
Photo credit: Port of Stockton (2018)

Daggett Road Bridge
San Joaquin County, California

The Daggett Road Bridge, built in 1902, crosses the Burns Cutoff at the south end of Daggett Road. It is a pin-connected steel bridge that pivots on a central point. The cylinder and the bridge approach both rest on piles wrapped in galvanized sheet steel. This type of moveable span bridge was designed to allow railroad or highway traffic to proceed across a navigable river or harbor under most conditions as well as allowing water-borne traffic to proceed unimpeded whenever the need arises.

The Daggett Road Bridge is the oldest existing movable highway bridge in California, and it currently remains in a fixed, open position. The bridge is considered a contributing structure to the property defined as the Naval Supply Annex Stockton Historic District, which has been determined eligible for listing in the National Register of Historic Places.

Owner
Port of Stockton

Type
Pratt through truss swing bridge

Length
Largest span is 153 feet

Year built
1902

Builder
San Francisco Bridge Co.

To submit a proposal
The proposal checklist is attached. Please email your proposal and any questions to Jason Cashman at jcashman@stocktonport.com.

Proposal due
January 31, 2024

Port of Stockton Daggett Road Bridge Relocation and Reuse Proposals

Proposals submitted to the Port of Stockton for relocation of the Daggett Road Bridge should include the following information:

- Map(s) showing the new location of the historic bridge or its elements. This could include U.S. Geological Survey topographic maps, city maps, or labeled aerial photographs, etc.
- Images of the site showing where the historic bridge or its elements would be relocated. Please provide general photographs of the area and specific views of the location for the new substructure and the surrounding area.
- The route for moving the bridge to the new site
- How the bridge or elements would be reused (adapted for city use, recreational trails, etc.)
- Dismantling/relocation plan. This plan should specify the following:
  - How the bridge would be dismantled
  - The name of the contractor involved in moving the bridge
  - How the various components would be coded for property reassembly (if applicable)
  - What rehabilitation work would be performed on the structure
- Estimated time necessary for rehabilitation and/or estimated time before the bridge would be put into reuse
- Cost estimates for relocation and rehabilitation

Proposals submitted to the Port of Stockton for adoption of a historic bridge in its current location should include the following information:

- Plan for the rehabilitation/preservation and maintenance of the bridge and the features that give the bridge its historic significance
- Cost estimates for rehabilitation

Any proposal for acquisition of a historic bridge from the Port of Stockton, whether in the current or new location, should include the following:

- A statement indicating willingness to accept title to (ownership of) the bridge
- Willingness to assume all future legal and financial responsibility for the historic bridge, which may include an agreement to hold the Port of Stockton harmless in any liability action
- Willingness to abide by preservation covenants (preserve the bridge and features that make it historic)

Revised December 2022

Port of Stockton
CALIFORNIA

DAGGETT ROAD BRIDGE

San Joaquin County, California

The Port of Stockton is pleased to announce the availability of the Historic Daggett Road Bridge. We invite qualified public agencies and nonprofits who are interested in relocating or preserving the bridge to submit a proposal.

NOTICE OF AVAILABILITY

FACT SHEET

TO SUBMIT A PROPOSAL

The proposal checklist can be found here

PROPOSAL CHECKLIST

Please email your proposal and any questions to **Jason Cashman at jcashman@stocktonport.com**. by December 31st, 2023.

OWNER
Port of Stockton

TYPE
Pratt through truss swing bridge

LENGTH
Largest span is 153 feet

YEAR BUILT
1902

BUILDER
San Francisco Bridge Co.

PROPOSAL DUE
January 31, 2024

HISTORY

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RESOURCES

HISTORIC AMERICAN ENGINEERING RECORD (HAER) DOCUMENTATION

HISTORIC AMERICAN BUILDINGS SURVEY

BRIDGEHUNTER LISTING

ROUGH AND READY ISLAND

DETERMINATION OF ELIGIBILITY REPORT

ROUGH AND READY ISLAND, STOCKTON CALIFORNIA

Prepared for:

The Port of Stockton

2201 West Washington Street

Stockton, California 95203

Prepared by;

Terracon Consultants

5075 Commercial Circle, Suite E

Concord, California 94520

September 2018

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INTRODUCTION

EXECUTIVE SUMMARY Terracon consultants conducted a reconnaissance-level architectural survey at Rough and Ready Island in the summer of 2018. Utilizing the Historic and Archaeological Resources Protection Plan (HARP) prepared in 1996 as a guide, the survey was designed specifically to assess the integrity and condition of extant historic resources, and understand any changes or alterations since 1996. The findings are as follows:

> At Rough and Ready Island, Naval Supply Annex, Stockton is eligible for the National Register of Historic Places as a historic district under Criterion A, as a contributor to a broad pattern of history.
>
> Within this district determination, one resource, the Daggett Road bridge, is individually eligible for the National Register of Historic Places under Criterion C at the state level of significance, for its 1902 construction as the oldest existing moveable highway span in the state of California.

The following are recommended amendments to the findings from the 1996 HARP:

> A broadening of the period of significance from strictly the World War II 1944-1946, to include the postwar Naval Communications Station period, 1944-1965. This includes the addition of the NCS-era resources as contributors to the historic district.
>
> A removal of approximately 330 acres from the 1996 historic district boundary, to exclude areas of the island that have been developed in recent years.

The historic district at Rough and Ready Island was found to have high integrity, and the resources are good candidates for treatment under the *Secretary of the Interior's Guidelines for Historic Preservation* recommendations for Rehabilitation treatment.

As such, this study includes an explication of character-defining architectural features, that should be retained and preserved in order to protect the integrity of the district and comply with the *Guidelines.*

NOTE: The area of study on Rough and Ready Island has undergone several iterations of owners and uses. As the US Navy no longer occupies the island, and the Port of Stockton's immediate jurisdiction is largely restricted to the wharf area, the area of study for this exercise will be referred to as "the historic district and Rough and Ready Island," or simply "Rough and Ready Island." This should be considered with the knowledge that much of island does encompass the historic boundaries, and other, modern buildings have been since constructed in areas outside the area of study.

GOALS AND PRIORITIES The primary goal of this determination of eligibility is to re-examine the findings articulated in the 1996 HARP. This report was prepared in accordance with 1996 Congressional legislation (P.L. 104-106 Sec.2871) authorizing the conveyance of the then-Naval Communication Station and its improvements to the Port of Stockton. Because the historically significant properties at Rough and Ready were being transferred out of Navy jurisdiction, the plan provided a cultural resources overview satisfying the requirements for Section 110(b) of the National Historic Preservation Act (NHPA). Within the HARP was a determination that the Naval Supply Annex, Stockton (at the time the Naval Communications Station, Stockton) was eligible, as a district, for the National Register of Historic Places (NRHP, "national register"). In addition, Historic American Building Survey documentation (HABS CA-2082) was completed at the time of the 1996 transfer of the island to the Port of Stockton, under a Memorandum of Agreement created during the execution of Section 106 requirements under the National Historic Preservation Act.

Due to the time elapsed, and the possibility and unknown quality of alterations or deterioration at the included buildings, it is necessary in 2018 to re-examine the 1996 determination of eligibility. At that time, the HARP provided a snapshot of the physical plant in the area of study, and included recommendations for the protective management of the historic resources at Rough and Ready. During the last 22 years, since the change of jurisdiction from the US Navy to the Port of Stockton, the Port has proceeded to lease the buildings and warehouses to private entities, as was planned.

As these new tenants occupied the island, it is evident that some buildings, structures, and objects (BSOs) have been modified to fit the needs of modern operations. Another goal of this study is to determine the extent of these alterations, understand the extant historic fabric, and provide suggestions for sympathetic and responsible upgrades for future building improvements. It is a priority to assist the Port of Stockton in the ongoing protective management of this historically significant district

Figure 1: Rough and Ready Island Historic American Building Survey documentation, Library of Congress

HISTORIC CONTEXT

Adapted in part from the 1996 Historic and Archaeological Resources Plan[1]

ROUGH AND READY ISLAND is located in the San Joaquin River delta just west of Stockton, California approximately 75 miles inland from San Francisco, through navigable waterways. Like many parts of the delta area, it is considered an island due to its bounding on all sides by discernible waterways. Before the Navy gained jurisdiction over Rough and Ready Island in 1943, it was preceded by a long history of use. When Americans first arrived in the area during the gold rush, the island, typical of the delta, was inundated by frequent winter and spring floods. Like large parts of the central valley of California, it was overgrown with tulles and useable for farming and grazing only during the dry months of the year. Thus, development of the island for any purpose has ·always depended on reclamation of the land by various means, including levees, ditches, and pumps. Once reclaimed, the rich soil was ideal for agriculture. In the 20th century, the location of the island would prove to be advantageous and strategic for developments of other kinds, especially in association with the creation of the Port of Stockton.

Rough and Ready Island was said to have been named by a miner recently from the Nevada County, California, town of the same name, itself named for Zachary Taylor who as president approved California's admission to statehood. Taylor's campaign slogan anointed him "Ol' Rough-and-Ready," for his participation and hardiness as a general in the Mexican War.

Figure 2: Zachary Taylor election propaganda, Library of Congress

[1] *Uribe & Associates,* Historic and Archaeological Resources Protection Plan for the Naval Communication Station Stockton, California, *(Oakland: 1996).*

The first permanent settlement in the island was made in 1850 by a Mr. Downie who reclaimed 10 to 12 acres of tulle land to create a farm. This is thought to be the first reclaimed land in San Joaquin County and some of the earliest reclaimed land in the state. By 1858 the Crozier Brothers had purchased the island, built levees entirely around it, installed a steam pump, raised the surface of the land to prevent seasonal flooding, and planted an orchard of 1,000 fruit trees. In the 1880s, James Crozier left the property to W.C. Daggett in his will. A map of the island in 1895 depicts the land subdivided into eleven· parcels of varying sizes (the largest owners were W.C. White, S.C. Bigelow, and W.C. Daggett), including a schoolhouse on the north side of the island. In 1904, W.C. Daggett built the bridge still in place across the Burns Cut Off on the south side of the island, with a road leading down to the line of the Santa Fe Railway a short distance south. From the bridge, Daggett Road led north into the island along the west border of Daggett' s property. A 1905 map showed further subdivision, totaling about 13 parcels, and also indicated the first non-agricultural land use on the

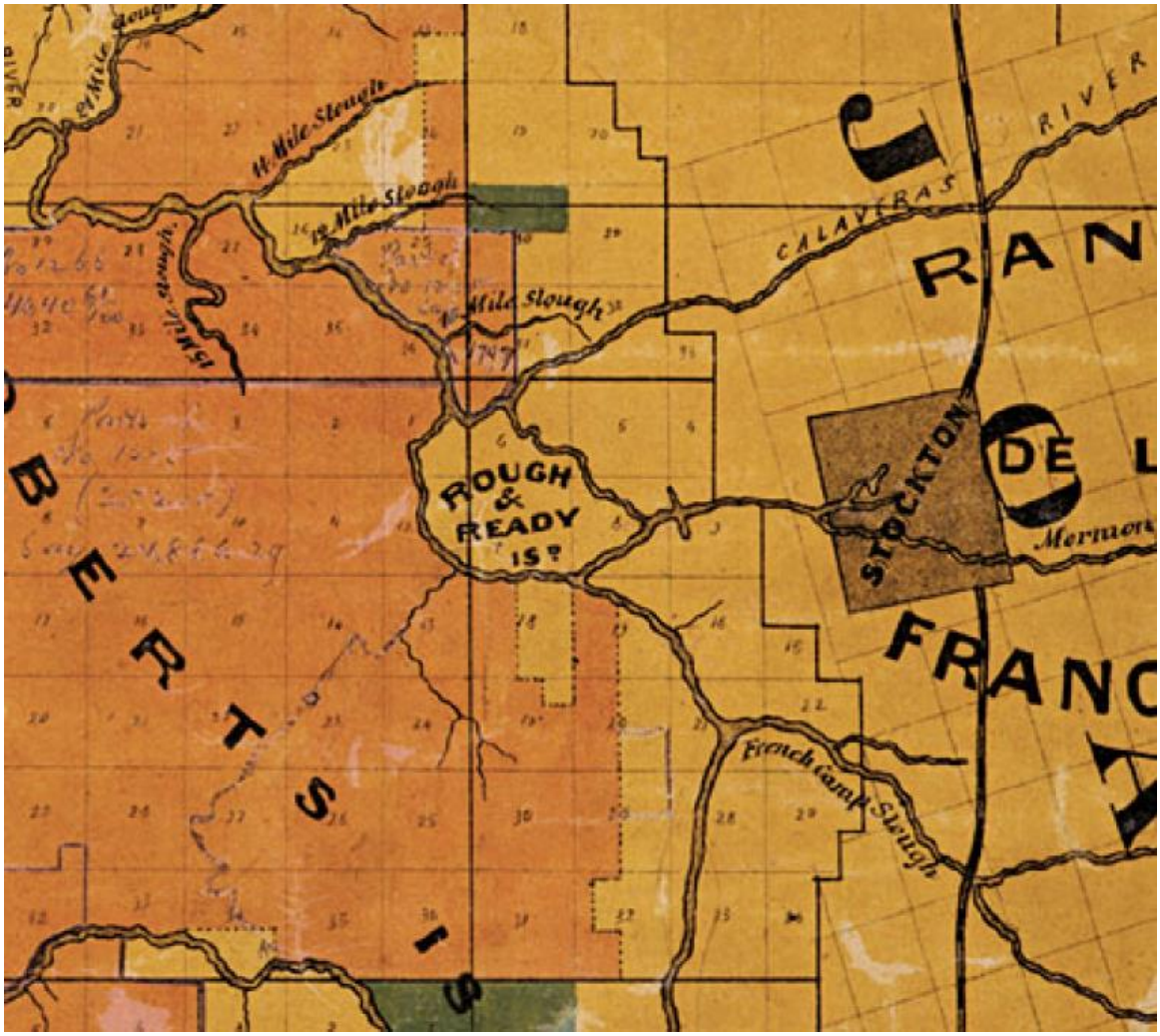


Figure 3: Tideland Reclamation Company map, 1869

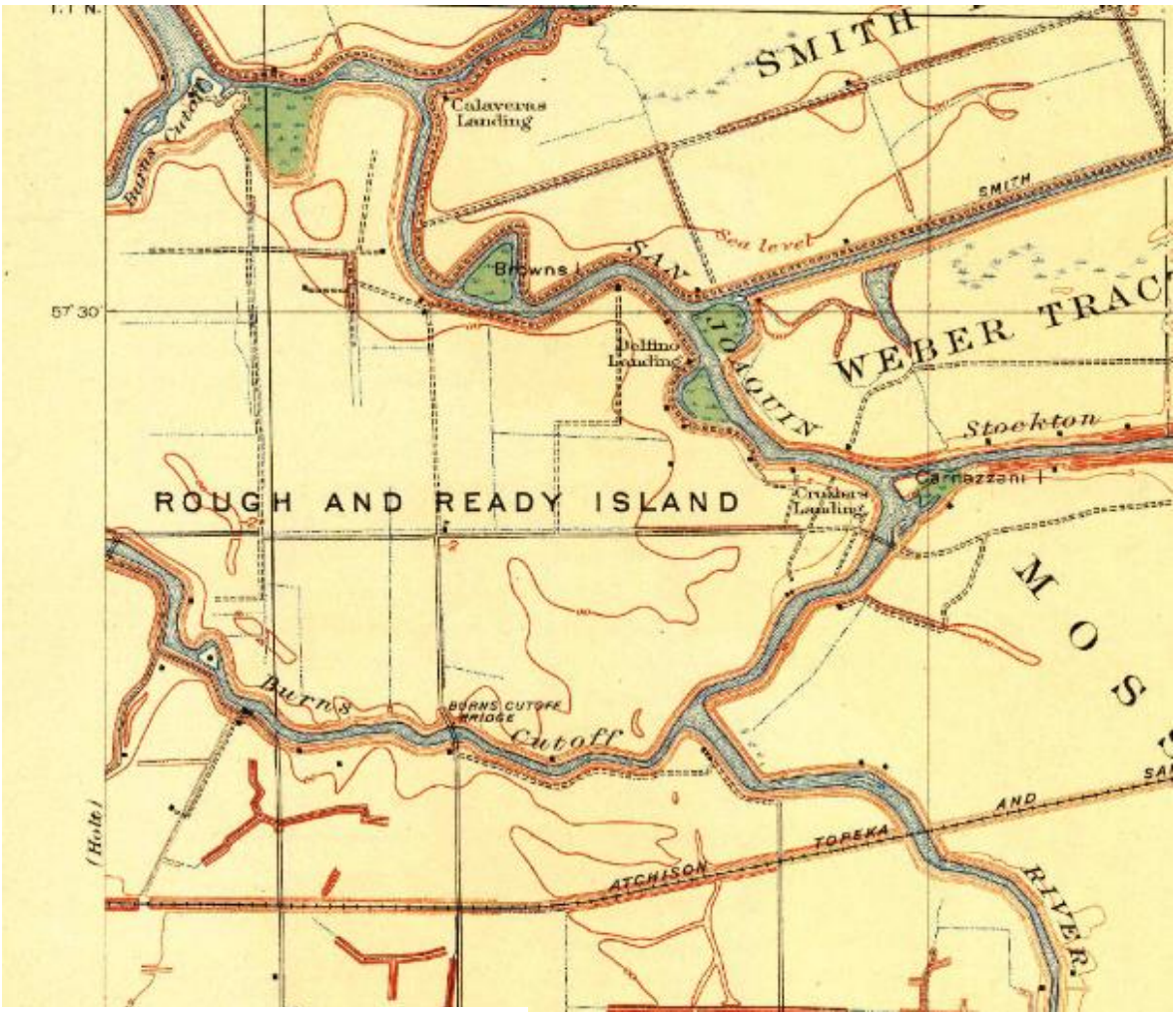


Figure 4: US Geological Survey map, 1913

island, in the ownership of a parcel on the north side by Best Company, manufacturers of agricultural machinery. By 1912, there were three bridges to the island and a developed road network including a new east-west road (with bridges at either end) which crossed Daggett Road near the center of the island. The 1913 U.S. Geological Survey maps also showed buildings scattered around the island.

The Daggett property was sold twice in 1911, to George Buck who improved it with a farmhouse, and then to Frank Guernsey, a prominent Stockton banker and San Joaquin County judge. In 1912, the property was bought by Albert Lindley, a farmer who promoted the industrial development of Rough and Ready Island and was an influential advocate of dredging the San Joaquin River for a deep water channel, which would turn Stockton into an international port. Lindley cultivated relationships with politicians and the military, and he served as Western Chairman for the National Council of Defense for Emergency Crop Production during WWII. After the war, on his land on the south side of Rough and Ready Island, a rehabilitation facility for U.S. Army veterans was operated. Nothing more is

currently known about its activities, facilities, or length of operation. Beginning in 1927, most of Rough and Ready Island was farmed by a partnership of Lindley and an A.R. Patrick, a prominent landholder in the central valley.

Following authorization of General Obligation Harbor Bonds by the City of Stockton in 1925, and the dredging of the channel by the US Government, carried out from 1933 to 1940, industrial and port activities quickly increased at Rough and Ready. The deep water channel was dredged 30 feet in depth, and straightened across the north side of the island, leaving small cut-off portions of the old island, now across the channel (and providing fill for the island's levees). Lindley also proposed dredging the Burns Cut-Off around the south side of the island to a lesser depth, which would enable further industrial development around a greater perimeter of the island, though it is not known if this dredging ever took place. A 1926 map shows two properties at the north side of the island, including the one previously owned by Best Company, in what also appears to be non-farm use. Additionally, the east-west road was designated County Road 403, and christened the Borden Highway. The Independent School, also on the north side of the island, was relocated to the northwest corner of the Borden Highway and Daggett Road.

In 1933, the City of Stockton purchased 104 acres on the north side of the island from Lindley for industrial development associated with the newly dredged port. The Belt Line Railway of the Port of Stockton was extended to this property in 1933, including a bridge over the San Joaquin River, providing rail links to the Southern Pacific, Western Pacific, and Santa Fe Railroads. This property was developed by two private oil companies with storage tanks for distribution of gasoline and other petroleum products in the Central Valley, and today remains in use by the Shell Oil Company.

In 1944, the US Navy purchased almost all of Rough and Ready Island from Albert Lindley and a few small property owners, for the development of the Naval Supply Annex at Stockton (NSA). The Navy acquired the entire island, excepting the two aforementioned parcels in oil company use. Terms of the purchase included the ability for Lindley and his wife to live out their remaining days in their home

$10,395,189 NAVY DEPOT ON RIVER ISLAND STARTED

The Navy announced today that $10,395,189 has been awarded to Gerwick, San Francisco and Boise, Ida., contractors, to develop Rough and Ready Island in the San Joaquin River into a permanent post-war naval holding and reconsignment depot.

Work already has started on the recently acquired island, an annex to the U.S. Naval Supply Depot in Oakland, under direction of Comdr. V. A. A. Powell, U.S.N.

Six wooden and four steel storehouses are to be completed within 90 days and 18 additional steel storehouses are to be built. Twenty-two miles of railroad track, 11 miles of paved roads, 3000 linear feet of wharfage and a labor camp for 1000 men are to be constructed.

Figure 5: Oakland Tribune, 18 October 1944

at the northeast corner of the island. After their deaths in 1946 and 1948, respectively, the entirety of the Lindley property reverted to the Navy. The Lindley home remains standing today.

At the time of the Navy acquisition, Rough and Ready Island had been developed to the point that building and construction could begin immediately. At the time, the island was essentially a clean slate for development of the new base, with little existing construction to take into account. Also at the time of Navy occupation, Rough and Ready Island was surrounded by levees and served by the Belt Line Railroad, including a bridge over the San Joaquin River at the east end of the island for connections to the Port of Stockton and other railroads. It was served by two main roads, the east-west County Road 403 leading to the City of Stockton and the Port on the east, and the north-south Daggett Road. It was served by three motor vehicle bridges, one at the south end of Daggett Road across the Burns Cut Off (extant), at the west end of County Road 403 across the Burns Cut Off, and at the east end of County Road 403 across the San Joaquin River north of the railroad bridge. There were also a few minor roads leading to fields and small farms, and a few scattered buildings.

As the Navy planned its installation, the minor roads were ignored and the scattered farm buildings that remained (with the exception of the Lindley house) were demolished. The Belt Line railroad was

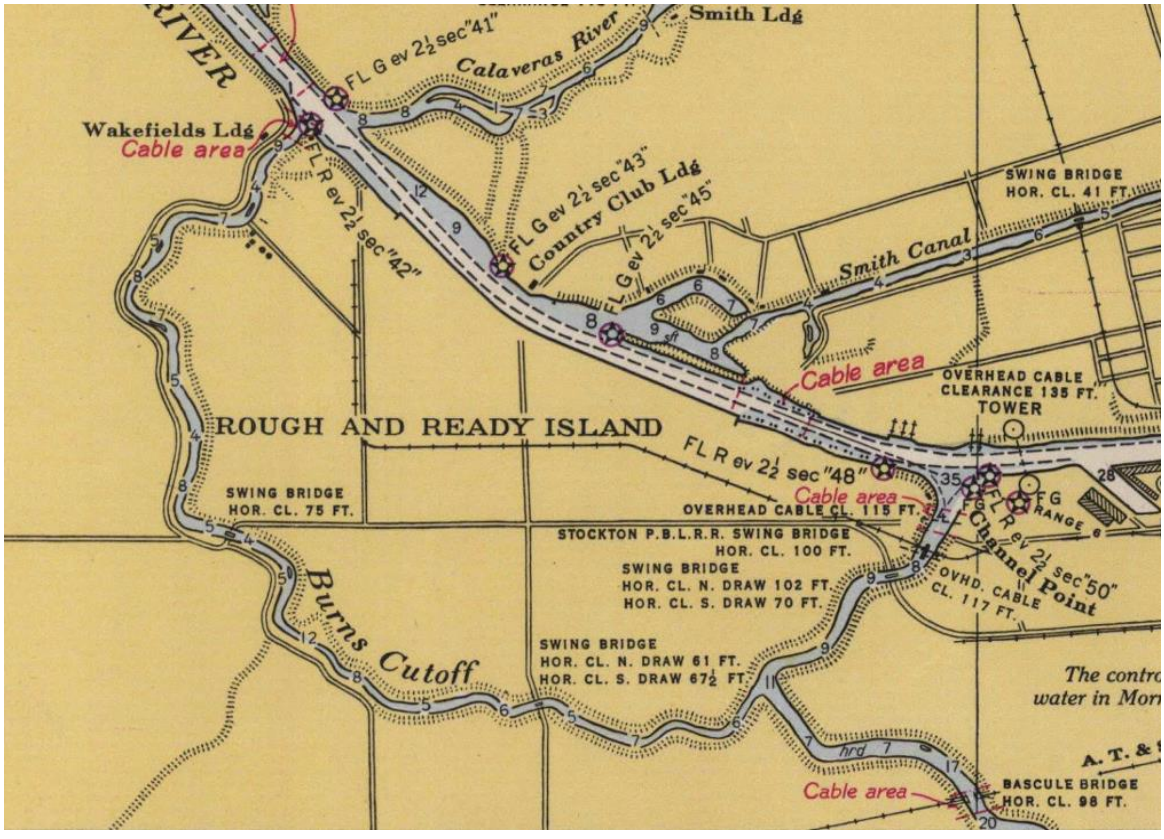


Figure 6: US Department of Commerce map, 1948

expanded and the main roads were incorporated into the new development. The east-west County Road 403, renamed N Street (later Fyffe Avenue), became the principal street of the base, along which were all the administrative buildings and, eventually, the only substantial ornamental landscaping. Fyffe Avenue remains today as the principal east-west artery across Rough and Ready Island.

The development of Naval Supply Annex Stockton in 1944-1945 as a military base was one in a series of transformations that characterized the history of the island. It was converted from farmland into a full-scale military installation, with features comparable to those of a small city. It included a diverse transportation system including roads and vehicle bridges, a railroad, and shipping facilities; a complete utility infrastructure for electricity, gas, drinking water, water for fire fighting, storm drainage, and sewage treatment; administrative buildings; medical and dental clinics; cafeterias; fire stations; police; a box factory; shops and maintenance facilities for vehicles, locomotives, buildings, and grounds; extensive warehouse facilities; a civilian labor camp, and housing for naval officers. Even with all this development a substantial part of the island still remained undeveloped, primarily used as agricultural land.

From the end of the war in 1945 until about 1960, there were generally only minor changes to the physical plant of the World War II installation. The principal change was replacement of the labor camp with permanent housing in the same general area on the east side of the base, known as Forrestal Village. In 1957, construction began on buildings and an antenna field in previously undeveloped land in the south-central area for the communication station that began operation in 1960. Other changes after that time were the opening of a golf course in the northeast comer of the island; construction of a large Army Reserve building on Fyffe Avenue; construction of a water tank, visible from a distance beyond Rough and Ready Island; and gradual maturing of the palm trees and other landscaping.

The levees circumnavigating the island were improved twice after World War II. The River and Harbor Act of 17 May 1950 provided for dredging a 30-foot channel and the building up of the levees all around Rough and Ready Island along the Stockton Deep Water Channel, the San Joaquin River, and the Burns Cut Off. Under this act, the 1933 railroad bridge was replaced with the current steel bridge. Some of this work was delayed until after the Korean War ended in 1953. The channel was dredged again in 1985, and the levees raised as a result of federal action in 1983.

NAVAL SUPPLY IN WORLD WAR II The supply of materials, one of the inescapable functions of the military, is an aspect of the larger issue of logistics which encompasses both material and personnel. Naval logistics has been defined as "the supply of material and personnel, including the

procurement, storage, distribution and transportation of material, and the procurement, housing, training, distribution and transportation of personnel, together with the rendering of services to Naval operating forces." The role of industrial production, the supply line, and the merchant marine in the American victory in World War II was discussed in a report to President Truman by the War Shipping Administrator in 1946 as integral to the combat role: "The United States was a member of a fighting team of United Nations that won the greatest war in history. There were three major players who represented the United States on that team: our fighting forces overseas, the production army here at home, and the link between them."

While the Naval supply line administered by the Bureau of Supplies and Accounts functioned in an effective manner by the end of the war, this was not always the case. An infrastructure of supply bases and transportation needed to be constructed, and an organization of supply lines had to be devised and improved. The center of the Naval supply line was the supply depot, whose function was "the procuring, storing, and forwarding of material to the supply departments of individual installations, to other large depots, to advance bases, or direct to ships of the fleet."

At the beginning of the war, there were only two major supply depots, called continental depots, in operation, in Norfolk, Virginia and San Diego, California. Beginning in 1936, as plans were made for expanding the size of the fleet, parallel plans were developed for expanding the existing supply depots and building the new ones in Bayonne, New Jersey and Oakland, California. In 1940, Admiral J.W. Greenslade was commissioned to study future supply needs of the Navy. The report of the Greenslade Board in January 1941, called for a total of five depots, and a novel approach to the location of depots, inland and separated from Navy yards and sources of industrial supply. An inland supply depot with good rail connections was seen as more secure from attack, better protected from sabotage and fire, and more flexible and capable of supplying equally well any number of ports.

In the three weeks following Pearl Harbor, the· first inland supply depot was approved for Mechanicsburg, Pennsylvania, and authorization swiftly followed for a new depot in Seattle. In the spring of 1942 work on three additional inland Navy supply depots was initiated at Clearfield, Utah; Spokane Washington; and Scotia, New York; and one Marine Corps Depot of Supplies at Barstow, California. In June 1942, depots were established in New Orleans, Louisiana and Newport, Rhode Island. In December 1942, a depot was established at San Pedro, California. Through 1943, existing depots were continually expanded; new depots were built and, one by one, began operation; annexes were established in relation to existing depots (notably Cheatham Annex, attached to Norfolk); and minor supply facilities were established in numerous places to augment the activities of the continental supply depots. Where continental supply depots dealt in general provisions, specialized depots handled aviation fuel, antisubmarine nets, medical supplies, ammunition, and other materials with unusual handling or safety requirements.

By early 1944, major problems were recognized in the supply process, particularly in the west, and Admiral Greenslade conducted another study of the issue. His report of 11 July 1944 identified a number of problems: saturation of the labor supply, workers dissatisfied with working conditions and overcrowded housing, and physical congestion in the major ports of San Diego, Los Angeles, San · Francisco, Portland, and Seattle. He recommended that new facilities be located inland, that shipbuilding be reduced in favor of ship repair work, that aircraft production be reduced in favor of overhaul work, that all military recruitment and training facilities be moved inland, that more overseas shipping be shifted to Portland, Seattle, and Los Angeles-Long Beach, that material from the east and Midwest be sent to the Pacific via Atlantic and Gulf ports, and that a new supply depot be built at Stockton to relieve congestion at Oakland.

Figure 7: Naval Supply Depot Oakland, Wikipedia commons

Conditions in San Francisco Bay and at the Naval Supply Center, Oakland were particularly crowded. The establishment of Naval Supply Depot, Clearfield, Utah (commissioned 10 April 1943) relieved congestion in Oakland for a time but by November 1943, the US Army Holding and Reconsignment Station at Lathrop, California was used for overflow, and in February 1944 the Army rail facility at Yermo, California was also used. In April 1944, a supply sub-depot was recommended for Rough and Ready Island near Stockton. Construction began in August of 1944, and Naval Supply Annex, Stockton, was commissioned in June of 1945.[2]

When the war abruptly ended in August of 1945, there were twelve continental supply depots and two major supply annexes (Cheatham and Stockton), and numerous smaller annexes, specialized depots, and minor supply stations.

[2] *"Navy Annex Dedicated," The Los Angeles Times, 1 July 1945, page 8.*

CARGO HANDLING was a critical issue in the efficiency of the supply depots. As the war progressed, and as additions were made to existing depots and new depots were constructed, design modifications were made to accommodate changing approaches to cargo handling. At the beginning of the war, the most common means of handling cargo required nonstandard variable approaches to loading materials packaged in different ways and varied sizes. Cargo handling was a labor-intensive process that involved several different steps, often performed by separate groups of laborers. For example, materials meant to travel from a warehouse in Stockton to a cargo ship tied up at NCS, Oakland might be moved from the warehouse to a transit shed on the dock to the dock itself all in separate actions requiring loading and unloading a wagon or other conveyance. It would then be hoisted by other workers onto the deck of the ship, lowered into the hold, and stacked by a workman skilled and experienced in the art of stowage.

Efforts to streamline cargo handling in the 1930s had resulted in proposals for two types of systems: one involving pallets of standard size and design, moved about by fork lift trucks; and the other involving closed boxes called containers, of standard dimensions. Both systems were designed to move a wide variety of materials with a minimum of labor. Adoption of these systems was inhibited by labor unions, a lack of widespread appreciation of the efficiency that was possible, and a lack of perceived need, among other factors.

Changed and urgent conditions during the war resulted in experimentation with fork lifts and pallets and eventually enthusiastic adoption. (Containers were not much used until after the war and were not adopted on a large scale until the development of container cranes in the late 1950s.) After conducting its own studies, in the summer of 1943 the Navy Department "began to push the use of Fork Trucks and Pallets." By October 1943, labor unions supported their use, but complained that fork lift trucks were unavailable because the Army and Navy had monopolized them for the war effort. At NCS, Oakland, an existing supply of 10,000 pallets that had been ordered in 1942 but were little used were brought to the waterfront for loading ships only. Through trial-and-error, the concept was developed of loading pallets in the warehouses, and carrying loaded pallets to the waterfront and then onto ships without the need to unload them.

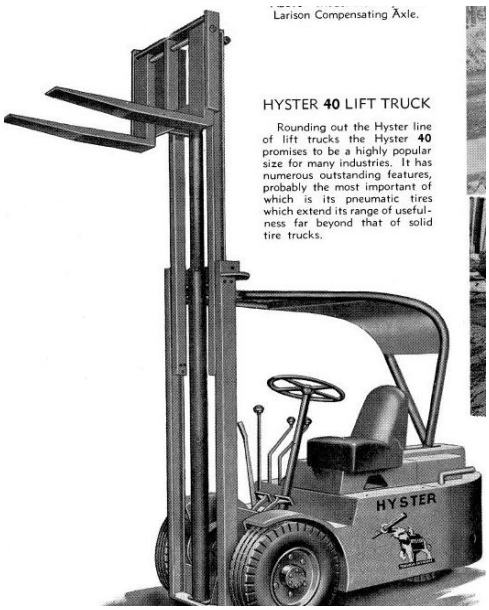


Figure 8: Hyster Forklift catalog 1940s, Wikimedia commons

Experiments with pallets and fork lifts at NCS, Oakland resulted in a number of refinements in the design of pallets, making them stronger and cheaper, and an understanding that the greatest efficiency was achieved when loaded pallets were used for the greatest number of steps in cargo handling. Another result was the conclusion that multi-story warehouses, where elevators or hoists were required, did not work well with fork lift trucks. The most efficient warehouse was determined to be one story and 200 by 600 feet (in contrast to the previous standard of 120 by 600 feet), with capacity of 100 rail carloads of material loaded on pallets.

As these lessons were learned in Oakland, they were applied to new facilities in Oakland and at depots around the country. The first new-style warehouses were built at Mechanicsburg and Clearfield. An existing plan of warehouse construction at Oakland was changed, replacing planned multi-story warehouses with one-story warehouses. According to the official history of the Bureau of Yards and Docks during World War II:

> "At Rough and Ready Island Annex, all storehouses were built according to designs standardized for the economical use of space needs presented by the palletization and fork-lift truck programs of the Bureau of Supplies and Accounts. Buildings to meet this need had been constructed at the other depots, but the growth of the depos had been contemporaneous with the growth of the standardization, so that no other depot met the requirements in every building."

The adoption and refinement of cargo handling by fork lifts and pallets was an important development not only for the military but for the shipping industry as a whole. In the period between 1949-1951, the use of pallets and fork lifts was considered "standard procedure for all the armed forces." It was a crucial step in the science of materials handling that prevailed in shipping for only about 15 years when it was superseded by containerization but which remains undeniably important in warehousing today. According to the Bureau of Yards and Docks, two of the three "outstanding changes to the supply picture" brought about by World War II were the use of fork lifts and pallets and the modification of warehouse design to accommodate them.

WORLD WAR II In April 1944, Navy officials searching for a site for an west coast inland supply depot, visited numerous locations in the vicinity of the Bay Area, including Rough and Ready Island near Stockton. This resulted in a recommendation by Greenslade on 29 April 1944 to purchase 1,310 acres to establish the facility at Rough and Ready Island. The reasoning was comprehensive: its location on a deep water channel, its location seven hours from San Francisco Bay via Liberty Ship, its 7,000 foot frontage for a marginal wharf, existing service by the Belt Line railway of the Port of Stockton (which would speed the release of unloaded cars by six days), and the presumed availability of labor

and housing. By the end of May, the Bureau of Supplies and Accounts had developed a detailed program for construction by the Bureau of Yards and Docks. The purchase was completed for $700,000.

On 31 May 1944, the Bureau of Yards and Docks' authorization letter stated that "working drawings and specifications were being prepared based on a new standard 200' by 600' storehouse with car height floors, loading platform, and canopy on railside, sprinkler system, unheated storage space, and offices on the truck side at the center of the building." Final approval by the Secretary of the Navy to build NSA Stockton over a period of 17 months for $28,490,000 was made 26 July, 1944.

The project would be built in four phases, beginning in early August 1944. Most of the work would be done under two major lump sum contracts with general contractor Twaits, Morrison, Knudsen & Gerwick. Storehouses, waterfront, open storage and utilities would be built under one contract, with administrative and operational buildings built under the other. For the Bureau of Yards and Docks, development of the project was under the direction of Captain T. Hartung and construction was under Commander V. Powell. Design of the facilities was by Donald R. Warren Company, Engineers, of Los Angeles.

The plans were modified in numerous ways during the course of construction, including shortening the marginal wharf from 7800 to 6400 feet, increasing the number of warehouses and open storage for aviation supply, modifying the structural systems of warehouses, and building nine short transit sheds instead of six long ones in order to correlate the streets of the base with openings to the waterfront. Only one major endeavor was eventually omitted from the plans: to construct facilities for a Voyage Repair Unit, thereby shortening the construction period and ultimate cost.

The greatest obstacle in constructing the base was the availability of labor, for which a labor camp was built in the southeast part of the island. In the early spring of 1945, 500 German prisoners of war were brought to Rough and Ready to build the base. This was considered a "very satisfactory" arrangement and in early 1945, 1000 more POWS, both German and Italian, were requested.

In October 1944, space was leased at 2200 Adeline Street in Oakland for the pre-commissioning detail. The name Stockton Annex, Naval Supply Depot, Oakland was superseded 23 October 1944 by Naval Supply Annex, Stockton and on 1 November 1944, officially, by U.S. Naval Supply Annex, Stockton, California.

Around 1 May 1945 the first barges began shuttling between NSD, Oakland and NSA, Stockton. On 30 June, 1945 NSA Stockton was formally commissioned in ceremonies attended by regional Navy officials and the mayor of Stockton, and broadcast nationally over the radio. The *San Francisco Chronicle* called it "one of the largest naval supply centers in the United States." On its commissioning,

its intended purposes were to serve as an annex to NSD, Oakland, as a Navy Material Redistribution Center, and as an In-transit Storage area. When it opened, acreage had been added, to a total of 1419 (the remaining 79 acres on the island belonged to two oil companies), in order to accommodate the rail yards and open storage needs. The final cost was $33,696,000. As completed, the base included 47 warehouses and transit sheds, about 40 miles of railroad trackage, 32 miles of roads, a 6400-foot marginal wharf, a box factory, office buildings, machine and trade shops, and a bachelor officers' quarters.

Once the base was in operation, Navy officers acted as supervisors for some civilian workers. Because the civilian personnel were initially planned to come from the city of Stockton, no provisions were made for civilian housing at Rough and Ready. The Bachelor Officer's Quarters, at the southeast part of the island, was provided for the Navy personnel. At full operation there were roughly 100 officers and well over 1000 civilian employees in up to 50 job categories.

NSA, Stockton was in full operation for only a little over a month when the first atomic bomb was dropped on Japan. The war ended 25 August 1945, less than two months after the base was commissioned. During its brief period of service during the war, the Japanese mainland was under bombardment, largely from naval vessels. Although no history of NSA Stockton's direct involvement in these actions has been found, it seems likely that the base did play a supporting role in supplying the fleet for the bombing of Japan in the last weeks of the war. If the war had continued with a full invasion of Japan, or a Japanese attack on coastal California, it is possible NSA Stockton could have been the sole source of military supply in the Pacific theater.

With the end of the war, substantial provisions were still necessary for troops still overseas or awaiting release at home. After several months, orders for supplies were canceled and the overall workload for the supply effort began to shrink. However, NSA, Stockton remained busy, and in this period may have made its greatest contribution to the war effort; to the so-called roll-up operation which continued well into 1946. The roll-up operation encompassed a variety of specific programs, all with the purpose of receiving returning equipment and supplies and disposing of them. NSA, Stockton was one of the early depots involved with the Navy's Surplus Disposal program.[3] From January to June 1946, $14.5

[3] *"Navy to Sell 600 Surplus Boats to Highest Bidders," Oakland Tribune, 31 October, 1956.*

Figure 9: The Santa Rosa Press Democrat, 18 May 1946

million in surplus supplies were processed through Stockton and Oakland for civilian war relief. In January 1946, the Pacific Reserve Fleet, consisting of 13 Navy transport vessels, was assigned to Stockton. In May 1946, the Landing Craft Storage program came to Stockton and on 6 May 1946, the first sale of the War Assets Administration was held at Stockton.

THE PACIFIC THEATER The Navy's concern that emerged in late 1943 and early 1944 about west coast logistical challenges was related in part to deficiencies in both organization and facilities, and the role of supply in the forthcoming invasion of Japan. By 1945, under the code names Olympic and Coronet, specific plans were in place for the invasion of Japan: "All the measures of planning and implementation taken during this period were directed toward a single end - the invasion and conquest of Japan beginning on the first of November 1945." While none of the general histories of the war and none of the documents concerned with the history of the Stockton facility refer to its mission specifically in relation to the Pacific Theater, the Navy's efforts to support in this period are consistent with the role for Stockton in that effort.

When the Stockton annex was first planned in the spring of 1944, Oakland and Stockton together were expected to handle 80 percent of the supply needs of the fleet in the Pacific. As much as the fleet was engaged in invading Japan or any other Pacific activity, Stockton would play a key role.

POSTWAR When the war and its housekeeping were settled, activity at NSA Stockton declined until July 1950 when the buildup began again for the effort in Korea. From 1950 to 1953, NSA Stockton operated on a 24-hour basis to supply the Korean War. After 1953, activity again declined, and by May 1956, the base was manned by a residual force for maintenance and administration. The decision in 1955 to bring a communication station to Stockton resulted in incremental installation of communications facilities in 1956 and 1957, in anticipation for a major switching station for "the nation's newest and fastest automatic teletypewriter communication system," which was installed on

5 May, 1959.[4] Soon after, on 1 July, 1960, Naval Communication Center San Francisco, Stockton, began operation as a tenant of NSA, Stockton.

As the Navy's need for supply facilities dwindled, civilian, Army, and non-military government tenants began to lease the warehouses, including Tracy Defense Depot and the Port of Stockton. In 1964, the General Services Administration (GSA) moved into nearly half of the warehouse facilities. In 1965, NSA Stockton was fully decommissioned and Naval Communication Center, Stockton was established.

Changes to the physical plant for the postwar period have made a minor impact on the appearance and character of NSA Stockton as it was built. Perhaps the most conspicuous change is the presence of mature palm trees along Fyffe Avenue. Although it is not known when they were planted, an aerial photograph in 1953 shows them very small, and it seems likely that they were planted soon after World War II.

NAVAL COMMUNICATION STATION, STOCKTON (NCS) An office of naval communications for the San Francisco region was formally established on May 21, 1904 at Radio Station Mare Island near Vallejo, several years after a makeshift station in an abandoned pigeon loft had gone into operation. From this station, the first radio signals were transmitted to ships in the Pacific, and by 1915, radio equipment was provided for a string of new stations up and down the Pacific coast from the Mexican border to Alaska. In 1917, Naval Communication Station San Francisco was established on Yerba Buena Island, but with the headquarters and transmitter facility remaining at Mare Island. The new entity in the San Francisco Bay was commonly called Radio San Francisco (call letters NPG) and Mare Island was re-designated as Radio Transmitting Station of NPG. After the end of World War I in November of 1918, Radio San Francisco was relocated to the Appraiser's Building on Sansome Street in downtown San Francisco. In 1925, Radio San Francisco moved to 100 Harrison Street, at the new Marine Corps Supply Depot, and in 1935, Radio San Francisco was again moved to the new Federal Building in the city's Civic Center. By 1939, radio facilities under the command of the 12th Naval District known as Naval Communication Station San Francisco included Radio Central Station San Francisco; Radio Transmitting Station Mare Island; Radio Monitor and Receiving Station South San Francisco; and Direction Finder stations at Point Reyes, Point Montara, Point St. George, the Farallon Islands, and Eureka.

[4] *"Plans Revealed for Navy Center,"* The San Francisco Examiner, 11 November 1957, page 2.

Navy Nearing End of Move

SAN FRANCISCO (AP) — The Navy said today it will complete on Monday the move of its huge communications system headquarters from San Francisco to Rough and Ready Island, near Stockton.

Relocation of the station, started in May, involved transferring tons of equipment and 263 military and civilian personnel.

Rough and Ready will be one of the Navy's major switching stations for the automatic teletypewriter system connecting 236 teletypewriter stations in 31 states.

Capt. A. L. Carlson, commanding the station, said:

"With the entire network handling approximately nine million words daily, our own station relays about one-fifth of the total every 24 hours."

Figure 10: The Petaluma Argus-Courier, 13 July 1960

World War II generated enormous pressures to expand and improve radio facilities. In 1941, development of a 3300-acre site was begun at the north end of San Pablo Bay for Naval Radio Station Skaggs Island, a receiving station. When the Naval radio communication facility on Skaggs Island opened in 1942, the South San Francisco facility closed. A temporary station was established at Castroville (until 1 July, 1945), and Naval Radio Direction Finder Calibration Station Hunters Point was established in San Francisco. These facilities were linked to Yerba Buena Island and Naval Air Station, Alameda. In addition, because industrial expansion at Mare Island Naval Shipyard was encroaching on the communication facilities there, a new 1,284-acre site was purchased at Dixon for a new transmitting station. At the end of the war, development of Naval Radio Transmitting Station Dixon had only barely begun. Dixon was phased into operation between 1947 and 1950. Originally designed to supersede Mare Island, both continued to operate as transmitting stations until 1966 when the Mare Island facility closed.

In 1955, the decision was made to transfer the principal communication facilities out of the Bay Area to the existing Naval Supply Annex, Stockton, due in part to the nuclear threat from the Soviet Union. Building began for the communications facilities in 1956, the transfer began in 1959, and on 1 July, 1960, the San Francisco Civic Center office closed, and Naval Communication Center San Francisco, Stockton, California began operation.

As part of this reorganization, a radio relay station on Mount Diablo, planned since 1944, was completed in mid-November of 1960, and a substantial upgrade of facilities was initiated at Dixon.

Naval Communication Station, San Francisco, was a tenant of Naval Supply Annex, Stockton from 1960 to 1965 when the Naval Supply Annex was decommissioned. From 1965 to 1976, the facility on Rough and Ready Island was known as Naval Communication Station, San Francisco, Stockton. On 5 May, 1976, the facility was renamed Naval Communication Station, Stockton. Since its move to Stockton, other facilities associated with the communication station have been located at Treasure Island, Monterey, Jim Creek, Oakland, Mare Island, Moffett Field, Alameda, Bangor, Mt. Vaca, and Concord at

the Satellite Operations Center.[5]

THE PORT OF STOCKTON Jurisdiction of Rough and Ready Island was transferred from the US Navy to the Port of Stockton in 1996-1997. Since that time, the Port has continued the practice of renting warehouse and building space, but now to private tenants. Physically, the Port has segregated the seven transit sheds adjacent to the wharf for the reception and temporary storage of goods unloaded from barges utilizing the deep water channel. Commodities are then loaded from the transit sheds into rail cars, and carried off the island to their final destinations. The wharfside transit shed area is restricted and can only be accessed by an escort from Port staff.

The built-up area north of Fyffe Avenue, including the bulk of the warehouses, is accessed by a gate adjacent to the original Pass Office, Building 17A. This gated area, containing the offices of several local businesses, is not restricted but visitors must show identification to enter.

Any construction by the Port of Stockton since 1996 has made only a marginal impact on the historic district at Rough and Ready Island. A large, modern warehouse occupies space 212, north of warehouse 213, and a one-story office building was constructed along Fyffe Avenue east of Building 317. The demolition of approximately 20 structures by the Port is somewhat evident, but has also not made a conspicuous impact on the historic area.

At the Lindley property at the northeast area of the island, the golf course was operated until around 2008, when the Port converted it to a bird and wildlife sanctuary. The Lindley house itself, listed in the National Register of Historic Places in 1983, was heavily modified and subsequently de-listed in 1996.[6] (See Appendix A)

In 2018, the majority of the warehouses at Rough and Ready Island are occupied, and continue to be used for their originally intended purpose, to store and transport goods. Conversely, the administration buildings are mostly vacant, excepting Buildings 217 and 217A, and without prompt attention will deteriorate quickly.

[5] *"Welcome Aboard" Naval Communications Station Stockton Orientation Packet, 1979.*
[6] *HARP, 1996.*

ARCHITECTURAL SURVEY

The architectural survey of the historic areas at Rough and Ready Island was conducted by Terracon Consultants' Secretary of the Interior-qualified historic preservation staff in August and September of 2018.

PERIOD OF SIGNIFICANCE Every historic resource determined eligible for a National, State, or Local Register of Historic Places must be associated with a period of significance, which refers to the span of time during which significant events and activities occurred.[7] With regard to Rough and Ready Island, the 1996 HARP identified the period of significance for the historic district as during wartime and roll-up operation, prior to 1946.

This narrow period of significance is understandable for two reasons:

1. When a resource is considered eligible for the National Register of Historic Places under Criterion C, for architectural significance, the period of significance is often identified only as its year of construction. Because the physical plant at NSA Stockton was constructed in a brief span of time, it can be considered logical to restrict its period of significance from 1944-1946 when considered under Criterion C.
2. American historic preservation convention traditionally assigns an age of 50 years as a benchmark for a historic resource to be considered eligible. At the time of the HARP in 1996, only those buildings built from 1944-1946 were 50 years of age or older, and other buildings constructed later than those years would reasonably not be considered.

However, at the time of evaluation in 2018, those buildings constructed for the Naval Communications Station have now reached 50+ years of age. The facilities erected for the Communication Station are not extensive, totaling only three buildings and one structure, and do not make a great physical change to the integrity of the NSA-built properties. These buildings, 120, 128-129, 134, and 219 are located in an adjacent area and together form a cohesive establishment. These buildings are architecturally distinct from the NSA-era facilities, and express a distinctly mid-century style of architecture. To a visitor, it is easily discernible that the NCS buildings were constructed at a different time and for a different purpose.

As the district at Rough and Ready Island is now being considered eligible under Criterion A, as a contributor to a broad pattern of history, the period of significance can be updated to include the Naval

[7] *Researching a Historic Property*, National Register Bulletin, U.S. Department of the Interior, 1998.

Communications Station years as well. Though two distinct periods of development are apparent, to discount and exclude the four NCS-era resources from the period of significance would be an inaccurate representation of the history of the installations on the island, and the physical manifestations of that history.

As such, the period of significance for the historic district at Rough and Ready Island is defined as 1944-1965. This includes the construction of the NCS-era resources, and the years in which the NCS was a tenant of the Naval Supply Annex. With the official decommissioning of the NSA-Stockton in 1965, the era of eligible building construction also ended.

BOUNDARY JUSTIFICATION The 1996 HARP identified a boundary for the historic district at Rough and Ready that encompassed the entire island, excepting the golf course and Shell Oil properties. At that time, minimal new construction had occurred at the island, and private entities had not yet begun to occupy significant tracts of land. Today, the southern part of the island is restricted and private property, and a large new warehouse has also been constructed near the Port of Stockton Expressway bridge.

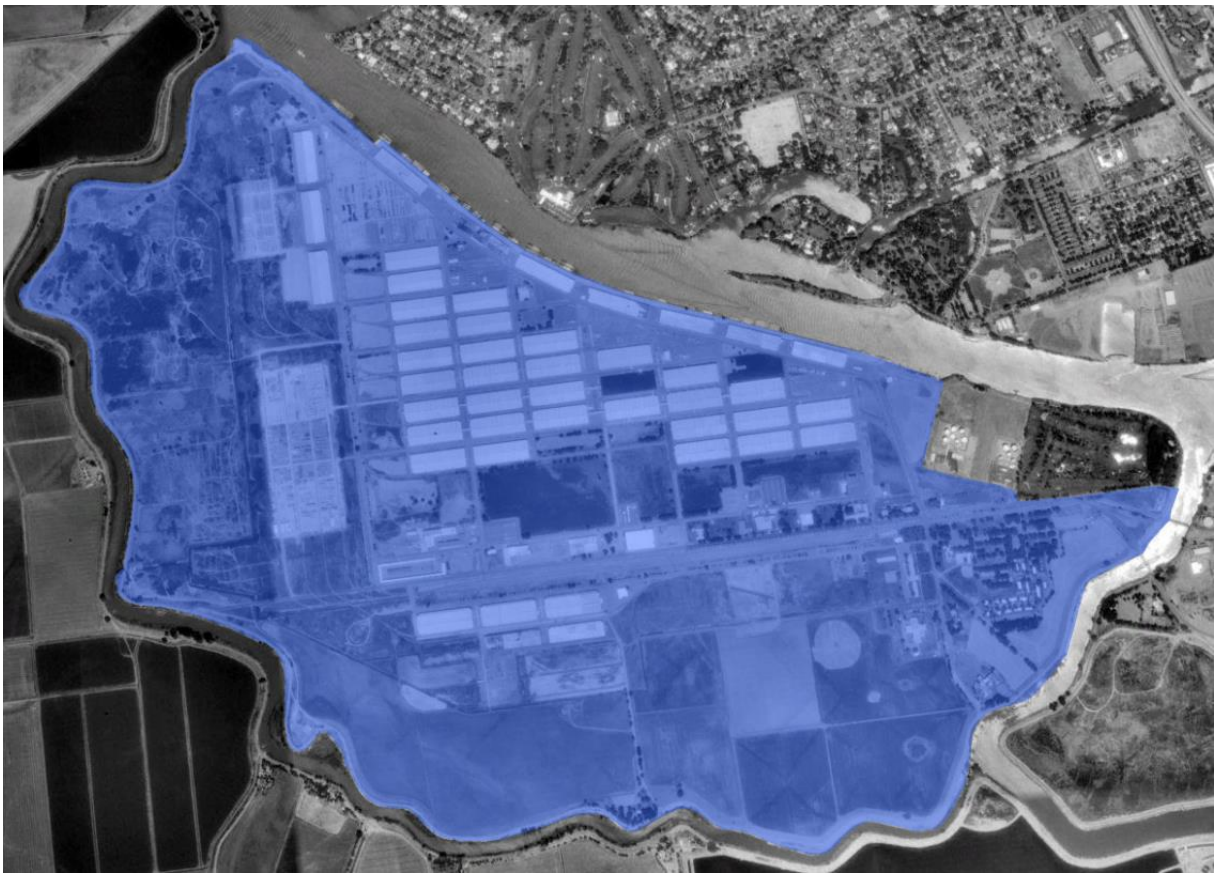


Figure 11: 1996 HARP historic area boundary

The boundary for the historic district at Rough and Ready Island is now defined as such:

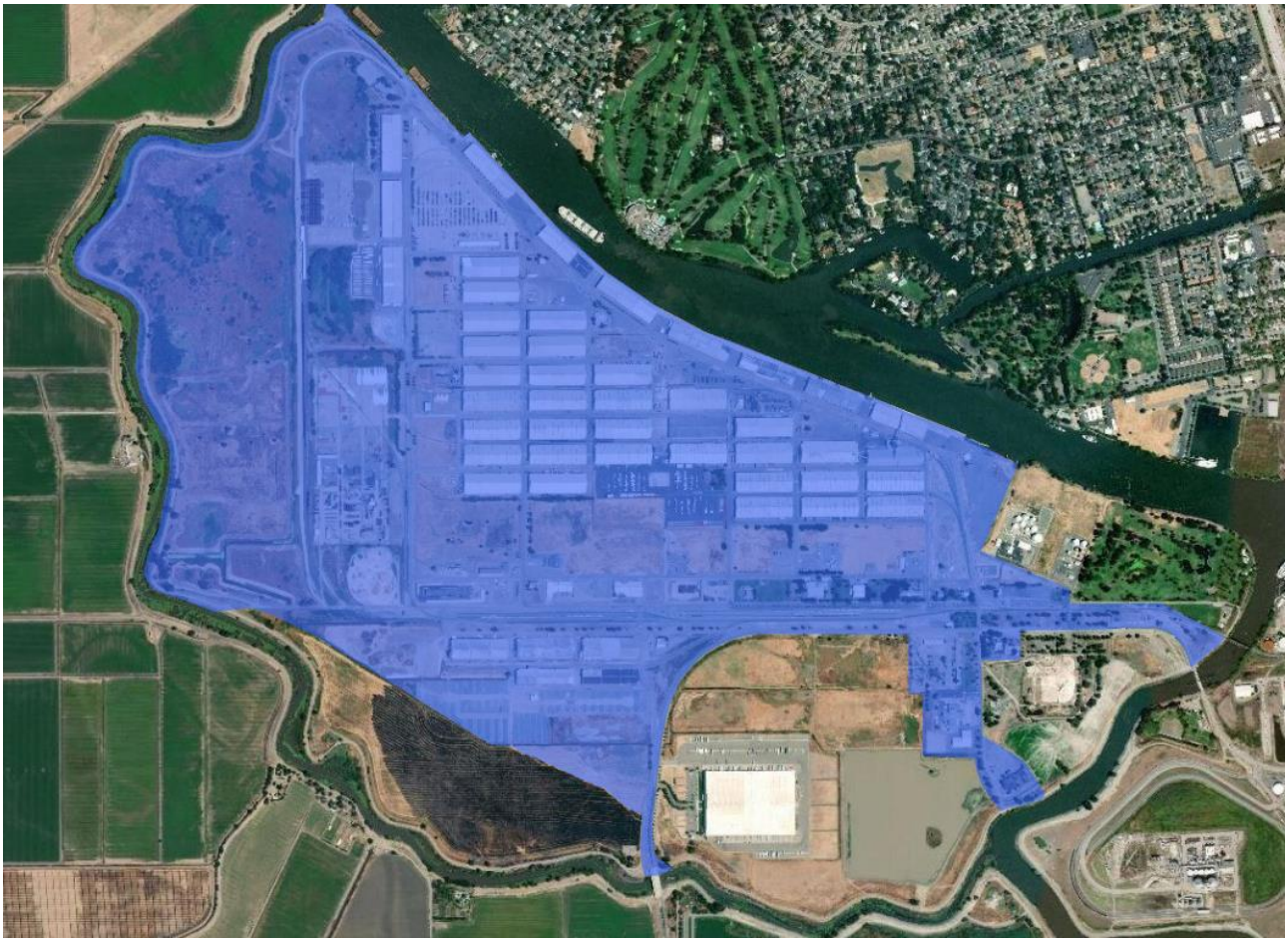


Figure 12: 2018 historic area boundary

*Please refer to enlarged maps in Appendix B

The 2018 historic district boundary continues to include all extant historic resources. By virtue of their location within the historic area, some modern, non-contributing structures fall inside the boundary as well. While these buildings are adjacent to the historic resources, they are not themselves considered historic.

SURVEY METHODOLOGY The 2018 architectural survey of Rough and Ready Island was designed to observe, assess, evaluate, and document every remaining historic built resource. Terracon Consultants' Secretary of the Interior-qualified staff, Arianna Urban, MSHP, Ashley Gramlich M.Arch, MSHP, and Chris Laswell, Assoc. AIA, conducted fieldwork over the course of three days. Survey information was gathered in accordance with the California Office of Historic Preservation from DPR-523, the standard survey form for architectural resources in the State of California.

The 1996 HARP also utilized the DPR-523 to document the historic resources of the island. A list of contributing and non-contributing resources was included in the HARP, and prior to performing field work, each of these resources was located and pinned to a proprietary Google Earth layer. This identification was crucial in the evaluation of extant and demolished resources, and the chronology of any changed buildings over time. The HARP provided a framework for the 2018 survey, and modern technologies were utilized to rethink and enhance the HARP information. An ArcGIS online map will accompany this study and is currently in beta testing.

The 2018 DPR-523 forms should be considered an update to the 1996 forms. The 2018 survey was largely motivated by the need to understand any changes made to the historic resources since the 1996 survey, and if these changes will affect the eligibility of the district for the National Register of Historic Places.

Historic context information was largely adapted from the HARP. In 2018, a comprehensive online newspaper search was also conducted for "Rough and Ready Island" which contributed some anecdotal information to supplement the island's historic narrative. It was also through the discovery of a cache of NCS-related news articles that the decision to redefine the period of significance was germinated.

SITE AND PROPERTY DESCRIPTION[8]

Rough and Ready Island is located due west from the City of Stockton center, in central California, USA. It is situated south of the San Joaquin River, and approached by incoming barges prior to entry at the Port of Stockton itself. The island has three access points: one vehicular bridge to the south, along the Port of Stockton Expressway across the Burns Cut-Off; another vehicular bridge to the east at Navy Drive, and railroad bridge adjacent to the Navy Drive bridge to the north.

The U.S. Naval Supply Annex Stockton (NSA Stockton) on Rough and Ready Island occupies nearly 1500 acres bound by three water courses: the Stockton Deep Water Channel; the San Joaquin River, and the Burns Cut Off. Although there have been some changes since the end of World War II especially east of Hooper Drive and on the west side of Hooper Drive south of Fyffe Avenue, those parts of the island actively used by the Navy is little changed and the most substantial changes occupy a relatively small area.

Rough and Ready island is organized as an orthogonal grid of streets oriented to the cardinal

[8] Adapted from HARP District Record Forms, 1996.

directions. A network of rail lines, some defunct and others active, overlays the street grid. The principal area of the rail/street grid is a large triangular area oriented to the marginal wharf which runs along the Stockton Deep Water Channel on the north side of the island. In the blocks created by the rail/street grid are the primary buildings and spaces of the base - warehouses, transit sheds, and open storage areas; also utilitarian and administrative buildings. Open areas around the periphery of the grid were an essential element of the storage capabilities of the island.

Both the streets and the railroad enter the base at the east end. The railroad network includes a holding and reassignment yard, and a classification yard. Spurs run from the rail yards to every warehouse, transit shed, and open storage area on the island, although many peripheral rail lines have been abandoned.

The 38 warehouses and 9 transit sheds are one-story, corrugated metal-clad structures designed to accommodate the handling of cargo by pallets and fork-lift trucks. The warehouses, which were designed for efficient storage of palletized material, measure 200 feet by 600 feet, which was considered the optimum size for the purpose, six of the warehouses are wood-framed and the rest of them are of steel-frame construction.

The storage and transportation facilities are supported by maintenance and repair facilities, which include a locomotive shop and other large workshops. As a brand-new facility, a complete utility infrastructure was built for electricity, water, fire protection, telephones, sewage, and storm drainage (which was especially important on this island).

Offices, medical and dental clinics, cafeterias, and other buildings for administrative purposes and personnel were located primarily on the main street of the base, now Fyffe Avenue. Naval officers lived in the Bachelor Officer's Quarters at the south end of Hooper Drive, (and later during the NCS-era in the Building 128-129 barracks). These buildings were all harmoniously designed as one and two-story structures with stucco walls, gable roofs, and a uniform paint scheme.

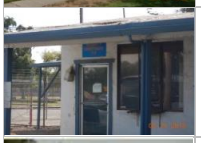
CONTRIBUTING RESOURCES All historic resources considered contributing to the Rough and Ready Island historic district are constructed between 1944-1957[9] (State of California code 3D). Buildings, structures, and objects with origins not within those years, but that lie within the boundaries district are considered non-contributing resources (code 6Z).

One element, the Daggett Road Bridge, is considered both individually eligible and a contributor to the district, though it falls outside of the defined period of construction. This inclusion is attributed to the

[9] Though the period of significance ends at 1965, because the National Register Criterion A, a contribution to a broad pattern of history, is being applied to assess the eligibility of this historic district, the dates of construction do not need to align with the period of significance. When using Criterion C, these dates are often the same.

importance of availability for access on and off the island, beginning around the turn of the century. This vehicular access, preceding even railroad access, was undoubtedly a factor in the Navy's decision to occupy the island.

The following compose the contributing historic resources at Rough and Ready Island:

	BUILDING	HISTORIC USE	YEAR BUILT
	17	Police Station	1944
	17A	Pass Office	1944
	20	Bowling Alley	1945
	20B	Ball Diamond Dugouts	1948
	21A	Pool House	1948
	21B	Sewage Treatment	1948
	24	Bachelor Officer's Quarters	1945
	24D	Picnic Shelter	1948
	25	Enlisted Men's Club	1951

	114	Water Tower	c.,1964
	115, 118	Truck/Track Scales	1945
	117	Fire Station	1944
	120	Communications Building	1957
	128/129	Bachelor Enlisted Quarters	1957
	134	Gate House	1957
	210, 605	Pump Houses	1945
	211, 310, 409, 508, 606, 619, 704, 719, 803	Transit Sheds	1944-1945
	213, 214, 312, 313, 314, 412, 413, 414, 510, 511, 512, 609, 610, 611, 612, 708, 709, 710, 711, 712, 713, 805, 806, 807, 808, 809, 810, 811, 812, 813	Steel Warehouses	1944
	217	Administration Building	1944
	217A	Cafeteria	1944

	218	Railroad Office	1944
	219	Bachelor Enlisted Quarters	1957
	317	ASA Office	1944
	411, 707	Heavy Materials Storages	1944
	417	Dispensary	1944
	417A, 817A	Sewage Lift Station	1944
	417B	Dispensary Carport	1944
	518	Holding Office	1945
	528	Daggett Road Bridge	1902
	607	Cafeteria	1944
	607A	Boiler House	1944

	617	Box Factory	1944
	618, 718, 818, 1003, 1004, 1005	Wood Warehouses	1945
	705	Fire Station	1944
	717	Public Works Office	1944
	717A	Public Works Shop	1944
	816	Paint Shop	1944
	816A	Paint Locker	1944
	816C	Automotive Shop	1944
	817	Public Works Shed	1944
	916	Railroad Shed	1945-1946
	916A	Railroad Shed	1945-1946

	917	Auto Shed	1945
	917A	Auto Shed	1945
	1002	Office	1944
	1121	Rod and Gun Club	c.1944
	1316B	Stormwater Drainage System	1944

Table 1: Rough and Ready Island, Contributing resources

The following compose the non-contributing historic resources at Rough and Ready Island:

	BUILDING
	116 Chlorination Facility
	316 Emergency Vehicle Garage
	215 Annex to Instrument Shed
	216 Instrument Shed, Barber Shop
	317A Reserve Center
	410A Equipment Shed

	BUILDING
	608A Equipment Storage
	706A, 706B Equipment Storage
	803B Water Treatment
	804 Equipment Storage
	804A Equipment Shed
	1015 General Warehouse
	1111E General Storage Shed

Table 2: Rough and Ready Island, Non-contributing Resources

BUILDINGS NOT LOCATED - STATUS UNKNOWN	
2, 3 – Rec Pier	617A – Public Works Shop Storage
104 – Unknown use	720 – General Storage Shed
119 – Antenna Comm	1004A – Weighing Facility
121, 124, 133 – Com-Sta Antenna	1114 – General Storage Shed
178 – Unknown	1115 – General Storage Shed
212 – Con W/Hnd Eng Shed	1120 – Small Arms Range
220 – Skeet Range	1201 – General Warehouse
410 – Con W/Hnd Eq Shed	1300 – Irrigation Facility
509 - Con W/Hnd Eq Shed	1317 – Public Works Shed

Table 3: Rough and Ready Island, Buildings Not Located

The following map is a visual outline of contributing vs. non-contributing resources:

Figure 13: Contributing vs. non-contributing resources map, 2018

BUILDING TYPOLOGY Four main classifications of the contributing historic architectural resources can be defined at Rough and Ready Island. These classifications, or typology, are distinguished by their appearance, construction materials/methods, location, use, and age. They are: are warehouses, administration, utility, and Naval Communications Station.

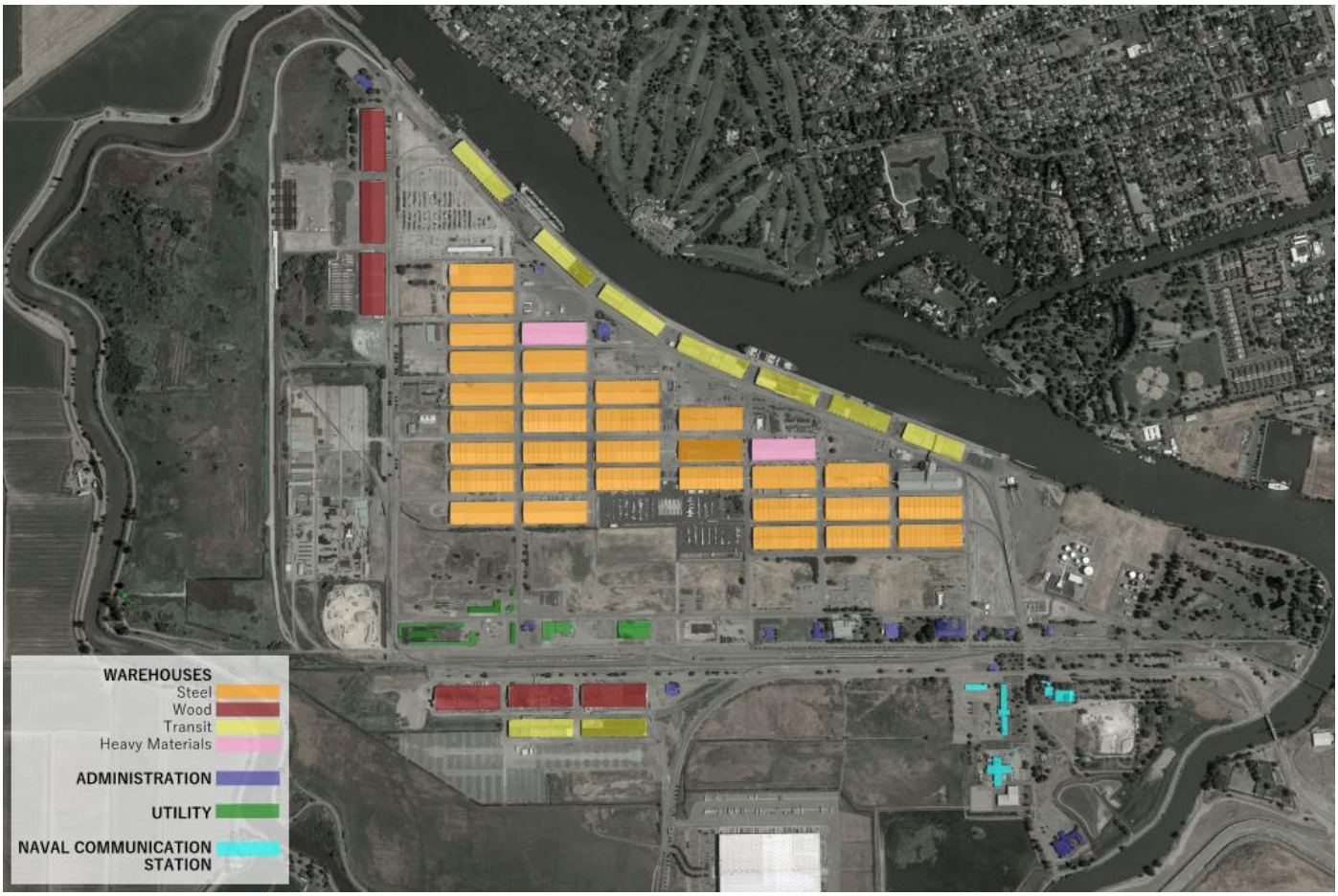


Figure 14: Building typology map, 2018

WAREHOUSES Though all similar in appearance, four types of warehouses are extant at Rough and Ready:

STEEL WAREHOUSES 1944 = 30 TOTAL

213	413	610	711	808
214	414	611	712	809
312	510	612	713	810
313	511	708	805	811
314	512	709	806	812
412	609	710	807	813

WOOD WAREHOUSES 1945 = 6 TOTAL

618			
718			
818			
1003			
1004			
1005			

TRANSIT SHEDS 1944-1945 = 9 TOTAL

211	704		
310	719		
409	803		
508			
606			
619			

HEAVY MATERIALS STORAGE 1944 = 2 TOTAL

411			
707			

ADMINISTRATION The administration buildings vary in size and plan, but are all harmoniously designed with similar scale and style:

ADMINISTRATION BUILDINGS 1944-45 = 16 TOTAL

17	218	705	
17A	317	717	
24	417	1002	
117	417B	1121	
217	518		
217A	607		

UTILITY The utility buildings include auto shops, woodworking, general repair and maintenance, and a paint shop.

UTILITY BUILDINGS 1944-45 = 17 TOTAL				
	115	617	916	
	118	717A	916A	
	210	816	917	
	417A	816A	917A	
	605	816C	1316B	
	607A	817		

NAVAL COMMUNICATIONS STATION The buildings constructed during the NCS-era are distinctly mid-century in style and easily distinguishable from the NSA buildings

NCS BUILDINGS 1957 = 10 TOTAL				
	21A	128		
	21B	129		
	24	134		
	24D	219		
	25			
	120			

Table 4: Building typology

The Naval Communications Station buildings were not included in the 1996 HARP, as they were not 50 years old at the time of that survey. Since, these buildings have stood as a significant contributor to the Rough and Ready historic district, both contextually and architecturally. Though they do differ in style from the Administration buildings, the housing and facilities associated with the Communications Buildings are distinctly mid-century modern buildings. The strong expression of modern structure that is evidenced by the placement of glass immediately below the concrete framing, particularly on the end walls, is a major defining feature. It is a classic mid-century modern gesture meant to highlight the fact that the walls below are simply infill, non-load bearing, and could be any material desired. The use of glass in this configuration was done to make the roof structure appear light, almost floating, and to make the statement that this was a modern structure using contemporary technology to create a new look and feel.

CHARACTER-DEFINING FEATURES Each building typology encompasses its own character-defining features. Character-defining features of historic buildings can be defined as such:

> "Those visual aspects and physical features that comprise the appearance of historic resources…including the overall shape of the building, its materials, craftsmanship, decorative details, interior spaces and features, as well as the various aspects of its site and environment."[10]

At Rough and Ready Island, the character-defining feature of the four main building typologies include enclosure materials, construction, rooflines/eaves, windows, doors, louvers/vents, lighting, location, and siting. These features are considered character-defining because if they were to be altered, the integrity of the historic buildings would be compromised or lost.

Within the context of the National Register of Historic Places, the exterior character-defining features of historic resources are of primary consideration. However, as the warehouses at Rough and Ready are greatly characterized by their structure, the truss system carries that structural expression from interior to exterior. As such, the interior trusses of the warehouse and utility buildings can be considered character-defining features.

Figure 15: HABS documentation, Library of Congress

[10] *Lee Nelson, FAIA. "Architectural Character-Identifying the Visual Aspects of Historic Buildings as an Aid to Preserving their Character,"* National Park Service, Preservation Brief 17, 1988.

WAREHOUSES

	CORRUGATED METAL SIDING		SLIDING WOOD GARAGE DOORS
	WOOD PANEL EGRESS DOORS		WOOD LOUVERS
	WOOD CANOPY OVER RAIL SIDE		EXTERIOR LIGHT FIXTURES
	STEEL SASH WINDOWS		GABLED ROOFS
	BOARD-FORMED CONCRETE FOUNDATIONS		PLYWOOD-FORMED CONCRETE FOUDNATIONS
	INTERIOR TRUSSES		FOOTPRINT AND LOCATION

Table 5: Character-defining features, warehouses

ADMINISTRATION

	GABLED ROOFS		MULTI-LITE WOOD WINDOWS
	WOOD WINDOW TRIM		OVERHANGING EAVES EXPOSED RAFTER TAILS
	EXTERIOR STUCCO CLADDING		ORIGINAL PORCHES
	EGRESS DOORS		FOOTPRINT AND LOCATION
	COMPOUND FLOORPLANS		

Table 6: Character-defining features, administration buildings

UTILITY

	CORRUGATED METAL SIDING		EXTERIOR STUCCO
	SHED ROOFS		SHALLOW GABLED ROOFS WITHOUT EAVES
	CLERESTORY WINDOWS		WOOD SASH WINDOWS
	SLIDING WOOD GARAGE DOORS		WOOD PANEL EGRESS DOORS
	DIAGONAL INTERIOR WALL BOARDS		INTERIOR TRUSSES
	FOOTPRINT AND LOCATION		

Table 7: Character-defining features, utility buildings

NAVAL COMMUNICATIONS STATION

	SHALLOW GABLED ROOFS		WIDE EXPOSED EAVES
	LARGE SINGLE-PANE GLAZING		HORIZONTAL ORIENTATION
	EXPRESSED CONCRETE STRUCTURE		FLAT COVERED WALKWAYS

Table 8: Character-defining features, NCS buildings

MAJOR ALTERATIONS AND DEMOLITIONS Though the physical plant of the historic district at Rough and Ready Island has not been substantially changed since its construction, some buildings and structures have been demolished or altered beyond recognition. These modifications do not affect the integrity of the district as a whole, but are explicated here for completeness of evaluation.

Several buildings within Rough and Ready Island are no longer extant. They include one large warehouse, and several outbuildings.

The known demolished resources are:

10 – Eastern vehicle bridge, replaced as of 2018
18B
T111
117B
517
817A
816B
816D
817B
803A
1104
1316A
1316C
1317
1317A
T1111 C, F, G, H
Forrestal Village

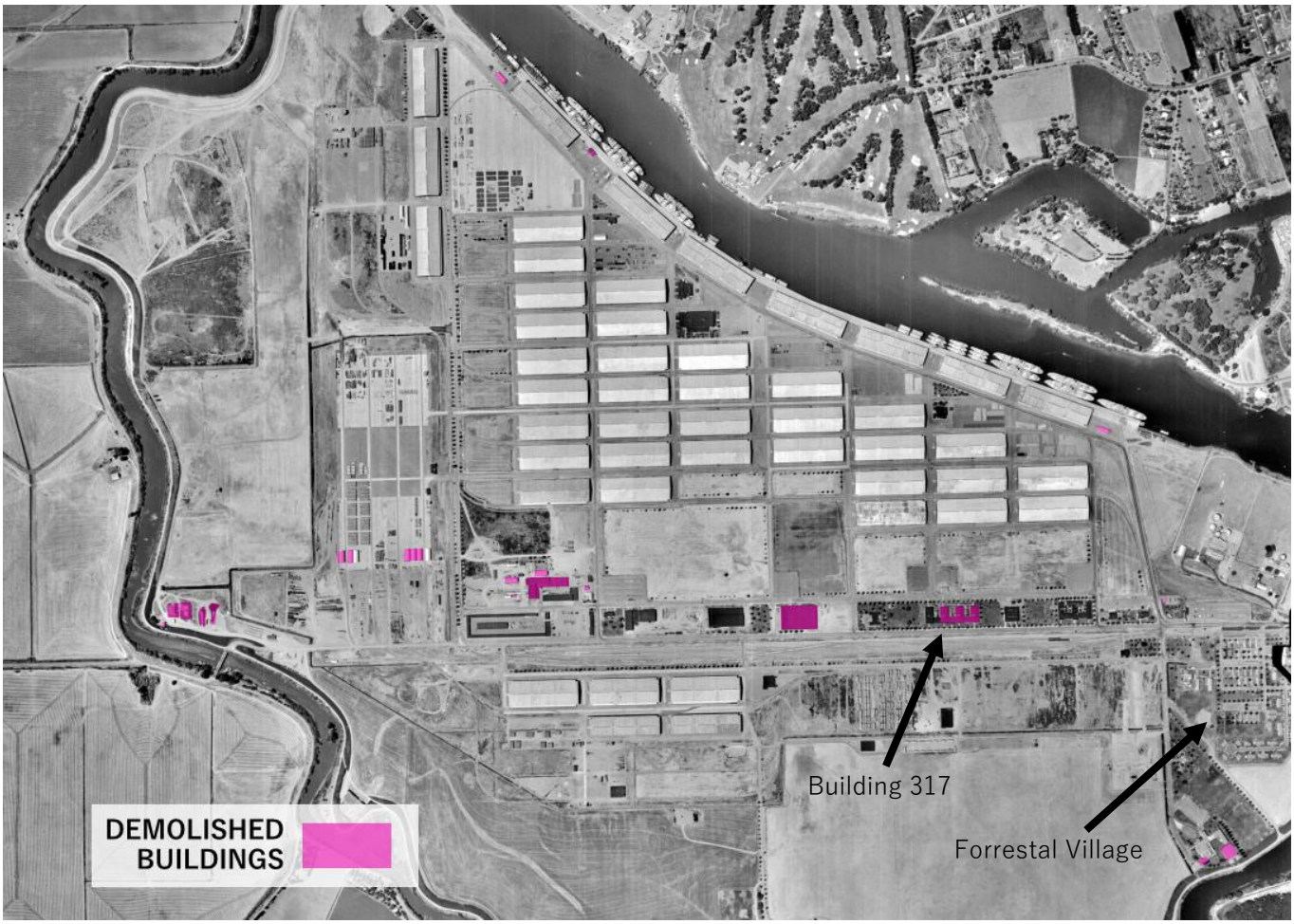
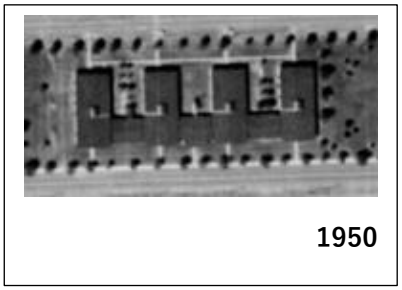
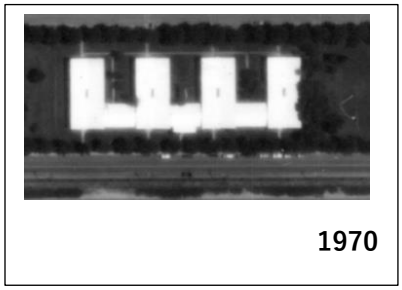
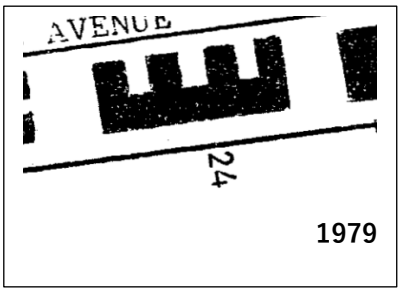


Figure 16: Demolished buildings, 1957 map underlay

BUILDING 317 NAVAL RESERVE CENTER Previously unknown, the current footprint of Building 317 was not its original plan. As it stands today, Building 317 is only the westernmost wing of what was once a building four times as large. Review of historic aerial imagery indicates the building was altered sometime between 1979 and 1987.







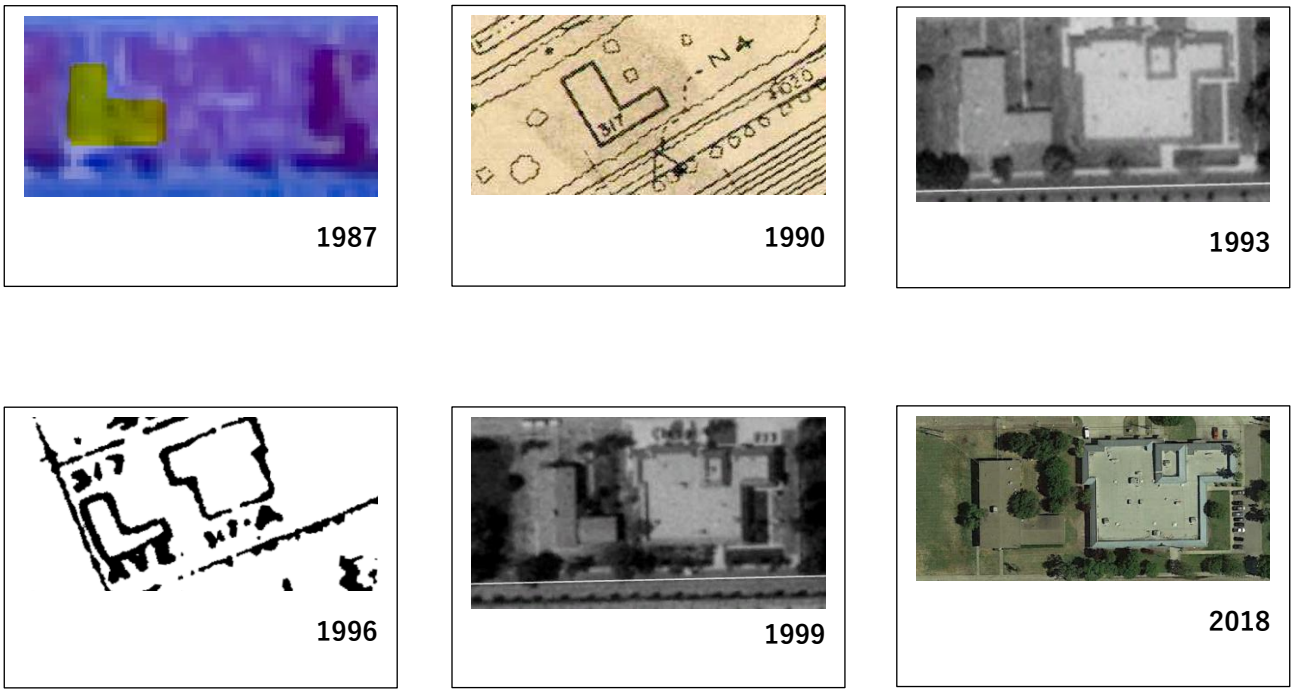


Figure 17: Building 317 chronology

FORRESTAL VILLAGE After the end of WWII, as the base began proceedings to welcome a new population to the Naval Communications Station, family housing was constructed in a neighborhood south of McCloy Avenue and east of Hooper Street. Called Forrestal Village, it was described as such in the 1979 *Welcome Aboard* NCS orientation packet:

> *Forrestal Village is the Navy public housing area located on Rough and Ready Island, and is available for personnel attached to NAVCOMMSTA Headquarters…Public bus transportation is provided to and from public schools…All activities of the island are within walking distance of the Village and the children are afforded adequate lawn and shaded play areas.*
>
> *There are 40 two, three, and four-bedroom units available for enlisted personnel…Arrangement of rooms is attractive, with large living and dining areas provided. Windows have Venetian blinds and fixtures for drapes. The bedrooms have wardrobe closets. Space and outlets are furnished for automatic washers. Houses are wired for 220 volts.*[11]

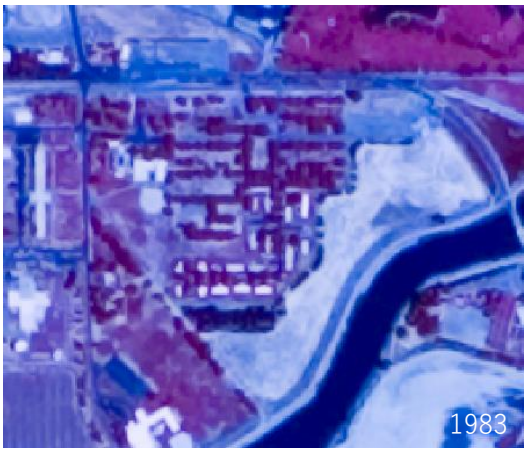
Forrestal Village was constructed as early as 1957, and demolished sometime around the year 2000. If standing, it would have been considered as contributing to the Rough and Ready Island historic district.

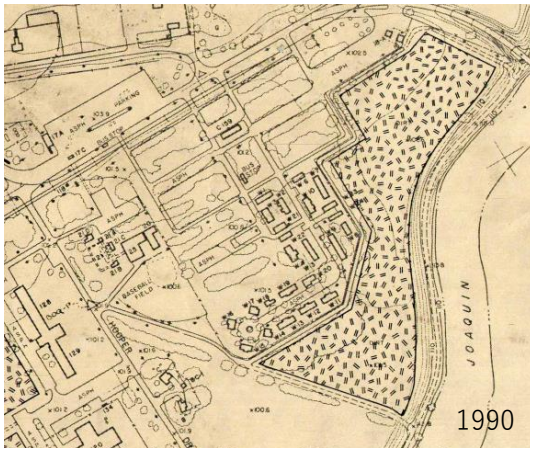
[11] "Welcome Aboard" Naval Communications Station Stockton Orientation Packet, 1979. (Appendix D)


1946


1957


1970


1983


JOAQUIN
1990


2002

Figure 18: Forrestal Village building chronology

In 2018, all that remains of Forrestal Village is the auto roundabout in the southwest corner.

SITE FEATURES

Rough and Ready Island would not have been a robust military establishment without its infrastructure. Roadways, rail lines, telecommunications, water distribution, and levee systems all served the populated area and contributed to the Island's everyday operation.

Today, vestiges of these systems remain intact, some to a greater degree than others. Vehicle access remains in much the same pattern as it did during the period of significance, as do rail lines. Some railway spurs have now become defunct, though trains still circulate around the island and are a noticeable presence.

Culverts and the water distribution system are constructed of smooth river stones set in masonry, indicated by the 1996 HARP to have been built by German prisoners of war. Some of these ditches remain intact and filled with water, though most have begun a return to the natural landscape. The levees around the perimeter of the island are still functional, and can be observed from the perimeter road created by the levee walls.

Some original telephone poles remain standing, though it is unclear which are serviceable or defunct. Atop the original poles, historic insulators, both glass and ceramic, are still visible.

The fire alarm system is ubiquitous around the island. Every building is equipped with either a wall-mounted box, or a pole-mounted box outside. In a few instances, the alarm boxes are mounted on their own pedestals. It is unknown if the historic fire alarm system is currently functional. The gabled fire alarm boxes are considered a character-defining feature of the district and should not be disposed of.

Drainage system, culverts in distance

Fire alarm system, pole-mounted signal box

Defunct telephone pole with glass insulators

Marginal wharf, San Joaquin deep water channel at left

Fyffe Avenue, facing west

Rail lines, facing west. Fyffe Avenue at right

Figure 19: Site features, 2018

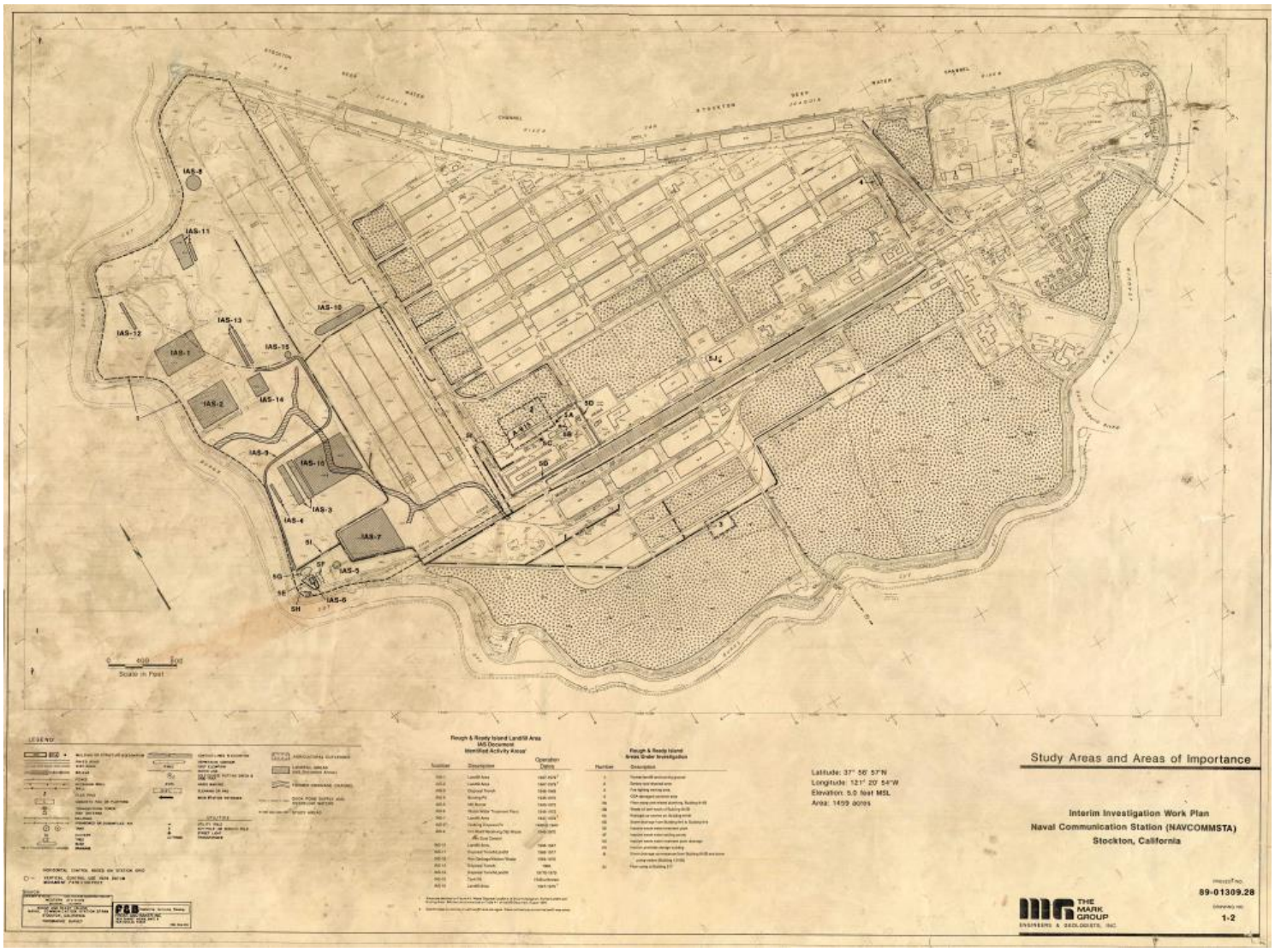


Figure 20: 1990 Geotechnical survey map

DETERMINATIONS

The following sections outline federal, state, and local historic preservation regulations and jurisdictional reach. In the case of Rough and Ready Island, the City of Stockton historic preservation regulations will have the most relevant influence over the future of the built environment on the island.

NATIONAL REGISTER OF HISTORIC PLACES

In order to reach a determination of eligibility for the National Register of Historic Places, a resource or district must be evaluated within its historic context and demonstrated to be significant for at least one of the four determined *Criteria for Evaluation*. The Criteria describe how properties are significant for their association with notable events or important persons, for their significance in design or construction, or for their information potential.[12] These Criteria fall into four categories:

CRITERION A: EVENTS

Properties can be eligible for the National Register if they are associated with events that have made a significant contribution to the broad patterns of our history.

To be considered for listing under Criterion A, a property must be associated with one or more events important in the defined historic context. Criterion A recognizes properties associated with single events, such as the founding of a town, or with a pattern of events, repeated activities, or historic trends, such as the gradual rise of a port city's prominence in trade and commerce. The event or trends, however, must clearly be important within the associated context: settlement, in the case of the town, or development of a maritime economy, in the case of the port city. Moreover, the property must have an important association with the event or historic trends, and it must retain historic integrity.

A property can be associated with either (or both) of two types of events:

- A specific event marking an important moment in American prehistory or history and
- A pattern of events or a historic trend that made a significant contribution to the development of a community, a state, or the nation.

CRITERION B: PEOPLE

Properties may be eligible for the National Register if they are associated with the lives of persons significant in our past.

[12] *How to Apply the National Register Criteria for Evaluation*, National Register Bulletin, U.S. Department of the Interior, N.D.

Criterion B applies to properties associated with individuals whose specific contributions to history can be identified and documented. Persons "significant in our past" refers to individuals whose activities are demonstrably important within a local, State, or national historic context. The criterion is generally restricted to those properties that illustrate (rather than commemorate) a person's important achievements.

CRITERION C: DESIGN/CONSTRUCTION

Properties may be eligible for the National Register if they embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction.

This criterion applies to properties significant for their physical design or construction, including such elements as architecture, landscape architecture, engineering, and artwork. To be eligible under Criterion C, a property must meet at least one of the following requirements:

- Embody distinctive characteristics of a type, period, or method of construction.
- Represent the work of a master.
- Possess high artistic value.
- Represent a significant and distinguishable entity whose components may lack individual distinction.

CRITERION D: INFORMATION POTENTIAL

Properties may be eligible for the National Register if they have yielded, or may be likely to yield, information important in prehistory or history.

Certain important research questions about human history can only be answered by the actual physical material of cultural resources. Criterion D encompasses the properties that have the potential to answer, in whole or in part, those types of research questions. The most common type of property nominated under this Criterion is the archeological site (or a district comprised of archeological sites). Buildings, objects, and structures (or districts comprised of these property types), however, can also be eligible for their information potential.

Criterion D has two requirements, which must *both* be met for a property to qualify:

- The property must have, or have had, information to contribute to our understanding of human history or prehistory, and

- The information must be considered important.[13]

In order to be considered eligible for the National Register of Historic Places, a historic property must be demonstrated eligible under one of the preceding four criteria. The historic district and Rough and Ready Island is considered eligible under Criterion A for its association with the Commerce area of significance (see: "Evaluation of Eligibility" on page 51). National Register of Historic Places considerations are equally applicable to properties entered into the Register as they are to resources determined to be eligible.

It should be noted that, as a publicly-owned entity, the Port of Stockton's holdings at Rough and Ready Island may be nominated for the National Register of Historic Places or the California Register of Historical Resources without the consent of the owner.

OTHER JURISDICTIONAL CONSIDERATIONS The National Register of Historic Places records significant historic resources at a nationwide-level of consideration. However, state and local jurisdictions also account for and regulate their own significant historic properties. The State of California administers the California Register of Historical Resources, the California Environmental Quality Act (CEQA), and the City of Stockton keeps registers of historic landmarks, historic districts, and structures of merit. These state and local historic preservation jurisdictions and their regulations may apply to the subject of this project, if an effort is made to demolish or alter any contributing resources.

The preparer of this study recommends reading the entirety of Chapter 16.200 of the City of Stockton Municipal Code, *Cultural Resources,* prior to the modification of any contributing building within the Rough and Ready district.

INTEGRITY Both the National and California Registers traditionally recognize a historic property's or district's integrity through seven aspects or qualities: location, design, setting, materials, workmanship, feeling, and association. Integrity is the ability of a property to convey its significance, and to be considered eligible for designation a resource must not only be demonstrated as significant under the criteria outlined above, but it must also possess integrity. To retain historic integrity, a property will possess several, and ideally most, of the seven aspects. The retention of specific aspects of integrity is paramount for a property to adequately convey its significance.[14]

For a district to retain integrity as a whole, the majority of the components that make up the district's

[13] *How to Apply the National Register Criteria*
[14] *How to Evaluate the Integrity of a Property, How to Apply the National Register Criteria for Evaluation*, National Register Bulletin, U.S. Department of the Interior, N.D.

historic character must possess integrity even if they are individually undistinguished. In addition, the relationships among the district's components must be substantially unchanged since the period of significance. A district cannot be eligible if it contains so many alterations or new intrusions that it no longer conveys the sense of the historic environment.[15]

LOCATION is the place where the historic property was constructed, or the place where the historic event occurred. Both NSA-Stockton and NCS-Stockton were constructed at Rough and Ready Island, and each individual resource appears to be located on the footprint where it was originally constructed. With consideration to its location, the historic district at Rough and Ready Island retains a high level of integrity of location.

DESIGN is the combination of elements that create the form, plan, space, structure, and style of a property or district. With the US Navy's construction of the buildings and structures at Rough and Ready Island, a strict sense and purpose of design is readily evident. Especially during wartime, each building and structure was erected in the most practical method possible, expressly for its intended purpose, with no necessity for ornamentation or embellishment. Today, the integrity of design remains evident and intact through the architectural manifestations of many buildings: the fire stations readily present themselves as such, while the cafeteria, paint shop, and auto shop all were clearly designed for their proposed use. Today, these resources retain enough integrity of design that each building's purpose can be readily understood simply by observing the resource.

Spatial relationships between buildings and features on Rough and Ready island also retain integrity of design. The administration sequence along Fyffe Avenue continues to read as a progression of practical buildings experienced from east to west. The warehouse area, with numerous warehouses constructed in close quarters still relate to each other and possess the same relational association as when they were constructed. A pervasive homogeny and synonymy of architectural features in all four building types at Rough and Ready also communicate a high level of integrity of design.

SETTING is the physical environment of a historic property. Setting does not refer to location, but instead to the character of the place in which the property played its historical role. The historic resources at Rough and Ready Island were constructed by the US Navy to act as a supply annex for the war effort in the Pacific Theater. The island itself was chosen for its proximity to an international port, yet its inland location, less vulnerable to coastal attack. The island was already equipped with rail access, and had been connected to the mainland delta by a vehicle bridge as early as 1902. All of these factors contributed to the success of the NSA-Stockton installation, and remain intact to this day.

[15] *How to Evaluate the Integrity of a Property, National Park Service.*

Though the US Navy no longer occupies the island, the features and setting of Rough and Ready still actively contribute to the island's continued use as a hub of shipping and transportation of goods at the Port of Stockton.

MATERIALS are the physical elements that were combined or deposited during a particular period of time and in a particular pattern or configuration to form a historic property. As with many military-built properties, the physical makeup of the buildings and resources at Rough and Ready are of high-grade, quality materials. Solid, old-growth redwood, good concrete mixtures, and quality corrugated steel all contribute to the persistence of the buildings despite a systemic lack of maintenance.

WORKMANSHIP is the physical evidence of the crafts of a particular culture or people during any given period in history. The details present in the workmanship at the buildings show a personal imprint on the physical environment, and the necessity to use whatever was available in order to support the war effort are evident across the island. For example, in the transit sheds, some rivet plates at the overhead trusses are clearly misshapen scraps of steel, though they function perfectly to hold the rivets in place.

FEELING is a property's expression of the aesthetic for historic sense of a particular period of time. The buildings at Rough and Ready Island were constructed quickly and intently for a specific purpose, and during the short time that the area was an active base, it can be assumed that the district was characterized by plenty of activity and action. The buildings served a particular population in specific ways, and it cannot be effectively argued that these feelings today remain wholly intact. As with many decommissioned military installations, the feeling of desolate open space and abject vacancy now characterize the administration and utility areas of the district. However, the main warehouse area, and especially the wharf transit sheds, retain integrity of feeling due to their ongoing use for their original intended purpose. While the spirit of the homefront and assistance in the war effort no longer remains, the warehouse areas still feel like the active industrial areas they were designed to be.

ASSOCIATION is the direct link between an important historic event or person, and a historic property. Though the fact that the US Navy is no longer associated with the district at Rough and Ready cannot be ignored, a level of association does still remain. The reality that the majority of the resources on the island, the warehouses, are still being used for their original intended purpose is truly remarkable, and not a situation often encountered with the evaluation of a historic district like Rough and Ready. Decommissioned military areas are frequently found to be vacant and struggling, but due to the enduring necessity for warehouses and the role they play in the modern transportation of goods, many of the resources at Rough and Ready are still being used, uninterrupted, for their original, intended purpose. This unusual retention of association is noteworthy, can be readily experienced by a visit to

the warehouse and wharf areas, and greatly contributes to the island's high retention of integrity of association.

EVALUATION OF ELIGIBILITY In this study, the historic district at Rough and Ready was evaluated under National Register Criterion A: as a contribution to the development of commerce over a broad pattern of history.

The historic district at Rough and Ready Island gains its significance as a superlative extant example of two important wartime phenomena:

1. The establishment of inland Naval supply depots towards the end of the World War II; and
2. The development of palletization and forklifts as the standardized method for the storage and transportation of goods.

INLAND DEPOTS As the threat of possible attacks on the geographically vulnerable areas on the American coasts developed towards the end of WWII, combined with a pressing need for space at the current supply depots, it was a natural decision to establish supplementary depots at inland, but nearby, areas. An inland supply depot would be protected from an immediate attack on a major coastal area, one which may eradicate a principal supply depot, while also acting as an annex to those depots as the material effort for the war continued on. When exploring locations for the annex depots, sites that would be inland and sheltered from the coast, but also accessible by a major international port, were essential for their logistical success. Rough and Ready Island, scouted in 1944, met these criteria exactly. The island was served by the freshly-dredged deep water channel of the San Joaquin River, and operated (as it does today) as a port accessible from international waters via the San Francisco and San Pablo Bays, and the Sacramento River delta. Furthermore, the island had already-established highway and rail access, crucial infrastructure for the development of any supply depot. With the principal three modes of transportation accounted for, Rough and Ready Island was ideal to fulfill the vision of the inland Naval Supply expansion.

PALLETIZATION AND FORKLIFTS Prior to the advent of modern supply and shipping methods, the procedures for storing and transporting mass quantities of goods was inefficient and unstandardized. As the pressures of wartime often beget innovation, the conclusion was first reached, by the US Navy, that supply processes must be streamlined and standardized. With the selection of pallets and forklifts to move and store goods, multi-story warehouses with slow elevators were replaced with massive one-story warehouses; the square footage calculated precisely to accommodate an exact number of pallets. With the forklift, any vehicle could move any type of material from a ship to a train to a truck, without the need for that material to be unloaded and reloaded at every transfer point. Naval Supply Annex Stockton was the first supply depot in the country to be wholly constructed to the specifications for

pallets and forklifts, and its efficiency would have been crucial to the effort in the Pacific Theater had the need arisen. This substantial increase in supply productivity would result in a revolution and standardization in both military and non-military cargo handling.

The historic district at Rough and Ready Island communicates its significance through the permanence and lasting quality of both phenomena. The buildings and structures that comprise the historic area were built with quality materials and careful, calculated construction. Unlike some quickly-established wartime installations, the NSA and NCS Stockton were not constructed to be temporary or only last for the duration. No intent to soon dismantle the buildings themselves influenced their planning or construction.

The architects and engineers of the buildings and structures at Rough and Ready did not only create a highly efficient and long-lasting supply depot, but they also cultivated a home for the depot personnel and their families. Inclusions of a playing field, chapel, medical center, recreation hall, and homelike barracks all contributed to the sense of place formed by the intentional execution of the administration and living areas at Rough and Ready.

Today, the historic areas at Rough and Ready Island, though now decommissioned, still retain a profound sense of these important historic developments. Most remarkably, the warehouse area is still currently used for the purpose of its original construction: to move and store goods efficiently with pallets and forklifts. A modern-day visitor can clearly observe and understand the patterns of movement around the island, and the flow of goods and traffic has remained largely unchanged.

This area of study is a group of historic resources, largely intact, and still in use for their intended industrial purpose; a set of conditions not often encountered in modern historic preservation. As such, the historic district at Rough and Ready Island retains integrity and communicates significance to the degree that it is eligible for the National Register of Historic Places under Criterion A.

EXISTING CONDITIONS AND TREATMENT

The best hope that a historic building has for a successful, lasting presence in the built environment is for it to be occupied and maintained. While this is not always possible, especially as applied to the resources at Rough and Ready, the following outlines their current condition, and makes recommendations for their future as a National Register-eligible historic district.

BUILDING CONDITION OVERVIEW

As applied to historic preservation, *condition* refers to the physical state of the property, and includes four categories:

- Excellent
- Good
- Fair
- Poor

The *condition* of historic resources exists independent of their *integrity* or *significance.* While integrity refers, in part, to the amount of historic fabric extant at the property, *condition* describes the quality and state of that historic material.

Historic resources can embody any combination of integrity and condition:

> **HIGH INTEGRITY + GOOD CONDITION** remains in appearance, material, and feeling as it did at the time of construction, and the original historic fabric has been continuously well cared-for.
>
> **LOW INTEGRITY + GOOD CONDITION** has been significantly altered over time, but has been remodeled or renovated and often presents as a new or modern building.
>
> **HIGH INTEGRITY + POOR CONDITION**[16] remains materially as it was when constructed, and retains a significant amount of original historic fabric, but that fabric has not been maintained over time. Often these resources "look bad" and unncesessarily demolished.

---

[16] **Poor condition does not render a historic property ineligible for the register of historic places**, but is does threaten the longevity and viability of that property. Stewards of historic properties, which include both landowners and concerned public, must ensure a balance between condition and historic integrity. In order for a property to remain historic, it must retain historic integrity. Therefore, improvements, alterations, and maintenance that keep the property in good condition must follow the Secretary of Interior Standards to ensure retention of its historic characteristics.

Buildings with high integrity and poor condition make excellent candidates for historic preservation.

POOR INTEGRITY + POOR CONDITION has been significantly altered over time, and is also often left unmaintained or abandoned. These resources often do not make good candidates for any historic preservation efforts other than full reconstruction.

AT ROUGH AND READY many of the extant historic buildings have high integrity but are in poor condition. As buildings gradually fall out of use, maintaining these often-vacant buildings becomes a lower priority, and leads to a rapid deterioration of condition. It has been well-documented that vacant buildings deteriorate significantly faster than occupied ones.[17] As such, abandoned or vacant buildings often end up in poor condition, and appear as though they are "in such bad shape" or "too far gone."

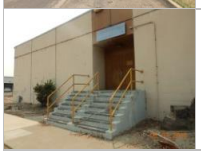
In fact, this is not always the case. Buildings with high integrity but poor condition have a saving grace: that much of the original historic material remains intact. Though this historic fabric may have peeling paint, decaying wood, or corroded steel, a building with high integrity will be able to have these components preserved or restored.

At Rough and Ready Island, the buildings that are in poor condition, most notably the utility buildings, still retain a good amount of integrity. Few of their character-defining features have been replaced or upgraded, and the buildings remain remarkably intact as they were constructed, despite their fatigued appearance. Though determining a purpose for the vacant buildings in poor condition may be unlikely, if desired, they could be brought back to serviceable life, with their historic fabric intact, with relatively little effort.

The condition and integrity of the resources at Rough and Ready Island can be broken down as such:

	BUILDING	TYPE	CONDITION	INTEGRITY	OCCUPANCY
	17 Police Station	Administration	Good	Medium	Occupied
	17A Pass Office	Administration	Fair	High	Occupied

[17] *James Douglas, Building Adaptation. (Elsevier: Oxford, 2006) p.543.*

	BUILDING	TYPE	CONDITION	INTEGRITY	OCCUPANCY
	20 Bowling Alley	Administration	Poor	Medium	Abandoned
	20B Dugouts	--	Poor	High	Abandoned
	21A Pool House	NCS	Fair	High	Abandoned
	21B Sewage Treatment	NCS	Fair	High	Abandoned
	24 Bachelor Officer's Quarters	Administration	Very Poor	High	Abandoned
	24D Picnic Shelter	NCS	Good	High	Vacant
	25 Enlisted Men's Club	NCS	Poor	High	Abandoned
	114 Water Tower	--	Good	High	In use
	115/118 Truck/Track Scales	Utility	Poor	High	Abandoned
	117 Fire Station	Administration	Good	High	Vacant
	120 Communications Building	NCS	Good	High	Occupied

	BUILDING	TYPE	CONDITION	INTEGRITY	OCCUPANCY
	128/129 Bachelor Enlisted Quarters	NCS	Good	High	Occupied
	134 Gate House	NCS	Fair	High	Abandoned
	210/605 Pump Houses	Utility	Fair	High	In use
	Transit Sheds	Warehouses	Fair	High	In use
	Steel Warehouses	Warehouses	Fair	High	In use
	217 Administration Building	Administration	Good	High	Occupied
	217A Cafeteria	Administration	Good	Medium	Occupied
	218 Railroad Office	Administration	Fair	High	Vacant
	219 Bachelor Enlisted Quarters	NCS	Good	High	Vacant
	317 ASA Office	Administration	Good	High	Occupied
	Heavy Materials Storages	Warehouses	Fair	High	In use

	BUILDING	TYPE	CONDITION	INTEGRITY	OCCUPANCY
	417 Dispensary	Administration	Good	High	Vacant
	417A/ 817A Sewage Lift Station	Utility	Good	High	In use
	417B Dispensary Carport	Administration	Good	High	Vacant
	518 Holding Office	Administration	Fair	Medium	Occupied
	528 Daggett Road Bridge	--	Poor	High	Abandoned
	607 Cafeteria	Administration	Poor	High	Abandoned
	607A Boiler House	Utility	Fair	High	Abandoned
	617 Box Factory	Utility	Fair	High	Occupied
	Wood Warehouses	Warehouses	Fair	High	In use
	705 Fire Station	Administration	Fair	High	Vacant
	717 Public Works Office	Administration	Fair	High	Abandoned

	BUILDING	TYPE	CONDITION	INTEGRITY	OCCUPANCY
	717A Public Works Shop	Utility	Fair	High	In use
	816 Paint Shop	Utility	Poor	High	Abandoned
	816A Paint Locker	Utility	Poor	High	Abandoned
	816C Automotive Shop	Utility	Poor	High	Abandoned
	817 Public Works Shed	Utility	Poor	Medium	Abandoned
	916 Railroad Shed	Utility	Fair	High	Abandoned
	916A Railroad Shed	Utility	Poor	High	Abandoned
	917 Auto Shed	Utility	Poor	Medium	Abandoned
	917A Auto Shed	Utility	Poor	High	Abandoned
	1002 Office	Administration	Good	High	Vacant
	1121 Rod and Gun Club	Administration	Poor	Medium	Abandoned

	BUILDING	TYPE	CONDITION	INTEGRITY	OCCUPANCY
	1316B Stormwater Drainage System	Utility	Poor	High	Abandoned

Table 9: Condition and integrity, 2018

Historic preservation condition assessment reports are the most effective way to intently understand the nuances of a building's condition. Secretary of the Interior Qualified Architectural Historians or Historical Architects are able to prepare condition assessments for historic properties or districts.

SECRETARY OF THE INTERIOR'S STANDARDS FOR HISTORIC PRESERVATION

After the eligibility of a historic resource or district has been established, and after an understanding of its condition has been attained, the next step is to create a plan for the future of the property. When a historic resource is found to be National Register-eligible, it should be treated sensitively, and in a manner that preserves its character-defining features. The National Park Service has outlined four treatment strategies for historic properties, designed to be chosen along with the goals of the property and the property owners.

The Secretary of the Interior, administered through the National Park Service, is charged with federal oversight of historic preservation standards and best practices. The *Secretary of the Interior's Standards for the Treatment of Historic Properties* (The Standards) are a series of concepts related to maintaining, repairing, and replacing historic materials, as well as designing new additions or making alterations. They provide an effective framework and structure of guidance for decision-making about work or changes to a historic property. The Standards offer four distinct, but interrelated, approaches to the treatment of historic properties:

PRESERVATION ☐ **REHABILITATION** ☐ **RESTORATION** ☐ **RECONSTRUCTION**

PRESERVATION focuses on the maintenance and repair of existing historic materials and retention of a property's form as it has evolved over time.

Preservation is the act or process of applying measures to sustain the existing form, integrity and materials of an historic property. Work, including preliminary measures to protect and stabilize the property, generally focuses upon the ongoing maintenance and repair of historic materials and features rather than extensive replacement and new construction. The limited and sensitive upgrading of mechanical, electrical, and plumbing systems and other code-required work to make properties functional is appropriate within a preservation project. However, new exterior additions are not within the scope of this treatment. The Standards for Preservation require retention of the greatest amount of historic fabric along with the building's historic form.

REHABILITATION acknowledges the need to alter or add to a historic property to meet continuing or changing uses while retaining the property's historic character.

Rehabilitation is defined as the act or process of making possible a compatible use for a property through repair, alterations, and additions while preserving those portions or features which convey its historical, cultural, or architectural values. The Rehabilitation Standards acknowledge the need to alter or add to a historic building to meet continuing or new uses while retaining the building's historic character.

RESTORATION depicts a property at a particular period of time in its history, while removing evidence of other periods.

Restoration is defined as the act or process of accurately depicting the form, features, and character of a property as it appeared at a particular period of time by means of the removal of features from other periods in its history and reconstruction of missing features from the restoration period. The limited and sensitive upgrading of mechanical, electrical, and plumbing systems and other code-required work to make properties functional is appropriate within a restoration project. The Restoration Standards allow for the depiction of a building at a particular time in its history by preserving materials, features, finishes, and spaces from its period of significance and removing those from other periods.

RECONSTRUCTION re-creates vanished or non-surviving portions of a property for interpretive purposes.

Reconstruction is defined as the act or process of depicting, by means of new construction, the form, features, and detailing of a non-surviving site, landscape, building, structure, or object for the purpose of replicating its appearance at a specific period of time and in its historic location. The Reconstruction Standards establish a limited framework for recreating a vanished or non-surviving building with new materials, primarily for interpretive purposes.

The choice of these treatments depends on a variety of factors, including the property's historical significance, physical condition, proposed or potential use, and intended interpretation. Within the parameters of a historic district, a combination of treatments may be used to achieve the greatest success for the future of the district.[18]

Though these Standards are advisory, and not regulatory at the federal level, most local jurisdictions adopt the Standards and codify them within their historic preservation ordinances. However, In application for grant assistance and tax incentives, the Standards are regulatory.

REHABILITATION is the most appropriate treatment strategy for the properties in the historic district at Rough and Ready. With its integrity largely intact, the historic district could be rehabilitated while retaining the most important and character-defining features of each building. As the "greenest" building is the one that already exists, both costs and environmental impact are softened through the adaptive reuse of historic buildings and structures. When built well with quality materials, military properties are excellent candidates for rehabilitative treatments.

As an example, the National Park Service administers a Historic Surplus Property Program intended to facilitate the rehabilitation of decommissioned military properties. Through this program, local governments can acquire these properties and create offices, community centers, commercial facilities, rental properties, and housing. These new uses are limited only by the parameters of the Secretary of the Interior's Guidelines for Rehabilitation. These properties can be leased and developed as income-producing commercial ventures as well. In certain instances, developers can also take advantage of the Federal Historic Preservation Tax Incentives. Please see Appendix C for more details.

REHABILITATION STANDARDS As outlined, any considerations for future maintenance, alteration, modification, adaptation, rebuilding, or replacement at Rough and Ready should be undertaken within the parameters of the Secretary of the Interior's Standards for Rehabilitation: the act or process of making possible a compatible use for a property through repair, alterations, and additions, while preserving those portions or features which convey its historical, cultural, or architectural values. As an National Register eligible historic district, the parameters for Rough and Ready Island can be outlined as such:

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

[18] *Anne E. Grimmer, Secretary of the Interior's Standards for the Treatment of Historic Properties, National Park Service, U.S. Deportment of the Interior Technical Preservation Services, 1995.*

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

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

4. Changes to a property that have acquired historic significance in their own right, and that fall within the period of significance, will be retained and preserved.

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

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

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

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

9. New additions, exterior alterations, or related new construction will not destroy historic materials, features, and spatial relationships that characterize the property. The new work will be differentiated from the old and will be compatible with the historic materials, features, size, scale and proportion, and massing to protect the integrity of the property and its environment.

10. New additions and adjacent or related new construction will be undertaken in a such a manner that, if removed in the future, the essential form and integrity of the historic property and its environment would be unimpaired.[19]

[19] *California Environmental Quality Act and Historical Resources*, California Office of Historic Preservation, Technical Assistance Bulletin #1, Department of Parks and Recreation, 2001.

EVALUATION OF CURRENT MODIFICATIONS

While the historic district at Rough and Ready retains a high level of integrity, some modifications have been made to the resources over time. When these alterations modify the material or appearance of one of the building's character-defining features, it is considered to be a detriment to its integrity. However, in the context of a historic district, modifications to select buildings can often be diluted within the group of high-integrity buildings as a whole.

For example, Building 217A has had its original wood-sash windows (a character-defining feature) replaced with aluminum sash units. Despite this, the original window openings and window trim remain, and within the context of the administration complex along Fyffe Avenue, the building "reads" as well-integrated into the group. As such, the building itself may have lost some integrity, but it does not detract from the overall integrity of the historic district.

Some alterations, when they are replaced intentionally and with materials in-kind, are not considered a detriment to integrity.

With historic structures, modifications are often found first in fenestration. At Rough and Ready, some window and door modifications are evident, along with several other select building features:

REPLACEMENT WINDOWS

REPLACEMENT DOORS

EAVES

EXTERIOR CLADDING

ENTRIES

RAIL-SIDE CANOPIES

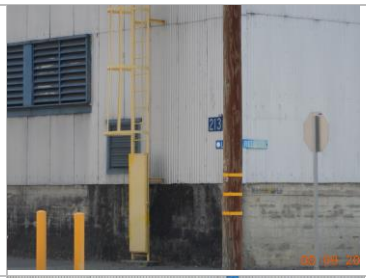
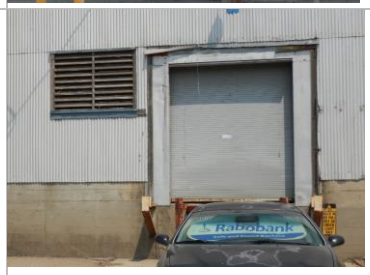
 APPURTANCES	 YELLOW ROOF-ACCESS LADDERS
 NEW LOUVERS	 GARAGE DOOR OPENINGS
 ACCESSIBILITY	

Table 10: Current modifications, 2018

An evaluation of the extant modifications to the historic buildings at Rough and Ready Island concludes that they do not detract from the overall integrity of the district.

FUTURE MODIFICATIONS AND MAINTENANCE

FUTURE MODIFICATIONS

As an eligible district, any future modifications should align with the rehabilitation parameters described above. When considering future modifications and upgrades to the historic resources at Rough and Ready, it is important to prioritize the retention of character-defining features. When not possible, all character-defining features should be replaced sensitively and in kind:

WAREHOUSES

- Steel window sash should not be removed or replaced.
- Where existing, wood sliding garage doors should not be removed, but be secured in the "open" position, and given a fresh coat of protective paint. New roll-up doors are acceptable.
- Corrugated metal siding should only be replaced when deteriorated, and density and patterns of corrugation should be replicated.
- Wood louvers should be retained to the greatest extent possible. Routine protective paint coatings will greatly extend the longevity of the louvers.
- Concrete foundations should remain visible.
- Canopies over rail side should not be removed. If damaged or deteriorated, canopies can be rebuilt to visually match original canopies, but coated steel roofing materials are appropriate to use in lieu of wood.
- If original light fixtures are no longer functional or desired, they should not be disposed of but be removed and stored carefully on site.
- Interior trusses can be rebuilt as necessary for structural integrity.
- Fire alarm boxes should be left intact, if possible. If removal is unavoidable, they should be taken down without damage and stored securely on site.
- New roofing material is acceptable, as necessary.

ADMINISTRATION

- Wood window sash and trim should not be removed or replaced.
- Rooflines should not change in profile.
- Open eaves should not be obscured, boxed in, cut into, or altered in any way. Deteriorated eaves and rafter tails may be repaired or replaced in kind.
- Original porches or overhangs should not be modified. Overhangs can be rebuilt in-kind if damaged or decayed.
- Major changes to compound floorplans or footprints should not be made.

- Exterior stucco should not be obscured by Exterior Insulation and Finish System (EIFS) or other cladding material.
- Buildings should not be relocated, if at all possible.
- Acute distinguishing features, such as the Building 705 fire station hose drying tower, should not be altered or removed.
- New roofing material is acceptable, as necessary.

UTILITY

- Corrugated metal siding should only be replaced when heavily deteriorated, and density and patterns of corrugation should be replicated.
- Wood window sash and trim should not be removed or replaced. Currently broken windows should be repaired in-kind when possible.
- Window and garage door opening patterns should not be altered or interrupted.
- Rooflines, especially clerestories, should not be obscured or changed in profile.
- If it is necessary to install new garage doors, extant original wood doors should be secured in the "open" position and a new door installed within the original opening.
- Diagonal wood wall boards should be replaced in-kind, when necessary. The diagonal pattern should not be obscured or interrupted.
- Interior trusses can be rebuilt as necessary for structural integrity.
- New roofing material is acceptable, as necessary.

NAVAL COMMUNICATIONS STATION

- Rooflines should not change in profile.
- Wide eaves should not be obscured, boxed in, cut into, or altered in any way. Deteriorated eaves may be repaired or replaced in kind.
- Fenestration or glazing patterns should not be modified.
- Flat canopies over exterior walkways should not be altered in structure or profile. Repairs can be made in-kind.
- Concrete structure should not be obscured or altered.
- Buildings should not be re-oriented or relocated, if at all possible.

MAINTENANCE

The greatest costs associated with any buildings is often deferred maintenance. To prevent and arrest deterioration of buildings or systems, they must receive periodic attention and consideration. The most effective way to strategize building maintenance is proactively, in anticipation of issues and failures. Preventing problems before they happen through proactive maintenance results in dramatic reduction of costs, satisfied occupants, and overall extension of the

building's longevity.

The following considerations should be accounted for with the care of any building, especially historic:

- **WATERTIGHTNESS** The building's roof, window openings, and below-grade conditions must remain free from opportunities for water intrusion with a regular schedule of monitoring.
- **LANDSCAPING** Plants and flora must be kept at a distance from the building envelope. Vines, moss, mold, and biological growth should be abated as noticed.
- **PAINT** Paint, often when on wood and metal features, can act as the protective agent between the material and decay or corrosion. Where paint is flaking or delaminating, it should be repainted as soon as possible.
- **WORSENING CONDITIONS** Any conditions worsening rapidly are indications of greater, potentially system-wide issues.

It is also essential to understand the root causes of these issues and failures. Investigation of the origins of the issues at hand will reveal the most professional, long-term, and effective ways to treat and maintain them. Putting a "band-aid" over such conditions is not akin to maintenance, as it will often exacerbate the conditions and simply push the problem farther down the line, often at a much-increased cost.[20]

BACHELOR OFFICERS QUARTERS Exposure to the elements does the greatest harm to vulnerable buildings. The current conditions of Building 24, the Bachelor Officer's Quarters (BOQ), is a textbook example of lack of maintenance:

South elevation, deteriorated stairway

Rear patio, dilapidated fireplace and wall

[20] *Frederick J. Rushlow, Proactive Maintenance Planning for Historic Buildings, US Army Corps of Engineers, Construction Engineering Research Laboratories, 1994.*

South elevation, stucco conditions

Southeast elevation, vegetation encroachment

Window conditions, lower mothballed


Interior conditions, first floor

Figure 21: Building 24, Bachelor Officer's Quarters conditions

A PLAN for the ongoing maintenance for the historic resources at Rough and Ready can be outlined as follows:

1. INVENTORY
   An inventory of each building should be used to understand the scope of maintenance. As buildings are maintained, the inventory should be updated accordingly.

2. PHOTOGRAPHS
   Photographs of each condition, as they are observed, should be taken and recorded as such. These photographs can be used to compare conditions over time, and understand rates of change or deterioration. They become a physical history of each resource.

3. SCHEDULE
   A maintenance schedule should be created and adhered to diligently. Maintenance must be cyclical in order to be effective.

4. CHECKLIST
   A checklist to guide maintenance and field inspections can prevent oversight of important conditions.

5. PROCEDURES
   Written procedures for the appropriate care of specific materials, including routine attention.[21]

MOTHBALLING is an effort to temporarily close up a building to protect it from the elements and secure it from vandalism. If a building is vacant or abandoned, proper mothballing techniques must be executed in order to protect the historic fabric. Proper mothballing requires stabilization of the exterior, properly designed security protection, ventilation, and continued maintenance and monitoring.[22]

At Rough and Ready Island, the resources are somewhat protected because it is a secure site and most buildings are not subject to vandalism or intrusion. The main mothballing priority should be attention to the prevention of water and moisture intrusion. With wood structures, a coat of protective paint is effective at temporarily arresting imminent decay.

Efforts to board-up windows should be executed with little or no damage to the extant historic sash, trim, or frame. The "sandwich" method of securing plywood to exterior fenestration openings is the best way to mothball windows without damaging historic fabric. A 2 x 4 is placed on the interior, and the window sash opened enough to pass a long carriage bolt through, which engages with a piece of plywood at the exterior. It is important to remember that a vacant historic building cannot survive indefinitely in a boarded-up condition.

Figure 22: "Sandwich" window mothball method, Wikimedia commons

[21] Sharon Park, FAIA, " Maintaining the Exterior of Small and Medium Size Historic Buildings", National Park Service Preservation Brief 47, Technical Preservation Services, US Deportment of the Interior, 2007.
[22] Sharon Park, FAIA, "Mothballing Historic Buildings", National Park Service Preservation Brief 31, Technical Preservation Services, US Deportment of the Interior, 1993.

CONCLUSION The historic district at Rough and Ready Island exists as a unique example of an inland WWII naval supply depot constructed near the end of the conflict. As the built environment on the island has evolved since 1946, the historic resources have remained largely intact and unaltered. The retention of many of the character-defining features of the buildings lends the district a high level of overall integrity, and contributes greatly to its significance.

Also significant within its historical context, the Naval Supply Annex and the Naval Communication Station were both associated with important broad patterns of United States history. The role of the warehouses and auxiliary buildings on the island in the effort to modernize and streamline the transportation of goods during the 1940s is only matched in significance with the fact that they are still used for this function today. Perhaps the most remarkable facet of Rough and Ready Island and its historic resources are the fact that they continue to be used for their intended purpose; warehouses at the island still act in their original transitory role for the movement of supplies through the deep water channel of the San Joaquin River, across the Pacific, and around the globe.

For this, and its retention of condition, integrity, and character-defining features, the historic district at Rough and Ready Island is significant at the state, local, and national levels, and eligible for the National Register of Historic Places under Criterion A.

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