

U.S. NAVAL BASE, PEARL HARBOR, NAVAL AIR BASE
TEMPORARY STOREHOUSE
(U.S. Naval Base, Pearl Harbor, Naval Station Ford Island)
(General Warehouse)
(Facility No. 184)
Avoget Street and Ranger Loop
Pearl Harbor
Honolulu County
Hawaii

HABS HI-418
HI-418

HABS
HI-418

PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

HISTORIC AMERICAN BUILDINGS SURVEY
PACIFIC WEST REGIONAL OFFICE
National Park Service
U.S. Department of the Interior
1111 Jackson Street, Suite 700
Oakland, CA 94607

HISTORIC AMERICAN BUILDINGS SURVEY

U.S. NAVAL BASE, PEARL HARBOR, NAVAL AIR STATION TEMPORARY STOREHOUSE (U.S. Naval Base, Pearl Harbor, Naval Station Ford Island) (U.S. Naval Base, Pearl Harbor, General Warehouse) (Facility No. 184)

HABS No. HI-418

- Location:** Avocet Street and Ranger Loop
Ford Island
Pearl Harbor Naval Base
City and County of Honolulu, Hawaii
- U.S.G.S. Pearl Harbor Quadrangle, Hawaii, 1999
7.5 Minute Series (Topographic) (Scale - 1:24,000)
Universal Transverse Mercator Coordinates 4.607280.2362910
- Significance:** Facility No. 184 is associated with the build-up of facilities at the Naval Air Station during World War II. It is related in function, although not in design, to the other nearby storehouses. This grouping within the Ranger Loop triangle is associated with the support of aircraft carrier operations during World War II. This storehouse remains an integral part of this early 1940s group of Naval Air Station buildings. Facility No. 184 has high integrity and is a contributing element to the Pearl Harbor National Historic Landmark.
- Description:** Facility No. 184 is located on the northwest side of Ford Island within the triangle formed by Ranger Loop and Wasp Boulevard. It is one of only two metal-sided buildings (with Facility No. 174) in this group of mostly concrete structures (Facility Nos. 166 to S172). This is the only wood-framed building among the group. Asphalt paving abuts the sides of the storehouse with doors, but a grassy area surrounds the other sides. There are two large ironwood trees in the triangle between the wings of the storehouse. Bushes are also planted near two corners of the building.
- Although at first view Facility No. 184 appears to be a simple warehouse, its design is more complicated than most other storage structures. It has an L-shaped floor plan, unusual roof design, and a mezzanine in half of one wing.
- The main wing, running parallel to Avocet Street, measures 146'-0" in length and 50'-0" in width. The secondary wing, also 50'-0" in width, runs at right angles to the main wing and extends 90'-0", so that the length of that side of the building (near Facility No. 167), measured from the Avocet Street wall, is a total of 140'-0". The nine bays in the main wing are created by the structural columns, most of which are spaced 16'-0" apart, except for the columns in the bay closest to Facility No. 167, which create an 18'-0" bay. Of the six bays in the secondary wing five of them also have columns spaced 16'-0" apart, but the columns that define the bay

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closest to the main wing are only 10'-0" apart. The building is approximately 28' tall from grade to the top of the roof ridge.

The building has a complex foundation, largely due to various sizes of the footings for the columns under the mezzanine. The footings under most of the perimeter columns are 2'-0" square in plan and 1'-0" thick; on top of the footings there is a reinforced concrete perimeter wall, 9" thick and at least 1'-6" tall, with a small bevel on the top exterior corner. Most of the 8" x 8" wood columns sit on the perimeter wall and are connected to anchor bars that run through the perimeter wall to the footings. The dimensions of the footings under the mezzanine are larger, up to 4'-0" square, and those that are not on the building perimeter have bases with stepped profiles under the 8" x 10" columns that support the mezzanine. The columns under the mezzanine are mostly spaced in a 12'-0" x 16'-0" grid, except the grid is 12'-0" x 10'-0" in the bay adjacent to the main wing. The 5"-thick concrete floor is poured over rolled coral fill and reinforced with a 6"-square grid of metal wire.

The walls and the roof are covered with corrugated metal panels. Wood trusses span the 50'-0" width of each wing. The trusses are mostly wood, but also include metal tie rods. "General Notes" on drawing no. 199680 specify the materials and construction method for the trusses:

Top and bottom chords to be built up of 4 2"x8" planks unless noted. Joints to be well made and staggered not less than 3 ft. No two joints to occur opposite. Where joints occur on outside, bolt with two 1/2" ϕ thru bolts each side of joint. In bottom chord, no joints to occur in daps. Nail each lamination with 20^d galv. nails, spaced as shown in detail.

Laminations of diagonals to extend full length of member, and nailed with 20^d galv. nails as shown in detail. Each end to have one 1/2" ϕ thru bolt. In built up members all nails to be driven at right angles to the face of planks. All thru bolts to have malleable iron washers O.G. pattern or 1 1/2" x 1 1/2" x 3/16" plate washers for 1/2" ϕ bolts, 2" x 2" x 1/4" plate washers for 5/8" ϕ bolts and 2 1/2" x 2 1/2" x 1/4" plate washers for 3/4" ϕ bolts. Holes bored same size as bolts.

Drift bolts to have flat heads and driven in holes 1/16" smaller than diameter of bolt. Drill heads full length of bolt.

Boat spikes in diagonals to be 3/8" x 8". Bore 3/8" holes full length of boat spikes.

Lag bolts - Holes for shank of bolt same size as bolt and for screw 1/8" smaller than size of bolt. Drill holes full length of bolt. Driving of lag bolt not permitted.

All daps to be 1 5/8" unless noted.

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Ends of compression members in contact to have full bearing.

Lumber – Douglas Fir no. one common S4S.

At the southwest corner, where the gable roofs of the two wings meet, there is a gable-on-hip design, instead of simple cross gables; this design creates a more unified appearance, with 6'-0" wide overhanging eaves on four sides of the building. The roof overhang at the north and west gable ends is only 3'-0". There are six cylindrical roof ventilators, four spaced along the ridge of the main wing and two additional ones on the ridge of the secondary wing (one of the main wing ventilators is also in line with the secondary roof ones, so the elevation drawings suggest seven ventilators). Ventilation is also provided by bands of mesh screening, more than 1' high, at the top of the walls and between the rafters. The paired rafter tails are exposed and their ends are clipped. These rafter tails are 4" x 8" boards scabbed to both sides of the trusses. At the gable ends there is screening between the 8" purlins, whose ends are also clipped. Gutters and downspouts were originally installed in the portions of the eaves over the door openings, but most gutters are missing or rusted out. The elements of the drainage design that remain include several of the downspouts and most of the concrete splash blocks.

Facility No. 184 has three large sliding wood doors on the south side of the main wing, and two such doors on the west side of the secondary wing. They hang from rollers that run on overhead tracks, and are located in bays 2, 5, and 8 of the main wing and in bays 2 and 5 of the secondary wing. These exterior-mounted doors are built with diagonal boards nailed to a frame of heavy lumber. Drawings indicate they are 14'-0" tall and 12'-4" wide. Four standard-size flush doors have also been added to the building. Two of these plywood doors are on the east side, leading into office spaces under the mezzanine. One door is in the westernmost bay of the main wing's north side, and provides access to office spaces at that end. The fourth wooden door is on the west side of the secondary wing, close to the main wing.

The original drawings show no openings besides the doors, but three small square openings were added to the west gable end. Now two of these openings are boarded up with plywood panels, but have cut-outs for air conditioning units. The third opening on this west end has bars and screening, but no window. There are also two openings on the east side, both screened with expanded metal mesh. The smaller opening is in the toilet room, and the larger one ventilates a space under the mezzanine.

In the main wing, the interior is mostly uninterrupted open space, with all structural materials and elements exposed. The height to the bottom of the chords is 18'-0". At the west end of the main wing two rooms were

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created using gypsum board partition walls and ceilings. The floor finish in these offices is vinyl composition tile. In the secondary wing, the area under the mezzanine is partitioned by a variety of materials (plywood, gypsum board, tongue-and-groove boards, expanded metal mesh, and a steel-framed cage) to create storage or office spaces. The ceilings of these rooms are either gypsum board or acoustic tiles. In the bay closest to the main wing, there is a wood stair and a toilet room. The wood floor of the mezzanine is 10'-0" above the concrete floor and has a wood railing along its western and southern sides. The interior lighting consists of mixture of modern rectangular fluorescent and older circular incandescent fixtures.

The building is in its original location and retains much of its original design, setting, materials, workmanship, feeling, and association. It has had only a few exterior alterations over the years, and limited interior changes.

Historical Context: See HABS No. HI-382 for an overall history of Ford Island, HABS No. HI-388 for an overview history of storehouses in Pearl Harbor, and HABS No. HI-394 for more information on the aircraft carrier support facilities.

Facility No. 184 was built very quickly in 1942 to provide additional storage in the aircraft carrier support area of Ford Island. The drawings for the building were approved on May 8, 1942. An aerial photo of the area dated June 7, 1942 shows the framing of this storehouse mostly completed, and a July 12, 1942 aerial shows the building completed, and painted in camouflage colors like the other structures around it (National Archives II 1942). It was constructed, as most the other buildings in the area were, by Contractors Pacific Naval Air Bases (CPNAB). In the early 1940s this consortium of construction companies was responsible for building a vast amount of facilities at new and existing Navy bases, throughout the Hawaiian Island chain and on other Pacific islands.

A March 1941 map (no. V-N26-218) of the Naval Air Station's "Small Storehouse Area" shows that an extension of the two-story concrete storehouse (Facility No. 167) was planned at that date (see HABS No. HI-394 for map). After the December 7, 1941 attack, the decision was apparently made to build more storage space, quickly and with available materials. This wood-framed storehouse was designed by the Public Works Office of the Fourteenth Naval District. The L-shape maximized the available space in the triangular building site remaining between Ranger Loop, Avocet Street, and Facility No. 167, while using standard wood-framing dimensions and design. The addition of a mezzanine provided additional storage space; however, even with the mezzanine, the one-story storehouse had less square feet than the originally planned two-story expansion of Facility No. 167. The advantages gained were faster erection and lower cost.

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Although the title blocks on the building's drawings call it "Temporary," the building was classified as "Permanent" construction in the Navy's 1945 building list (U.S. Navy, Bureau of Yards and Docks 1945: 1084). It is classified as "Semi-Permanent" in the Navy's current data base, known as the *Detailed Inventory of Naval Shore Facilities*. The wood framing and corrugated metal sheathing used for this storehouse were the least expensive materials and the ones most suited for expedited construction.

This storehouse, along with others in the area, protected supplies needed for the deployment of the aircraft carriers in the Pacific. Besides this vital war role, the architectural design of the building, especially the L-shaped plan, makes it unique among the Pearl Harbor storehouses.

This storehouse is currently used only by workers in nearby buildings as covered parking. Until recently, it had been used by the U.S. Army for several decades (U.S. Navy 1966: 4939). Various re-designations of the Army organization occupying this building have occurred over the decades, but, no matter the name, the Army group has been responsible for coordinating "cargo/troop movements through the ports in Hawaii and overseas" (U.S. Army Transportation School 2004: 3-40). The sign on the north gable end of the building has been repainted several times. In 1997 it had a logo with a helmsman's wheel over an arrowhead shape and between two ships, under the words "U.S. Army 5th Trans" and over the abbreviations "LSV SPT." The 5th Transportation Company was tasked with support of Logistics Support Vessels (LSV SPT) in 1990, and the 163rd Detachment operated LSV-5, *Major General Charles P. Gross*, from its Ford Island facilities (Biggs Library and Information Center 2006). The current sign (see photo no. HI-418-4 in this report) has a similar helmsman's wheel logo, over a row of flag designs and the words "Sail Army"; the numbers of the 545th, 163rd, and 605th detachments are painted on the right side. These reflect the most recent detachments that operated out of this Ford Island building and nearby facilities. "In October 1999, the 5th Transportation Company was reflagged the 545th Transportation Detachment (Harbormaster). . . . It was hoped to preserve the connection of the 5th. . . [but] no lineage or honors could be carried over to the new detachment as the 5th Transportation Company was inactivated" (Biggs Library and Information Center 2006).

The changes to the building over the decades were mostly to the interior and involved the creation of office and storage spaces under the mezzanine and at the west end of the main wing. Drawings for this alteration work, if any were done, were not located.

Sources: The original drawings for this building are on microfiche cards at the Plan Files of Naval Facilities Engineering Command, Pacific under numbers 199677 through 199685, and 199720.

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Biggs Library and Information Center

- 2006 5th Transportation Company. One of unit histories provided by the library at Fort Eustis, Virginia, which supports the Army's Transportation School and other departments. On website <http://www.lic.eustis.army.mil>, accessed March 16, 2006.

National Archives II

- 1942 Aerial photos of area near Facility No. 184, dated June 7, and July 12, 1942, (Nos. 80-G-411232 and 80-G-451154, respectively), in Still Photo section of National Archives II, College Park, Maryland.

U.S. Army, Transportation School

- 2004 *Division Transportation Officer's Guide*. Reference 04-01. On website www.transchool.eustis.army.mil/DTO/dto-chp3.htm, accessed March 3, 2006.

U.S. Navy, Bureau of Yards & Docks

- 1945 *Public Works of the Navy, Data Book - Buildings*. NAVDOCKS P-164. In archives of Naval Facilities Engineering Command at Port Hueneme, California.

- 1966 *Detailed Inventory of Naval Shore Facilities -- Real Property Data*. NAVDOCKS P-164. In library of Naval Facilities Engineering Command, Pacific at Pearl Harbor, Hawaii.

Project Information: When this report was originally prepared it was done as part of a program of documentation under the direction of the Commander Navy Region (COMNAVREG) Hawaii, with the goal of recording historic information about historic properties within its area of responsibility. This information was intended to assist COMNAVREG Hawaii in the appropriate management of its properties. At that time, specific uses or actions regarding this facility had not been determined. That draft report was originally 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. The contract was funded through the Cultural Resources Program of COMNAVREG Hawaii. 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, AMEC Earth & Environmental, Inc. The report was rewritten in March 2006 by Ann Yoklavich, Architectural Historian, Mason Architects, Inc.

The National Oceanic and Atmospheric Administration (NOAA) meanwhile was negotiating a Real Estate Agreement with the Navy to

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use this facility for its Marine and Aviation Operations (previously called its Ship Operations Facility). NOAA will use the building for warehouse storage as well as for administrative offices. Proposed work on the building includes structural upgrading, replacing of deteriorated corrugated metal siding and roofing, rebuilding the mezzanine level and offices below, installing additional windows on wall closest to Facility No. 167, and restoring exterior sliding doors. In August 2005 a Memorandum of Agreement was signed by the Commander, Navy Region Hawaii and the State Historic Preservation Division, specifying that drawings and photographs of building details were to be included in the HABS report for this building. In June 2006 the Navy asked Mason Architects, Inc. to put together the additional items for this facility's HABS report. The same personnel prepared this additional work and combined it with the original report. Funding for additional HABS documentation work related to the MOA stipulations was through the Naval Facilities Engineering Command, Pacific.

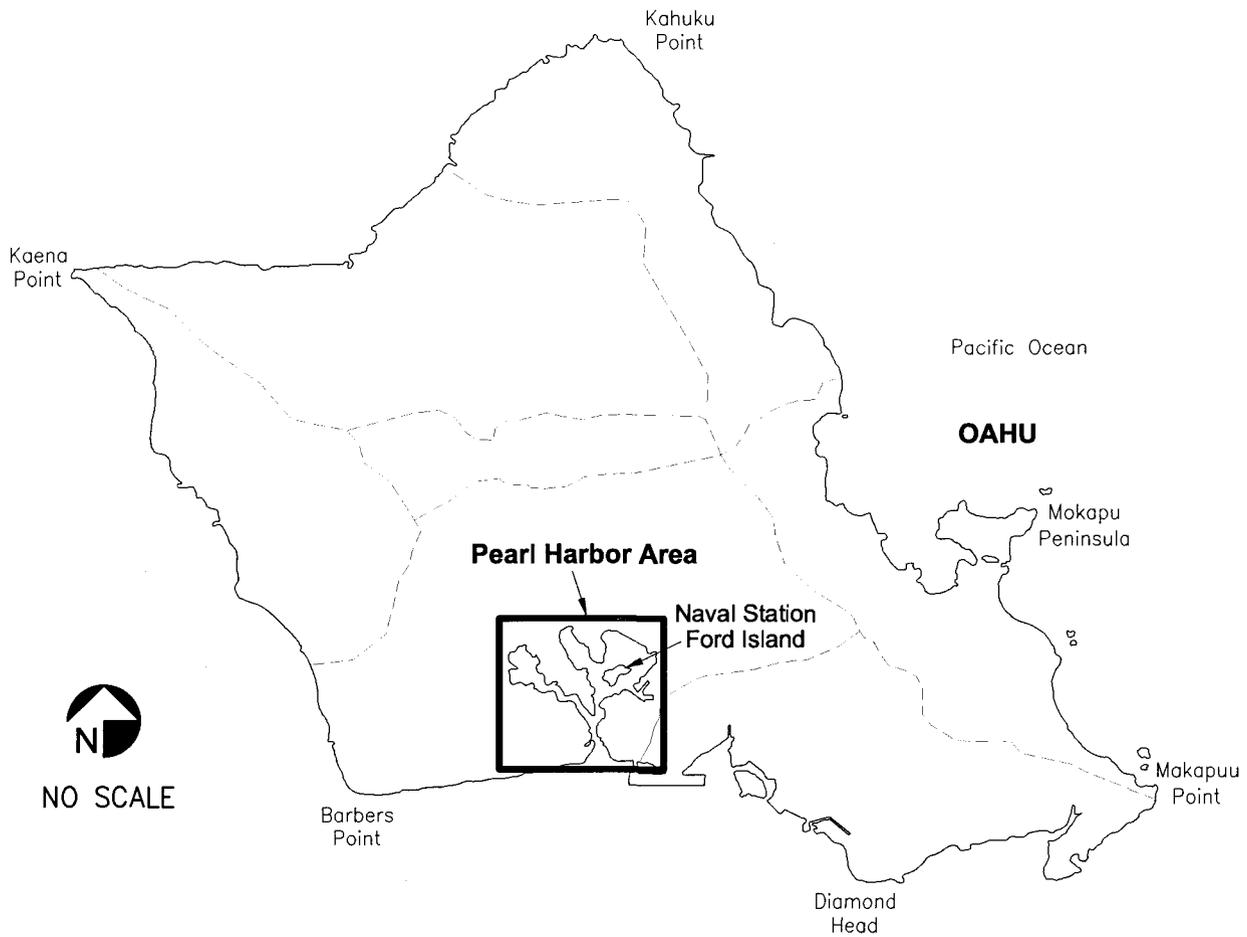
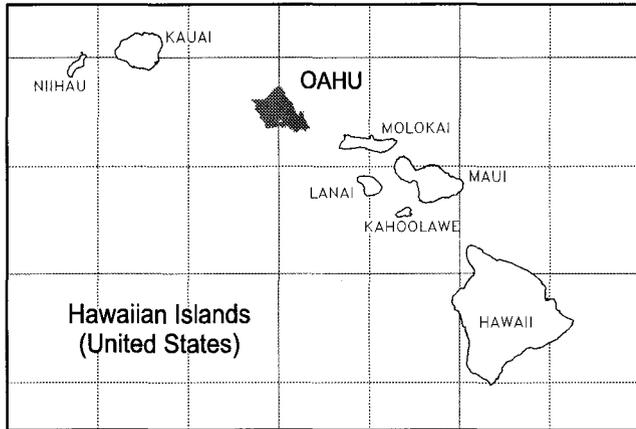
Prepared by:

Mason Architects, Inc.
119 Merchant St., Suite 501
Honolulu, HI 96813

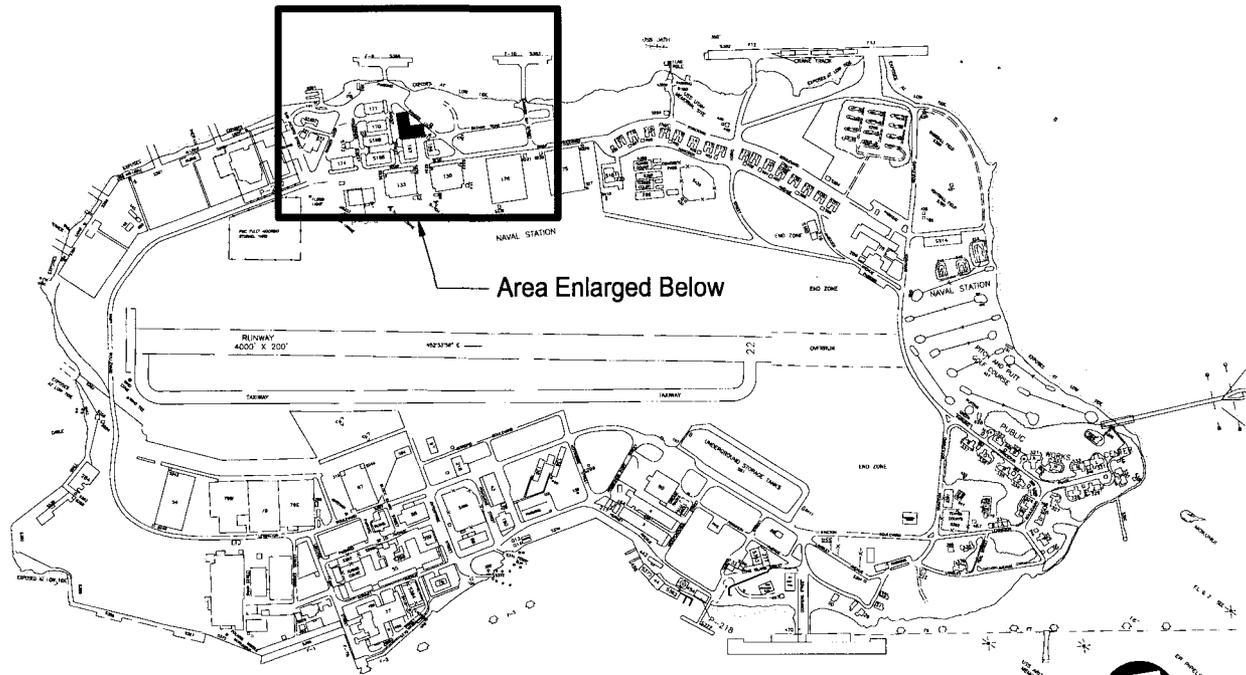
AMEC Earth & Environmental, Inc.
3375 Koapaka Street, Suite F251
Honolulu, HI 96819

Date of Final Report: July 2006

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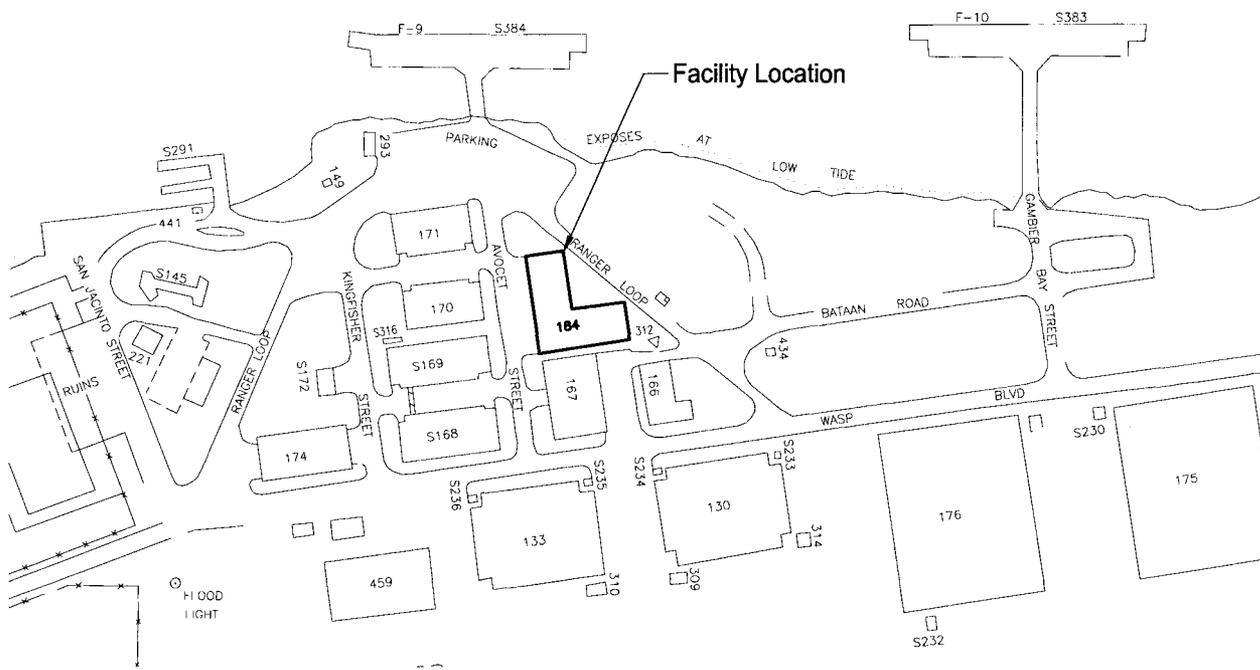


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Vicinity Map

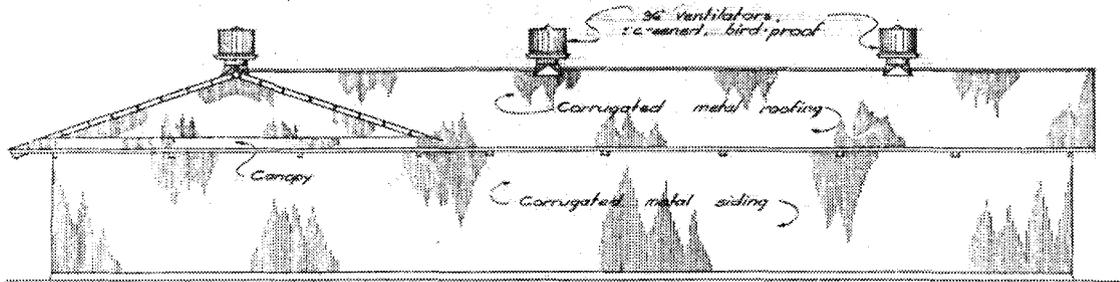

NO SCALE



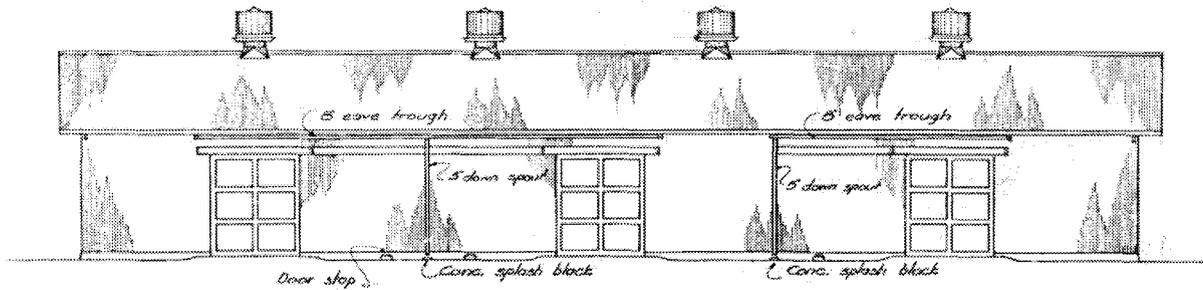
Site Map

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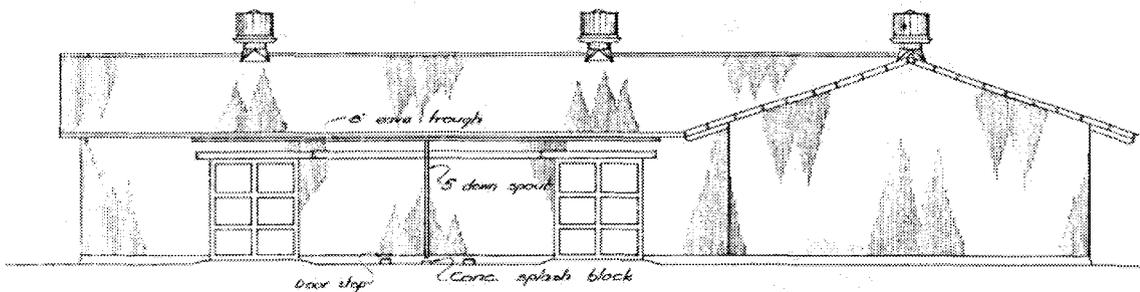
Portion of Drawing No. 199677, dated May 8, 1942 (elevations)
 [Note that compass references for elevations changed to be consistent with reports for nearby facilities.]



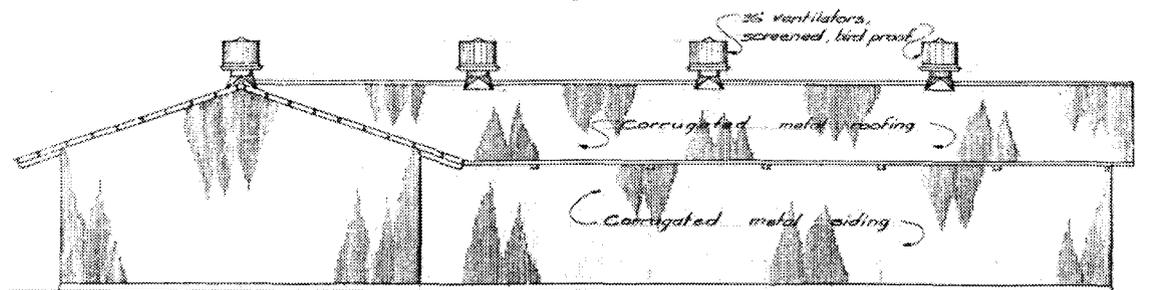
EAST ELEVATION
 Scale $\frac{1}{8}'' = 1'-0''$



SOUTH ELEVATION
 Scale $\frac{1}{8}'' = 1'-0''$



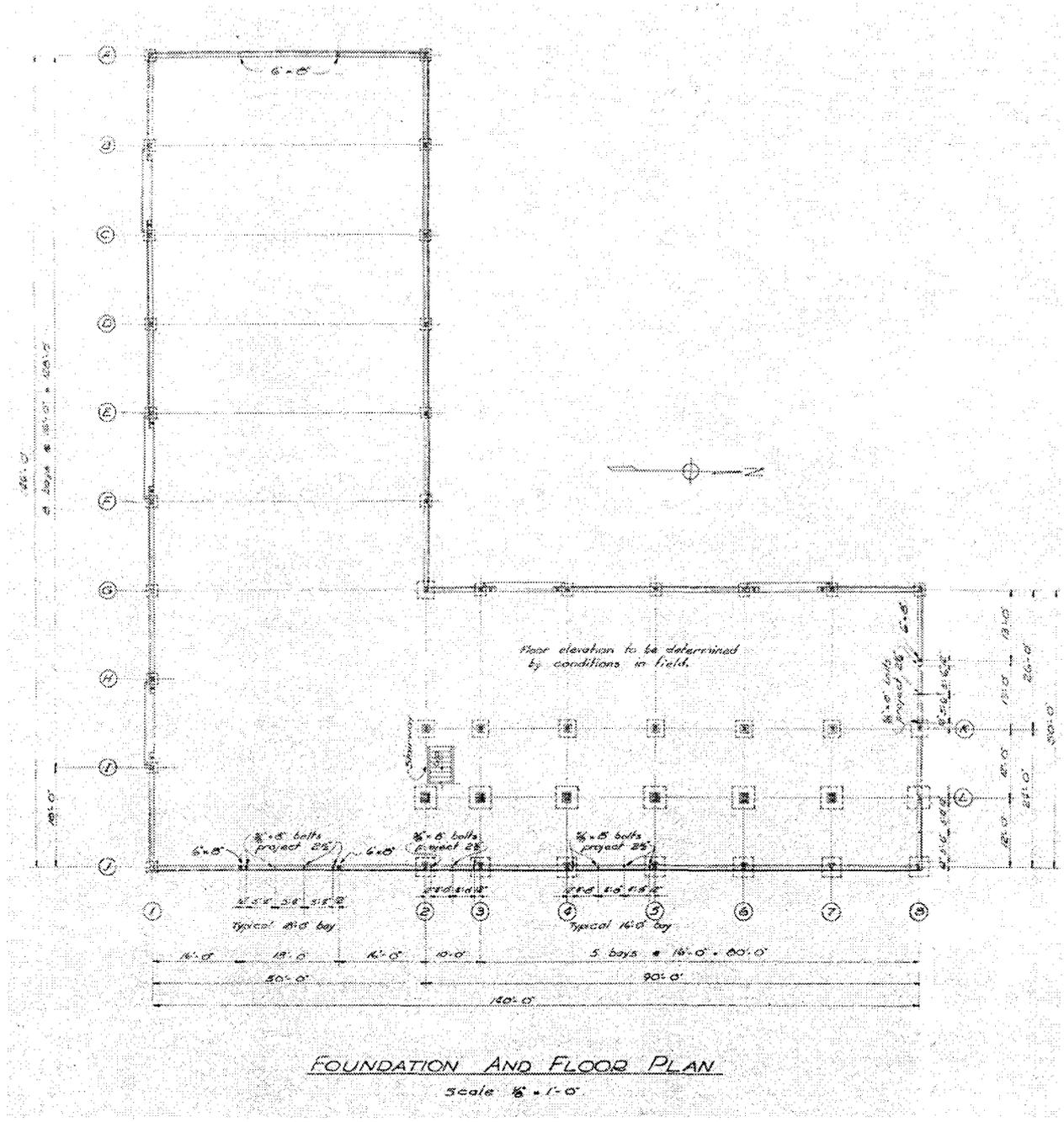
WEST ELEVATION
 Scale $\frac{1}{8}'' = 1'-0''$



NORTH ELEVATION
 Scale $\frac{1}{8}'' = 1'-0''$

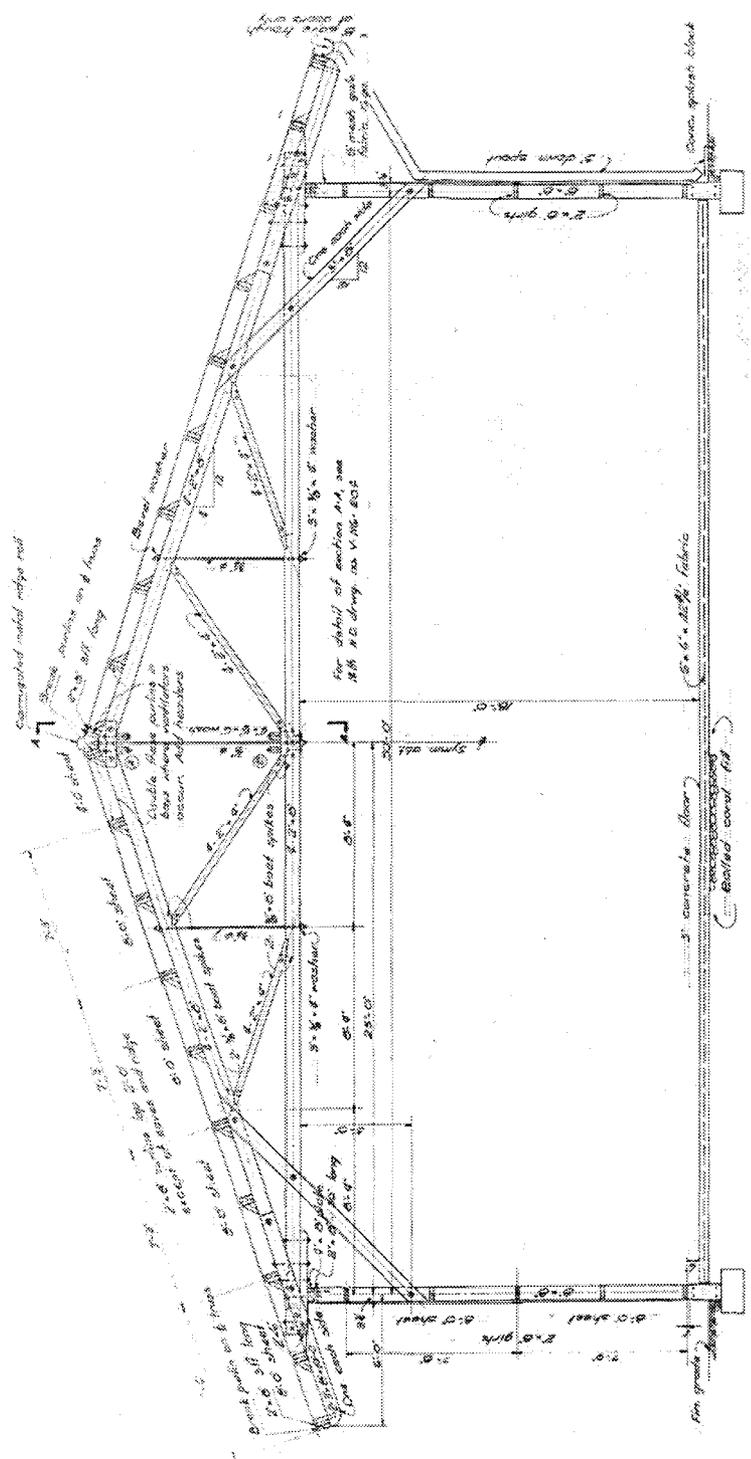
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Portion of Drawing No. 199678, dated May 8, 1942 (floor plan)



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Portion of Drawing No. 199681, dated May 8, 1942 (section of typical bent, main wing)

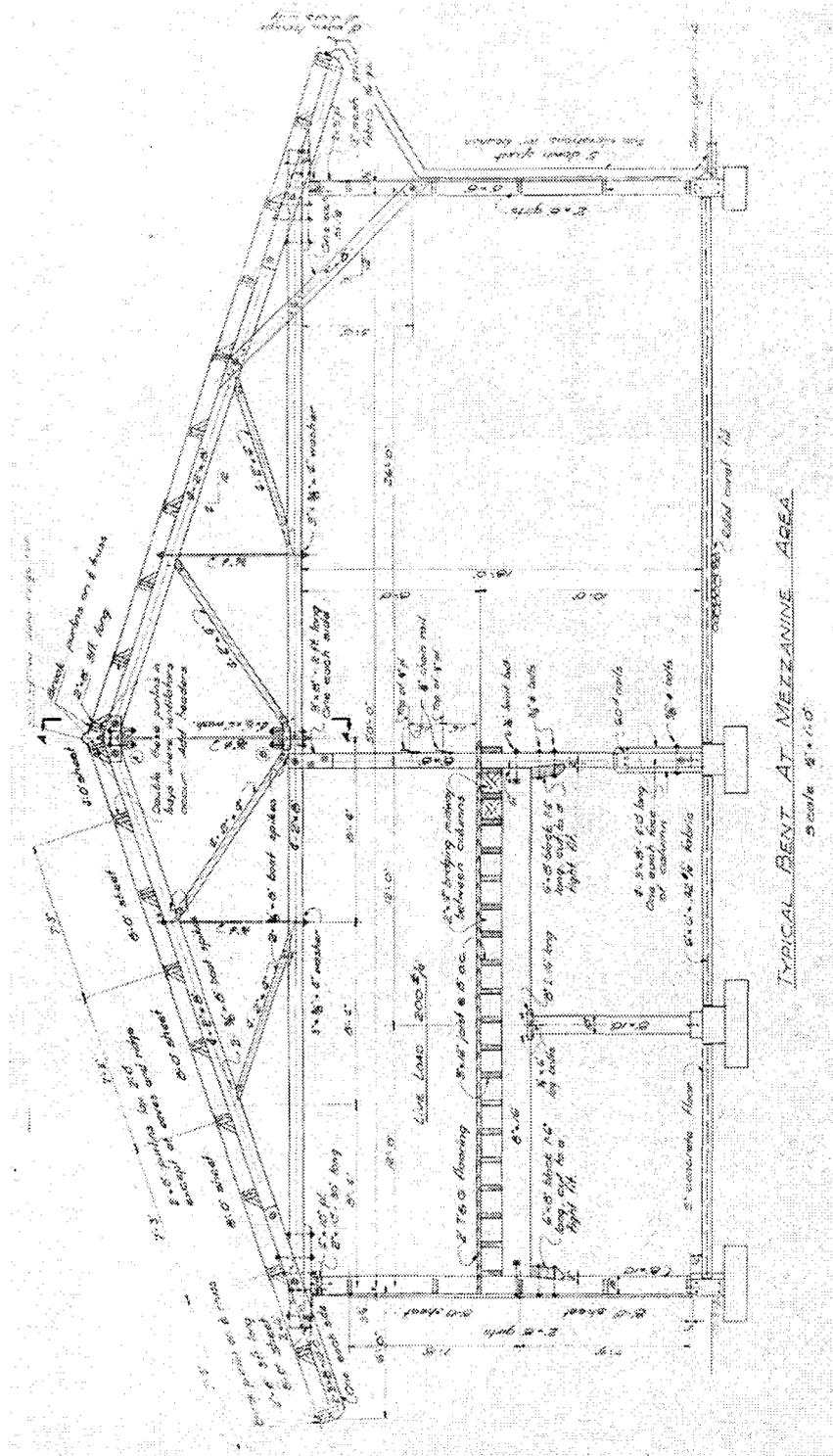


TYPICAL BENT - WEST WING
 Scale 3/4" = 1'-0"

Note:
 See 8th. No. drawing 199681
 for General Notes.

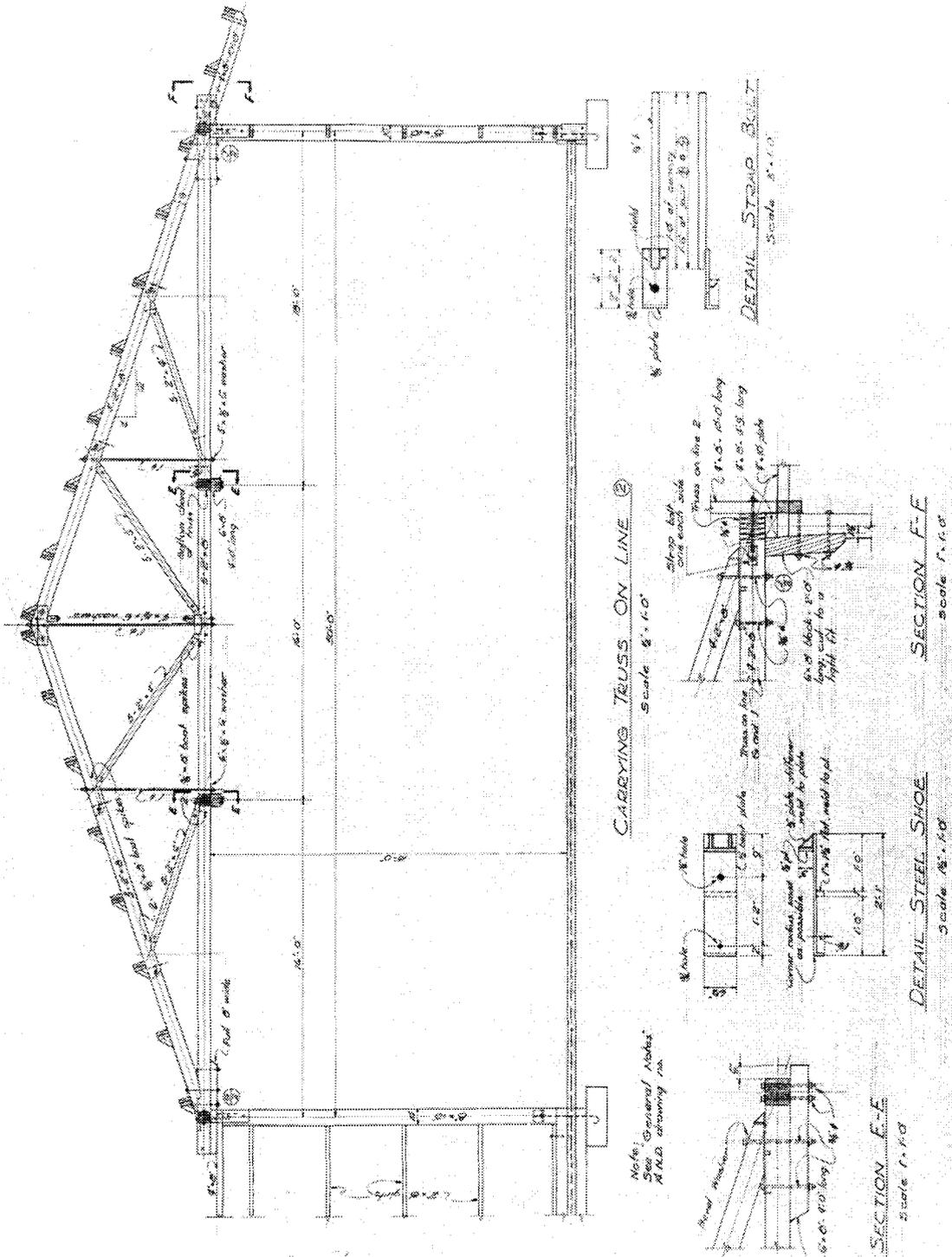
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Portion of Drawing No. 199680, dated May 8, 1942
 (section of typical bent, secondary wing - showing mezzanine)



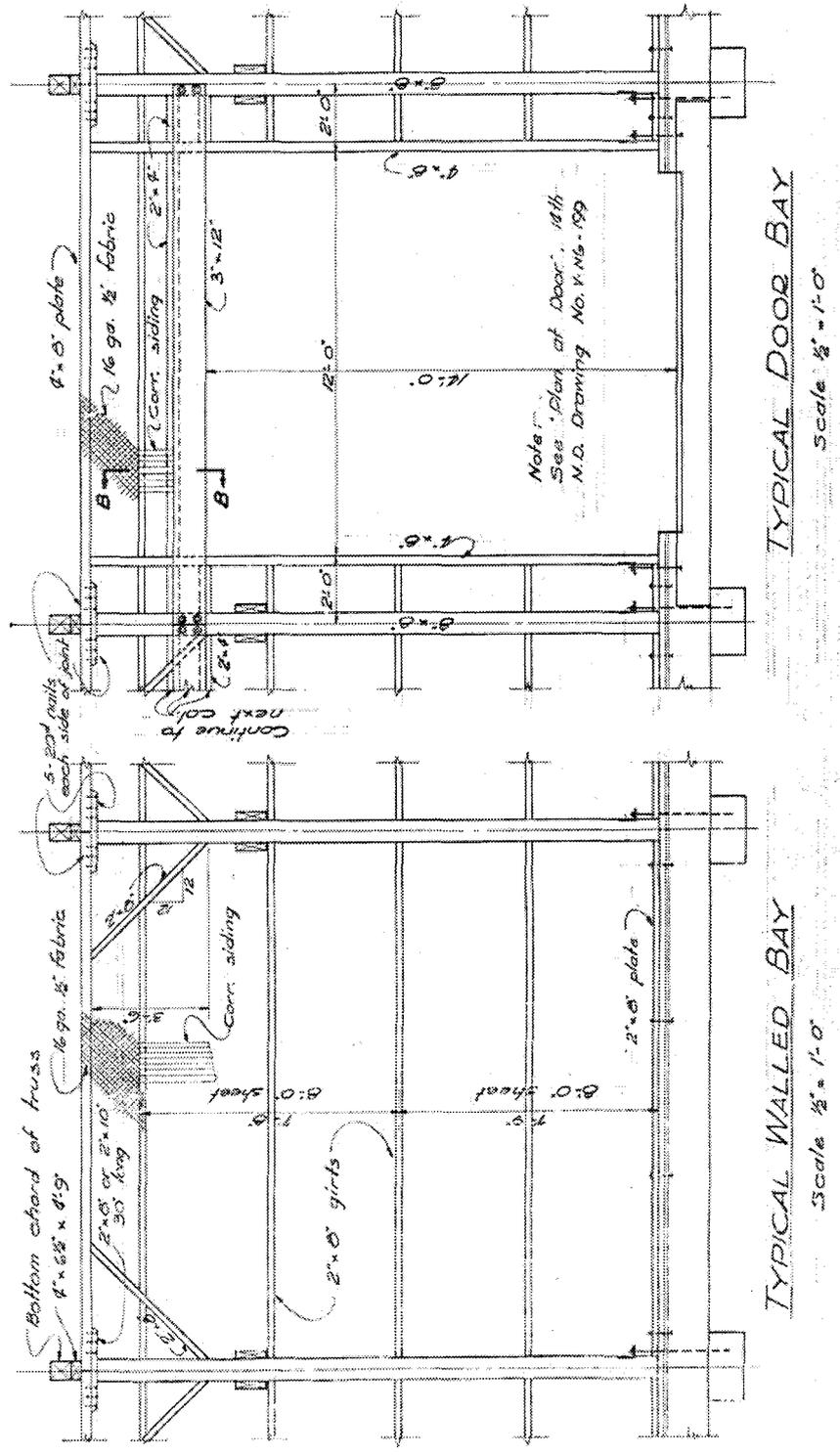
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Drawing No. 199682, dated May 8, 1942 (section at carrying truss, with details)



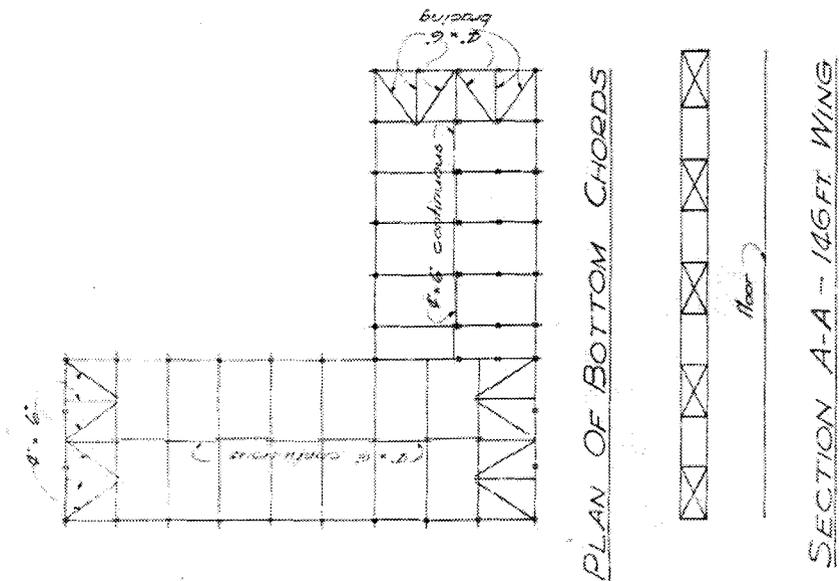
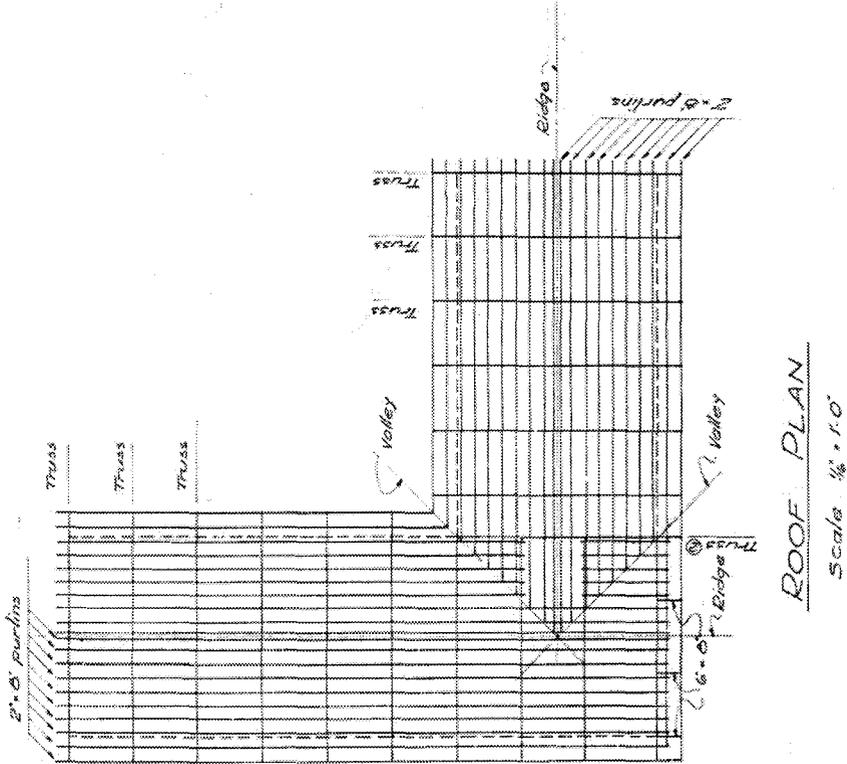
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Portion of Drawing No. 199683, dated May 8, 1942 (typical walled bay and door bay)



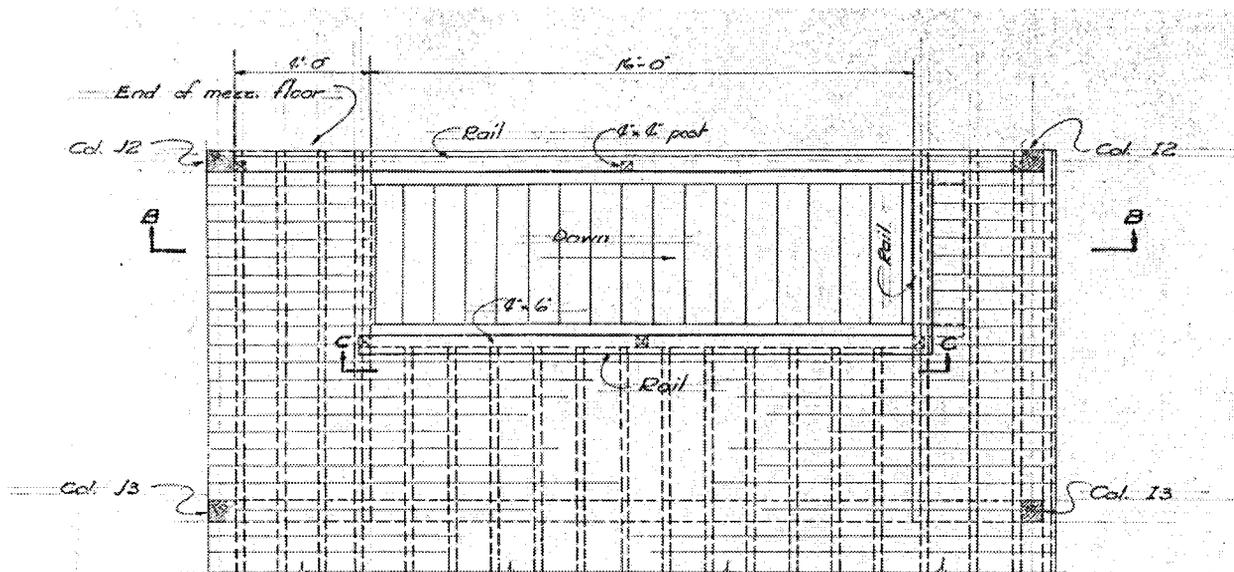
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Portion of Drawing No. 199684, dated May 8, 1942 (plan of bottom chords and roof plan)



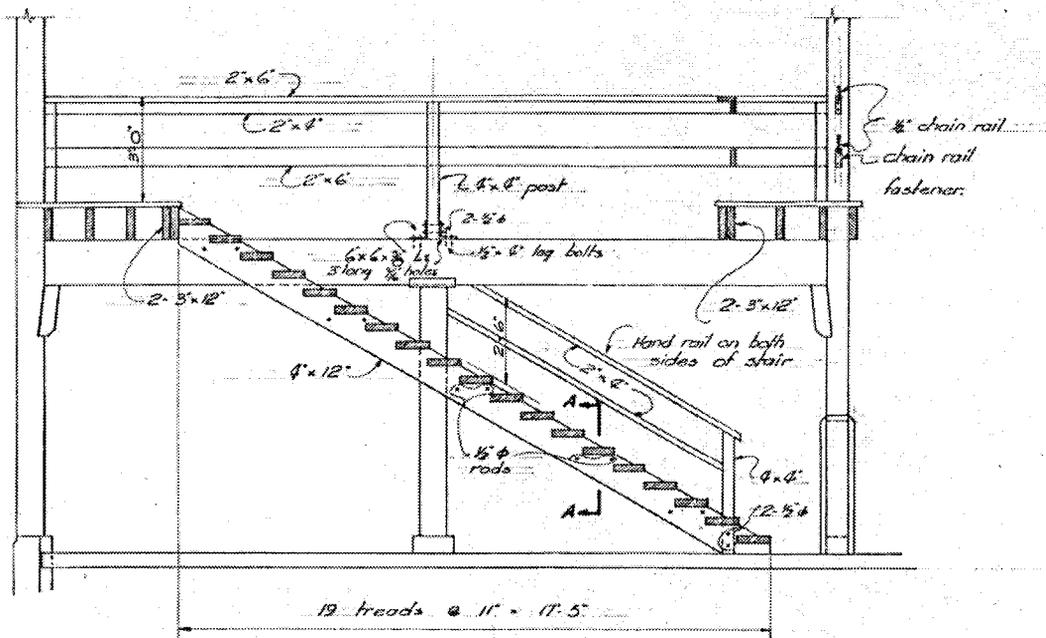
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Portion of Drawing No. 199685, dated May 8, 1942 (stairway details)



PLAN AT STAIRWAY

Scale 1/2" = 1'-0"



SECTION B-B

Scale 1/2" = 1'-0"

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Drawing No. 79767705, dated Oct. 11, 2005 (showing existing floor plan, without notes)
(Source: Nagamine Okawa Engineers, Inc)

