

**U.S. NAVAL BASE, PEARL HARBOR, STOREHOUSE FOR
DEFENSE BATTALION TYPE
(U.S. Naval Base, Pearl Harbor, Naval Station Marine Barracks)
(Facility Nos. 226, 283, 284, and 292)
Between Port Royal Street and Fuller Way
Pearl Harbor
Honolulu County
Hawaii**

HABS No. HI-406

HABS
HI-406

PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

**HISTORIC AMERICAN BUILDINGS SURVEY
National Park Service
U.S. Department of the Interior
Oakland, California**

HISTORIC AMERICAN BUILDINGS SURVEY

U.S. NAVAL BASE, PEARL HARBOR, STOREHOUSE FOR DEFENSE BATTALION TYPE (U.S. Naval Base, Pearl Harbor, Naval Station Marine Barracks) (Facility Nos. 226, 283, 284, and 292)

HABS No. HI-406

Location: The Marine Barracks storehouses are located near the southern edge of the U.S. Naval Base Pearl Harbor, within the boundaries of the National Historic Landmark portion of the base. Facilities 283, 284, 226 and 292 are located between Port Royal Street (former Seventh Street) and Fuller Way, in that order, starting at the north end. These four storehouses are aligned with their long axes running between Port Royal Street and Fuller Way.

U.S.G.S. Pearl Harbor 7.5' Quadrangle, Hawaii 1983
7.5 Minute Series (Topographic) (Scale – 1:24,000)

The corners of the rectangle enclosing the four storehouses have the following Universal Transverse Mercator Coordinates:

A	4.607840.2361280	C	4.607800.2361100
B	4.607880.2361120	D	4.607660.2361260

Present Owner: U.S. Navy

Present Occupants: Various tenants

Present Use: Storage, shop, and office space

Significance: The storehouses at the Marine Barracks, Pearl Harbor were constructed in the 1940s as part of the pre-war and World War II expansion of the oldest Marine garrison in Hawaii. They are associated with the Marine Defense Battalions, an important branch of the Marine Corps during WWII. Facilities 226, 283, 284, and 292 are the four remaining of the five storehouses constructed here during WWII. The history of this storehouse type is also part of the overall history of supplying the naval base. These storehouses, as part of the WWII Marine history and supply history of the base, contribute to the Pearl Harbor National Historic Landmark.

U.S. NAVAL BASE, PEARL HARBOR, STOREHOUSE FOR DEFENSE BATTALION TYPE
(U.S. Naval Base, Pearl Harbor, Naval Station Marine Barracks)
(Facility Nos. 226, 283, 284, and 292)
HABS No. HI-406 (Page 2)

Description:

General Architectural Character: These are simple, steel-framed, gable-roofed storehouses with corrugated metal siding. Their character is utilitarian. These buildings have a design that is typical of the WWII temporary storehouses, except that steel, rather than wood, is used for the framing. Also, there are pent roofs over the doors on the gable ends, unlike other warehouses.

EXTERIOR

Overall Dimensions: The storehouses measure 80'-0" x 192'-0" in plan. The buildings measure 28'-0" from the floor to the roof ridge.

Foundations: The buildings have concrete slab floors, perimeter foundation walls, and individual footings for each column. Facilities 292 and 226 have elevated floors with loading platforms along one side. The platform level on Facility 226 is about 4', while the height of the platform on Facility 292 is 3'-6". The loading platform on Facility 292 is on the southeast side, and on Facility 226 is on the northwest side.

Walls: The exterior walls are corrugated metal panels.

Structural system, framing: The buildings are steel-framed construction, with truss roof framing. The structural bays measure 16'-0" x 20'-0", with three parallel rows of interior I-beam columns along the 12-bay length of the building. The clear space to the bottom of the trusses is 20'-2" in the center two bays, and 13'-6" in the outer bays. A complex pattern of diagonal lateral bracing also connects columns; and in most side bays that do not have doors there are ½" metal rod diagonals. Rivets and bolts are used for metal connections. Preassembled portions of trusses were likely riveted at the truss manufacturer and then bolted into place on-site for quick assembly.

Openings:

Doorways: The storehouse ends have four sliding doors of corrugated metal, each measuring about 10' x 13'. The overhead tracks for the doors at each end extend along the entire width of the building, allowing the full use of the 40' x 13' opening. At Facility 226, two of the doors at the northeast end have been pushed to the side and the opening infilled with panels of scored plywood and modern aluminum-frame double glass doors. A similar modern door with plywood infill has been installed in a side bay of Facility 284. Along both sides of the buildings are double sliding doors, each of which measures approximately 8' x 13'. Each storehouse has five double doors on each side, typically on alternating bays on each side, except for two that align in Facility 283 (in the second bay, counting from Fuller Way). The doors are corrugated metal sheets on metal frames, with diagonal cross bracing.

U.S. NAVAL BASE, PEARL HARBOR, STOREHOUSE FOR DEFENSE BATTALION TYPE
(U.S. Naval Base, Pearl Harbor, Naval Station Marine Barracks)
(Facility Nos. 226, 283, 284, and 292)
HABS No. HI-406 (Page 3)

Windows: The original drawings show six-light-over-six-light, wood-frame, double-hung windows with metal guard mesh, and historic photos show these were installed in the storehouses, sometimes in groupings of two or three windows. The three window openings in Facility 283 (one on the southeast side with an a/c unit, and two on the northeast end) are now boarded up, while a historic photo shows two windows were originally near the south corner of the southeast side. There are no windows in Facilities 226, 292, and 284. All four storehouses have narrow openings with wire mesh above the doors on the gable end walls and under the eaves on the side for ventilation.

Roof: The roofs are 4:12 pitched gables with corrugated metal roofing. There are six ridge ventilators on each storehouse, but the six on Facilities 283 and 284 are much larger than those on Facilities 226 and 292. There are original large half-round metal gutters and round downspouts along the sides of two storehouses (Facilities 283 and 284), while Facilities 226 and 292 have the ogee-style gutters. The roof purlins and rafters are exposed at the eaves, which overhang the walls 4'-6". There are 2x4 nailers on top of the channel purlins, for attaching the corrugated metal roofing panels. There are pent roofs over the sliding doors at each end of the storehouses to provide protection from sun and rain.

Other Elements: Concrete or metal-frame stairs have been added in some locations to allow access to Facilities 226 and 292, which have the elevated floors, in addition to the stair at one end of the loading platform. In both Facilities 226 and 292, a ramp has replaced the stair originally at the ends of the loading platforms closest to Port Royal Street (former Seventh Street). In Facility 283, there are short, blocky, concrete bollards, semicircular in plan, in front of some of the doors.

INTERIOR

Floor Plans: The building floor plans are simple rectangles with various interior partitions, which usually utilize the 16' x 20' structural grid. Numerous changes in floor plans have been made over the years.

Stairways: Facility 226 and 284 have added interior wooden stairs for access to their mezzanines.

Flooring: The floor is concrete slab on grade, with elevated slabs at Facilities 226 and 292.

Wall and ceiling finishes: There are generally no interior finishes except for small areas within each building, which have been enclosed with a variety of materials, including plywood and gypsum board. The remodeled spaces in Facilities 226 and 283 generally have vinyl tile or

**U.S. NAVAL BASE, PEARL HARBOR, STOREHOUSE FOR DEFENSE BATTALION TYPE
(U.S. Naval Base, Pearl Harbor, Naval Station Marine Barracks)
(Facility Nos. 226, 283, 284, and 292)
HABS No. HI-406 (Page 4)**

carpeting on the floor. A few portions of the original partitions, made of metal mesh, remain, notably in the northeastern half of Facility 283. Some spaces were later partitioned using metal wire grids or chain link fencing.

Doorways and Doors: The only interior doors are the modern ones, typically flush wood panel type, installed in the new enclosed areas of the storehouses.

Mechanical Equipment:

Ventilation and Air Conditioning: A few small areas have had an air conditioning system installed. Generally, the storehouses are naturally ventilated.

Lighting: There are both the original incandescent bulbs, in metal hoods, and new fluorescent fixtures in these storehouses. Facility 292 has had new high-pressure sodium lighting fixtures installed.

Plumbing: These buildings have toilets and fire suppression sprinklers, both of which have been updated to current codes.

SITE

These four storehouses are on the northwestern side of the Marine Barracks zone, surrounded by asphalt and concrete paving. Two large, two-story, WWII Shipyard storehouses (Fac. 393 & 394) are located across Port Royal Street (former Seventh Street). Facility 1750, Branch Medical Clinic, built in 1990, occupies the site of a former storehouse of this same type (Facility 282), at the northwest end of the row. The WWII laundry building (Facility 227), at the southeast end of the row, was demolished in the late 1990s, and its site is used for parking.

Historical Context: For an overview history of the Marine Reservation area at Pearl Harbor see HABS No. HI-402. That report focuses on the early history of the Marine Reservation area, which became known as the Marine Barracks area in WWII. Eight other HABS reports (HABS Nos. HI-176 through HI-183), done in 1994, focus on the World War II Mess Hall and Barracks buildings in the complex.

The Marine Defense Battalions' mission was to defend the forward air bases, mostly in the Pacific including Hawaii, Midway, Wake, American Samoa, Johnston, and Palmyra islands. This was one of the few eras when Marines were involved in static air and sea defense, being better known for their expeditionary offensive capabilities (Rottman 1997). The 1st Defense Battalion was organized in 1939 and by 1946 "every marine battalion was either reorganized as an antiaircraft battalion, deactivated, or disbanded" (Dorrance 1997: 39). The 2nd, 3rd, and 6th Defense Battalions were temporarily assigned to Oahu, and others

U.S. NAVAL BASE, PEARL HARBOR, STOREHOUSE FOR DEFENSE BATTALION TYPE
(U.S. Naval Base, Pearl Harbor, Naval Station Marine Barracks)
(Facility Nos. 226, 283, 284, and 292)
HABS No. HI-406 (Page 5)

passed through Pearl Harbor on their way to more forward bases in the Pacific. This was a convenient location for advanced training and troops here could be pulled for replacement garrisons at other islands (Heinl 1948: 7). The Defense Battalions' personnel were organized around the guns or batteries; and this equipment varied, depending on availability and new weapons development through the war.

Early floor plans are not available for most storehouses, but in February 1940 a Defense Battalion divided Facility 282 into separate areas for each battery's "gun park," shop, and stores. The February 1940 divisions were quite different for Facility 283, which apparently served the whole battalion for garage functions and quartermaster storage, as well as providing space for the "G" battery (see drawing included with this report).

The historical development of Navy storehouse facilities in Hawaii, including the Navy's needs and strategies for materials storage, storehouse types, and storehouse locations are discussed in the warehouse overview report (HABS No. HI-388). Many similar storehouses were built in Pearl Harbor during the WWII period, and most of them were wood-framed.

Generally, wood-framed WWII warehouses were classified as temporary construction, although some are still in use six decades later. These storehouses for the Marine Defense Battalions were labeled as temporary on their drawings, and four of the original five buildings were listed as "T" for Temporary on a Navy WWII building list (Fourteenth Naval District [1945]: 1072). However, Facility 226, the last one built in the group, was designated as "P" for Permanent on that same list.

The order of construction in this group does not correlate to the Facility numbers, since the lowest number was the last-built storehouse. It is also not clear why a physical gap was left between Facility 284 and Facility 292, when the later was built in 1941. This gap was filled when Facility 226 was built in 1943.

PHYSICAL HISTORY

Dates of erection: 1940 for Facilities 283 and 284; 1941 for Facility 292; and 1943 for Facility 226. Although Facility 292 is listed with a 1940 date in the current Navy database, aerial photographs show it was not built until the second half of 1941. It is also listed with a 1941 date in the Navy's WWII building list (Fourteenth Naval District [1945]: 1072).

Architect: The title blocks only indicate that the plans were prepared by the Public Works Office of the 14th Naval District. The designer is unknown, but generally, such simple buildings are adaptations of

U.S. NAVAL BASE, PEARL HARBOR, STOREHOUSE FOR DEFENSE BATTALION TYPE
(U.S. Naval Base, Pearl Harbor, Naval Station Marine Barracks)
(Facility Nos. 226, 283, 284, and 292)
HABS No. HI-406 (Page 6)

previously developed U.S. Navy Bureau of Yards & Docks storehouse drawings.

Original and subsequent owners, occupants: U.S. Marines, then U.S. Navy.

Builder, contractor, suppliers: The contract number on the drawings (NOy 3550) shows that at least two of the storehouses were erected as part of the Contractors Pacific Naval Air Bases (CPNAB) work before and during WWII. It is possible that the later ones were erected by Navy or Marine construction crews.

Original plans and construction: The name on plans for the 1940-41 buildings was "Temporary Storehouses for Defense Battalion." However, these warehouses are now classified as permanent construction type, because they are steel-frame buildings. The signature of Commander (later Captain) H.F. Bruns, the 14th Naval District Public Works Officer, is on the drawings. The cost figures given for the storehouses vary considerably (Fourteenth Naval District [1945]: 1071-1072). The first three, built in 1940, cost \$230,400 (or \$76,800 each), while Facility 292, built in 1941, was more expensive. Its \$83,280 cost could be explained by the elevated floor, but Facility 226, built in 1943 also with an elevated floor, cost only \$49,968. That lower cost may be due to use of military construction crews, rather than the CPNAB workers. The buildings generally retain their original appearance.

Alterations and Additions: The biggest change to this original grouping of five storehouses was when Facility 282, at the north end, was demolished to make room for the Branch Medical Clinic (Facility 1750) about 1990. The laundry building (Facility 227) at the south end of the row was also demolished in the late 1990s, but most of the surrounding setting of WWII buildings is unaltered. There have been no significant additions to these four storehouses. Facility 284 has a wood-framed addition along one-third of its northwest side. There are two small roof extensions built over parts of the platform for Facility 292. Only Facilities 226 and 283 have had significant interior alterations, with conversion of some of the space to offices, instead of storage and shop spaces. Numerous relocations of interior partitions have occurred in the other storehouses. Generally, these alterations have not been documented in drawings filed with the Pacific Division, Naval Facilities Engineering Command.

Sources:

Architectural Drawings

Microfiche cards of drawings made by or for the U.S. Navy or Marines related to the original construction or later alterations to the buildings or site are located at the U.S. Navy Pacific Division, Naval Facilities

U.S. NAVAL BASE, PEARL HARBOR, STOREHOUSE FOR DEFENSE BATTALION TYPE
(U.S. Naval Base, Pearl Harbor, Naval Station Marine Barracks)
(Facility Nos. 226, 283, 284, and 292)
HABS No. HI-406 (Page 7)

Engineering Command Plan File room, Pearl Harbor, Hawaii. Original plans were found for Facilities 282 (demolished) and 283. Facility 284 also appears to have been erected according to these plans. They are dated January through March 1940 (Y&D nos. 139433 – 139441 and 142967, and 14th N.D. nos. K-N6-117 through K-N6-119). An April 1941 drawing (Y&D no. 405) seems to be the one used for both Facilities 292 and 226, since it shows the loading platform along one side. Other than the platforms and elevated floors the two later storehouses are identical in structure to Facilities 283 and 284 and use the same drawings (with different numbers). There are some as-built electrical drawings for the storehouses, dated December 1945 (14th N.D. nos. K-N6-142, K-N5-101, K-N5-102, and Y&D no. 10188).

Early Views

Photographs showing Facilities 282 and 283 just after completion are located at the National Archives II photo collection, in the Bureau of Yards & Docks record group, RG 71 CA. No early views of the other storehouses in this grouping were located.

Bibliography

Contractors Pacific Naval Air Bases

n.d. *Technical Report and Project History , Contracts NOy-3550 and NOy-4173.* Microfilm of report at library of Naval Facilities Engineering Command, Pacific.

Dorrance, William H.

1997 "U.S. Marine Defense Battalions," *The Coast Defense Study Group Journal*, February 1997: 37-40.

Fourteenth Naval District

[1945] Public Works of the Navy – Buildings. List provided by Jeffrey Dodge of Naval Facilities Engineering Command, Pacific.

Heinl, Robert D. (Lt. Col.)

1948 *Marines at Midway.* Historical Section, Headquarters, U.S. Marine Corps.

Navy Yard

1944 Navy Yard, Pearl Harbor, Showing Conditions on January 1, 1944. Drawing no. I-N1-167. From the Robert F. Walden Collection, courtesy Nancy Walden.

Rottman, Gordon L.

1997 "U.S. Marine Defense Battalions: More of the Story," *The Coast Defense Study Group Journal*, Nov. 1997: 72-78.

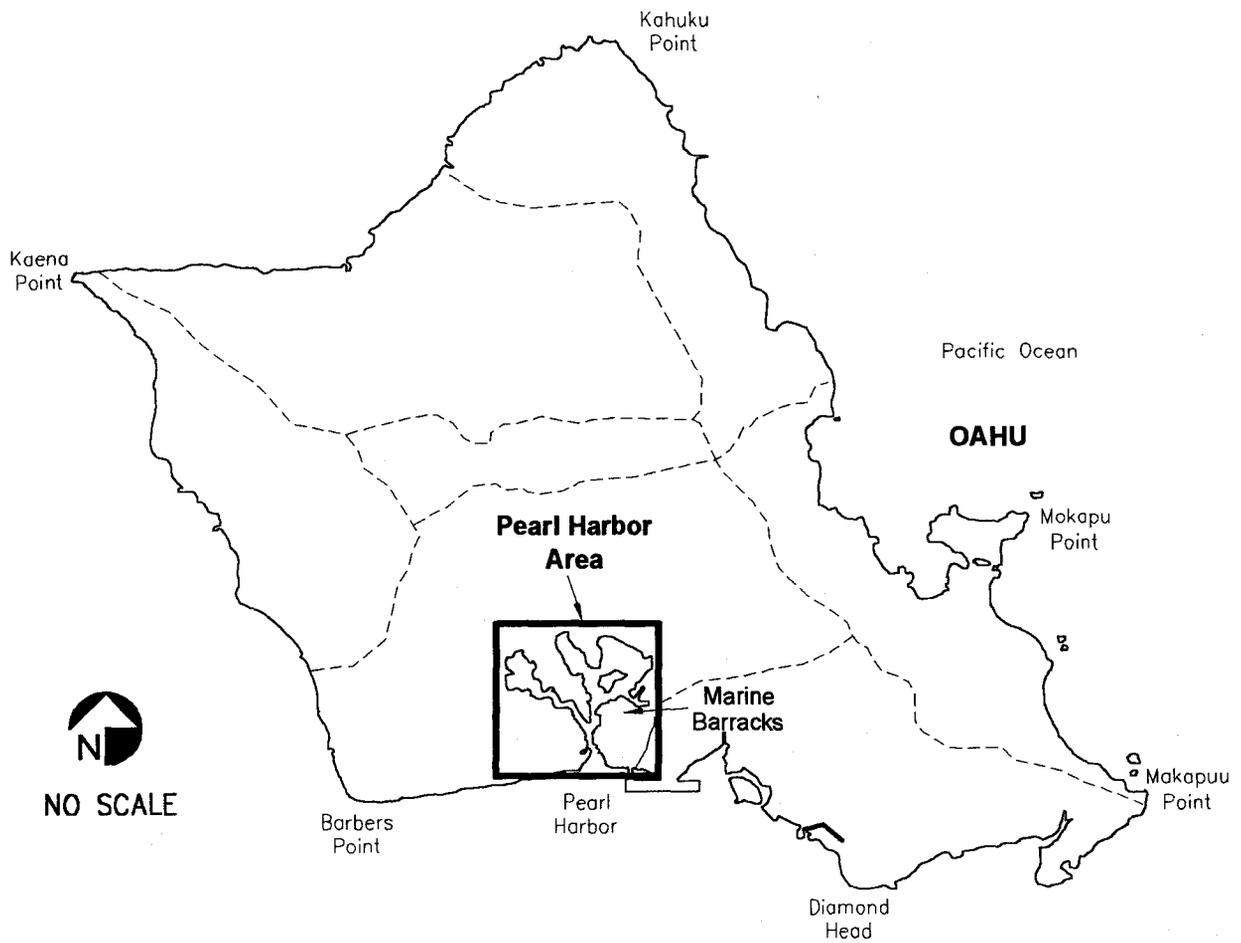
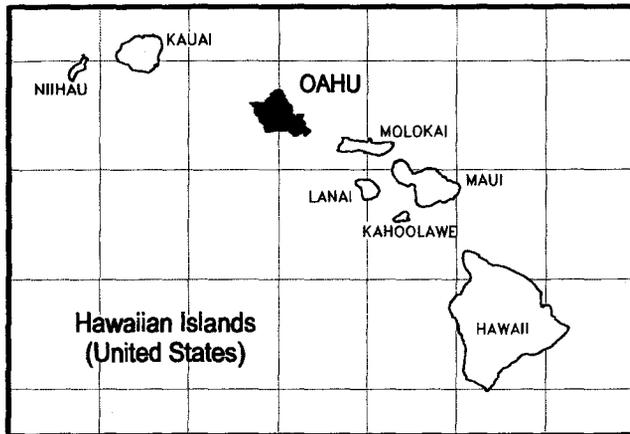
U.S. NAVAL BASE, PEARL HARBOR, STOREHOUSE FOR DEFENSE BATTALION TYPE
(U.S. Naval Base, Pearl Harbor, Naval Station Marine Barracks)
(Facility Nos. 226, 283, 284, and 292)
HABS No. HI-406 (Page 8)

Project Information: Commander Navy Region (COMNAVREG) Hawaii has embarked on a program of documentation of historic properties within its area of responsibility, with the goal of recording historic information about each property type and establishing its context of significance. This information will assist COMNAVREG Hawaii in the appropriate management of these properties, be it routine repair and maintenance for continuing use, rehabilitation for continuing use / adaptive reuse, or demolition. At this time, specific actions that may affect these facilities have not been determined. This report was prepared under a Historic Preservation Services contract (N62742-97-D-3502) awarded to AMEC Earth and Environmental, the prime contractor, by the U.S. Navy, Naval Facilities Engineering Command, Pacific. The contract was funded through the Cultural Resources Program of COMNAVREG Hawaii. The photographic documentation was undertaken by David Franzen, of Franzen Photography. Maps were made by Nestor Beltran of NAB Graphics. Ann Yoklavich of Mason Architects did the field work, research, and writing for this report.

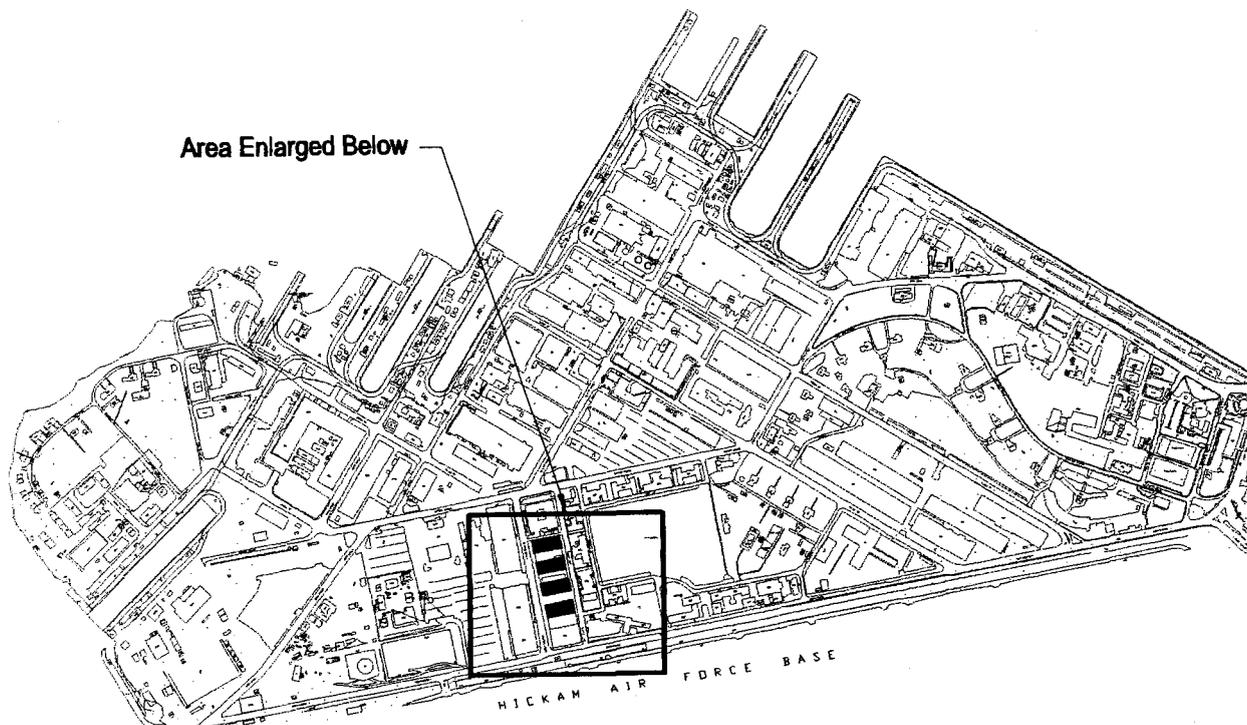
Prepared by: Ann Yoklavich, Architectural Historian
Mason Architects, Inc.
119 Merchant Street, Suite 501
Honolulu, HI 96813

Date of Final Report: January 2004

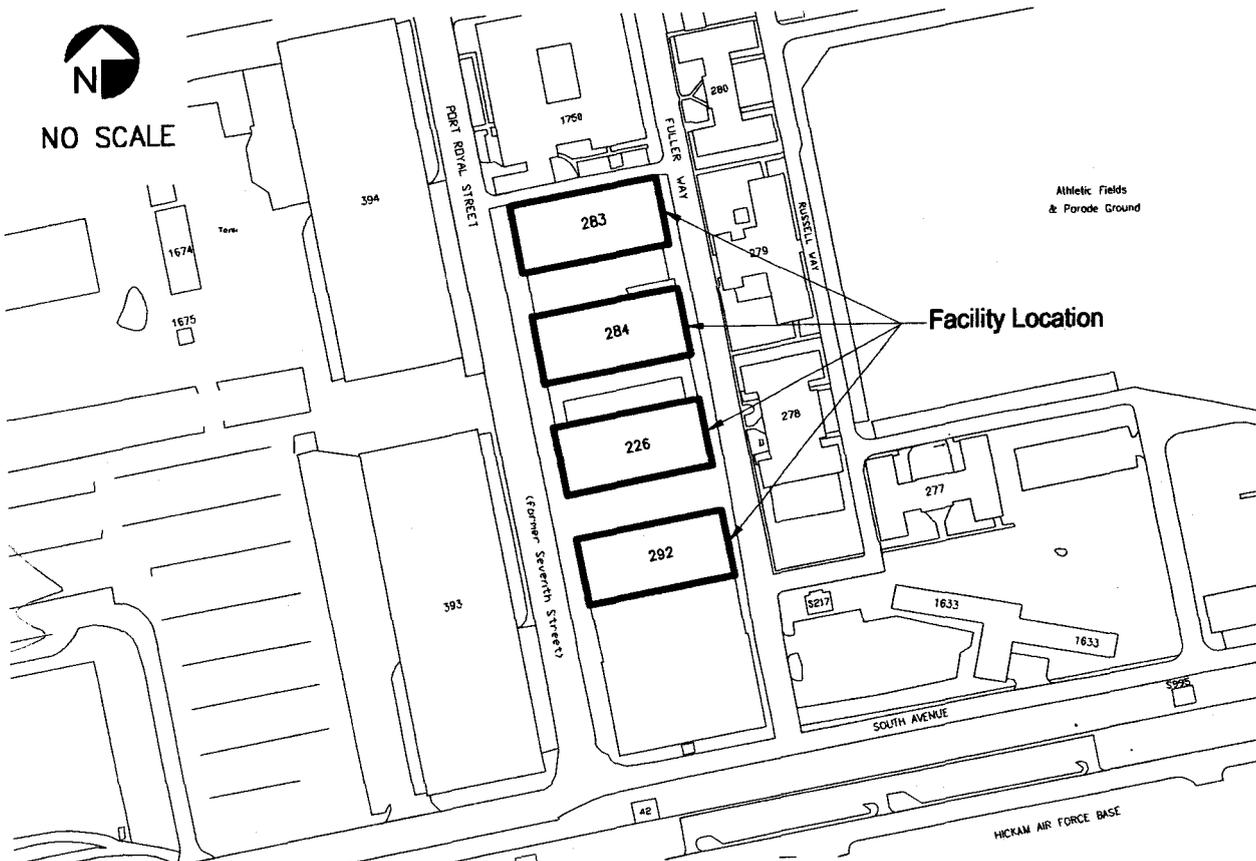
**U.S. NAVAL BASE, PEARL HARBOR, STOREHOUSE FOR DEFENSE BATTALION TYPE
(U.S. Naval Base, Pearl Harbor, Naval Station Marine Barracks)
(Facility Nos. 226, 283, 284, and 292)
HABS No. HI-406 (Page 9)**



**U.S. NAVAL BASE, PEARL HARBOR, STOREHOUSE FOR DEFENSE BATTALION TYPE
(U.S. Naval Base, Pearl Harbor, Naval Station Marine Barracks)
(Facility Nos. 226, 283, 284, and 292)
HABS No. HI-406 (Page 10)**



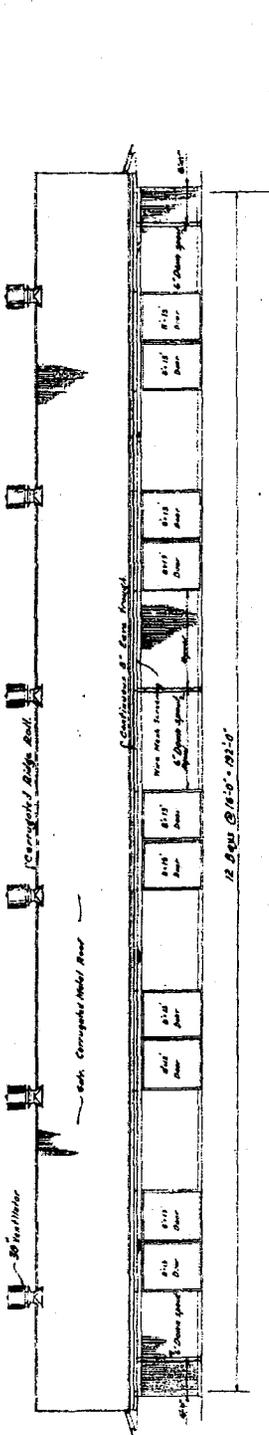
Vicinity Map



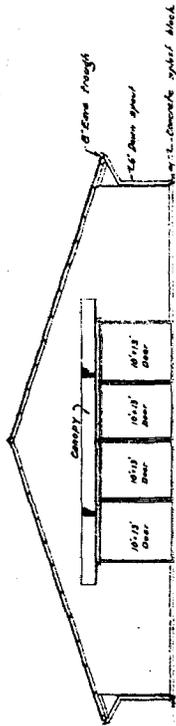
Site Map

U.S. NAVAL BASE, PEARL HARBOR, STOREHOUSE FOR DEFENSE BATTALION TYPE
(U.S. Naval Base, Pearl Harbor, Naval Station Marine Barracks)
(Facility Nos. 226, 283, 284, and 292)
HABS No. HI-406 (Page 11)

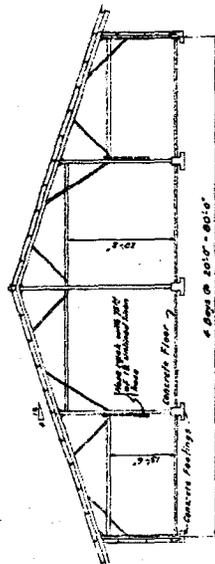
Facility 283, Jan. 1940 Plan, Elevations and Section (Y&D no. 139434)



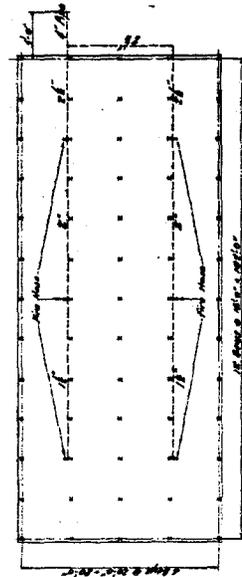
SIDE ELEVATION
Scale 1/4" = 1'-0"



END ELEVATION
Scale 1/4" = 1'-0"



TYPICAL SECTION
Scale 1/4" = 1'-0"



PLAN
Scale 1/4" = 1'-0"

Note: Framing Same As For
 Bldg. 288 - Sept. 16, 1941
 For Foundation See 14th
 N.G. Drawing No. K-116-126

139434

PROJECT NO.

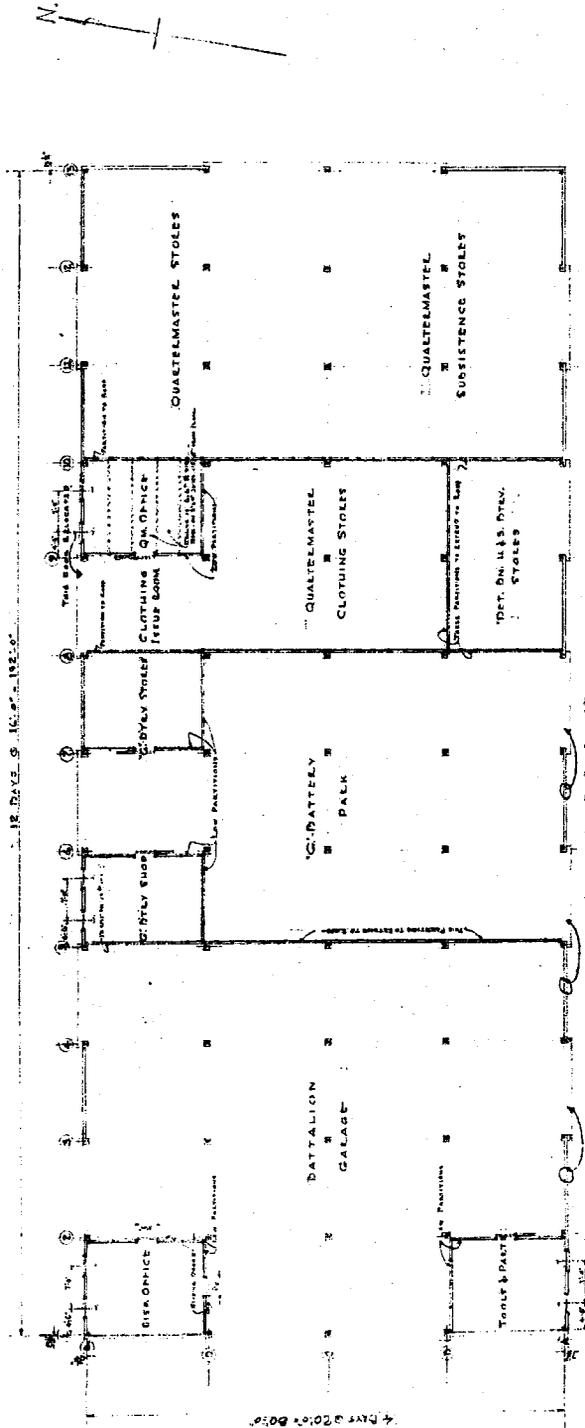
NAVY YARD-PEARL HARBOR, T. H.
 MARINE RESERVATION
 TEMPORARY STOREHOUSES FOR DEFENSE BATTALION
 ELEVATIONS & SECTION
 (STEEL DESIGN)
 Jan 24, 1940
 J. H. ...

Drawn by J. H. ...	Scale as shown
Checked by ...	
Project Manager ...	
Sheet No. 103	

Note: The window has not in this contract

U.S. NAVAL BASE, PEARL HARBOR, STOREHOUSE FOR DEFENSE BATTALION TYPE
(U.S. Naval Base, Pearl Harbor, Naval Station Marine Barracks)
(Facility Nos. 226, 283, 284, and 292)
HABS No. HI-406 (Page 12)

Facility 283, Feb. 1940 Plan, with interior partitions (14th N.D. no. K-N6-119)



P L A N - Scale: 1/8" = 1'-0"
 SHOW PARTIALS OF PARTITIONS, QUARTERS & MESSHALLS
 SEE 16th NAVAL DISTRICT DRAWING NO. K-N6-126

16th NAVAL DISTRICT, PEARL HARBOR	
Drawn by	NAVY YARD PEARL HARBOR
Checked by	MAJINE ZI SIKY
Approved by	TEMPORARY SUBCOMMITTEE, FEB. 1940
Scale	1/8" = 1'-0"
Plan No.	HI-406
Approved	Feb. 19, 1940
K-N6-119	

U.S. NAVAL BASE, PEARL HARBOR, STOREHOUSE FOR DEFENSE BATTALION TYPE
(U.S. Naval Base, Pearl Harbor, Naval Station Marine Barracks)
(Facility Nos. 226, 283, 284, and 292)
HABS No. HI-406 (Page 13)

Facility 292, 1941 Foundation Plan and Details (Y&D no. 405)

