

U.S. NAVAL BASE, PEARL HARBOR, PATTERN SHOP
(U.S. Naval Base, Pearl Harbor, Naval Shipyard, Facility No. 14)
Seventh Street near Avenue F
Pearl Harbor
Honolulu County
Hawaii

HABS HI-463
HI-463

HABS
HI-463

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, PATTERN SHOP (U.S. Naval Base, Pearl Harbor, Naval Shipyard) (Facility No. 14)

HABS No. HI-463

Location:

Seventh Street near Avenue F
Pearl Harbor Naval Base
City and County of Honolulu, Hawaii

HABS
HI-463
(page 1)

This building falls within the UTM coordinates of the Pearl Harbor, Naval Shipyard as defined in the location section of the overview report HABS No. HI-483. This building's UTM coordinates are: 04.607940.2361490.

Significance:

Facility 14 is located within the Pearl Harbor National Historic Landmark. It is significant for being among the major shop buildings built in the initial phase of construction at the Shipyard that began in 1912, and remains part of a still-extant group of buildings from that period (including Facilities 6, 7, 12 and 15 along Seventh Street). As the pattern shop, Facility 14 is functionally important to the Shipyard's operations. It is a prominent structure, characteristic of a distinctive type and period of industrial construction, and is one of the few concrete frame buildings constructed in the original base period. The building remains substantially intact with a high degree of integrity. The second floor of this facility contains a significant collection of all the wood moldings for castings from the foundry dating back to its earliest time.

Description:

Facility 14 is a concrete-framed, two-story, gable-roof structure with a ridge monitor running the length of the main roof up to the last bay at each end. The original building is organized on a structural grid of twelve, 20'-0" bays long by three, 20'-4" bays wide, with an overall size of about 242' x 62' (15,000 square feet). The approximate overall height of the building is 56'. A small, one-story shed-roof addition was constructed later on the south side. Facility 14 faces and is oriented perpendicular to Seventh Street on its west end.

Facility 14's foundation is slab-on-grade concrete with stepped concrete spread footings supporting the building's structural concrete columns. The columns occur at each intersection of the structural grid on the first floor but the interior columns are omitted at the second floor. All columns are nearly square in section, varying from 17" up to 20" on the longer face, depending on location. The upper story has a structural floor consisting of a concrete slab integrated with a frame of concrete girders and beams. Exterior wall areas infilling between columns are of terracotta tile. Exterior structural wall surfaces are finished with cement plaster inside and out.

**U.S. NAVAL BASE, PEARL HARBOR, PATTERN SHOP
(U.S. Naval Base, Pearl Harbor, Naval Shipyard)
(Facility No. 14)
HABS No. HI-463 (Page 2)**

Both the foundation and upper slabs originally were overlaid with wood strip flooring on sleepers and this system mainly is intact. The finished floor of the central aisle and certain other areas of the first floor are concrete.

There are L-shaped stairs in the northwest and northeast corners of the building. An elevator serving the second floor is located at the inside of the "L" of the northwest stair. The original electric elevator has been substantially altered. Masonry enclosures of the elevator and northwest stair have been added on both floors and at the upper floor only at the northeast stair to improve fire separation.

The roof and monitor with a 6-to-12 roof pitch are supported by clear-span, light-weight steel trusses. These are fabricated from angle sections in a variant of the Fink configuration for the main part of the roof. The trusses are joined by overlaid metal purlins and are augmented with additional members to frame the monitor. The eaves extend a significant distance out from the wall line and are supported by horizontal braces at each column. The eaves of the monitor extend a lesser distance and they are not braced. Metal-to-metal connections are riveted. The original roofing was corrugated asbestos but this since has been overlaid with corrugated aluminum roofing on wood runners and purlins.

The building presents a utilitarian appearance with design features shared by a number of other concrete buildings at Pearl Harbor, especially at Kuahua Peninsula and at West Loch. Concrete was used by the Navy for facilities that needed to be fire-proof and was considered a modern material for its time. At Seventh Street, the foundation has an exposed vertical face with central steps that function as a low pedestal for the building above. The building's exterior walls consist of an exposed foundation edge tapering with the grade rise toward the east; structural framing and a waist-high base wall in a common plane; and regressed infill wall areas with dominant, inset industrial-type metal window units. The expressed structural framing also includes wide cornice beams that run under the side-wall and gable eaves, and also extend horizontally across the base of the gable. Intermediate end wall columns extend through that gable-base beam to the gable cornice.

The industrial steel window units below the roof each have multiple fixed lights surrounding two multi-light pivot sashes, one over the other, except at the gables where there is only single pivot sash. The monitor window units have awning sash only, with no surrounding fixed lights. The main window units begin above the first floor base wall and occur in two rows of three or four ganged units between each column. There is a narrow band of wall area between each centered group of ganged units and the adjacent columns. The window units are separated vertically by a spandrel at the second floor corresponding to the base wall at the first floor but recessed in

U.S. NAVAL BASE, PEARL HARBOR, PATTERN SHOP
(U.S. Naval Base, Pearl Harbor, Naval Shipyard)
(Facility No. 14)
HABS No. HI-463 (Page 3)

plane with the wall area to the sides of the windows. Window units on the ends of the building are similar to those on the sides and similarly located, but, with another group of ganged units in the center of the gable above the beam across the gable. To either side of the gable window group between the intermediate and outer columns the recessed wall forms a triangular panel. Window units in the monitor are ganged similarly and aligned with the window units on the side walls below.

The original main doors are still extant, if slightly altered in some cases. These doors are a sliding double, wood-framed type in two sizes, both with wide stiles and rails. The lower panels are inset, vertically-oriented, beveled tongue-and-groove wood boards. Upper panels are multi-light steel window units. The larger doors, in the middle bay of the end walls of the building, are about 10' wide by 15' high and their heads align with those of the windows in the adjacent outer bays. The smaller doors, on the sides of the building, are the normal width and height for passage doors.

Remnants of train tracks that once served Facility 14 and others in the Shipyard are extant just at the east end. There is a prominent continuous suspended duct system on the first floor and a large blower just inside the north wall on the east end of the building to convey sawdust and similar by-products of woodworking operations to Facility 154, originally for burning and later for collection and disposal. The lighting fixtures at the second floor appear to date from no later than the World War II era. They are a common pendant-mount, single-bulb type with dual-pitch conical shades having a green porcelain finish outside and white inside. Portions of the first floor of the building have been subdivided with various non-historic partitions to create offices and other functional spaces.

Facility 14 appears to have been constructed in accord with the limited extant original design drawings revised prior to construction as noted below.

Historical Context:

Plans for the Pattern Shop were started in 1912 under the Bureau of Yards and Docks, and an estimate of \$60,000 was submitted and approved in the Appropriations Act of 1913. Facility 14 was constructed in 1915 as the Shipyard pattern-making shop and has continued in that use since then. The original design drawings are dated January 5, 1914. From the drawing showing floor plans and elevations, the building originally was planned to have 10 transverse bays. However, a notation on the drawing dated July 10, 1914 increased the number to 12 before the building was constructed.

The foundation edge at the west end of the building is shown in a May 1916 photograph as stepping down on either side of depressed train tracks running into the building. This depression of the tracks would have allowed the floor of rail cars to be about level with the building's

**U.S. NAVAL BASE, PEARL HARBOR, PATTERN SHOP
(U.S. Naval Base, Pearl Harbor, Naval Shipyard)
(Facility No. 14)
HABS No. HI-463 (Page 4)**

structural floor. The remnant tracks at the east end of the building, however, are flush with the structural floor. What may account for the difference in track elevation at the two ends of the building is unknown. The tracks into Facility 14 were part of the narrow gauge railroad network that extended into the interiors of most significant industrial buildings at the Shipyard from its inception. This system was finally abandoned in the late 1950s. When the depressed tracks and all but the remnants of the floor-level tracks within the building were removed or covered is unknown. The present steps facing Seventh Street likely were added at that time.

Machinery replacement and other improvements to the elevator are shown in 1933 and 1934 drawings, and the addition of the woodworking refuse collecting system in 1938 drawings. Interior lighting on the first floor was upgraded in 1941 replacing the original incandescent fixtures with a combination of new incandescent and fluorescent dust-proof fixtures, approximately tripling the original fixture count. The elevator and stairs were not finally enclosed for fire protection until 1948, the same year that a toilet room was upgraded. Aside from the addition of the shed-roof structure (probably after 1948) and the re-roofing of the building in 1956, there have been no known further significant alterations.

For an overview of the Naval Shipyard see HABS No. HI-483.

Sources:

Original and subsequent drawings reviewed for this building are on digitally scanned images or microfilm at Pacific Division, Naval Facilities Engineering Command (NAVFAC EFD Pacific) Plan Files. Historic photos of these buildings are located at the National Archives II, Still Photo Section, RG 71 CA.

Anonymous.

n.d. A Brief History of Pearl Harbor in its relation to the U.S. Navy. Shipyard Public Affairs Officer's Files, p. 170.

Commander, Navy Region Hawaii

2000 Pearl Harbor Naval Complex, Cultural Resources Management Plan, Pearl Harbor, HI.

Commander, Navy Region Hawaii

2002 Integrated Cultural Resources Management Plan, Pearl Harbor Naval Complex, Pearl Harbor, HI.

HABS/HAER Documents

var. dates For those resources on the Navy database at the time the CRMP (Contract No. NB62742-93-D-0502) was prepared, the HABS/HAER numbers assigned have been included in the electronic database as an additional field, as noted in

U.S. NAVAL BASE, PEARL HARBOR, PATTERN SHOP
(U.S. Naval Base, Pearl Harbor, Naval Shipyard)
(Facility No. 14)
HABS No. HI-463 (Page 5)

Appendices: Pearl Harbor Naval Complex Cultural
Resources Management Plan, 1998, p. A-6.

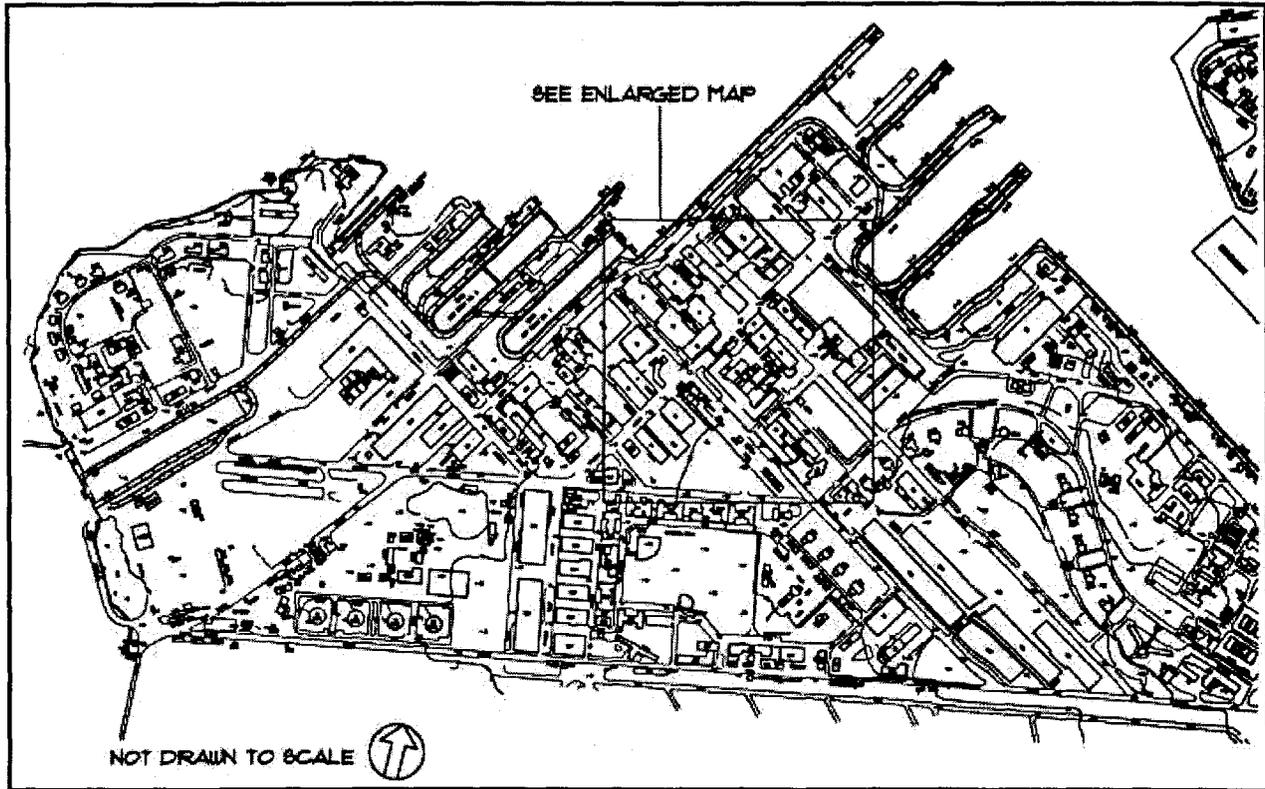
Pearl Harbor Naval Shipyard
1992 Historic Preservation Documentation Program,
photocopied document dated 15DEC92 including
Appendix B Historic Inventory.

U.S. Bureau of Yards and Docks.
1921 Activities of the Bureau of Yards and Docks, Navy
Department, World War 1917-1918. Washington:
Government Printing Office.

Project Information: Photo documentation and recordation of this facility by the Navy has been done in anticipation of future alterations or potential demolition of the structure. Photo documentation of historic facilities by the Navy assists in expediting planned undertakings by having the documentation prepared prior to taking actions. Also, photo documentation assists the Navy in gaining more information about its historic facilities to assist in making proactive management decisions. This project is being supervised by Jeffrey Dodge A.I.A., Historic Preservation Specialist at the Pacific Division, Naval Facilities Engineering Command (NAVFAC EFD Pacific). The photographic documentation was undertaken by David Franzen, photographer. Douglas P. Luna, AIA/Architect, of Mason Architects, Inc. prepared the written documentation. The field work and research was conducted for this report between July 2001 and December 2001.

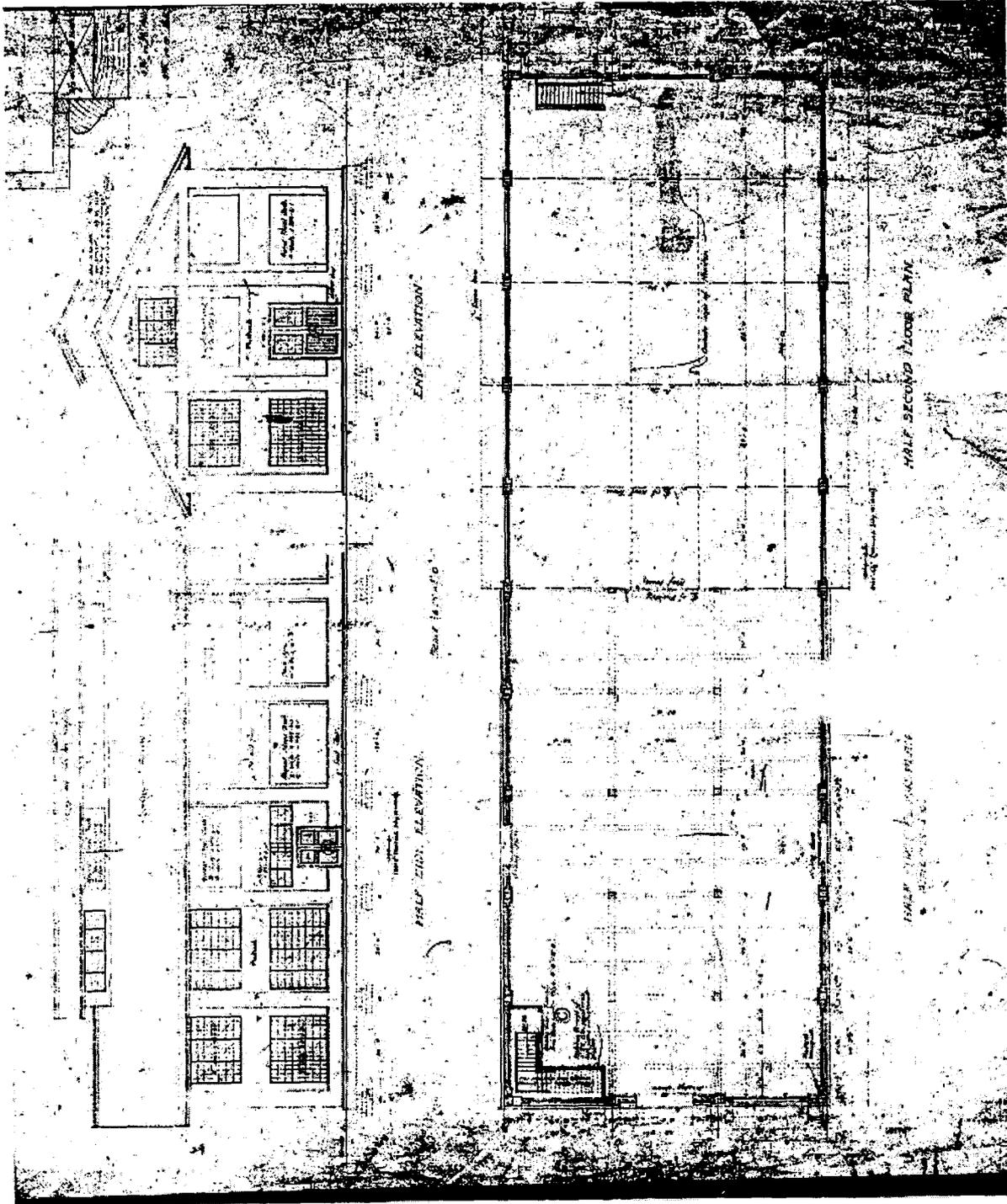
U.S. NAVAL BASE, PEARL HARBOR, PATTERN SHOP
(U.S. Naval Base, Pearl Harbor, Naval Shipyard)
(Facility No. 14)
HABS No. HI-463 (Page 6)

Shipyard Map



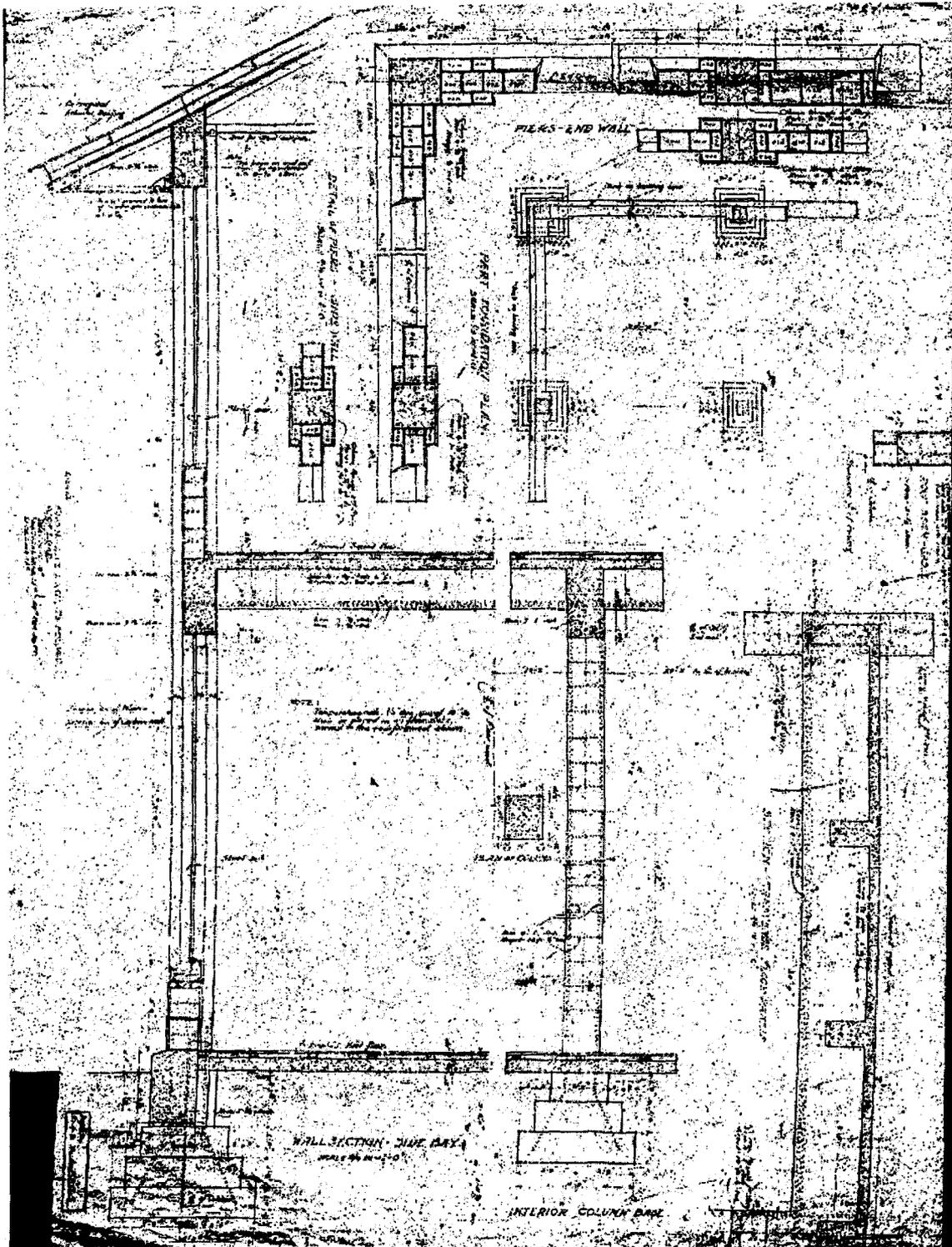
U.S. NAVAL BASE, PEARL HARBOR, PATTERN SHOP
(U.S. Naval Base, Pearl Harbor, Naval Shipyard)
(Facility No. 14)
HABS No. HI-463 (Page 8)

First and Second Floor Plans and Elevations (portion of Drawing No. 62264, dated
1/5/1914) (reduced, not to scale)



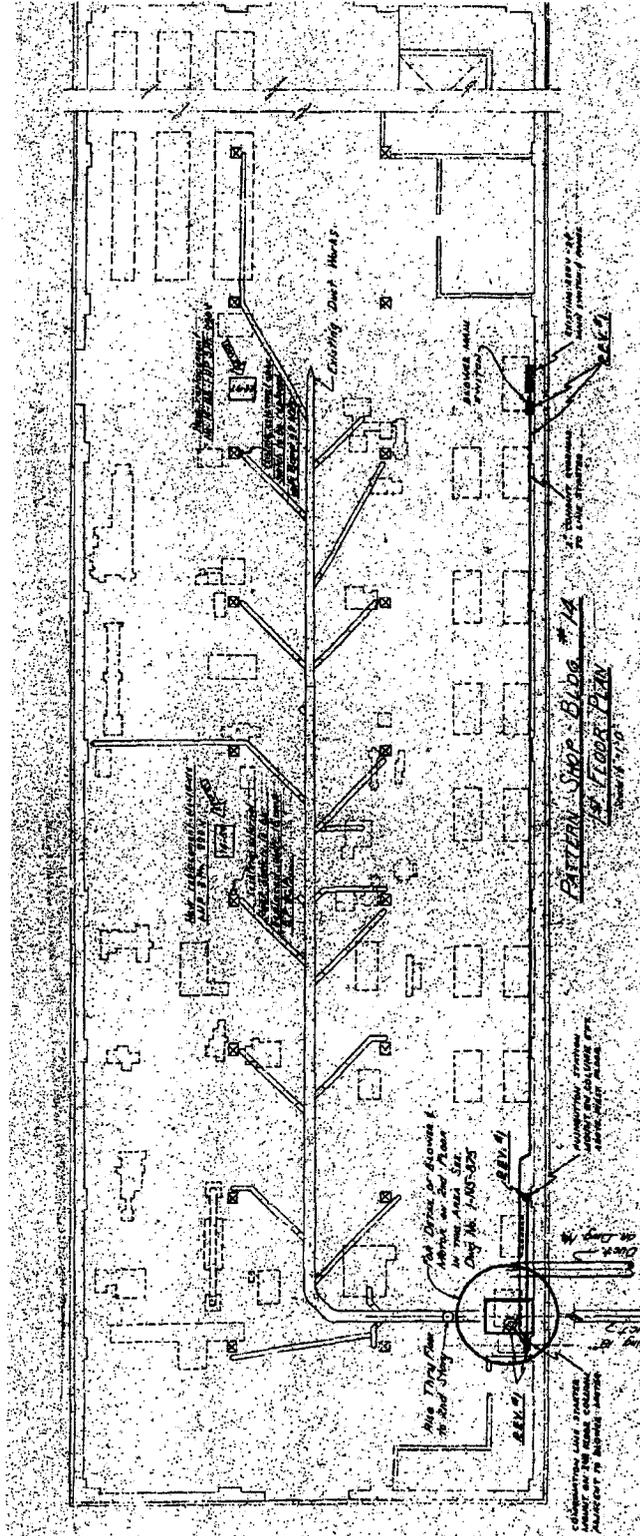
U.S. NAVAL BASE, PEARL HARBOR, PATTERN SHOP
(U.S. Naval Base, Pearl Harbor, Naval Shipyard)
(Facility No. 14)
HABS No. HI-463 (Page 9)

Wall Section, Part Foundation Plan, Interior Column Base, and Details (portion of Drawing No. 62265, dated 1/5/1914) (reduced, not to scale)



U.S. NAVAL BASE, PEARL HARBOR, PATTERN SHOP
(U.S. Naval Base, Pearl Harbor, Naval Shipyard)
(Facility No. 14)
HABS No. HI-463 (Page 10)

First Floor Plan with Dust Collector System (portion of Drawing No. I-N05-872,
dated 12/12/1947) (reduced, not to scale)



U.S. NAVAL BASE, PEARL HARBOR, PATTERN SHOP
(U.S. Naval Base, Pearl Harbor, Naval Shipyard)
(Facility No. 14)
HABS No. HI-463 (Page 11)

Painting Exterior Elevations (portion of Drawing No. 7021821, dated 4/30/1980) (reduced,
not to scale)

