

# HISTORIC CONTEXT STATEMENT



## MARINSHIP

Sausalito, California  
June 2011

**Prepared for  
Community Development Department  
Sausalito, California**

Prepared by  
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PRESERVATION ARCHITECTS

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## I. Introduction

The former Marinship yard, an approximately 210-acre site, is located in northern Sausalito, on Richardson's Bay. The Marinship site consists of two areas on either side of Bridgeway. The larger east site is bounded by Gate 5 Road to the north, Richardson's Bay to the east, the inlet adjoining Schoonmaker Point to the south, and Bridgeway to the west.<sup>1</sup> The west site is bounded by Ebblide Avenue, Stanford Way, Olima Street, and Coloma Street. The survey area boundaries are shown in **Figure 1**. The U.S. Maritime Commission established Marinship in March 1942 as one of six "Emergency Shipyards" in the San Francisco Bay Area, built in response to the Japanese attacks on Pearl Harbor, as well as escalating losses of Allied shipping to German and Japanese submarines. During the three years in which it operated, Marinship became known in shipbuilding circles as the nation's most advanced and efficient shipyard, building Liberty ships and T-2 tankers at a faster rate than the better-known Kaiser (Yards 1-4) in nearby Richmond or the other "Emergency" yards on the East Coast or the Gulf of Mexico. Designed, built, and operated by the W.A. Bechtel Corporation and paid for by the U.S. Maritime Commission, Marinship did not survive beyond the war, ceasing production following the Japanese surrender in September 1945. During its short run Marinship built 93 vessels (not counting barges and launches), including 15 Liberty Ships and 78 T-2 tankers and oilers. The yard also repaired 23 vessels and was in the process of building barges for the invasion of the Japanese mainland when it ceased operation.<sup>2</sup>

In 1946 the War Assets Department transferred Marinship to the U.S. Army Corps of Engineers, although the Army Corps did not obtain final title to the yard until 1949. The Army Corps retained 11.4 acres for its own operations and subdivided and gradually sold off the rest. Over time the former shipyard evolved into an industrial park, housing dozens of businesses, ranging from boat repair and other maritime industries, to non-maritime industrial, artists' lofts, public parks, marinas, retail, and restaurant and entertainment uses. Despite these changes, over half of the original 30 numbered Marinship buildings and structures survive – a much higher survival rate than Kaiser's Richmond Yards 1-4 or any other World War II-era yard in the San Francisco Bay Area. Even today many of the Marinship-era buildings remain recognizable by virtue of their barrel-vaulted, bowstring-truss roofs and wood ribbon windows. There are several individual buildings and structures that appear individually eligible for listing in the National Register of Historic Places (National Register) and/or the California Register of Historical Resources (California Register).

Marinship does not appear eligible for listing in the National Register as a historic district. Almost half of its original resources have been demolished and most that remain have been altered. There is only one section of the former shipyard – the outfitting zone at the southern end of the yard – that retains a sufficient number of contiguous resources to possibly qualify as a California Register historic district, although here too the integrity of individual resources is generally low. Nevertheless, in terms of its historical significance, the remaining portions of Marinship are important remnants of an industrial plant that embodies the contribution of the Bay Area to the American "Home Front" during the Second World War. Already an important center for shipbuilding, during World War II the Bay Area became the largest and most important shipbuilding region the world has ever known. Most of these yards are long gone. The fact that so much of Marinship survives is due in part to the fact that many of its buildings were well-suited to other industrial uses.

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<sup>1</sup> The former Marinship site does not align with the cardinal points of the compass. Nevertheless, to make the description of the site and its constituent buildings easier to follow, we will treat the site as if it does, meaning that Richardson's Bay is located to the east and not the northeast and Bridgeway to the west, not the southwest.

<sup>2</sup> Charles Wollenberg, *Marinship at War: Shipbuilding and Social Change in Wartime Sausalito* (Berkeley: Western Heritage Press, 1990), 5.

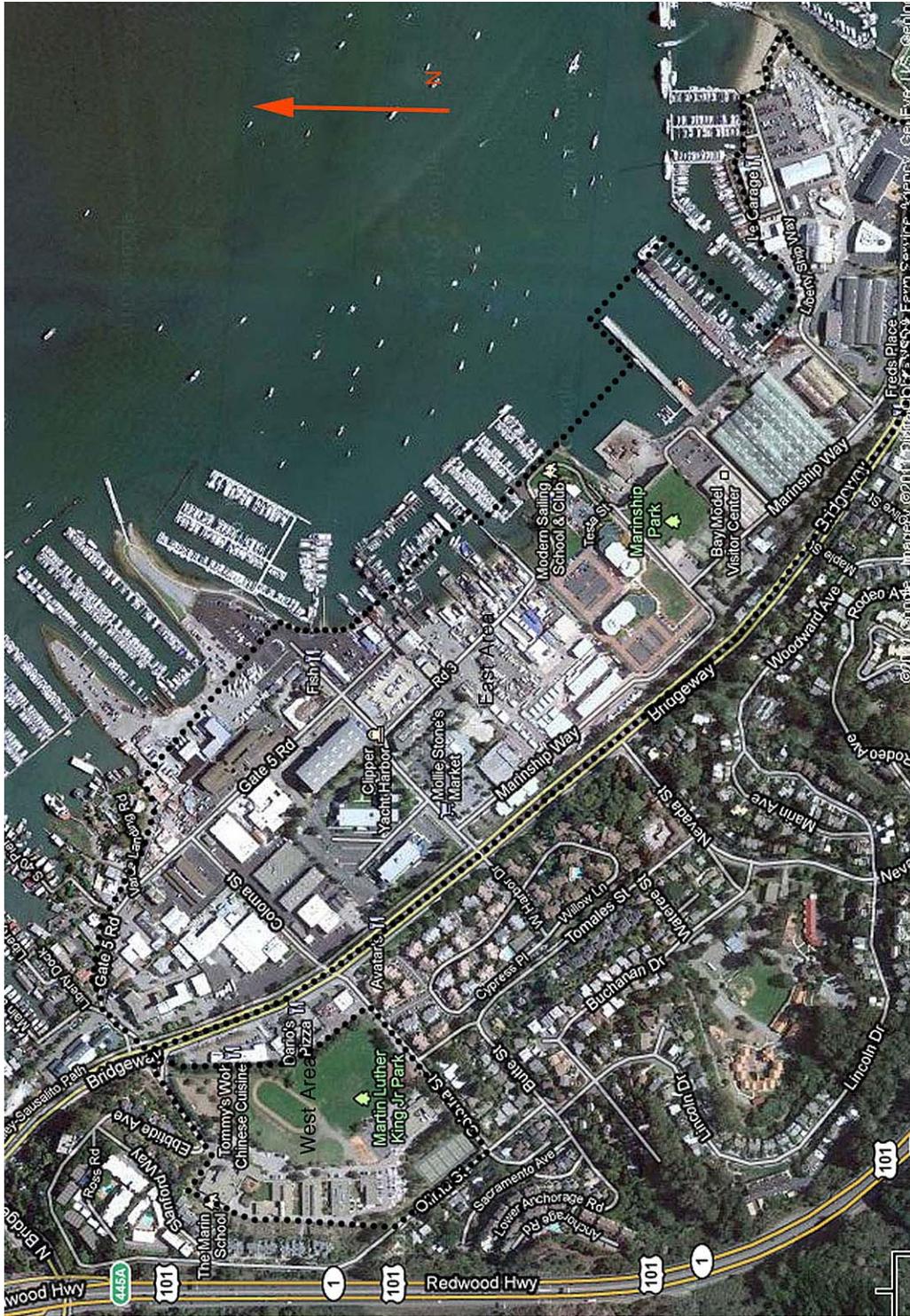


Figure 1. Survey area boundaries denoted in black dashed line  
Source: Google Maps; annotated by KVP Architects

### A. Purpose

The purpose of a historic context statement is described in the *Secretary of the Interior's Standards for Preservation Planning*:

Decisions about the identification, evaluation, registration and treatment of historic properties are most reliably made when the relationship of individual properties to other similar properties is understood. Information about historic properties representing aspects of history, architecture, archeology, engineering and culture must be collected and organized to define these relationships. This organizational framework is called a "historic context." The historic context organizes information based on a cultural theme and its geographical and chronological limits. Contexts describe the significant broad patterns of development in an area that may be represented by historic properties. The development of historic contexts is the foundation for decisions about identification, evaluation, registration and treatment of historic properties.

It is the purpose of this Historic Context Statement to identify and describe the various historic contexts that led to the construction and operation of Marinship during the Second World War. This report also describes and defines its property types and makes recommendations about registration and preservation goals for the survey area. This report describes the following contexts: the evolution of Sausalito as an important seafaring center, resort community, and transportation node in Marin County; the long and distinguished history of shipbuilding and repair in the San Francisco Bay Area; the establishment of the U.S. Maritime Commission and the emergency shipbuilding program during the Second World War; the development of the modern, mass-production shipyard as embodied by Marinship; and the role of labor – including groups traditionally excluded from industrial employment, including women, African Americans, and other minorities – in the operation of the shipyard from 1942 until 1946.

### B. Description of Geographical Area

The survey area boundaries described in the Introduction and shown in **Figure 1** do not entirely correspond to the boundaries of the original Marinship shipyard, which are shown in **Appendix A**. Although they are similar, the survey area boundaries were drawn to encompass only the land, piers, wharves, and shipways of the former Marinship yard as it existed in 1946. It does not include submerged parts of the original property that have been filled since 1946; nor does it include the houseboats, marinas, and other non-World War II-related resources except for where they are surrounded by Marinship resources.

### C. Identification of Historic Contexts and Periods of Significance

Although the property known as Marinship has existed almost 70 years, the actual period of significance is narrow – encompassing just the years between 1942 (when the facility was constructed) and 1946 (when the yard closed). From 1946 until the present day the former Marinship facility has contained a variety of industrial, office, and storage uses, with many of the former Marinship buildings and structures repurposed for these later uses. Although maritime and light industrial uses have long remained dominant, over the past two decades there has been a gradual shift toward office and retail use in the former Marinship facility. These new uses have resulted in demolition of some facilities and the extensive alteration of others. In general, the most significant resources remaining today are those that have remained in industrial use and therefore more closely resemble their appearance during the Second World War.

The historic contexts for Marinship are in part taken from the National Historic Landmarks Theme Study: *World War II and the American Home Front*, prepared by the National Park Service in October 2007. This document was prepared in response to a Congressional request directed to

the Secretary of the Interior on October 24, 2000 to conduct a study of the World War II Home Front. The purpose of the study was to “identify historic places that best represent the wartime mobilization that occurred in the United States and its territories and possessions between 1939 and 1945 to assist in identifying whether any of these places should be considered for potential inclusion in the National Park System.”<sup>3</sup> Of the contexts identified in this study, Marinship is closely associated with three of the four: “Mobilization and Its Impact,” “Labor and the Working Class in World War II,” and “African Americans and other Minorities on the Home Front.” In addition, as the best-preserved example of an Emergency Shipyard in the Bay Area, Marinship has much to teach us about the application of then-sophisticated assembly line technology applied to a modern shipyard during World War II. Also important was the use of lightweight, inexpensive, and easy-to-assemble modular and mass-produced building materials and components used to construct the shipyard and its buildings, including glue-laminated bowstring trusses, 4’ x 8’ plywood sheets, ribbon windows, and machinery – particularly overhead traveling cranes and jib cranes. Many of the original shipways also survive in the east-central part of the former yard.

## II. Methodology

This Historic Context Statement was prepared by Christopher VerPlanck, principal of Knapp & VerPlanck Preservation Architects (KVP) in San Francisco. This report is the final segment of a three-part project executed by KVP for the City of Sausalito, which also included the preparation of a Historic Evaluation Report for the Marinship Machine Shop (Building 11) and a comprehensive intensive-level survey of the entire former shipyard. Data and findings from both of these projects have informed this Historic Context Statement. Mr. VerPlanck completed the fieldwork over a period of four days in March and April 2011. Prior to going into the field he overlaid current aerial photographs on top of historic Marinship site plans to determine which historic Marinship buildings and structures were still extant. In the field he walked along public rights-of-way and photographed the exterior of each Marinship-era building, structure, and object, and filled out survey forms noting each resource’s character-defining features – including construction methods, materials, cladding types, doors and windows, roof types, landscaping, and other details.

Concurrent with the field work, Mr. VerPlanck researched the history of Marinship, using both primary and secondary sources. Mr. VerPlanck consulted the Sausalito Historical Society’s collections, including newspaper clippings, correspondence, historic photographs, maps and aerials, Sanborn maps, and the Society’s extensive collection of *The Marin-er* – the official mouthpiece of Marinship during its operation. Secondary sources consulted included Wayne Bonnett’s *Build Ships* (1999), Richard Finnie’s *Marinship: The History of a Wartime Shipyard* (1947), Charles Wollenberg’s *Marinship at War: Shipbuilding and Social Change in Wartime Sausalito* (1990), and Richard Grambow’s *Marinship at the Close of the War* (1946). Heidi Burns, Associate Planner with the City of Sausalito provided our firm with Assessor parcel data, photographs, and leads on other sources.

KVP completed California Department of Parks and Recreation (DPR) 523 A (Primary) and 523 B (Building, Structure, and Object) forms for each of the remaining 15 Marinship-related properties, as well as the former Hiring Hall at 200 Caledonia Street. Copies of the forms are provided in the **Appendix B**.

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<sup>3</sup> Marilyn M. Harper et al, *World War II and The American Home Front: A National Historic Landmarks Theme Study* (Washington, D.C.: National Park Service, October 2007), 1.

### III. Identification of Existing Historic Resources

KVP researched federal, state, and local inventories of historic resources to determine if any of the former Marinship yard had any formal historic status. In addition, a records search was conducted by the Northwest Information System at Sonoma State University. Following is a summary of Marinship's status in these registers.

#### A. *Here Today*

Published in 1968 by the San Francisco Junior League, *Here Today: San Francisco's Architectural Heritage (Here Today)* was the first comprehensive cultural resource survey completed in the San Francisco Bay Area. In addition to San Francisco, the survey covered adjoining San Mateo and Marin counties. Prepared by volunteers, the survey provides a photograph and limited information on approximately 2,500 properties. The survey files are archived at the Koshland San Francisco History Center in the San Francisco Main Library.<sup>4</sup> There is an entire section devoted to Sausalito in *Here Today*. However, the section covers mainly older Victorian and Edwardian-era buildings within the city's downtown and adjoining residential areas. It does not include any maritime properties aside from the former San Francisco Yacht Club on Bridgeway, and no World War II-era properties. The Marinship property is not mentioned anywhere in the survey or the accompanying book.

#### B. *City of Sausalito Historical Inventory*

Growing concerned over the loss of historic buildings, in 1976 the City of Sausalito adopted regulations to designate historically, architecturally, and culturally significant local landmarks and historic districts. In addition to establishing the Historic Landmarks Board (HLB) and creating the Downtown Historic Overlay Zoning District in 1981, the City established an inventory of specific properties that appeared to warrant recognition for their special historic, architectural, or aesthetic value. In order to qualify for inclusion on the inventory of "Noteworthy Structures, Arks, Landmark Buildings, National Register Buildings, Structures, Sites, and Objects," a resource must be at least 50 years of age and be "significant to local, regional, state or national history."<sup>5</sup> Properties in the Inventory fall within one of four categories: "Noteworthy," "Landmark," "Downtown Historic District," and "National Register of Historic Places." Prepared nearly 35 years ago, the Sausalito Inventory mainly comprises aesthetically prominent nineteenth and early twentieth-century dwellings, churches, civic buildings, and commercial buildings – most of which are located in the Downtown, Old Town, and New Town districts. Nonetheless, there are several industrial buildings associated with the city's shipbuilding industry, including Marinship Building No. 30 – the Mold Loft – which is designated as a "Noteworthy" structure.<sup>6</sup>

#### C. *California Historical Resources Information System*

Properties listed in the California Historical Resources Information System's (CHRIS) Historic Property Directory (HPD), or that are under review by the California Office of Historic Preservation (OHP), are assigned status codes of "1" to "7," establishing a baseline record of historical significance. Properties with a status code of "1" are listed in the California or National Register. Properties with a status code of "2" have been formally determined eligible for listing in the California or National Register. Properties with a status code of "3" or "4" appear to be eligible for either register through survey evaluation. Properties with a status code of "5" are locally significant or of contextual importance. Status codes of "6" indicate that the property has

<sup>4</sup> San Francisco Planning Department, *San Francisco Preservation Bulletin No. 11: Historic Resource Surveys* (San Francisco: n.d.), 3.

<sup>5</sup> City of Sausalito Zoning Code Section 10.46.050, <http://www.ci.sausalito.ca.us/Index.aspx?page=265>

<sup>6</sup> City of Sausalito, *Noteworthy Structures and other Buildings that may have Historical Significance* (Sausalito Community Development Department, updated May 1999).

been found ineligible for listing in any register and a status code of “7” indicates that the property has not been evaluated. No part of the former Marinship property is listed in the HPD.<sup>7</sup>

According to the records search conducted by the Northwest Information Center, one former Marinship property was assessed in an archaeological investigation completed in 2006. In 2006, W.S.A., Inc. prepared a DPR 523 A form for one of the former Marinship shipways on the Arques, aka Sausalito Shipyard, property at 2350 Marinship Way. The 523 A form records exposed pilings, beams, and decking for one of the original Marinship ways and piers. W.S.A. only prepared the 523 A form; there is no 523 B form to assign the property a historic property status code. The records search also yielded a 30-year old report prepared by Carroll W. Pursell in 1981: *Historical and Technological Significance of the San Francisco District, Corps of Engineers' Sausalito Base Yard Facility, Marin County, California*. Prepared 40 years after the yard opened, this report includes an extensive account of the history of the U.S. Army Corps' Sausalito base, which occupies a portion of the former Marinship yard. This report provides much useful information on how the shipyard operated during wartime, as well as information on the disposition of the yard after the war. The report determined that the U.S. Army Corps facilities were indeed eligible for listing in the National Register for the important role they played in World War II. This is remarkable given that the resources were not even 50 years old at the time. The findings and recommendations in the report were not adopted by the Office of Historic Preservation.

#### *D. Other Surveys and Technical Reports*

The former Marinship yard is surprisingly understudied. Despite the fact that so much of it survives, especially in comparison with other historic World War II-era yards, Marinship is largely unrecognized in the historical record. This is all the more surprising given that at least two books have been written about it, including Richard Finnie's *Marinship: The History of a Wartime Shipyard* (1947), which was compiled right after the yard closed in 1946. This work is largely descriptive in nature and is organized as a compendium of accounts of the various department heads. Nonetheless, it is a very useful “real-time” account of how Marinship was design, built, and operated during its brief three-year lifespan. Another useful source is Charles Wollenberg's *Marinship at War: Shipbuilding and Social Change in Wartime Sausalito* (1990). This slim volume was written much later by a professional historian who had the benefit of perspective and knowledge of the techniques of historical inquiry with which to evaluate Marinship. This book includes an extensive account of Marinship's diverse labor force, including ample information concerning the roles that race, sex, class, and labor played.

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<sup>7</sup> California Office of Historic Preservation, *Directory of Properties in the Historic Property Data File for Marin County* (Rohnert Park, CA: Northwest Information System, revised October 5, 2010).

#### IV. Historic Contexts

This section provides an overview of the development of Sausalito, shipbuilding in the San Francisco Bay Area, mobilization for the Home Front, Emergency Shipyard construction in the Bay Area, design and construction of Marinship, a history of shipbuilding, logistics, and labor at Marinship; the role of women, African Americans, and other minorities in Marinship's workforce; as well as a postscript that describes the history of the Marinship site following the Second World War.

##### A. *Brief History of Sausalito: 1775-1941*

What is now Sausalito was historically the site of a Bay Miwok settlement known as *Liwanelowa*. The Bay Miwok people who lived in this part of Marin County were part of a tribelet known as the *Huimen*. The first known European visitor to *Liwanelowa* was Don José de Cañizares, a Spaniard who arrived on the *San Carlos* on August 5, 1775. Cañizares reported friendly natives and abundant lumber, fresh water, and populations of deer, elk, bear, and sea lions. He also remarked on the suitability of the area for shipbuilding, noting the area's mature redwood stands and sheltered deep-water cove just inside the Golden Gate. The following year, the Spanish crown established a military garrison at *El Presidio de San Francisco* (The Presidio), across the Golden Gate from what is now Sausalito. Eventually the Spanish rounded up most of the Bay Miwok who lived at *Liwanelowa* and sent them to live at either *Misión San Francisco de Asís* or *Misión San Rafael de Arcangel*.<sup>8</sup>

One of the first non-native inhabitants of Sausalito was an Englishman named William A. Richardson (1795-1856). Born in London, Richardson became a sailor. He learned enough Spanish during his travels along the coast of Latin America to communicate with the local *Californios* when he arrived in the San Francisco Bay aboard the British whaler *Orion* in 1822. Mexico had just won its independence from Spain and Richardson liked what he saw in the remote frontier region of Mexico. He jumped ship and within three years he had converted to Catholicism, become a naturalized Mexican citizen, and married Maria Antonia Martinez, the daughter of Don Ignacio Martinez, the *Commandante* of The Presidio. As a Mexican citizen, Richardson was eligible to receive a land grant, and around 1837 he petitioned Governor Alvarado for a 20,000-acre *rancho* in the Marin Headlands. He called his new home *Rancho Saucelito* in recognition of a small grove of willows that grew around a fresh water spring on the east side of the peninsula. Richardson and his wife lived in an adobe located on what is now Sausalito's Pine Street, near Caledonia. He built a wharf close by and used it to trade lumber, hides, and tallow from his ranch with Yankee traders. He also outfitted whalers that dropped anchor in San Francisco Bay and sold fresh water to the residents of the growing settlement of Yerba Buena (renamed San Francisco in 1847) across the bay.<sup>9</sup>

The American conquest of the Southwest in 1847 put an end to the idyllic rancho culture of Mexican Northern California. Many of the Anglo-American newcomers who flooded the territory during the Gold Rush were openly contemptuous of Spanish and Mexican laws, quickly overrunning many of the *ranchos*. *Rancheros* like Richardson were forced to defend title to their lands against squatters, a process that quite literally ruined many. By the 1860s, most of the *ranchos* in the San Francisco Bay Area had been broken up into smaller landholdings, including *Rancho Saucelito*, which had to be incrementally sold off to pay Richardson's legal bills. By the time of his death in 1856, Richardson's lawyer Samuel Throckmorton had gained control of most of the rancho.<sup>10</sup>

<sup>8</sup> Bonnie J. Peterson, *Dawn of the World: Coast Miwok Myths* (San Rafael, CA: Marin Museum Society, 1976).

<sup>9</sup> Jack Mason, *Early Marin* (Petaluma, CA: House of Printing, 1971), 26.

<sup>10</sup> Margaret Badger, Phil Frank, et al, *Sausalito* (Charleston, SC: Arcadia Publishing, 2005), 10.

Seven years before his death William Richardson sold his last remaining 650 acres to another San Francisco lawyer, this one named Charles T. Botts. With visions of a new metropolis on the north shore of the Golden Gate, Botts established a community he called “Old Sausalito” on the banks of Shelter Cove. None of his heady plans for a competitor to San Francisco were realized, but the small settlement remained, eventually becoming known as “Old Town.”<sup>11</sup>

In 1868, a consortium of 20 San Francisco businessmen purchased 1,164 acres from Samuel Throckmorton, and a year later they established the Sausalito Land & Ferry Company. The Sausalito Land & Ferry Company subdivided the steep hillsides and a narrow section of level land north of Old Sausalito into blocks and lots defined by a regular grid of streets superimposed heedlessly over the steep hillsides and tidelands. The company also established regular ferry service to San Francisco. This area became what is known as “New Town.” A map made in 1871 shows the community as it was planned – clinging tightly to the steep hillsides of the Headlands and extending out into the mudflats of Saucelito Basin (now Richardson’s Bay) (Figure 2).

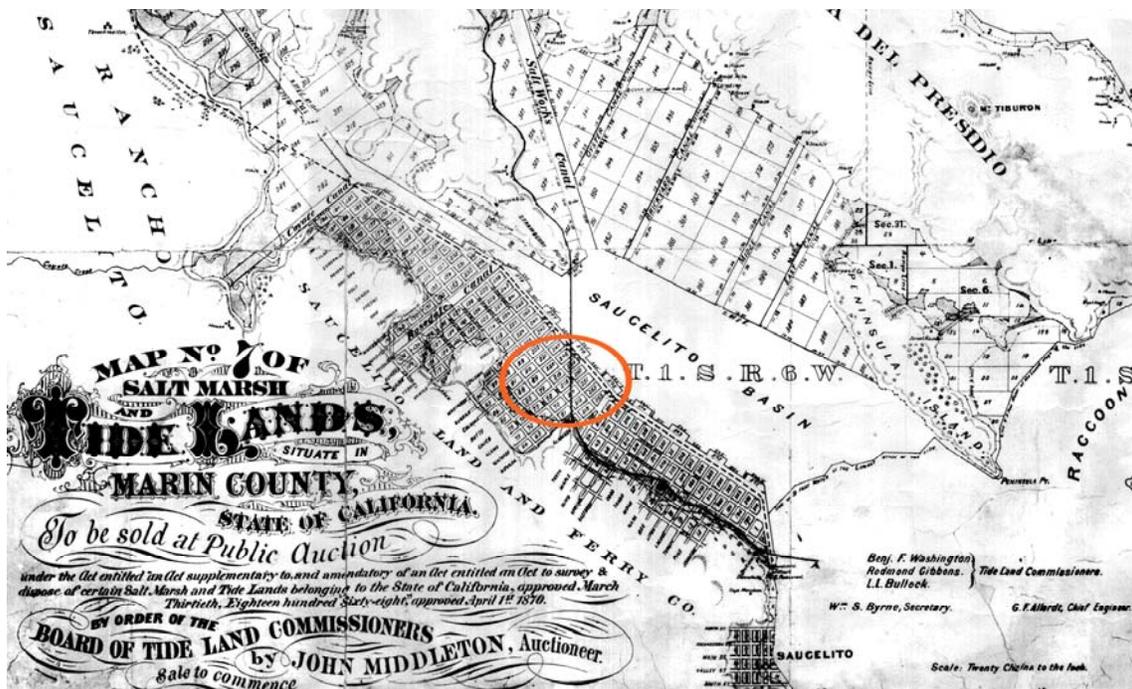


Figure 2. 1871 Map of Sausalito and surrounding area; ellipse indicates location of Marinship

Source: Sausalito Community Development Department

Annotated by KVP Architects

Although within sight of San Francisco, Sausalito remained a tiny village for the remainder of the nineteenth century. It did experience a short growth spurt following the opening of the North Pacific Coast Railroad, which established Sausalito as its southern terminus in 1874. Connected to San Francisco via a regularly scheduled ferry, Sausalito became the gateway to Marin County and the North Coast.<sup>12</sup> A third node of settlement grew up around the rail yard and ferry terminal between Old and New Towns, an area that became known as Downtown. In 1887, the spelling of the town’s name was officially changed to “Sausalito” and in 1893 it incorporated as a city.<sup>13</sup>

<sup>11</sup> Ibid., 23.

<sup>12</sup> Gilbert H. Kneiss, *Redwood Railways* (Berkeley, CA: Howell-North, 1956).

<sup>13</sup> David L. Durham, *California’s Geographic Names: A Gazetteer of Historic and Modern Names of the State* (Fresno, CA: Quill Driver Books, 1998).

During the last decade of the nineteenth century, Sausalito attracted several hundred Portuguese immigrants from the Azores, most of whom settled in New Town. The Portuguese earned their livelihoods as fishermen and dairymen, forming the backbone of early Sausalito. Meanwhile, Old Town and the “Banana Belt” in the hills above Downtown became the favored haunt of wealthy San Franciscans seeking summer sunshine and freedom from the stresses of urban life. Gradually the area around Old Town was developed with hotels, casinos, and social clubs, while the hillsides were peppered with large weekend houses for the Hearsts, Spreckels, and other San Francisco millionaire families. This influx earned Sausalito the nickname “Monte Carlo of the West.”<sup>14</sup> Meanwhile, Downtown became a bastion of rail yard workers, fishermen, and other working-class people.

Conditions in late nineteenth-century Sausalito continued to define the community well into the early twentieth century. As the junction of the San Francisco Ferry and the North Pacific Coast Railroad (reorganized as the North Shore Railroad in 1902), Sausalito remained an important transit node for travelers journeying between San Francisco and points north. In 1903, the North Shore Railroad opened an electrified rail line to Mill Valley and San Anselmo, opening up interior sections of Marin County to weekenders and commuters. Initially growth in private automobile ownership did not lessen the importance of Sausalito, with new auto ferries springing up between San Francisco and downtown Sausalito. Hotels, saloons, and other attractions sprang up in Downtown to cater to weekend day trippers and others passing through the city.<sup>15</sup> However, the opening of Golden Gate Bridge in 1937 marked the beginning of the end of Sausalito’s days as an important transit node. Passenger rail service ended in February 1941 and regular ferry service ended not much later, although ferry service would temporarily resume during the Second World War to take workers to their jobs at Marinship.<sup>16</sup>

U.S. entry into the Second World War transformed Sausalito just as its importance as a transit center was slipping away. The opening of Marinship north of New Town doubled the city’s population as thousands of shipyard workers made their way to Sausalito to take high-paying jobs building Liberty ships and tankers. Sausalito would never be the same.

#### *B. Shipbuilding in the San Francisco Bay Area: 1854-1935*

Shipbuilding in the San Francisco Bay Area goes back almost as far as statehood in 1850. In 1854, the U.S. Navy established the Mare Island Naval Shipyard at Vallejo to build and retrofit vessels to serve the growing American naval presence in the Pacific. Mare Island was chosen specifically for its deep water access and its protected location on San Pablo Bay. The first vessel launched at Mare Island Naval Shipyard was the *USS Saginaw* – a four-gun, wood-hulled, steam-powered, side-paddle gunboat, launched on March 3, 1859. In the 1890s, Mare Island acquired a colossal stone dry dock, which proved crucial during the build-up for the Spanish American War and other American actions in the Pacific.<sup>17</sup>

Private shipyards were common in the San Francisco Bay Area during the last half of the nineteenth century. Between San Francisco, Oakland, Alameda, Sausalito, and Richmond, there were dozens of small and medium-sized wood boat building yards and several larger shipyards. In 1868, San Francisco-based financier William Ralston built a large graving dock at Hunters Point in San Francisco, establishing the nucleus of what would eventually become the Hunters Point Naval Shipyard. The largest and most important nineteenth-century shipyard in the Bay

<sup>14</sup> William Chapin et al, *Suburbs of San Francisco* (San Francisco: Chronicle Books, 1969), 130.

<sup>15</sup> Margaret Badger, Phil Frank, et al, *Sausalito* (Charleston, SC: Arcadia Publishing, 2005), 23.

<sup>16</sup> *Ibid.*, 48.

<sup>17</sup> Arnold S. Lott, Lt. Comdr., U.S.N., *A Long Line of Ships: Mare Island’s Century of Naval Activity in California* (Annapolis, MD: United States Naval Institute, 1954), 117-206.

Area was Union Iron Works. Established in 1849 as a blacksmith shop and foundry, Union Iron Works expanded into steel shipbuilding in the early 1880s, opening a state-of-the-art shipbuilding complex on San Francisco's Potrero Point in 1883. In 1885, Union Iron Works built its first steel ship, the 750-ton collier *Arago*. Between 1885 and 1902, the shipyard built approximately 75 vessels of various types including the battleship *Oregon*, cruisers *Charleston* and *Olympia* (1892), and the monitor *Monterey*. Although distant from the main center of steel production in America's Midwest, Union Iron Works benefited from preferential bidding arrangements with the U.S. Navy, as well as its proficiency in fabricating or procuring most of what it needed locally.<sup>18</sup>

In 1905, Charles Schwab (representing Bethlehem Steel) purchased Union Iron Works at auction. The shipyard eventually became known as Bethlehem Shipbuilding Corp., Ltd. Prior to America's entry into World War I, Congress authorized an emergency naval program that resulted in the construction of 396 naval warships and thousands of merchant ships. All of the shipyards in the Bay Area were busy; Bethlehem expanded its Union Iron Works plant and built a destroyer yard on the site of the old Risdon Iron Works plant next door. The yard built 66 destroyers during the war. Mare Island and Hunters Point were both busy as well. Moore & Scott in Oakland concentrated on freighters and tankers.<sup>19</sup>

Other important early shipyards in the San Francisco Bay Area included Moore & Scott Iron Works (later Moore Dry Dock) of Oakland. Established in San Francisco in 1905, Moore & Scott's facilities were destroyed in the 1906 Earthquake. In 1909, Moore & Scott purchased the Boole & Sons shipyard at the foot of Union Street in Oakland. In 1917, Moore bought out Scott and changed the name of the company to Moore Shipbuilding; it became Moore Dry Dock in 1922. Until the Second World War, Moore & Scott/Moore Shipbuilding concentrated on peacetime vessels, including tankers, freighters, ferries, and various types of barges.<sup>20</sup>

Steel-hulled shipbuilding declined in the United States during the 1920s as the merchant fleets absorbed the huge surplus of vessels left over from the First World War. Shipbuilding in the U.S. continued to decline during the Depression due to dwindling worldwide trade and international treaties limiting the size of naval fleets. Between 1922 and 1937, only two oceangoing dry cargo freighters, a few tankers, and around 20 passenger/cargo ships were built in U.S. shipyards. Meanwhile, between 1922 and 1936, Mare Island Naval Shipyard in Vallejo built only one submarine, two destroyers, two heavy cruisers and a garbage lighter. Mare Island was one of only a handful of active naval shipyards.<sup>21</sup>

#### *C. U.S. Maritime Commission and the Emergency Shipyard Program: 1936-1942*

Executed against a backdrop of Japanese expansion in Asia and German and Italian aggression in Europe and North Africa, in 1936, President Franklin D. Roosevelt signed the Merchant Marine Act into law. This act created the U.S. Maritime Commission, whose mandate was "to develop and maintain a merchant marine sufficient to carry a substantial portion of the water-borne export and import foreign commerce of the United States on the best-equipped, safest and most suitable type of vessels owned, operated and constructed by citizens of the United States, manned with a trained personnel and capable of serving as a naval and military auxiliary in time of war or national emergency."<sup>22</sup> Seeking to avoid getting caught off-guard as it

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<sup>18</sup> Wayne Bonnett, *Build Ships!* (Sausalito, CA: Windgate Press, 1999), 10.

<sup>19</sup> *Ibid.*, 12.

<sup>20</sup> "Moore Dry Dock, Oakland CA (formerly Moore & Scott Iron Works and Moore Shipbuilding), <http://shipbuildinghistory.com/history/shipyards/2large/inactive/moore.htm>

<sup>21</sup> Wayne Bonnett, *Build Ships!* (Sausalito, CA: Windgate Press, 1999), 18.

<sup>22</sup> *Ibid.*, 24.

had during the First World War, one of the commission's first acts was to authorize a long-range construction program, with plans to build 50 vessels a year over the next ten years.<sup>23</sup>

The Navy also entered a period of rapid expansion, building several new state-of-the-art ships in newly reactivated shipyards – both private and Navy yards. However, of the approximately 200 combat vessels on active duty on December 7, 1941, most were older, and more than likely of World War I vintage.<sup>24</sup>

During the Second World War, the U.S. Maritime Commission contracted ship construction at 33 shipyards across the United States. Although initially most of the new contracts went to existing Northeastern and Gulf Coast yards, the West Coast eventually had 12 yards working on Maritime Commission contracts, with nine of those in California – seven in the San Francisco Bay Area. In all, 5,777 ships were delivered to the Maritime Commission between 1939 and 1945, including 2,708 Liberty ships and 705 tankers. Of those, Marinship would contribute 15 of the former and 77 of the latter.<sup>25</sup>

### **Kaiser's Richmond Yard Nos. 1 and 2**

In early 1941, with war raging in Europe and Asia, President Roosevelt doubled the U.S. Maritime Commission's quota to 400 ships.<sup>26</sup> After suffering stunning losses to its merchant ship fleet at the hands of German U-boats, the British government commissioned 60 freighters to be constructed in American yards. Following years of decline, American shipyards could not at first respond to the increased demand. In a desperate bid to meet its goals, the Maritime Commission began encouraging the construction industry to construct and operate modern shipyards. One of the first to respond was construction magnate Henry J. Kaiser. A member of the influential Six Companies consortium – builders of Hoover, Grand Coulee, and Bonneville Dams – Henry J. Kaiser joined forces with Todd Shipyards in 1940 to found the Seattle-Tacoma Shipbuilding Corporation. The Maritime Commission promptly awarded the new company a commission to build five C-1 freighters. Around the same time, the Kaiser-Todd partnership won a contract to build 30 freighters for the British government. Unable to build all these ships in Seattle, Kaiser began looking for an ideal location for a new state-of-the-art yard elsewhere on the West Coast. He found it in the mudflats of Richmond, California – then a small industrial community located across the bay from San Francisco. Kaiser constructed Richmond Yard No. 1 and laid the keel for the first British freighter in April 1941.<sup>27</sup> Impressed with the speed with which Kaiser had built Richmond Yard No. 1, the Maritime Commission asked Kaiser to build a second yard at Richmond. Kaiser's Richmond Yard No. 2 was ready by September 1941 **(Figure 3)**.<sup>28</sup>

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<sup>23</sup> Ibid., 32.

<sup>24</sup> Ibid., 24.

<sup>25</sup> Frederick C. Lane, *Ships for Victory: A History of Shipbuilding under the U.S. Maritime Commission in World War II* (Baltimore: 1951), 142.

<sup>26</sup> Charles Wollenberg, *Marinship at War: Shipbuilding and Social Change in Wartime Sausalito* (Berkeley: Western Heritage Press, 1990), 19.

<sup>27</sup> Wayne Bonnett, *Build Ships!* (Sausalito, CA: Windgate Press, 1999), 32.

<sup>28</sup> Ibid., 128.



Figure 3. Kaiser Yards 1 & 2, Richmond  
Source: Richmond Public Library

### Liberty Ships

Unable to build freighters fast enough, the Maritime Commission decided to simplify the design of the C-class cargo ships then being built for Britain at Kaiser's Richmond yards. Based on the common 10,000-ton British tramp steamer, the Maritime Commission developed a new cargo ship with a capacity of 10,419 tons. Otherwise similar to its British prototype, the new C-class cargo ship had a top speed of only 10 to 11 knots because it used the simpler and easier-to-source reciprocating engine instead of the more complicated (and scarcer) modern turbine engine. The Maritime Commission named the new prototype the EC2 but the Public Relations Department began calling it the "Liberty Ship" (**Figure 4**). The name stuck. During the war, American shipyards produced 2,700 Liberty Ships, half the tonnage of the Commission's total wartime output.<sup>29</sup> The Liberty ship, famously nicknamed the "Ugly Duckling" by President Roosevelt, was one of the most important American weapons in the Allied fight against the Axis powers. Designed for carrying virtually any cargo, the Liberty Ship featured a simple layout for ease of construction, durability, and maximum cargo capacity – if not speed. Its hull was perfect for all-welded sub-assemblies and it was also slab-sided, with compound curves only at the bow and stern, reducing the number of complicated bends required to build it. The superstructure consisted of one main boxy deckhouse and standardized masts and booms. Over 2,700 Liberty Ships were built in the U.S. during the war, and around 450 were built in the San Francisco Bay Area.<sup>30</sup>

<sup>29</sup> Charles Wollenberg, *Marinship at War: Shipbuilding and Social Change in Wartime Sausalito* (Berkeley: Western Heritage Press, 1990), 19.

<sup>30</sup> Wayne Bonnett, *Build Ships!* (Sausalito, CA: Windgate Press, 1999), 46-7.

### U.S. Maritime Commission Selects the San Francisco Bay Area

The U.S. Maritime Commission knew that the San Francisco Bay Area was the best location for shipbuilding in the United States. First, it was comparatively safe. Because of its location on the Pacific Coast, it was safe from German U-boat attacks that plagued the East Coast. Additionally, the narrow Golden Gate could be protected from outside attack from Japanese naval forces. A second factor was the Bay's sheer size, with ample room for new yards with deep water access. These factors, combined with the region's skilled industrial workforce, made it an ideal location for shipbuilding.

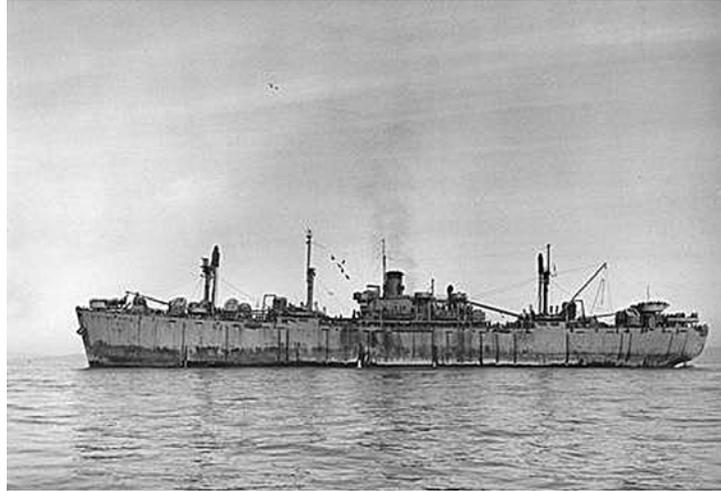


Figure 4. *SS Carlos Carrillo* – Liberty Ship  
Source: [http://wapedia.mobi/en/Liberty\\_ship](http://wapedia.mobi/en/Liberty_ship)

On the eve of Pearl Harbor, the Bay Area was already home to dozens of shipyards, including Bethlehem Shipbuilding Company's San Francisco and Alameda Yards, the Navy's Mare Island and Hunters Point Naval Shipyards, Moore Dry Dock in Oakland, Western Pipe & Steel Company's South San Francisco yard, and dozens of smaller yards along the Oakland-Alameda Estuary, San Francisco's India Basin, and as far inland as Stockton. Cumulatively, these yards employed a well-trained and experienced workforce of shipwrights, shipfitters, riggers, boilermakers, and affiliated tradesmen. Other western cities had shipyards, including Los Angeles/Long Beach, Portland, and Seattle/Tacoma, but none approached the scale of the San Francisco Bay Area's shipbuilding complex. Between 1939 and 1946, Bay Area shipyards launched some 1,400 vessels of various types, not counting the hundreds (if not thousands) of landing craft built by area yards.<sup>31</sup>

### Emergency Shipyard Program

By 1941, the Maritime Commission's shipbuilding program had yielded over one million tons of shipping capacity, nearly tripling its 1939 figure. Nonetheless, the combined output of American and British yards still did not equal the tonnage lost to German U-boats that year. This factor, combined with the American entry into the Second World War on December 7, 1941, forced the Maritime Commission to up its quota for 1942 from one to five million tons. To meet this goal even more yards would be necessary, resulting in the Maritime Commission's "Emergency Shipyard" program. The program got underway in spring of 1942 when the Commission announced the construction of six new yards, most of them in the San Francisco Bay Area.<sup>32</sup> On March 2, 1942, Admiral Land wired Kenneth Bechtel at the headquarters of the W. A. Bechtel Corporation in San Francisco to request that he establish a shipyard in the San Francisco Bay Region to build Liberty Ships.<sup>33</sup> The other three anticipated Bay Area yards included two new

<sup>31</sup> Ibid., 154.

<sup>32</sup> Charles Wollenberg, *Marinship at War: Shipbuilding and Social Change in Wartime Sausalito* (Berkeley: Western Heritage Press, 1990), 20.

<sup>33</sup> Ibid., 3.

facilities at Kaiser's ever-expanding Richmond complex (Kaiser Yards 3 and 4) and the Belair Shipyard in South San Francisco.

*D. W.A. Bechtel Corporation*

Founded in 1925 by Warren A. "Dad" Bechtel (**Figure 5**), W.A. Bechtel Corporation had, like Henry J. Kaiser Company, gotten its start building roads in California. Warren Bechtel was born on a farm near Freeport, Illinois on September 12, 1872. In 1897, he married, and he and his wife moved to Indian Territory (now Oklahoma), where Bechtel began working on railroad construction projects. Bechtel soon rose to gang foreman and he began moving around the West to work on construction projects for the Union Pacific, Southern Pacific, and other railroads. While working as a gravel pit superintendent in Lovelock, Nevada, Bechtel attracted the attention of a supervisor of the Oakland contracting firm of E.B. and A.L. Stone. Hired by the company, Bechtel moved to Oakland to supervise construction of the Santa Fe's Belt Railway in Richmond, California. In 1906, Bechtel and his friend George S. Colley started their own construction firm; their first job was building a section of railroad track between Pleasanton and Sunol for the Western Pacific Railroad.<sup>34</sup>



**Figure 5. W.A. Bechtel**  
Source: W.A. Bechtel Corporation

W.A. Bechtel Corporation entered the big time in 1931 after Bechtel and Henry J. Kaiser formed a consortium of construction companies to bid on the Bureau of Reclamation's proposed dam on the Colorado River. At the time there were no Western firms big enough to take on the project alone, but united as a team it would be possible to build it. The consortium consisted of eight companies, but at the suggestion of Felix Kahn of the San Francisco-based contracting firm of MacDonald & Kahn, the consortium whimsically called itself "Six Companies," a reference to the famous benevolent societies of San Francisco's Chinatown. The other participating companies included Utah Construction Company, the Pacific Bridge Company, Morrison-Knudsen Company, and J.F. Shea & Co. Six Companies won the contract to build Hoover Dam with the low bid of \$49 million. This project catapulted Kaiser, Bechtel, and the other members of the consortium into the top rank of American construction companies and they soon begin winning contracts to build some of America's largest public works projects, including the San Francisco-Oakland Bay Bridge in 1937.<sup>35</sup>

Dad Bechtel died unexpectedly on a trip to the Soviet Union in 1933. His son Steve Bechtel stepped into the primary leadership role, also sitting on the four-man executive committee of the Six Companies – chaired by Henry Kaiser. In 1937, Bechtel formed a sister company in Los Angeles called the Bechtel-McCone Company. Soon Bechtel-McCone moved into shipbuilding, building the California Ship Company (Calship) in Los Angeles in 1941.<sup>36</sup> At its peak, Calship employed 40,000 people and built 467 vessels during its four-and-a-half year run. For a brief

<sup>34</sup> Carroll W. Pursell, Jr., Ph.D., *Historical and Technological Significance of the San Francisco District, Corps of Engineers' Sausalito Base Yard Facility, Marin County, California* (Santa Barbara, CA: September 1981), 3.

<sup>35</sup> Charles Wollenberg, *Marinship at War: Shipbuilding and Social Change in Wartime Sausalito* (Berkeley: Western Heritage Press, 1990), 8.

<sup>36</sup> *Ibid.*, 9.

time during the war the combined operations of Calship and Marinship made Bechtel America's third-largest shipbuilder, after Kaiser and Bethlehem Steel.<sup>37</sup>

*E. From Tidal Marsh to Shipyard – Design and Construction of Marinship: 1942-1943*

On March 2, 1942, W.A. Bechtel Company received a telegram from Admiral Emory S. Land of the U.S. Maritime Commission, asking the company to build a new shipyard. Less than 24 hours later, Kenneth Bechtel – the youngest of the Bechtel brothers – selected a tract of level marshland belonging to the Northwestern Pacific Railroad (a subsidiary of the Southern Pacific) on Richardson's Bay in Sausalito. Bechtel chose this site because it was level, largely undeveloped, and had deep-water access close to the Golden Gate. Just as important, it had excellent rail and highway access thanks to the Northwestern Pacific Railroad and the Redwood Highway, both of which ran through the site. After signing an agreement with the Southern Pacific, Kenneth Bechtel and other company executives traveled to Washington, D.C. with a detailed proposal for a six-way yard. On March 10, 1942 – just ten days following Admiral Land's request – Bechtel signed a contract with the Maritime Commission to build and operate the \$9,300,000 shipyard and to construct 34 Liberty ships by the end of 1943.<sup>38</sup> In the agreement with the Maritime Commission, Bechtel agreed to modify the plans of the yard to allow it to be converted to tanker production at a later date, if it became necessary. This modification increased the projected cost of the shipyard to \$10,250,000.<sup>39</sup>

The proposed 210-acre site was not entirely vacant (**Figure 6**). Although most of it was submerged, or partially submerged, tideland property belonging to the Northwestern Pacific Railroad Company, the site also contained several other industrial operations and a small community of about 30 residential property owners living atop a tree-clad promontory called Pine Hill. Initially the plans did not include Pine Hill; this site was only incorporated into the yard after Bechtel officials decided that it was necessary to facilitate an uninterrupted flow of materials and subassemblies throughout the site. In March 1942, the United States government initiated condemnation proceedings against the local landowners, forcing the 30 or so residents of Pine Hill to leave. They were given two weeks to get out; however, many were able to move their houses to other sites in Sausalito.<sup>40</sup>

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<sup>37</sup> Ibid., 10.

<sup>38</sup> Richard Finnie, *Marinship: the History of a Wartime Shipyard* (San Francisco: Marinship, 1947), 1-4.

<sup>39</sup> Ibid.

<sup>40</sup> Charles Wollenberg, *Marinship at War: Shipbuilding and Social Change in Wartime Sausalito* (Berkeley: Western Heritage Press, 1990), 1.



Figure 6. Marinship site prior to construction, 1942  
Source: U.S. Army Corps of Engineers Bay Model Exhibit

### Plans Drawn Up

The drafting and engineering work on the proposed shipyard in Sausalito was handled in-house by W.A. Bechtel Corporation's Engineering Department. Quarters were made available for them in the Mills Building at 220 Montgomery Street in downtown San Francisco, where Bechtel's headquarters were located. Fifty persons were employed to do the design work, including several engineers and draftspersons brought up from the company's Los Angeles office. Many of these individuals had taken part in the design of Calship in Los Angeles the previous year and they had learned much about how to lay out an efficient and modern shipyard. The men and women worked seven day weeks, from eight in the morning until ten at night.<sup>41</sup> A rendering created by Bechtel's engineering and drafting staff shows the appearance of the planned shipyard, which with a few exceptions, was largely built as shown (**Figure 7**).

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<sup>41</sup> Richard Finnie, *Marinship: the History of a Wartime Shipyard* (San Francisco: Marinship, 1947), 14.



Figure 7. "Rendering of proposed cargo vessel shipyard in Sausalito"  
Source: W.A. Bechtel Corporation

Freely borrowing from the assembly line techniques long used in auto manufacturing, Marinship's engineers designed a "turning flow" yard deliberately designed to reduce inefficiencies and speed up production. By the early 1940s, shipyard design tended to fall into either the "straight-line" or "turning flow" category. In the straight-line mode, raw materials entered the site at a single point perpendicular to the shore and then proceeded toward the water as a straight "assembly line" through various sorting, burning (cutting), and preassembly stages until meeting the shipways at the water's edge. Here, the resulting subassemblies were assembled and the vessel launched. The straight-line approach required a lot of space. If a site did not have that much depth (like Marinship), the turning flow process was used. This mode worked the same as straight-line flow except that the assembly line operated parallel to the water until the subassembly process was completed. At this point the "flow" made a ninety-degree turn to reach the shipways. At the shipways the subassemblies were staged and assembled, the ship launched, and towed to the outfitting docks for completion.<sup>42</sup>

### Yard Layout

As designed by Bechtel's Engineering Department, Marinship was divided into four zones: administration, subassembly, assembly, and outfitting (**Figure 8**). According to the original plans, the administration zone was to be located in the north, near the primary rail and highway entrances to the yard. Here, raw materials, including thousands of steel plates for hulls, deckhouses, as well as pre-manufactured engines, shafts, propellers, rudders, and other machinery and equipment procured from other locations, would enter the 210-acre site. Once inside the incoming materials would be sorted, stacked, and stored prior to production.

Just south of the administration zone was to be the subassembly zone. Here, the raw steel plates would be burned (cut) in the Plate Shop (Building 20) before being sent southward to the Subassembly Shop (Building 25), where the various plates would be welded together into subassemblies. The Mold Loft/Yard Office (Building 30), where full-sized drawings and templates for each part were made, would be located just east of these two shops for easy communication and oversight.

Just south of the subassembly zone was to be the assembly area. Upon completion of the subassemblies (deck houses, stern and bow assemblies, bulkheads, etc.), they would be transported by truck or rail to the staging area to the west of the shipways. High-capacity, self-

<sup>42</sup> Wayne Bonnett, *Build Ships!* (Sausalito, CA: Windgate Press, 1999), 50.

propelled “whirley” cranes operating along tracks on the shipways would then transport the completed subassemblies to their designated hull. Here, workers would then weld them into place. Preassemblies meant that only about 100 individual pieces were put together on each shipway prior to launch. Limiting the amount of time in the shipways meant that more vessels could be launched in a shorter amount of time.

A ship was not complete after its launching; there were typically several more weeks of outfitting prior to testing and delivery. After launching, the vessel would be towed to the outfitting zone, which was located south of the assembly zone within the southern portion of the yard. Here, an entirely separate section of the shipyard would produce, sort, machine, and install all of the smaller parts of a ship, including electrical, plumbing, navigation instruments, weaponry, insulation, ventilation, joinery, flooring and decking, etc. Buildings serving the outfitting zone included the Outfitting Docks (Structure 14), the Outfitting Shops (Building 15), the Subcontractors’ Building (Building 26), the Main Warehouse (Building 29), the Machine Shop (Building 11), the Paint and Oils Warehouse (Building 17), the General Shops (Building 10), and the Blacksmiths’ Shop (Building 4). For the most part, these buildings were laid out directly opposite the Outfitting Docks, allowing for individual items to be easily transported to the docks for installation.

Marinship would also contain many buildings that were not directly involved with the production process, including administration offices, training and workforce development facilities, a clinic, cafeterias and canteens, and garages and warehouses. Marinship designers made sure that most of these peripheral functions were located away from the main production line so as to not take up valuable space or cause congestion within critical parts of the yard. The Administration Building (Building 3) would be located in the north, directly opposite the main highway entrance to the yard. Located on the opposite side of the Redwood Highway (now Bridgeway) was a separate complex of buildings (called the West Area) dedicated to training new hires (Buildings 27 and 28), salvage operations (Buildings 6 and 21), and the Cafeteria (Building 8). Various storage facilities, garages, and other non-production related facilities were also located at the far southern and northeastern corners of the yard. Just to the north of the ways, the engineers designed a ferry slip to transport workers to the yard from San Francisco. The only non-production-related functions built in the assembly area were emergency care and in-yard feeding. The clinic (Building 19) was to be built right near the ways to take care of any injured workers injured in this dangerous part of the yard. In addition, mobile canteens were placed throughout the production area to allow workers to buy sandwiches, coffee, and snacks within their allotted half-hour lunch break.

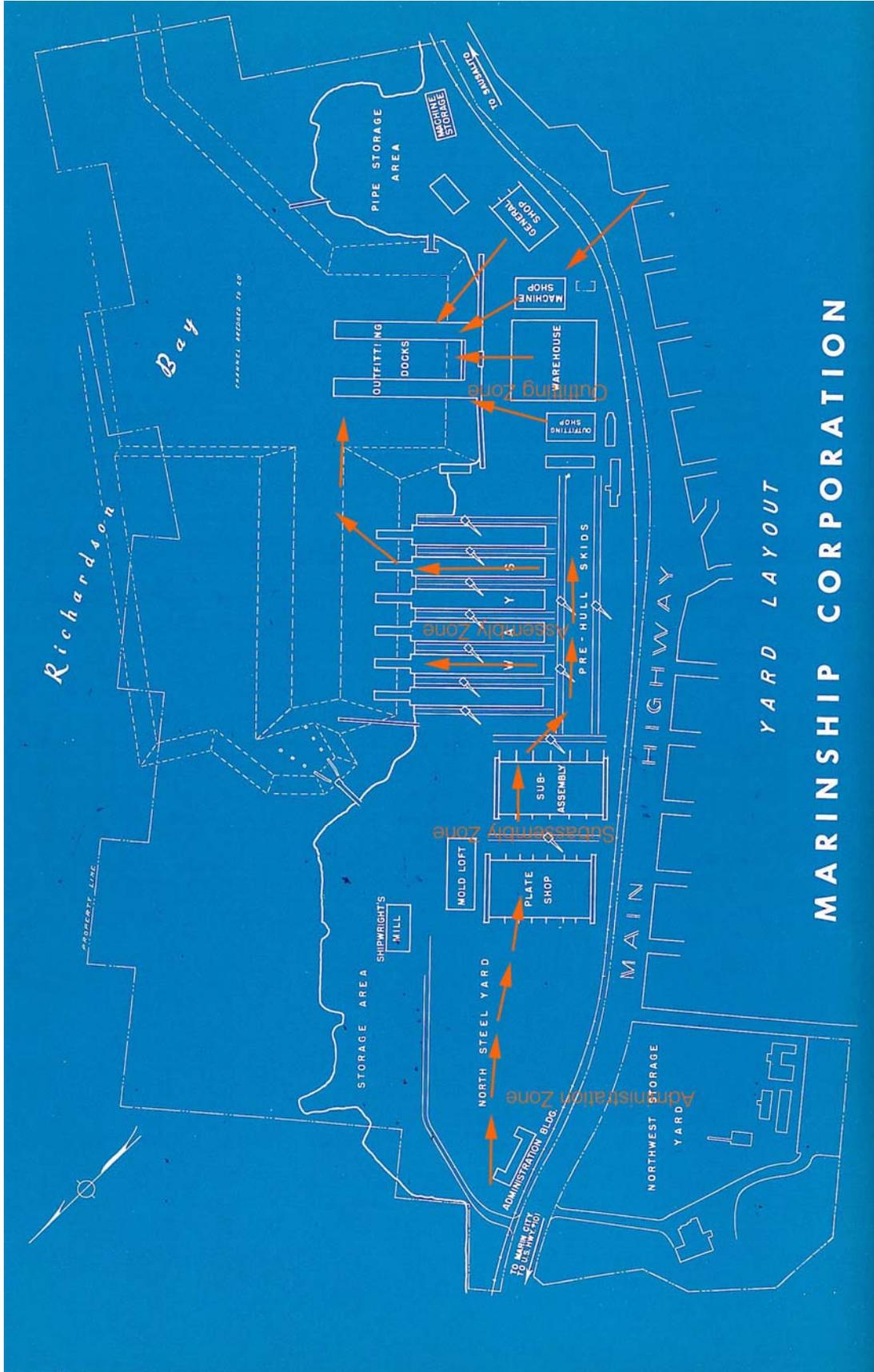


Figure 8. Site Plan of Marinship, with arrows depicting patterns of workflow and major functional zones  
Source: Richard Finnie, *Marinship: The History of a Maritime Shipyard*  
Annotated by KVP Architects

### Ground Broken

Bechtel broke ground for the new Sausalito yard on March 28, 1942 (**Figure 9**). Even before the engineers had completed their drawings, site work was underway. Soil tests revealed that bedrock was located closest to the surface at the central portion of the site, so it was decided to place the shipways in this area. All structures, including the ways, were built atop beds of pilings. This work was carried out by Raymond Concrete Pile Company, a member of the Six Companies.<sup>43</sup> They drove 25,000 pilings through the mud and fill until they hit bedrock to provide a firm foundation for the new structures. Parts of the yard that did not have pilings, particularly areas in the northern part of the site, continually settled and sometimes flooded.<sup>44</sup> In early April 1942, Pine Hill had been blasted away and the 838,763 cubic yards of resulting debris used to fill in the tidal marshes between the Redwood Highway (now Bridgeway) and the former railroad embankment. The abandoned railroad facilities had to be demolished and the line was rebuilt west of the site. Suction dredges were then used to deposit bay mud into the tidal marshes, creating dry ground. The silt itself was the byproduct of a deepwater channel dredged out to the Golden Gate. After the filling was done, plumbers installed a network of oxygen, compressed air, and acetylene lines throughout the site. Electricians then installed an 11,000-volt electrical cable to power the yard.<sup>45</sup>



Figure 9. Marinship site being graded and filled, spring 1942  
Source: Richard Finnie, *Marinship: The History of a Wartime Shipyard*

<sup>43</sup> Carroll W. Pursell, Jr., Ph.D., *Historical and Technological Significance of the San Francisco District, Corps of Engineers' Sausalito Base Yard Facility, Marin County, California* (Santa Barbara, CA: September 1981), 8.

<sup>44</sup> Richard Finnie, *Marinship: the History of a Wartime Shipyard* (San Francisco: Marinship, 1947), 15.

<sup>45</sup> *Ibid.*, 11-22.

### Buildings and Structures of Marinship

Even before the site was fully prepared, work began on the more than 30 buildings, six shipways, two outfitting docks, and thousands of feet of track for rail spurs and movable cranes. The first building constructed was the Administration Building (Building 3). Begun in April 1942, it was completed by June 17, 1942. The 122,000-square-foot Outfitting Warehouse (Building 29) was completed next on July 28. The 107,000-square-foot Mold Loft (Building 30) was completed next, on August 23, 1942. Also completed during this time were the six shipways, seven gantry cranes, 7,360 feet of crane ways, two outfitting docks (with a connecting dock and ramps), and a ferry slip for transporting workers to and from San Francisco.<sup>46</sup>

#### *F. Marinship – Shipbuilding, Labor, and Logistics: 1942-1945*

##### Management

Initially Marinship was administered as the “Marin Shipbuilding Division of the W.A. Bechtel Company.” It was a joint venture that also included Six Companies partners Bechtel-McCone, J.H. Pomeroy and Co., Raymond Concrete Pile, MacDonald & Kahn, and Morrison-Knudsen. The partners primarily participated in the construction of the yard, but all continued to share in its profits. In the fall of 1942, Marinship became a separate corporation, with W.A. Bechtel & Co. and Bechtel-McCone each owning one-third of the total 4,500 shares, and Kenneth Bechtel owning 500 more – meaning that the Bechtel Group owned three-quarters of the stock. The rest of the shares were apportioned among the partners. The Board of Directors included Kenneth Bechtel (President) and Steve Bechtel and John McCone (Vice-presidents). Other board members included yard managers B.M. Eubanks, William E. Waste, and Robert Digges. Representatives of the partner companies were represented as well.<sup>47</sup> Although Kenneth Bechtel was ultimately in charge of Bechtel’s new Sausalito shipyard, the day-to-day management was performed by General Manager William E. Waste, former manager of Calship. Other management figures at Marinship – many of whom had experience in other Bechtel and Six Companies ventures – included Construction Manager Ted Panton and Chief Engineer Bruce Vernon.<sup>48</sup>

##### First Batch of Liberty Ships Built

The yard, originally called the “W.A. Bechtel Co. Marin Shipbuilding Division,” was renamed Marinship, in keeping with the company’s other yard - Calship. Marinship was the first of the six post-Pearl Harbor emergency yards to approach completion, and consequently in the spring of 1942, Captain Vickery of the Maritime Commission asked Marinship to produce Liberty ships with “all possible speed.”<sup>49</sup> Before the yard was even 50 percent complete, the first keels were laid on June 27, 1942. To save time, the steel for the first six ships was prefabricated at Calship and then shipped north to Sausalito for assembly.<sup>50</sup> Marinship launched its first Liberty ship, the *William H. Richardson*, 51 days ahead of schedule and delivered it in just 126 days total – half the average time of other Bay Area yards (**Figure 10**). Although the Maritime Commission had requested only three Liberty Ships by the end of 1942, Marinship built five. Even though Marinship did receive some help from Calship, the yard’s production statistics were impressive, especially given that the yard was still under construction.<sup>51</sup>

<sup>46</sup> Richard Finnie, *Marinship: the History of a Wartime Shipyard* (San Francisco: Marinship, 1947), 18.

<sup>47</sup> *Ibid.*, 15.

<sup>48</sup> Charles Wollenberg, *Marinship at War: Shipbuilding and Social Change in Wartime Sausalito* (Berkeley: Western Heritage Press, 1990), 14.

<sup>49</sup> Richard Finnie, *Marinship: the History of a Wartime Shipyard* (San Francisco: Marinship, 1947), 193.

<sup>50</sup> Wayne Bonnett, *Build Ships!* (Sausalito, CA: Windgate Press, 1999), 35.

<sup>51</sup> Liberty Ships built at Marinship were all named after Californians prominent in the state’s history. Tankers were named for California missions and later, California oil fields. Charles Wollenberg, *Marinship at War: Shipbuilding and Social Change in Wartime Sausalito* (Berkeley: Western Heritage Press, 1990), 32.

### Conversion to T-2 Tanker Production

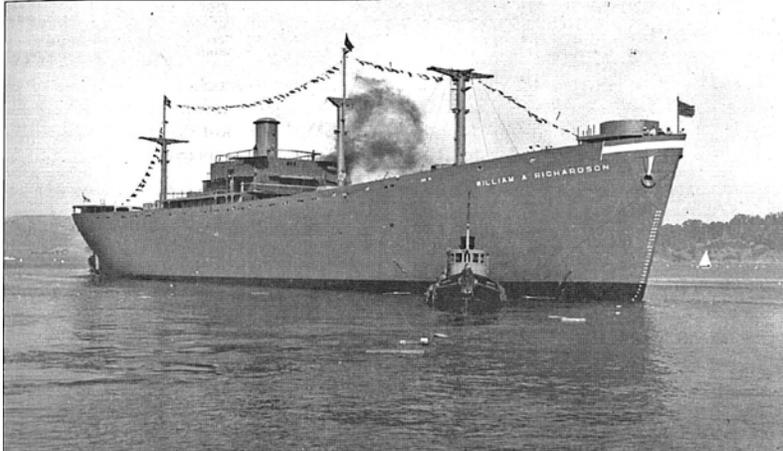


Figure 10. *William A Richardson* on Richardson's Bay just after launching on September 26, 1942

Source: Nicholas A. Veronico, *World War II Shipyards by the Bay*

After Marinship delivered 15 Liberty Ships, the U.S. Maritime Commission decided that the Kaiser yards could better handle this segment and asked Marinship to switch over to building T-2 tankers and the similar Navy oilers. Although Bechtel knew this change was probably coming, the conversion to tanker production presented a host of problems for Marinship. Unlike the Liberty Ships, which were simple to build because they made extensive use

of subassemblies, the T-2s were specialized vessels that required hundreds of individual subassemblies and thousands of extra welds, as well as 16 miles of internal piping.<sup>52</sup> Compounding the challenge was that some of the tankers had to be built to separate Navy specifications for use as oilers. In addition to having to retool the yard and extend the shipways, the resulting loss in efficiency inherent in building more than one type of vessel caused Marinship to fall behind schedule on T-2 production, completing only 11 in 1943 – half of the quota assigned by the Maritime Commission.<sup>53</sup>

### Production Delays

Exacerbating Marinship's production problems were management issues. Marinship management had been experimenting with a new low-inventory production system that did not allow for the accumulation of any significant inventory of materials or subassemblies. This innovative strategy – the predecessor to today's "just-in-time" inventory logistics – depended on a very efficient procurement department experienced with managing a far-flung supply chain. On-time delivery of necessary supplies, materials, and parts was essential if this method was going to work, but unfortunately Marinship management was not up to the task. Their failure resulted in additional production delays, idled labor, and increasing tensions between labor and management.<sup>54</sup>

By 1944, management had resolved the procurement and supply chain issues – a significant feat given that most of the yard's steel plating, machinery, and other supplies had to be shipped to Sausalito from factories and steel mills on the East Coast or the Midwest. In a bid to further accelerate the yard's efficiency, Management instituted several new policies, including switching production from seven to six days a week – allowing maintenance and repair work to occur on Sunday – so that these tasks would not impede production during the rest of the week.

<sup>52</sup> Charles Wollenberg, *Marinship at War: Shipbuilding and Social Change in Wartime Sausalito* (Berkeley: Western Heritage Press, 1990), 32.

<sup>53</sup> *Ibid.*, 36.

<sup>54</sup> *Ibid.*

Management also learned how to more efficiently deploy labor. The switchover to tankers significantly complicated the outfitting stage – the installation of ductwork, furniture, machinery, bunks, etcetera. As mentioned, the tankers were much more complicated vessels than the Liberty Ships and consequently Marinship decided to assign more staff to the Outfitting Department, removing a major bottleneck in the post-launch production process. In addition, management created so-called “flying squads” of welders who were especially skilled, moving them from way to way to finish important tasks.<sup>55</sup>

### Production

A typical vessel began its life on the drawing boards of the Engineering Department, which operated out of the Yard Office/Mold Loft (Building 30). Here, standard U.S. Maritime Commission plans were reworked for use at Marinship. Blueprints were generated and sent to the Mold Loft on the third floor of the same building. The blueprints were then scaled up to full-size and used to make patterns of hull sections and other parts. The patterns would then be taken to the nearby Plate and Structural Shop (Building 20) where “burners” (many of whom were women) would use the templates to cut out the sections. 600 workers labored in the Plate Shop, burning, shearing, rolling, pressing, drilling, or punching the parts in preparation for pre-assembly. In the Subassembly Shop (Building 25), 1,600 workers assembled up to 400 different subassemblies from plans provided to them by the Engineering Department. As mentioned

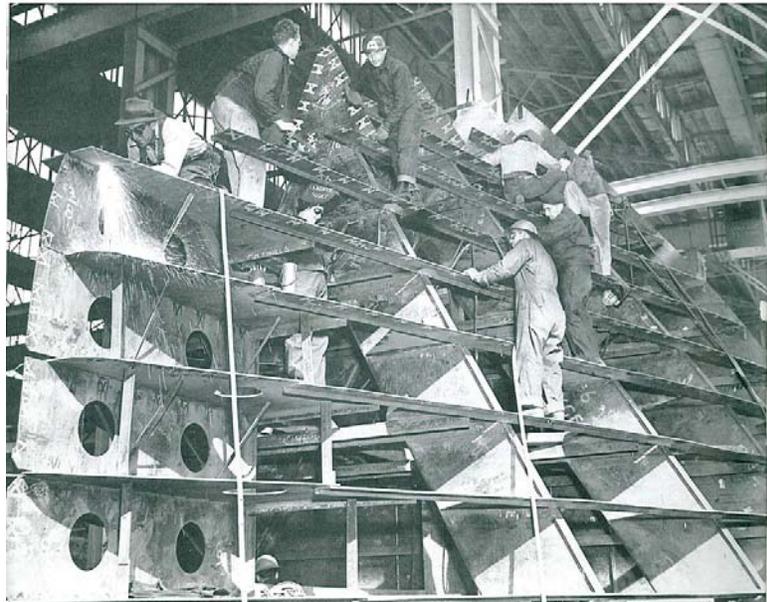


Figure 11. Workers welding together a forepeak assembly  
Source: Richard Finnie, *Marinship: The History of a Wartime Shipyard*

above, the use of subassemblies (which ranged from the four-ton bulkheads to 310-ton poop deck assemblies) drastically cut down on the time that each vessel would need to spend in the shipways.<sup>56</sup> The subassemblies were laid out in such a way to make welding easy for the relatively inexperienced labor force, in particular by placing curved sections upside down or laying out vertical sections horizontally to ensure that few overhead welds were needed (Figure 11).

<sup>55</sup> Ibid., 37.

<sup>56</sup> Carroll W. Pursell, Jr., Ph.D., *Historical and Technological Significance of the San Francisco District, Corps of Engineers' Sausalito Base Yard Facility, Marin County, California* (Santa Barbara, CA: September 1981), 11.

The actual ship assembly took place in the six shipways located at the center of the yard facing Richardson's Bay. The work was done by the "ten-day flying squads" mentioned above that would assemble up to 250 large sections totaling 5,000 tons. Each of the major subassemblies would be lifted into place by the large whirley cranes located between the ways. For heavier lifts, multiple cranes would be used. The cranes were operated by highly skilled riggers capable of engineering complicated lifts involving multiple cranes (**Figure 12**). The men and women who worked in each squad were responsible for welding together the subassemblies, resulting in the ship being 80 percent complete upon launch day. In addition to welding together the hull plates and subassemblies, the flying squads would install the 10,000-horsepower engines fabricated in the Machine Shop (Building 11) and assembled in the Boiler Erection Building (Building 5). On launching day, a special crew would grease the skids and set up the blocks so that precisely as the dignitaries broke the bottle of champagne across the bow, the crew would remove several blocks and the vessel would gently slide down the ways into Richardson's Bay.<sup>57</sup>



**Figure 12. Deckhouse lift involving four cranes**  
Source: Richard Finnie, *Marinship: The History of a Wartime Shipyard*

Although to the casual observer a vessel may have appeared complete at launching, there still remained several more weeks of outfitting, a painstaking process that took place in the southernmost part of Marinship, an area known as the outfitting zone. While the vessels were moored at the Outfitting Docks – built to the same height as the main deck of the vessels – several thousand workers would install virtually all of the vessel's equipment, furnishings, decking, plumbing fixtures, as well as finish carpentry work, and even aspirin in the sick bay (**Figure 13**). The Outfitting Docks were served by a number of warehouses and related buildings, including the General Shops (Building 10), Machine Shop (Building 11), Machinery Storage (Building 12), Outfitting Shops (Building 15), Paint and Oil Shop (Building 17), Subcontractors' Building (Building 26), and the General Warehouse (Building 29).

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<sup>57</sup> Ibid.



Figure 13. Multiple tankers and oilers at the Outfitting Docks, ca. 1944  
Source: Sausalito Community Development Department

### Labor

As Marinship's management and labor force gained experience, the yard's overall efficiency dramatically increased. The first Liberty ship built at Marinship – the *William A. Richardson* – took 126 days to build. Contrast this to the *Sun Yat Sen* – the last Liberty ship built at Marinship – which only took 63 days to build. Although efficiency was of utmost importance, Marinship depended on having a workforce that was large enough to provide enough skilled workers to complete the more difficult jobs, as well as a much larger pool of unskilled or semi-skilled workers who could do the more repetitive jobs – in particular welding and burning. Rural Marin County could not come close to supplying the vast number of workers needed, but Sausalito was located directly across the newly completed Golden Gate Bridge from San Francisco – a principal consideration in the decision to build the yard in this location.<sup>58</sup>

Skilled workers were at a premium. With most of the existing yards fully staffed with long-time shipwrights, fitters, riggers, welders, boilermakers, machinists, draftsmen, etcetera, Bechtel could only hope to lure highly skilled workers away from existing shipyards. In an effort to deal with the shortage of skilled workers, Marinship management attempted to reorganize the traditionally craft-oriented shipbuilding industry around mass-production – whereby unskilled workers would learn only one step of the assembly line process, repeating it over and over again on each subassembly or vessel. Welding and burning – the two most common operations in modern shipbuilding – were skills that could be taught to unskilled workers fairly easily. Although Marinship faced opposition from traditional craft unions, management was able to de-skill most of the steps of the shipbuilding process. According to Kenneth Bechtel, over 90 percent of Marinship's employees had never worked in a shipyard or in the crafts that they would pursue at the yard.<sup>59</sup>

<sup>58</sup> Frederick C. Lane, *Ships for Victory: A History of Shipbuilding under the U.S. Maritime Commission in World War II* (Baltimore: 1951), 249.

<sup>59</sup> Ibid.

## Recruitment

By 1944, Marinship faced a dire labor shortage. In this year more than ten million men and women were in the military, and Northern California alone was in need of nearly 70,000 workers. Marinship was so desperate that it began paying relocation costs for every worker it could convince to relocate to California.<sup>60</sup> Marinship turned its newsletter the *Marin-er* into a recruiting tool, exhorting people to consider taking a job at the yard, boldly stating that a job at Marinship “offers more than a mere job...it offers a new experience in living – creative work for war and peace in America’s most modern shipyard.”<sup>61</sup> The magazine played up the yard’s location in “beautiful California” and used photographs of the Golden Gate Bridge, the Marin Headlands, Muir Woods, and San Francisco as a draw to out-of-state workers. Marinship’s workforce, which numbered almost 22,000 at its highpoint, was recruited from all over the Bay Area, California, and eventually the entire United States and beyond, including large contingents from Texas, Louisiana, Arkansas, Oklahoma, Iowa, Minnesota, and Missouri. The workforce included large numbers of draft-exempted senior citizens, teens, women, and minorities. Many were Dustbowl refugees from the Southwest – the famous “Okies” of John Steinbeck’s *Grapes of Wrath* – as well as thousands of African-Americans seeking to escape the Jim Crow South.

The actual process of recruitment was done either by agents traveling across the country or at Marinship’s local recruitment offices. Initially the recruiting office was located at Bechtel’s offices in the Mills Building, at 220 Montgomery Street in San Francisco. Due to the crush of applicants, the office was moved to a former commercial garage located at 200 Caledonia Street in Sausalito. For security purposes the recruitment office was not located at the shipyard. Once recruited, the worker had to fill out a large amount of paperwork, a task that many employees remembered as being “worse than joining the Army.”<sup>62</sup> If an age-eligible man, a prospective hire had to apply for a six-month draft deferment. Because Marinship was an “essential industry,” these deferments were renewable every six months. Since workers were in such short supply, Marinship applied for thousands of deferments for its recruits. This practice was not without controversy; many apparently able-bodied male shipyard workers found themselves the objects of scorn of local residents for not serving in the military.<sup>63</sup>

## Training

Since upwards of 90 percent of Marinship’s labor force had never worked in a shipyard before, they had to be trained in shipyard crafts. As described by historian Charles Wollenberg, Marinship and other Maritime Commission yards became “gigantic experiments in industrial education.”<sup>64</sup> Based on national standards developed by the Maritime Commission, Marinship developed its own educational program. Paid for with federal funds, Marinship set up training programs in welding and other shipyard crafts at local vocational schools, high schools, and community colleges. Eventually, Marinship built its own training center in the West Area (Buildings 27 and 28). There, new hires were educated in their particular trade. Similar to other Emergency Shipyards, workers were trained in only one or two tasks – in keeping with mass production techniques. This sped up the training process and made the production process much more efficient. Welders were in biggest demand. New hires in this craft were initially designated “trainees” and paid a lower salary while they learned their craft from skilled instructors. Trainees typically spent three weeks in the classroom before going to work in the yard. Workers who displayed talent and ambition quickly advanced, with many becoming

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<sup>60</sup> Charles Wollenberg, *Marinship at War: Shipbuilding and Social Change in Wartime Sausalito* (Berkeley: Western Heritage Press, 1990), 42.

<sup>61</sup> “Marinship Needs You.” *Marin-er* (August 5, 1944).

<sup>62</sup> Richard Finnie, *Marinship: the History of a Wartime Shipyard* (San Francisco: Marinship, 1947), 53.

<sup>63</sup> Charles Wollenberg, *Marinship at War: Shipbuilding and Social Change in Wartime Sausalito* (Berkeley: Western Heritage Press, 1990), 42.

<sup>64</sup> *Ibid.*, 46.

“journeymen” welders in fewer than three months.<sup>65</sup> Finding qualified supervisors was more difficult. Initially many supervisory positions were held by managers from Calship in Los Angeles. As the war progressed, new management figures were recruited from lower ranks or hired from other shipyards.

### Women

Like other Bay Area Emergency shipyards, Marinship relied in large part on women. Traditionally excluded from heavy industrial trades like shipbuilding, by 1944, women comprised more than 20 percent of the total workforce. In the early days of Marinship, most of the women were

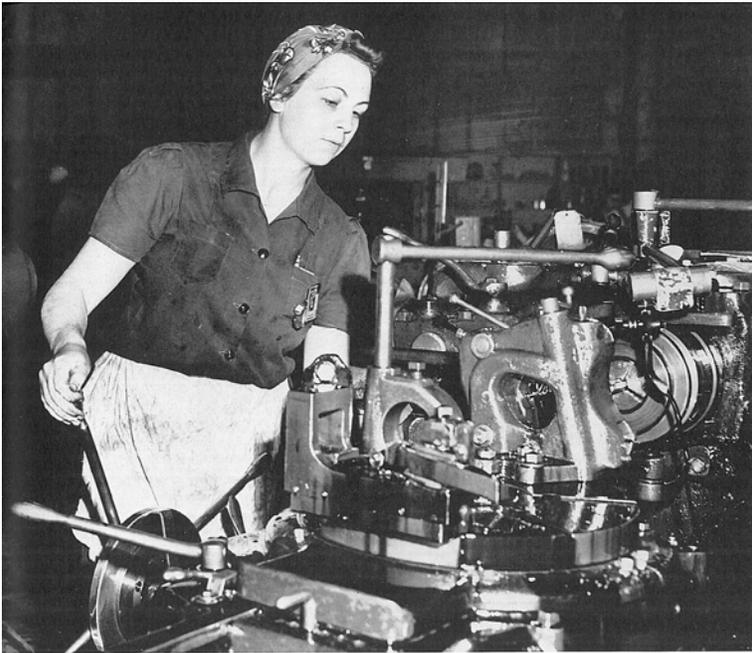


Figure 14. Female machinist  
Source: Richard Finnie, *Marinship: The History of a Wartime Shipyard*

concentrated within the bottom tier of the workforce, forming large percentages in the following job categories: general laborer, welder, and tank cleaner. As time went on many women distinguished themselves in shipyard work and some were promoted into more skilled trades such as machinist, electrician, and various types of engineers. Within the highly skilled trades, women did particularly well as machinists, comprising nearly 20 percent of the overall workforce employed in this trade (Figure 14). By 1943, 77 women had been promoted to the position of leaderman in their trades, while 1,000 were full-fledged journeymen. Although

women were frequently promoted, they encountered a glass ceiling at the upper supervisory ranks. Nevertheless, Marinship did distinguish itself as the only shipyard in the United States to promote a woman to the position of foreman.<sup>66</sup>

### Minorities

Other groups traditionally excluded from the traditional white male bastion of shipyard work included African Americans and Chinese. Before World War II, African Americans comprised a tiny percentage of the overall population of the Bay Area and an even smaller percentage of shipyard workers (0.6 percent). Their numbers exploded as the War Manpower Commission recruited African Americans from the South (in particular the Mississippi Delta), convincing thousands to travel west to take jobs in the shipyards of California, Oregon, and Washington. Due to its late start, Marinship had to recruit many of its workers from out of state, and by the summer of 1942, Marinship was recruiting hundreds of blacks from the South. African Americans began to arrive in the early part of 1943 and by the end of the war they comprised 10 percent of Marinship’s workforce. Initially African Americans were largely relegated to unskilled work, but like women, some were promoted to higher-level jobs (Figure 15).

<sup>65</sup> Ibid.

<sup>66</sup> Richard Finnie, *Marinship: the History of a Wartime Shipyard* (San Francisco: Marinship, 1947), 222-3; 225.



Figure 15. African American crew at Marinship, 1943  
Source: *Marin-er* (August 21, 1943)

African Americans relished the opportunity to escape the Jim Crow South and many believed in the concept of “Double Victory” – victory against Fascism and Nazism abroad, and victory against segregation and discrimination at home. There were tensions to be sure, especially having to do with black men working with white women, but by-and-large relations were as good as could be expected. The biggest problems centered on African Americans’ exclusion from full union membership, a pre-requisite of employment at Marinship. Journeyman welder Joseph James led the fight against union discrimination as the head of the Committee Against Segregation and Discrimination. This episode in

Marinship’s history is described in more depth below.

African Americans were not the only racial minorities employed at Marinship. There were also several hundred Chinese and Chinese-American workers employed at Marinship, mostly from San Francisco’s Chinatown. The *Marin-er* showcased Chinese and Chinese-American contributions to Marinship in a special edition of the newsletter published on June 26, 1943 (Figure 16). One article titled “Marinship Chinese Workers are Building Ships to Free Their Home Land,” by Constance Wong (a Marinship worker), described the motivations of Chinese-American workers in the yard to help not only their nation but also their ancestral homeland – then fighting for its life against the Japanese occupiers. The article touches on the historical discrimination experienced by many Chinese immigrants in the United States but concludes with a positive description of the contributions of the yard’s largely Americanized workforce, concluding with the following statement:

The paper picker-uppers who keep the yard neat, the cook who prepares wholesome food, the burner who cuts with precision and patience, the draftsman who draws with care and accuracy, the timekeeper who records working hours, the boilermaker helper who fills the buckets with essential shipfitters’ hardware, the girl who makes travel reservations – these Chinese at Marinship are each in his or her own way working out their answer to Japanese aggression: by producing ships which will mean their home land’s liberation.<sup>67</sup>

Other minority groups mentioned in company literature included a small group of Salvadorans, as well as Native Americans – mostly Cherokees who had come to California from Oklahoma during the Dust Bowl.

<sup>67</sup> Constance Wong, “Marinship Chinese Workers Are Building Ships to Free Their Home Land,” *Marin-er* (August 21, 1943).

## Unions



Figure 16. Front cover of the *Marin-er* (June 26, 1943)

Source: Sausalito Historical Society

first topple discriminatory union membership policies. In contrast to many left wing unions on the West Coast – in particular the International Longshoremen’s Association (ILA) – many national craft unions associated with the American Federation of Labor (AFL) had historically not allowed African-Americans from joining their locals. During the war some unions such as Boilermakers Local No. 6 initially granted waivers to black workers exempting them from having to join the union or to pay dues. This changed as the number of black workers increased at Marinship. By 1943, the union had begun forcing African-American workers to join an all-black auxiliary local. In addition to not having full voting rights, members of these auxiliaries had to pay the same dues as white workers as a condition of employment. Obviously this could not stand and in August 1943, several African-American workers at Marinship (led by a welder named Joseph James) formed the Committee Against Segregation and Discrimination. James, a talented singer who often performed at Marinship launchings, was also a member of the National Association for the Advancement of Colored People (NAACP) (Figure 17). At Marinship he was assigned to one of the famous “flying squads,” crack teams of expert welders assigned to the shipways.

At Marinship all workers were to be represented by a union and covered by collective bargaining agreements. Unions at Marinship included the Teamsters, Building Service Workers, Electrical Workers, Printing Specialists, Technical Engineers, and Machinists. Most general yard workers were represented by metal trades unions such as the Metal Trades Department of the AFL.<sup>68</sup> They were also covered by a Master Agreement hammered out between the unions and the Pacific Coast shipbuilders that had been brokered by the Roosevelt Administration. The Master Agreement governed wages (\$1.20 per hour for journeymen), bonuses for swing and graveyard work, and overtime for any work over 40 hours a week. In addition, the agreement maintained a closed shop and established Joint Labor-Management committees. In 1944, a dayshift journeyman earned around \$270 per month and a graveyard worker with overtime could earn \$365 per month.<sup>69</sup> These wages were quite good, especially for minorities, women, and poor whites who had traditionally been excluded from skilled industrial work.

In order to enjoy the full benefits of labor union membership, African American workers had to

<sup>68</sup> Charles Wollenberg, *Marinship at War: Shipbuilding and Social Change in Wartime Sausalito* (Berkeley: Western Heritage Press, 1990), 41.

<sup>69</sup> *Ibid.*, 56.

Standing firm against official discrimination, about half of Marinship's black workers under Boilermaker jurisdiction refused to join the auxiliary locals or to pay their dues. On November 24, 1943, Local 6 requested that Marinship fire those workers who refused to comply, citing the closed-shop agreement the union had with Marinship. Marinship complied but after management refused to allow the non-compliant



**Figure 17. Meeting of the Committee Against Segregation and Discrimination (Joseph James located front and center)  
*Marin-er* (August 21, 1943)**

Source: Sausalito Historical Society

workers to punch in for their shift, nearly 800 African American men and women showed up at Gate 3 to protest the union's discriminatory policies. They were soon joined by others who walked off the job. The *San Rafael Independent* described the demonstration as "Marin's greatest labor demonstration and most critical situation to arise since the San Francisco 'general strike' in the summer of 1934."<sup>70</sup> Joseph James and other members of the Committee addressed the crowd and met with Marinship officials. In the end the Committee decided to continue resisting the Boilermakers' discriminatory policies which as it turned out only applied to blacks and not Chinese Americans, Latinos, or Native-Americans, including Local 6 business agent Ed Rainbow (a Cherokee from Oklahoma).

The dispute dragged on for several months as the case was adjudicated by various state and federal courts and commissions. On December 14, 1943, President Roosevelt's Fair Employment Practices Commission (FEPC) condemned the Boilermakers' policy and ordered it to "eliminate all membership practices which discriminate against workers because of race or color." Furthermore, the Commission forbade Kaiser and Bechtel from enforcing the union's discriminatory policies. After several appeals, suspensions, and decisions, a decision was handed down by Judge Butler of the Marin Superior Court on February 17, 1944. Butler ruled in *James vs. Marinship* that the Boilermakers' policy of "discriminating against and segregating Negroes into auxiliaries is contrary to public policy of the state of California." In addition he barred the union from forcing blacks to join auxiliaries as a condition of employment and forbade Marinship from laying off workers who refused to pay auxiliary dues. Although Marinship and the union appealed this decision (which they eventually lost), in the meantime black workers could not be forced to join the auxiliary or pay dues. The victory for African Americans in this case was an important and little-known precursor to the Civil Rights movement of a decade-and-a-half later and an important historical event that took place at Marinship.<sup>71</sup>

<sup>70</sup> Charles Wollenberg, *Marinship at War: Shipbuilding and Social Change in Wartime Sausalito* (Berkeley: Western Heritage Press, 1990), 77.

<sup>71</sup> *Ibid.*, 80-1.



Figure 18. Actress Susan Hayward at Marinship  
*Marin-er* (August 21, 1943)  
 Source: Sausalito Historical Society

**Employee Morale**

Ensuring employee morale was a task not to be taken lightly, especially with such a large, mobile, and diverse labor force. The Employee Relations Department at Marinship was founded to build morale, and they apparently did so with talent shows, fishing derbies, sports tournaments, and art exhibits. Paintings by Marinship employees were widely admired and an exhibition of their work was even held at the San Francisco Museum of Art (the predecessor to SFMOMA).<sup>72</sup> The Employee Relations Department also invited famous entertainers and actors and actresses like Bing Crosby, Marian Anderson, and Susan Hayward (**Figure 18**) to tour Marinship and perform for workers. Local talent was also cultivated, with talented musicians

<sup>72</sup> Charles Wollenberg, *Marinship at War: Shipbuilding and Social Change in Wartime Sausalito* (Berkeley: Western Heritage Press, 1990), 48.

encouraged to form yard bands and singers such as Joseph James to sing the National Anthem at launchings.

One of the Employee Relations Department's most notable achievements was the publication of the monthly *Marin-er* magazine from June 1942 onward. The 9 x 12, three-color glossy was initially edited by Marin County journalist Fred Drexler. It contained photo essays, news, gossip, various columns, safety guidelines, events listings, and even recipes and household tips for two-earner households. According to Employee Relations Department chief R. W. Adams, the publication was intended to be a "medium of self-expression and guidance," with the secondary goal of making the employee "feel important in his job."<sup>73</sup> The most prominent section of each issue was a column by General Manager William E. Waste. Written in a humorous and jocular style, Waste's column – called "Straight from the Shoulder" – contained many nuggets of wisdom. The following is an excerpt from his column in the June 10, 1944 issue:

A General Manager is supposed to be a man who knows a great deal about very little and who goes along knowing more about less and less until he knows practically everything about nothing.

Furthermore, he is supposed to be a guy with a pair of shoulders as broad as a zoot suit coat, who has a crying towel pinned to his lapel. All day long he has to sit and "take it." Sort of walking species of the "Encyclopedia Pollyanna" who has all the answers on welding, bus schedules, pipefitting, the thickness (or thinness) of the Spam sandwich, the fit of a propeller, lousy supervision, labor relations, human relations, and poor relations.<sup>74</sup>

It did not take long for workers to join in, founding their own newsletter called *The Stinger*. Named for the tool used to light the welders, the muckraking publication edited by yard employee John Connolly criticized both workers (mostly for laziness) and management (mostly for ineptitude). *The Stinger* also contained yard gossip and other light-hearted fare. Tolerated by management initially, the Employee Relations Department eventually came to the conclusion that *The Stinger* was dangerous to yard morale. To their credit they didn't shut it down, but instead co-opted it, publishing it in its largely de-fanged version as a supplement to *The Marin-er*.<sup>75</sup>

### Housing and Transportation

The influx of thousands of mostly out-of-state workers quickly overwhelmed Sausalito and surrounding communities. Marinship was not the only shipyard or defense plant in the San Francisco Bay Area and even larger cities like San Francisco and Oakland experienced tremendous overcrowding in residential housing. Although many Marinship workers owned private automobiles, gasoline and rubber (for tires) were rationed making commuting via automobile uneconomical. Marinship was aware of this and worked to create an extensive public transportation network. In addition to establishing a ferry terminal in the yard connecting Marinship to San Francisco, Marinship signed an agreement with Greyhound Bus Lines to establish scheduled bus service between Marinship, San Francisco, and various communities throughout Marin County (**Figure 19**).

<sup>73</sup> Richard Finnie, *Marinship: the History of a Wartime Shipyard* (San Francisco: Marinship, 1947), 94.

<sup>74</sup> William E. Waste, "Straight from the Shoulder," *Marin-er* (June 10, 1944).

<sup>75</sup> Charles Wollenberg, *Marinship at War: Shipbuilding and Social Change in Wartime Sausalito* (Berkeley: Western Heritage Press, 1990), 48.

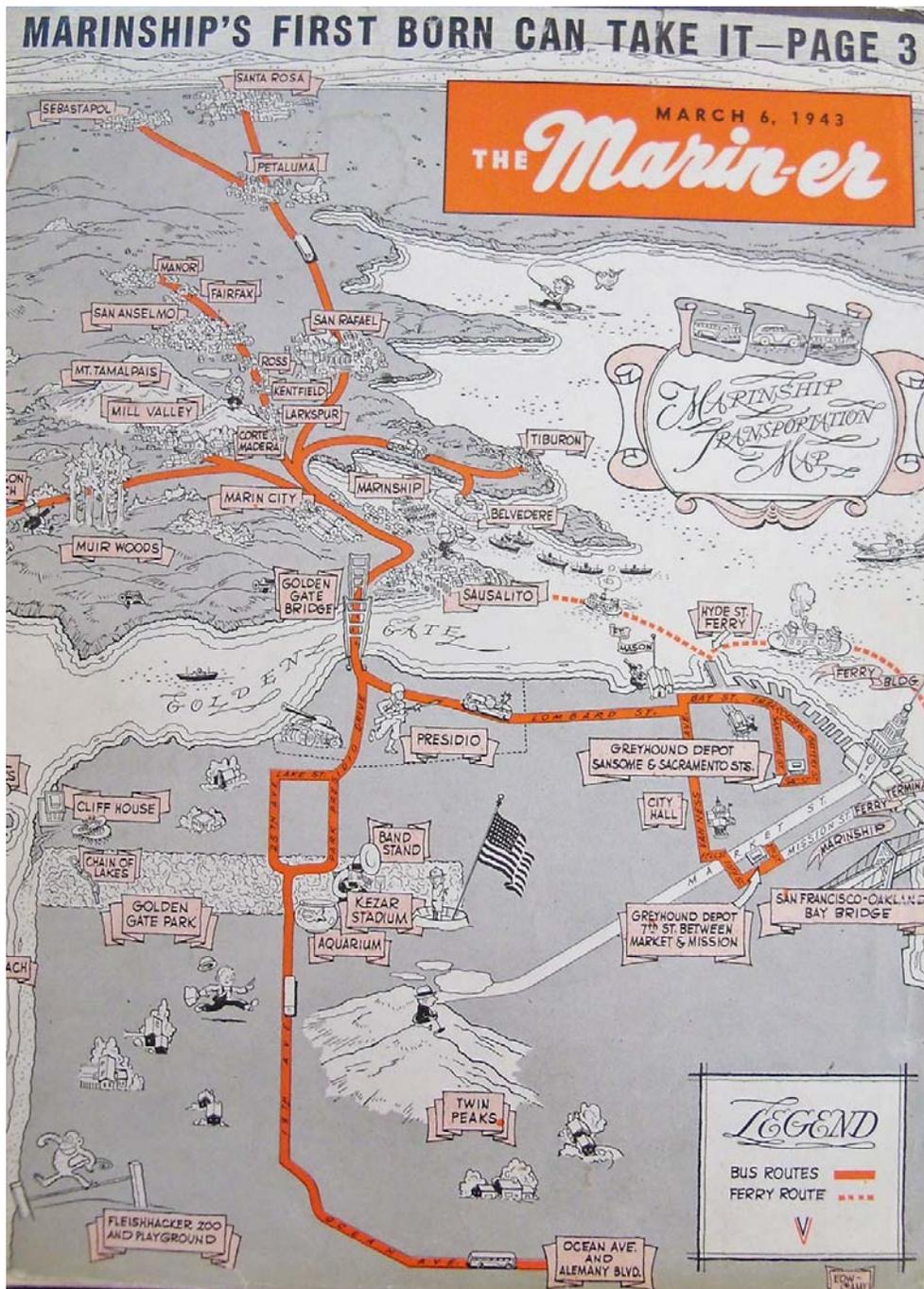


Figure 19. Marinship transportation map  
*Marin-er* (March 6, 1943)  
Source: Sausalito Historical Society

Despite the provision of public transportation, many Marinship workers wanted to live close to work, preferably in Sausalito. Most native Sausalitans did not welcome the newcomers. Alice Philips Rose, a social worker employed by the USO-Travelers Aid Service wrote about newcomers in Sausalito: "In the small town, the newcomer stands out in base relief against the background of established customs in the community. He is received not as a proud war worker, but as a competitor for rationed supplies."<sup>76</sup> Locals frequently referred to the newcomers as "Okies" or "Arkies," presumably because many were Dust Bowl refugees from the Southwest. Cultural differences were not the only stumbling block; Sausalito's population had doubled to 7,000 people by early 1943. In addition to overcrowded schools and streets lined with cars with license plates from Oklahoma, Texas, and Arkansas, Marinship workers lived everywhere - in rented houses, extra rooms in peoples' houses, trailers, tents, and sometimes converted chicken coops and other agricultural buildings. Many of the newcomers had rural habits and folkways that clashed with native lifestyles. Crime also grew, along with the proliferation of bars and honky-tonks.<sup>77</sup>

To ease the pressure on Sausalito and its surrounding communities, the National Housing Authority began planning a defense workers' housing project called Marin City in June 1942. The site was a rural valley located just north of Marinship in unincorporated Marin County. Marin City was to include 1,500 family units, 700 apartments, and 800 detached or semi-detached houses (**Figure 20**). There were also to be dormitories housing 1,000 single workers. Although Bechtel was to build the project, it was to be administered by the independent Marin Housing Authority. Construction got underway in the summer of 1942, with the first family moving in on August 18. The houses were built cheaply and were laid out to follow the contours of the scenic valley. Designed by local architect Carl Grommé, the project followed federal housing guidelines. Although initially intended to serve only for the duration of the war, the *San Francisco Chronicle* noted that the housing units were built "of redwood, to last."<sup>78</sup>

Marin City was a comprehensive community; in addition to several thousand housing units, the community included a post office, library, community hall, and schools; as well as a commercial district containing stores, beauty salons, shoe repair, drug stores, a grocery store, and other businesses. Marin City also had amenities, including a gymnasium, youth recreation facilities, and other government facilities unimaginable in today's anti-government and anti-tax climate. By the time Marin City was dedicated in September, nearly all the apartments were ready for occupancy. Rents ranged from \$29 a month for a one-bedroom apartment to \$43.50 for a detached six-room house. Dormitories cost \$5.50 a week. By the end of 1943, nearly 6,000 people lived in Marin City, making it Marin County's second-largest community.<sup>79</sup>

During the war, Marin City was a fully integrated community housing blacks, whites, Latinos, and Asians. After the war most of the whites moved out, able to rent or buy elsewhere. Meanwhile, the community's black population continued to grow as relatives continued to move there from the Deep South. Prevented from buying or renting elsewhere by racial covenants, Marin City soon became a nearly all-black enclave in the heart of affluent and mostly white postwar Marin County.

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<sup>76</sup> As quoted in Charles Wollenberg, *Marinship at War: Shipbuilding and Social Change in Wartime Sausalito* (Berkeley: Western Heritage Press, 1990), 85.

<sup>77</sup> Charles Wollenberg, *Marinship at War: Shipbuilding and Social Change in Wartime Sausalito* (Berkeley: Western Heritage Press, 1990), 84.

<sup>78</sup> *San Francisco Chronicle* (May 12, 1942).

<sup>79</sup> *Ibid.*, 52.

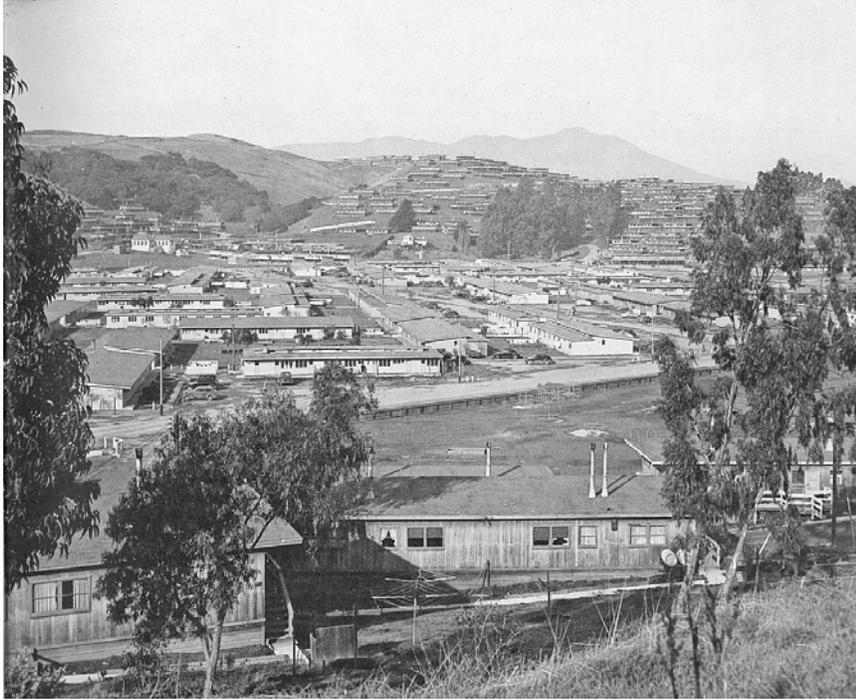


Figure 20. Marin City, ca. 1944

Source: Richard Finnie, *Marinship: The History of a Wartime Shipyard*

### The End

Good morale and improved management strategies paid off at Marinship. By the early part of 1944, Marinship was building a tanker every 10 days. A photograph taken ca. 1944 shows all six ways occupied by either a tanker or an oiler under construction (**Figure 21**). In April 1945, Marinship delivered the *Ellwood Hills* in a record-breaking 59 days. Two months later, it produced the *Huntington Hills* in just 33 days – 28 days on the ways and five days at the outfitting docks. By the spring of 1944, improvements in efficiency meant that Marinship was building T-2 tankers at a faster rate than other shipyards.<sup>80</sup> During the three-and-a-half years of its existence, Marinship built 93 vessels (not counting barges and launches), including 15 Liberty Ships and 78 T-2 tankers. The yard also repaired 23 vessels.<sup>81</sup> As the war wound down in Europe and as invasion of the Japanese homeland appeared likely, the U.S. Maritime Commission requested Marinship to build a special “mini-shipyard” to construct dozens of 104’ invasion barges for transporting vehicles and other equipment required in a land invasion of Japan.<sup>82</sup> The obliteration of Hiroshima and Nagasaki in August 1945 by nuclear attack put an end to Japanese resistance and on September 2, 1945, the Japanese government surrendered to the United States on board the *U.S.S. Missouri* in Tokyo harbor.

<sup>80</sup> Ibid., 37.

<sup>81</sup> Charles Wollenberg, *Marinship at War: Shipbuilding and Social Change in Wartime Sausalito* (Berkeley: Western Heritage Press, 1990), 5.

<sup>82</sup> Wayne Bonnett, *Build Ships!* (Sausalito, CA: Windgate Press, 1999), 148.

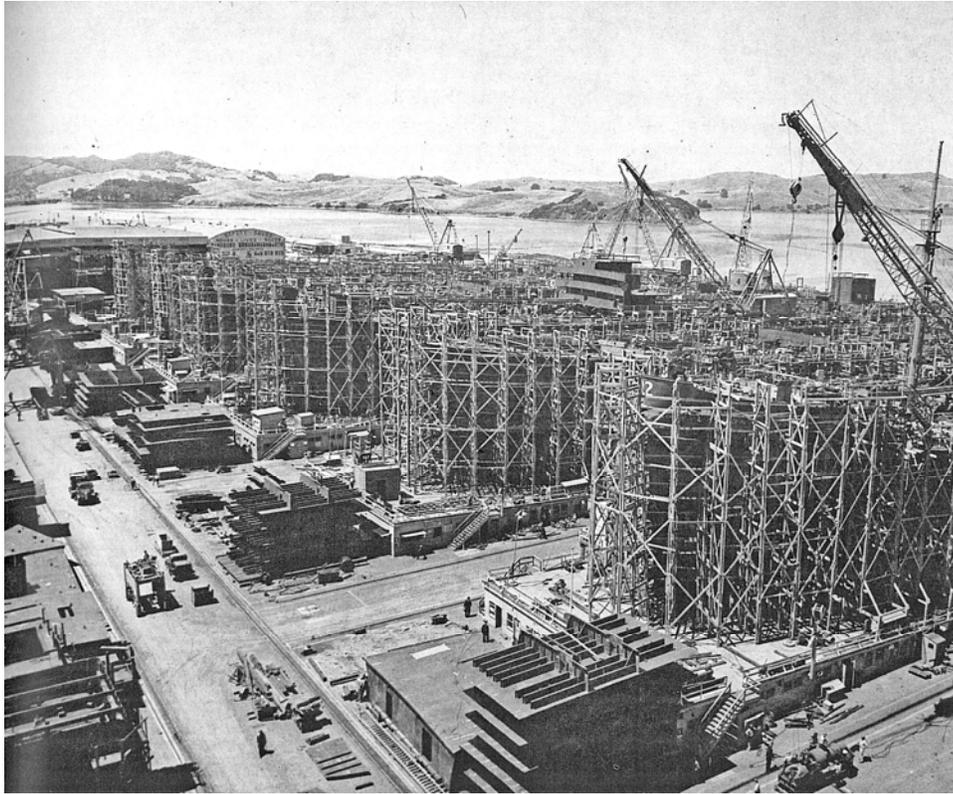


Figure 21. Tankers on the ways, ca. 1944

Source: Richard Finnie, *Marinship: The History of a Wartime Shipyard*

#### *G. Marinship Closes and Converts to Peacetime Use: 1945-1950*

Up until the end of the war Marinship built tankers and other vessels as quickly as it could. Marinship launched its last tanker, the *Mission San Francisco*, on September 8, 1945. Initially contracted by the Maritime Commission to build a total of 100 ships, Marinship built 93 – the final seven were cancelled following the Japanese surrender. Only one Marinship vessel – the Liberty Ship *Sebastian Cermeno* – was lost to enemy action.<sup>83</sup> Although many had hoped that the yard would remain open after the war – and management frequently hinted that it would – Marinship was unceremoniously closed in 1946. Indeed, by November 1945 there were only 600 employees left on caretaker duty as the yard was gradually shut down.

#### **Bechtel Decides to Close Marinship**

Although the U.S. Maritime Commission had offered to convey the yard to W.A. Bechtel Corporation, the Bechtel Brothers did not see a future in peacetime shipbuilding and they refused the offer. Nevertheless, for three years the shipyard had been very profitable to Bechtel and its business partners. Because the U.S. Maritime Commission owned the yards, paid all capital costs, and purchased all major machinery and supplies, Bechtel had risked almost nothing. During postwar congressional hearings it was estimated that Marinship had earned a total pre-tax profit of \$11,871,394 on Commission contracts of \$280,941,573. In three-and-a-half years, Bechtel and its partners earned more than a 2,000 percent return on their original investment of \$500,000.<sup>84</sup>

<sup>83</sup> Ibid., 35.

<sup>84</sup> Charles Wollenberg, *Marinship at War: Shipbuilding and Social Change in Wartime Sausalito* (Berkeley: Western Heritage Press, 1990), 36.

### Bay Area Emergency Yards Closed

Although Marinship had some residual work retrofitting wartime vessels for peacetime uses during the last quarter of 1945 and the first quarter of 1946, there was no longer any demand for new merchant vessels due to the availability of surplus vessels decommissioned from active wartime use. All of the other Bay Area Emergency Shipyards, including Kaiser's Yards 1-4 and the Belair Shipyard, also closed. In the Bay Area and elsewhere shipbuilding and repair reverted to established pre-war yards such as Bethlehem Shipbuilding's San Francisco Yard or the Navy's Mare Island and Hunters Point Naval Shipyards.

The closing of Marinship and other shipyards had many immediate and long-term effects. Given the tremendous opportunity to obtain good, well-paying jobs, many long-excluded social groups, especially women and minorities, found themselves unemployed. As if losing their jobs was not bad enough, former shipyard workers had to compete with returning veterans for jobs after the war. Most women returned to the traditional domestic environment while many minorities (especially African Americans) found themselves either unemployed or relegated to low-level service jobs. Former shipyard communities like Marin City began to deteriorate as white flight, disinvestment, and the social impacts of widespread unemployment took hold.

### Marinship Conveyed to U.S. Army Corps of Engineers

After Marinship was decommissioned in 1946, the U.S. Maritime Commission conveyed it to the War Assets Administration, which provisionally transferred the shipyard to the U.S. Army Corps of Engineers on May 16, 1946. The formal transfer of ownership did not occur until 1949, when the General Services Administration conveyed 67.56 acres of the former yard to the Army Corps.<sup>85</sup> The Army Corps had long needed a base on San Francisco Bay where it could store its equipment and water craft and stage its construction and conservation projects across the entire Southwest Pacific Division region, which at that time also included the Pacific Island territories. Indeed, one of the Army Corps' first projects undertaken at its Marinship property was its Pacific Island Reconstruction Program. A year later, former Marinship General Manager, William Waste (sounding a little wistful) wrote: "There's nothing left of Marinship but some rusty steel, empty ways and docks, and dark, damp buildings." With some sadness he predicted that "some day it will probably be torn down and the site used for something else."<sup>86</sup>

The U.S. Army Corps did not need the entire acreage conveyed to it. In 1949, the Army Corps subdivided the yard and sold off large chunks to local industries looking to expand their operations. The Army Corps retained 11.4 acres at the core of the yard, within the former outfitting zone. They retained one of the Outfitting Docks, the Outfitting Shops (Building 15), the Outfitting Warehouse (Building 29), and the Machine Shop (Building 11).<sup>87</sup> The 1950 Sanborn maps indicate that outside the Army Corps' holdings, the rest of the yard belonged to various building contractors, manufacturers, and small boat yards (**See Appendix A**). The 1950 Sanborn maps also indicate that several of the Marinship buildings had already been demolished, including the massive Plate and Structural Shop (Building 20), the Subassembly Shop (Building 25), the Plant Protection Building (Building 19), the Boiler Erection Building (Building 5), as well as several other smaller buildings and structures. In addition, several dozen new buildings had been constructed, including several corrugated steel structures along Marinship Way (now Marinship Storage) that originally housed an iron works.

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<sup>85</sup> Richard Finnie, *Marinship: the History of a Wartime Shipyard* (San Francisco: Marinship, 1947), 371.

<sup>86</sup> *Ibid.*

<sup>87</sup> Telephone conversation with Chris Gallagher, Manager of the San Francisco Bay Model, U.S. Army Corps of Engineers, March 14, 2011).

The Army Corps made some changes to its property including demolishing and rebuilding the Outfitting Docks out of concrete and converting their three buildings to new uses. The agency eventually assigned the Outfitting Shops (Building 15) to the Navigation Department, which was responsible for dredging and removing hazards in San Francisco Bay. In 1949, the Army Corps raised the building by several feet in order to gain more headroom. Meanwhile, the former Outfitting Warehouse (Building 29) continued to be used as a general-purpose warehouse. Ca. 1949 the Army Corps converted the former Machine Shop (Building 11) into a laboratory for testing clay, soil, and concrete materials commonly used in dam and levee construction. The Corps constructed kilns throughout the Machine Shop where materials would be subjected to different conditions to assess their efficacy in various environments. Other testing methods were used, including compaction. Laboratory spaces were set up in the former office wing to conduct chemical analyses of various soil and concrete types.<sup>88</sup>

#### *H. Postscript: Concise History of Marinship Site: 1951-2011*

A complete history of the former Marinship site since the closure of the shipyard is beyond the scope of this report. The surviving buildings and structures are mainly significant for their association with World War II and events that occurred between 1942 and 1946, which is the period of significance. Nonetheless, it is important to understand in general terms what has happened to the property since the end of the war and the subdivision of the yard and the sale of its structures to various other industries and property owners. The following sections describe the general postwar history of each of the major parts of the former Marinship yard: the outfitting zone, the assembly zone, the pre-assembly zone, the administration zone, and the west area.

#### **Outfitting Zone -U.S. Army Corps**

The sections of the yard that are the best-documented are those that were retained by the U.S. Army Corps of Engineers. As mentioned above, after acquiring 11.4 acres in the former outfitting zone, the Army Corps converted four former Marinship buildings into warehouses and offices. In 1956, the Army Corps began building a three-dimensional model of San Francisco Bay in the former General Warehouse (Building 29). The model was built in response to a proposal to dam San Francisco and San Pablo Bays to create two huge freshwater reservoirs. The Army Corps wanted to test the viability of the project before granting a permit and the only way to do this before computer modeling was to create a three-dimensional hydraulic model. The Bay Model revealed that the proposed reservoirs would not work due to the shallowness of both bays. Its usefulness proven, the Bay Model was put to use testing the real-world effects of dredging and filling projects, as well as cleaning up oil spills, in various parts of the bay. Between 1966 and 1969, the Army Corps expanded the Bay Model to include Suisun Bay and the Sacramento/San Joaquin Delta.<sup>89</sup>

With growing general interest in the Bay Model, the Army Corps opened it to the public and in 1980 the Army Corps built a visitor center in Building 29. As part of this work an additional structural bay was added to the east side of the building to accommodate a museum, bookstore, and offices. In addition, a new toilet room structure, amphitheater, and landscaping were constructed east of the building. As part of the project, the exteriors of Buildings 15 and 29 were reclad in stucco to give them a uniform appearance.

Because it did not have a public function, the former Machine Shop (Building 11) was left largely unchanged by the Army Corps of Engineers. At some point after the Second World War the

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<sup>88</sup> Telephone conversation with Chris Gallagher, Manager of the San Francisco Bay Model, U.S. Army Corps of Engineers, March 14, 2011).

<sup>89</sup> Ibid.

exterior walls were clad in asbestos shingles and the vehicular entrances along the west side were paneled over in plywood. Building 11 continued in use as a materials testing laboratory until 1996. During the early 1990s, the Army Corps installed steel moment frames within the interior of the building, probably in response to the 1989 Loma Prieta Earthquake. In 1996, the Army Corps declared the Machine Shop surplus property. GSA handled the sale, which was not finalized until 2006 when the Veterans' Administration took over the property.

Ca. 1949 the U.S. Army Corps built a steel "Butler Building" to the east of Building 11. It was presumably used for storage.

#### **Outfitting Zone - Schoonmaker Point**

The area to the south of the Army Corps is now known as Schoonmaker Point. This part of Marinship, which was also part of the outfitting zone, was purchased ca. 1949 by the A.G. Schoonmaker Company, a maritime company that repaired and stored boats and retrofitted surplus military equipment for civilian use. Around 1965, the A.G. Schoonmaker Company filled in much of the tidelands to the east of their holdings and built Schoonmaker Marina, which continues to exist today. Most of the inland buildings once owned by Schoonmaker, including the General Shops (Building 10), the Machinery Storage Building (Building 12), and the Maintenance Garage (Building 13) were gradually sold off. All remained in maritime and light industrial use until the late 1990s and early 2000s when Buildings 10 and 12 were converted to office use. Building 13 remains partly in maritime use.

#### **Assembly Zone - Sausalito Shipyard**

During World War II, the assembly zone was largely confined to the shipways, shipways offices, and the materials skids. According to the 1950 Sanborn maps, the former shipways had been abandoned, as well as the office buildings. The western portion of the site, where the materials skids were located, had been developed with an iron works complex comprising three wood-frame, corrugated steel industrial buildings (which still exist). Maritime uses were also present, including the present Spaulding Boat Works, which first appears on the 1950 Sanborn maps. At some point in the 1950s the rest of the former shipways were incrementally occupied and reconverted to maritime uses. In the process the shipways and office buildings were modified and many new structures (some of which appear to be made of salvaged materials) were built throughout the area. Today the facility is under common ownership and called Sausalito Shipyard.

#### **Subassembly Zone**

According to the 1950 Sanborn maps, the former subassembly zone no longer existed. The former Plate and Structural Shop (Building 20) and the Subassembly Shop (Building 25) had been demolished and their sites replaced by a contractor's storage yard and the Norman Johnson Lumber Yard, respectively. During the 1960s and 1970s this area was redeveloped with strip-style commercial buildings along Bridgeway, a commercial office park along Gate 3 Road, and tilt-slab industrial buildings along Coloma and Gate 5 Roads.

#### **Administration Zone**

The former Marinship administration zone was also largely redeveloped after World War II. The 1950 Sanborn maps indicate that the Administration Building (Building 3) and the Mold Loft (Building 30) remained, but most of the other buildings in this area had been demolished and replaced with smaller one and two-story, wood-frame, corrugated steel industrial buildings. Two of the former Marinship buildings in this area were repurposed for light industry – the Cable Shop (Building 7) and the Paint Shop (Building 18). Over the last 50 years, this area has experienced rapid build up with commercial and industrial buildings, as well as several restaurants and entertainment uses serving the marina located on Richardson's Bay.

## West Area

During the Second World War the “West Area” housed the main Cafeteria (Building 8), the Reclamation and Salvage buildings (Buildings 6 and 21), and the Training Administration and Training Shops (Buildings 27 and 28). In 1955, the site had been converted into a public school called Richardson’s School. As part of this conversion, buildings 8 and 27 were retained and incorporated into the school campus. This school, which served students in nearby Marin City, was later renamed Dr. Martin Luther King, Jr. School. It was later converted into a combined arts center, with part of the campus in use by the Marin School.

## V. Definition of Property Types

### *A. Identification of Property Types Associated with Historic Contexts*

The following section identifies and briefly describes each of the 30 numbered buildings and structures originally built at Marinship between 1942 and 1943. The buildings are listed in order by building number. The description, including dimensions, square-footage, and equipment, refers to the original building and does not reflect post-1946 alterations. Buildings and structures that are no longer extant are identified. For buildings that remain we have included a historic image. Contemporary photographs are included in the attached DPR 523 forms.

### ***Building 1 – Acetylene Plant 1***

Building 1 – Acetylene Plant 1 – which is no longer extant, was originally located west of the Mold Loft Building (Building 30) and the Plate and Structural Shop (Building 20). This was a small, 1,560 square-foot, steel-frame, gable-roofed building clad in galvanized sheet iron. The building was begun on August 13 and completed October 6, 1942. Designed as one of the few fire-proof buildings in the shipyard not made of wood, the Acetylene Plant housed highly flammable acetylene – used for oxyacetylene welding and burning (cutting) – in storage tanks.

After Marinship was transferred to the U.S. Army Corps of Engineers in 1946, the Corps sold off portions of the site that it did not need. The building was demolished to make way for the extension of Coloma Street into the Marinship site after World War II.

### ***Building 2 – Acetylene Plant 2***

Building 2 – Acetylene Plant 2 – which is no longer extant, was originally located at the far southern end of the Marinship property. It was located on an inlet of Richardson’s Bay, just south and east of the Machinery Storage Building (Building 12). According to original building plans, Acetylene Plant 2 was identical to its counterpart in the northern part of the yard (Building 1). Both were steel-frame, galvanized iron-clad structures that housed acetylene tanks.

After Marinship was transferred to the U.S. Army Corps of Engineers in 1946, the Corps sold off portions of the site that it not need. The building was demolished by A.G. Schoonmaker Co. after it acquired the property ca. 1950.

### ***Building 3 – Administration Building***

Building 3 – the Administration Building – is still extant; it is located at 3030 Bridgeway, at the corner of Gate 5 Road. Begun on May 4 and completed on May 31, 1942, the 26,488 square-foot, two-story, wood-frame, redwood-sided building, designed in the Late Moderne style, was the administrative hub of Marinship (**Figure 22**). Located near the main north gate, all visitors would report to this building. The building housed the administrative staff, Yard Manager William Waste, Administrative Director Robert Digges, and the following departments: Purchasing, Subcontracting, Accounting, Publications, Recruiting, Labor relations, Housing and Transportation, Personnel, Public Relations, Plant Protection, Yard Feeding, Launching Protocol, Payroll, and other departments.

After Marinship was transferred to the U.S. Army Corps of Engineers in 1946, the Corps sold off portions of the site that it did not need. The Administration Building was converted into a furniture store. After passing between a series of owners, in 1980, architect Donald Olsen remodeled the building into a commercial office building, adding two rear wings in the process. The exterior of the building was remodeled again in 2003. It is still an office building.



Figure 22. Building 3 – Administration Building, ca. 1945  
Source: Richard Grambow, *Marinship at the Close of the Yard* (1946)

#### ***Building 4 – Blacksmiths' Shop***

Building 4 – the Blacksmiths' Shop – is no longer extant; it was located adjacent to the General Shops (Building 10). The 6,000-square foot, one-story, steel-frame, corrugated transite-sided building, designed in a utilitarian mode, appears to have been an addition to the General Shops. Due to the risk of fire associated with blacksmithing, the building was constructed of fire-resistant materials. It had a sawtooth roof to allow lots of natural light into the interior. According to original plans, the building featured a large shop containing forges and anvils, four offices, women's and men's toilets and locker rooms, a boiler room, and a tool room.

After Marinship was transferred to the U.S. Army Corps of Engineers in 1946, the Corps sold off portions of the site that it did not need. After the shipyard closed, the Blacksmith's Shop became part of the A.G. Schoonmaker Co. facility and was used for boat storage. It was demolished in 1994-95 and replaced by a new addition added onto the General Shops.

#### ***Building 5 – Boiler Erection Building***

Building 5 – the Boiler Erection Building – is no longer extant; it was located south and west of the shipways, on the site of the existing Marina Office Park Plaza. According to original plans, the Boiler Erection Building was an 11,540-square-foot, one-and partial-two-story, utilitarian structure clad in redwood siding. Designed as a shelter for the fabrication of boilers for the Liberty ships and tankers constructed at Marinship, the building was mostly open air, containing work space, storage, and a loading dock.

After Marinship was transferred to the U.S. Army Corps of Engineers in 1946, the Corps sold off portions of the site that it did not need. Building 5 was demolished not long after Marinship was transferred to the Army Corps of Engineers. It does not appear on the 1950 Sanborn maps.

#### ***Building 6 – Salvage Building***

Building 6 – the Salvage Building – is no longer extant; it was located at the western edge of the so-called "West Area" west of the Redwood Highway. Also known as the "Burner Training Building," Building 6 was a 4,930-square-foot, one-story, wood-frame, utilitarian building clad in

redwood siding and capped by a shallow-pitched gable roof. In plan, the building contained two training rooms and men's and women's toilet rooms.

After Marinship was transferred to the U.S. Army Corps of Engineers in 1946, the Corps sold off portions of the site that it did not need. It is not known when Building 6 was demolished; it appears to have made way for Richardson Elementary School in the 1950s.

#### ***Building 7 – Cable Shop***

Building 7 – the Cable Shop – is located at 265 Gate 5 Road, near its intersection with Coloma Street. According to the original plans, the 3,300-square-foot, one-story, wood-frame, utilitarian building was clad in horizontal redwood siding and capped by a shallow-pitched gable roof (**Figure 23**). It was constructed as a shop for use by the Electrical Production Department, which was in charge of installing each vessel's electrical systems and equipment. In plan, the building consisted of a large work room, an office, tool room, and men's and women's toilet rooms.

After Marinship was transferred to the Army Corps of Engineers in 1946, various parts of the former shipyard not needed by the Corps were sold off. According to the 1950 Sanborn maps, Building 7 was in used as a plastics factory. It is now a multi-tenant light industrial building housing maritime-oriented businesses.

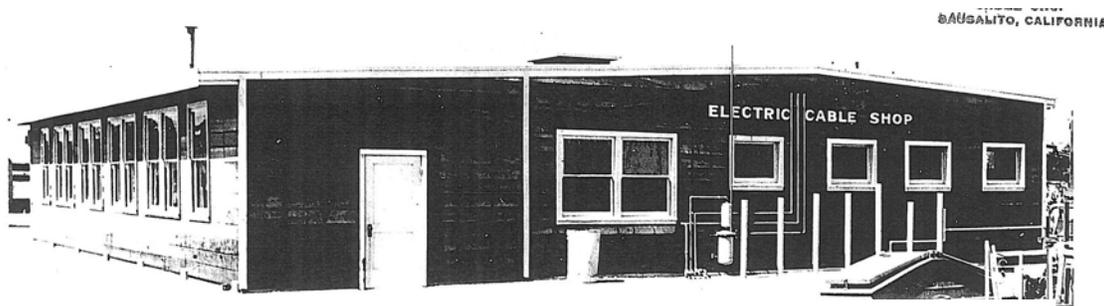


Figure 23. Building 7 – Cable Shop, ca. 1945  
Source: Richard Grambow, *Marinship at the Close of the Yard* (1946)

#### ***Building 8 - Cafeteria***

Building 8 – the Cafeteria – is located at 100 Ebbitide Road within the former “West Area” of Marinship. The Cafeteria was begun July 7 and completed September 28, 1942. According to original plans, the 16,416 square-foot, one-story, wood-frame, utilitarian structure was clad in horizontal redwood siding and capped by a flat roof (**Figure 24**). The Cafeteria, which was located too far from the work areas of the production workers, primarily served the administrative staff in Building 3. In plan it consisted of a large dining hall, a private dining room, kitchen, pastry shop, several prep rooms, and a storage room/loading dock.

After Marinship was transferred to the U.S. Army Corps of Engineers in 1946, the Corps sold off portions of the site that it did not need. At some point, probably in the 1950s, Building 8 was incorporated into Richardson Elementary School. It is now part of the Marin School.

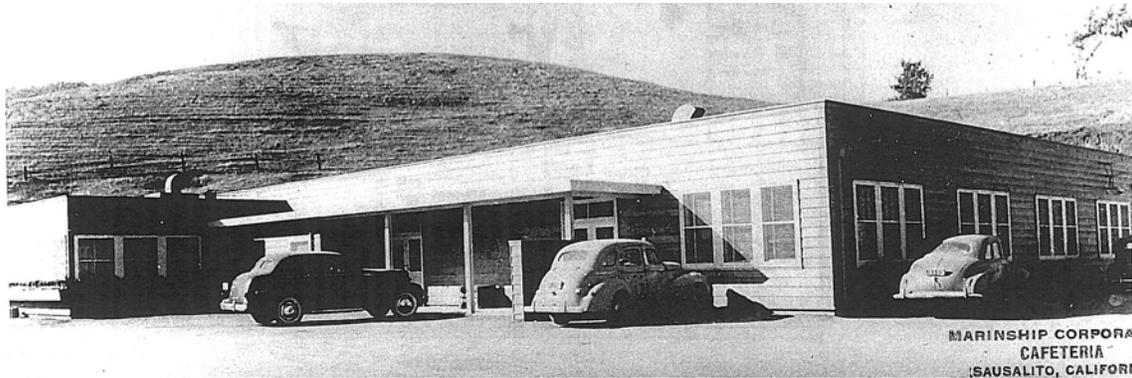


Figure 24. Building 8 – Cafeteria, ca. 1945  
Source: Richard Grambow, *Marinship at the Close of the Yard* (1946)

### ***Building 9 – Compressor Building***

Building 9 – the Compressor Building – is no longer extant; it was located on the western edge of the site, on the Redwood Highway (now 2200 Bridgeway). The building was begun June 25 and completed July 18, 1942. According to original plans, the 5,372-square-foot, steel-frame, utilitarian structure featured a gable-roof and was clad in galvanized iron. This building, which provided electricity for Marinship, housed five compressors, as well as the main switches for the electrical distribution system. Similar to other buildings where fire hazards existed, the Compressor Building was built of fire resistant materials.

After Marinship was transferred to the U.S. Army Corps of Engineers in 1946, the Corps sold off portions of the site it did not need, including Building 9. According to the 1950 Sanborn maps, the building was in use as a chemical and pigment plant. The building was demolished in 1967 to make way for the SWA Group office building.

### ***Building 10 – General Shops***

Building 10 – the General Shops – is located at 10 Liberty Ship Way. The building was begun on July 18 and completed October 3, 1942. According to the original plans, the 41,600 square-foot, one-story, heavy timber-frame, utilitarian industrial building featured a barrel-vaulted roof and was clad in plywood sheathing (**Figure 25**). The building was located in the outfitting zone and it housed the Pipe and Copper shops, which fabricated and installed pipe and ductwork in the Liberty Ships and tankers built at Marinship.

After Marinship was transferred to the U.S. Army Corps of Engineers in 1946, the Corps sold off portions of the site that it did not need. Building 10 was purchased by A. G. Schoonmaker Co., which owned nearly all of what is now known as Schoonmaker Point. According to the 1950 Sanborn Maps, the company used the building as a warehouse and the adjoining Blacksmith Shop (Building 4) for boat storage. The building continued to serve as a multi-purpose, light industrial facility known as the Schoonmaker Building through the early 1990s. In 1994-95, Building 10 was remodeled for use as an office building, a use it retains to this day.

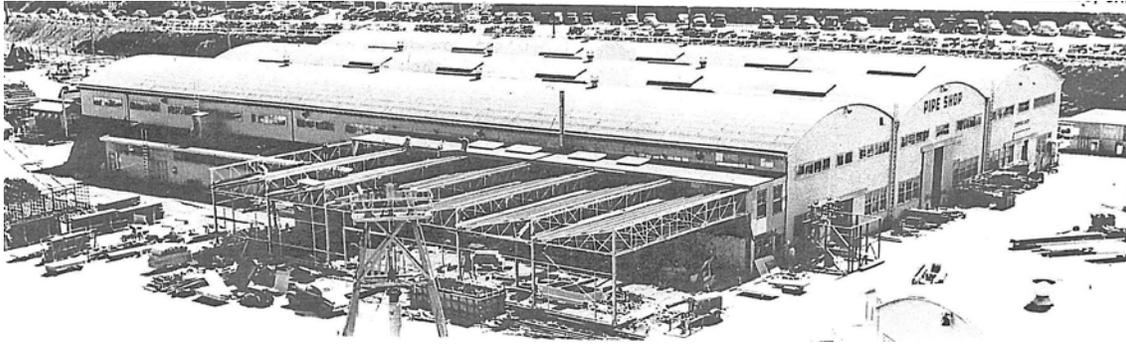


Figure 25. Building 10 – General Shops, ca. 1945  
Source: Richard Grambow, *Marinship at the Close of the Yard* (1946)

### ***Building 11 – Machine Shop***

Building 11 – the Machine Shop – is located at 25 Liberty Ship Way. The building was begun on June 24 and it was completed on August 8, 1942 (**Figure 26**). A second story was then added to the office wing to accommodate women workers in 1943. According to the original plans, the 27,400 square-foot, heavy timber-frame, partial two-story, utilitarian industrial building, featured a barrel-vaulted roof and it was clad in plywood sheathing. The building was located at the center of the outfitting zone, and it housed Marinship’s experienced machinists who were responsible for fabricating tail and line shafts, bearings, stern tubes and liners, coupling bolts and chocks, and anything that required precise tolerances within thousandths of an inch.

After Marinship was transferred to the U.S. Army Corps of Engineers in 1946, the Corps sold off portions of the site it did not need, retaining the core of the property, including Buildings 11, 15, and 29. From ca. 1946 until the early 1990s, the Army Corps used Building 11 as a soils testing laboratory for its dam and levee building projects. The building is now abandoned.

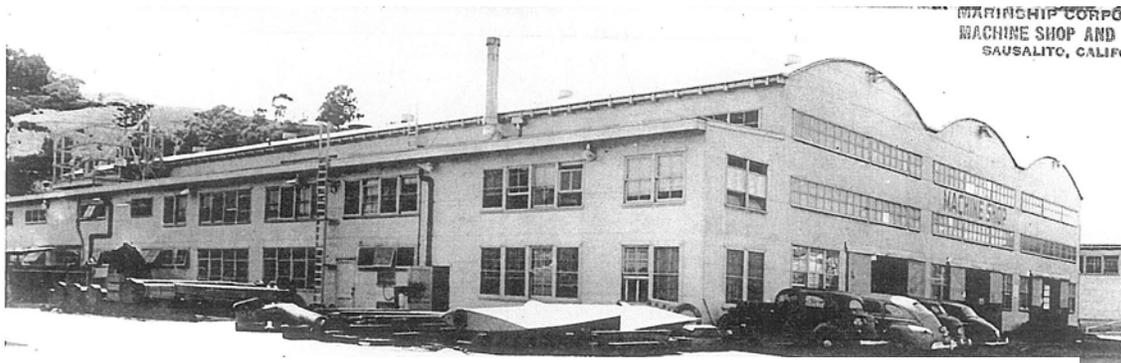


Figure 26. Building 11 – Machine Shop, ca. 1945  
Source: Richard Grambow, *Marinship at the Close of the Yard* (1946)

### ***Building 12 – Machinery Storage***

Building 12 – the Machinery Storage Building – is located at 28-30 Liberty Ship Way. One of the earliest Marinship buildings, it was begun in March and completed May 15, 1942. According to the original plans, the 12,300 square-foot, heavy timber-frame, one-story, utilitarian industrial building featured a barrel-vaulted roof and was clad in horizontal redwood siding with very few window openings (**Figure 27**). The Machinery Storage Building was located in the outfitting zone and it served as a giant warehouse with overhead traveling cranes to move machinery

assembled and stored in the building. The building also housed the Marinship gear shop, an office, boiler room, and men's and women's toilet rooms.

After Marinship was transferred to the U.S. Army Corps of Engineers in 1946, the Corps sold off portions of the site that it did not need. Building 12 was purchased by A. G. Schoonmaker Co., which owned nearly all of what is now known as Schoonmaker Point. According to the 1950 Sanborn Maps, the company used the building as a machine shop. The building continued to serve as a multi-purpose, light industrial facility through the late 1990s. In 2000, Building 12 was remodeled for use as an office building, a use it retains to this day.

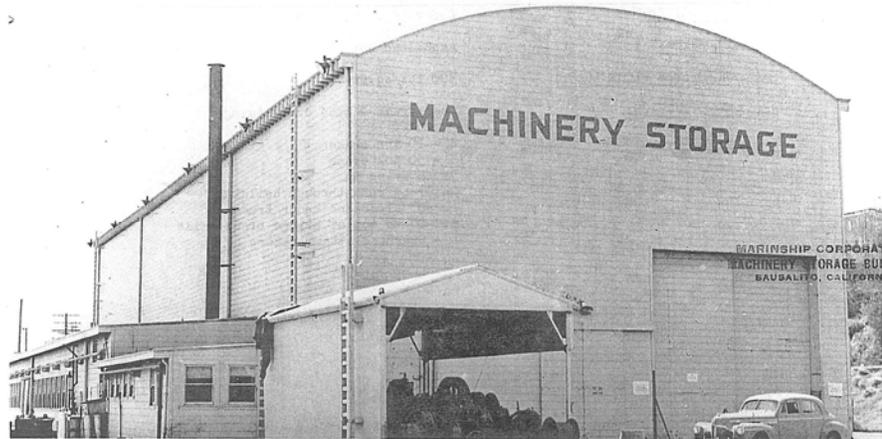


Figure 27. Building 12 – Machinery Storage, ca. 1945  
Source: Richard Grambow, *Marinship at the Close of the Yard* (1946)

### ***Building 13 – Maintenance Garage***

Building 13 – the Maintenance Garage – is located at 60 Liberty Ship Way. According to the original plans, the 12,400 square-foot, heavy timber-frame, one-story, utilitarian industrial building featured a barrel-vaulted roof and was clad in plywood, with large sections open-air (**Figure 28**). The Maintenance Garage was located on the edge of the outfitting zone and it was used for maintaining Marinship's fleet of trucks, tractors, boats, and any other mechanized equipment. The building also housed a large partially open-air repair shop, various specialty shops, offices, tool room, boiler room, and men's and women's toilet rooms.

After Marinship was transferred to the U.S. Army Corps of Engineers in 1946, the Corps sold off portions of the site that it did not need. Building 12 was purchased by A. G. Schoonmaker Co., which owned nearly all of what is now known as Schoonmaker Point. According to the 1950 Sanborn Maps, the company used the building as a machine shop. The building continues to serve as a multi-purpose, light industrial facility. The building has acquired several major additions since 1950.



Figure 28. Building 13 – Maintenance Garage, ca. 1945  
 Source: Richard Grambow, *Marinship at the Close of the Yard* (1946)

### *Structure 14 – Outfitting Docks*

Structure 14 – the Outfitting Docks – are no longer extant; they were originally located in the southern part of the Marinship facility, opposite the Main Warehouse (Building 29). The Outfitting Docks were constructed between August 18 and December 7, 1942. According to the original drawings, the Outfitting Docks each measured 616' long by 72'-9" wide. Bechtel decided to build the docks at approximately the same level as the main deck of the ships being outfitted in order to save the time of having to descend from the ship to the dock. The docks were made of wood pilings driven to bedrock. Offices were built under the main docks. Ramps were built so that vehicles could drive onto the docks.

After Marinship was transferred to the U.S. Army Corps of Engineers in 1946, the Corps sold off portions of the site that it did not need. Initially the Corps kept the Outfitting Docks. They appear on the 1950 Sanborn maps. However, due to their height they were useless for smaller craft and eventually both were demolished and replaced by lower docks which exist today. One of the docks belongs to the Army Corps and the other is a private marina.

### *Building 15 – Outfitting Shops*

Building 15 – the Outfitting Shops – is located north of the General Warehouse (Building 29); it does not have an address. According to the original plans, the 31,200 square-foot, heavy timber-frame, one-story, utilitarian industrial building featured a barrel-vaulted roof and was clad in plywood (**Figure 29**). The Outfitting Shops were located at the heart of the outfitting zone. It contained various shops and offices for trades active in the outfitting zone, including a sheet metal fabricating shop, marine electricians' shop, maintenance, and a riggers' loft. The building also housed offices, tool rooms, boiler room, and men's and women's toilet rooms.

After Marinship was transferred to the U.S. Army Corps of Engineers in 1946, the Corps sold off portions of the site it did not need, retaining the core of the property, including Buildings 11, 15, and 29. From ca. 1946 until the present day the Army Corps has used Building 15 to house its Navigation Department. The building was raised in height in 1948 to gain more headroom. It was reclad in stucco ca. 1980 to match the Bay Model exhibit next door in Building 29.



Figure 29. Building 15 – Outfitting Shops, ca. 1945  
Source: Richard Grambow, *Marinship at the Close of the Yard* (1946)

#### *Building 16 – Oxygen Plant*

Building 16 – the Oxygen Plant – is no longer extant; it was originally located west of the Mold Loft Building (Building 30) and the Plate and Structural Shop (Building 20). This was a small, 1,925 square-foot, wood-frame, gable-roofed building clad in horizontal wood siding. The Oxygen Plant contained two tanks inside and a large oxygen tank on a rack outside.

After Marinship was transferred to the U.S. Army Corps of Engineers in 1946, the Corps sold off portions of the site that it did not need. Building 16 was demolished by 1950.

#### *Building 17 – Paint and Oil Storage*

Building 17 – the Paint and Oil Storage Building – is located at 2000 Bridgeway. According to the original plans, the 3,200 square-foot, steel-frame, one-story, utilitarian storage building featured a gable roof and was clad in galvanized sheet iron (**Figure 30**). The building is located at the western edge of the outfitting zone. It was originally used to store flammable paints used to paint the vessels and oils to treat the decking when they were moored at the Outfitting Docks. Similar to other Marinship buildings that housed flammable materials, Building 17 was clad in galvanized iron. The building also housed offices and men’s and women’s toilet rooms.

After Marinship was transferred to the U.S. Army Corps of Engineers in 1946, the Corps sold off portions of the site that it did not need. Building 17 was subsequently purchased and occupied by a plaster-making business. The building, which has been reclad in plywood, now serves as the offices and shops of a plumbing business.

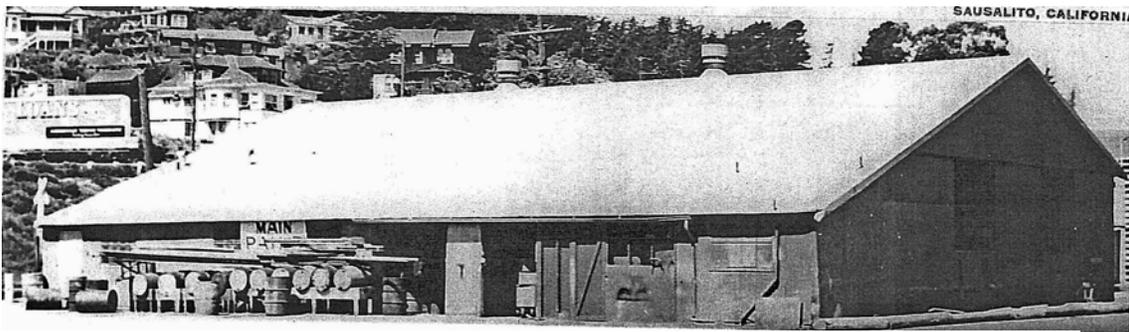
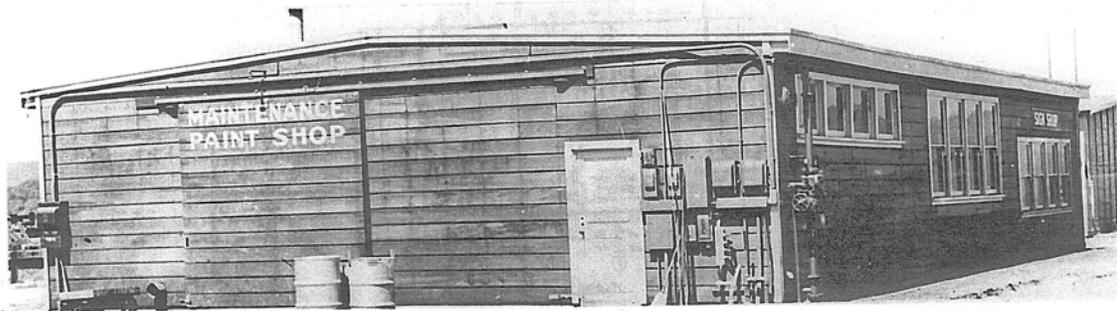


Figure 30. Building 17 – Paint and Oils Storage, ca. 1945  
Source: Richard Grambow, *Marinship at the Close of the Yard* (1946)

### ***Building 18 – Paint Shop***

Building 18 – the Paint Shop – is located at 305 Gate 5 Road. The building was begun on May 18 and it was completed June 18, 1942. According to the original plans, the 2,400 square-foot, wood-frame, one-story, utilitarian storage building featured a shallow-pitched gable roof and was clad in horizontal redwood siding (**Figure 31**). The Paint Shop was located near the northern end of Marinship. It was used to store paint and housed shops for yard painters and sign painters. The building also housed an office.

After Marinship was transferred to the U.S. Army Corps of Engineers in 1946, the Corps sold off portions of the site that it did not need. Building 18 was subsequently purchased and occupied by a transformer making business. The building is now an auto repair facility.



**Figure 31. Building 18 – Paint Shop, ca. 1945**  
Source: Richard Grambow, *Marinship at the Close of the Yard* (1946)

### ***Building 19 – Plant Protection Building***

Building 19 – the Plant Protection Plant (hospital) – is no longer extant; it was originally located at the southern edge of the shipways. It was begun June 18 and completed August 15, 1942. The Plant Protection Building was a 10,900 square-foot, two-story, wood-frame, flat-roofed building clad in plywood. According to the original plans, the first floor contained a 10-bed men’s ward and a five-bed women’s ward, several “treatment rooms,” offices, surgery, and a trash room. The second floor featured a large assembly room, men’s and women’s toilet rooms, and several offices. The Plant Protection Building was placed between the shipways and the outfitting zone – the two most dangerous parts of Marinship – in order to make sure that injured workers could be brought to the hospital as quickly as possible.

After Marinship was transferred to the U.S. Army Corps of Engineers in 1946, the Corps sold off portions of the site that it not need. Building 19 was evidently demolished or moved from the property by 1950 because it does not appear on the Sanborn maps.

### ***Building 20 – Plate and Structural Shop***

Building 20 – the Plate and Structural Shop – is no longer extant; it was originally located on the Redwood Highway, just west of the Yard Office and Mold Loft Building. It was begun in April and completed not until December 15, 1942, although the Production Department moved in August 1942. The Plate and Structural Shop was a tremendous 119,200 square-foot, one-story (with a two-story office wing), steel-frame, sawtooth-roofed building clad in plywood sheathing. This building was located in the subassembly zone; it housed the workers in charge of burning (cutting) the raw steel plates into sizes needed to build the subassemblies that were used to build the various vessels at Marinship.

After Marinship was transferred to the U.S. Army Corps of Engineers in 1946, the Corps sold off portions of the site that it did not need. Building 20 was soon demolished because it does not appear on the 1950 Sanborn map.

#### ***Building 21 – Reclamation Building***

Building 21 – the Reclamation Building – is no longer extant; it was located at the western edge of the so-called “West Area” west of the Redwood Highway. Building 21 was an 8,950-square-foot, two-story, wood-frame, utilitarian industrial building clad in redwood siding and capped by a flat roof. In plan, the first floor of the building contained a large work area with overhead cranes, a burning room, an office, and men’s and women’s toilet and locker rooms. The second floor consisted of one large workshop with a concrete floor. The Reclamation Building was used for sorting and salvaging scrap steel and other metal products.

After Marinship was transferred to the U.S. Army Corps of Engineers in 1946, the Corps sold off portions of the site that it did not need. It is not known when Building 21 was demolished; it appears to have made way for Richardson Elementary School in the 1960s.

#### ***Building 22 – Service Building***

Building 22 – the Service Building – is no longer extant; it was located south and west of the shipways, on the site of the existing Marina Office Park Plaza. According to original plans, the Service Building was a 20,000-square-foot, two-story, wood-frame, utilitarian office building clad in plywood sheathing. The Service Building was begun on October 19, 1942 and the building was completed by January 4, 1943. The Service Building was the headquarters of the Service Department, which was in charge of installing and maintaining yard utilities, as well as distributing and servicing tools for workers in the Production Department. According to the original plans, Building 22 housed tool rooms on the first floor and offices on the second floor.

After Marinship was transferred to the U.S. Army Corps of Engineers in 1946, the Corps sold off portions of the site that it did not need. Building 22 was initially retained by the U.S. Army Corps and it is marked on the 1950 Sanborn maps as being used for Army Corps offices. The building may have been demolished ca. 1980 to build Marinship Park.

#### ***Structure 23 – Shipways and Offices***

Structure 23 – the Shipways and Offices, are partly extant; they are located at 2350 Marinship Way in the Sausalito Shipyard property. Pile-driving for the Shipways began on May 20, 1942. Shipway No. 6 was completed first, on June 30, 1942. Although not complete, Shipway 6 received its first keel on June 27. The last shipway, Shipway No. 1, was completed on September 11, 1942. The shipways were extended between September 21 and October 29 to accommodate the larger tankers that would become Marinship’s specialty. The six shipways each measured 550’ x 82’ and were separated by gaps of 56’. One-story (some with second-story additions) wood-frame buildings were located at the head of each way; these held tool rooms and offices. Seven large Colby cranes operated along tracks between the shipways (**Figure 32**). The shipways were the centerpiece of the assembly zone, where the subassemblies would be lifted into place by the cranes and welded together by crews of welders.

After Marinship was transferred to the U.S. Army Corps of Engineers in 1946, the Corps sold off portions of the site that it did not need. According to the 1950 Sanborn Maps, the Marinship shipways and office buildings were all abandoned. They were part of a much larger facility belonging to the Lando Products Co. & Plastic Lume Inc., which operated a metal and aluminum manufacturing complex (Marinship Storage is part of this facility). It is not known when it became a ship repair facility used by nearly a dozen maritime repair and boat building businesses.

Today portions of all six ways survive, although most fabric has been concealed beneath fill. In addition, two of the small office buildings at the heads of the ways survive. Remnants of other portable Marinship structures – in particular canteens and small offices and guard shacks – appear to have been incorporated into some of the existing businesses in the area.

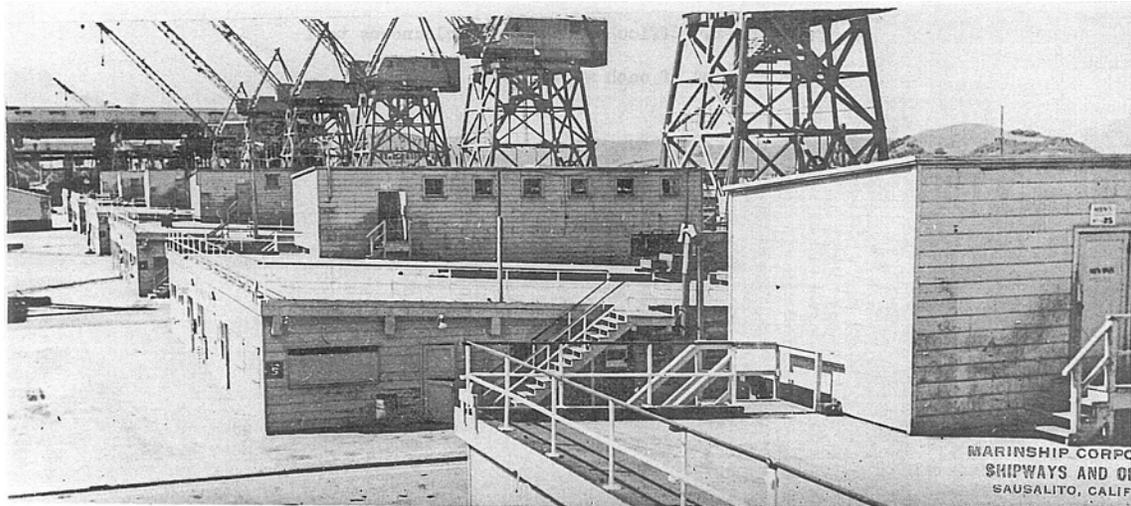


Figure 32. Shipways and Office Buildings, ca. 1945  
Source: Richard Grambow, *Marinship at the Close of the Yard* (1946)

#### ***Building 24 – Shipwrights' Mill***

Building 24 – the Shipwrights' Mill – is no longer extant; it was located northeast of the Mold Loft (Building 30), on the site of the present-day office park at 475 Gate 5 Road. According to original plans, the Shipwrights' Mill was a 19,000-square-foot, one-story, wood-frame, utilitarian industrial building clad in plywood sheathing. The building was begun on August 28 and it was completed October 13, 1942. The multi-purpose Shipwrights' Mill housed various shops, including a carpenters' shop, model shop, plumbers' shop, yard riggers' loft, saw filing shop, construction tools room, tarpaulin loft, and shipwrights' mill. Shipwrights were skilled artisans trained in various maritime-related trades.

After Marinship was transferred to the U.S. Army Corps of Engineers in 1946, the Corps sold off portions of the site that it did not need. Building 24 was marked on the 1950 Sanborn maps as a bronze works and machine shop. The building may have been demolished ca. 1970 to build the existing commercial building on the site.

#### ***Building 25 – Subassembly Building***

Building 25 – the Subassembly Shop – is no longer extant; it was originally located on the Redwood Highway, south and west of the Mold Loft Building, on the present-day site of Mollie Stone's and the Sausalito Post Office. It was begun May 29 and completed September 22, 1942, although the Production Department moved in earlier. The Subassembly Building was a tremendous 102,195 square-foot, one-story (with a two-story office wing), steel-frame, sawtooth-roofed building clad in plywood sheathing. This building was located in the subassembly zone; it housed the workers in charge of welding together the subassemblies that were used to build the various vessels at Marinship.

After Marinship was transferred to the U.S. Army Corps of Engineers in 1946, the Corps sold off portions of the site that it did not need. Building 25 was soon demolished because it does not appear on the 1950 Sanborn maps.

***Building 26 – Subcontractors' Building***

Building 26 – the Subcontractors' Building – is located west of the Army Corps of Engineers Operations Department (Building 15); it does not have an address. The building was constructed in 1942. According to the original plans, the 5,400 square-foot, wood-frame, one-story, utilitarian industrial building originally featured a compound barrel vaulted and flat roof and was clad in plywood sheathing (**Figure 33**). The Subcontractors' Building was located at the western end of Marinship, on the Redwood Highway where it would be accessible to outside contractors. As originally designed, the building housed shops for the use of independent contractors, a fire station, and a gas station.

After Marinship was transferred to the U.S. Army Corps of Engineers in 1946, the Corps sold off portions of the site that it did not need. Building 26 was subsequently purchased and occupied by an asbestos installing business. In 1972, the building was completely remodeled by BAR Architects and converted into a recording studio where many famous albums were recorded by Bay Area-based bands. It is now vacant. The building bears little resemblance to its original appearance.



**Figure 33. Building 26 – Subcontractors' Building, ca. 1945**  
Source: Richard Grambow, *Marinship at the Close of the Yard* (1946)

***Building 27 – Training Administration Building***

Building 27 – the Training Administration Building – is located at 100 Ebbtide Road within the former “West Area” of Marinship. The Training Administration Building was begun August 6 and completed November 4, 1942. According to original plans, the 11,500 square-foot, one-story, wood-frame, utilitarian structure was clad in horizontal redwood siding and capped by a flat roof (**Figure 34**). The building consisted of two wings separated by a courtyard. The north wing contained five classrooms, a boiler room and two instructors' offices. The south wing contained seven offices, a field staff room, a stenographer pool, lounge, reception, library, and men's and women's toilets. The Training Administration Building performed the important function of providing a space for Marinship staff instructors to train new hires in welding and other basic shipbuilding techniques.

After Marinship was transferred to the U.S. Army Corps of Engineers in 1946, the Corps sold off portions of the site that it did not need. At some point, probably in the 1950s, Building 8 was incorporated into Richardson Elementary School. It is now an artists' and artisans' studio.

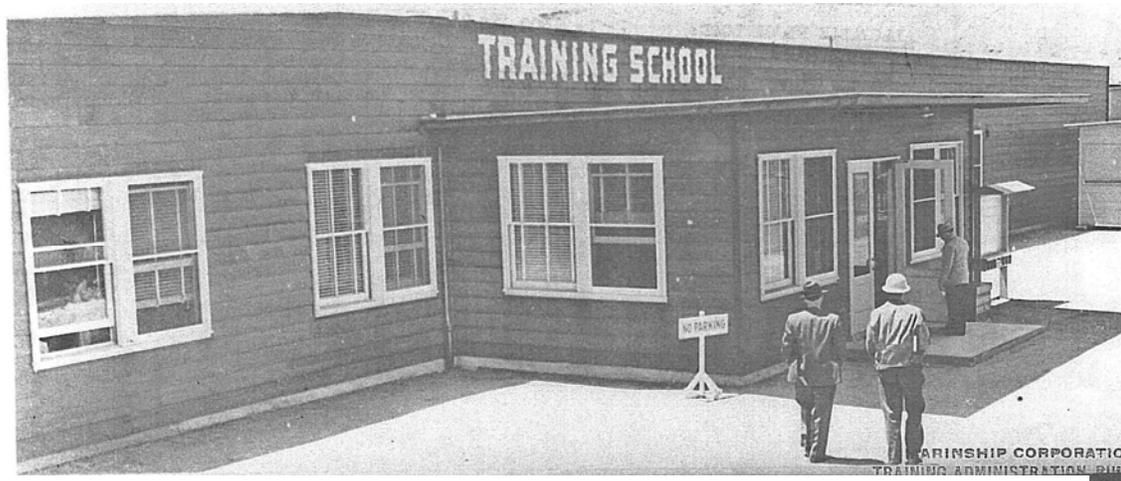


Figure 34. Building 27 – Training Administration Building  
Source: Richard Grambow, *Marinship at the Close of the Yard* (1946)

#### ***Building 28 – Training Shop***

Building 28 – the Training Shop – is no longer extant; it was located at the western edge of the so-called “West Area” of Marinship. It was constructed between August 6 and October 23, 1942. Building 28 was a 10,700-square-foot, one-story, wood-frame, utilitarian industrial building clad in redwood siding and capped by a barrel-vaulted roof. The building was used by the Training Department to instruct new hires in welding and other basic shipbuilding skills and techniques.

After Marinship was transferred to the U.S. Army Corps of Engineers in 1946, the Corps sold off portions of the site that it did not need. It is not known when Building 28 was demolished; it appears to have been demolished to make way for Richardson Elementary School in the 1950s.

#### ***Building 29 – Warehouse***

Building 29 – the Warehouse – is located at 2100 Bridgeway. The Warehouse was constructed between May 2 and July 28, 1942, although occupancy began on July 4. According to the original plans, the 122,500 square-foot, heavy timber-frame, one-story, utilitarian industrial building featured a barrel-vaulted roof and was clad in plywood (**Figure 35**). The Warehouse was located at the heart of the outfitting zone. According to the original plans it contained uninterrupted storage space, with areas of shelving and some partitions to protect high-value items. There was also an office on the east wall. When it was completed, it was the largest building in Marin County. When Marinship switched over to tanker production, an extra bay was added to the building.

After Marinship was transferred to the U.S. Army Corps of Engineers in 1946, the Corps sold off portions of the site it did not need, retaining the core of the property, including Buildings 11, 15, and 29. From ca. 1946 until 1954, the Army Corps used the building as a warehouse. In 1954, the Corps installed the earliest section of the Bay Model in the building. In 1980, the Warehouse was enlarged and remodeled into a visitor center for the Bay Model exhibit.



Figure 35. Building 29 – Warehouse, ca. 1945  
Source: Richard Grambow, *Marinship at the Close of the Yard* (1946)

### ***Building 30 – Mold Loft and Office Building***

Building 30 – the Mold Loft and Office Building – is located at 480 Gate 5 Road. The Mold Loft was constructed between May 5 and August 23, 1942. According to the original plans, the 107,640 square-foot, heavy timber-frame, three-story, utilitarian industrial building featured a barrel-vaulted roof and was clad in plywood (**Figure 36**). The Mold Loft was located at the border of the administration and subassembly zones, serving both areas. The staff in the Mold Loft on the third floor worked closely with the Plate and Structural Shop (Building 20) to the west, and various administrative offices were linked to the nearby Administration Building (Building 3) to the north. According to the original plans the first floor featured administration offices and template and tool storage; the second floor contained offices for the Engineering and the Production Departments, as well as locker rooms and break rooms; the third floor was one large open room used as the Mold Loft, where full-sized drawings were turned into templates for use in burning steel hull sections.

After Marinship was transferred to the U.S. Army Corps of Engineers in 1946, the Corps sold off portions of the site it did not need. According to the 1950 Sanborn maps, the Mold Loft and Office Building was still identified as such. A former Marinship canteen had been moved to the area just to the north of the building. In the 1950s, Building 30 became a multi-purpose light industrial building housing craftspeople, artisans, and various businesses. It is still in use.

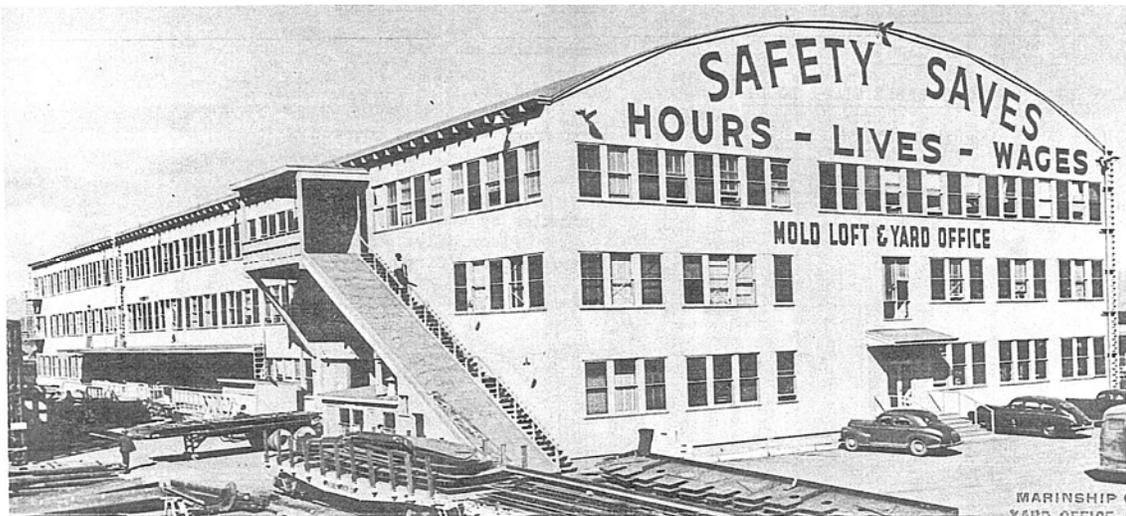


Figure 36. Building 30 – Mold Loft and Office Building, ca. 1945  
Source: Richard Grambow, *Marinship at the Close of the Yard* (1946)

By the end of 1942, Marinship was essentially complete and employing 19,000 workers.<sup>90</sup> Because of wartime restrictions on the use of steel, most of the Marinship buildings were constructed of wood – specifically plywood or redwood rustic channel siding. The only structures that were not made of wood were buildings that housed flammable materials, such as the Paint and Oils Shop (Building 17), Acetylene Plants No. 1 and 2 (Buildings 1 and 2), the Blacksmiths' Shop (Building 4), and the Compressor Building (Building 8). These were made with steel-framing and corrugated metal cladding to reduce the risk of fire.

The major shipyard buildings were of heavy timber frame construction and clad in 4 x 8 sheets of plywood, with the exception of the Plate Shop (Building 20) and the Sub Assembly Shop (Building 25), which featured steel-framing because wood would have been insufficient to create the great clear spans inside those two buildings.

Modular systems, such as glue-laminated bowstring trusses and mass-produced wood ribbon windows, were used on many of the production, warehouse, and shops buildings, including Buildings 10, 11, 12, 13, 15, 24, 26, 29, and 30. The prefabricated bowstring trusses and modular ribbon windows, combined with the smooth sheen of the butt-jointed plywood sheathing gave this group of shipyard buildings their distinctive "seamless" appearance. Traditionally, shipyard buildings had been constructed with steel frames and clad either in masonry or galvanized metal. These materials were considered to be both durable and fire-resistant. During World War II steel was prohibited for most non-defense related needs (including defense plants and shipyards) due to being rationed for weaponry and ammunition. Wood was used in its place because it was lightweight and inexpensive. Plywood and other modular wood assemblies, which came into more widespread use in the United States during the 1930s, made defense industry construction much easier and quicker due to their ease of assembly.

Marinship also featured a number of very simple, one and two-story, wood-frame buildings with flat or shallow-pitch gable roofs that were clad in horizontal redwood siding. Examples included Buildings 5, 6, 7, 8, 18, 20, 21, 23 (shipway offices), 27, and 28. Stripped to their essence, several of these buildings survive today, either in the West Area or along Gate 5 Road, including Buildings 7, 8, 18, and 27.

#### *B. Distribution of Representative Building Types*

In the section above we have identified each of the surviving numbered buildings and structures constructed as part of Marinship between 1942 and 1946. In addition to the 15 numbered buildings and structures on the former Marinship site, there are several portable structures, including former canteens and other unidentified buildings that appear to have been moved, remodeled, and repurposed for different uses. The most notable of these is a former canteen that is now a contractor's office to the north of the Mold Loft (Building 30). The former Marinship Shipways (now the Sausalito Shipyard) contains several historic buildings and structures, including two of the historic slipway offices, remnants of five historic shipways, and what appear to be remnants of various Marinship buildings (or sections of buildings) that have been incorporated into later structures. Much of this area is private property and not accessible to the public, so we were not able to confirm that the structures we observed from a distance were indeed former Marinship structures. Finally, there is at least one former Marinship building located beyond the boundaries of the shipyard – the former Recruiting Office at 200 Caledonia Street in Sausalito. With the exception of the latter building, all known Marinship buildings are highlighted on the annotated yard map from Richard Grambow's 1946: *Marinship at the Close of the Yard* (Appendix A).

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<sup>90</sup> Charles Wollenberg, *Marinship at War: Shipbuilding and Social Change in Wartime Sausalito* (Berkeley: Western Heritage Press, 1990), 4.

### *C. Condition of Resource Types*

In general the surviving Marinship buildings are mostly in good condition. Built cheaply and quickly most have been remodeled to maintain them and to accommodate changes in use, particularly when they are converted from industrial to office use. Common changes include the construction of additions to accommodate offices or additional commercial/light industrial space, recladding of the plywood or horizontal redwood exteriors with stucco or T-111 siding, and the selective or wholesale replacement of the original wood windows with vinyl or aluminum counterparts. The majority of these alterations, while they have undoubtedly prolonged the lifespan of the buildings, have impaired their integrity and significance. Out of all the buildings that remain today, the one that has the highest level of integrity is the former Machine Shop (Building 11), although it is also in the worst condition. Other buildings that retain moderate levels of integrity include the Mold Loft (Building 30), the Paint Shop (Building 18), the Cafeteria (Building 8), and the Training and Administration Building (Building 27). Others, while reclad and heavily altered are still largely recognizable due to their distinctive barrel-vaulted, bowstring truss roofs, including Buildings 10, 12, 13, 15, and 29. Although altered, the Administration Building and the Cable Shop (Buildings 3 and 7) are also recognizable. Yet others are largely unrecognizable due to very heavy alterations, in particular the Subcontractors' Building (Building 26). The shipways complex had been heavily altered, although much of the shipways appear to survive beneath the fill and at least two buildings also survive (Shipway Offices 4 and 5).

## **VI. Recommendations**

### *A. Significance and Registration Requirements*

A historic context statement typically includes the identification of attributes, historical associations, and levels of integrity requisite to list members of property types in the National Register of Historic Places (National Register), the California Register of Historical Resources (California Register), or the local Sausalito register. Presently there is no property located within the entire former Marinship property listed in the California Register or the National Register. As an outlying, predominantly industrial district in northern Sausalito, the district has largely escaped the attention of architectural historians who have mostly focused on high-style mansions of the elite and commercial and civic buildings with obvious architectural significance. In recent years however, much more attention has been paid to properties associated with the Second World War and, in particular the Home Front. Properties that are closely associated with important historic contexts related to the production of goods, weaponry, aircraft, ships, and automobiles for the war effort; as well as other contexts associated with the mobilization of labor and other World War II-era contexts (so long as they retain integrity) are likely candidates for the National and the California registers.

### *B. National Register of Historic Places*

The National Register of Historic Places is the nation's most comprehensive inventory of historic resources. The National Register is administered by the National Park Service and includes buildings, structures, sites, objects, and districts that possess historic, architectural, engineering, archaeological, or cultural significance at the national, state, or local level. Typically, resources over fifty years of age are eligible for listing in the National Register if they meet any one of the four significance criteria and if they retain historic integrity. However, resources under fifty years of age can be eligible if it can be demonstrated that they are of "exceptional importance," or if they are contributors to a potential historic district. National Register criteria are defined in depth in *National Register Bulletin Number 15: How to Apply the National Register Criteria for Evaluation*. There are four basic criteria under which a structure, site, building, district, or object can be considered eligible for listing in the National Register. These criteria are:

- **Criterion A (Event):** Properties associated with events that have made a significant contribution to the broad patterns of our history;
- **Criterion B (Person):** Properties associated with the lives of persons significant in our past;
- **Criterion C (Design/Construction):** Properties that embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant distinguishable entity whose components lack individual distinction; and
- **Criterion D (Information Potential):** Properties that have yielded, or may be likely to yield, information important in prehistory or history.

A resource can be considered significant on a national, state, or local level to American history, architecture, archaeology, engineering, and culture.

### C. California Register of Historical Resources

The California Register of Historical Resources (California Register) is an inventory of significant architectural, archaeological, and historical resources in the State of California. Resources can be listed in the California Register through a number of methods. State Historical Landmarks and National Register-eligible properties are automatically listed in the California Register.<sup>91</sup> Properties can also be nominated to the California Register by local governments, private organizations, or citizens. This includes properties identified in historical resource surveys with Status Codes of “1” to “5,” and resources designated as local landmarks through city or county ordinances. The eligibility criteria used by the California Register are closely based on National Register. In order for a property to be eligible for listing in the California Register, it must be found significant under one or more of the following criteria:

- **Criterion 1 (Events):** Resources that are associated with events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the United States.
- **Criterion 2 (Persons):** Resources that are associated with the lives of persons important to local, California, or national history.
- **Criterion 3 (Architecture):** Resources that embody the distinctive characteristics of a type, period, region, or method of construction, or represent the work of a master, or possess high artistic values.
- **Criterion 4 (Information Potential):** Resources or sites that have yielded or have the potential to yield information important to the prehistory or history of the local area, California, or the nation.

California Register Criteria are closely related to National Register Criteria, and indeed, they are closely based on them. However, there are two important distinctions. First, the California Register does not place as much importance on the so-called “50 year rule,” meaning that a property that is ineligible for listing in the National Register because it is not old enough can be eligible for the California Register if “it can be demonstrated that sufficient time has passed to understand its historical importance.”<sup>92</sup>

Another important distinction relates to integrity. For both the National and California registers, integrity is defined as “the authenticity of an historical resource’s physical identity evidenced by

<sup>91</sup> National Register-eligible properties include properties that have been listed on the National Register and properties that have formally been found eligible for listing.

<sup>92</sup> California Office of Historic Preservation, *Technical Assistant Series No. 7, How to Nominate a Resource to the California Register of Historic Resources* (Sacramento: California Office of State Publishing, September 4, 2001) .11

the survival of characteristics that existed during the resource's period of significance."<sup>93</sup> There are seven aspects of integrity. Originally developed for use for the National Register, they are also used by the California Register. They are: location, design, setting, materials, workmanship, feeling, and association.

Buildings and structures that appear individually eligible for listing in the National Register include the following:

- Machine Shop (Building 11) – National Register Criteria A and C
- Shipways and Offices (Building 23) – National Register Criteria A and D

In addition, the following four buildings appear eligible for listing in the California Register. Generally these properties are of lower historical significance or they have been more heavily altered.

- Cafeteria (Building 8) – California Register Criterion 1
- Training and Administration Building (Building 27) – California Register Criterion 1
- Yard Office/Mold Loft (Building 30) – California Register Criteria 1 and 3
- Hiring Hall, 200 Caledonia Street

In addition, Buildings 11 and 23 appear eligible for listing in the California Register as properties that appear eligible for listing in the National Register.

#### *D. Sausalito Register*

The Sausalito Local Register is an inventory of structures and sites with historic or architectural significance. The process for nominating and placing resources on the Local Register is established in the Sausalito Zoning Ordinance. In brief, following the submittal of an application nominating a resource to the Local Register, the Sausalito Historic Landmarks Board (HLB) and Planning Commission hold public hearings to determine whether the proposed nomination meets certain required findings. The findings include whether the resource is historically significant; whether listing the resource will preserve its historic character; and whether the resource has architectural or historic character that will be preserved or enhanced through development controls or incentives. Following their respective public hearings, the HLB and Planning Commission make recommendations which are subsequently considered by the City Council at a public hearing. The City Council may list the resource on the Local Register, subject to any conditions. Resources that appear eligible for listing in the National Register or the California Register would likely be eligible for the Local Register. Hence the six properties listed above may be eligible: Machine Shop, Shipways and Offices, Cafeteria, Training and Administrative Building, Yard Office/Mold Loft, and Hiring Hall. In addition, following a review of the documentation provided in this study, the City may identify additional resources eligible for the local Register.

#### *E. Potential Historic Districts*

Only one section of the former Marinship site retains any sort of historical continuity – the former outfitting zone at the southern portion of the yard. Here there are eight surviving Marinship buildings (Buildings 10, 11, 12, 13, 15, 17, 26, and 29) located in close proximity to each other as they did during the period of significance. Although most of these buildings have been altered and their setting has changed from that of a working shipyard to an office/commercial complex, most retain their characteristic barrel-vaulted roofs, as well as their historic scale and

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<sup>93</sup> California Office of Historic Preservation, *Technical Assistance Series #6: "California Register and National Register: A Comparison"* (Sacramento: California Office of State Publishing, May 23, 2001), 2.

massing. Taken together, these buildings convey a diluted sense of the former Marinship yard. Applying National Register integrity standards results in a finding that this potential district no longer retains sufficient integrity for listing in the National Register. Given the California Register's lower standards for integrity, combined with the rareness of this type of resource, produces a potential case for eligibility as a district in the California Register.

This section of the former Marinship Yard may also qualify as a historic district on the Sausalito register. The Sausalito Zoning Ordinance contains provisions for establishing historic overlay zoning districts. The purposes of a historic overlay district include promoting preservation and enhancement of historic structures, deterring demolition or neglect of historic structures, and providing appropriate settings for historic structures. As one of the City's most important historic areas, the former Marinship yard contains resources that would benefit from the creation of a historic overlay district.

#### *F. Areas Requiring Further Work*

In addition to the National Register, California Register, and Sausalito registers discussed above, one area that requires more attention is the Arques/Sausalito Shipyard property. Much of this area was off-limits to survey. It is private property and much of it is not visible from public ways. Based on our survey, undertaken from adjoining properties and public rights-of-way, and data extracted from aerial photographs and prior studies, it is evident that there are several buildings and structures not identified in this report or in the accompanying DPR 523 forms that may have significance as remnants of Marinship. We recommend that a thorough architectural and archaeological survey of the property be undertaken if the property owner proposes any major changes.

In addition to local, state, or national designation, the City could encourage preservation of historic Marinship properties through various incentives, including the Mills Act. The Mills Act is a significant incentive that encourages owners of historic properties to rehabilitate them according to the Secretary of the Interior's Standards. In exchange for maintaining their properties they get significant property tax breaks. Sausalito does not currently participate in the statewide program but it may wish to adopt a Mills Act program to assist property owners respond to the very real challenges associated with owning and maintaining a historic property.

Finally, unless one visits the Bay Model exhibit, there is very little to let the casual visitor to this part of Sausalito that it was once part of the greatest shipbuilding region that the world has ever seen. The City of Sausalito may wish to create an outdoor exhibit or install plaques or kiosks at important locations to provide historic photographs and text highlighting the history of Marinship.

## VII. Conclusion

Marinship was one America's most important Emergency Shipyards during the Second World War – one that set the standard for efficiency and modernity both locally and nationally. It was also responsible for tremendous social changes in Sausalito and Marin County, doubling Sausalito's population and creating a large enclave of blue collar workers that had not existed before the war. Author Charles Wollenberg described the yard as follows: "Marinship was thus a military-industrial comet, briefly lighting up the Bay Area economic skyline. The yard was smaller and less publicized than Henry Kaiser's Richmond complex, but Marinship was in many ways the most technologically innovative and efficient of all the Bay Area's shipbuilding plants. At Marinship, the application of mass production techniques to ship construction may have reached its highest stage of development."<sup>94</sup> This historic context statement documents the

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<sup>94</sup> Ibid., 6.

history and significance of this relatively understudied place, which is the most intact of the historic World War II-era shipyards remaining in the Bay Area.

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