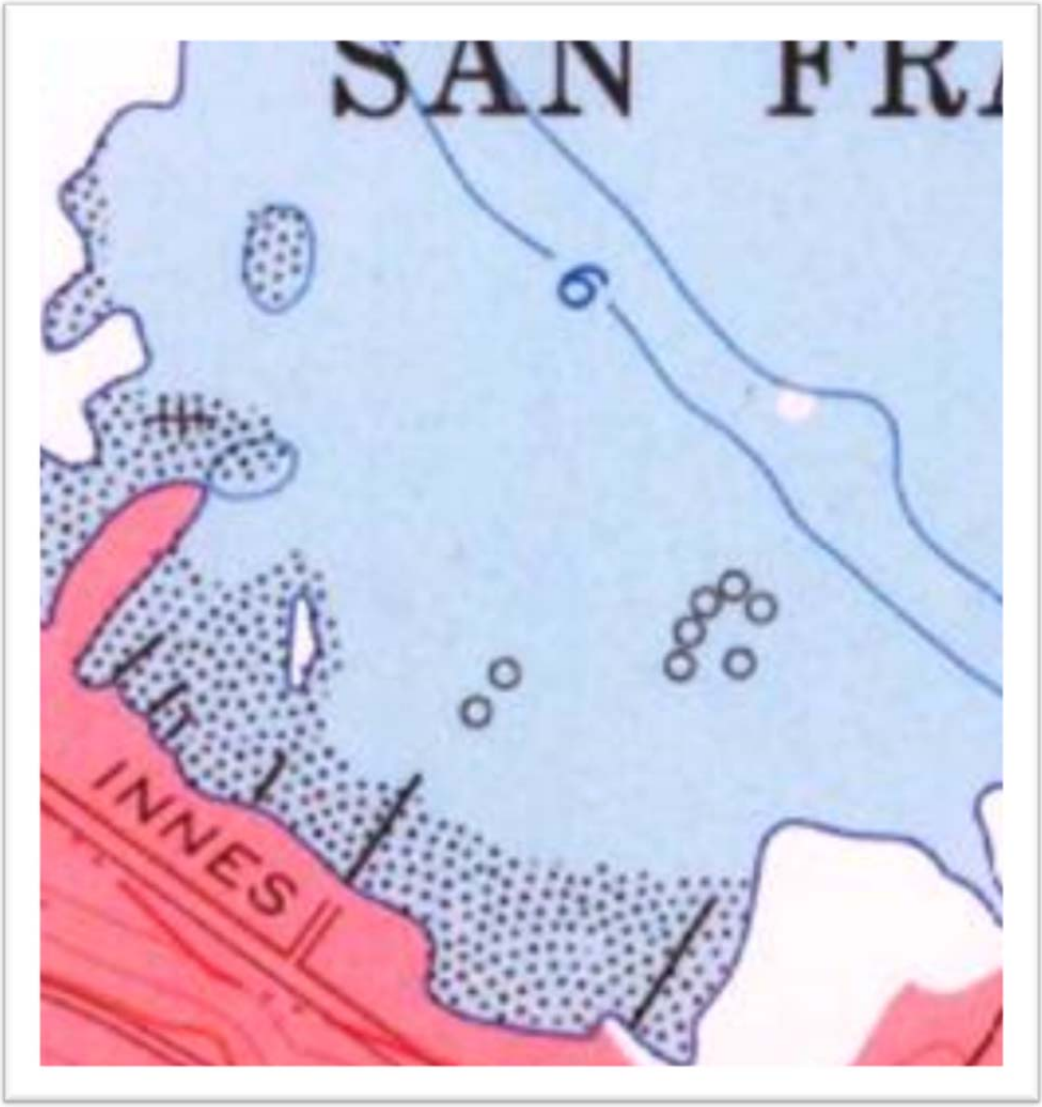

Plate 12. Ship hulk (cross hatching at center left) resting in tidal flat of India Basin as depicted on 1956 Hunters Point topographic quadrangle map (source: USGS, 1956a).

Superimposing and georeferencing current aerial imagery to the 1938 aerial (Plate 13) reveals that the presumed hulks that were identified during the archeological survey line up closely with the vessels visible in the 1938 aerial (see also Plate 6). The bow of the northernmost vessel in the 1938 aerial falls within the tidal inlet, with the remainder of the hull appearing to fall within the fill that was subsequently imported to create Shoreline Park. The larger vessel in the 1938 image corresponds directly with the more definitive hull identified within the shallow waters off of Shoreline Park. The remainder of this hull likewise appears to extend beneath the park's imported fill as revealed in the overlay. Furthermore, Plate 13 shows that at least one other large hulk that was clearly not seaworthy in 1938 (bottom of frame in Plate 13) could occur entirely beneath the surface of today's Shoreline Park.

The imported fill and developed surface of the park prevented further delineation of these vessels during the pedestrian survey. In addition to the two potential ship hulks identified during the pedestrian survey, a number of scattered historic-period artifacts were identified across the parks; none, however, appeared to be *in situ*.

Plate 13. Overlay of 1938 Ryker aerial photograph on Google Earth image (source: David Rumsey Historical Map Collection).

5.4.3. **900 Innes Property**

RPD Ownership

RPD's 900 Innes property was surveyed in narrow, 5-meter transects. Unpaved areas were examined for the presence of archeological materials. Where exposed soils were present, visibility was poor to good (25 to 50 percent). Much of the unpaved portions of the property were vegetated (Plate 14). The built environment resources on this property are being documented in the HRE (Page & Turnbull) for the current undertaking; the focus of this portion of the survey was to locate several potential archeological resources, as well as any previously unidentified resources. The well and construction debris noted as possible archeological features by Page & Turnbull were relocated. The well was identified during the survey as a sewer standpipe; the manhole cover is labeled "SF/DPW/SEWER," and the standpipe is marked as capped. The construction debris, consisting of red ceramic roofing tiles and granite curbstones, was identified by Wintersteen as having been left behind by a recent contractor (Granite Construction) who had used the parcel as an equipment and material storage yard. Granite curbstones were also noted on the Wintersteen property, as well as at India Basin Shoreline Park, where they had been incorporated into the landscaping. As these items identified by Page & Turnbull, specifically the stand pipe and debris from Granite Construction's recent use of the site they are not associated with the construction of scows or other vessels in India Basin, they are not contributors to the India Basin Scow Schooner Boatyard. Furthermore, as both are modern in age they do not represent archeological resources and as such, they will not receive further consideration herein.

Plate 14. 900 Innes, view south. Note Shipwright's Cottage left of tree.

No *in situ* archeological resources were identified during the pedestrian survey. Construction materials and modern debris were identified, along with sparse, historic-period artifacts, including a possible fragment of a glass fishing float. Offshore components of this parcel were also visually examined during low tide. Additional components of the "water fence posts" identified by Page & Turnbull (2016:18) were visible in the mud at low tide off of India Basin Shoreline Park (Plate 14). Consisting of what appear to be concrete slabs, the function of these elements is unknown. Because there is only one row of piles (i.e., water fence posts) these may have been panels placed vertically along the posts to serve as some sort of marine bulkhead (Plate 15). Sparse, historic-period artifacts, including majolica and Chinese brownware, were noted in the Bay Mud near this feature.

Plate 15. Water fence/pier off Shoreline Park, view east.

5.5. Extended Phase 1

As described above, what appears to be the remains of at least one, and likely two, ship hulks were identified in the APE during completion of the pedestrian survey efforts. In response to comments received from Planning to the draft ASR, AECOM completed an Extended Phase 1 (XP1) study (i.e., limited subsurface investigation) within the confines of Shoreline Park and immediately adjacent waters to augment the results of the pedestrian survey and determine the identity of the vessels in question. In consultation with Planning, the XP1 implemented by AECOM took the form of three parts: (1) working alongside Northgate Environmental Management (NEM) during completion of environmental borings within Shoreline Park, (2) subsurface work in the form of placing soil probes within the tidal inlet and shallow offshore waters atop and around the remains identified within Shoreline Park, and (3) the completion of additional archival research as a means to more definitively identify the hulks pictured in the 1938 aerial imagery (Plates 6 and 13). The results of the XP1 and how they relate to the results of the pedestrian survey are described below.

5.5.1. **Archival Research**

In order to determine the identity of the vessel(s) observed during the archeological survey in Shoreline Park, additional archival research was required. A “ship graveyard” had been identified by previous researchers at Hunters Point, but they did not place this ship scavenging area in the vicinity of Shoreline Park. Page & Turnbull (2016:54), in earlier iterations of their HRE prepared for the current project, indicate that during the 1920s and continuing into the 1930s “obsolete vessels were towed to the east end of the basin, stripped of parts, and left to deteriorate in the mud.” Other researchers similarly placed the location of this vessel scavenging in the eastern portion of the India Basin/Hunters Point vicinity. According to PAR, who conducted the archeological inventory and assessment of Hunters Point Shipyard, the “Hunters Point Ship Graveyard” was located “in the cove west of the point” (Hamusek-McGann et al., 1998:33). Although which cove west of the point is not specifically identified, PAR suggested that the “ship graveyard” lies within their “Zone 4,” which is a large offshore area around the naval shipyard east of the APE delineated for the current project (Hamusek-McGann et al., 1998:59). Citing PAR, Archeo-Tec likewise placed the “Hunters Point Ship Graveyard” in an area east of the current APE (Pastron et al., 2009a:Figure 18; 106).

Primary source reference to the “Hunters Point Ship Graveyard” mentioned by both PAR (Hamusek-McGann et al., 1998) and Archeo-Tec (Pastron et al., 2009a and 2009b) is first found in a series of newspaper articles they cite (i.e., *San Francisco News,* 1938) bemoaning the presence of decaying vessels lying offshore of the by then burgeoning Hunters Point neighborhood. A period photograph (Plate 16) depicts obsolete vessels at Hunters Point ca. 1929. A handwritten notation on this particular version of the photograph reads “Lexington Carrier A (sic) Hunters Point River Boats Boneyard, SF Modoc & Apache.” Plate 16 clearly depicts an ark houseboat in the foreground and other smaller craft moored between the two “river boats.” One of these smaller vessels appears to have a debris chute mounted on its roof that in turn extends up to the flanks of the larger vessel at rear of image. The larger vessel at rear also has a ladder extending up to it from a platform at far right of image. All these features suggest that these vessels are not simply abandoned but being actively salvaged. It should also be noted that a “boneyard” (as noted on face of image reproduced here as Plate 16) is common vernacular for a breaking yard where obsolete or damaged machinery, equipment, vehicles, and/or vessels are broken up and useable portions repurposed (i.e., salvaged).

Plate 16. Abandoned "river boats *Apache* and *Modoc*" being salvaged at Hunters Point ca. 1929. Note ark houseboat in foreground (source: Bernal History Project, 2017).

A review of the 1938 Ryker aerial east of the current APE reveals a single, isolated hulk within the waters, well offshore, corresponding to the area referred to as "Zone 4" by PAR (Plate 17). This same vessel, along with a second "wreck", are depicted on Archeo-Tec's Figure 18 (Pastron et al., 2009a). It is likely the presence of this vessel (and the second identified by Archeo-Tec), along with the name of the "graveyard," that led researchers to the presumption that the aforementioned "Hunters Point Ship Graveyard" was located closer to the naval shipyard. Subsequent research performed for the current investigation (outlined below), however, reveals that the "Hunters Point Ship Graveyard" is both one and the same as the "River Boat Boneyard" (as depicted in Plate 16) and is specifically located within the confines of Shoreline Park and immediate offshore area.

Plate 17. 1938 Ryker aerial photograph with submerged vessel in vicinity of today's Hunters Point Naval Shipyard (source: David Rumsey Historical Map Collection). Note eastern edge of current APE at upper left of image and dry docks of naval shipyard at bottom right.

Before World War II, the area now containing Shoreline Park was clearly shallow water and the final resting place of various vessels, "left to deteriorate in the mud," as depicted in a zoomed in version of the 1938 Ryker aerial (Plate 18). The presence of these vessels at this specific location dates back at least three years earlier as revealed in an aerial photograph dating to 1935 (Plate 19). Although somewhat difficult to see owing to the differing quality of the images, it is nonetheless evident that one vessel pictured in the 1935 image is barely recognizable as a vessel in the image from 1938 (to bottom left of largest vessel in Plate 18). Given that these two images were taken only three years apart, the significant change in this vessel suggests that it was being actively scavenged. Fittings, hardware, and useable lumber being pulled by the local ship builders and repurposed elsewhere led to the point where the remaining hulk was settling into the underlying muds as the hull was no longer able to stay afloat.

Plate 18. 1938 Ryker aerial photograph with vessels in various states of repair in vicinity of today's Shoreline Park (source: David Rumsey Historical Map Collection).

Additional evidence suggesting that the vessels appearing in the 1935 and 1938 aerials in the vicinity of today's Shoreline Park (Plates 18 and 19) and not the vessel near the naval shipyard (Plate 17) represent the "River Boat Boneyard" are the proximity of the shoreline to the abandoned vessels and the dirt road paralleling the shoreline in the same vicinity. In Plate 16, it is clearly evident that the shore is in close proximity to the vessels comprising the "boneyard." The historical aerial imagery likewise clearly shows that the vessels at Shoreline Park are close to shore (Plates 18 and 19), while the vessel near the naval shipyard (Plate 17) is well offshore. Using Google Earth to measure the distances, the vessel near the naval shipyard in 1938 was approximately 300 ft. offshore, while the vessels at Shoreline Park in 1938 were all less than 200 ft. offshore with two of the three vessels pictured within 100 ft.

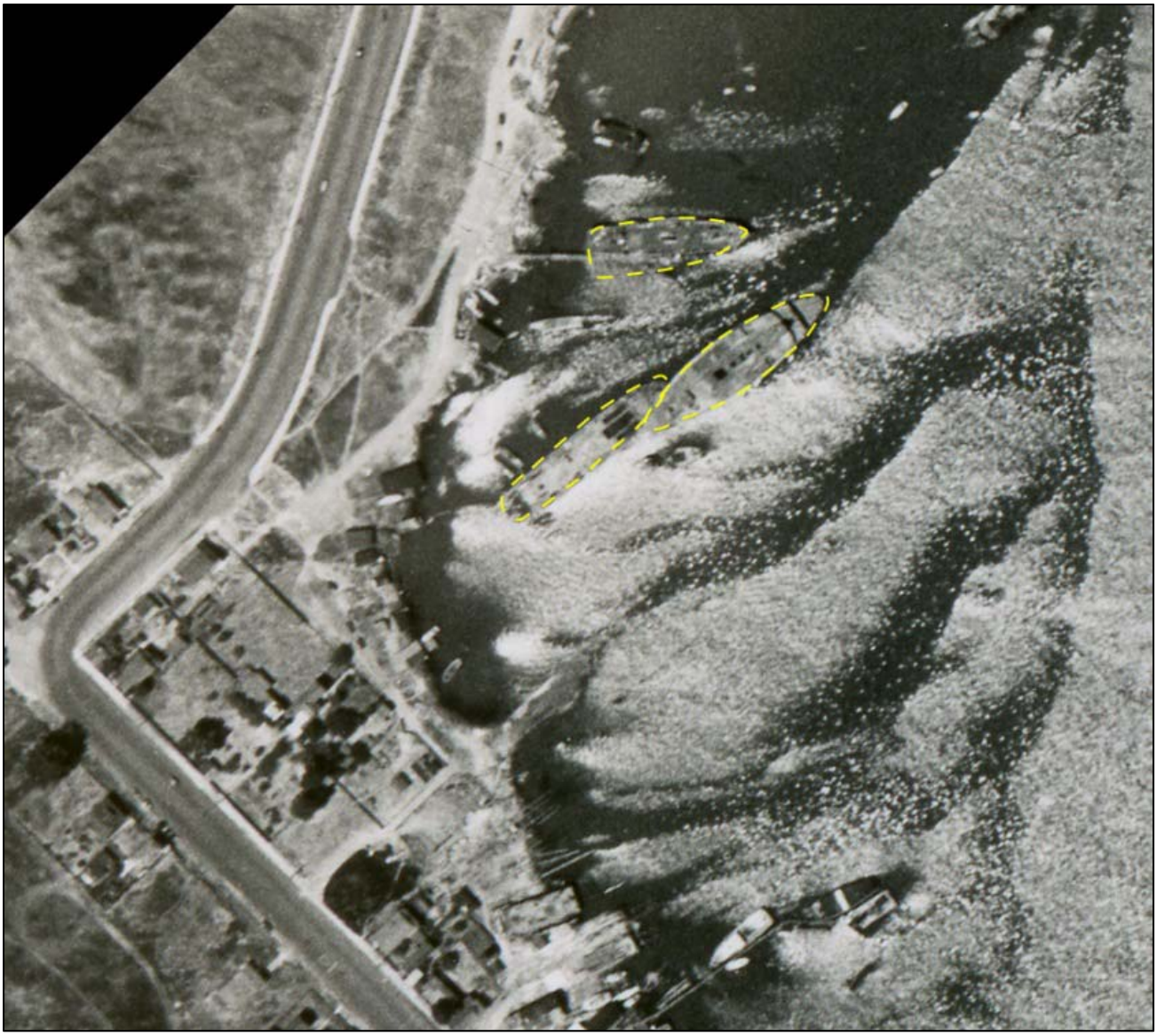

Plate 19. 1935 aerial photograph of project area with ship hulks present in Shoreline Park vicinity at left (source: Pacific Aerial Surveys). Note that the three ship hulks are outlined to aid the discussion.

Plate 16 shows a vehicle traversing a dirt roadway paralleling the shoreline. Plates 18 and 19 also show that there is a dirt road paralleling the shoreline; however, no such road occurs along the shore near the Naval Shipyard as seen in Plate 17. This evidence alone suggests to a high degree that the “River Boat Boneyard” was historically located in the vicinity of today’s Shoreline Park.

The premise that the River Boat Boneyard is one and the same as the Hunters Point Ship Graveyard is also based on a description of the vessels that composed the graveyard during the late 1930s. Citing the *San Francisco News* of 1938, both PAR and Archeo-Tec report that by this time period, five vessels lay wasting in what was by then an infamous public eyesore. As reported by PAR (Hamusek-McGann et al., 1998:33), the five vessels found in the graveyard included:

- The *Arrow*, a 147-ft.-long ferry that was built in Seattle in 1903. By 1938, nothing remained of her but her bows and two starboard portholes that emerged at low tide.
- The *Bay City,* a ferry built at the Fulton Iron Works in San Francisco’s North Beach in 1878. She carried commuters between San Francisco and Alameda and later between Vallejo and South Vallejo. In 1930, J. C. Ogden purchased and

beached the *Bay City* at Hunters Point. By 1938, "her paneless windows and caved-in deck let fog into the once-plush cabins where three-piece orchestras had once played."

- The *Caroline*, a four-masted schooner built in 1902 on Puget Sound. After twenty years hauling lumber and grain, she was stripped of her machinery and anchored off Hunters Point. In 1932, after a storm beached her, an enterprising sailor, Oscar Baver, "rigged the officers' and crews' space as a six-room house with electric lights, telephone, and running water for himself, and his wife and daughter."
- The scow *Emma,* transported hay from Sacramento to San Francisco until ending her days at Hunters Point. Once there, a Mr. A.T. Chick mounted her pilot house on stilts and took up residence there. He and the Baver family were apparently neighbors who enjoyed a private lifestyle among the ship graveyard.
- The *Modoc,* a mail boat built in San Francisco in 1880. In 1917, she was sent to the Southern Pacific Shipyards in the Oakland estuary. In 1928, she was taken to Hunters Point and stripped. By 1938, only the timbers of the hull and lower deck remained.

Note that the *Apache* as identified in Plate 16 is not identified as one of the vessels in the graveyard. The only link found during the current effort between the *Apache* and the Hunters Point vicinity is the photograph presented in Plate 16. An identical image but of slightly less quality is also found within the collection of the San Francisco Public Library (AAI-015) and the catalog entry states that the image is of the *Apache* and *Modoc*. It should be noted; however, that another identical version of this photograph is found on the Hunters Point History website (San Francisco History Index, 2002) and that this copy does not include any such notation. It is possible and perhaps likely that the notation was added at a later date and that the information provided in the notation was erroneous. Supporting the premise that the placement of the *Apache* within the boneyard ca. 1929 is erroneous is a depiction of the *Apache* drawn by E.A. Burbank in 1935 (Plate 20). Although it is possible that Burbank sketched the *Apache* in a seaworthy condition using the hulk in the boneyard as a model, as will be seen below, the vessels depicted in the ca. 1929 photograph of the boneyard had been reduced to the point of barely being recognizable as vessels by 1935. The fact that Burbank drew a clearly intact *Apache* in 1935 suggests that the *Apache* was in fact not a constituent of the boneyard.

Plate 20. 1935 graphite on paper depiction of the *Apache* by Elbridge Ayer Burbank (Source: California Historical Society).

That the River Boats Boneyard and the Hunters Point Ship Graveyard are different names for the same feature is clearly evident when one examines an undated photograph taken from a similar vantage point as the boneyard ca. 1929 (Plate 21). At the center rear of the frame is a large vessel with *Bay City* clearly written out on its flanks (note that the *Bay City* has neither a standard port nor starboard side as she was a double-ended ferry to allow her to sail in either direction). That the vessel has been scavenged of some of its equipment and structure and not simply moored in this vicinity is evident when one compares the condition of the *Bay City* in Plate 21 with the postcard of the *Bay City* plying the waters of the Bay (Plate 22). As shown in the two images (Plates 21 and 22), the primary stack, the A-frame, and the walking beam (all components of the drive system) as well as significant amounts of the lumber that made up the cabin and hurricane (i.e., uppermost) decks has been removed from the *Bay City*, presumably after it had been brought into India Basin to be salvaged.

Plate 21: Undated photograph of the *Bay City* and the *Caroline* in India Basin (source: O'Brien, 2005).

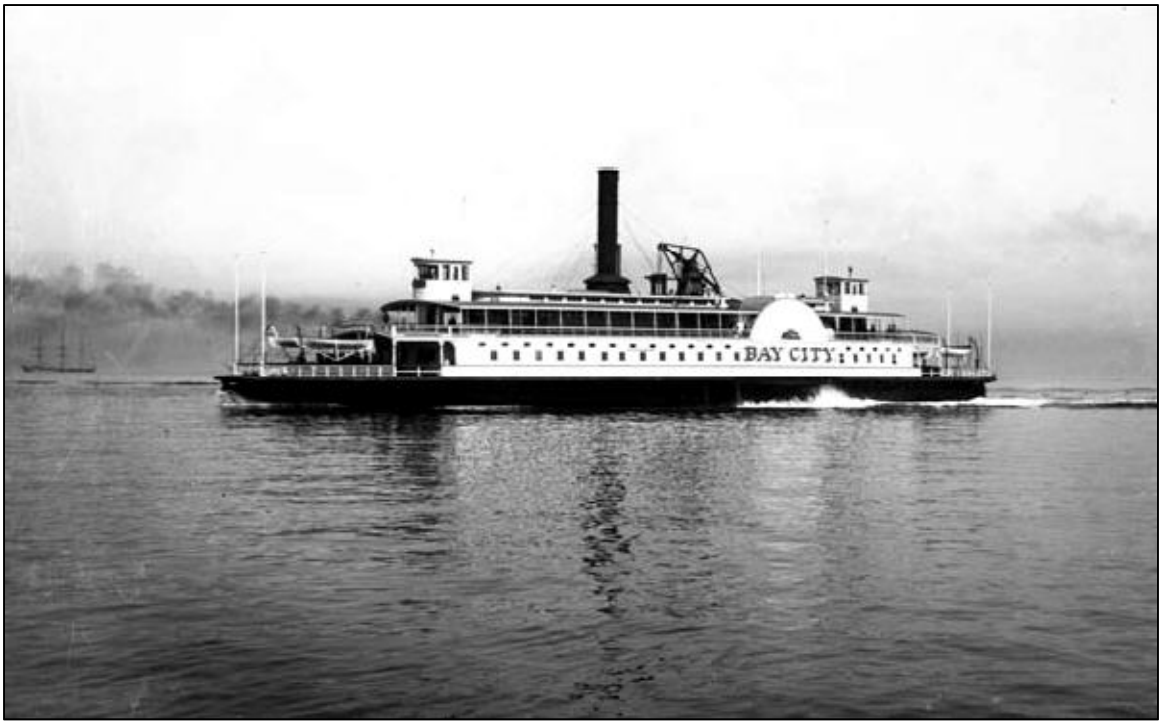

Plate 22: Undated image of the *Bay City* crossing the Bay (source: Denver Public Library). Note two pilot houses on *Bay City* as she was a double-ended ferry where both ends functioned as the bow to allow the vessel to enter and exit ferry slips without ever having to turn around.

Because we know that the *Caroline* was a schooner and the other three large vessels (excluding the *Emma* which was a smaller scow) within the Hunters Point Graveyard were all ferries, it is evident that the other relatively intact vessel depicted along with the *Bay City* in Plate 21 is the *Caroline*. A photograph of the *Caroline* being led by a tug to the Gardiner Mill ca. 1906 is provided as Plate 23. This particular image is valuable as the morphology of the stern of the *Caroline* is quite visible and comparisons with the hulk pictured in Plate 21 (as well as others provided below) can easily be made.

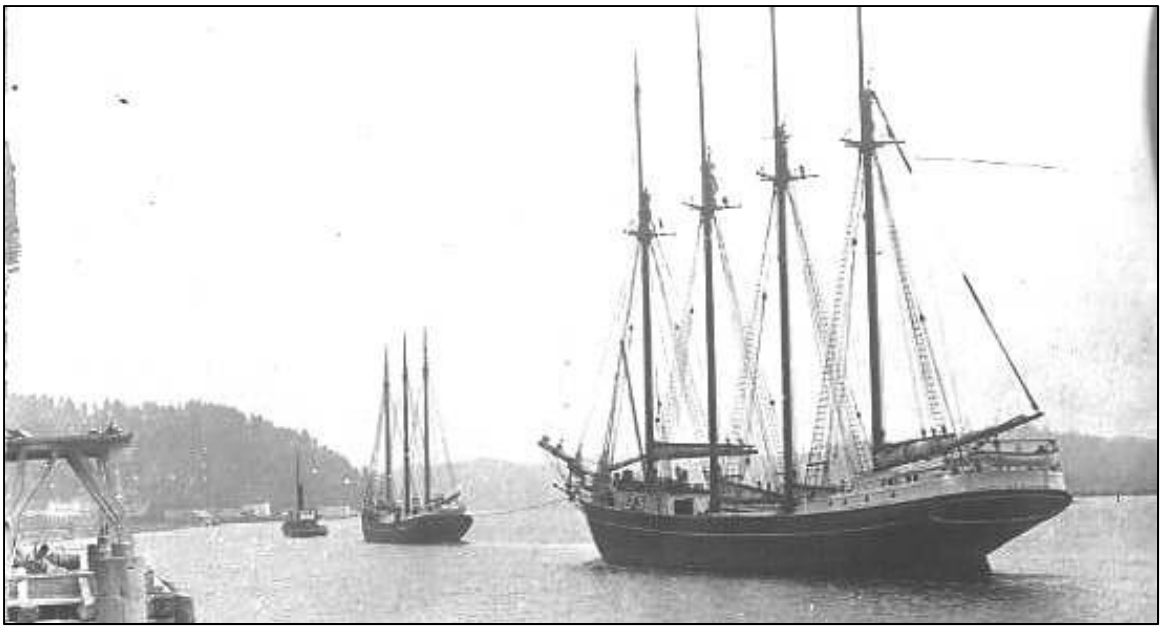

Plate 23: The *Caroline* and smaller three-masted vessel ca. 1906 being led by tug to Gardiner Mill, Gardiner, Oregon (source: Umpqua Valley Museums).

With the identities of two of the vessels established, utilizing the description of the graveyard as found in the *San Francisco News* (as cited by Hamusek-McGann et al., 1998:33), the identities of the additional vessels can be determined. According to the *San Francisco News* (1938), the remains of the *Modoc* lay closer to the beach and astern of the *Bay City* while the *Caroline* lay alongside the *Bay City*. It has been established that the vessels depicted in the undated photograph presented as Plate 21 are the *Bay City* and the *Caroline*. This image, however, does not clearly reveal the presence of the *Modoc* astern of the *Bay City.* Fortunately, there are other period photographs taken from different vantage points that illustrate the arrangement and state of the vessels in the Hunters Point Ship Graveyard. In order to aid the discussion, the vessels have been color coded in the following plates. In addition to the named vessels, an ark houseboat is also color coded as it is present in many of the photographs of the graveyard including the ca. 1929 image (Plate 16).

Plate 24 depicts the Hunters Point Graveyard ca. 1932 while Plate 25 shows a similar scene from a different vantage point ca. 1934. The *Bay City* (yellow) is quite recognizable and the name of the vessel is also legible on these images. Although the primary stack is missing and the walking beam has been removed from the A-frame in both plates, the *Bay City* otherwise appears fairly intact. This would suggest that the undated photograph presented as Plate 21 was taken sometime after 1934. In both Plates 24 and 25, the *Caroline* (pink) is at left and it is evident that she has had her four masts removed. In the foreground of both plates is an ark houseboat (green) which unlike the *Bay City* and *Caroline* is also present in Plate 16. Most importantly; however, Plates 24 and 25 clearly show a much dilapidated hulk located both astern and shoreward of the *Bay City*. This positioning in relation to the *Bay City* suggests that this hulk represents the *Modoc* (orange).

Plate 24: Hunters Point Ship Graveyard ca. 1932. De-masted *Caroline* at left with smaller two-masted sailing ship moored alongside; ark houseboat in foreground with the thoroughly reduced remains of *Modoc* just beyond, the largely intact *Bay City* at center right, and just inside at far right, the much-decayed remains of the *Arrow* (source: San Francisco Public Library Digital Photograph Collection, AAB-8960).

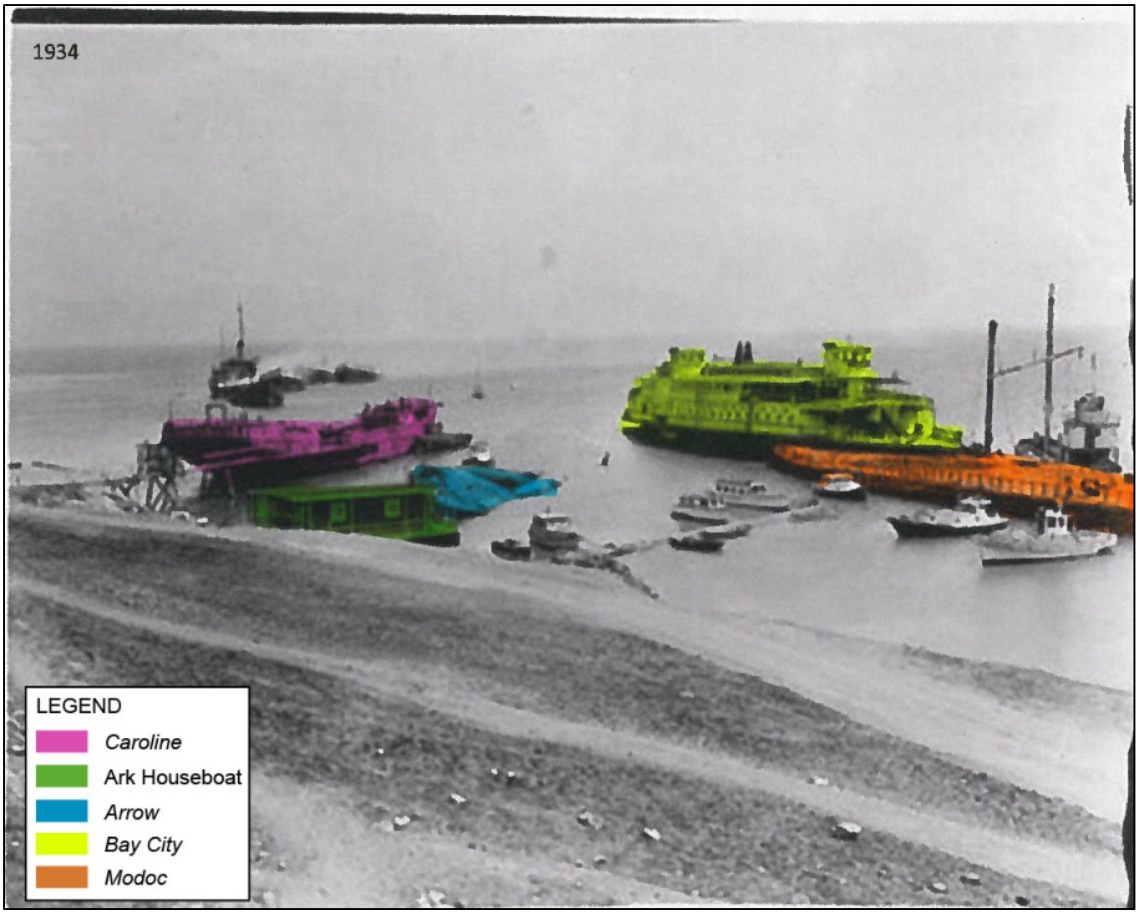

Plate 25: Hunters Point Ship Graveyard ca. 1934. De-masted *Caroline* at left with small tug moored alongside at bow. An ark houseboat is in foreground with the thoroughly reduced remains of *Modoc* just beyond, the largely intact *Bay City* at center right, and just inside at far right, the *Arrow* with the hurricane and cabin decks now absent (source: San Francisco Public Library Digital Photograph Collection, AAB-9067).

Evidence that one of the two large vessels pictured in the 1929 image of the “River Boat Boneyard” (Plate 16) is in fact the *Modoc* (orange) can be found when one compares the *Modoc* as pictured on the Sacramento River (Plate 26) with the 1929 image (color-coded as Plate 27 below). Perhaps most characteristically, the *Modoc* as depicted in operation (Plate 26) as well as in the boneyard has a very square pilot’s house with three windows per side. In both images, a large black square (presumably a loading bay) is present aft of centerline (toward stern) and an evenly spaced series of square windows are present along the main deck just below the railing of the cabin deck. Four such windows occur between the aforementioned “loading bay” and a second larger “loading bay” located toward the midpoint of hull. This larger “loading bay” is closed on the image of the *Modoc* in operation (Plate 26), although it appears open in Plate 27 (just to the right of what appears to be a debris chute extending off of its cabin deck railing). These morphological features along with the knowledge that the *Modoc* was a constituent of the graveyard suggest that the vessel in question is in fact the *Modoc*.

Plate 26: Postcard of the *Modoc* on the Sacramento River (source: EBay).

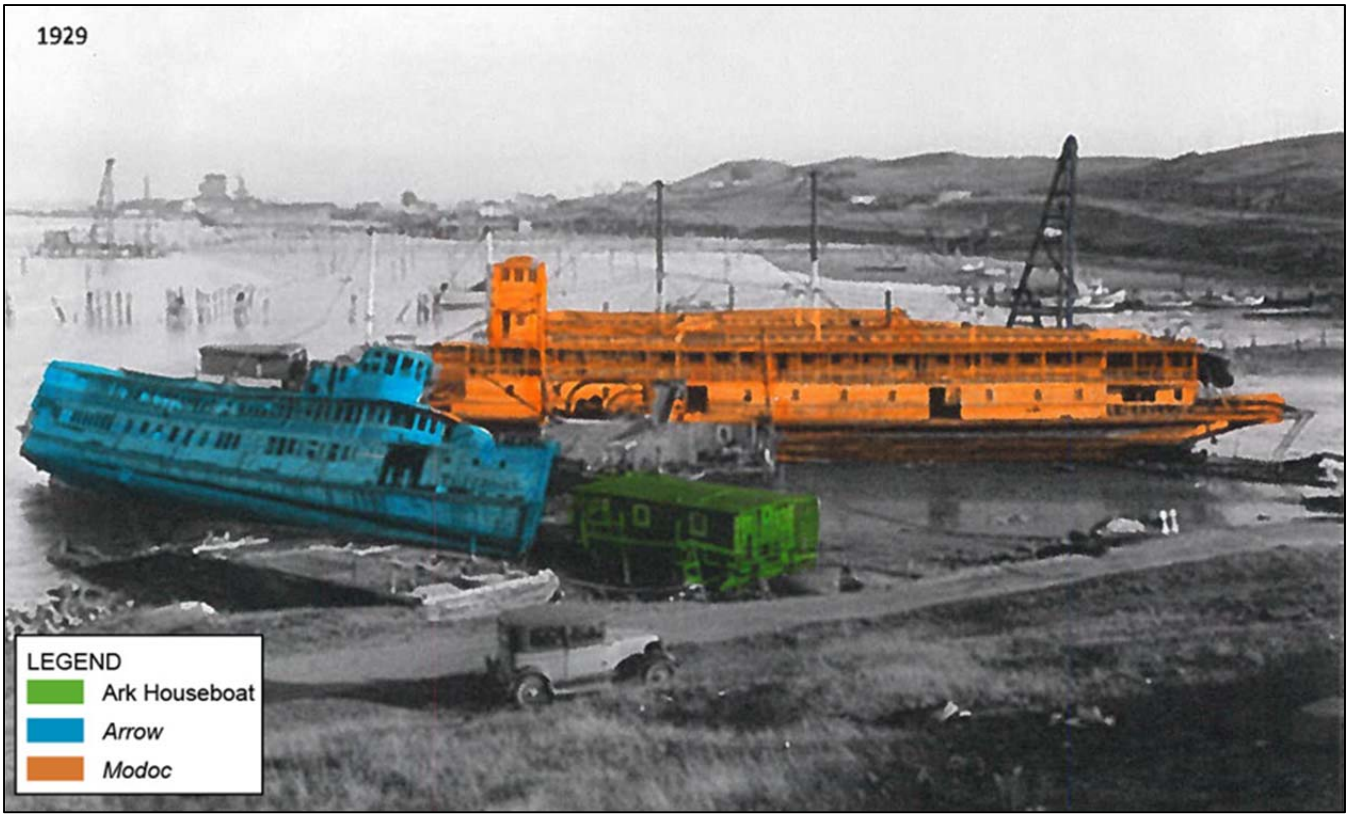

Plate 27: Hunters Point Ship Graveyard (nee River Boat Boneyard) ca. 1929 (source: San Francisco History Index, 2002). Note: The notation identifying these vessels as the *Apache* and *Modoc* is absent from this version of the photograph; compare with Plate 16.

No location is provided for the *Arrow* (blue); however, the PAR report (citing the *San Francisco News* of 1938) states that by 1938 only her bows and two starboard portholes emerged at low tide. In Plates 24 and 25, the hull of a nearly unrecognizable vessel is pictured in the middle of the frames, just beyond the ark houseboat. That this mass represents the hull of the *Arrow* is best revealed when the color-coded version of the 1929 image (Plate 27) is reviewed and the relationship between the ark houseboat (green) and the vessel identified as the *Arrow* (blue) is recognized. The conclusion that this vessel is the *Arrow* is based on a comparison with the hulk as pictured in 1929 with an image of the *Arrow* underway on the waters of the Bay (Plate 28). The positioning and number (n=3) of portholes on the bow, the presence of the large black square (possibly a loading bay) just aft of the portholes, the shape of the pilot house, and the superstructure on the bow (with crew standing alongside in Plate 28) suggests that the vessel in question is in fact the *Arrow.*

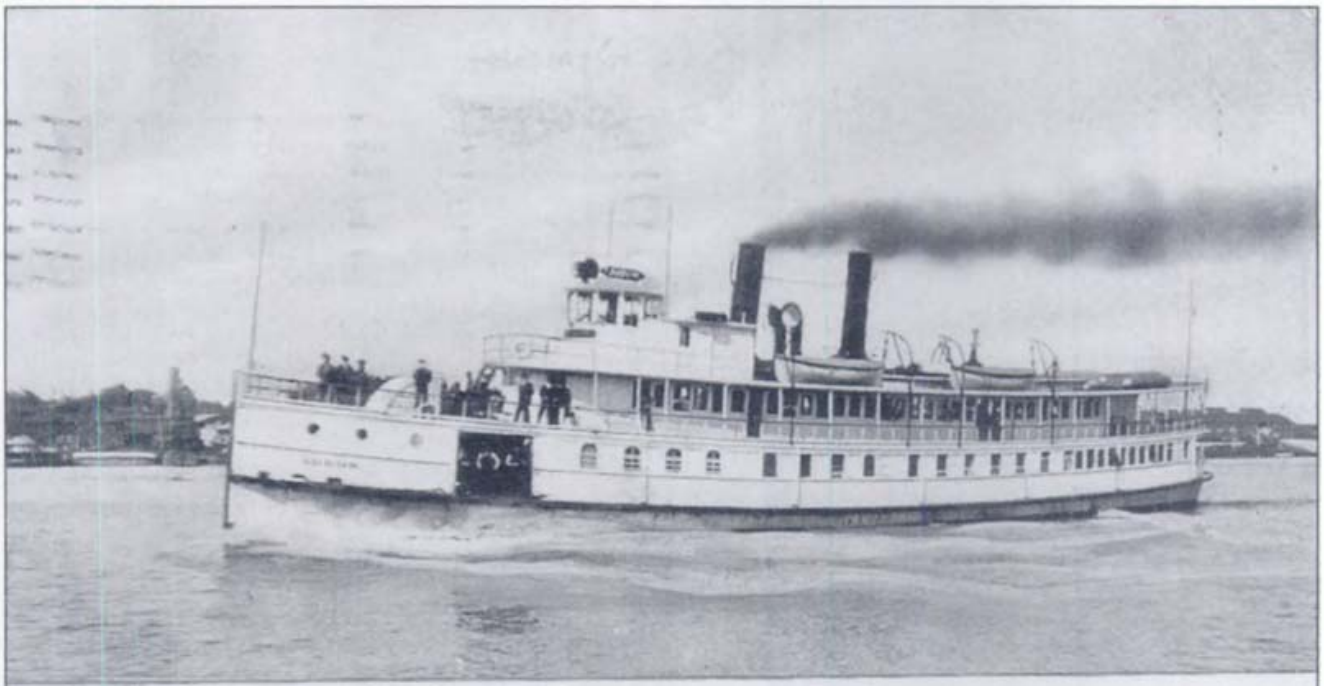

Plate 28: Postcard of the *Arrow* underway between Vallejo and San Francisco (source: Vallejo Naval and Historical Museum).

Unfortunately, the scow *Emma* could not be identified in any of the images reviewed as part of this effort. According to the *San Francisco News* (1938) as cited by PAR (Hamusek-McGann et al., 1998:33), the *Emma*, like the *Caroline,* had become home to local India Basin residents. More specifically, her pilot house was apparently separated from the hull and mounted on stilts to construct a residence. It is quite possible that some of the structures pictured along and/or over the shoreline in the 1938 aerial (Plate 6) represent the *Emma*; however, lacking additional evidence, this is purely conjecture.

Utilizing the vessel identification effort described above, it is possible to identify the hulks pictured in the 1938 aerial (Plate 29) which can in turn be utilized to identify the hulks observed during completion of the pedestrian survey. As described above, five vessels, the *Arrow*, *Bay City*, *Caroline*, *Emma*, and *Modoc* were found in the Hunters Point Ship Graveyard in 1938 (PAR, citing the *San Francisco News*). The *Emma* was not clearly identified during completion of this research, due to lack of additional evidence. Comparing Plate 29 below with Plates 24 and 25, one can clearly see the *Bay City* (yellow) with the remains of the *Modoc* (orange) resting astern and closer to shore. The *Caroline* (pink) with her stern toward shore is also easily seen. On shore, the roof of an ark houseboat (green) is also visible. Just beyond the ark houseboat, barely visible above the waters is the *Arrow* (blue).

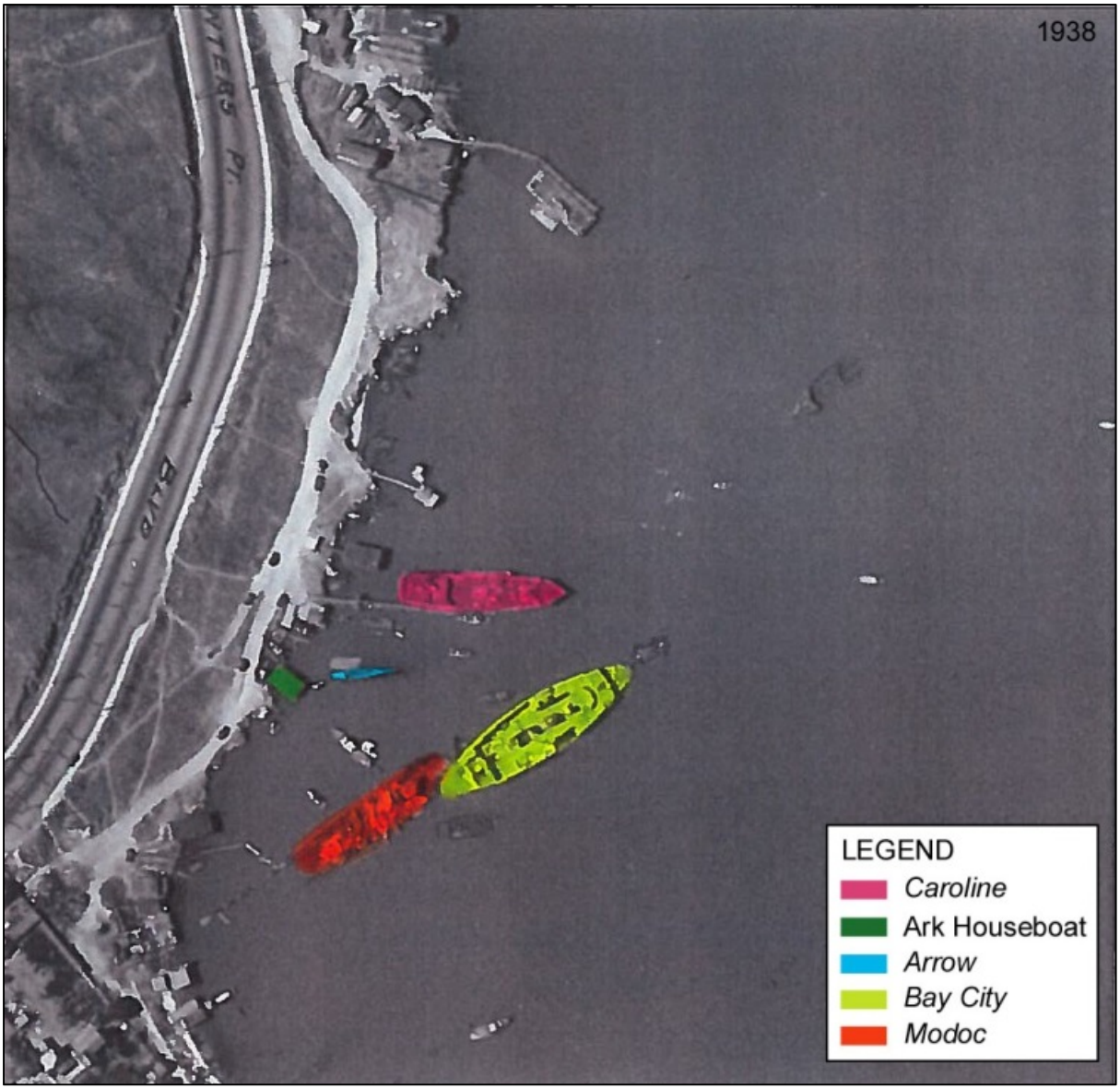

Plate 29. 1938 Ryker aerial with vessels of the Hunters Point Ship Graveyard identified (source: David Rumsey Historical Map Collection).

Although there was increasing public pressure in the late 1930s to remove the abandoned vessels (Delgado, 2013:128). However, the review of later imagery conducted for the project revealed that after World War II, vestiges of the Hunters Point Ship Graveyard were still present in the vicinity of today's Shoreline Park. Particularly important to the current investigation is the 1956 aerial photograph (Plate 30) that clearly depicts hulks in the Hunters Point Ship Graveyard being engulfed by fill during the reclamation of the area in the 1950s and 1960s. Research conducted for the project indicates that the hull being entombed is the *Caroline* (pink), the four-masted schooner. Just south of the *Caroline* in Plate 30, one end of what remains of the *Bay City* (yellow), the double-ended ferry, is visible. Looking at the shoreline suggests that this image was taken during high tide and that only the landward end of the *Bay City* rose above the waters. The other end of the *Bay City*, the portion observed during completion of the pedestrian survey, was submerged when the photograph was taken. Although the *Arrow* and the *Modoc* are not readily identifiable, there are features in the waters within the areas where these vessels had been located in the 1930s. Whether or not these represent the *Arrow* and *Modoc* cannot be determined from the evidence on hand. Lastly, the roof of the ark houseboat (green) was also still present near the shore. Whether the ark houseboat or the multitude of other structures along the shoreline pictured in Plate 30 was buried in the fill is unknown. Given that the fill line is clearly closing in on the *Bay City* (yellow), which is located in the only path to open water at this time, it is well within the realm of

possibilities that those structures, including the ark houseboat, were not floated out of this location and may have also been left where they were, demolished or entombed.

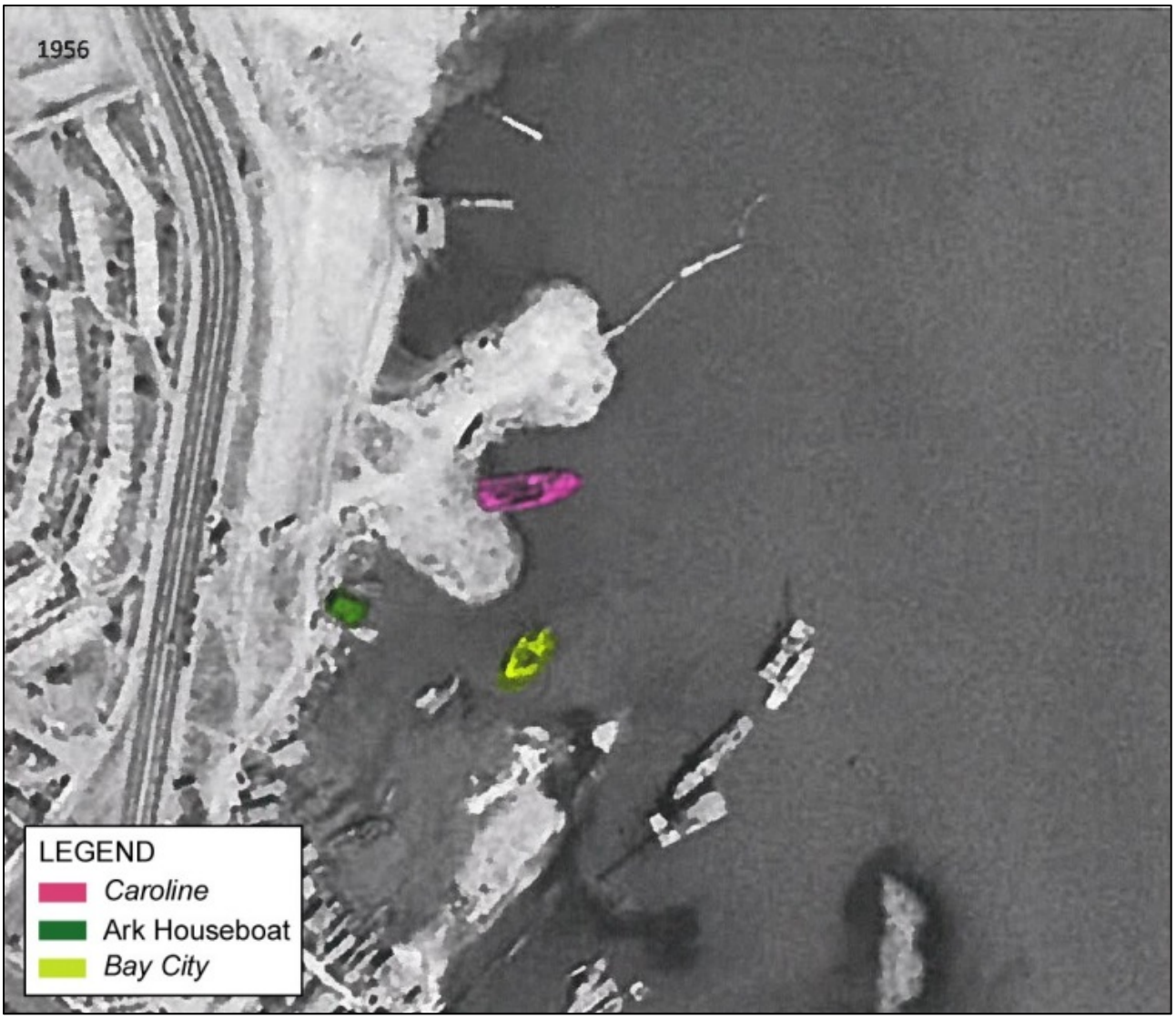

Plate 30: 1956 aerial with vessels of the Hunters Point Ship Graveyard identified (source: EDR, 2013). Note that the *Caroline* is partially engulfed by encroaching fill.

Evidence that the *Caroline* was present and very much intact while the reclamation efforts described previously were being undertaken is also found in a series of photographs obtained from the Seattle Museum of History and Industry (MOHAI) (Plates 31 and 32). Taken in 1955, this series of images offer a fascinating glimpse of the last days of the *Caroline*—which had become the domicile of Oscar Baver who “rigged the officers' and crews' space as a six-room house with electric lights, telephone, and running water for himself, and his wife and daughter” (Hamusek-McGann et al., 1998:33). As can be seen in Plate 31, electric and/or telephone lines still appear to be attached to a jerry-rigged pole on the port side of the *Caroline.* From the pole, the lines run straight to the makeshift structures erected toward the bow of the vessel. Also note the mound of fill just beyond the port side of the *Caroline*.

Plate 31. From aboard the *Caroline* in 1955 (source: MOHAI). Note encroaching fill at left of image.

Plate 32 depicts an image of the *Caroline* taken from close to the edge of the encroaching fill. The vessel is clearly in poor shape with the bow appearing to sag. Particularly noteworthy is the condition of the hull that falls below the waterline during high tides. Large areas of the hull are clearly open to the waters of rising tides which would have exacerbated the deterioration of the vessel.

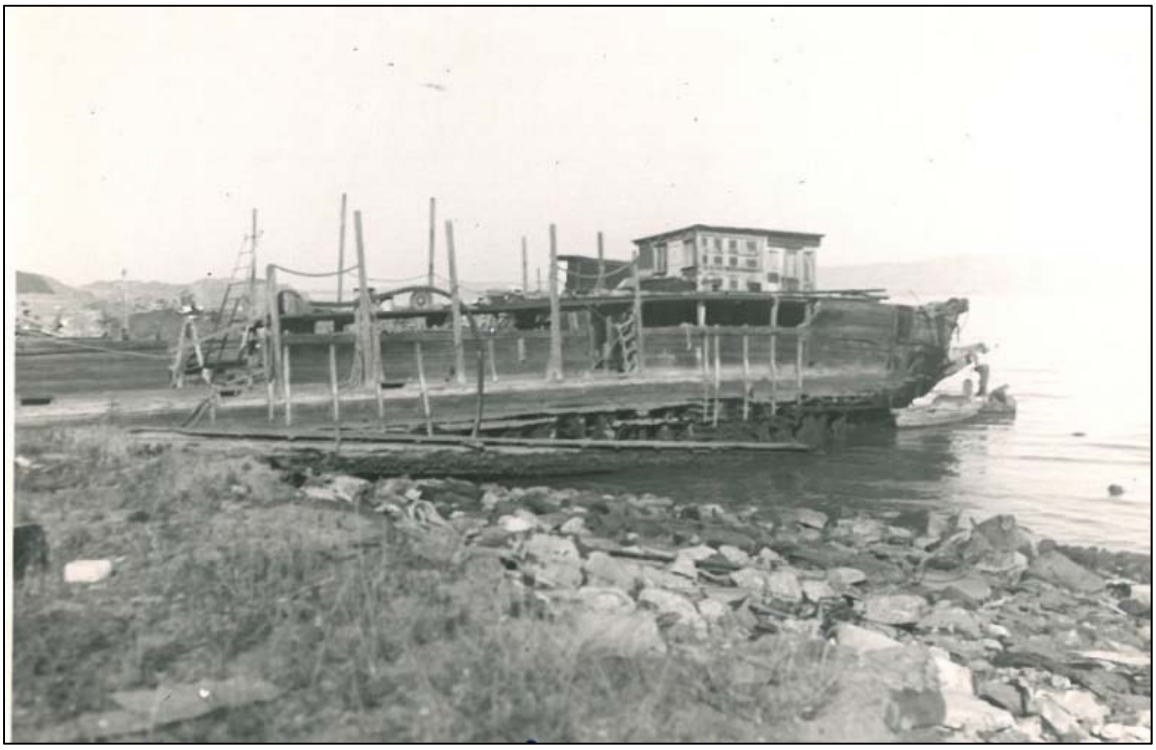

Plate 32. Starboard side of the *Caroline* in 1955 (Source: MOHAI).

Among those present in 1955, when these images were taken, was Max Lembke, San Francisco Maritime Association board member (Plate 33). Mr. Lembke is a well-known figure among those interested in the maritime history of San Francisco (and the Bay in general) as he was instrumental in the securing of the *Balclutha* (nee the *Pacific Queen*) for the Maritime Museum (*San Francisco Chronicle,* December 21, 2016). During or sometime shortly after Lembke's 1955 visit, the bowsprit (the forward extension of a vessel's prow) of the *Caroline* was removed. Plate 33 pictures Mr. Lembke with his hand on the ornately carved bowsprit before its removal.

Plate 33: San Francisco Maritime Association board member Max Lembke with hand on bowsprit of the *Caroline* in 1955 (source: MOHAI).

Ultimately, the bowsprit was donated to the MOHAI in Seattle, near the shipyard on Puget Sound where the *Caroline* was built (Plates 34 and 35). The undated image of the bow of the *Caroline* with the bowsprit still in place (Plate 34) was provided by MOHAI and exhibits an outline that delineates the section of the bowsprit that was removed. Plate 34 also displays the poor condition of the *Caroline's* hull. Plate 35 depicts Horace W. McCurdy, maritime historian and museum benefactor with the restored bowsprit as displayed by the MOHAI in 1956 (White, 2008).

Following the salvage of key pieces of the vessel, the remainder of the hulk was left in place and continued to deteriorate.

Plate 34: Undated photograph of the bow of the *Caroline* with the section of the bowsprit to be salvaged outlined in pen (on original) (source: MOHAI).

Plate 35: Restored bowsprit of the *Caroline* as held by the Seattle Museum of History and Industry (source: White, 2008).

By 1964, remnants of the *Caroline* were still present in the location of today's Shoreline Park. As seen in Plate 36, portions of the port side and some of the decking still lay partially exposed at the edge of the Bay. What had not been salvaged was succumbing to the elements, in particular the effects of shipworm, a destructive bivalve mollusk that bores into submerged (including those only periodically submerged by rising and falling tides) wood surfaces. Although additional reclamation efforts were still to be undertaken within the vicinity, the research conducted for the project suggests that the area depicted in Plate 36 corresponds to the tidal inlet where the remnants of what is now known to be the *Caroline* were identified, and it is likely only minimal additional fill had been placed in the area depicted in Plate 36.

Plate 36. The *Caroline* in 1964 (source: White, 2008).

The archival research guided the other phases of the XP1—the placement of Geoprobes within Shoreline Park and the use of soil probes in the tidal inlet and offshore areas. During January 2017, Jennifer Redmond (AECOM Archeologist, M.A., R.P.A.) examined extracted soil samples retrieved from borings being placed within Shoreline Park by NEM (Plate 16). Working directly with NEM, AECOM directed the placement of a portion of the borings (n=11). The aim was for the borings to intersect the locations of the hulks *if* they in fact lay buried within the fill soils of Shoreline Park, as suggested by the results of the original pedestrian field survey and by the archival evidence outlined above, including georeferenced historical aerial imagery (Plate 37). Ms. Redmond examined the recovered sample for evidence of buried vessels, such as fragments of wood and metal debris.

Plate 37. NEM borings targeting potential hulk locations based on historical imagery (see Plate 6). Because of fencing around the inlet, the northernmost boring pictured here (IBSP-AR-4) was ultimately not sampled with the Geoprobe, but was hand-augered by NEM instead.

In an attempt to ascertain the extent of the remains observed from shore during completion of the pedestrian survey, the other phase of the XP1 included the advancing of soil probes into the soft saturated sediments occurring within the tidal inlet and shallow offshore areas of Shoreline Park. This work was completed in December 2016 by AECOM Archeologists Annamarie Leon Guerrero (M.A., R.P.A.), Jennifer Redmond, and Chloe Atwater (M.A., R.P.A.). The archeologists also waded into the tidal inlet with soil probes and a handheld Global Positioning System (GPS) unit to more fully identify and precisely delineate the remains of the hulks identified during the field survey.

In January 2017, Ms. Guerrero and Ms. Atwater similarly used probes and a GPS unit to locate and map the extent of the submerged vessel first observed offshore during the pedestrian survey. In this instance, the crew conducted the probing effort from an inflatable boat tied to shore.

5.5.2. Geoprobe Borings at India Basin Shoreline Park

On January 4 and 5, 2017, a series of 11 direct-push Geoprobe borings were advanced within Shoreline Park by NEM and Cascade Drilling. Six of these borings (IBSP-SB-AR-3, IBSP-SB-AR-5, IBSP-SB-AR-11, IBSP-SB-AR-13, IBSP-SB-AR-14, and IBSP-SB-AR-20) were originally planned to only collect environmental soil data within the park; however, NEM agreed to relocate them slightly and to advance them to a deeper depth to intersect the potential locations of the vessels as depicted on the 1938 aerial image (Plate 37). The remaining five probes (IBSP-SB-AR-30 to IBSP-SB-AR-34) were conducted solely to identify the presence or absence of the ship remains. The examination of the extracted borings was conducted by Ms. Redmond. Table 4 lists the borings that were advanced and the results of the samples extracted.

Table 4
Geoprobe Borings within India Basin Shoreline Park

Boring	Date	Vessel	Results
IBSP-SB-AR-3	1-4-2017	*Caroline*	Positive. Fill to approximately 20 ft. bgs, then silt and gravels overlying approximately 6 in. of wood at 24 ft. bgs. Wood overlying mud with shell.
IBSP-SR-AR-5	1-5-2017	*Modoc*	Negative. Fill to approximately 30 ft. bgs, overlying Bay Mud.
IBSP-SR-AR-11	1-4-2017	Unnamed small vessel	Negative. Fill to 5.5 ft. bgs, with refusal at concrete.
IBSP-SR-AR-13	1-5-2017	*Bay City*	Positive. Fill to 23 ft. bgs, overlying gravels and gray clay. Wood (1 in. thick) at 27.5 ft bgs, overlying Bay Mud.
IBSP-SR-AR-14	1-4-2017	*Arrow*	Negative. Fill to 30.5 ft. bgs, overlying serpentinite (possible bedrock).
IBSP-SR-AR-20	1-5-2017	*Modoc*	Negative. Concrete to 8 ft. bgs, boring terminated (second attempt).
IBSP-SR-AR-30	1-5-2017	*Bay City*	Positive. Fill to 11 ft. bgs overlying mud. Wood (6 in. thick) at 14 ft. bgs, refusal below wood.
IBSP-SR-AR-31	1-5-2017	*Bay City*	Negative. Fill to 15.5 ft. bgs, overlying sandy mud, overlying Bay Mud at 20 ft. bgs.
IBSP-SR-AR-32	1-4-2017	*Arrow*	Negative. Fill to 20 ft. bgs, overlying sand, sandy clay, and Bay Mud. Some colorless glass at the top of Bay Mud.
IBSP-SR-AR-33	1-4-2017	*Arrow*	Negative. Fill to 24 ft. bgs, overlying Bay Mud, overlying small amounts of natural wood fibers and shell fragments in Bay Mud at 27 ft. bgs, overlying possible bedrock at 29 ft. bgs.
IBSP-SR-AR-34	1-4-2017	*Modoc*	Negative. Fill to 24 ft. bgs, refusal at concrete. Second boring at location with refusal at 8 ft. bgs because of concrete fill.

Notes: bgs = below ground surface; ft. = feet; in. = inches
Source: Data compiled by AECOM in 2017

Of the 11 borings emplaced within the footprints of vessels identified in the 1938 aerial photograph, only 3 were positive. An approximately 6-inch (in.)-thick layer of wood was encountered 20 ft. bgs within the presumed stern area of the *Caroline*.

Layers of wood were also encountered within the footprint of the *Bay City*. Boring IBSP-SR-AR-30, located nearest the water, contained a 6-in.-thick piece of milled wood at 14 ft. bgs (Plate 38).

Plate 38. Results of Boring IBSP-SR-AR-30, containing approximately 6 in. of milled wood. Boring IBSP-SR-AR-30 was located adjacent to the Bay (Plate 37), within the footprint of the *Bay City.*

Boring IBSP-SR-AR-13, located furthest from the modern shore, contained a 1-in.-thick piece of wood at 27.5 ft. bgs. The remaining seven borings either contained introduced fill overlying Bay Mud or were terminated because of the density of concrete fill in the boring location. Three borings included a very thin layer of sand or silt between the obvious fill and Bay Mud, but it is unclear if these sediments also represent introduced fill. Boring IBSP-SR-AR-33 contained plant fibers and marine shell fragments overlying possible bedrock, but these fragments were overlain by several feet of mud, suggesting natural deposition in this area. The marine shell fragments were generally large and imbedded in the Bay Mud, suggest that they represent a natural (i.e., noncultural) deposit. The origin of the organic matter is unknown, but it too was situated in the Bay Mud, suggesting natural deposition.

IBSP-SR-AR-4, also planned for the footprint of the *Caroline*, was hand augered because of access issues for the drill rig. This excavation was not observed. NEM noted that no wood was encountered in the 2-ft.-deep auger. Remains of the *Arrow* or the *Modoc* were not identified during the Geoprobe boring program.

5.5.3. Soil Probes within Tidal Inlet and Offshore Area of Shoreline Park

Caroline

On December 22, 2016, AECOM Archeologists Jennifer Redmond, Annamarie Leon Guerrero, and Chloe Atwater placed shallow probes in and adjacent to the tidal inlet on the east side of Shoreline Park where archival research (as described above) indicated was the final resting place of the *Caroline* (Plate 39). The probing was designed to determine to what extent the remains of the *Caroline* occur within this portion of the APE. The team also mapped in various pieces of lumber that were observed in the vicinity, given that they too may be associated with the *Caroline*.

Plate 39. Overview of tidal inlet, view northwest.

On the southeastern side of the tidal inlet, several pieces of milled lumber and two creosote-soaked poles affixed to each other were observed. It is possible that the two poles were once part of the pier that historically extended out to starboard flank of the *Caroline* as depicted in historical imagery (see Plates 21 and 25). The lumber could likewise be associated with former features of the Hunters Point Ship Graveyard but that would simply be conjecture as it is just as likely that all of these pieces are flotsam that was subsequently trapped in the inlet. Also identified toward the eastern end of the tidal inlet was an 8-in.-diameter ferrous metal cap or fitting, possibly part of a dock or mooring system. The metal piece was anchored solidly in the soil and probing around the specimen suggested that it did extend below the surface. This may suggest that this specimen is *in situ*; however, it is also possible that the piece was introduced during the reclamation efforts.

Probing within the tidal inlet revealed the presence of two separate submerged surfaces, each approximately 12 in. below the water level (at the time of recordation during low tide). The solid and fairly regular surfaces suggest that these may represent two remnant sections of the deck of the *Caroline* as shown in Plate 36. The identified wooden surfaces were largely contiguous, as the team was able to walk along the submerged feature as evidenced in Plate 40. Within the northern region of the tidal inlet, the surface extended for approximately 30 ft. and was generally 2 to 3 ft. wide. Small portions, less than 6 in. in diameter, were missing in the eastern section of this submerged surface (see Plate 42 for the extent of the surface). The missing portions detected by AECOM archeologists walking along the surface may represent the deteriorating areas of the decking visible in the foreground of the historical image presented as Plate 36.

Further probing within the eastern side of the inlet was not possible because of high water levels. Based on the aforementioned historical image (Plate 36), the portion of the hull that once was located in this area may no longer be present, perhaps succumbing to shipworm or simply deteriorated from age. Within the southern reaches of the inlet, the surface extended for a length of nearly 25 ft. with a width generally around 2 ft.

Plate 40. AECOM archeologist on submerged surface in tidal inlet, view southeast.

In the western end of the tidal inlet was a large piece (12 in. x 12 in. x 160 in.) of milled lumber with some hardware (four spikes) attached. This lumber extended into the water about 6 in. and was found adjacent to a milled lumber plank and a concrete block. Several other pieces of milled lumber were also present on the bottom of the inlet, though their age and association is unknown. These pieces could not be examined closely because they were submerged and occurred at depths greater than accessible with the soil probes. None of this lumber appeared *in situ,* but all were situated within the footprint of the *Caroline,* as delineated from the aerial imagery.

Based on the results of this probing effort at the location of the *Caroline*, it appears likely that an intact portion of the ship lies beneath the northwestern side of the tidal inlet pond and potentially beneath the western and southern shores of the pond (Plate 41). GPS data taken in these areas directly overlie the footprint of the *Caroline* on the 1938 aerial. Although a number of pieces of lumber were found on the eastern side of the pond, closer to the Bay, it is unclear whether these are associated with the *Caroline*, a former dock, or whether they represent flotsam that washed into the inlet.

Plate 41: Remnants of the *Caroline* as identified within Shoreline Park.

Bay City

On January 6, 2017, AECOM Archeologists Annamarie Leon Guerrero and Chloe Atwater conducted the identification efforts at the location of the *Bay City* within the tidal area off of Shoreline Park. The effort was designed to occur at least partially during a significant low-tide event to maximize the visibility of the remains.

After the waters had receded to a high degree and with the appropriate safety gear in place, the team was able to partially wade out around the exposed remnants of the *Bay City*. With closer inspection it was readily evident that the portion of the hulk observed previously from shore consisted of two gunwales (or gunnels), five longitudinal beams (possibly strakes/stringers), and portions of possible decking still intact (Plates 42 and 43). The offshore superstructure appears to be part of the docking apparatus, or mooring dolphin, used to secure the *Bay City* as is visible in Plate 24. It appears that the

dolphin has partially collapsed and tipped toward the Bay since its use with the *Bay City*. Sections of rope remain on the feature; however, these likely relate to later use of the structure and are not associated with the *Bay City*.

Plate 42. Longitudinal beams, view northwest.

Plate 43. Possible decking.

The northern and southern extents (gunwales) of the hulk were identified extending out from the riprap bordering the shoreline, and the intermediate area was probed and intensely surveyed to identify other wooden remains or any associated artifacts.

The hull was found to measure 38 ft. wide (across the gunwales) at a point where the *Bay City* extended out from beneath the riprap. Several pieces of metal hardware were identified in the vicinity of the southern gunwale, including two *in situ* maritime spikes. The two square-cut spikes were visibly protruding approximately 4 in. out of the gunwale, into the ship's interior, and would measure at least 6 in. long in their entirety. Three pieces of potentially related but unidentifiable metal hardware were also found in the vicinity, but their association is unknown. Wooden blocks were observed protruding perpendicularly off of the southern gunwale in a ladder-like fashion toward the interior of the hulk, connecting to an interior lateral beam (Beam 5; see Plate 42 for an example of similar wooden blocks protruding from Beam 3).

Five wooden stringers running roughly parallel to the gunwales toward the mooring dolphin were identified (demarcated with pinflags in Plate 44). The lateral beams were approximately 6 in. wide. The full length and depth of the stringers could not be determined because of inability to penetrate the accumulated sediments (including rock) with the soil probes and, as one moved farther offshore, the depth of the water. An intact portion of the deck was identified along the shoreline near the center of the *Bay City* between Beams 2-4. The deck consisted of at least four wooden planks, approximately 5 in. wide.

Plate 44. Longitudinal beams and dolphin, view northeast.

When possible, sediment was removed and riprap was moved to reveal the extent of the beams and deck. The gunwales, beams, and deck all clearly extend under the riprap toward Shoreline Park, but it was not possible to determine their full extent because of the thickness of the riprap and fill. Similarly, because of the rising tidal level the surveyors were unable to wade out the full length of the planks into the bay to determine if they remain intact and/or connect with the mooring dolphin, located approximately 58 ft. east of the shoreline. The gunwales and beams were all followed out approximately 12 to 15 ft. into the Bay, toward the mooring dolphin.

Several nondiagnostic and likely unrelated artifacts (e.g., milk glass, aqua bottle finish, colorless jar base) were also located at the edge of the Bay shore. These artifacts are likely the result of casual disposal and reflect the usage of the Bay shore from the historic period to the modern era, as was seen across the shoreline in the APE.

At high tide, an inflatable raft was deployed from the shoreline to identify and delineate any remains of the *Bay City* located beyond safe wading distance as well as reach the remnants of the mooring dolphin located approximately 58 ft. offshore. The dolphin was composed of wood piles, lumber, metal fittings, and rope. The main element appeared to be a length of fractured wood pile approximately 80 in. long (Plate 45). It appears that the piles supporting the dolphin fractured and the dolphin tilted over. A corroding metal rod extended east off of the structure, toward the Bay, for approximately 62 in. Manufactured wire nails and degrading paint were also observed on the dolphin.

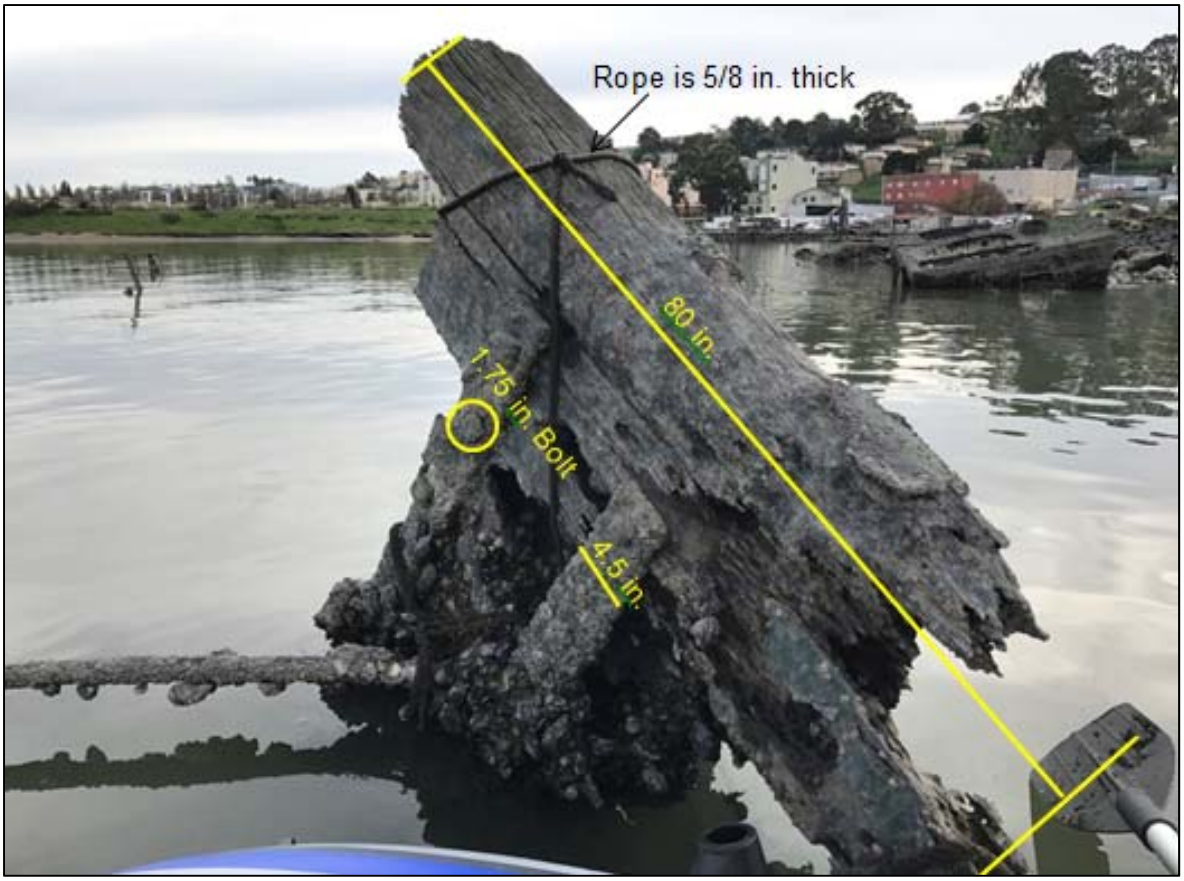

Plate 45. Mooring dolphin measurements.

A soil probe was employed to determine the extent to which the dolphin extended below the water line. The probing effort revealed that portions of the dolphin continue for at least 4 ft. below the exposed waterline. Although the lack of clarity of the water prevented a visual inspection of the dolphin below the waterline, the dolphin appeared to extend both vertically and horizontally. The presence of any remnants of the *Bay City* in close proximity to the dolphin could not be determined because of the depth of the water.

AECOM's efforts revealed that a significant portion of the *Bay City* remains within Shoreline Park and the adjacent offshore area (Plate 46). Not only were remnants of the vessel found extending out into the Bay from beneath the fill and riprap, but the Geoprobe effort identified milled lumber resting on Bay Mud. One of the samples indicated that the wood is more than 6 in. thick (Plate 38).

Plate 46: Remnants of the *Bay City* as identified within Shoreline Park and the immediate offshore area.

5.5.4. **Summary of XP1**

In summary, the results of the XP1 investigation strongly suggest that the remains of at least two abandoned ships are located within the APE as documented on DPR 523 Series forms (Appendix D). These vessels were initially identified during the July 2016 pedestrian survey and in preliminary reviews of the 1938 Ryker aerial. The supplemental archival research completed to guide the XP1 field work (Geoprobe borings and shallow soil probes) identified that the vessels are named the *Bay City* and the *Caroline*. These vessels (along with others that may be more deeply buried in the fill in Shoreline Park such as the *Arrow* and *Modoc*) were brought into India Basin, run up into the shallows to enhance accessibility, and scavenged by the local boatbuilding industry before being entombed in fill. Remnants of the *Bay City* and the *Caroline* were identified during monitoring of NEM's environmental borings, as well as during subsurface work in the form of placing soil probes within the tidal inlet and the shallow offshore waters. This XP1 field work confirmed that intact portions of each vessel are located within the APE (Plates 41 and 46).

5.6. Archeological Sensitivity Assessment of Area of Potential Effects

Aside from the hulks identified onshore and in the near offshore at Shoreline Park, no other *in situ* archeological resources were identified during the completion of the inventory efforts described in this document.

Although no other *in situ* archeological resources were identified in the APE, the potential for encountering buried archeological resources must be addressed. For a number of years, it has become standard (and expected) practice that archeological studies must address resources that may lie buried and undetected in the confines of a given APE by assessing the archeological sensitivity of the underlying soils. Whether obscured by modern development or buried beneath culturally sterile soils, such resources, obscured from view—and therefore undetectable by surface inspection alone—could be inadvertently exposed during construction activities, and therefore could affect implementation of the proposed project.

As presented in Section 2.2, the maximum vertical extent of the APE varies between 56 ft. bgs for the onshore areas landside of the 1859 shoreline to a maximum of 110 ft. bgs for the offshore components. Lying between these two areas is the large expanse of reclaimed land where the maximum vertical extent of disturbance is estimated to be 100 ft. bgs. The sections of the APE lying offshore of the 1859 shoreline (Figure 4; see also Figures 6 and 7) require deeper disturbance, because of the fact that these areas are underlain by marine sediments, including Bay Mud and Old Bay Clay.

Because of differences in the underlying soils, varying levels of sensitivity for harboring buried archeological resources, as well as varying potential for the presence of prehistoric and historic archeological resources, the following discussion is broken down into three segments (see Figure 4):

- Onshore portion of APE landside of the 1859 shoreline
- Onshore portion of APE waterside of the 1859 shoreline
- Offshore portion of APE

5.6.1. Onshore Portion of the Area of Potential Effects Landside of the 1859 Shoreline

A small portion of the APE is landside of the 1859 shoreline (Figure 4; see also Figures 6 and 7). Although no *in situ* archeological features were identified during completion of the archeological survey, because this portion of the APE was known to be used during the historic period, as well as being available for habitation and resource procurement during the prehistoric period, this area is clearly of increased archeological sensitivity (Figure 19).

Prehistoric Archeological Resource Sensitivity

In general, previously identified prehistoric archeological resources in San Francisco represent either residential or nonresidential resource types. The most common type represented in the archeological record is residential. These resource types typically contain midden deposits; and in this region, dense accumulations of shellfish fragments, commonly referred to as shellmounds. Residential resource types contain evidence of long-term occupation, usually with more than one of the following components: midden, hearth and ash features, house pits, burials, or other types of archeological features.

Nonresidential resource types generally lack evidence of prolonged occupation, but can contain evidence of resource procurement and processing, and can be representative of a wide range of human behaviors. Resources of this type include temporary campsites, specific-use areas (e.g., lithic reduction and tool production locations), and isolated burials and features.

Shellmounds are a distinctive Bay Area residential resource type that may have mortuary and/or ceremonial elements. These resource types may contain flaked-stone tools and debitage; food milling and grinding implements; modified or dietary bone, antler, and shell; charmstones; bone or shell ornaments, tubes, whistles, and other ceremonial paraphernalia; cooking stones; and imported stone and shell, as well as human remains, often in burial contexts.

No evidence of prehistoric use of the area was identified during the current investigation. The lack of visible evidence does not eliminate the potential for prehistoric archeological resources. Throughout the Bay Area, prehistoric archeological deposits completely obscured from view have been uncovered during construction activities. In addition, deeply buried prehistoric deposits have been identified during geoarcheological investigations, including here in San Francisco. Most recently, geoarcheological work conducted for the San Francisco Public Utilities Commission (Kaijankoski, 2015; Kaijankoski et al., 2015) identified an intact archeological deposit buried beneath modern development approximately 1 mile northwest of the current APE.

The geotechnical investigation (LTR, 2015:2) suggests that 10 to 15 ft. of fill is likely landside of the 1859 shoreline; however, this amount seems too extensive given the presence of the Shipwright's Cottage (constructed ca. 1875) on the current landform. No direct evidence exists to suggest that fill of this magnitude actually occurred. However, geologic processes, as well as historic and modern development, could easily have obscured evidence of prehistoric use of the vicinity. Therefore, it is possible that prehistoric archeological resources occur in this portion of the APE.

Historic Archeological Resource Sensitivity

The most common historic-period, nonarchitectural archeological resource types are typically refuse or trash deposits, which can contain a wide spectrum of cultural materials. Refuse scatters can consist of localized, dense deposits in excavated pits, privies, or wells; or they can consist of dispersed scatters spread over large areas (sheet refuse). Refuse scatters can reveal important information on the daily activities of the area's inhabitants, and this information can assist in addressing research themes and questions about topics such as foodways, the domestic material environment, or trade and interregional contact. Potential domestic-related artifacts and features could include ceramics, glass bottles and glassware, faunal material, and personal effects such as buttons, buckles, and jewelry.

Architectural remnants, which may be present in the APE, include structural remains such as foundations, wall footings, fence alignments, onshore pier footings, and collapsed wood and brick buildings. In addition to architectural resources, infrastructure resources (e.g., sewer lines, drain pipes), which typically encompass archeological features encountered in an urban setting, may be present in the APE.

Architectural features (e.g., foundations, bricks) related to buildings depicted on the late- nineteenth-century and twentieth-century Sanborn maps will be the most likely archeological deposits encountered in the APE, as suggested by the typical abundance of these materials at historic-period archeological sites. Based on the availability of other documentary evidence related to these buildings, including the detailed information provided by the Sanborn maps, these architectural features are generally not considered historically significant.

However, architectural features related to mid-nineteenth- and early- twentieth-century buildings not depicted on the Sanborn maps, including small shoreline buildings, may also be encountered. Documentary evidence for these features is limited, so any identified architectural remnants may enable archeologists to address research themes related to construction methods, technology, and infrastructure design.

There is strong evidence to suggest that historic-period archeological resources may lie buried within this portion of the APE. Archival evidence indicates that the area along Innes Avenue was being settled by at least the 1870s. The still-present Shipwright's Cottage at 900 Innes was constructed ca. 1875, and archeological deposits associated with the inhabitants of this residence may be present in the rear yard, including privy pits, general refuse disposal, structural remains of outbuildings, and sheet scatter. This residence has previously been determined eligible for the NRHP (NPS, 2015) and Page & Turnbull's analysis as part of the proposed project identified this property as eligible for the CRHR under Criteria 1 and 3. This property is also included in Article 10 as Landmark #250.

The 900 Innes parcel is also included in the India Basin Scow Schooner Boatyard, a historic vernacular cultural landscape, as identified by Page & Turnbull (2016). Page & Turnbull's 2016 study for the current proposed project recommended that the district is eligible for the CRHR under Criterion 1, and that any archeological features identified in the immediate vicinity of the district boundary should be evaluated to determine whether they contribute to the landscape. No *in situ* archeological features were identified as part of the survey, but background research, including an examination of the Sanborn maps, identified areas in the parcel that have the potential to contain resources that may contribute to the district. These areas include possible refuse deposits, structural foundations, or privy pits in the rear of the yard at 900 Innes Avenue. Artifacts related to the boatyard such as discarded ship fittings and wooden vessel parts could be also found, as could portions of the yard's infrastructure such as foundations and equipment platforms (Pastron et al., 2009b:287).

Other archeological resources that date to the boatyard's period of significance, may contribute to the district. These include the remains of the marine ways depicted on the Sanborn maps, or smaller scale features, including wooden piers and catwalks such as those depicted in a photo taken during the construction of the *Snark* (Plate 47). The period of significance for the boatyard is 1871–1936, the time when the boatyard was focused on boatbuilding, especially the construction of scow schooners (Page & Turnbull, 2016:83). Based on limited information from the 1938 Ryker aerial, other aerial views, and photographs, it seems likely that many of the features at the boatyard such as the piers and marine ways were used for long periods of time with minor repairs and upgrades through the period of significance. Larger changes that occurred shortly after

the end of the period of significance, such as the regrading of the east marine ways and the construction of the east outfitting dock, would help distinguish features dating during the period of significance from those dating after.

Plate 47. Roscoe Eames, Charmian London, and Jack London sitting on catwalk in the Anderson Shipyard, ca. 1906 (Miller, 2013). Note scow schooners in background.

The area along the former shoreline at Hudson Avenue may also contain buried archeological resources associated with buildings depicted in early-twentieth-century photographs and aerials (Plates 6 and 48). Although the Sanborn maps did not depict this area, it is likely that settlements extended along the shoreline and potential deposits could be present in the rear yards. These deposits, which could be associated with the inhabitants of some of the residences in the western portion of the APE, could include privy pits, general refuse disposal, structural remains of outbuildings, and sheet scatter.

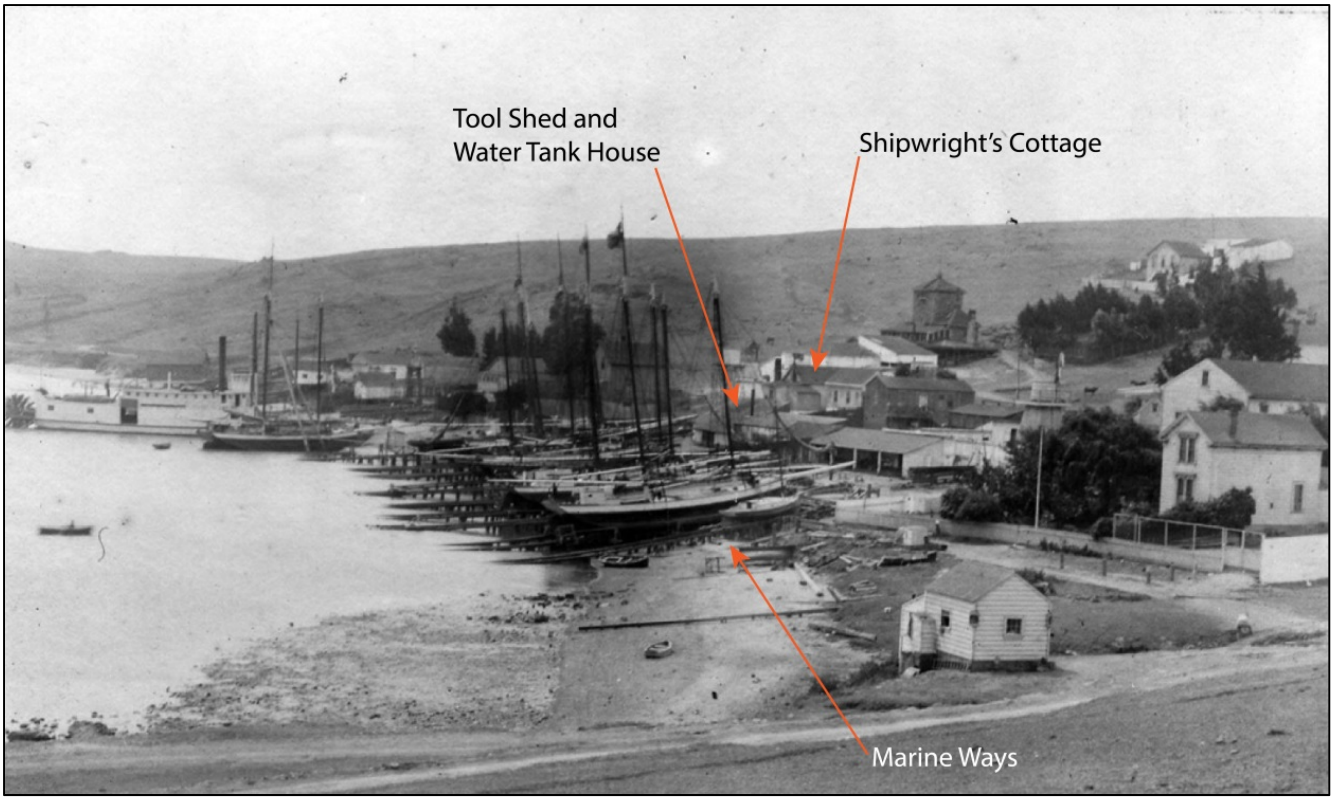

Plate 48. Boatyards at India Basin, ca. 1900 (annotated image in Page & Turnbull, 2016:53, from Maritime Research Center, San Francisco Maritime National Historical Park). Note marine ways extending out into Bay from beneath vessels.

Similar resources can be expected in the rear yards of other parcels along Innes Avenue outside the proposed boundary of the India Basin Scow Schooner Boatyard vernacular landscape, including the single-story dwelling with elevated water tank west of the Shipwrights Cottage that once stood at today's 904 Innes Avenue. Any archeological resources that are found in the parcels that can be associated with known residents from the U.S. Census records may provide valuable data that can answer research questions about lifeways in India Basin at the turn of the century.

Archival research also identified the potential for archeological resources associated with Chinese shrimp camps to be located in the APE. Three known camps were situated in the APE in 1930, and others may have been in the area before this date. The Sanborn map data for the APE are not complete, and there is the potential for these camps to have been situated on the shoreline east and west of the main boatyards at the end of Griffith Street.

The archeological resource types that may be associated with the shrimp camps include possible refuse deposits, structural foundations, or privy pits for the camps that predate the arrival of the sewer in India Basin. Because the camps were not mapped in detail, unlike the boatyards depicted on the Sanborn maps, structural remains such as building or pier foundations may provide data about these camps that are not otherwise available.

5.6.2. Onshore Portion of the Area of Potential Effects Waterside of the 1859 Shoreline

Prehistoric Archeological Resource Sensitivity

As described above, the majority of the land surface in the project area, including all this portion of the APE, is situated on a vast area of introduced fill overlying Bay Mud and other marine sediments. Because this area was filled after the mid-nineteenth century, with most of the fill imported following the close of World War II, *in situ* prehistoric resources will not occur in these introduced soils, but there is the potential for redeposited prehistoric resources in the fill (potentially imported from Candlestick Point). No prehistoric resources were identified during the survey of the fill areas of the APE. It should be noted, however, that if redeposited prehistoric archeological materials (which could occur in the fill layer) are encountered, according to City's General Plan Draft Preservation Element, these deposits will be considered significant for information—and under CEQA—legally significant, until demonstrated to the contrary (CCSF Planning Department, 2007).

Although Bay Mud underlying the introduced fill is a native soil and would have been present in the APE during the prehistoric period, Bay Mud is generally not considered sensitive for prehistoric archeological resources. Bay Mud is the result of rising sea level gradually inundating land surfaces (see discussion in Section 4.1.1). The Bay Mud and marsh deposits that formed as a result of these sedimentation processes do not represent stable land surfaces, and were therefore unavailable for human occupation. These deposits are therefore not considered sensitive for prehistoric archeological resources. As stated by Meyer (2003:35), such sediments "have very little potential to contain buried archaeological remains." Meyer does note "unusual or isolated finds like the discovery of the BART skeleton" (2003:35) in such deposits, but reiterates again that such discoveries "would likely be unusual or isolated" (Meyer, 2003:38). According to the geotechnical report (LTR, 2014) underlying the Bay Mud across this section of the APE is a dense layer of sand. The sand layer is about 5 to 33 ft. thick and extends to depths of nearly 100 ft. bgs. These sands are within the vertical limit of the APE as, according to the geotechnical report (LTR, 2014:8–12), to "provide sufficient structural capacity and accommodate the expected magnitude of downdrag loads," it is concluded that "piles should extend below the fill and Bay Mud" and into "the underlying competent soil beneath."

Although the age of these sands is currently unknown, it is possible that they represent stable landforms that were exposed before the inundation of what is now known as the Bay (see Section 4.1.2 above) and potentially available to the prehistoric aboriginal inhabitants of the area. Based on dating of the inundation of the Islais Creek vicinity as assessed by Far Western Anthropological Research for the San Francisco Public Utilities Commission (Kaijankoski et al., 2015:31, Figure 8), it appears that virtually all of this portion of the APE remained landside of "Pre-Bay" shorelines until at least 6,000 B.P. By 2,000 B.P., it appears that nearly half of this portion of APE still remained above the encroaching waters. This data suggests that there were land surfaces within this portion of the APE that were available for prehistoric habitation and utilization. These soils only became buried beneath the deposit of Bay Mud when the area became completely inundated by the rising sea levels during the last few millennia.

Kaijankoski and his colleagues (Kaijankoski et al., 2015:29) went on to assess the sensitivity of these "submerged" areas (i.e., submerged by rising Bay levels before being reclaimed by fill during the historic/modern eras). They stated that "while it is difficult to predict exactly where a prehistoric site may be located, the potential for offshore (submerged) sites is likely elevated in areas where one or more of the following conditions are true:

- The offshore area is within 200 meters or less (bay-ward) of the historic-era shoreline.
- The offshore area occurs at elevations of 6.0 meters (20 ft.) or less below mean sea level.
- The offshore pre-Bay land surface is relatively level and therefore is likely to not have been severely truncated by erosion (i.e., intact).
- The offshore pre-Bay surface is located 100 meters or less from a former stream channel.

At least the first three of these bullets are true for this portion of the current APE. Furthermore, the local topography (before the major development that occurred in the vicinity in the latter half of the twentieth century) suggests that a drainage came off of the ridgeline to the west southwest and onto the Project Site (Figures 9, 14, and 15). Although likely ephemeral in nature, this drainage could have nonetheless provided at least a seasonal source of freshwater to the prehistoric inhabitants of the vicinity. Perhaps more significant; however, are the springs that emanate from the hillside directly across Innes Avenue from the Project Site. Historically, the flows of the springs were of sufficient quantity to support the operations of the Albion Brewery which had been built atop the springs ca. 1870. This local source of fresh water along with the criteria identified above suggests that the sands found beneath the Bay Mud within the vertical extent of the current APE must be considered to be of elevated prehistoric archeological resource sensitivity (Figure 19).

Historic Archeological Resource Sensitivity

As described previously, the soils in this portion of the APE are composed of introduced fill to a depth ranging from approximately 16 to 41 ft. (LTR, 2014). Just before the major reclamation efforts of the post–World War II era, the nearshore waters of India Basin contained piers, docks, catwalks, and marine ways associated with the numerous boatyards that operated along this stretch of the Bay (Plate 46), as well as the ships abandoned and salvaged at the Hunters Point Ship Graveyard. It can be presumed that some, if not most, of these features that existed at this period were simply left in place and became entombed during the reclamation process. For example, limited Geoprobe boring in the presumed footprints of ship hulks visible in photographs and aerials from the 1930s suggest that intact portions of the vessels are present beneath the fill. Other features may also be present in this area (Figure 19).

It is likely that features associated with chronologically earlier phases of the shipbuilding industry, like the numerous marine ways extending out into the shallows of India Basin seen in Plate 46, became entombed during post–World War II reclamation episodes. Such earlier marine features likely were initially abandoned after becoming silted over owing to their placement directly on exposed tidal flats, and then subsequently were filled over.

The period of significance for the India Basin Scow Schooner Boatyard landscape is 1871–1936. Because there are not significant differences in features on the shoreline outside the India Basin Scow Schooner Boatyard in aerial views between 1937 and World War II, it can be presumed that many (though not all) of the features present on the shoreline in the immediate post–World War II era (and therefore subject to being buried by fill) date to much earlier in the twentieth century. Features present in the postwar period that date to the period of significance, however, would have likely been maintained and potentially upgraded over time and would need to be accurately identified in the field. For example, upgrades to facilities to accommodate and repair more modern vessels may be distinguishable in the archeological record, and artifacts found in association with these facilities may help to distinguish late- nineteenth- and early- twentieth-century features with those built later in the twentieth century. Pastron et al. note that following the mid-nineteenth century, American wooden shipbuilding became a more scientific and industrial process, with evolutionary changes that may be visible in the archeological record (Pastron et al., 2009b:288). It is known that the Anderson & Cristofani yard received a commission during World War II to construct naval coastal transport ships and minesweepers, which likely required some modifications to the facilities to construct these types of watercraft (Page & Turnbull, 2016:83).

It should be noted that although most of the reclamation in this vicinity occurred after World War II, minor reclamation efforts—as evidenced in overlaying historical maps and aerial imagery—did occur along India Basin before 1938 (Plate 6). The marine features extant at the turn of the century were likely encapsulated in the fill during these initial, yet minor, phases of reclamation in India Basin, and then further buried following World War II. Using available imagery, including U.S. Coast Survey and Sanborn maps, it appears that such features tend to cluster off of the current 900 Innes Avenue parcel in the APE (Figure 11).

5.6.3. Offshore Portion of the Area of Potential Effects

The footprint of this section of the APE is limited to those areas where offshore components of the proposed project will be constructed. Although open water during high-tide events, at low tide much of this portion of the APE is characterized by a large expanse of tidal mudflats. These soils are likely composed at least partially of imported fills placed on the marine sediments, as seen elsewhere in the APE; however, without definitive data, this is conjecture.

Prehistoric Archeological Resource Sensitivity

The continuously saturated Bay Muds found in this portion of the APE do not represent stable land surfaces, and were therefore unavailable for human occupation. These deposits are therefore not considered sensitive for prehistoric archeological resources. Lacking geotechnical data for this portion of the APE, it is unknown if the sands found below the Bay Mud within the onshore portion of APE waterside of the 1859 shoreline also occur here. The timeline for the inundation of Islais Creek and surrounding vicinity completed by Kaijankoski et al. (2015:31, Figure 8) suggest that this portion of the APE was not inundated until approximately 6,000 B.P. and was therefore potentially available for use by the prehistoric inhabitants of the vicinity.

Within this portion of the APE, project construction is limited to the driving of piles to support the dock structure extending out from the Marineway Lawn. If these piles must extend through the Bay Mud and into “competent soils” similar to the proposed construction within the onshore portion of APE waterside of the 1859 shoreline, then it is presumed that soils of elevated archeological sensitivity could be encountered (Figure 19).

Historic Archeological Resource Sensitivity

It is possible that previously unidentified archeological features of the boat-building industry, including piers, docks, catwalks, and marine ways, remain in this section of the APE, but the potential is generally low. For example, these types of features are shown on the 1938 Ryker aerial in the same locations where similar features are located today, while neither this aerial nor modern views suggest that there are abandoned piers, docks, catwalks, or marine ways elsewhere. If these features are present, however, they would be clustered in the APE in the area off of the 900 Innes parcel or to north of Shoreline Park because the fill found elsewhere extends too far out from the historical shoreline for such features to lie in the offshore portion of the APE (Figure 5; see also Figures 6 and 7).

In addition to features of the boat-building industry, there is also the potential that submerged vessels occur in this section of the APE. Although the SLC database did not indicate the presence of any shipwrecks in the current APE, historical imagery suggests that submerged vessels may remain in in this section of the APE, particularly the area off of Shoreline Park (Plates 6 and 18). Based on this imagery, such submerged vessels are likely small in size and are approximately 70 to 200 ft. offshore.

6. Archeological Resources Conclusion and Recommendations

Based on background research and the results of the survey, the APE delineated for the proposed India Basin Mixed-Use project was determined to be archeologically sensitive throughout. The archeologically sensitive areas (ASAs) designated as having “high sensitivity” are located in a narrow area along the original shoreline and in Shoreline Park (Figure 19). The onshore portion of the APE located waterside of the 1859 shoreline and the entire offshore portion of the APE have a generally elevated sensitivity for prehistoric resources. Based on research completed at nearby Islais Creek and lacking offshore geotechnical data for the APE, it is being presumed that the entire area waterside of the 1859 shoreline may contain a formerly stable land surface once available for human habitation buried beneath the Bay Mud.

Two potential archeological resources identified within the 900 Innes parcel by Page & Turnbull—construction debris and a sewer standpipe—were relocated during the July 2016 archeological survey. Because of the recent age of these resources, they were determined to not be contributing elements to the India Basin Scow Schooner Boatyard. Furthermore, because both are modern in age, they were determined to not represent archeological resources, and it is recommended they do not receive further consideration.

The July 2016 pedestrian survey also resulted in the identification of two potentially *in situ* ship hulks at Shoreline Park. This identification, supported by the XP1 archival evidence and additional intensive survey and monitoring, suggests that the onshore and near offshore portion of Shoreline Park is sensitive for this type of archeological resource. The two hulks lie in the area where the Marine Way Lawn and associated pier are to be constructed, both of which require pile driving to support the proposed structures (to be driven up to a depth of approximately 100 ft. bgs in this section of the APE). In addition to Marine Way Lawn and pier, this section of Shoreline Park is also slated to receive the bulk of the proposed fill that would be placed at the edge of the Bay to create proposed wetlands and other habitat, including a potential beach area.

The ship hulks located within the APE are potentially significant and could contribute to the India Basin Scow Schooner Boatyard for their association with boatbuilding, repair, and scrapping in India Basin during the early twentieth century. It can be assumed that the proposed project activities in Shoreline Park have the potential to encounter these potentially significant historic-period resources. It is apparent that the hulks identified as a result of the current effort were brought into India Basin to be salvaged by the local boatbuilding industry beginning in the 1920s and that the practice continued into the 1930s. These dates place these remains within the period of significance established for the India Basin Scow Schooner Boatyard established by Page & Turnbull (2016). Although the final number of potential vessels entombed in this portion of the APE is uncertain and the full extent of the remains of the identified vessels is unknown, because of the confirmed presence of the *Bay City* and the *Caroline* and their direct ties to the maritime industry of India Basin during the period of significance (i.e., 1875–1935), AECOM proposes that the India Basin Scow Schooner Boatyard be expanded to capture the areal extent of the Hunters Point Ship Graveyard (Plate 49).

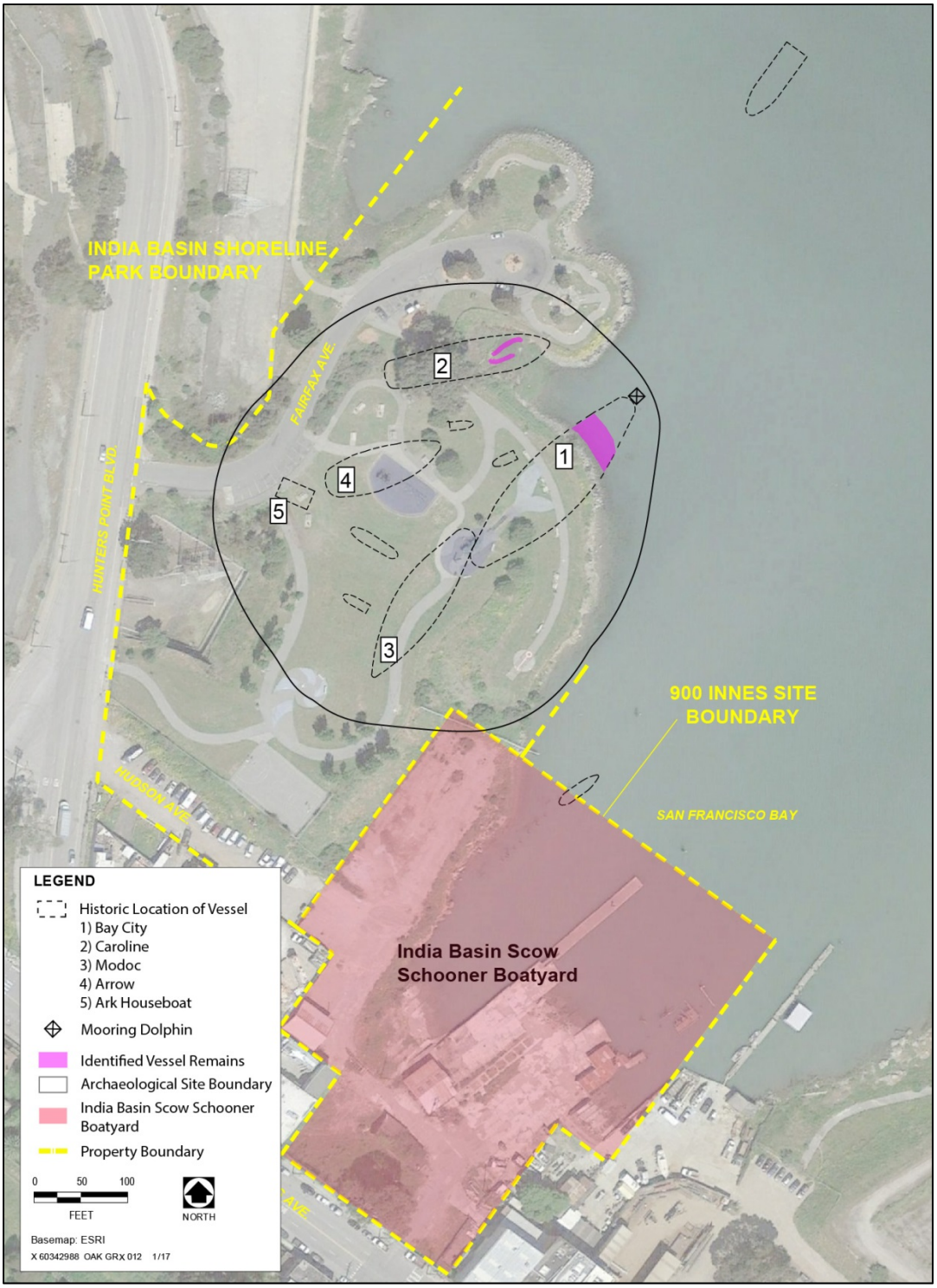

Plate 49. Hunters Point Ship Graveyard in relation to the India Basin Scow Schooner Boatyard as delineated by Page & Turnbull (2016).

Because the current investigation was limited to archival research, a pedestrian survey, and limited subsurface studies, however, it is unknown for certain to what extent, if at all, potentially significant resources occur in the vertical extent of the APE. It should be noted that other vessels, including what appears to be the extensively scavenged remnants of the *Modoc*, occur in the current Shoreline Park vicinity (see plates and discussion in Section 5.4). If ultimately proven present, such additional hulks, especially those brought into India Basin to be scavenged for useable parts and fixtures by the local boat-

building community, would not only be features of the Hunters Point Ship Graveyard but likely also considered contributing elements to the India Basin Scow Schooner Boatyard, as defined by Page & Turnbull (2016).

There is elevated potential for buried prehistoric archeological deposits in the south-southwestern reaches of the APE, corresponding to the area upland of the 1859 shoreline, as well as within the areas lying offshore of the 1859 shoreline owing to the presence of possible buried stable landforms beneath the Bay Mud (albeit to a lesser degree of sensitivity). These same areas of the APE also have a high potential for harboring historic-period archeological resources, particularly those resources associated with the nineteenth- and early- twentieth-century occupancy of India Basin by early Euro-American boat builders and Chinese shrimp fisherman. It can be assumed that all proposed ground-disturbing activities in these ASAs (Figure 19), including building construction and utility installation in the BUILD parcels, have the potential to encounter potentially significant prehistoric or historic-period resources. Although the construction debris and sewer standpipe identified on the 900 Innes, RPD parcel, were determined to not be significant and to not contribute to the India Basin Scow Schooner Boatyard, other potentially significant and contributing resources could be within the vertical APE in this ASA.

Based on the results of the pedestrian survey, limited subsurface investigation, and archival research, it is evident that archeological resources occur within the APE delineated for the Project (i.e., the Hunters Point Ship Graveyard). Furthermore, these results suggest that there is a reasonable presumption that additional archeological resources may be present elsewhere within the APE. Given these findings, it is recommended herein that an archeological testing program be implemented within the APE to determine to the extent possible the presence or absence of additional, subsurface archeological resources and to identify and evaluate whether any archeological resource encountered on the site constitutes an historical resource under CEQA.

6.1. Statement of Limitations

This report has been prepared based on certain key assumptions made by AECOM that substantially affect the conclusions and recommendations of this report. These assumptions, although thought to be reasonable and appropriate, may not prove to be true in the future. The conclusions and recommendations of AECOM are conditioned upon these following assumptions:

- This cultural resources assessment was performed based upon information provided by the NWIC of the CHRIS, on May 31, 2016, by the NAHC on August 1, 2016, by Page & Turnbull (authors of the proposed project's HRE) on April 1, 2016, and direct observation by AECOM of site conditions and other information that is generally applicable as of January 30, 2017. Therefore, the conclusions herein are applicable only to that time frame.
- Information obtained from these aforementioned sources in this time frame is assumed to be correct and complete. AECOM will not assume any liability for findings or lack of findings based on misrepresentation of information presented to the AECOM cultural resources assessment team; or for items not visible, made available, accessible, or present at the site at the time of survey of the project area.

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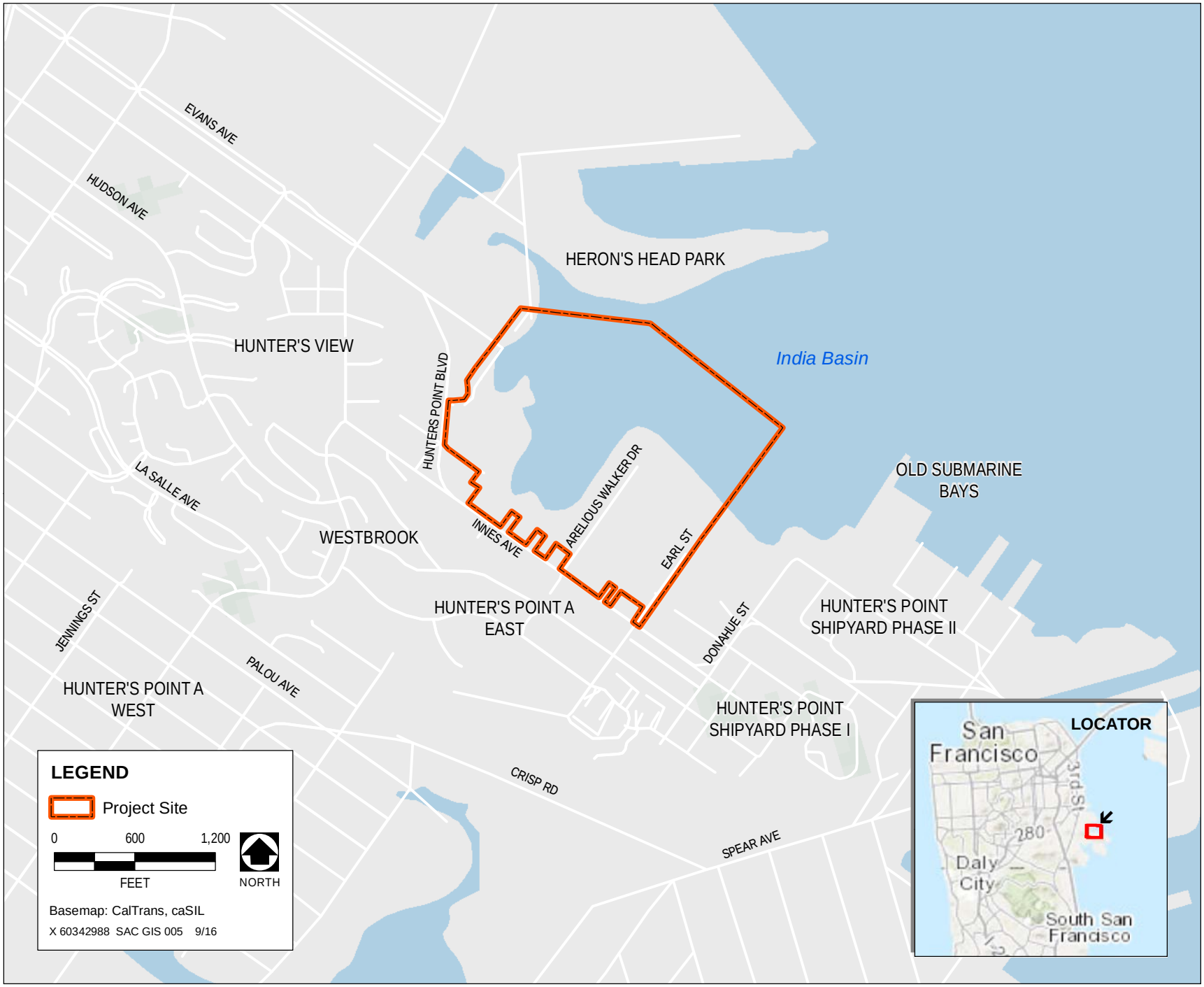
FIGURES



Source: AECOM 2016, BUILD Inc. 2016

Figure 1. Proposed Project Vicinity

Source: Build Inc. 2016, adapted by AECOM in 2017

Figure 2. Project Location

Source: BUILD 2016; GGN 2016

Figure 3. Proposed Development Plan

Source: BUILD Inc. 2016, USCS 1859 Map, AECOM 2016

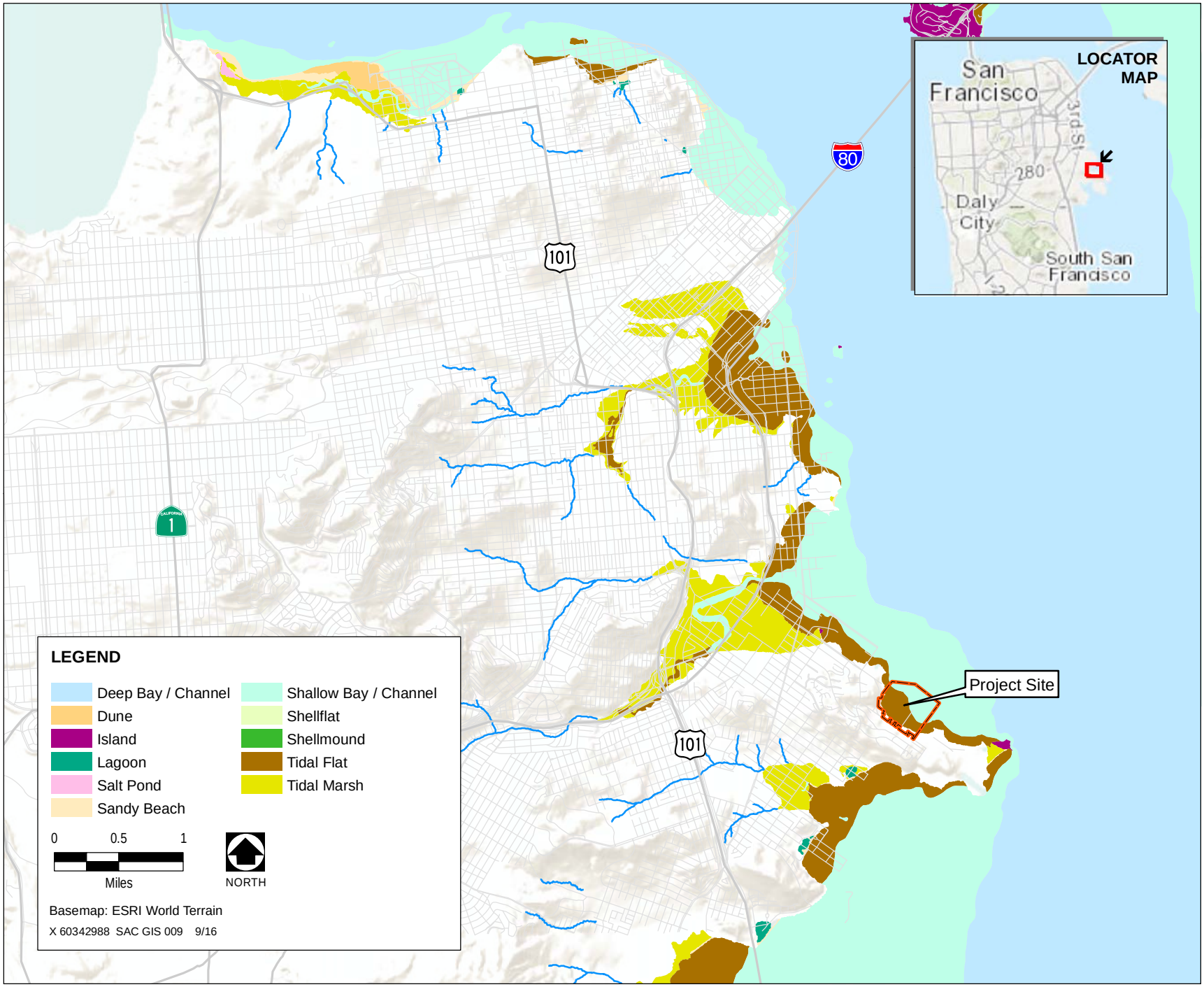
Figure 4. Area of Potential Effects

Source: David Rumsey Map Collection, Pacific Aerial Surveys, U.S. Coast Survey

Figure 5. Historic Shorelines

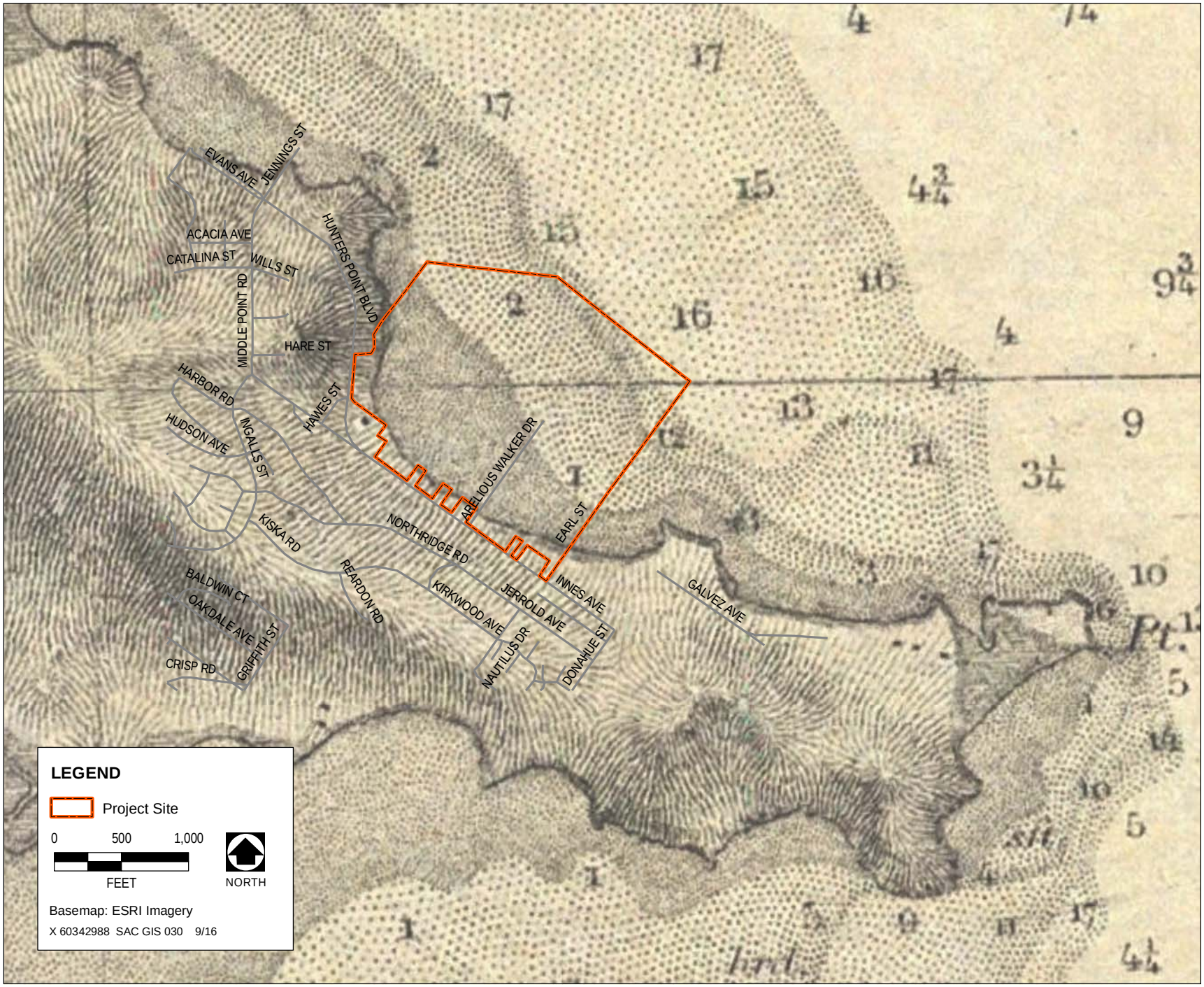
Source: NRCS USDA Web Soil Survey, Accessed 20161027

Figure 6. Soil Types within the APE



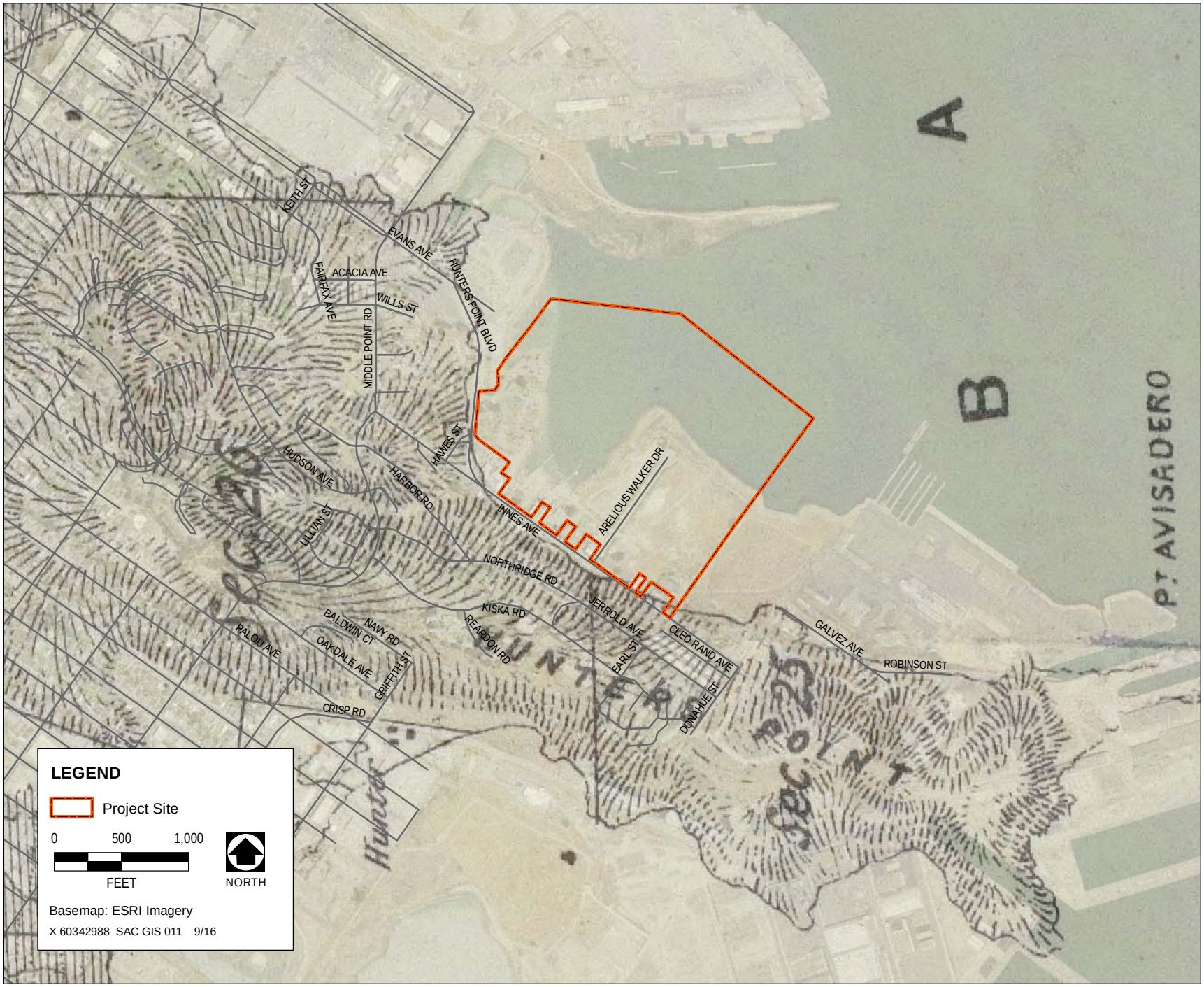
Source: San Francisco Estuary Institute (SFEI), Bay Area EcoAtlas V1.50b4 1998, accessed 20160801.

Figure 7. Historic Baylands with Proposed Project Location



Source: David Rumsey Map Collection, Accessed 20160921

Figure 8. 1859 U.S. Coast Survey Map with Proposed Project Location

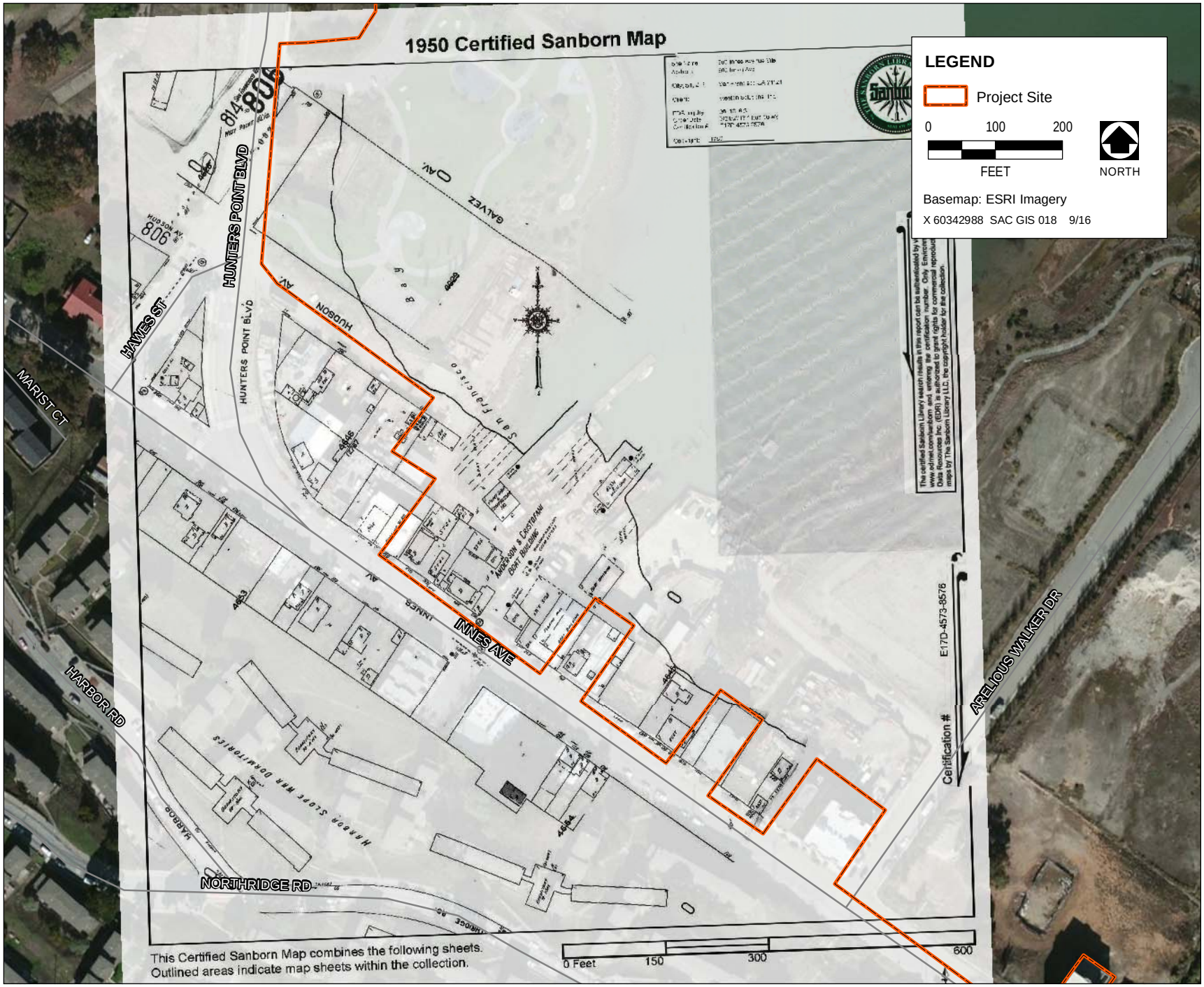


Source: David Rumsey Map Collection, accessed 20160722

Figure 9. 1861 Wackenreuder Map

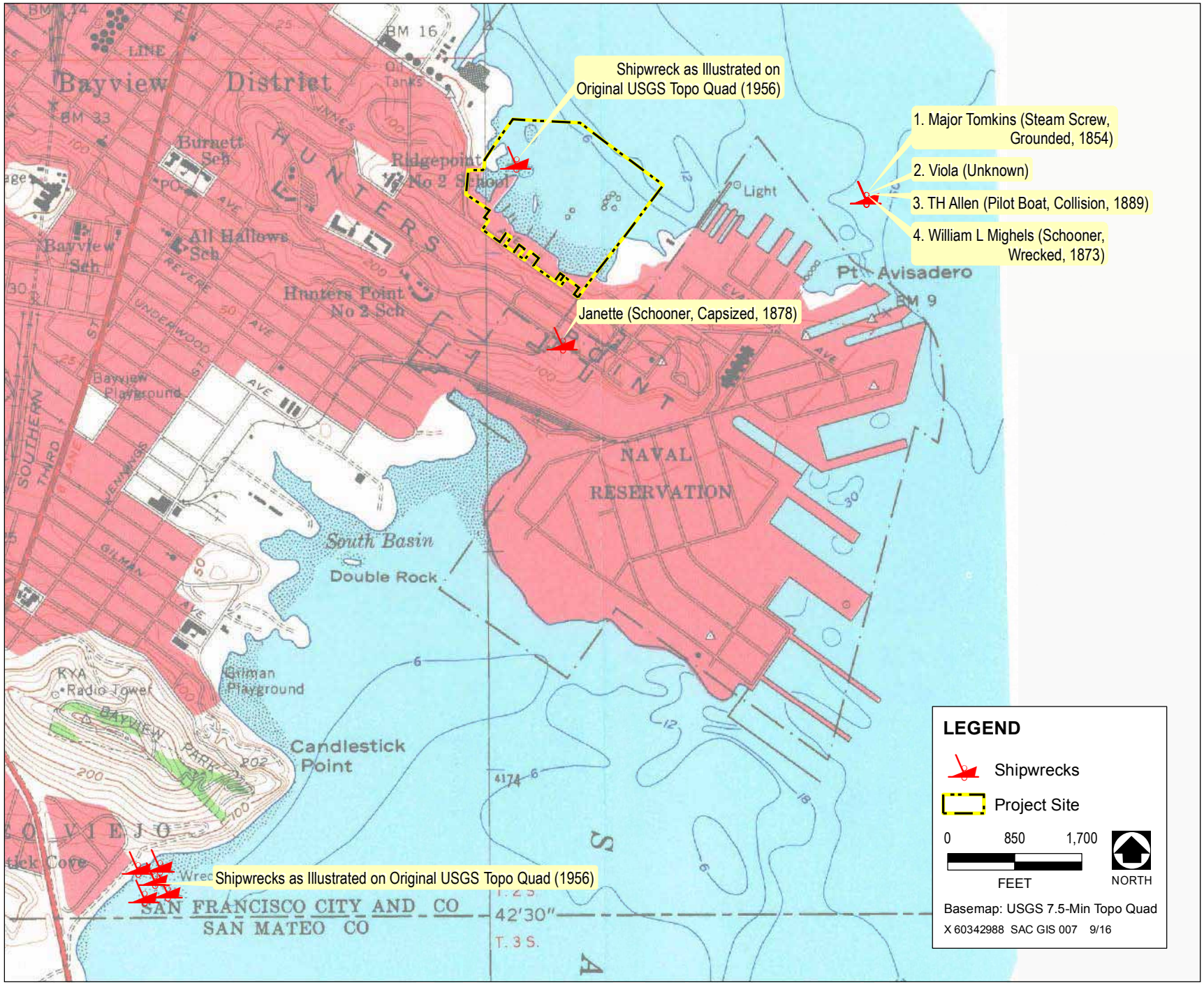
Source: Mark Hale, FoundSF.org, A History of the Chinese in California: A Syllabus, Paperback,1969

Figure 10. 1930s Map of Chinese Shrimp Camps with Proposed Project Location



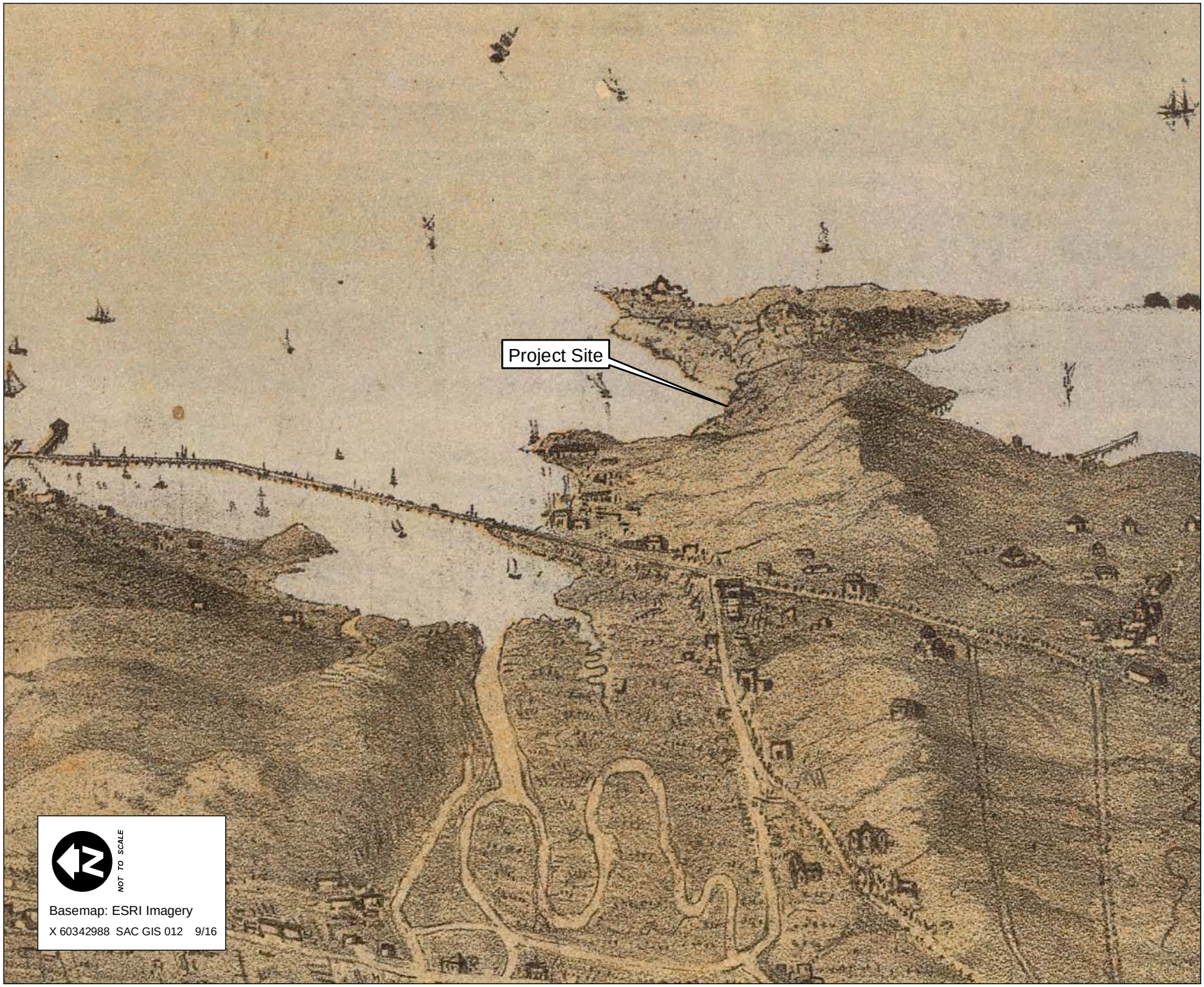
Source: Sanborn Fire Insurance Map 1950

Figure 11. 1950 Sanborn Fire Insurance Map with Proposed Project Location



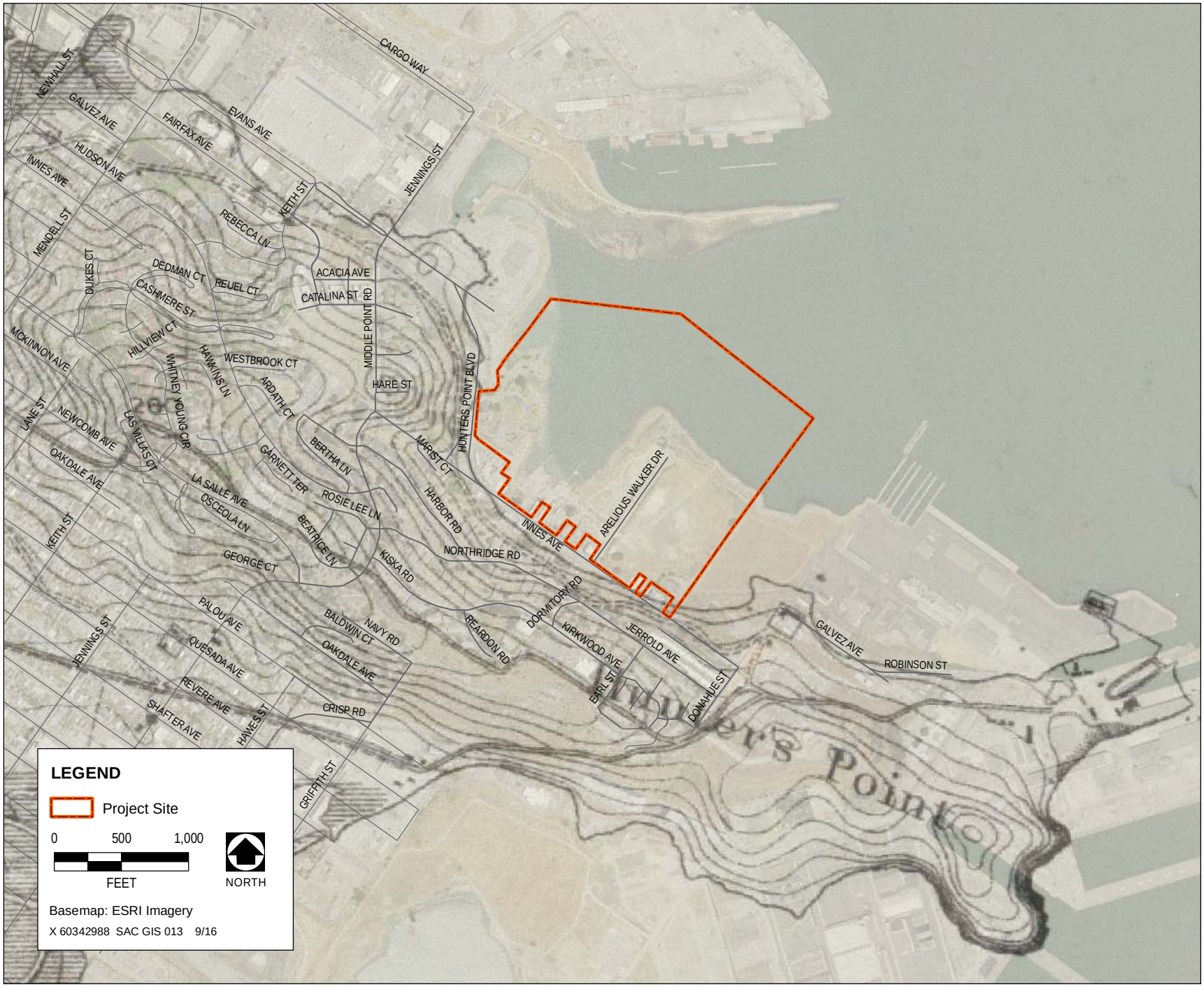
Source: USGS 1956 San Francisco South and Hunters Point 7.5-Min Topo Quads, CA State Lands Commission Shipwreck Database, Accessed 20160721

Figure 12. Reported Shipwrecks within the General Vicinity of the APE



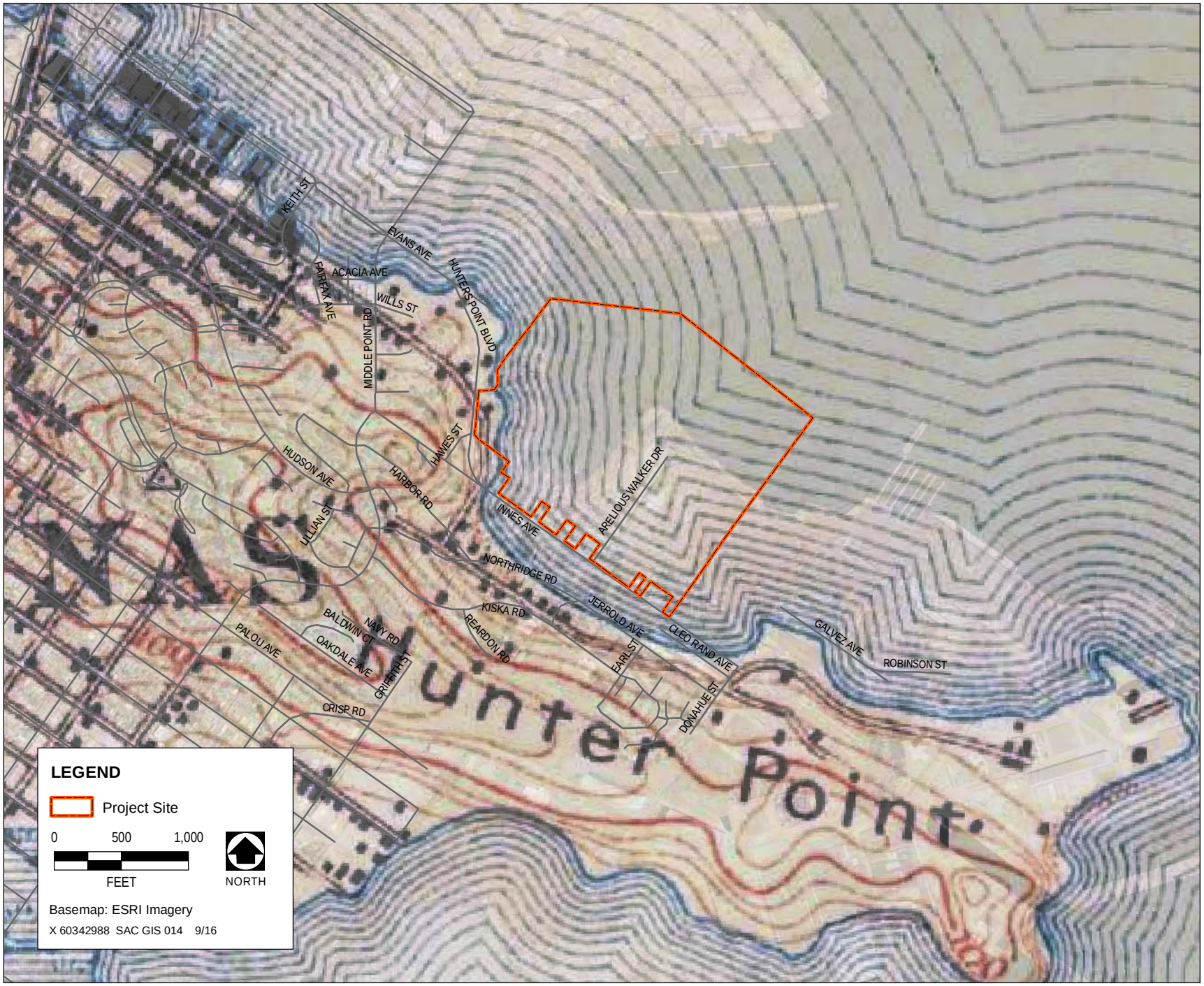
Source: David Rumsey Map Collection, accessed 20160722

Figure 13. 1868 Goddard Bird's Eye View



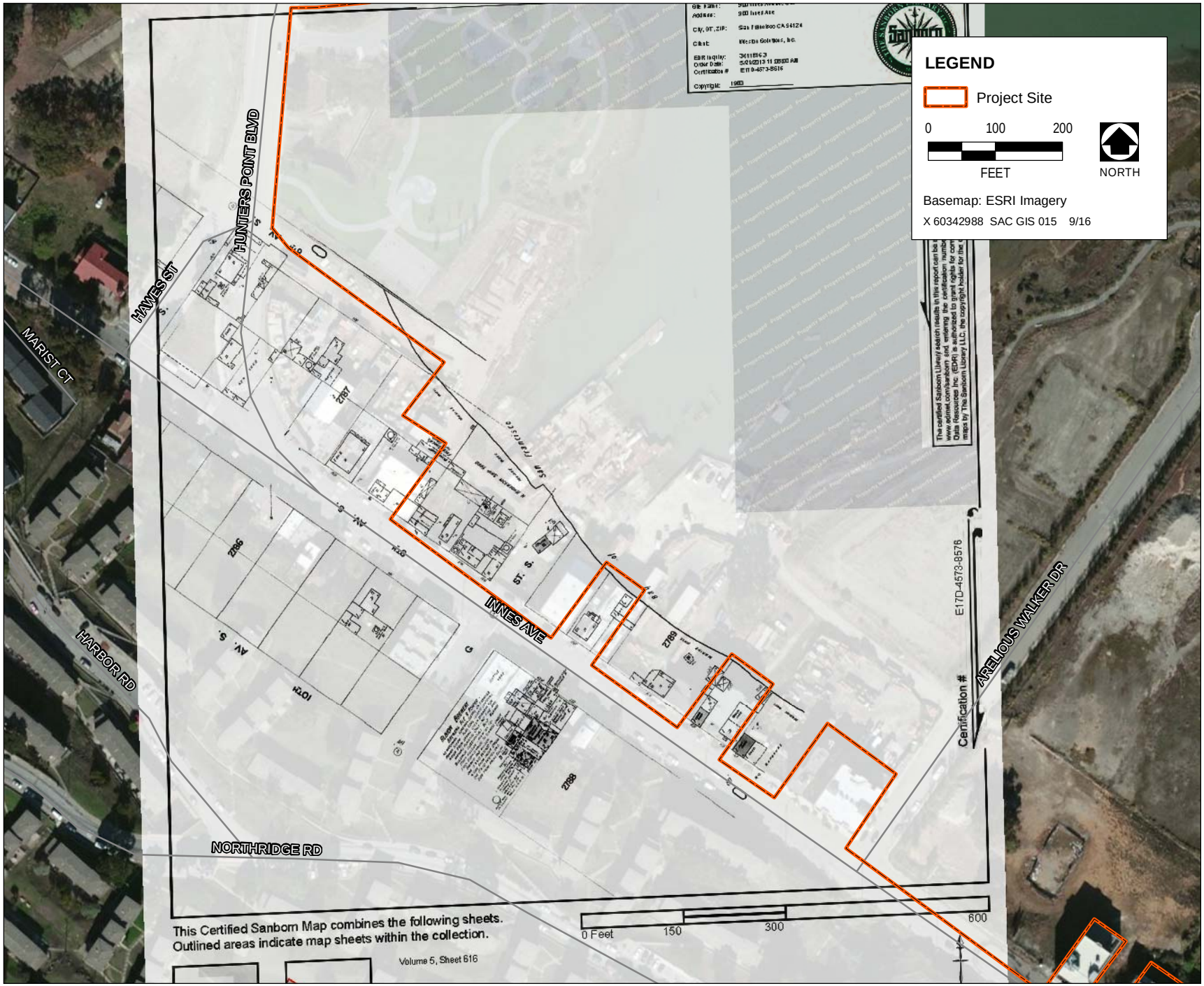
Source: David Rumsey Map Collection, accessed 20160801

Figure 14. 1869 U.S. Coast Survey Map with Project Location



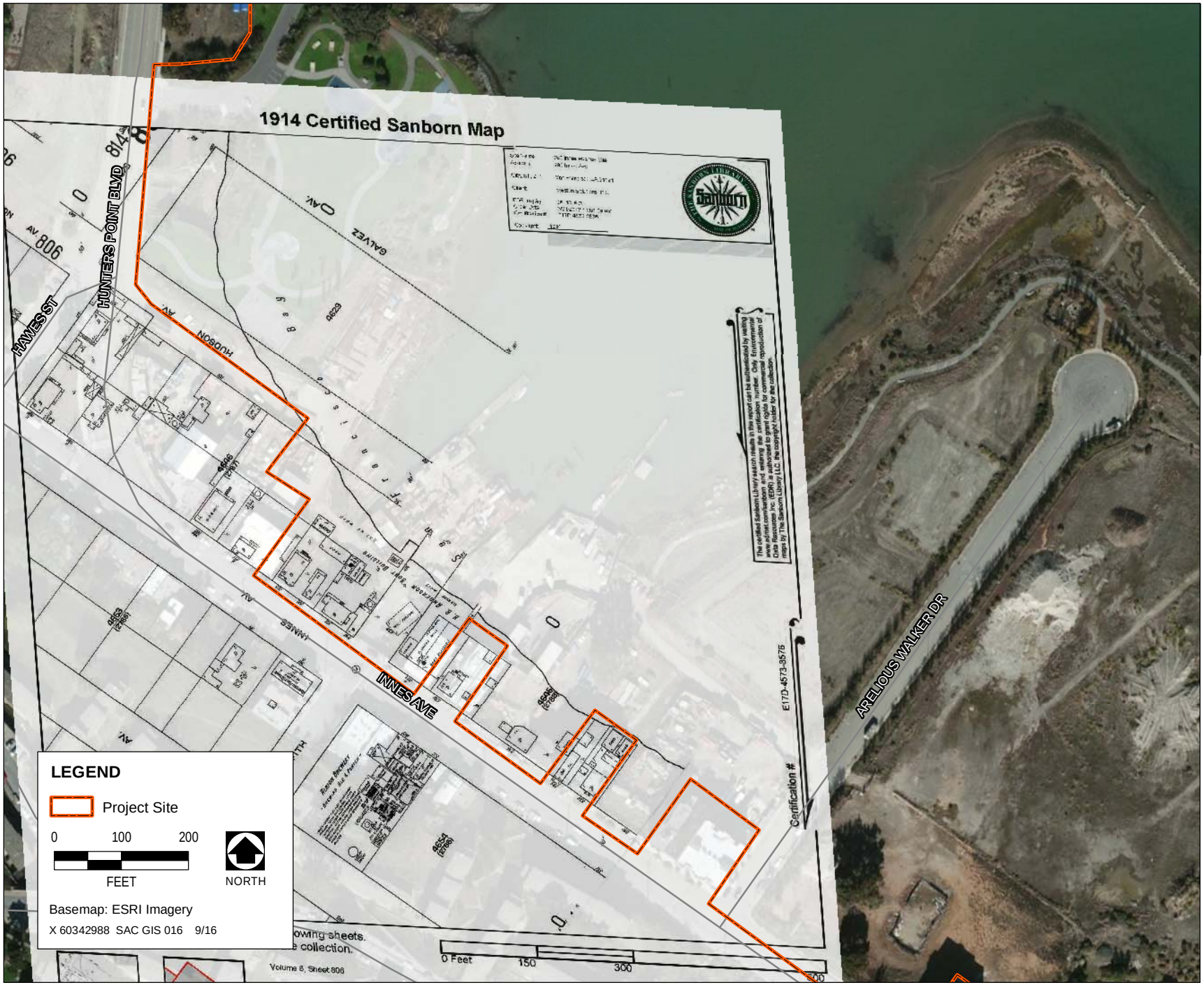
Source: USGS Historical Topographic Map Collection via TopoView web map, accessed 20160815

Figure 15. 1899 San Mateo, California 15-minute U.S. Geological Survey Topographic Map with Project Location



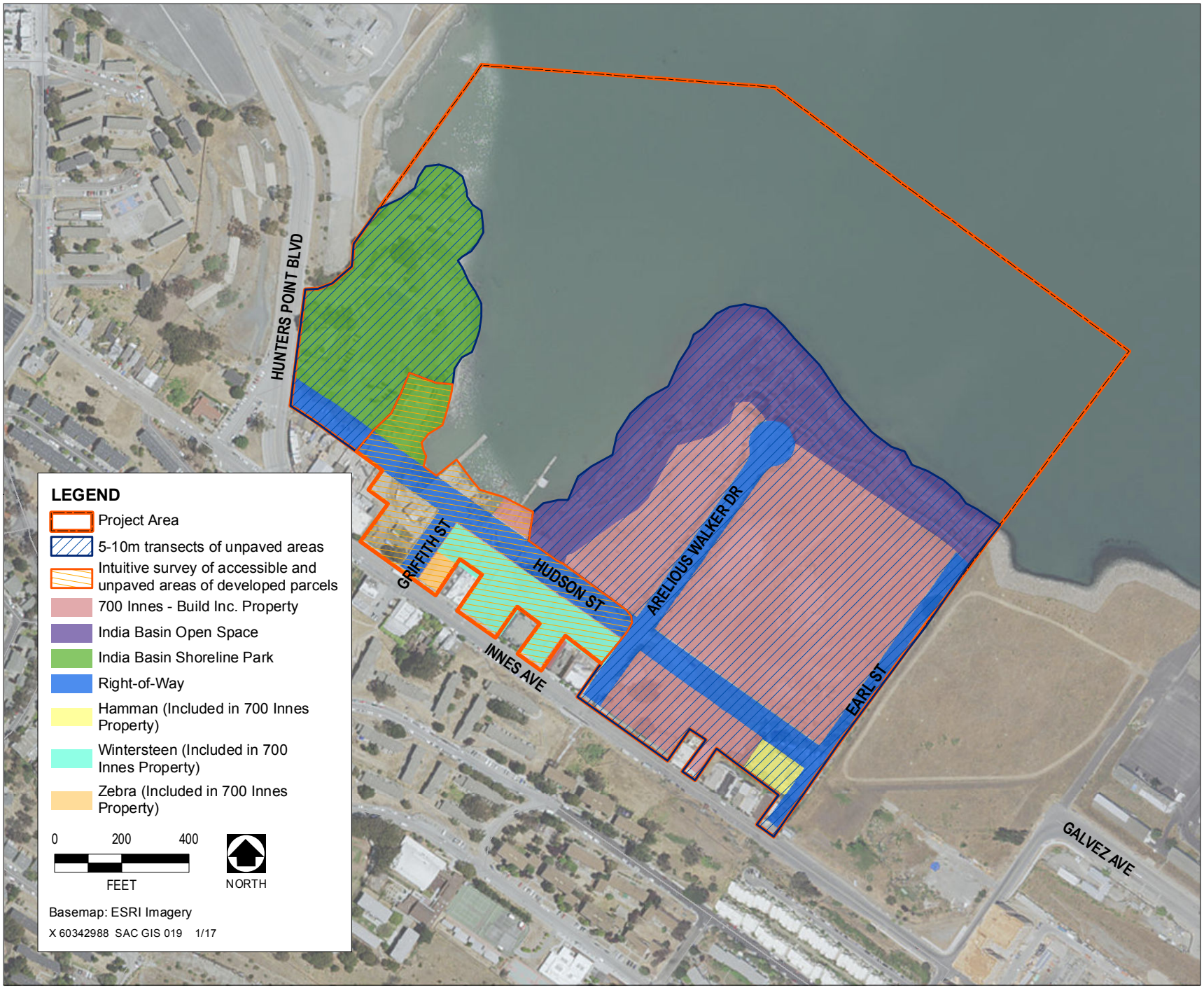
Source: Sanborn Fire Insurance Map 1900

Figure 16. 1900 Sanborn Fire Insurance Map with Proposed Project Location



Source: Sanborn Fire Insurance Map 1914

Figure 17. 1914 Sanborn Fire Insurance Map with Proposed Project Location



Source: AECOM 2016

Figure 18. APN map with Archaeological Survey Coverage

Source: Build Inc. 2016; USCS 1859 Map; AECOM 2016

Figure 19. Archeological Sensitivity Map

APPENDIX A
Records Search Results

CALIFORNIA HISTORICAL RESOURCES INFORMATION SYSTEM

ALAMEDA
COLUSA
CONTRA COSTA
DEL NORTE
HUMBOLDT
LAKE
MARIN
MENDOCINO
MONTEREY
NAPA
SAN BENITO
SAN FRANCISCO
SAN MATEO
SANTA CLATA
SANTA CRUZ
SOLANO
SONOMA
YOLO

Northwest Information Center
Sonoma State University
150 Professional Center Drive, Suite E
Rohnert Park, California 94928-3609
Tel: 707.588.8455
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http://www.sonoma.edu/nwic

5/31/2016 NWIC File No.: 15-1629

Mark Hale
AECOM
One Montgomery Street, Suite 900
San Francisco, CA 94104

Re: India Basin

The Northwest Information Center received your record search request for the project area referenced above, located on the San Francisco North and Hunters Point USGS 7.5' quad(s). The following reflects the results of the records search for the project area and a .25 mi. radius:

Resources within project area:	None listed
Resources within .25 mi. radius:	P-38-000011, P-38-000012, P-38-000014, P-38-004361, P-38-004611
Reports within project area:	S-16555, 16882, 20070, 25045, 39390
Reports within .25/mi. radius:	S-20458, 21124, 30053, 30786, 34929, 36134, 37884
Other Reports within records search radius:	Included is a list of the 15 "Other Reports" within or encompassing your project area. These reports are classified as Other Reports; reports with little or no field work or missing maps. The electronic maps do not depict study areas for these reports, however a list of these reports has been provided. In addition, you have not been charged any fees associated with these studies.

Resource Database Printout (list): ☐ enclosed ☒ not requested ☐ nothing listed

Resource Database Printout (details): ☐ enclosed ☒ not requested ☐ nothing listed

Resource Digital Database Records: ☐ enclosed ☒ not requested ☐ nothing listed

Report Database Printout (list): ☐ enclosed ☒ not requested ☐ nothing listed

Report Database Printout (details): ☒ enclosed ☐ not requested ☐ nothing listed

Report Digital Database Records: ☐ enclosed ☒ not requested ☐ nothing listed

Resource Record Copies: ☒ enclosed ☐ not requested ☐ nothing listed

Report Copies: ☐ enclosed ☒ not requested ☐ nothing listed

OHP Historic Properties Directory: ☐ enclosed ☒ not requested ☐ nothing listed

Archaeological Determinations of Eligibility:	☐ enclosed	☐ not requested	☒ nothing listed
CA Inventory of Historic Resources (1976):	☐ enclosed	☒ not requested	☐ nothing listed
Caltrans Bridge Survey: **	☐ enclosed	☒ not requested	☐ nothing listed
Ethnographic Information:	☐ enclosed	☒ not requested	☐ nothing listed
Historical Literature:	☐ enclosed	☒ not requested	☐ nothing listed
Historical Maps:	☒ enclosed	☐ not requested	☐ nothing listed
Local Inventories:	☐ enclosed	☒ not requested	☐ nothing listed
GLO and/or Rancho Plat Maps:	☐ enclosed	☒ not requested	☐ nothing listed
Shipwreck Inventory: **	☒ enclosed	☐ not requested	☐ nothing listed

*Notes:

- ** Current versions of these resources are available on-line:
- Caltrans Bridge Survey: http://www.dot.ca.gov/hq/structur/strmaint/historic.htm
- Soil Survey: http://alabamamaps.ua.edu/historicalmaps/soilsurvey/California/california.html
- Shipwreck Inventory: http://www.slc.ca.gov/Info/Shipwrecks.html

Please forward a copy of any resulting reports from this project to the office as soon as possible. Due to the sensitive nature of archaeological site location data, we ask that you do not include resource location maps and resource location descriptions in your report if the report is for public distribution. If you have any questions regarding the results presented herein, please contact the office at the phone number listed above.

The provision of CHRIS Data via this records search response does not in any way constitute public disclosure of records otherwise exempt from disclosure under the California Public Records Act or any other law, including, but not limited to, records related to archeological site information maintained by or on behalf of, or in the possession of, the State of California, Department of Parks and Recreation, State Historic Preservation Officer, Office of Historic Preservation, or the State Historical Resources Commission.

Due to processing delays and other factors, not all of the historical resource reports and resource records that have been submitted to the Office of Historic Preservation are available via this records search. Additional information may be available through the federal, state, and local agencies that produced or paid for historical resource management work in the search area. Additionally, Native American tribes have historical resource information not in the CHRIS Inventory, and you should contact the California Native American Heritage Commission for information on local/regional tribal contacts.

Should you require any additional information for the above referenced project, reference the record search number listed above when making inquiries. Requests made after initial invoicing will result in the preparation of a separate invoice.

Thank you for using the California Historical Resources Information System (CHRIS).

Sincerely,

Annette Neal

Researcher

APPENDIX B
Census Data

ED/page	Line	Street	House #	Name	Race	Sex	Age	Relationship	Marital	Occupation	Birthplace	Birthplace Mother	Birthplace Father	Notes
193/	3	Eighth	152	McKinnon, Olive J.	W	F	47	Wife	M	Keeping house	Nova Scotia	Nova Scotia	Nova Scotia	
	4	Eighth	152	McKinnon, John O.	W	M	56		M	Expressman	New Brunswick	Scotland	Scotland	
	5	Eighth	152	Munfrey, Edmund	W	M	37		M	Printer	England	Ireland	England	
	6	Eighth	152	Munfrey, Georgia R.	W	F	26	Wife	M	Keeping house	At sea	New Brunswick	Nova Scotia	
	7	Eighth	152	Munfrey, William O.	W	M	9	Son	S		California	England	At sea	
	8	Eighth	152	Munfrey, Howard	W	M	6	Son	S		California	England	At sea	
	9	Eighth	152	Munfrey, Hulburt	W	M	2	Son	S		California	England	At sea	
	10	Eighth	152	Lovejoy, Kate M.	W	F	22	Niece	S	Lodging	California	Maine	New Brunswick	
	11	Eighth	153	Metzendorff, Hermann	W	M	48		M	Ship carpenter	Hamburg	Hanover	Hamburg	Partially deaf & dumb
	12	Eighth	153	Metzendorff, Annie	W	F	41	Wife	M	Keeping house	Sleswig	Sleswig	Sleswig	
	13	Eighth	153	Metzendorff, Claus F.	W	M	16	Son	S	Sailor	Sleswig	Hamburg	Sleswig	
	14	Eighth	153	Metzendorff, Henrietta	W	F	18	Daughter	S	At home	Sleswig	Hamburg	Sleswig	
	15	Eighth	153	Metzendorff, Hermann	W	M	10	Son	S	At school	California	Hamburg	Sleswig	
	16	Eighth	153	Metzendorff, Daniel	W	M	9	Son	S		California	Hamburg	Sleswig	
	17	Eighth	153	Metzendorff, Elizabeth M.	W	F	1 mo	Daughter	S		California	Hamburg	Sleswig	
	18	Ninth	154	Dirks, John J.	W	M	55		M	Shipwright	Holland	Holland	Holland	
	19	Ninth	154	Dirks, Gesa	W	F	48	Wife	M	Keeping house	Hamburg	Holstein	Holstein	
	20	Ninth	154	Dirks, Hugo H.	W	M	22	Son	S	Shipwright	California	Holland	Hamburg	
	21	Ninth	154	Dirks, George	W	M	20	Son	S	Caulker	California	Holland	Hamburg	
	22	Ninth	154	Dirks, Minnie	W	F	17	Daughter	S	At home	California	Holland	Hamburg	
	23	Ninth	154	Dirks, Delia	W	F	15	Daughter	S	At home	California	Holland	Hamburg	
	24	Ninth	154	Dirks, Ellen	W	F	8	Daughter	S		California	Holland	Hamburg	
	35	Ninth	157	Farenkamp, O.F.L.	W	M	54		M	Ship carpenter	Denmark	Denmark	Denmark	
	36	Ninth	157	Farenkamp, Emma M.F.	W	F	42	Wife	M	Keeping house	Denmark	Denmark	Denmark	
	37	Ninth	157	Hansen, Otto	W	M	25		S	Ship joiner	Denmark	Denmark	Denmark	
	38	Ninth	158	Davis, George E.	W	M	56		M	Clergyman	England	Wales	Wales	
	39	Ninth	158	Davis, Margarite M.	W	F	57	Wife	M	Keeping house	New York	Wales	Wales	
	40	Ninth	158	Davis, Mary S.	W	F	21	Daughter	S	Music teacher	California	England	New York	
	41	Ninth	158	Davis, James W.	W	M	19	Son	S	Kalsomer	California	England	New York	
	42	Ninth	158	Davis, Helen A.	W	F	17	Daughter	S	At school	California	England	New York	
	43	Ninth	158	Davis, David S.	W	M	15	Son	S	At school	California	England	New York	
	44	Ninth	158	Davis, Jessie E.	W	F	13	Daughter	S	At school	California	England	New York	
	45	Ninth	159	Philips, William S.	W	M	29		M	Engineer	Iowa	England	New York	
	46	Ninth	159	Philips, Sarah M.	W	F	29	Wife	M	Keeping house	California	England	New York	
	47	Ninth	159	Philips, Martha M.	W	F	6	Daughter	S		California	Iowa	California	
	48	Ninth	159	Philips, Sarah E.	W	F	4	Daughter	S		California	Iowa	California	
	49	Ninth	159	Philips, George W.	W	M	2	Son	S		California	Iowa	California	

ED/page	Line	Street	House #	Name	Relation	Race	Sex	Age	Marital status	Birthplace	Birthplace Mother	Birthplace Father	Year of Imm	Occupation	Notes
88/4	77	8th	401	Seimers, Henry	Head	W	M	58	M	Germany	Germany	Germany	1880	Ship carpenter	
	78	8th	401	Seimers, Gesiare	Wife	W	F	50	M	Germany	Germany	Germany	1880		
	79	8th	401	Euuhl, Charles	Lodger	W	M	48	M	Germany	Germany	Germany	1880	Ship carpenter	
	80	8th	401	Euuhl, Henrietta	Lodger	W	F	33	M	Germany	Germany	Germany	1888		Same as Henriette Tuhl 1910?
	81	8th	401	Euuhl, Henry	Lodger	W	M	4	S	California	Germany	Germany			
	96	8th	920	Siemers, Fredrick	Head	W	M	52	Wd	Germany	Germany	Germany	1882	Shipbuilder	
	97	8th	920	Siemers, Henrietta	Daughter	W	F	26	M	Germany	Germany	Germany	1882		
88/5	1	8th	920	Siemers, Charles	Son	W	M	11	S	California	Germany	Germany		At school	
	2	8th	920	Lundblad, Frieda	Servant	W	F	30	Wd	Germany	Germany	Germany	1882	Servant	
	3	8th	920	Lundblad, Victor	Lodger	W	M	11		Oregon	Germany	Germany		At school	
	4	9th	906	Meeks, Frank	Head	W	M	49	M	Germany	Germany	Germany	1889	Teamster	
	5	9th	906	Meeks, Julia	Wife	W	F	39	M	Germany	Germany	Germany	1889		
	6	9th	906	Meeks, Mary	Daughter	W	F	12	S	California	Germany	Germany		At school	
	7	9th	906	Meeks, Rose	Daughter	W	F	10	S	California	Germany	Germany		At school	
	8	9th	906	Meeks, Amanda	Daughter	W	F	7	S	California	Germany	Germany			
	9	9th	906	Meeks, Theresa	Daughter	W	F	4	S	California	Germany	Germany			
	10	9th	906	Meeks, Pauline	Daughter	W	F	9 mos	S	California	Germany	Germany			
	11	9th	904	Jorgenson, Ingeborg	Head	W	F	52	M	Norway	Norway	Norway	1877		
	12	9th	904	Jorgenson, Inga	Daughter	W	F	19	S	California	Norway	Norway		Clerk - store	
	13	9th	904	Jorgenson, Fritzof	Son	W	M	16	S	California	Norway	Norway		Labour, fish store	
	14	9th	904	Jorgenson, Hilda	Daughter	W	F	14	S	California	Norway	Norway		At school	
	15	9th	904	Jorgenson, Carl	Son	W	M	12	S	California	Norway	Norway		At school	
	16	9th	904	Jorgenson, Julia	Daughter	W	F	8	S	California	Norway	Norway		At school	
	17	9th	900	McKinley, Robert	Head	W	M	38	M	Scotland	Scotland	Scotland	1887	Ship carpenter	
	18	9th	900	McKinley, Elisabeth	Wife	W	F	36	M	England	England	England	1887		
	19	9th	900	McKinley, Herbert V.	Son	W	M	10	S	California	Scotland	England		At school	
	20	9th	900	McKinley, Etta	Daughter	W	F	8	S	California	Scotland	England		At school	
	21	9th	900	McKinley, Florence G.	Daughter	W	F	3	S	California	Scotland	England			
	22	9th	850	Anderson, Henry	Head	W	M	45	M	Denmark	Denmark	Denmark	1880	Ship builder	
	23	9th	850	Anderson, Annie M.	Wife	W	F	44	M	Denmark	Denmark	Denmark	1882		
	24	9th	850	Anderson, Harry W.	Son	W	M	15	S	Washington	Denmark	Denmark		Apprentice ship carpenter	
	25	9th	850	Anderson, Alfrieda M.	Daughter	W	F	10	S	California	Denmark	Denmark		At school	
	26	9th	850	Anderson, Alma	Daughter	W	F	4	S	California	Denmark	Denmark			
	27	9th	836	Falencamp, Olif	Head	W	M	76	Wd	Denmark	Denmark	Denmark	1846	Ship carpenter	

ED/page	Line	Street	House #	Name	Relation	Sex	Race	Age	Marital	Birthplace	Father Birthplace	Mother Birthplace	Immigration Year	Occupation	Industry	Notes
54/16B	71	9th	836	Pasquinucci, Andrew	Head	M	W	36	M	Italian	Italian	Italian	1894	Boat building	Boats	
	72	9th	836	Pasquinucci, Antonette	Wife	F	W	25	M	California	Italian	Italian		None		
	73	9th	836	Pasquinucci, Clorinda	Daughter	F	W	9	S	California	Italian	Italian		None		
	74	9th	836	Pasquinucci, George	Son	M	W	7	S	California	Italian	California		None		
	75	9th	836	Pasquinucci, Albert	Son	M	W	5	S	California	Italian	California		None		
	76	9th	836	Pasquinucci, Norma	Daughter	F	W	1.5	S	California	Italian	California		None		
	78	9th	850	Anderson, Henry	Head	M	W	54	Wd	Danish	Danish	Danish	1875	Builder	Ships	
	79	9th	850	Anderson, Harry	Son	M	W	26	S	Washington	Danish	Danish		Builder	Ships	
	80	9th	850	Anderson, Elfrida	Daughter	F	W	21	M	California	Danish	Danish		None		
	81	9th	850	Anderson, Alma	Daughter	F	W	15	S	California	Danish	Danish		None		
	82	9th	850	Anderson, Walter	Son	M	W	8	S	California	Danish	Danish		None		
	83	9th	850	Austin, David	Son in law	M	W	30	M	California	Alabama	English		Mariner	Master	
	84	9th	850	Austin, Dorothy	Granddaughter	F	W	8 mos	S	California	California	California		None		
	85	9th	900	Seimer, Fred	Head	M	W	34	M	German	German	German	1887	Shipwright	Wooden	
	86	9th	900	Seimer, Inga	Wife	F	W	29	M	California	Norweigian	Norweigian		None		
	87	9th	900	Seimer, Earnest	Son	M	W	2	S	California	German	California		None		
	88	9th	904	Jurgenson, Ingibor	Head	F	W	60	Wd	Norweigian	Norweigian	Norweigian	1875	None		
	89	9th	904	Jurgenson, Fred	Son	M	W	27	S	California	Norweigian	Norweigian		Laborer	Un[known]	
	90	9th	904	Jurgenson, Hilda	Daughter	F	W	24	S	California	Norweigian	Norweigian		Stenographer	Shop	
	91	9th	904	Jurgenson, Carl	Son	M	W	22	S	California	Norweigian	Norweigian		Engineer	Gasoline Eng.	
	92	9th	904	Jurgenson, Julia	Daughter	F	W	18	S	California	Norweigian	Norweigian		Typist	Printing Office	
	93	9th	906	Mix, Frank	Head	M	W	59	M	German	German	German	1886	Hog raiser	Hog farm	
	94	9th	906	Mix, Julia	Wife	F	W	48	M	German	German	German	1886	None		
	95	9th	906	Mix, Amanda	Daughter	F	W	16	S	California	German	German		None		
	96	9th	906	Mix, Theresa	Daughter	F	W	14	S	California	German	German		None		
	97	9th	906	Mix, Pauline	Daughter	F	W	10	S	California	German	German		None		
	98	9th	906	Mix, Frances	Daughter	F	W	7	S	California	German	German		None		
54/17A	2	9th	920	Seimer, Fred	Head	M	W	70	M	German	German	German	1884	Carpenter	Ships	
	3	9th	920	Seimer, Henrietta	Wife	F	W	48	M	Massachusetts	Maine	Maine		None		
	4	9th	920	Symons, John T.	Head	M	W	42	M	Nevada	English	English		Laborer	Un[known]	
	5	9th	920	Symons, Isabella	Wife	F	W	52	M	English	English	English	1877	None		
	6	9th	920	Minedew, Beatrice	Stepdaughter	F	W	32	D	Nevada	Nevada	English		Domestic	House	
	7	9th	920	Minedew, Gilbert	Grandson	M	W	6	S	Nevada	Nevada	Nevada		None		
	8	9th	920	Minedew, Mable	Granddaughter	F	W	4	S	Nevada	Nevada	Nevada		None		
	15	8th	951	Peterson, James P.	Head	M	W	56	M	Swedish	Swedish	Swedish	1877	Shipping agent	Bay & River Transp.	
	16	8th	951	Peterson, Adeline G.K.	Wife	F	W	39	M	German	German	German	1882	None		
	17	8th	951	Peterson, Alma H.	Daughter	F	W	21	S	California	Swedish	German		None		
	18	8th	951	Peterson, Laura G.	Daughter	F	W	20	S	California	Swedish	German		Office work	Office	
	19	8th	951	Peterson, Olga E.	Daughter	F	W	18	S	California	Swedish	German		None		
	20	8th	951	Peterson, Mabel M.	Daughter	F	W	14	S	California	Swedish	German		None		
	21	8th	951	Peterson, Roy E.	Son	M	W	11	S	California	Swedish	German		None		
	22	8th	951	Peterson, Lester	Son	M	W	8	S	California	Swedish	German		None		
54/17B	77	8th [may be H/Hawes]	401	Seimer, Henry	Head	M	W	67	M	German	German	German	1881	Carpenter	House	
	78	8th [may be H/Hawes]	401	Seimer, Gesine	Wife	F	W	60	M	German	German	German	1881	None		
	79	8th [may be H/Hawes]	401	Seimer, Henry	Head	M	W	30	M	German	German	German	1882	Carpenter	Ship	
	80	8th [may be H/Hawes]	401	Seimer, Dora	Wife	F	W	25	M	California	German	German		None		
	81	8th [may be H/Hawes]	401	Seimer, Ethel	Daughter	F	W	3	S	California	German	California		None		
	82	8th [may be H/Hawes]	401	Seimer, Evelyn	Daughter	F	W	1.5	S	California	German	California		None		

ED/page	Line	Street	House #	Name	Relation	Sex	Race	Age	Marital	Immigratio	Birthplace	Father Birthplace	Mother Birthplace	Occupation	Industry	Notes
169/14B	60	Innes	900	Siemer, Inga	Head	F	W	38	M		California	Norway	Norway	None		
	61	Innes	900	Siemer, Fred	Husband	M	W	42	M	1884	Germany	Germany	Germany	Shipwright	Shipyard	
	62	Innes	900	Siemer, Ernest	Son	M	W	11	S		California	Germany	United States	None		
	63	Innes	900	Siemer, Ruth	Daughter	F	W	9	S		California	Germany	United States	None		
	64	Innes	900	Siemer, Gordon	Son	M	W	8	S		California	Germany	United States	None		
	65	Innes	900	Siemer, Helen	Daughter	F	W	6	S		California	Germany	United States	None		
	66	Innes	904	Jorgenson, Ingebor	Head	F	W	72	D	1880	Norway	Norway	Norway	None		
	67	Innes	904	Jorgenson, Fred	Son	M	W	36	S		California	Norway	Norway	Painter	Shipyard	
	68	Innes	904	Jorgenson, Carl	Son	M	W	30	S		California	Norway	Norway	Radio Eng.	Wireless station	
	69	Innes	904	Hanssen, Jennie J.	Daughter	F	W	40	M		California	Norway	Norway	None		
	70	Innes	904	Hanssen, Odin	Grandson	M	W	19	S		California	Norway	California	None		
	71	Innes	904	Hanssen, Enid	Granddaughter	F	W	10	S		California	Norway	California	None		
	72	Innes	906	Mix, Julia	Head	F	W	58	W	1878	Germany	Germany	Germany	None		
	73	Innes	906	Mix, Pauline	Daughter	F	W	20	S		California	Germany	Germany	None		
	74	Innes	906	Mix, Frances	Daughter	F	W	17	S		California	Germany	Germany	None		
	75	Innes	908	Biggs, Charles	Head	M	W	36	M		California	California	California	Butcher	Slaughterhouse	
	76	Innes	908	Biggs, Rose	Wife	F	W	28	M		California	Germany	Germany	None		
	77	Innes	908	Biggs, Evelyn	Daughter	F	W	12	S		California	United States	United States	None		
	78	Innes	908	Biggs, Myrtle	Daughter	F	W	7	S		California	United States	United States	None		
	95	Innes	836	Shiffer, John J.	Head	M	W	49	M		Pennsylvani	Pennsylvania	Manila	Laborer	Shipyard	
	96	Innes	836	Shiffer, Laustina	Wife	F	W	38	M		Manila	Manila	Manila	None		
	97	Innes	836	Shiffer, Mary	Daughter	F	W	19	S		Manila	Pennsylvania	Manila	None		
	98	Innes	836	Shiffer, Fred	Son	M	W	16	S		Manila	Pennsylvania	Manila	None		
	99	Innes	836	Shiffer, William	Son	M	W	15	S		Manila	Pennsylvania	Manila	None		
	100	Innes	836	Shiffer, Jack	Son	M	W	12	S		Manila	Pennsylvania	Manila	None		
169/15A	1	Innes	836	Shiffer, Lizzie	Daughter	F	W	9	S		Manila	Pennsylvania	Manila	None		
	2	Innes	836	Shiffer, Joe	Son	M	W	7	S		Manila	Pennsylvania	Manila	None		
	3	Innes	836	Shiffer, Jim	Son	M	W	2	S		Manila	Pennsylvania	Manila	None		
	4	Innes	828	Mellberg, Buth E.	Head	M	W	26	S		California	Sweden	Sweden	Merchant	Cigars & [?]	
	5	Innes	828	Mellberg, John	Father	M	W	62	D	1887	Sweden	Sweden	Sweden	Retired	Merchant	
	6	Innes	850	Anderson, John P.	Head	M	W	63	M	1873	Denmark	Denmark	Denmark	Ship builder		
	7	Innes	850	Anderson, Alma	Daughter	F	W	22	S		California	Denmark	California	None		
	8	Innes	850	Anderson, Walter	Son	M	W	17	S		California	Denmark	California	None		
	9	Innes	850	Austin, Mrs. D.C.	Daughter	F	W	33	M		California	Denmark	California	None		
	10	Innes	850	Austin, David C.	Son in law	M	W	38	M		California	Texas	England	Captain	Steam ship	
	11	Innes	850	Austin, Dorothy	Granddaughter	F	W	9	S		California	California	California	None		
	21	Hawes	401	Busel, Gustive	Head	M	W	35	M	1910	Germany	Germany	Germany	Machinist	Machine shop	
	22	Hawes	401	Busel, Anna	Wife	F	W	32	M	1909	Hungary	Germany	Germany	None		
	23	Hawes	401	Busel, Gustive	Son	M	W	2.5	S		California	Germany	Hungary	None		
	24	Hawes	401	Busel, Raymond	Son	M	W	1.33	S		California	Germany	Hungary	None		
	34	Innes	826	Anderson, Oscar	Head	M	W	53	S	1883	Sweden	Sweden	Sweden	Laborer	Shipyard	
	35	Innes	826	Carlson, Erick	Boarder	M	W	50	S	1890	Sweden	Sweden	Sweden	Marines	Steam boat	
	36	Innes	826	Metter, Fred	Head	M	W	51	W	1888	Germany	Germany	Germany	Laborer	Packing H.	
	37	Innes	826	Metter, George	Son	M	W	16	S		Illinois	Germany	Missouri	None		
	38	Innes	826	Siemer, Chas.	Head	M	W	32	S		California	Germany	Germany	Ship caulker	Shipyard	

1930 U.S. Census

ED/page	Line	Street	House #	Name	Relation	Sex	Race	Age	Marital	Birthplace	Father Birthplace	Mother Birthplace	Immigratio	Occupation	Industry	Notes
36/15A	7	Hawes	401	Blandt, Hans	Head	M	W	42	M	Denmark	Denmark	Denmark	1910	Machinist	Automobiles	
	8	Hawes	401	Blandt, Sophie	Wife	F	W	44	M	Denmark	Denmark	Denmark	1910	None		
	9	Hawes	401	Blandt, Niels	Son	M	W	21	S	Denmark	Denmark	Denmark	1910	Machinist	Automobiles	
	10	Hawes	401	Blandt, Frederick	Son	M	W	16	S	Washington	Denmark	Denmark		None		
	11	Hawes	401	Blandt, Marion	Daughter	F	W	14	S	Washington	Denmark	Denmark		None		
	12	Hawes	401	Blandt, Evelyn	Daughter	F	W	10	S	Washington	Denmark	Denmark		None		
	13	Hawes	401	Blandt, Helen	Daughter	F	W	6	S	Washington	Denmark	Denmark		None		
	14	Hawes	401	Blandt, Betty	Daughter	F	W	4	S	Washington	Denmark	Denmark		None		
	18	Innes	908	Mix, Julia	Head	F	W	63	Wd	Germany	Germany	Germany	1887	None		
	19	Innes	904	Hansen, Jennie	Head	F	W	49	Wd	Norway	Norway	Norway	1900	None		
	20	Innes	904	Hansen, Norma	Daughter	F	W	21	S	California	Norway	Norway		None		
	21	Innes	904	Jorgensen, Carl	Brother	M	W	40	M	Norway	Norway	Norway	1900	Operator	Insurance	

APPENDIX C
Native American Tribal Outreach

STATE OF CALIFORNIA Edmund G. Brown, Jr., Governor

NATIVE AMERICAN HERITAGE COMMISSION
1550 Harbor Blvd., Suite 100
West Sacramento, CA 95691
(916) 373-3710
(916) 373-5471 Fax

August 1, 2016

Jennifer Redmond
AECOM

E Mail: Jennifer.Redmond@aecom.com
Number of Pages: 2

RE: India Basin Mixed Used Project, San Francisco County

Dear Ms. Redmond,

Attached is a list of tribes that have cultural and traditional affiliation to the area of potential project effect (APE) referenced above. I suggest you contact all of those listed, if they cannot supply information, they might recommend others with specific knowledge. The list should provide a starting place to locate areas of potential adverse impact within the APE. By contacting all those on the list, your organization will be better able to respond to claims of failure to consult, as may be required under particular state statutes. If a response has not been received within two weeks of notification, the Native American Heritage Commission (NAHC) requests that you follow-up with a telephone call to ensure that the project information has been received.

The NAHC also recommends that project proponents conduct a record search of the NAHC Sacred Lands File (SLF) at the appropriate regional archaeological Information Center of the California Historic Resources Information System (CHRIS) (http://ohp.parks.ca.gov/?page_id=1068) to determine if any tribal cultural resources are located within the area(s) affected by the proposed action. The SFL, established under Public Resources Code section 5094, are sites submitted for listing to the NAHC by California Native American tribes. The SFL, established under Public Resources Code section 5094, are sites submitted for listing to the NAHC by California Native American tribes. A record search of the SLF was completed for the APE referenced above with negative results. Please note records maintained by the NAHC and CHRIS is not exhaustive, and a negative response to these searches does not preclude the existence of tribal cultural resources. A tribe may be the only source of information regarding the existence of tribal cultural resources.

If you receive notification of change of addresses and phone numbers from any of these tribes, please notify me. With your assistance we are able to assure that our lists contain current information. If you have any questions or need additional information, please contact via email: frank.lienert@nahc.ca.gov

Sincerely,

Frank Lienert
Associate Governmental Program Analyst

Native American Heritage Commission
Native American Contact List

8/1/2016

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Costanoan
Northern Valley
Yokut

Amah MutsunTribal Band
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Costanoan
Northern Valley
Yokut

Amah MutsunTribal Band of Mission San Juan Bautista
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Costanoan

Costanoan Ohlone Rumsen-Mutsun Tribe
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Costanoan

Costanoan Rumsen Carmel Tribe
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Fax: (909)524-8041
rumsen@aol.com

Costanoan

Esselen Tribe of Monterey County
Tom Little Bear Nason,
38655 Tassajara Road
Carmel Valley, CA, 93924
Phone: (408)659-2153

Costanoan
Esselen

Indian Canyon Mutsun Band of Costanoan
Ann Marie Sayers, Chairperson
P.O. Box 28
Hollister, CA, 95024
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Costanoan

Muwekma Ohlone Indian Tribe of the SF Bay Area
Rosemary Cambra, Chairperson
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Costanoan

Ohlone/Costanoan-Esselen Nation
Christanne Arias, Vice Chairperson
519 Viejo Gabriel
Soledad, CA, 93960
Phone: (831)235-4590

Costanoan
Esselen

Ohlone/Costanoan-Esselen Nation
Louise Miranda-Ramirez, Chairperson
P.O. Box 1301
Monterey, CA, 93942
Phone: (408)629-5189
ramirez.louise@yahoo.com

Costanoan
Esselen

The Ohlone Indian Tribe
Andrew Galvan,
P.O. Box 3152
Fremont, CA, 94539
Phone: (510) 882 - 0527
Fax: (510)687-9393
chochenyo@AOL.com

Bay Miwok
Costanoan
Patwin
Plains Miwok

This list is current only as of the date of this document. 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 Resource Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources assessment for the proposed India Basin Mixed Used Project,

AECOM
1333 Broadway
Suite 800
Oakland, CA 94612-1924
www.aecom.com

510 893 3600 tel
510 874 3268 fax

August 4, 2016

XXXXXX
XXXXXX
XXXXXX
XXXXXX, CA 9XXXX

Subject: India Basin Mixed-Use Project, City of San Francisco, San Francisco County

Dear MXX. XXXXXXX,

Build Inc. and the San Francisco Recreation and Parks Department are proposing to redevelop adjacent parcels along the India Basin shoreline of San Francisco Bay. The project is located in the Bayview-Hunters Point neighborhood and is bounded by the Bay on the north, the Candlestick-Hunters Point Shipyard Development Project area on the east, Innes Avenue on the south, and Hunters Point Boulevard and Hawes Street on the west. Please see the enclosed map. The project would construct a mix of residential and commercial buildings, and recreational uses including an extention of the Bay Trail and the replacement of existing piers. The project is mostly situated on land that was filled in the mid-twentieth century. Additional cutting and filling of the parcels is proposed.

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If you have any questions, please feel free to call me directly at 510.874.3265, or email at jennifer.redmond@aecom.com. We look forward to hearing from you. Thank you.

Sincerely,

Jennifer Redmond
Archaeologist

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Suite 800
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August 4, 2016

Ohlone/Costanoan-Esselen Nation
Christianne Arias, Vice Chairperson
519 Viejo Gabriel
Soledad, CA 93960

Subject: India Basin Mixed-Use Project, City of San Francisco, San Francisco County

Dear Vice Chairperson Arias,

Build Inc. and the San Francisco Recreation and Parks Department are proposing to redevelop adjacent parcels along the India Basin shoreline of San Francisco Bay. The project is located in the Bayview-Hunters Point neighborhood and is bounded by the Bay on the north, the Candlestick-Hunters Point Shipyard Development Project area on the east, Innes Avenue on the south, and Hunters Point Boulevard and Hawes Street on the west. Please see the enclosed map. The project would construct a mix of residential and commercial buildings, and recreational uses including an extention of the Bay Trail and the replacement of existing piers. The project is mostly situated on land that was filled in the mid-twentieth century. Additional cutting and filling of the parcels is proposed.

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August 4, 2016

Muwekma Ohlone Indian Tribe of the San Francisco Bay Area
Rosemary Cambra, Chairperson
P.O. Box 360791
Milpitas, CA 95036

Subject: India Basin Mixed-Use Project, City of San Francisco, San Francisco County

Dear Chairperson Cambra,

Build Inc. and the San Francisco Recreation and Parks Department are proposing to redevelop adjacent parcels along the India Basin shoreline of San Francisco Bay. The project is located in the Bayview-Hunters Point neighborhood and is bounded by the Bay on the north, the Candlestick-Hunters Point Shipyard Development Project area on the east, Innes Avenue on the south, and Hunters Point Boulevard and Hawes Street on the west. Please see the enclosed map. The project would construct a mix of residential and commercial buildings, and recreational uses including an extention of the Bay Trail and the replacement of existing piers. The project is mostly situated on land that was filled in the mid-twentieth century. Additional cutting and filling of the parcels is proposed.

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August 4, 2016

Costanoan Rumsen Carmel Tribe
Tony Cerda, Chairperson
244 E. 1st Street
Pomona, CA 91766

Subject: India Basin Mixed-Use Project, City of San Francisco, San Francisco County

Dear Chairperson Cerda,

Build Inc. and the San Francisco Recreation and Parks Department are proposing to redevelop adjacent parcels along the India Basin shoreline of San Francisco Bay. The project is located in the Bayview-Hunters Point neighborhood and is bounded by the Bay on the north, the Candlestick-Hunters Point Shipyard Development Project area on the east, Innes Avenue on the south, and Hunters Point Boulevard and Hawes Street on the west. Please see the enclosed map. The project would construct a mix of residential and commercial buildings, and recreational uses including an extention of the Bay Trail and the replacement of existing piers. The project is mostly situated on land that was filled in the mid-twentieth century. Additional cutting and filling of the parcels is proposed.

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August 4, 2016

The Ohlone Indian Tribe
Andrew Galvan
P.O. Box 3152
Fremont, CA 94539

Subject: India Basin Mixed-Use Project, City of San Francisco, San Francisco County

Dear Mr. Galvan,

Build Inc. and the San Francisco Recreation and Parks Department are proposing to redevelop adjacent parcels along the India Basin shoreline of San Francisco Bay. The project is located in the Bayview-Hunters Point neighborhood and is bounded by the Bay on the north, the Candlestick-Hunters Point Shipyard Development Project area on the east, Innes Avenue on the south, and Hunters Point Boulevard and Hawes Street on the west. Please see the enclosed map. The project would construct a mix of residential and commercial buildings, and recreational uses including an extention of the Bay Trail and the replacement of existing piers. The project is mostly situated on land that was filled in the mid-twentieth century. Additional cutting and filling of the parcels is proposed.

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August 4, 2016

Amah Mutsun Tribal Band
Edward Ketchum
35867 Yosemite Avenue
Davis, CA 95616

Subject: India Basin Mixed-Use Project, City of San Francisco, San Francisco County

Dear Mr. Ketchum,

Build Inc. and the San Francisco Recreation and Parks Department are proposing to redevelop adjacent parcels along the India Basin shoreline of San Francisco Bay. The project is located in the Bayview-Hunters Point neighborhood and is bounded by the Bay on the north, the Candlestick-Hunters Point Shipyard Development Project area on the east, Innes Avenue on the south, and Hunters Point Boulevard and Hawes Street on the west. Please see the enclosed map. The project would construct a mix of residential and commercial buildings, and recreational uses including an extention of the Bay Trail and the replacement of existing piers. The project is mostly situated on land that was filled in the mid-twentieth century. Additional cutting and filling of the parcels is proposed.

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August 4, 2016

Amah Mutsun Tribal Band
Valentin Lopez, Chairperson
P.O. Box 5272
Galt, CA 95632

Subject: India Basin Mixed-Use Project, City of San Francisco, San Francisco County

Dear Chairperson Lopez,

Build Inc. and the San Francisco Recreation and Parks Department are proposing to redevelop adjacent parcels along the India Basin shoreline of San Francisco Bay. The project is located in the Bayview-Hunters Point neighborhood and is bounded by the Bay on the north, the Candlestick-Hunters Point Shipyard Development Project area on the east, Innes Avenue on the south, and Hunters Point Boulevard and Hawes Street on the west. Please see the enclosed map. The project would construct a mix of residential and commercial buildings, and recreational uses including an extention of the Bay Trail and the replacement of existing piers. The project is mostly situated on land that was filled in the mid-twentieth century. Additional cutting and filling of the parcels is proposed.

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August 4, 2016

Ohlone/Costanoan-Esselen Nation
Louise Miranda-Ramirez, Chairperson
P.O. Box 1301
Monterey, CA 93942

Subject: India Basin Mixed-Use Project, City of San Francisco, San Francisco County

Dear Chairperson Miranda-Ramirez,

Build Inc. and the San Francisco Recreation and Parks Department are proposing to redevelop adjacent parcels along the India Basin shoreline of San Francisco Bay. The project is located in the Bayview-Hunters Point neighborhood and is bounded by the Bay on the north, the Candlestick-Hunters Point Shipyard Development Project area on the east, Innes Avenue on the south, and Hunters Point Boulevard and Hawes Street on the west. Please see the enclosed map. The project would construct a mix of residential and commercial buildings, and recreational uses including an extention of the Bay Trail and the replacement of existing piers. The project is mostly situated on land that was filled in the mid-twentieth century. Additional cutting and filling of the parcels is proposed.

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August 4, 2016

Esselen Tribe of Monterey County
Tom Little Bear Nason
38655 Tassajara Road
Carmel Valley, CA 93924

Subject: India Basin Mixed-Use Project, City of San Francisco, San Francisco County

Dear Mr. Nason,

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August 4, 2016

Costanoan Ohlone Rumsen-Mutsun Tribe
Patrick Orozco, Chairman
644 Peartree Drive
Watsonville, CA 95076

Subject: India Basin Mixed-Use Project, City of San Francisco, San Francisco County

Dear Chairman Orozco,

Build Inc. and the San Francisco Recreation and Parks Department are proposing to redevelop adjacent parcels along the India Basin shoreline of San Francisco Bay. The project is located in the Bayview-Hunters Point neighborhood and is bounded by the Bay on the north, the Candlestick-Hunters Point Shipyard Development Project area on the east, Innes Avenue on the south, and Hunters Point Boulevard and Hawes Street on the west. Please see the enclosed map. The project would construct a mix of residential and commercial buildings, and recreational uses including an extention of the Bay Trail and the replacement of existing piers. The project is mostly situated on land that was filled in the mid-twentieth century. Additional cutting and filling of the parcels is proposed.

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August 4, 2016

Indian Canyon Mutsun Band of Costanoan
Ann Marie Sayers, Chairperson
P.O. Box 28
Hollister, CA 95024

Subject: India Basin Mixed-Use Project, City of San Francisco, San Francisco County

Dear Chairperson Sayers,

Build Inc. and the San Francisco Recreation and Parks Department are proposing to redevelop adjacent parcels along the India Basin shoreline of San Francisco Bay. The project is located in the Bayview-Hunters Point neighborhood and is bounded by the Bay on the north, the Candlestick-Hunters Point Shipyard Development Project area on the east, Innes Avenue on the south, and Hunters Point Boulevard and Hawes Street on the west. Please see the enclosed map. The project would construct a mix of residential and commercial buildings, and recreational uses including an extention of the Bay Trail and the replacement of existing piers. The project is mostly situated on land that was filled in the mid-twentieth century. Additional cutting and filling of the parcels is proposed.

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August 4, 2016

Amah Mutsun Tribal Band of Mission San Juan Bautista
Irenne Zwierlein, Chairperson
789 Canada Road
Woodside, CA 94062

Subject: India Basin Mixed-Use Project, City of San Francisco, San Francisco County

Dear Chairperson Zwierlein,

Build Inc. and the San Francisco Recreation and Parks Department are proposing to redevelop adjacent parcels along the India Basin shoreline of San Francisco Bay. The project is located in the Bayview-Hunters Point neighborhood and is bounded by the Bay on the north, the Candlestick-Hunters Point Shipyard Development Project area on the east, Innes Avenue on the south, and Hunters Point Boulevard and Hawes Street on the west. Please see the enclosed map. The project would construct a mix of residential and commercial buildings, and recreational uses including an extention of the Bay Trail and the replacement of existing piers. The project is mostly situated on land that was filled in the mid-twentieth century. Additional cutting and filling of the parcels is proposed.

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APPENDIX D
DPR 523 Series Forms

State of California — The Resources Agency **Primary #**
DEPARTMENT OF PARKS AND RECREATION **Trinomial**

ARCHAEOLOGICAL SITE RECORD

 ***Resource Name or #:** India Basin Scow Schooner Boatyard: Hunters Point Ship Graveyard

***A1. Dimensions: a. Length:** 480 ft. **(** N/S **) × b. Width:** 470 ft. **(** E/S **)** [Includes all five vessels in Hunters Point Ship Graveyard]
Method of Measurement: ☐ Paced ☐ Taped ☐ Visual estimate ☒ Other: Estimate based on historical aerials
Method of Determination: ☐ Artifacts ☒Features ☐ Soil ☐ Vegetation ☐ Topography
☐ Cut bank ☐ Animal burrow ☐ Excavation ☐ Property boundary ☒Other (Explain): Aerial imagery, archival research, Geoprobe borings
Reliability of Determination: ☐ High ☒ Medium ☐ Low Explain: Numerous sources indicate the presence of five buried vessels, but only two have been reliably identified in the field.
Limitations: ☐ Restricted access ☒Paved/built over ☒ Site limits incompletely defined
☒ Disturbances ☒ Vegetation ☒ Other (Explain): Submerged under San Francisco Bay and artificial fill.

A2. Depth: Various; surface to 27.5 feet below surface
Method of Determination: Pedestrian survey, hand-probing, Geoprobe borings

***A3. Human Remains:** ☐ Present ☐ Absent ☐ Possible ☒Unknown (Explain): None observed

***A4. Features:** Two features, the remains of the *Caroline* and of the *Bay City*, were identified during pedestrian survey and Geoprobe borings (see Feature Maps on Pages 4-5). Three additional buried vessels were identified during archival research but were not identified in Geoprobe borings. See the Sketch Map on Page 3 for an overview of the five features identified. See Continuation Sheet on pages 6 through 11for a detailed discussion of the features.

***A5. Cultural Constituents**: Historic-period artifacts including milled lumber, glass fragments (milk, olive, aqua), and square-cut nails were observed in the vicinity of both the *Caroline* and *Bay City* and elsewhere along the Bay shore. Given the history of filling in the area, it is unlikely these are associated with the vessels.

***A6. Were Specimens Collected?** ☒ No ☐ Yes

***A7. Site Condition:** ☐ Good ☒ Fair ☐ Poor (Describe disturbances.):
While the vessels were abandoned and scavenged in the 1930-1950s and have since degraded, the identified remannts of the features remain in situ and the lower portions of the vessels appear at least partially intact.

***A8. Nearest Water:** The site was originally on the open waters of the San Francisco Bay. Currently, the remains of the *Bay City* and *Caroline* are partially submerged under the bay, and the remainder of the site is buried under an articially constructed landform (India Basin Shoreline Park).

***A9. Elevation:** 0 ft (sea level)

A10. Environmental Setting: The majority of the site lies north-northeast of the edge of the historical 1859 San Francisco Bay shoreline (see Sketch Map on page 3, and Plate 13 on Continuation Sheet on page 12). The features lie within Bay Mud, submerged under the Bay, and buried under artificial fill.

A11. Historical Information: Archival research has revealed that the identified remains consititue the site of the Hunters Point Ship Graveyard, also known as the River Boats Boneyard. See AECOM (2017) and Continuation Sheet page 12 for more information.

***A12. Age:** ☐ Prehistoric ☐ Protohistoric ☐ 1542-1769 ☐ 1769-1848 ☒ 1848-1880 ☒ 1880-1914 ☒1914-1945 ☐ Post 1945 ☐ Undetermined **Describe position in regional prehistoric chronology or factual historic dates if known:** See A11. Historical Information, Continuation Sheet, page 12.

A13. Interpretations: These features are potentially significant and would contribute to the India Basin Scow Schooner Boatyard landscape for their association with boat building, repair, and scrapping in India Basin during the early twentieth century. See B10. Significance on Page 13 for details.

A14. Remarks: For a full discussion of the site, see the associated report: AECOM, 2017. *Archeological Survey Report, India Basin Mixed-Use Project (CASE NO. 2014 002541ENV).* Prepared for: BUILD and San Francisco Parks and Recreation Department.

A15. References : See Continuation Sheet, page 13.

A16. Photographs: Plates 1-13 are on Continuation Sheets pages 6-12.

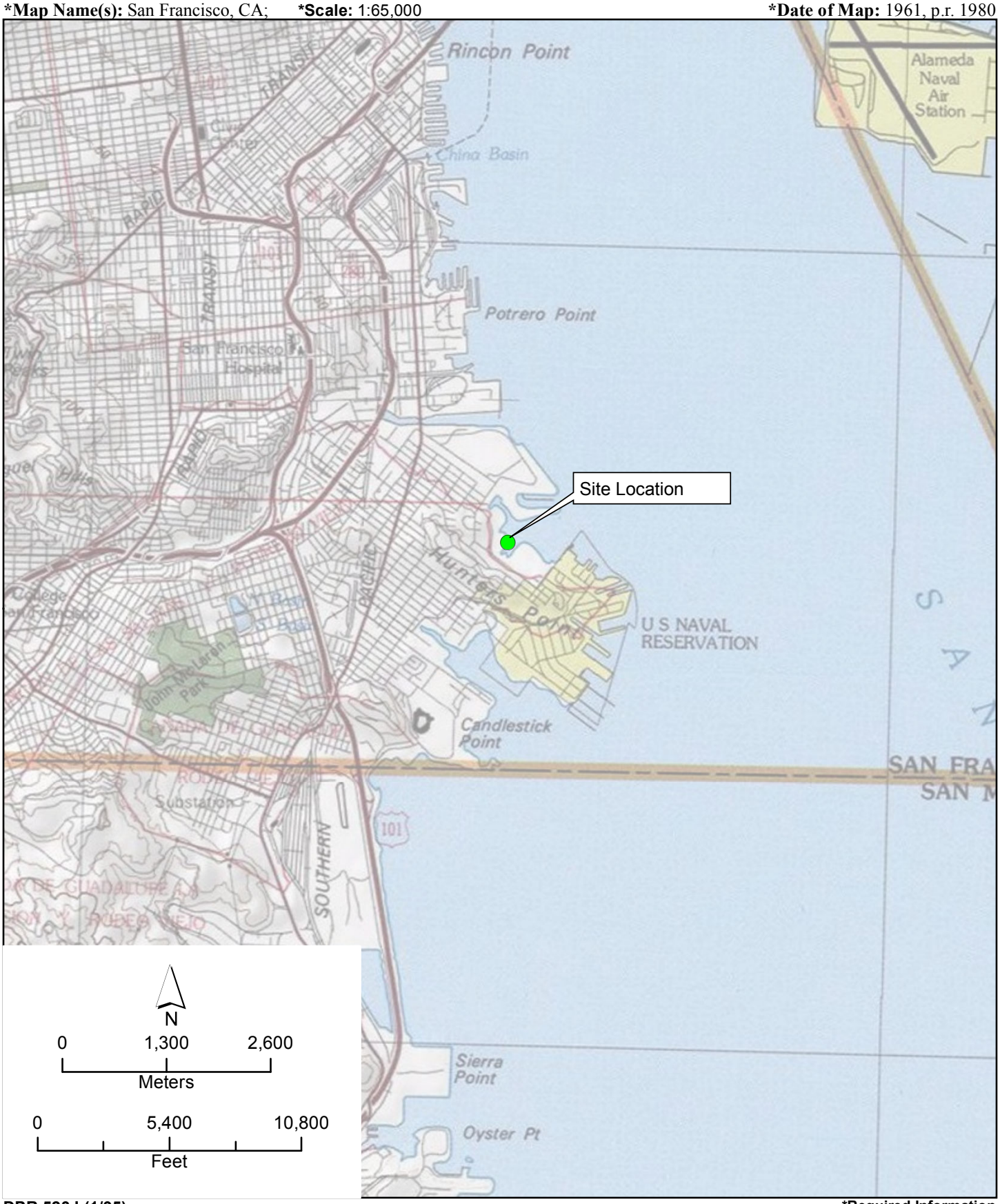
***A17. Form Prepared by:** J. Redmond, J. Taylor, A. Leon Guerrero, C. Atwater **Date:** 31 January 2017
Affiliation and Address: AECOM, 300 Lakeside Drive, Suite 400, Oakland, CA 94612

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

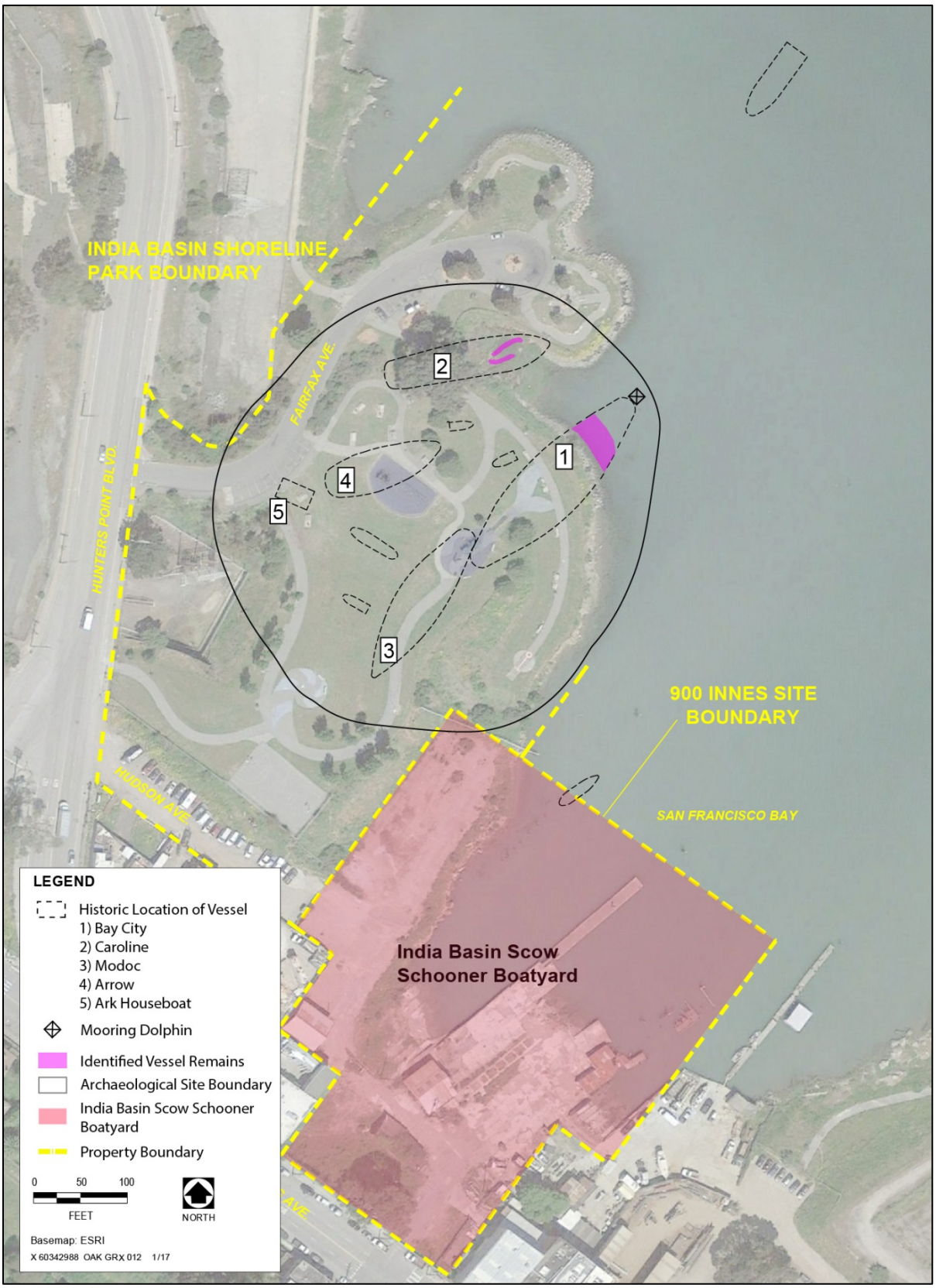
Primary # _____
HRI # _____
Trinomial _____

***Resource Name or #:** India Basin Scow Schooner Boatyard: Hunters Point Ship Graveyard

***Map Name(s):** San Francisco, CA; ***Scale:** 1:65,000 ***Date of Map:** 1961, p.r. 1980



***Required Information**

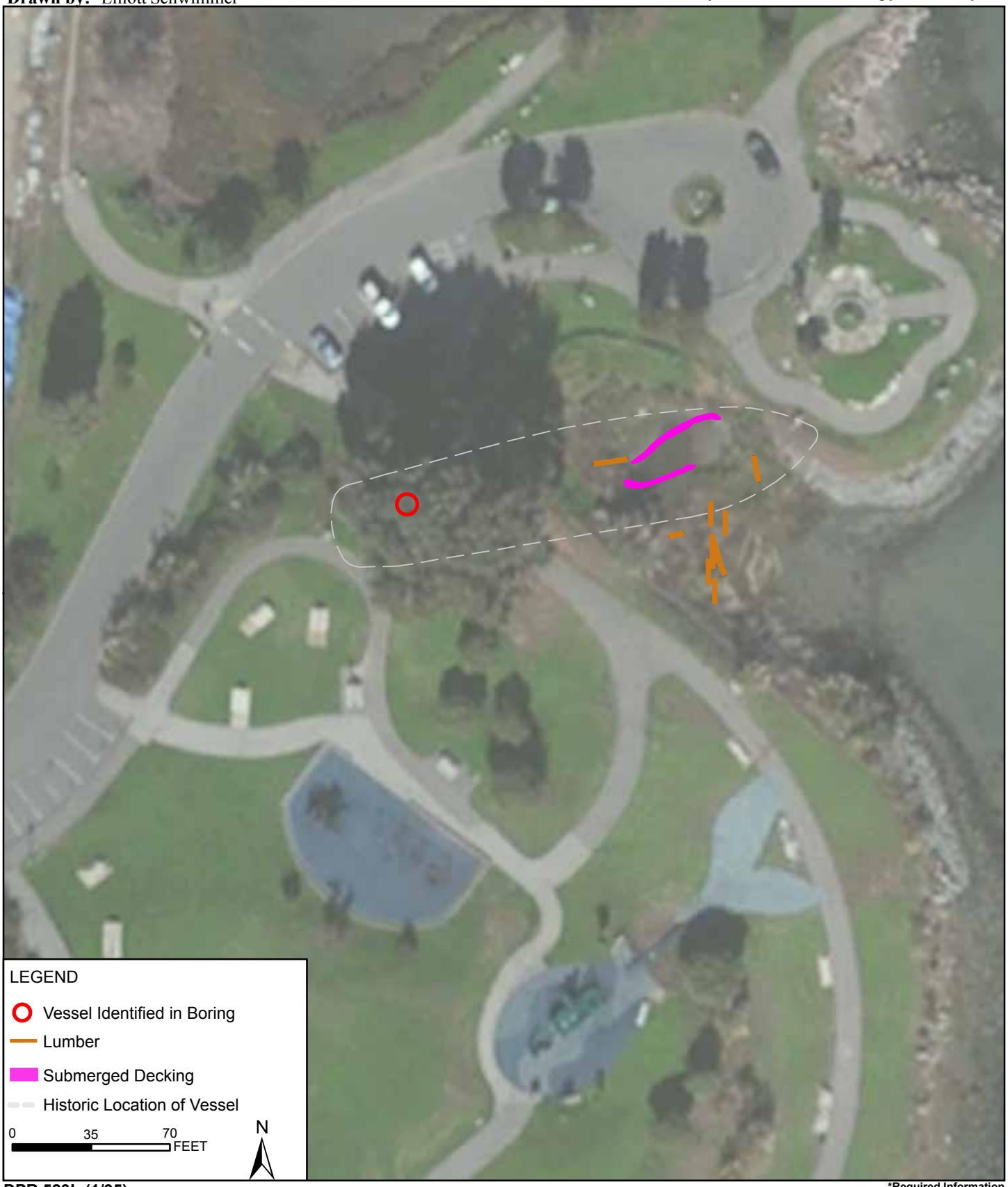

INDIA BASIN SHORELINE PARK BOUNDARY
FAIRFAX AVE
HUNTERS POINT BLVD
HUDSON AVE
900 INNES SITE BOUNDARY
SAN FRANCISCO BAY
India Basin Scow Schooner Boatyard
1
2
3
4
5
LEGEND
Historic Location of Vessel
1) Bay City
2) Caroline
3) Modoc
4) Arrow
5) Ark Houseboat
Mooring Dolphin
Identified Vessel Remains
Archaeological Site Boundary
India Basin Scow Schooner Boatyard
Property Boundary
0 50 100
FEET
NORTH
Basemap: ESRI
X 60342988 OAK GRx 012 1/17

Drawn by: Elliott Schwimmer * **Resource Name or #:** India Basin Scow Schooner Boatyard: Hunters Point Ship Graveyard

*Required Information

Drawn by: Elliott Schwimmer

*** Resource Name or #:** India Basin Scow Schooner Boatyard: Hunters Point Shipyard Graveyard



***Recorded by:** J. Redmond, J. Taylor, A. Leon Guerrero, C. Atwater ***Date:** 31 Jan 2017 ☒ Continuation ☐ Update

P3a. Description:

The remains of two ships were identified at India Basin Shoreline Park, outside the currently mapped boundary of the India Basin Scow Schooner Boatyard (Page and Turnbull, 2016). The features were initially identified during a pedestrian survey completed at low tide, and the nature of the features were further examined during subsequent archival research, observation of environmental borings, shallow soil probing, and examination from the water. The remains of the *Bay City* (Feature 1) are located off shore and beneath the fill at India Basin Shoreline Park. The remains of the *Caroline* (Feature 2) are also located beneath the fill, as well as in a shallow tidal inlet at the park. Full descriptions of the features identified, see Section A4. Features, on Continuation Sheet pages 7-12. The Hunters Point Ship Graveyard is presumed to include three additional vessels: the *Arrow*, the *Modoc*, and possibly the *Emma* (see Section A 11. Historical Information on Continuation Sheet page 12).

Plate 1. Shoreline Park submerged ship hulk, view northeast.

A4. Features (continuation): **Feature 1—*Bay City***

The visible remains of the *Bay City* consist of two gunwales (or gunnels), five longitudinal beams (possibly strakes/stringers), and portions of possible decking still intact (see *Bay City* Feature Map on Page 4). The off-shore superstructure appears to be part of the docking apparatus, or mooring dolphin, used to secure the *Bay City* as visible in historical aerial imagery (AECOM, 2017).

The vessel remains measured 38 ft. wide (across the gunwales) at the point where the *Bay City* extended out from beneath the rip rap. Several pieces of metal hardware were identified in the vicinity of the southern gunwale, including two in situ maritime spikes (Plate 2, below). The two square-cut spikes were visibly protruding approximately 4 in. out of the gunwale, into the ship's interior, and would measure at least 6 in. long in their entirety. Three pieces of potentially related but unidentifiable metal hardware were also found in the vicinity, but their association is unknown. Wooden blocks were observed protruding perpendicularly off of the southern gunwale in a ladder-like fashion towards the interior of the hulk, connecting to an interior lateral beam (Beam 5; see Plate 3 for an example of similar wooden blocks protruding from Beam 3). Five wooden stringers running roughly parallel to the gunwales towards the mooring dolphin were identified (see Plate 5 on Page 9, and *Bay City* Feature Map on Page 4). The lateral beams were approximately 6 in. wide. An intact portion of the deck was identified along the shoreline near the center of the Bay City between Beams 2-4 (see Plate 4 on Page 5, and *Bay City* Feature Map on Page 4). The deck consisted of at least four wooden planks, approximately 5 in. wide.

The gunwales, beams, and deck all clearly extend under the rip rap towards Shoreline Park, however it was not possible to determine their full extent due to the thickness of the rip rap and fill. The gunwales and beams were all followed out approximately 12 to 15 ft. into the Bay, towards the mooring dolphin, but based on water levels it could not be determined if they remain intact and/or connect with the mooring dolphin, located approximately 58 ft. east of the shoreline (see Plate 5 on Page 9, and *Bay City* Feature Map on Page 4). The lateral beams were approximately 6 in. wide. An intact portion of the deck was identified along the shoreline near the center of the *Bay City* between Beams 2-4 (see Plate 6 on Page 5, and *Bay City* Feature Map on Page 4). The deck consisted of at least four wooden planks, approximately 5 in. wide.

Plate 2. In situ martime spike in southern gunwale.

Plate 3. Longitudinal beams, view northwest.

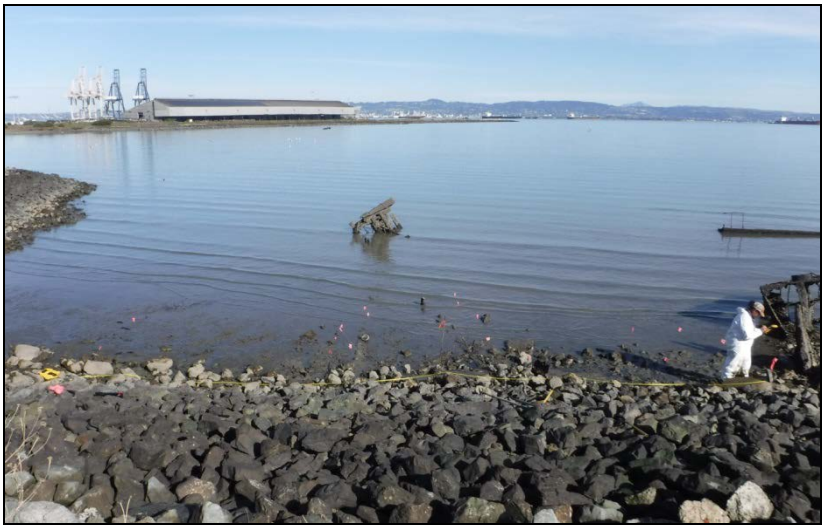


Plate 4. Longitudinal beams (demarcated with pinflags) and mooring dolphin, view northeast.

A4. Features (continuation): **Feature 1—*Bay City* (continued)**

Plate 5. Potentially in situ *Bay City* decking.

Based on environmental borings placed within the expected footprint of the *Bay City* based on historical aerials, the feature appears to extend well beneath the fill *(*see *Bay City* Feature Map on Page 4). The boring located nearest the water contained a 6 in. thick piece of milled wood at 14 ft. bgs (Plate 6). The boring located furthest from the modern shore contained a 1 in. thick piece of wood at 27.5 ft. bgs.

Plate 6. Wooden fragments removed from Boring IBSP-SB-AR-30, in the footprint of the *Bay City*.

A4. Features (continuation): Feature 1—*Bay City* (continued)

The dolphin located offshore was comprised of wood piles, lumber, metal fittings, and rope. The main element appeared to be a length of fractured wood pile approximately 80 in. long (Plates 7 and 8, below). It appears that the piles supporting the dolphin fractured and the dolphin tilted over since its use with the *Bay City*. A corroding metal rod extended east off of the structure, towards the Bay, for approximately 62 in. Manufactured wire nails and degrading paint were also observed on the dolphin. Probing in the vicinity of the dolphin revealed that portions of the structure continue for at least 4 ft. below the exposed waterline. While the clarity of the water inhibited visual inspection of the dolphin below the waterline, it appeared to extend both vertically and horizontally. The presence of any remnants of the *Bay City* in close proximity to the dolphin could not be determined due to the depth of the water. There are sections of rope remaining on the feature, however these likely relate to later use of the structure and are not associated with the *Bay City*.

Several non-diagnostic and likely unrelated artifacts (e.g., milk glass, aqua bottle finish, colorless jar base) were also located at the edge of the Bay shore. These artifacts are likely the result of casual disposal and are reflective of the historic-period-to-modern-era usage of the Bay shore.

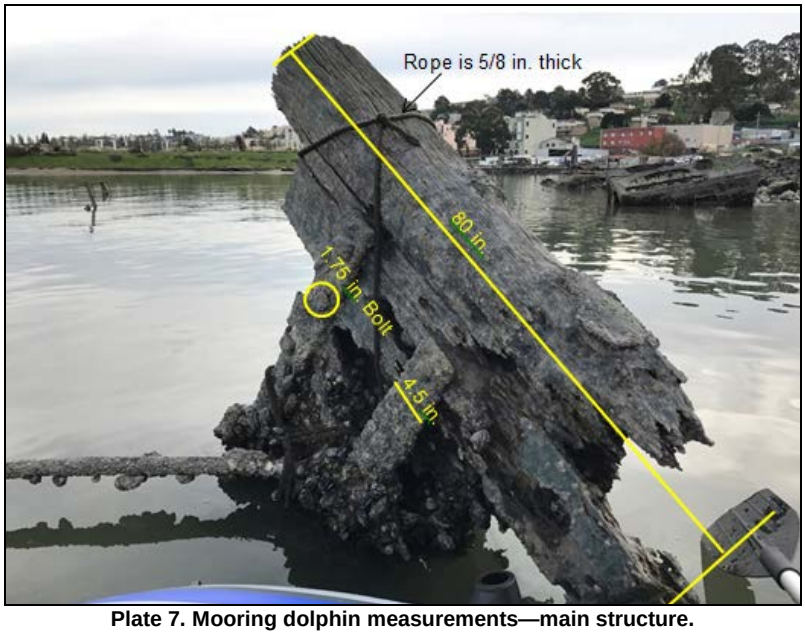


Plate 7. Mooring dolphin measurements—main structure.

Plate 8. Mooring dolphin measurements—metal rod.

A4. Features (continuation): **Feature 2—*Caroline***

An intact portion of the *Caroline* lies beneath the northwestern side of the tidal inlet pond and potentially beneath the western and eastern shores of the pond (see *Caroline* Feature Map on Page 5). Probing within the tidal inlet revealed the presence of two separate submerged surfaces each approximately 12 in. below the water level (at the time of recordation). The solid and fairly regular surfaces suggest that these may represent two remnant sections of the deck of the *Caroline* (shown on the *Caroline* Feature Map on Page 5). The identified wooden surfaces were largely contiguous, as the team was able to walk along the submerged feature as evidenced in Plate 6. Within the northern region of the tidal inlet, the surface extended for approximately 30 ft. and was generally 2 to 3 ft. wide. Small portions, less than 6 in. in diameter, were missing in the eastern section of this submerged surface. The missing portions detected by AECOM archaeologists walking along the surface may represent the deteriorating areas of the decking visible in the foreground of the historic image presented as Plate 7. Further probing within the eastern side of the inlet was not possible due to high water levels. Within the southern reaches of the inlet, the surface extended for a length of nearly 25 ft. with a width generally around 2 ft. wide.

Plate 9. AECOM archeologist on edge of submerged surface in tidal inlet, view southeast.

Plate 10. *Caroline* in 1964 (Source: White, 2008)

A4. Features (continuation): Feature 2—*Caroline* (continued)

An approximately 6 in. thick layer of wood was identified 20 ft. bgs within the presumed stern area of the *Caroline* (see *Caroline* Feature Map on Page 5), suggesting the intact portion of the feature extends beneath the fill. On the southeastern side of the tidal inlet, outside the expected footprint of the *Caroline*, two connected creosote-soaked poles were observed. It is possible these were part of the pier that historically extended out to starboard flank of the *Caroline* as depicted in historic imagery (AECOM, 2017). A number of pieces of lumber were also found on the eastern side of the pond, nearer to the Bay, but it is unclear whether these are associated with the *Caroline*, a former dock, or if they represent flotsam that washed into the inlet. A large, square piece of 1 ft. by 1 ft. milled lumber, approximately 6 ft. long, with some hardware (iron stakes) remaining in place is located within the western bank of the pond within the *Caroline*'s footprint (Plate 11, below). The lumber could be associated with the Hunters Point Ship Graveyard (see See A11. Historical Information, Page 13), but it is just as likely flotsam. Also identified towards the eastern end of the tidal inlet was an 8 in. diameter ferrous metal cap or fitting of some sort, possibly part of a dock or mooring system (Plate 12, below). The metal piece was anchored solidly in the soil and probing around the specimen suggested that it extends below the surface. This may suggest that this specimen is *in situ*; however, it is also possible the piece was introduced during the reclamation.

Plate 11. Milled lumber, view south.

Plate 12. Metal cap and milled lumber, view south.

A11. Historical Information

In order to name the vessels identified during the archeological survey in Shoreline Park, additional archival research was required. A "ship graveyard" had been identified by previous researchers at Hunters Point, but they did not place this ship scavenging area in the vicinity of Shoreline Park. These researchers placed its location in the eastern portion of the India Basin/Hunters Point vicinity. According to PAR, who conducted the archeological inventory and assessment of Hunters Point Shipyard, the "Hunters Point Ship Graveyard" was located "in the cove west of the point" (Hamusek-McGann et.al 1998:33). Citing PAR, Archeo-Tec likewise placed the "Hunters Point Ship Graveyard" in an area east of Shoreline Park (Pastron et al., 2009a:106, Figure 18). An in-depth review of historical imagery, maps, and narratives revealed that Hunters Point Ship Graveyard was in fact located in Shoreline Park (for full description of research see AECOM, 2017).

In the 1930s, five vessels lay wasting at the Hunters Point Ship Graveyard, in what was by then a rather infamous public eye-sore (*San Francisco News*, 1938, as cited in Hamusek-McGann et.al 1998:33 and Pastron et al., 2009a). As reported by PAR (Hamusek-McGann et.al 1998:33) the five vessels found in the graveyard included:

- The *Arrow*, a147-foot-Iong ferry that was built in Seattle in 1903. By 1938, nothing remained of her but her bows and two starboard portholes that emerged at low tide.
- The *Bay City*, a ferry built at the Fulton Iron Works in San Francisco's North Beach in 1878. She carried commuters between San Francisco and Alameda and later between Vallejo and South Vallejo. In 1930, J.C. Ogden purchased and beached the Bay City at Hunters Point. By 1938, "her paneless windows and caved-in deck let fog into the once-plush cabins where three-piece orchestras had once played."
- The *Caroline*, a four-masted schooner built in 1902 on Puget Sound. After twenty years hauling lumber and grain, she was stripped of her machinery and anchored off Hunters Point. In 1932, after a storm beached her, an enterprising sailor, Oscar Baver, "rigged the officers' and crews' space as a six-room house with electric lights, telephone, and running water for himself, and his wife and daughter."
- The scow *Emma*, transported hay from Sacramento to San Francisco until ending her days at Hunters Point. Once there, a Mr. A.T. Chick mounted her pilot house on stilts and took up residence there. He and the Baver family were apparently neighbors who enjoyed a private lifestyle among the ship graveyard.
- The *Modoc*, a mail boat built in San Francisco in 1880. In 1917, she was sent to the Southern Pacific Shipyards in the Oakland estuary. In 1928, she was taken to Hunters Point and stripped. By 1938, only the timbers of the hull and lower deck remained.

Four of these vessels – the *Arrow*, the *Bay City*, the *Caroline*, and the *Modoc* – are pictured in the 1938 aerial (Plate 13, below). An overlay of this historical aerial with modern imagery was used to identify the vessel remains observed the pedestrian survey in Shoreline Park (see details in AECOM, 2017). The *Emma* was not identified during completion of this research, but an ark houseboat was instead identified in aerials (see Sketch Map, Page 3). See the Sketch Map on Page 3 for an overlay for the vessel locations.

Plate 13. 1938 Ryker aerial photograph with vessels in various states of repair, in vicinity of today's Shoreline Park (Source: David Rumsey Collection).

B10. Significance:

The remains of the *Bay City* and *Caroline* and any other vessels buried beneath Shoreline Park are potentially significant and could contribute to the India Basin Scow Schooner Boatyard for their association with boat building, repair, and scrapping in India Basin during the early twentieth century. Although these vessels are not located within the 900 Innes parcel (see Sketch Map, Page 3) they are associated with the maritime history of India Basin and due to their proximity to the Anderson & Cristofani boatyard and their presence during the boatyard's period of significance (1875—1935), the remains of these vessels are contributors to the India Basin Scow Schooner Boatyard cultural landscape (for a full discussion of this cultural landscape, see Page and Turnbull, 2016).

It is apparent that the vessels identified as a result of the current effort were brought into India Basin to be salvaged by the local boat building industry beginning in the 1920s and that the practice continued into the 1930s. These dates place these remains within the period of significance established for the India Basin Scow Schooner Boatyard established by Page & Turnbull (2016). Although the final number of potential vessels entombed in the vicinity is uncertain and the full extent of the remains of the identified vessels is unknown, due to the confirmed presence of the *Bay City* and *Caroline* and their direct ties to the maritime industry of India Basin during the period of significance (i.e., 1875—1935), AECOM proposes that the India Basin Scow Schooner Boatyard be expanded to capture the areal extent of the Hunters Point Ship Graveyard (Sketch Map, Page 3).

A15. References:

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1956a, Hunters Point, California 7.5-minute Topographic Quadrangle. U.S. Geological Survey, Washington, D.C.

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