

U.S. NAVAL BASE, PEARL HARBOR, GASOLINE DRUMMING
PLANT
(Drum & Can Loading Facility)
(U.S. Naval Base, Pearl Harbor, Naval Station, Facility No. 9)
Ewa Junction
Pearl Harbor
Honolulu County
Hawaii

HABS HI-410
HI-410

HABS
HI-410

PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

HISTORIC AMERICAN BUILDINGS SURVEY
PACIFIC GREAT BASIN SUPPORT OFFICE
National Park Service
U.S. Department of the Interior
1111 Jackson Street
Oakland, CA 94607

HISTORIC AMERICAN BUILDINGS SURVEY

U.S. NAVAL BASE, PEARL HARBOR, GASOLINE DRUMMING PLANT
(U.S. Naval Base, Pearl Harbor, Naval Station)
(U.S. Naval Base, Pearl Harbor, Drum and Can Loading Facility)
(Facility No. 9)

HABS No. HI-410

HABS

HI-410
(page 3)

Location: Ewa Junction
Pearl Harbor Naval Base
City and County of Honolulu, Hawaii

U.S.G.S. Waipahu Quadrangle, Hawaii, 1998
7.5 Minute Series (Topographic) (Scale – 1:24,000)
Universal Transverse Mercator Coordinates 4.604860.2365690

Significance: Facility No. 9 was associated with the joint Army-Navy fuel reserve system developed following the attack on Pearl Harbor on December 7, 1941. Fuel storage and dispensing systems were of the utmost importance during the war, and the Army and Navy employed a system for storing both aviation and motor fuel with a complex network of pumping stations, pipelines, and fueling docks. Facility No. 9 was one of the main buildings at the Ewa Junction part of the network, and retained enough integrity and significance to warrant documentation.

Description: Facility No. 9 was located in the Drum Storage Area at Ewa Junction, a Navy installation which has been inactive for many years, and which is outside the boundaries of the Pearl Harbor National Historic Landmark. This building had become surrounded by overgrown vegetation and there were few notable structures nearby. The exceptions were a few scattered valve pits that indicated the locations of underground storage tanks. The building was scheduled to be demolished in 2004, but is described as it appeared before demolition.

The structure measures 88'-0" x 176'-0" and was built on the middle of a large concrete slab foundation that is approximately 148' x 538'. Originally, there was also a loading platform structure on the southeast end of the concrete slab, which drawings indicate was 200'-0" away from the drumming plant. This loading platform has since been demolished, and the concrete slab foundation has become completely overgrown. The roads that originally looped around the slab to both structures for loading and unloading have also been overgrown and abandoned.

Facility No. 9 is a large, open, rectangular-plan structure. It has a wood structural frame and exposed wood truss roof system. It has a gable roof covered with corrugated metal panels, and extended overhangs. The east and west walls have corrugated metal siding. The north and south walls have evenly spaced supportive wood posts running the length of the structure, with the spaces between the columns left open. Each wood

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(U.S. Naval Base, Pearl Harbor, Naval Station)
(U.S. Naval Base, Pearl Harbor, Drum and Can Loading Facility)
(Facility No. 9)
HABS No. HI-410 (Page 2)

post is diagonally braced to the roof structure above. There is a row of supportive wood posts running down the center of the structure.

On the interior of the structure is what remains of the original drum filling and loading equipment. The system was originally comprised of fuel dispensing units and ten wood roller sets (drum conveyance systems) atop fuel pipe trenches. The concrete pipe trenches were originally covered with wooden slats. The dispensing units, which are no longer extant, were fed by 6" supply lines and raised to approximately eye-level for operation. There were two separate lines fed by nearby underground gas tanks; one was for aviation gasoline, the other for motor gasoline. The dispensing units contained a metering unit, a strainer and an air release device, and 6' long 1½" diameter hoses with brass end nozzles, which were inserted into the drum tops for filling.

The drum conveyance systems (partially intact) are 20' long and have 9"-diameter wood rollers that were used to convey the drums to a tip section that dumped them onto the roll-off ramp. The roll-off ramp curved around to sloping wood platforms and rolled the drums down to the loading platform located 200'-0" away. The floor has remnants of a complete draining system. Also, fog pipes and nozzles were laid along the pipe trenches for fire protection.

Interesting historical remnants have been retained within Facility No. 9, including two metal-framed cots, likely from the World War II era. One of the cots is built into one of the structure's end walls. This is an indication that a few personnel were employed at the plant around the clock, perhaps for security purposes. Another historical remnant is a fire extinguisher, also likely from the war era. A sheet metal sign, of unknown date, on one end of the building states: "Shelter No. 15 (Temporary)."

Facility No. 9 is no longer in use and has been abandoned. It is in poor condition with collapsed roof members caused by extensive termite damage.

Historical Context: Refer to HABS No. HI-389 for more information on the early fuel facilities in Pearl Harbor.

After the Japanese attack on Pearl Harbor on December 7, 1941, a joint War Reserve (aviation) Gasoline Storage System was planned for Oahu, "conceived as a reserve storage to be drawn upon in case of war" (U.S. Army Forces Middle Pacific 1945: 228). However, in practice, it functioned as a dispensing system that was put to constant use throughout the war.

The "urgent need for gasoline storage facilities resulted in the system being put into operation long before its completion" (U.S. Army Forces Middle Pacific 1945: 231). When completed, the network of fueling

U.S. NAVAL BASE, PEARL HARBOR, GASOLINE DRUMMING PLANT
(U.S. Naval Base, Pearl Harbor, Naval Station)
(U.S. Naval Base, Pearl Harbor, Drum and Can Loading Facility)
(Facility No. 9)
HABS No. HI-410 (Page 3)

facilities connected Army and Navy gasoline storage areas to military facilities such as airfields, including the Ewa Marine Corps Air Station and Naval Air Station Barbers Point (Helber Hastert & Fee, Planners 2002: 3-151). Other points of connection on the network were at Hickam Field, and a pumping station was developed at Pearl City. The War Reserve Gasoline Storage system was interconnected to function as one system with the Kipapa Gulch Underground Gasoline Storage System (U.S. Army Forces Middle Pacific 1945: 228).

Drum filling plants were built for both the Army and the Navy. The Army's plant was in Kipapa Gulch and the Navy's plant was at Ewa Junction. The name "Ewa Junction" was given for the Navy plant because of its location at the intersection of the fuel lines between the air stations, the Army installations in central Oahu, and Pearl Harbor. The Ewa Junction facility was commissioned on November 1, 1943 and occupied a total of 141 acres of land (U.S. Navy Department, Bureau of Yards and Docks 1947: 142). Facility No. 9, the gasoline drumming plant, was built in 1944.

The development of the installation was undertaken by Contractors Pacific Naval Air Bases (CPNAB), a consortium of local and mainland private contractors tasked with much of the Navy's pre-war and wartime construction. Their contract was terminated in 1943, and most of their work was taken over by the Navy's Construction Battalions (CBs or Seabees), who likely built Facility 9.

By the end of the war, the Ewa Junction installation consisted of ten buildings, including quarters, barracks, storehouses, a plant (Facility 9), a pump house, a latrine, a graded coral open storage area, and two 13,500 barrel underground concrete fuel storage tanks. One of these tanks, Facility S-26, stored leaded aviation gas (AVGAS), and the other, Facility S-27, stored leaded motor gasoline (MOGAS) (Drawing SK 90761-99-A1, May 19, 2000). The 67-man barracks building with mess hall was built in 1942 and was the earliest structure at the installation. This provides a rough estimate of the number of personnel who may have operated the facility during the war period.

Other accessory facilities built by the Navy served related functions. Near the Ewa Junction installation was the Waimalu Drum Reconditioning Plant and Storage Area, which, according to historic photographs, was in operation as early as 1944. It is likely that this facility and the Ewa Junction facility operated in concert with one another because of their relative close proximity. Another drum and can loading facility was located at Pearl Harbor at the Kuahua Peninsula during the war. It was located within Facility 350, a structure which was built in 1944. Facility 350 has since been demolished, and the Waimalu site is no longer occupied by the Navy.

U.S. NAVAL BASE, PEARL HARBOR, GASOLINE DRUMMING PLANT
(U.S. Naval Base, Pearl Harbor, Naval Station)
(U.S. Naval Base, Pearl Harbor, Drum and Can Loading Facility)
(Facility No. 9)
HABS No. HI-410 (Page 4)

The drum filling and can loading operation at Ewa Junction functioned as follows. Empty drums were placed at the north open end of Facility No. 9 for placement on the drum filler. Upright fuel dispensing units came from the pipe trenches that ran under the rollers and filled the drums. Once filled, the drums were conveyed down wood rollers and were dumped onto a roll-off ramp. The roll-off ramp curved around to sloping wood platforms that rolled the drums down to the loading platform, which was a separate structure (now demolished) that was located 200'-0" away. Once they were transferred to the loading platform, a traveling crane and electric hoist assisted in loading the drums onto trucks. The trucks took the drums to nearby storage areas or other final destinations.

By 1946 the entire facility was under the Petroleum Supply Branch of the Naval Supply Center, and referred to as the Ewa Junction Drum Storage and Drum Filling Plant. The installation has been inactive for many decades (the date it was decommissioned is not known). In 1971 vandals activated one of the fuel tank's pumps, which released 315,000 gallons of fuel into the soil. The Navy recovered nearly a third of it by pumping on the surface and digging interceptor trenches and wells below grade (Environment Hawaii 1991).

Facility No. 9 has been abandoned and is targeted for demolition. Part of the Ewa Junction site was returned to the state of Hawaii for the Leeward Oahu Community College, and other sections are currently being turned over to the State Department of Hawaiian Homelands.

Sources:

The drawings for this structure are on microfilm at the Plan Files of the Naval Facilities Engineering Command, Pacific under numbers OA-N24-1431 through 1438, and also under number SK 90761-99-A1.

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

Environment Hawaii, Inc. "Oil Contamination is Pervasive". Volume 2 Number 6, December 1991. Viewed at www.environment-hawaii.org/1291oil.htm on June 22, 2005.

Helber Hastert & Fee, Planners. *Integrated Cultural Resource Management Plan (ICRMP)* prepared under contract with the Pacific Division, Naval Facilities Engineering Command for Commander Navy Region Hawaii, 2002.

National Archives II, Still Photo Collection.

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(U.S. Naval Base, Pearl Harbor, Naval Station)
(U.S. Naval Base, Pearl Harbor, Drum and Can Loading Facility)
(Facility No. 9)
HABS No. HI-410 (Page 5)

U.S. Army Forces Middle Pacific. "History of Engineer Section," Volume I, 1945. University of Hawaii Library, on microfilm roll S01837.

U.S. Navy Department, Bureau of Yards and Docks. *Building the Navy's Bases in World War II*, Volume II. United States Government Printing Office, Washington, D.C., 1947.

_____. *Public Works of the Navy Data Book – Buildings. NAVDOCKS P-164*, July 1945 Edition. (Available at Port Hueneme, NAVFAC Archives.)

_____. *Public Works of the Navy Data Book – General Information. NAVDOCKS P-164*, July 1947 Edition. Washington, Government Printing Office. (Available at Washington Navy Yard Library.)

Young, Peter T. Letter from State Historic Preservation Officer to R.M. Wakumoto, Director, Regional Environmental Department, Department of the Navy, regarding Section 106 Compliance for NHPA demolition of Building 9 at Ewa Junction. Dated June 1, 2005.

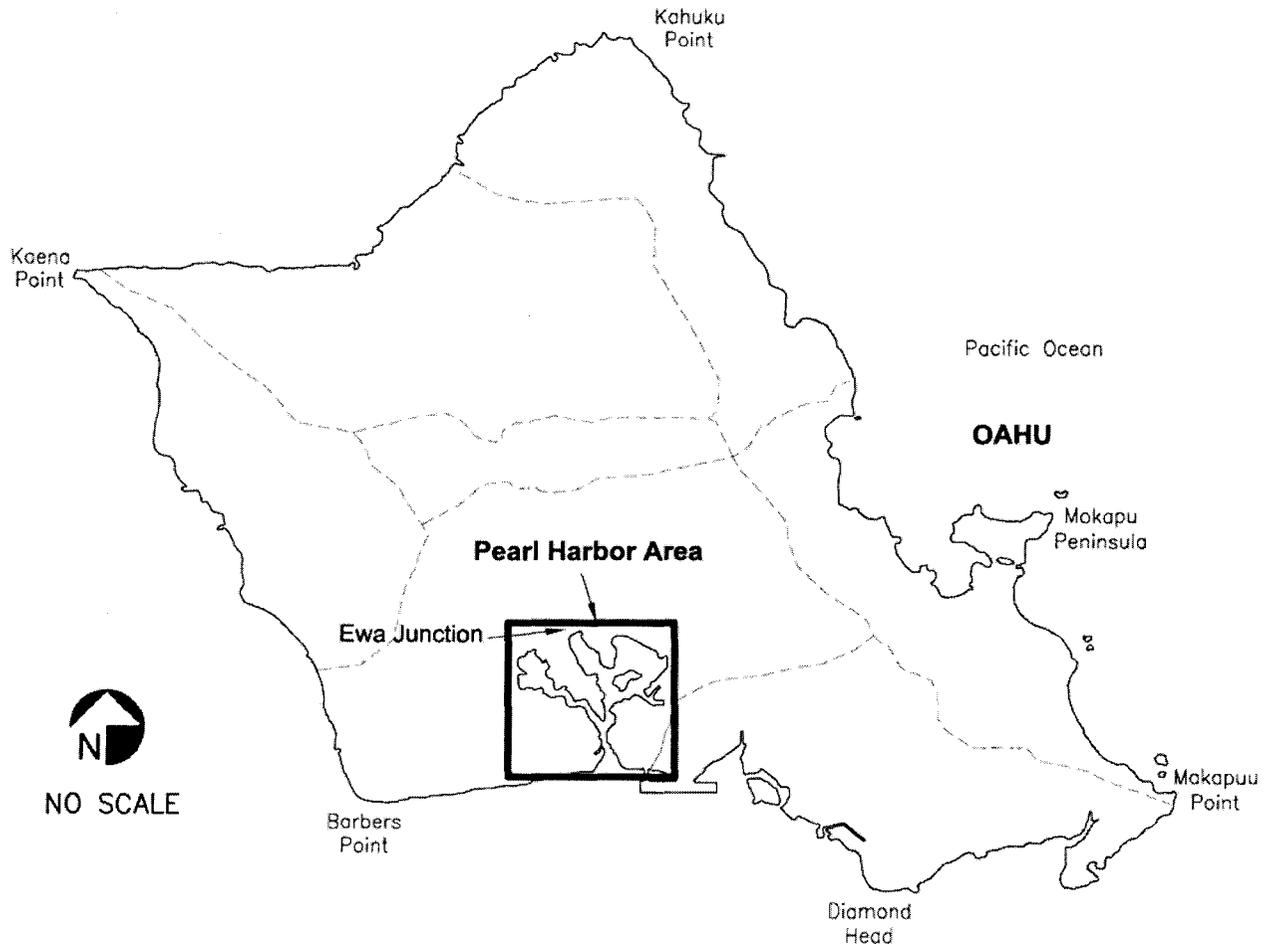
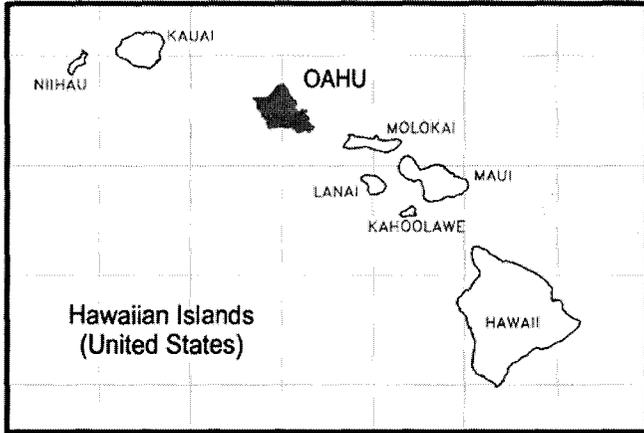
Project Information: This report was prepared under a Historic Preservation Services contract (N62742-97-D-3502) awarded to AMEC Earth and Environmental, the prime contractor, by the U.S. Navy, Naval Facilities Engineering Command. This facility was proposed for demolition by the Navy in 2004 as part of the transfer of the Ewa Junction parcel to the State Department of Hawaiian Home Lands. The State Historic Preservation Officer concurred with the Navy's proposal to do so on March 29, 2005. The photographic documentation was undertaken by David Franzen, of Franzen Photography. Location maps were made by Nestor Beltran of NAB Graphics. Between 1999 and 2001, the field work was done and the draft of this report was written by Dot Dye of AMEC. It was edited by Mason Architects in 2005.

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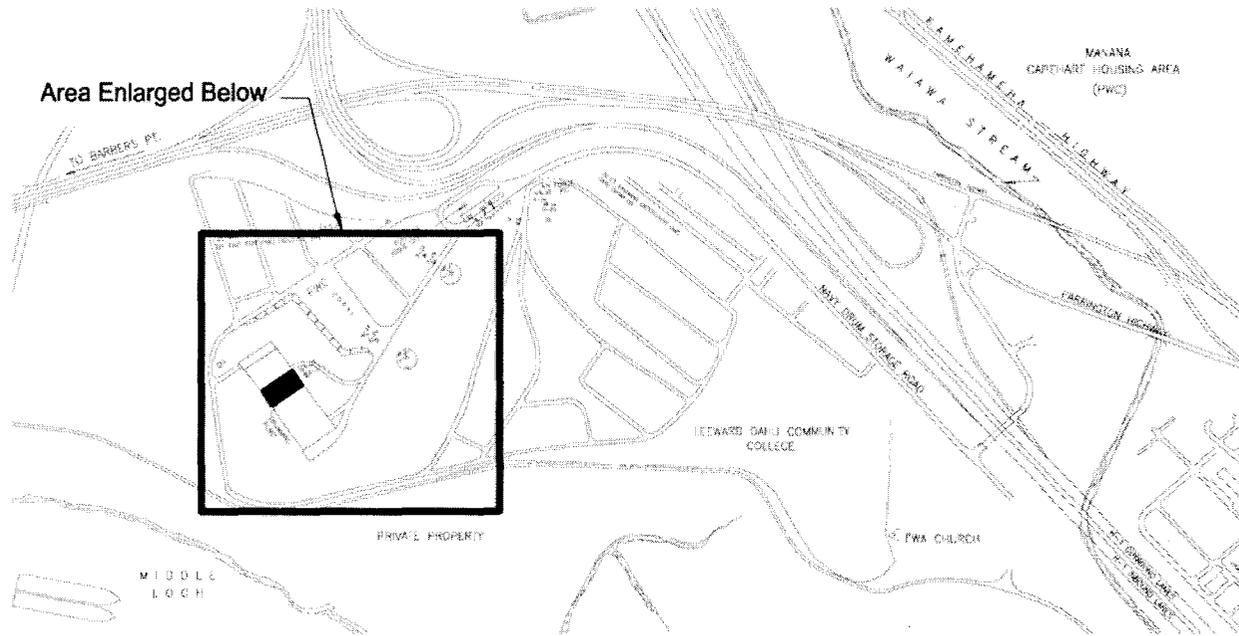
AMEC Earth & Environmental, Inc.
3375 Koapaka Street, Suite F251
Honolulu, HI 96819

Date of Final Report: July 2005

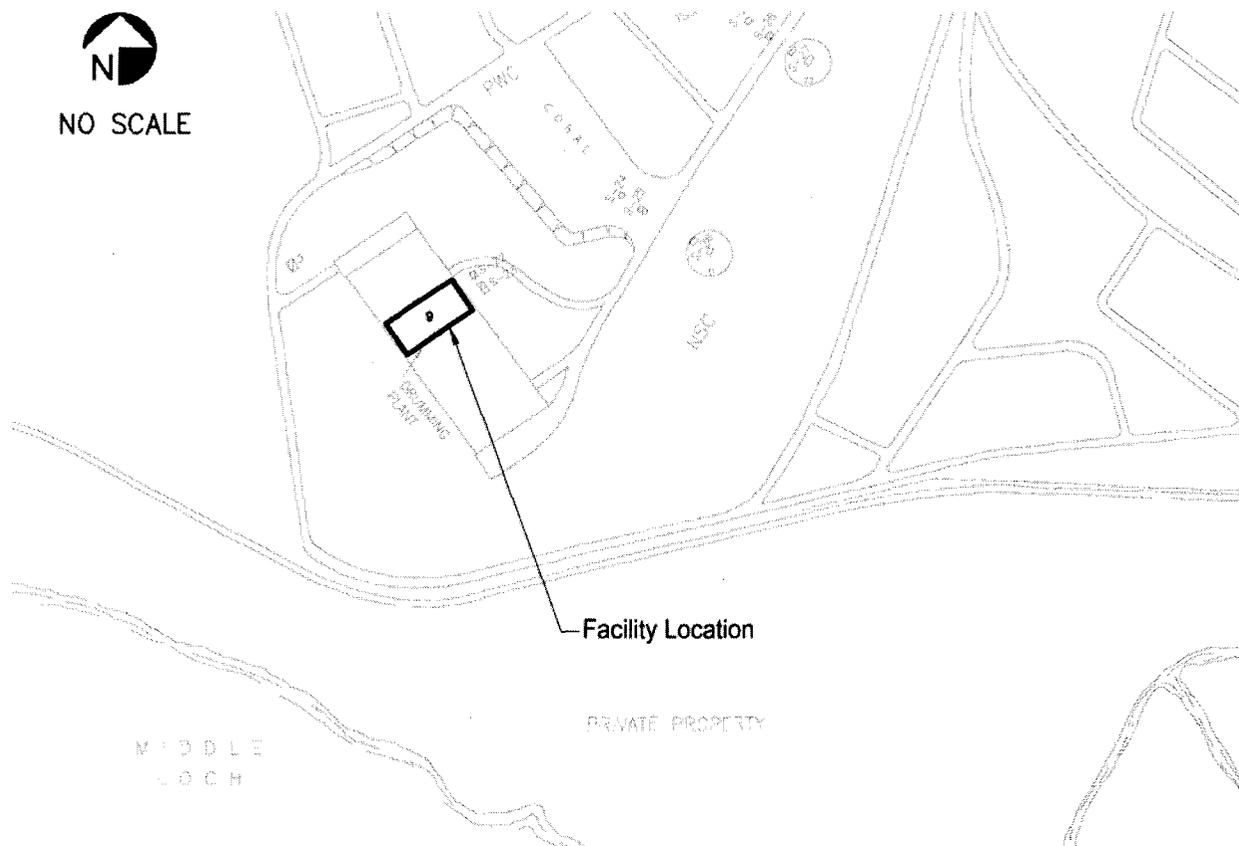
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(U.S. Naval Base, Pearl Harbor, Naval Station)
(U.S. Naval Base, Pearl Harbor, Drum and Can Loading Facility)
(Facility No. 9)
HABS No. HI-410 (Page 6)



**U.S. NAVAL BASE, PEARL HARBOR, GASOLINE DRUMMING PLANT
(U.S. Naval Base, Pearl Harbor, Naval Station)
(U.S. Naval Base, Pearl Harbor, Drum and Can Loading Facility)
(Facility No. 9)
HABS No. HI-410 (Page 7)**



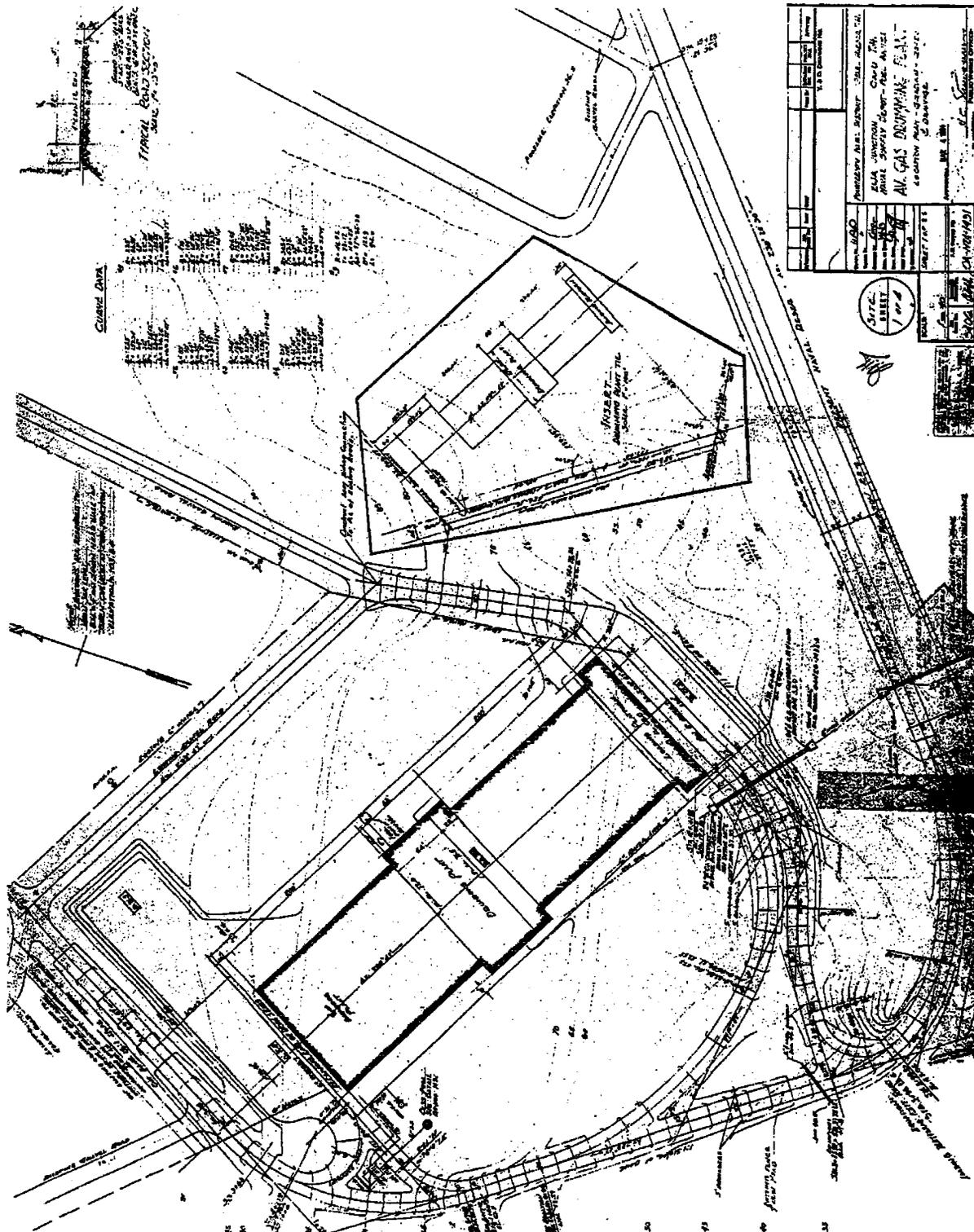
Vicinity Map



Site Map

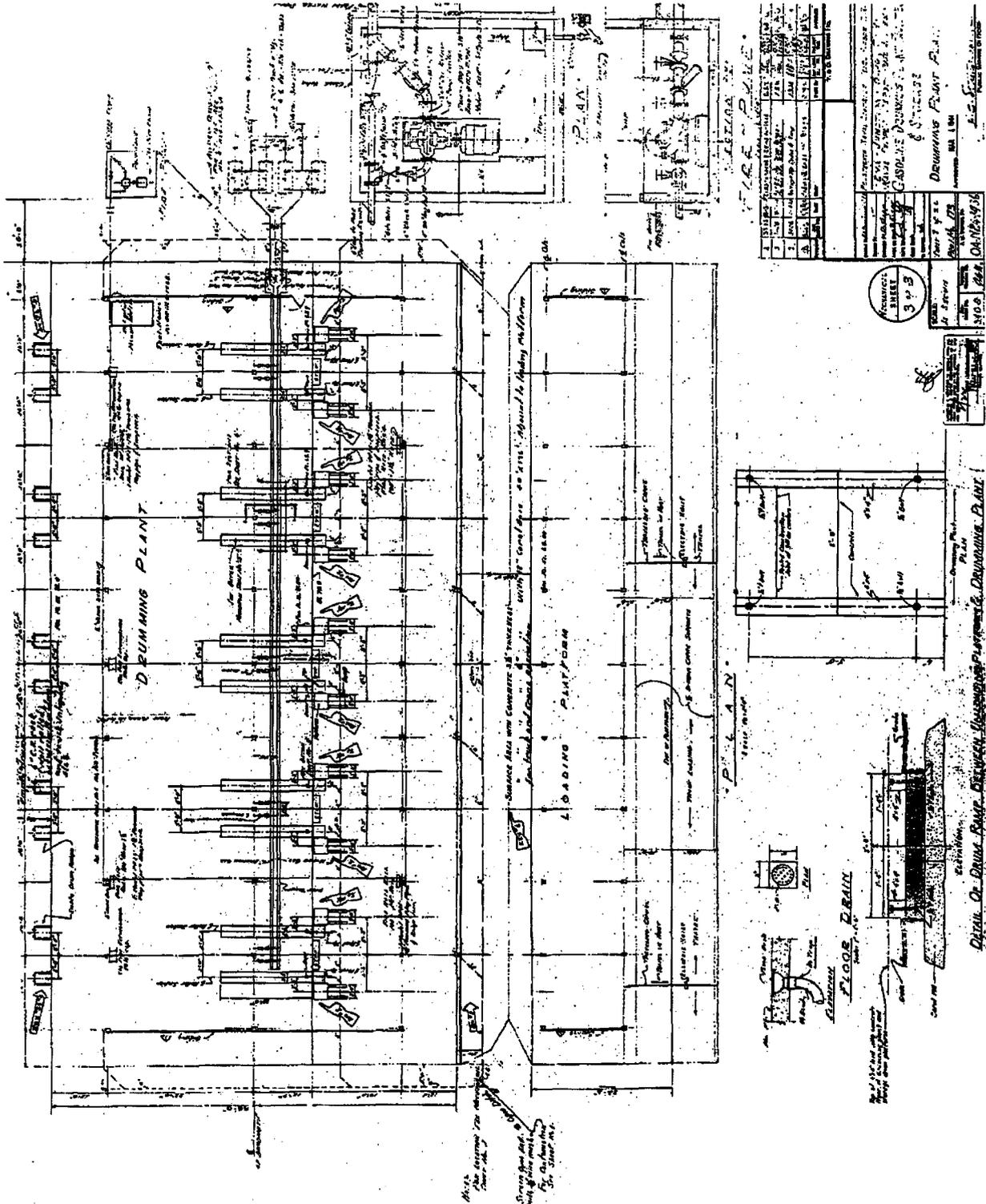
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 (U.S. Naval Base, Pearl Harbor, Naval Station)
 (U.S. Naval Base, Pearl Harbor, Drum and Can Loading Facility)
 (Facility No. 9)
HABS No. HI-410 (Page 8)

Drawing No. OA-N24-1431, dated March 4, 1944
 Location Plan
 (No Scale)



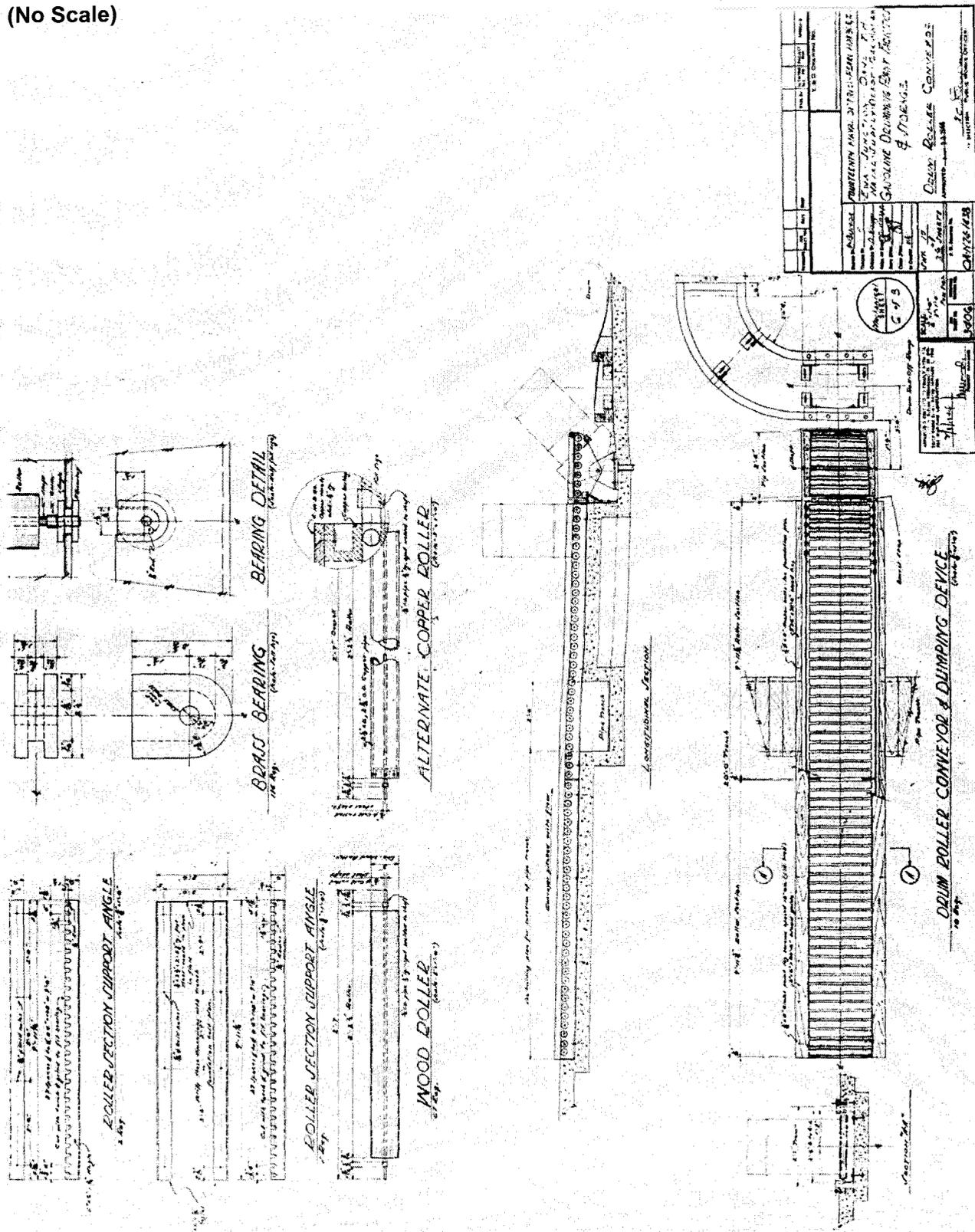
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 (U.S. Naval Base, Pearl Harbor, Naval Station)
 (U.S. Naval Base, Pearl Harbor, Drum and Can Loading Facility)
 (Facility No. 9)
HABS No. HI-410 (Page 9)

Drawing No. OA-N24-1436, dated March 4, 1944
 Floor plan (plus plan of demolished loading platform)
 (No scale)



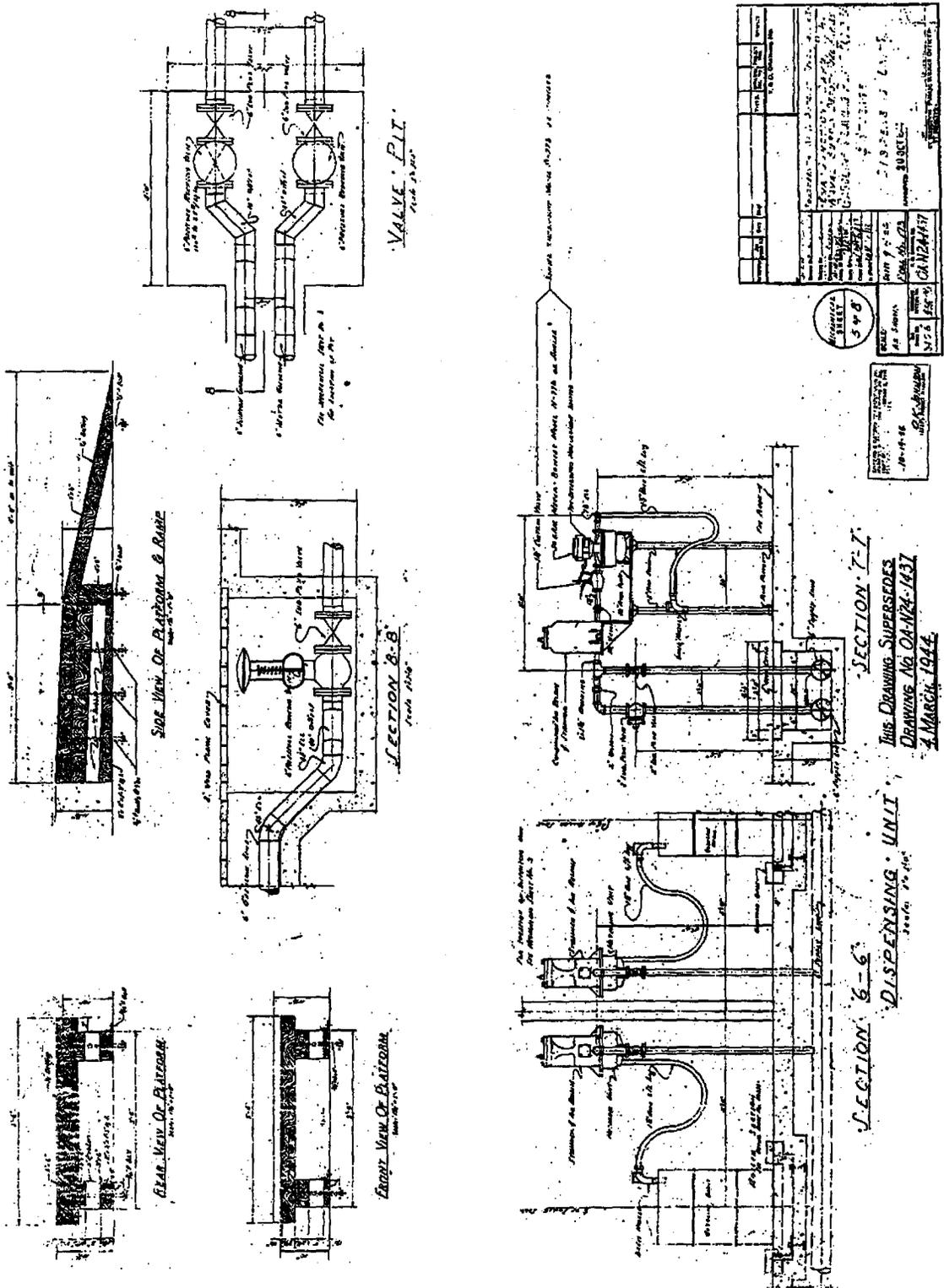
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 (U.S. Naval Base, Pearl Harbor, Naval Station)
 (U.S. Naval Base, Pearl Harbor, Drum and Can Loading Facility)
 (Facility No. 9)
HABS No. HI-410 (Page 10)

Drawing No. OA-N24-1438, dated March 20, 1944
Drum Roller and Conveyor
 (No Scale)



U.S. NAVAL BASE, PEARL HARBOR, GASOLINE DRUMMING PLANT
 (U.S. Naval Base, Pearl Harbor, Naval Station)
 (U.S. Naval Base, Pearl Harbor, Drum and Can Loading Facility)
 (Facility No. 9)
 HABS No. HI-410 (Page 11)

Drawing No. OA-N24-1437, dated October 20, 1944
 Dispensing Unit
 (No Scale)



PROJECT	U.S. NAVAL BASE, PEARL HARBOR, GASOLINE DRUMMING PLANT
DRAWING NO.	OA-N24-1437
DATE	OCTOBER 20, 1944
DESIGNED BY	W. H. BROWN
CHECKED BY	J. H. BROWN
APPROVED BY	[Signature]
SCALE	AS SHOWN
SHEET	548
TOTAL SHEETS	548
DATE	MARCH 4, 1944
BY	[Signature]
CHECKED BY	[Signature]
APPROVED BY	[Signature]

SECTION 7-1
 THIS DRAWING SUPERSEDES
 DRAWING NO. OA-N24-1437
 4 MARCH 1944

SECTION 6-6
 DISPENSING UNIT
 300/100 3/4 1/16"

U.S. NAVAL BASE, PEARL HARBOR, GASOLINE DRUMMING PLANT
(U.S. Naval Base, Pearl Harbor, Naval Station)
(U.S. Naval Base, Pearl Harbor, Drum and Can Loading Facility)
(Facility No. 9)
HABS No. HI-410 (Page 12)

Naval Air Station Fuel Storage Area, Ewa. Historic photograph dated January 30, 1944.
Source: National Archives II, Photo No. 80-G-410699

