

Appendix H
**Historic Resources
Memorandum**





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Historic Resources Memorandum

CP-HPS2 2010 FEIR Addendum 5: Potential Impacts Analysis for Dry Dock 4

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As described on 2010 FEIR p. III.J-21, two historical resources are situated within the vicinity of the HPS Phase II project site, including the Hunter's Point Commercial Dry Dock and Naval Shipyard Historic District (District), and Dry Dock 4 that is an individual resource.

The District consists of 11 contributing buildings, structures and objects associated with the area's "transition from early commercial dry-dock operation to high tech naval repair and Radiological research" (Circa Historic Property Development, *Hunter's Point Commercial Dry Dock and Naval Shipyard Historic District DPR Form*, October 31, 2008).

Dry Dock 4 and six buildings and structures in the District were previously determined eligible for the National Register of Historic Places (National Register) by consensus through the Section 106 process and are, therefore, automatically listed in the California Register of Historical Resources by act of law (Bonnie I. Baumberg, Urban Programmers, *Historical Overview of Hunters Point Annex, Treasure Island Naval Base and Descriptions of Properties that Appear to Qualify for Listing in the National Register of Historic Places*, 1988; Letter, Louis S. Wall, Department of the Navy to Lee Keatings, Advisory Council on Historic Preservation, October 15, 1998—findings of May 29, 1998, letter from SHPO to Navy are stated in this letter). Later, five additional structures were identified as contributors to the District in the 2008 survey.

Of these, only Dry Dock 4, described below, would be potentially impacted by the proposed project under the Addendum 5 scope of work. However, the Project would include Preservation Guidelines for Dry Dock 4 that would ensure the proposed improvements would conform with the SOI Standards; therefore, potential impacts would be less than significant pursuant to CEQA.

District Description

This District description is based on a review of the National Register nomination form and HAER Report, and a site visit conducted by ESA's qualified architectural historian, Dr. Margarita Jerabek, on Thursday November 2, 2017.

The District is sited at the easternmost point of Hunters Point Shipyard and is generally bounded by Lockwood Street to the west, and Spear and Fisher Avenues to the south and southwest, respectively. The historic district includes 11 contributing buildings and structures constructed between 1901 and 1947 shown in Table 1 that are

present within the boundaries of the historic district. Remnants of capstans and bollards are present and the area has been paved with asphalt. Two concrete dry docks, sited parallel to one another, form the core of the historic district. Buildings 205, 204, and 207 are located between Dry Docks 2 and 3, while Building 140 is located on the north side of Dry Dock 3. Generally, the buildings contributing to the historic district are of concrete or brick construction, with gable roofs and concrete foundations and are designed in Neoclassical Revival style. The exception is Building 207, which is utilitarian in design.

Structure	Date	CRHR Status Code	Eligibility	Resources Affected under Addendum 5
140	1918	2D2*	NR/CR District Contributor	No Adverse Impact
204	1901	2D2*	NR/CR District Contributor	No Adverse Impact
205	1901	2D2*	NR/CR District Contributor	No Adverse Impact
207	ca. 1930 (remod. 1942)	2D2*	NR/CR District Contributor	No Adverse Impact
208	ca. 1930 (remod. 1942)	3CD**	CR District Contributor	No Adverse Impact
211	1942	3CD**	CR District Contributor	No Adverse Impact
224	1944	3CD**	CR District Contributor	No Adverse Impact
231	1942–45	3CD**	CR District Contributor	No Adverse Impact
253	1947	3CD**	CR District Contributor	No Adverse Impact
Dry Dock 2	1903	2D2*	NR/CR District Contributor	No Adverse Impact
Dry Dock 3	1918	2D2*	NR/CR District Contributor	No Adverse Impact
Dry Dock 4	1943	2S2***	NR/CR Individual Property	Potential Impact that is Less Than Significant

* Contributor to district determined eligible for NR by consensus through Section 106 process. Listed in the CR.

** Appears eligible for CR as a contributor to a CR eligible district through survey evaluation.

*** Individual property determined eligible for NR by a consensus through Section 106 process. Listed in the CR.

Dry Dock 2, just south of Building 205, is a 750-foot-long, 89-foot-wide, and 28-foot-10-inch-deep graving dock. This dry dock is currently open to the bay; therefore, only approximately 6 feet of the dry-dock chamber was visible between the water line and dry-dock coping. The basin is sheathed in concrete, smooth around the bow and at the entrance (stern) end. The top five of twelve altars (steps in the wall of a dry dock) beneath the coping are currently visible.

A series of fourteen service galleries line each side of Dry Dock 2, just beneath the curb. Each gallery has a metal railing around the perimeter. Two sets of metal flush-mounted staircases on each wall descend into the water. A chain handrail consisting of posts with an eye at the top, and at mid-level support two chains, stretch around the dry dock, with breaks at access points.

Original capstans, some electric, some hand-operated, were replaced by the Navy, and remnants of the replacements remain around the perimeter of Dry Dock 2. Original crane tracks have been removed from the perimeter as well and/or pave over with asphalt. The floating caisson, a replacement built by Pacific Coast Engineering Company of Alameda in 1952, remains afloat at the bow end of the dry dock. Eight valves flood the dry dock through the caisson, and two valves flood the caisson to sink it in place. The caisson deck is enclosed by the same type of chain handrail around the perimeter of the dry dock. Cleats and capstans are also present on deck level of the caisson.

Dry Dock 3, also filled with water to about 6 feet beneath the coping, is larger, measuring 1,005 feet long, 114 feet wide and 39 feet 10 inches deep. It was constructed in 1916–1918. The basin is sheathed in concrete, smooth around the bow and at the entrance end. The top five of twelve altars beneath the coping are currently visible. A series of service galleries line each side of the dry dock just beneath the curb. Each gallery has a metal railing around the perimeter. Concrete staircases built into the chamber walls descend into the water. A chain handrail consisting of posts with an eye at the top, and at mid-level support two chains, and stretch around the dry dock, with breaks at access points. Remnants of crane tracks have been removed and/or paved over with asphalt. Original electrically driven capstans were present and operational around the perimeter of the dry dock until the Navy began replacing them in the 1940s.

Dry Dock 4 Description

The following description is summarized from the Hunters Point Naval Shipyard, Dry Dock 4, HAER documentation (HAER No. CA-181-A), on file in the Library of Congress.

Dry Dock 4 has a southeast to northwest orientation with the long centerline axis running in this direction. The entrance into the dry dock is at the southeast end, accomplished by removal of the caisson after flooding of the dock is completed. Dry Dock 4 was last certified for a maximum docking capacity of 91 ,400 long tons, as documented in the 1979 Facility Certification Report (FCR) for the dock.

Based upon original construction drawings, its dimensions are 1,092 feet long, 171 feet wide (at the coping), and 53 feet deep. The length is nominally measured from the face of the outer caisson seat along the dock centerline axis to the rounded northwesterly end at the coping face. As constructed, Dry Dock 4 is a fully relieved, reinforced concrete graving dock with integral flooding and dewatering systems. A utility tunnel and utility service galleries are located along both sides of the dock to provide utility services for ship-board and industrial uses.

Thirteen electrically powered capstans, built by Modern Engineering Company, are positioned around the dock, six on each side and one at the head (northwest end). The use of these capstans, bollards and fittings can be seen in some of the historic photographs.

The dock floor is typically a thin reinforced concrete slab with expansion joints at 48-foot centers, with the slab placed directly upon the serpentine bedrock. When originally constructed, longitudinal drainage gutters ran along each side of the floor and transverse bilge block bearers were spaced at 12-foot centers throughout most of the dock length. Although the bedrock beneath the floor does not readily conduct water, weep holes are provided through the floor to insure that excessive uplift pressures will not develop beneath the slab. These weep holes are 4-inch-diameter gravel filled drains capped with a thin layer of porous concrete and are typically spaced on a 12-foot by 12-foot grid pattern in the floor of the dock. The original construction drawings are somewhat unclear on the drainage construction, but it appears that transverse and longitudinal gravel filled trenches were cut into the bedrock to provide a collector system under the floor for these drains.

The lower, sloping portion of the dock walls (the section below the altar) is typically a thin reinforced concrete veneer over a steel reinforcing matt placed directly upon the surface of the serpentine rock. The slope is nominally 12 vertical increments to 3 horizontal increments. Uncapped weep holes at 12-foot centers are placed along the length of the dock walls at two levels and vertical expansion joints are spaced at 48-foot centers. The top of the lower wall section provides a continuous altar or walkway around the perimeter of the dock at 31.5 feet above the dock floor. The upper wall section, described below, is set back at this altar level by 7.25 feet.

The upper, vertical, portion of the dock wall (above the altar) is typically a counterfort retaining wall structure of reinforced concrete. Backfilled material has been placed behind the wall structures up to the level of adjacent paving.

Six large and six small utility service galleries are spaced along both sides of the dock and are integrally supported by the counterfort retaining structures. In addition, large electrical manholes are incorporated into the structure to strengthen the dock walls in the vicinities of the large galleries. Crane rail support struts (16-foot-8-inch spacing) tie the walls to a parallel crane rail beam, which in turn is anchored into the serpentine rock. Forty-foot-gauge portal crane trackage formerly ran on both sides of the dock at grade and trackage on each side of the dock was connected at the head end of the dock (trackage has been removed and the area covered with asphalt decking). Counterforts, located adjacent to the crane rail struts, are of 1-foot-6-inch-thick concrete except where thickened to accommodate vertical expansion joints. Weep holes are provided along the base of the upper wall sections, at 16-foot spacing, in order to drain the backfilled material to relieve the hydrostatic pressure on the wall structure.

PUMP ROOM: The pump room, flooding and dewatering chambers are located on the south side of the dry dock near the eastern end (entrance end) of the dock. Similar to the construction of the dock proper, serpentine rock was excavated to allow forming and placement of concrete. The pumps, sumps and chambers are located below the control room, where dewatering pump motors and all controls are located (no longer functional). Construction is essentially massive reinforced concrete formed integrally with the bedrock and the dock wall. The concrete roof structure is flush to grade and is constructed of a series of removable concrete sections, enabling pumps, motors and other large components to be removed by crane services.

CAISSON: This closure, constructed concurrently with Dry Dock 4, is a reversible, rectangular type floating caisson that can be positioned in either the inner or outer dry dock caisson seat. The Caisson still floats and is currently located within the Dry Dock. A rubber seal runs vertically on both ends of the caisson and across the bottom. Concrete ballast is placed within the ballast and trim tanks along the entire bottom. The Caisson is divided into six compartments by a watertight deck and two watertight bulkheads, these being the operating room, the center ballast tank and trim tanks. A draft range of 29.0 feet to 55.5 feet is achieved either by flooding the lower three compartments or dewatering these tanks with pumps mounted in the caisson. All equipment was controlled from the upper operating room, with communications provided by portable two-way radios. The basic construction is of structural steel plates and shapes with welded connections and seams. Shell plating varies in thickness from $\frac{3}{8}$ inch to $\frac{7}{8}$ inch. Horizontal girders are typically spaced 8 feet on center with intermediate breast hooks added at each end. The top deck, main deck and outer quarter panels of the typical girders are longitudinally stiffened plate girders, while the middle portions of the girders are trusses comprised of structural tee and angle shapes. Vertical (transverse) frames are made of bent plates and are spaced 2 feet on center with additional cross bracing spaced at 8-foot centers. Sacrificial zinc anode blocks are attached to the shell to provide cathodic corrosion protection. Four screened inlets exist for Caisson flooding; gate valves at these inlets have cast iron bodies. These were operated by reach rods that extend to floor stands located in the operating room. The valves for the two smaller 8-inch inlets were hand-operated while the valves for the two larger inlets were motorized. Two vertical propeller pumps were available to dewater ballast water from the central ballast tank and to provide redundancy for the ballast dewatering system. The pumps were 18-inch, 8,000-gallon-per-minute pumps powered by 75-horsepower motors. Discharge was by means of 18-inch motorized gate valves, Caisson electrical power—480 volts/3 phase/60 Hz—was obtained from a detachable umbilical cable that is connected to shore-side power connections, located on either side of the dock entrance, when the caisson is in place. A transformer was located within the Caisson to convert the 480-volt power to 120 volt /1-phase power for lighting and convenience outlets.

Modifications

- a. Bilge block slots and drainage trenches in the floor of the dry dock were filled with concrete to the elevation of the original floor. Integral floor weep holes were also raised to this new elevation and capped with porous concrete. The date of this modification is uncertain.
- b. In 1957, three steel pipe columns were placed in the south-side (port) utility tunnel in conjunction with the extension of the crane trackage on this side of the dock.
- c. In 1972, six small (25 feet long) utility service galleries were constructed along the both sides of the dock to house fresh water services. Four of the original 12 service galleries were also lengthened.
- d. Various modifications were made to the utility systems servicing the dock since built.

Most recently, additional salt water and electrical services were built (mid-1980s) to support docking of modern day, larger Navy surface ships.

These modifications did not significantly affect the primary characteristics of the dock itself.

Dry Dock 4 Significance

Dry Dock 4 is a graving dock that has been determined eligible for listing in the National Register of Historic Places by consensus through the Section 106 process and is listed in the California Register of Historical Resources for its association with the events and patterns identified in the defense of the United States during World War II and as a significant marine engineering entity. It is significant under Criterion A of the National Register and Criterion 1 of the California Register for its association with events related to the defense of the United States during World War II, and under Criterion C of the National Register and Criterion 3 of the California Register as a significant marine engineering entity. The period of significance is October of 1942 when construction began, through August 15, 1945 the end of World War II. In the context of marine architecture, Dry Dock 4 is the largest graving dry dock on the Pacific Coast and is one of the largest in the world. Within the context of stateside Naval facilities of World War II, Dry Dock 4 was one of the more important structures constructed and one of the largest topographical alterations undertaken during the 1940s to expand a naval facility. Despite recent removal of adjacent mobile cranes and trackage, Dry Dock 4 retains a high degree of integrity of materials, design, workmanship, setting, feeling, location and association (California Department of Parks and Recreation, Building, Structure, Object Record, June 2008). The structure has been documented for the Historic American Engineering Record (HAER) by Steven R. Black in 1994 and the records are held by the Library of Congress.

The U.S. Navy was aware of a critical shortage of government controlled dry docks and had investigated sites within San Francisco Bay for a period of 40 years before Hunters Point was purchased. With the outbreak of World War II in the Pacific, the ability to service the U.S. Navy's large ships was severely hampered by the shortcomings of the existing Federally-owned dry docks on the Pacific Coast. Until Hunters Point was purchased by the Federal Government in 1939, the West Coast had federally-owned graving dry docks at Puget Sound Naval Ship Yard in Washington State and at Mare Island Naval Ship Yard in the San Francisco Bay. The Japanese attack on the United States Pacific Fleet at Pearl Harbor in the Hawaiian Islands in December of 1941 finally brought the United States into World War II. It also brought about the decision by the US Navy to purchase the dry docks and marine repair facilities from Bethlehem Steel Yard at Hunters Point and to initiate construction of what would become the largest graving dry dock on the West Coast of the United States (Steven R. Black, Hunters Point Naval Shipyard, Dry Dock 4, HAER No. CA-181-A, 1994). To rectify the shortage of dry docks for deep draft ships on the West Coast, new graving dry docks were constructed; two at Puget Sound, one 998 feet and the other 1030 feet in length, and the largest, Dry Dock 4, at 1100 feet was constructed at

Hunters Point. The Hunters Point location provided a deep water access of 40 feet where the largest ships could enter, while the protected waters of the South San Francisco Bay offered excellent anchorage (California Department of Parks and Recreation, Building, Structure, Object Record, June 2008).

The design of Dry Dock 4 was accomplished for the Navy's Bureau of Yards and Docks by renowned naval architect and engineer Hugo Frear. Construction was completed by the Pacific Bridge Company under Mr. Frear's supervision. The construction of Dry Dock 4 required moving five million cubic yards of earth. The 290-foot tall landmark, Point Avesadero, was leveled to fill the baylands bordering Hunters Point and create the dry land area on which the necessary shops and warehouses could be constructed. The removed earth was also used to construct a coffer dam around the site which permitted the construction of Dry Dock 4 to proceed on dry land. The Dry Dock at Puget Sound required over three years (1938-1942) to complete; by comparison, Dry Dock 4 at Hunters Point required less than nine months to complete. The dry dock was officially opened on June 19, 1943 while the former luxury liner Monterey (refitted for troop transport) was in the dock for service (California Department of Parks and Recreation, Building, Structure, Object Record, June 2008).

The engineering feat represented by Dry Dock 4 was accomplished in a short period of time and required considerable on-site supervision by Mr. Frear and his associates. Mr. Frear also designed Dry Dock 3 at Hunters Point (1918) and many other naval structures at various shipyards in the United States and around the world. An engineer of international reputation, Frear joined the Union Iron Works in San Francisco as a draftsman in 1883, after graduation from Worcester Polytechnic Institute in Massachusetts, and went on to become chief naval designer. He later became Chief Naval Architect for Bethlehem Shipbuilding Corporation. He contributed significantly to the knowledge of naval engineering practices and advanced technology in the field through his innovative designs and related articles written about his work. Mr. Frear was awarded the prestigious title of Honorary Vice-President of the Society of Naval Architects and Marine Engineers in 1945. (California Department of Parks and Recreation, Building, Structure, Object Record, June 2008; Steven R. Black, Hunters Point Naval Shipyard, Dry Dock 4, HAER No. CA-181-A, 1994).

Dry Dock 4 was placed into service in mid-1943 to repair and overhaul Navy ships, many of which were docked to repair battle damage during World War II. It was therefore a significant component of United States Navy facilities on the West Coast. The aircraft carrier USS Intrepid, one of the largest ships in the Pacific theater during World War II, was docked to repair battle damage to its hull and to receive general maintenance on three different occasions between 1942 and 1945. When not occupied by larger ships, two or more smaller ships could be simultaneously docked for servicing at the same time. This contributed significantly to the Navy's dominance in continually having a large numbers of ships committed to Pacific battle areas at any given time throughout World War II (Steven R. Black, Hunters Point Naval Shipyard, Dry Dock 4, HAER No. CA-181-A, 1994).

After World War II, Dry Dock 4 was continuously used to dock a large variety of Navy capital ships, and in some instances those of foreign nations, for repair, overhaul, maintenance and conversion. For a brief period of time, Hunters Point Naval Shipyard and Mare Island Naval Shipyard operations were combined under a single operational command known as the San Francisco Bay Naval Shipyard. On November 19, 1964, Secretary of Defense Robert S. McNamara announced the merger of Hunters Point Naval Shipyard and Mare Island Naval Shipyard which was accomplished in a command ceremony on May 11, 1965, making this the largest shipyard complex in the world. This relationship existed until January 31, 1970, when both shipyards returned to autonomous operations. Hunters Point Naval Shipyard was subsequently formally decommissioned by the Navy, and Navy ship repair operations were terminated in 1974. The shipyard was leased by the Navy to Triple A Machine Shop in 1976 and operated as a private marine repair yard until termination of the lease by the Government in 1986. Dry Dock 4 was continuously operated by Triple A as the primary repair facility during this period. After 1974, title to all land and facilities was held for the Navy by the Supervisor of Shipbuilding,

Conversion and Repair, San Francisco Bay until transferred to Naval Station Treasure Island, as the Hunters Point Annex, in September, 1987 (Steven R. Black, Hunters Point Naval Shipyard, Dry Dock 4, HAER No. CA-181-A, 1994).

In 1984, Mare Island Naval Shipyard personnel completed an in-depth study of Dry Dock 4 to determine the requirements to return the dry dock to a condition to support emergency dry docking of Navy nuclear surface ships. Improvements to salt water and electrical distribution utility services, previously mentioned in this report, were constructed shortly thereafter. Between November 1985 and August 1989, six separate dockings of Navy surface ships occurred, including dockings of the aircraft carriers USS Enterprise, USS Carl Vinson, the cruiser, USS Texas, and the cruiser, USS California. Upon termination of the lease to Triple A Machine Shop, title to Ex-Hunters Point Naval Shipyard and almost all facilities, passed to the Naval Station Treasure Island, with actual ownership of Dry Dock 4 and its associated facilities and utilities passing to Mare Island Naval Shipyard in 1987. After August 1989, no dockings of Navy ships occurred, and Dry Dock 4 was subsequently placed into an inactive status (Steven R. Black, Hunters Point Naval Shipyard, Dry Dock 4, HAER No. CA-181-A, 1994).

Dry Dock 4 Character-Defining Features

This description of character-defining features is based upon the Dry Dock 4 National Register nomination form, HAER Report, and a site visit conducted by ESA's qualified architectural historian, Dr. Margarita Jerabek, on Thursday, November 2, 2017.

- Dry Dock 4 is a reinforced-concrete graving dock measuring 1,096' long, 171' wide and 53' deep. Completed in June 1943, it includes a floating caisson and underground pump and control rooms, as described in greater detail above.
- The landscape immediately adjacent to the dry dock is dominated by wide expanses of concrete or asphalt with embedded crane tracks (covered with asphalt), steel bollards and capstans along the perimeter of the dry dock.
- Coping protrudes over the top portion of the dry-dock wall; service galleries with trapezoidal faces, and stairwells are built into the coping.
- Cleats are placed at even intervals along the curb.
- Chain handrails run along the curb and down the concrete stairwells.
- Crane tracks surround the dry dock (covered with asphalt).
- A series of mooring bollards border the perimeter and some of the original thirteen electrically powered capstans are also present around the perimeter, outside the location of the non-visible crane tracks.
- Two entrances to the pump room are sited on the south side of the east end of the dry dock, each with a descending staircase and sliding grates covering the opening.

Non-visible contributing character-defining features of Dry Dock 4 include:

- The cross section profile of Dry Dock 4 reveals a relatively simple reinforced concrete design. Rather than having multiple altars (steps in the wall of a dry dock) like nearby Dry Docks 2 and 3, it has one altar a few feet beneath the service galleries. Walls descend at an angle from the altar to the thin reinforced concrete slab dry-dock floor.

- Drainage tunnels beneath the floor extend along both sides of the dry dock. A utility tunnel, beneath the coping and behind the service galleries, runs along the perimeter. Dry Dock 4 floods through two 8-foot valves installed in flooding culverts, located on either side of the dry dock near the entrance. Once the valves were opened, it took one hour to flood the dry dock through the culverts. Both valves were accessible through manholes and controlled from the pump room.
- The underground pump room for Dry Dock 4 is located south of the dry dock, near the entrance (east) end. The pump and control rooms are constructed of reinforced concrete formed integrally with the bedrock and dry-dock wall. The design allowed cranes to lift equipment in and out of the rooms through a flush-to-grade concrete roof made of removable sections. Three S. Morgan Smith axial flow pumps powered by General Electric synchronous motors could dewater Dry Dock 4 in 2.5 hours, if all three pumps operated at full capacity. Byron Jackson, 150-horsepower, deep-well, turbine-type drain pumps, located in the lower level of the pump room, could be operated manually or automatically.

Non-contributing alterations include:

- Dry Dock 4 has received few major alterations over its 66-year history, the most notable include the filling of bilge block slots and drainage trenches in the dry-dock floor (date unknown); addition of three steel pipes in the south-side utility tunnel in 1957 when the crane track was extended on that side of the dry dock; addition of six small service galleries and the lengthening of four original service galleries in 1972; and construction of additional salt water and electrical services to accommodate larger ships in the 1980s.

Project Description

The CP-HPS project proposes to retain the buildings and structures in the District and Dry Dock 4 that were determined eligible for listing in the National Register and are listed in the California Register. Dry Docks 2, 3, and 4 and Buildings 140, 204, 205, and 207 would be rehabilitated in conformance with the SOI Standards. Rehabilitation of the dry docks would include repair of concrete surfaces and addition of guardrails along their perimeter.

However, the buildings that were later identified as contributors to the District in the 2008 survey and are eligible for the California Register (i.e., not determined eligible for the National Register and not listed in the California Register), Buildings 211, 224, 231, and 253, would be demolished. The 2010 FEIR found, therefore, that the project would result in a significant adverse impact to the District that would affect its eligibility for inclusion in the California Register, and two mitigation measures were included in the 2010 FEIR, provided below.

Addendum 5 Modifications

Addendum 5 of the CP-HPS2 2010 FEIR would include project modifications that may impact Dry Dock 4 including the addition of two pedestrian bridges over the dry dock, provision of water taxi service from Dry Dock 4, and creation of the Water Room Plaza surrounding the dry dock that would be programmed to serve as a central community gathering point and would have new seating.

The Water Room Bridge, a pedestrian and bicycle bridge, would be located in the western portion of Dry Dock 4. The Eastern Pedestrian Bridge, a pedestrian bridge, would be located in the eastern portion of Dry Dock 4, directly adjacent the entry point of the San Francisco Bay.

In addition, water taxi services to and from Hunters Point Shipyard would dock at a new landing at Dry Dock 4, and new infrastructure on land and water would be constructed to accommodate these services, as described in Section I, Project Description, of Addendum 5 to the CP-HPS2 2010 FEIR.

CEQA Impacts Analysis

The updated scope of work discussed in Addendum 5 includes new construction related to Dry Dock 4 that was not included in the Candlestick Point-Hunter’s Point Shipyard Phase II (CP-HPS2) FEIR (2010). Previously, the only scope related to Dry Dock 4 in the 2010 FEIR was to repair the concrete and replace a fence. Under Addendum 5, new construction would occur in the vicinity of Dry Dock 4 including regrading of the site, construction of the Water Room Plaza with seating around Dry Dock 4, construction of two new pedestrian bridges over Dry Dock 4 including Water Room Bridge and Eastern Pedestrian Bridge, and installation of a water taxi ramp at Dry Dock 4. Although Dry Dock 4 would be retained intact under Addendum 5, potential adverse impacts may occur to the character-defining features, materials and contributing setting of Dry Dock 4 that could result in a potentially significant impact if they do not avoid direct physical impacts to Dry Dock 4 including its visible, subsurface and submerged features or indirect impacts to the associated setting. Current project plans are conceptual and are expected to evolve as the project progresses through design development and construction plans are finally prepared. Therefore, to protect the historic integrity and significance of Dry Dock 4, Preservation Guidelines will inform the design process, including the proposed landscape improvements, bridges, and taxi ramp to ensure they are designed and constructed in conformance with the SOI Standards as the project develops. The Preservation Guidelines have been prepared by a qualified preservation consultant and are supported by substantial available information on the history and condition of Dry Dock 4. The Preservation Guidelines shall be guided by the guiding principles, standards for preservation, and preservation guidelines provided by Table 2 to ensure conformance with the SOI Standards.

Table 2 Dry Dock 4 Preservation Guidelines

Secretary of the Interior’s Standards for Preservation (Applicable Provisions)

1. A property will be used as it was historically, or be given a new use that maximizes the retention of distinctive materials, features, spaces, and spatial relationships. Where a treatment and use have not been identified, a property will be protected and, if necessary, stabilized until additional work may be undertaken.
2. The historic character of a property will be retained and preserved. The replacement of intact or repairable historic materials or alteration of features, spaces, and spatial relationships that characterize a property will be avoided.
3. Each property will be recognized as a physical record of its time, place, and use. Work needed to stabilize, consolidate, and conserve existing historic materials and features will be physically and visually compatible, identifiable upon close inspection and properly documented for future research.
4. Changes to a property that have acquired historic significance in their own right will be retained and preserved.
5. Distinctive materials, features, finishes, and construction techniques or examples of craftsmanship that characterize a property will be preserved.
6. The existing condition of historic features will be evaluated to determine the appropriate level of intervention needed. Where the severity of deterioration requires repair or limited replacement of a distinctive feature, the new material will match the old in composition, design, color, and texture.
7. Chemical or physical treatments, if appropriate, will be undertaken using the gentlest means possible. Treatments that cause damage to historic materials will not be used.
8. Archeological resources will be protected and preserved in place. If such resources must be disturbed, mitigation measures will be undertaken.

Dry Dock 4: Guiding Principles

- The proposed treatment of Dry Dock 4 shall follow the requirements outlined in the Memorandum of Agreement (MOA) between the United States Navy, the Advisory Council on Historic Preservation, and the California State Historic Preservation Officer regarding the interim leasing and disposal of historic properties on the former Hunters Point Naval Shipyard in San Francisco, California, under which the lease agreements require tenants to follow the recommended practices of the SOI Standards in maintaining or adapting these historic properties for use.
- Proposed treatment of Dry Dock 4 shall follow the treatment plan and methods developed for CP-HPS2 that has been previously found to conform to the SOI Standards (Lada Kocherovsky and Richard Sucre, Memorandum regarding Secretary of the Interior’s Standards Evaluation of Proposed Treatments for Dry Docks 2, 3, and 4, October 5, 2009, prepared by Page & Turnbull for Therese A. Brekke, Lennar Urban) and are outlined by Moffatt & Nichol in a series of reports:

Table 2 Dry Dock 4 Preservation Guidelines

- Moffatt & Nichol, *Candlestick Point/Hunter's Point Redevelopment Project, Proposed Shoreline Improvements* (September 2009);
- Moffat & Nichol, *Hunter's Point Shoreline Structures Rapid Reconnaissance Investigation* (June 2009); and
- Moffat & Nichol, *Hunters Point Shoreline Structures Assessment* (August 2009).
- Dry Dock 4 is identified in the National Register of Historic Places as a structural resource under the applicable criteria of “event: architecture engineering” and, more specifically, with an area of significance related to military engineering. The Standards for Preservation and Guidelines for Preserving Historic Buildings apply not only to historic buildings, but also to a variety of historic resource types eligible to be listed in the National Register of Historic Places, including buildings, sites, structures, objects, and districts. Accordingly, proposed modifications to Dry Dock 4 shall comply with the Standards for Preservation outlined in the SOI’s *Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring & Reconstructing Historic Buildings*,¹ which require conformance with the above Standards for Preservation.

Dry Dock 4: Preservation Guidelines

Preservation Guidelines for Dry Dock 4 have been developed to guide the preliminary design of the improvements associated with Dry Dock 4. These guidelines may be refined as part of the final design provided the following occurs:

- All character-defining features, materials, finishes, and construction techniques or examples of craftsmanship of Dry Dock 4 would be permanently retained;
- The bridge and abutment design and construction process would not permanently and irreversibly remove character-defining features or materials of the dry dock or its setting;
- The two bridge spans would not permanently and irreversibly alter character-defining features of the dry dock;
- The open visual character of Dry Dock 4 and the spaces and spatial relationships between the water-filled dry dock and adjacent deck around the dry dock whose outer limits are defined by the location of the bollards that surround the dry dock would be permanently retained;
- Grading required to protect the site from sea level rise may require that the bollards surrounding the dry dock would be temporarily removed, but they would be returned to a location that retains the horizontal, spatial relationship between the bollards and the dry dock;
- The installation of seating around the dry dock would occur on top of the land surface and would be provided in a manner that integrates the seating with a gradual raise in the proposed grade of the surrounding dry dock to accommodate sea level rise and would not permanently and irreversibly remove any character-defining materials or features;
- The seating would preserve the open visual character of the landscape and the spaces and spatial relationships between the dry dock and its setting;
- While the open visual character of the landscape and the spaces and spatial relationships between the dry dock and its setting would be preserved, the design would still allow for active and passive recreational uses;
- The design would be modern in character and differentiated from the historic structure, and no changes would be made that would create a false sense of historical development or add conjectural features;
- The design would be differentiated from the old and would be contemporary and industrial in aesthetic and utilitarian in the use of materials;
- The design would be compatible with the historic materials, features, size, scale and proportion, and massing protect the integrity of the dry dock and setting;
- The design would not obscure the character-defining features, spaces, spatial relationships, or views of the dry dock; and
- The design would be reversible to allow the new construction to be removed in the future, which would ensure that the integrity and significance of Dry Dock 4 would not be materially impaired.

With inclusion of the Preservation Guidelines as part of the scope of work for Addendum 5, project conformance with the SOI Standards would be ensured, the historic significance of Dry Dock 4 would be protected and the eligibility of the historical resource after project completion would remain unimpaired. Therefore, potential impacts to historical resources would be less than significant.

The proposed project modifications included in Addendum 5 were reviewed for conformance with the Standards for Rehabilitation (Department of Interior regulations, 36 CFR 67). Generally, a project that follows the SOI Standards shall be considered mitigated to a less than significant impact on the historical resource, pursuant to CEQA.

1. A property will be used as it was historically or be given a new use that requires minimal change to its distinctive materials, features, spaces and spatial relationships.

The proposed project discussed in the 2010 FEIR already changes the site and environment from a shipyard to a mixed-use housing development with associated public spaces. The Addendum 5 modifications related to Dry

¹ U.S. Department of the Interior, 2017.

Dock 4 including seating, two bridges and a water taxi landing would further change Dry Dock 4's historic purpose from a ship berth to a focal point of a large recreational landscape along the shoreline, which was proposed as part of the 2010 Project. The shipyard has been decommissioned and the Dry Dock has is not in use and is no longer in functional condition. In order to ensure its preservation, a new use that requires minimal change to the defining characteristics of the dry dock and its site and environment is, therefore, necessary. While the project plans are currently conceptual in nature, the Addendum 5 Preservation Guidelines would retain the existing character-defining features of Dry Dock 4 that are described above. Furthermore, the proposed treatment of the three dry docks under the CP-HPS2 project provide for the repair and retention of the historic elements that are consistent with Standard 1. Therefore, the modifications proposed under Addendum 5 would conform with Standard 1.

2. The historic character of a property will be retained and preserved. The removal of distinctive materials or alteration of features, spaces and spatial relationships that characterize a property will be avoided.

While the project plans are currently conceptual in nature, the Addendum 5 Preservation Guidelines would ensure that proposed new use would retain the character-defining features of Dry Dock 4 that are described above. Furthermore, the proposed treatment of Dry Dock 4 under CP-HPS2, including the installation of weep holes, addition of rock/sand buttresses, and concrete repair in order to preserve the dry dock would be considered minor alterations that are necessary for the continued use of the dry dock and would retain and preserve their overall historic character. Likewise, the proposed modifications to Dry Dock 4 under Addendum 5 would be minor in nature and would involve minimal removal of materials for installation of the landing platform for the water taxi. The abutments for the two bridges would be placed away from the edge of Dry Dock 4, and the bridge and abutment construction process would not remove character-defining features or materials of the dry dock or its setting. The two bridge spans would not permanent and irreversibly alter character-defining features of the dry dock, and the open visual character of Dry Dock 4 and the spaces and spatial relationship between the water-filled dry dock and adjacent surrounding deck area (out to and including the bollards) would be retained. The installation of seating around the dry dock would occur on top of the land surface outside of the deck area so as not to remove any character defining materials or features. To preserve the open visual character of the landscape and the spaces and spatial relationships between the dry dock and its setting. The Addendum 5 modifications would respect the historic character of Dry Dock 4 and would avoid removal of distinctive materials or alteration of features, spaces and spatial relationships that characterize the property and, therefore, would conform to Standard 2.

3. Each property will be recognized as a physical record of its time, place and use. Changes that create a false sense of historical development, such as adding conjectural features or elements from other historic properties, will not be undertaken.

The proposed changes that will be made to Dry Dock 4 under Addendum 5 would be modern in character and differentiated from the historic structure (see Standard 9 for more detailed analysis). No changes would be made that would create a false sense of historical development or add conjectural features. The proposed project modifications under Addendum 5 would conform to Standard 3.

4. Changes to a property that have acquired historic significance in their own right will be retained and preserved.

There are no changes to Dry Dock 4 that have acquired historic significance in their own right. The project modifications under Addendum 5 comply with Standard 4.

5. Distinctive materials, features, finishes, and construction techniques or examples of craftsmanship that characterize a property will be preserved.

As discussed above under Standard 2, while the project plans are currently conceptual in nature, the Addendum 5 Preservation Guidelines shall ensure that the project would retain the character-defining features, materials, finishes and construction techniques or examples of craftsmanship of Dry Dock 4 that are described above. Furthermore, the proposed treatment of Dry Dock 4 under CP-HPS2, including the installation of weep holes, addition of rock/sand buttresses, and concrete repair of the dry-dock walls in order to preserve the dry dock would be considered minor alterations and repairs that are necessary for the continued use of the dry dock and would retain and preserve its overall historic character. The proposed modifications to Dry Dock 4 under Addendum 5 would be minor in nature and would involve minimal removal of materials for installation of the landing platform for the water taxi. The installation of seating around the dry dock would occur on top of the land surface so as not to remove any character defining materials or features. To preserve the open visual character of the landscape and the spaces and spatial relationships between the dry dock and its setting. The Addendum 5 modifications would respect and preserve the distinctive character of Dry Dock 4 and would conform to Standard 5.

6. Deteriorated historic features will be repaired rather than replaced. Where the severity of deterioration requires replacement of a distinctive feature, the new feature will match the old in design, color, texture and, where possible, materials. Replacement of missing features will be substantiated by documentary and physical evidence.

The preservation treatment of Dry Dock 4 is covered in the 2010 FEIR. The proposed treatments call for the repair of exposed dry-dock walls, including patching any concrete spalls, repairing and/or replacing exposed or corroded reinforcing bars, and repairing broken concrete. The treatments are all consistent with Standard 6 since they involve repairing, not replacing, deteriorated historic features. Where deteriorated beyond repair, the proposed treatments will replace materials in-kind, keeping the character of the dock walls consistent with the original design. Where parts of the concrete walls need to be replaced due to severe deterioration, the replacement surface will be similar in texture and color to the original concrete wall finish. No other repair or replacement of deteriorated historic fabric is included in Addendum 5. Therefore, the proposed treatments for Dry Dock 4 is consistent with Standard 6.

7. Chemical or physical treatments, if appropriate, will be undertaken using the gentlest means possible. Treatments that cause damage to historic materials will not be used.

The proposed modifications do not involve chemical or physical treatments to historic materials or abrasive surface cleaning that may potentially damage substances. Therefore, the proposed project complies with Standard 7.

8. Archeological resources will be protected and preserved in place. If such resources must be disturbed, mitigation measures will be undertaken.

The proposed project modifications do not involve excavation that has not been previously analyzed in the 2010 FEIR. If standard procedures are followed in the case archaeological material would be encountered, the proposed project will be in compliance with Standard 8.

9. New additions, exterior alterations, or related new construction will not destroy historic materials, features, and spatial relationships that characterize the property. The new work will be differentiated

from the old and will be compatible with the historic materials, features, size, scale and proportion, and massing to protect the integrity of the property and its environment.

As discussed above, the proposed modifications under Addendum 5 will not destroy historic materials, features, or spatial relationships that characterize the property. The proposed project would include new construction for the Water Room Plaza surrounding Dry Dock 4, as well as two bridges and a water taxi platform across/within the dry dock. The proposed modifications to Dry Dock 4 under Addendum 5 would be minor in nature and would involve minimal removal of materials for installation of the landing platform for the water taxi. The abutments for the two bridges would be placed away from the edge of Dry Dock 4 and the bridge and abutment construction process would not remove character-defining features or materials of the dry dock or its setting. The two bridge spans would not touch character-defining features of the dry dock and the open visual character of Dry Dock 5 and the spaces and spatial relationship between the water-filled dry dock and adjacent landscape would be retained. The installation of seating around the dry dock would occur on top of the land surface so as not to remove any character defining materials or features. To preserve the open visual character of the landscape and the spaces and spatial relationships between the dry dock and its setting.

The new construction would be contemporary/industrial in aesthetic and materials and would be differentiated from the historic dry dock. The project is in the conceptual design phase, so details of design and materials are yet unknown, but a design that is contemporary and industrial in aesthetic, utilitarian in the use of materials, and that does not obscure the character-defining features, spaces, spatial relationships or views of the dry dock, would protect the integrity of the dry dock and be considered compatible. The Addendum 5 Preservation Guidelines shall ensure that the integrity of the property and its environment would be protected. Therefore, the project complies with Standard 9.

10. New additions and adjacent or related new construction will be undertaken in such a manner that, if removed in the future, the essential form and integrity of the historic property and its environment would be unimpaired.

The proposed project modifications under Addendum 5 would retain the essential form and integrity of Dry Dock 4 and, as discussed above, the new construction will be undertaken in a manner that if removed in the future, the integrity of Dry Dock 4 would be unimpaired. Addendum 5 would conform to Standard 10.

CP-HPS2 2010 FEIR Mitigation Measures

MM CP-1b.1: Mitigation to Minimize Impacts on Historic Resources at HPS Phase II. To reduce the adverse effect on historical resources, prior to any structural demolition and removal activities, the Project Applicant shall retain a professional who meets the Secretary of the Interior's Professional Qualifications Standards for Architectural History to prepare written and photographic documentation of the potential Hunters Point Commercial Dry Dock and Naval Shipyard Historic District, as identified in the report titled *Bayview Waterfront Plan Historic Resources Evaluation, Volume II: Draft Historic Resources Survey and Technical Report*, July 2009, prepared by Circa Historic Property Development.

The documentation for the property shall be prepared based on the National Park Services' (NPS) Historic American Building Survey (HABS) / Historic American Engineering Record (HAER) Historical Report Guidelines. This type of documentation is based on a combination of both HABS/HAER standards (Levels II and III) and NPS new policy for NR-NHL photographic documentation as outlined in the National Register of Historic Places and National Historic Landmarks Survey Photo Policy Expansion (March 2005).

The written historical data for this documentation shall follow HABS / HAER Level I standards. The written data shall be accompanied by a sketch plan of the property. Efforts should also be made to locate

original construction drawings or plans of the property during the period of significance. If located, these drawings should be photographed, reproduced, and included in the dataset. If construction drawings or plans cannot be located as-built drawings shall be produced.

Either HABS/HAER standard large format or digital photography shall be used. If digital photography is used, the ink and paper combinations for printing photographs must be in compliance with NR-NHL photo expansion policy and have a permanency rating of approximately 115 years. Digital photographs will be taken as uncompressed .TIF file format. The size of each image will be 1600x1200 pixels at 300 ppi (pixels per inch) or larger, color format, and printed in black and white. The file name for each electronic image shall correspond with the index of photographs and photograph label.

Photograph views for the dataset shall include (a) contextual views; (b) views of each side of each building and interior views, where possible; (c) oblique views of buildings; and (d) detail views of character-defining features, including features on the interiors of some buildings. All views shall be referenced on a photographic key. This photograph key shall be on a map of the property and shall show the photograph number with an arrow indicate the direction of the view. Historic photographs shall also be collected, reproduced, and included in the dataset.

All written and photographic documentation of the potential Hunters Point Commercial Dry Dock and Naval Shipyard Historic District shall be approved by the SFRA, in consultation with the ERO, prior to any demolition and removal activities.

MM CP-1b.2: Interpretive Displays Depicting History of HPS. Interpretive displays related to the history of HPS shall be installed at Heritage Park at Dry Dock Nos. 2 and 3. The number and type of displays shall be approved by the SFRA, in consultation with the ERO.