

United States Department of the Interior
National Park Service

National Register of Historic Places Registration Form

This form is for use in nominating or requesting determinations for individual properties and districts. See instructions in National Register Bulletin, *How to Complete the National Register of Historic Places Registration Form*. If any item does not apply to the property being documented, enter "N/A" for "not applicable." For functions, architectural classification, materials, and areas of significance, enter only categories and subcategories from the instructions.

1. Name of Property

Historic name: Makalapa Navy Housing Historic District

Other names/site number: Makalapa Naval Housing, Naval Housing Area No. 5,

Name of related multiple property listing:

N/A

(Enter "N/A" if property is not part of a multiple property listing)

2. Location

Street & number: Roughly bounded by: Kamehameha Hwy, Radford Dr, Makalapa Dr, H-1

City or town: Honolulu State: Hawaii County: Honolulu

Not For Publication Vicinity:

3. State/Federal Agency Certification

As the designated authority under the National Historic Preservation Act, as amended, I hereby certify that this nomination ___ request for determination of eligibility meets the documentation standards for registering properties in the National Register of Historic Places and meets the procedural and professional requirements set forth in 36 CFR Part 60.

In my opinion, the property ___ meets ___ does not meet the National Register Criteria. I recommend that this property be considered significant at the following level(s) of significance:

X national ___ statewide ___ local

Applicable National Register Criteria:

X A X B X C ___ D

Signature of certifying official/Title:

Date

State or Federal agency/bureau or Tribal Government

In my opinion, the property X meets ___ does not meet the National Register criteria.

Signature of commenting official:

Date

Deputy State Historic Preservation Officer

Title :
or Tribal Government

State or Federal agency/bureau

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4. National Park Service Certification

I hereby certify that this property is:

- entered in the National Register
- determined eligible for the National Register
- determined not eligible for the National Register
- removed from the National Register
- other (explain:) _____

Signature of the Keeper

Date of Action

5. Classification

Ownership of Property

(Check as many boxes as apply.)

- Private:
- Public – Local
- Public – State
- Public – Federal

Category of Property

(Check only **one** box.)

- Building(s)
- District
- Site
- Structure
- Object

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Number of Resources within Property

(Do not include previously listed resources in the count)

Contributing	Noncontributing	
<u>140</u>	<u>1</u>	buildings
<u>1</u>	<u>N/A</u>	sites
<u>6</u>	<u>3</u>	structures
<u>N/A</u>	<u>N/A</u>	objects
<u>147</u>	<u>4</u>	Total

Number of contributing resources previously listed in the National Register 0

6. Function or Use

Historic Functions

(Enter categories from instructions.)

DOMESTIC/Institutional housing

Current Functions

(Enter categories from instructions.)

DOMESTIC/Institutional housing

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7. Description

Architectural Classification

(Enter categories from instructions.)

Modern Movement

OTHER: Ranch Style

Materials: (enter categories from instructions.)

Principal exterior materials of the property: CONCRETE, CONCRETE BRICK, WOOD, ASPHALT

Narrative Description

(Describe the historic and current physical appearance and condition of the property. Describe contributing and noncontributing resources if applicable. Begin with a **summary paragraph** that briefly describes the general characteristics of the property, such as its location, type, style, method of construction, setting, size, and significant features. Indicate whether the property has historic integrity.)

Summary Paragraph

Makalapa Navy Housing Historic District (Makalapa Historic District) is on the island of Oahu in the Hawaiian island chain. Makalapa Historic District is situated on the western exterior slope of the extinct Makalapa Crater and overlooks the waters and shore-based facilities of the Pearl Harbor naval installation, now known as Joint Base Pearl Harbor-Hickam (JBPHH). Construction for the contributing resources within the historic district were completed between 1941 and 1946; which include single-family dwellings and duplexes, as well as ancillary facilities such as mess halls (now converted to single-family houses), carports, recreational facilities, and remnants of former air raid shelters. The layout of the district's houses, carports, and streets, as well as the proposed historic district boundaries, are shown in Figures 7-1 thru 7b. The houses were designed by notable Hawaiian architect Charles William (C.W.) Dickey in a style that may be classified under the Modern movement, with some influences of Ranch Style architecture. The method of construction was innovative and based on the need for rapid completion in the early 1940s. This is further discussed in Section 8 of this form. Significant features of this almost 60-acre property, in addition to the 147 contributing buildings and structures, include the natural topography and geology of Makalapa crater, curvilinear roads, generous spacing between buildings, and the informal and park-like landscaping. Although all housing units have undergone interior and minor exterior alterations, the overall district maintains a high degree of integrity of location, design, setting, materials, workmanship, feeling, and association.

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Narrative Description

SETTING

Makalapa Navy Housing Historic District is located in the center of a fairly developed military and commercial area with main transportation arterials in each direction. Administrative and other buildings of JBPHH abut its northeast corner and north boundary. Kamehameha Highway runs along the western boundary of the district, separating the district from the main JBPHH installation. Radford Drive follows along the district's southern border and provides access from Kamehameha Highway across the H1 (Queen Liliuokalani) Freeway. To the east the neighborhood is bounded by undeveloped land and the H1 Freeway.

GEOGRAPHY AND TOPOGRAPHY

Makalapa Historic District's buildings, structures, streets, and landscaping respond to the natural topography created by Makalapa Crater. The crater is one of Oahu's late-stage volcanic eruptions termed tuff cones, which result "from the cementing of volcanic ash." The most senior officers' quarters, known as flag officers' quarters, are located at the highest elevations of the district and have the best views toward Pearl Harbor, as well as panoramas of the Waianae range to the west and the Koolau range to the east. An aerial from September 1945 shows the neighborhood's appearance at the end of World War II (Figure 7-3). This group of homes for senior and junior Navy officers sits upon the western rim and outer western slope of the Makalapa crater, at elevations generally ranging from 40 to 100 feet above sea level.

Because the neighborhood was designed to incorporate the site's natural topography, the historic district's architect, C.W. Dickey was able to provide the homes access to trade winds for ventilation while minimizing the risk for flooding. The southern section, where the elevation is lower, is less densely developed due to its propensity to flood. Changes in topography also shield the neighborhood from the noise of nearby roadways and isolate it from the more industrial areas of the naval base located across Kamehameha Highway. Segments of Makalapa and Halawa Drives, within the district, take advantage of the crater's natural curvature in order to shield upper ranking officers' quarters while natural stone outcroppings help to provide privacy and decrease the need for tall man-made barriers. The orientation of the houses was designed so that residents would be protected from views looking inward, but would maintain views outward towards the Main Base to the west and towards Red Hill and Makalapa Crater floor to the east.

Circulation Patterns

Makalapa Historic District's site was selected largely because of its proximity to major transportation arterials within the Pearl Harbor area and provides residents access to the base as well as schools and commercial businesses nearby. A source from the 1940s noted that, "The one unusual characteristic common to all these housing sites was their proximity to highly congested traffic arteries, namely Dillingham Boulevard and Kamehameha Highway. The development was planned to provide housing accommodations for families—women and children—and school facilities; it was a complex problem in community planning to make the areas safe for their occupants—

(See Section 7 Continuation Sheets)

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8. Statement of Significance

Applicable National Register Criteria

(Mark "x" in one or more boxes for the criteria qualifying the property for National Register listing.)

- A. Property is associated with events that have made a significant contribution to the broad patterns of our history.
- B. Property is associated with the lives of persons significant in our past.
- C. Property embodies the distinctive characteristics of a type, period, or method of construction or represents the work of a master, or possesses high artistic values, or represents a significant and distinguishable entity whose components lack individual distinction.
- D. Property has yielded, or is likely to yield, information important in prehistory or history.

Criteria Considerations

(Mark "x" in all the boxes that apply.)

- A. Owned by a religious institution or used for religious purposes
- B. Removed from its original location
- C. A birthplace or grave
- D. A cemetery
- E. A reconstructed building, object, or structure
- F. A commemorative property
- G. Less than 50 years old or achieving significance within the past 50 years

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Areas of Significance

(Enter categories from instructions.)

MILITARY

COMMUNITY PLANNING and DEVELOPMENT

ARCHITECTURE

Period of Significance

1940-1946

Significant Dates

December 7, 1941

Significant Person

(Complete only if Criterion B is marked above.)

Nimitz, Chester William

Cultural Affiliation

N/A

Architect/Builder

Dickey, Charles William (Architect)

Pacific Naval Air Bases (Contractors)

Statement of Significance Summary Paragraph (Provide a summary paragraph that includes level of significance, applicable criteria, justification for the period of significance, and any applicable criteria considerations.)

The Makalapa Navy Housing Historic District is a cohesive grouping of World War II-era residences at Joint Base Pearl Harbor Hickam. It has served as officers' quarters since 1941, when the first houses in the neighborhood were complete. The district qualifies for listing in the National Register of Historic Places under Criteria A, B, and C at the National level of significance. It meets Criterion A as part of the build-up of US military preparedness in response to Japanese aggression in Asia and the Pacific; Criterion B for its association with Admiral Chester William Nimitz, who played a pivotal role in the development and execution of the US war operations in the Pacific; and Criterion C as the work of Master architect Charles William (C.W.) Dickey and as a representative example of early Modern and Ranch Style architecture in Hawaii.

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Narrative Statement of Significance (Provide at least **one** paragraph for each area of significance.)

The following narrative provides additional detail on the National Register criteria and areas of significance associated with the Makalapa Navy Housing Historic District. The narrative is organized by criterion first, and then by the associated area of significance, as outlined below:

- Criterion A
 - Military
- Criterion B
 - Chester William Nimitz
- Criterion C
 - Community Planning and Development
 - Architecture

The narrative is arranged chronologically within each of these sections. Section 8 concludes with a series of figures that supplement the narrative.

CRITERION A

AREA OF SIGNIFICANCE: MILITARY

The Makalapa Navy Housing Historic District (Makalapa Historic District) is significant under Criterion A for its association with military events connected with the US Navy's preparations for World War II and for the subsequent response to the Japanese attack of December 7, 1941 on Oahu military installations. Makalapa Historic District is one neighborhood within Naval Housing Area Makalapa. Naval Housing Area Makalapa was part of a larger overall construction program planned and built in anticipation of a spike in military and civilian populations and the resulting housing shortage during mobilization efforts of the late 1930s and early 1940s at Navy installations in Hawaii. The Makalapa Navy Housing Historic District is a physical representation of the tremendous amount of money and energy focused on construction projects at Pearl Harbor during the build-up both before official US involvement in World War II and during the war. The district filled part of the critical wartime housing needs in and around the naval base at Pearl Harbor, the Navy's largest installation within the Pacific-wide Fourteenth Naval District.

US military interest in the waters of Pearl Harbor and the surrounding lands—including the future site of the Makalapa Navy Housing Historic District—begins in the mid-nineteenth century. In 1840, Commander Charles Wilkes of the US Navy took soundings to measure the depth of the "Pearl River" and reported that, "if the water upon the bar (entrance) should be deepened, which I doubt not can be effected, it would afford the best and most capacious harbor in the Pacific."¹ As international trade across the Pacific grew over the course of the nineteenth century, the strategic importance of Hawai'i, as well as Pearl Harbor's potential naval importance, also grew.

(See Section 8 Continuation Sheets)

¹ "The U.S. Navy in Hawaii, 1826-1945: An Administrative History," United States Navy. Navy Department Library. Available online at <http://www.history.navy.mil/research/library/online-reading-room/title-list-alphabetically/u/the-us-navy-and-hawaii-a-historical-summary/pearl-harbor-its-origin-and-administrative-history.html>.

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9. Major Bibliographical References

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Makalapa Navy Housing Historic District

Honolulu, Hawaii

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Navy Yard. [Map of] Pearl Harbor, T.H., Makalapa Crater Area, showing Conditions as of June 30, 1944. #OA-N1-1013. From National Archives and Records Administration, San Bruno, California, in RG 181, 14th Naval District, District Staff Headquarters, General Correspondence 1936-1944, Box 2, Folder A1-1, FF12, Shore HQ to CINCPAC, 1944.

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Makalapa Navy Housing Historic District
Name of Property

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Previous documentation on file (NPS):

- preliminary determination of individual listing (36 CFR 67) has been requested
- previously listed in the National Register
- previously determined eligible by the National Register
- designated a National Historic Landmark
- recorded by Historic American Buildings Survey
#HI-355, HI-355-A thru HI-355-P
- recorded by Historic American Engineering Record # _____
- recorded by Historic American Landscape Survey # _____

Primary location of additional data:

- State Historic Preservation Office
- Other State agency
- Federal agency
- Local government
- University
- Other

Name of repository: _____

Historic Resources Survey Number (if assigned): _____

Makalapa Navy Housing Historic District
Name of Property

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10. Geographical Data

Acreeage of Property 59.9 acres

Use either the UTM system or latitude/longitude coordinates

Latitude/Longitude Coordinates (decimal degrees)

Datum if other than WGS84: _____

(enter coordinates to 6 decimal places)

- | | |
|------------------------|------------------------|
| 1. Latitude: 21.362171 | Longitude: -157.937387 |
| 2. Latitude: 21.362693 | Longitude: -157.934902 |
| 3. Latitude: 21.354360 | Longitude: -157.932572 |
| 4. Latitude: 21.353071 | Longitude: -157.935415 |

Or

UTM References

Datum (indicated on USGS map):

1927 or

NAD 1983

- | | | |
|----------|----------|-----------|
| 1. Zone: | Easting: | Northing: |
| 2. Zone: | Easting: | Northing: |
| 3. Zone: | Easting: | Northing: |
| 4. Zone: | Easting: | Northing: |

Makalapa Navy Housing Historic District
Name of Property

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Verbal Boundary Description (Describe the boundaries of the property.)

The boundary of the proposed Makalapa Navy Housing Historic District starts at the northeast corner of the intersection of Radford Drive and Kamehameha Highway, and follows the north side of Radford Drive until it intersects with Makalapa Drive. The boundary follows a northeasterly route along the north side of Makalapa Drive, to a point where it reaches Interstate H-1 (H-1 Freeway). At this point, the boundary extends in a north-northeasterly direction for approximately 500 feet along the western right-of-way line of the H-1 Freeway until it intersects with a dirt road, labeled Ulithi Road on some maps. The boundary extends in a northwesterly direction along the dirt road that generally follows the crater floor until the dirt road starts to curve away (northward) from the steep slope of the crater rim. The boundary line continues along the base of the crater rim gradient to the northeast corner of the back yard associated with Facility 80 (43 Makalapa Drive). The boundary takes a 90-degree counterclockwise turn and extends in a northwesterly path until it intersects with Makalapa Drive at a point just south of Facility 266 (a non-contributing carport). The boundary then extends in a northeasterly path along the west side of Makalapa Drive and curves around the intersection of Halawa Drive (next to Facility 103 [57 Halawa Drive]). The boundary continues along the south side of Halawa Drive for approximately 250 feet and continues in a continuous line (i.e., it does not follow the southward curve of Halawa Drive) until it intersects Kamehameha Highway. The boundary follows a south-southeasterly path along the east of Kamehameha Highway until it intersects with Radford Drive, the point of beginning.

Makalapa Navy Housing Historic District
Name of Property

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Boundary Justification (Explain why the boundaries were selected.)

The boundaries include a cohesive grouping of World War II-era housing that was built for senior and junior officers, most of whom worked at nearby Facility 250. The district is distinct from its surroundings by topographical features and the built environment that add to the district's perception as a separate entity that contrasts to adjoining areas. Moreover, these differences were a deliberate part of the neighborhood's original intent, layout, and scheme. To the west, Kamehameha Highway is a physical barrier that separates the district from the activities at Joint Base Pearl Harbor-Hickam (JBPHH). The highway existed when the neighborhood was created in 1940-41 and historically has functioned as a buffer from the base. A grouping of administrative and intelligence-related offices buildings that support operations in Facility 250 extends along much of the area to the north and northeast of the district. This complex is used for non-residential purposes and shares few of the physical traits and characteristics of the contributing buildings in the Makalapa Historic District; these qualities are what sets the neighborhood apart within the historic landscape of JBPHH. Although many of the residents of the district in the past have worked in the Facility 250 complex, the differences in the scale, form, placement and degree of historic integrity of the complex's components (buildings and structures) justify its exclusion from the residential district. Most of the area to the east generally follows a dirt road that extends along the base of Makalapa Crater. Most of this land is undeveloped but once included WAVES barracks and offices. This area does not retain any of the qualities that date to the period of significance. In addition, this land is separated from the district by topographical features and the dirt road that defines much of the east boundary. The area within the Makalapa Crater was never considered to be a part of the neighborhood and is therefore excluded from the district. With the exception of a small tract of land at the southeast corner of the district, the south and east boundaries extend along non-historic thoroughfares (Radford Drive to the south and H-1 Freeway to the east) that postdate the period of significance and physically isolate and separate the district from other areas. The southeast lot excluded from the district marks the site of a Makalapa Radio Station that, like the Makalapa Crater area, lacks sufficient historical associations and integrity to be included in the district. In its entirety, the Makalapa Navy Housing Historic District is an extremely cohesive grouping of World War II-era houses that share many of the same physical attributes and contains remarkably few non-contributing resources.

Makalapa Navy Housing Historic District
Name of Property

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11. Form Prepared By

Name/Title: Stanley Solamillo/Architectural Historian
Organization: Honolulu Authority for Rapid Transportation
Street & Number: 1099 Alakea Street, 23rd Floor
City or Town: Honolulu State: HI Zip Code: 96813
E-mail: ssolamillo@honolulu.gov
Telephone: (808) 768-6187
Date: October 9, 2015

Name/Title: Emily Thompson Payne/Architectural Historian
Organization: Hardy-Heck Moore, Inc.
Street & Number: 3500 Jefferson Street, Suite 330
City or Town: Austin State: TX Zip Code: 78731-6202
E-mail: epayne@hhminc.com
Telephone: (808) 768-6187
Date: October 9, 2015

Additional Documentation

Submit the following items with the completed form:

- **Maps:** A **USGS map** or equivalent (7.5 or 15 minute series) indicating the property's location.
- **Sketch map** for historic districts and properties having large acreage or numerous resources. Key all photographs to this map.
- **Additional items:** (Check with the SHPO, TPO, or FPO for any additional items.)

Makalapa Navy Housing Historic District

Honolulu, Hawaii
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Name of Property

Photographs

Submit clear and descriptive photographs. The size of each image must be 1600x1200 pixels (minimum), 3000x2000 preferred, at 300 ppi (pixels per inch) or larger. Key all photographs to the sketch map. Each photograph must be numbered and that number must correspond to the photograph number on the photo log. For simplicity, the name of the photographer, photo date, etc. may be listed once on the photograph log and doesn't need to be labeled on every photograph.

Photo Log

Name of Property: Makalapa Navy Housing Historic District

City or Vicinity: Pearl Harbor

County: Honolulu

State: Hawaii

Photographer: varies (see photographs)

Date Photographed: varies (see photographs)

Description of Photograph(s) and number, include description of view indicating direction of camera:

Description of Photograph(s) and number:

Photo 1 of 58. (HI_Honolulu County_MakalapaNavyHousingHD_0001.tif).
View to northeast. View of the neighborhood from makai side of Kamehameha Highway.
Photographer: Ann Yoklavich
Date Photo graphed: August 2013

Photo 2 of 58 (HI_Honolulu County_MakalapaNavyHousingHD_0002.tif).
View to southeast. View of neighborhood showing Makalapa Drive on the left and Hālawā Drive to the right.
Photographer: Ann Yoklavich
Date Photographed: August 2013

Photo 3 of 58 (HI_Honolulu County_MakalapaNavyHousingHD_0003.tif).
View to north. View along Makalapa Drive with Fac. No. 75 in the background.
Photographer: Ann Yoklavich
Date Photographed: August 2013

Photo 4 of 58. (HI_Honolulu County_MakalapaNavyHousingHD_0004.tif)
View to north. View along the backyards of Fac. Nos. 95 to 98.
Photographer: Ann Yoklavich
Date Photographed: August 2013

Photo 5 of 58 (HI_Honolulu County_MakalapaNavyHousingHD_0005.tif)

Makalapa Navy Housing Historic District

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View to northeast. View across grassy, open space with Fac. Nos. 44 (left) and 43 (right) in the background.

Photographer: Ann Yoklavich

Date Photographed: August 2013

Photo 6 of 58 (HI_Honolulu County_MakalapaNavyHousingHD_0006.tif)

View to south. View from Midway Drive looking toward the intersection of Kamehameha Highway and Radford Drive.

Photographer: Ann Yoklavich

Date Photographed: August 2013

Photo 7 of 58 (HI_Honolulu County_MakalapaNavyHousingHD_0007.tif)

View to southwest. Interior view of typical kitchen renovation by Forest City. Fac. No. 75.

Photographer: Forest City

Date Photographed: September 2009

Photo 8 of 58 (HI_Honolulu County_MakalapaNavyHousingHD_0008.tif)

View to east. Exterior view of brick screen covering a window in Type A, Bath 1.

Photographer: Dee Ruzicka

Date Photographed: January 2002

Photo 9 of 58 (HI_Honolulu County_MakalapaNavyHousingHD_0009.tif)

View to southeast. Interior view of decorative screen on the front entry side of the windows between the library and front entry in Type A.

Photographer: Forest City

Date Photographed: August 2010

Photo 10 of 58 (HI_Honolulu County_MakalapaNavyHousingHD_0010.tif)

View of a typical screen over a recessed light fixture in the Living Room of Type A.

Photographer: Forest City

Date Photographed: May 2007

Photo 11 of 58 (HI_Honolulu County_MakalapaNavyHousingHD_0011.tif)

View to southeast. Exterior view of the front entry of Type A.

Photographer: Dee Ruzicka

Date Photographed: January 2002

Photo 12 of 58 (HI_Honolulu County_MakalapaNavyHousingHD_0012.tif)

View to northeast. View of front façade of Type B.

Photographer: Forest City

Date Photographed: April 2008

Photo 13 of 58 (HI_Honolulu County_MakalapaNavyHousingHD_0013.tif)

View to west. View of pivoting door between the dining room and kitchen of Type B.

Photographer: Angela Thompson

Date Photographed: July 2007

Photo 14 of 58 (HI_Honolulu County_MakalapaNavyHousingHD_0014.tif)

Makalapa Navy Housing Historic District
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View of single-panel door in Type B. This door is common in Types B, I, J, K, L, M, N, and O.

Photographer: Angela Thompson

Date Photographed: July 2007

Photo 15 of 58 (HI_Honolulu County_MakalapaNavyHousingHD_0015.tif)

View to north. View of the second floor stair hall of Type B. The pivoting windows between the stair hall and bedroom 3 are on the right.

Photographer: Angela Thompson

Date Photographed: July 2010

Photo 16 of 58 (HI_Honolulu County_MakalapaNavyHousingHD_0016.tif)

View to west. Front façade of Fac. No. 87, 28 Makalapa Drive, representing a typical Type C unit.

Photographer: Dee Ruzicka

Date Photographed: September 2002

Photo 17 of 58 (HI_Honolulu County_MakalapaNavyHousingHD_0017.tif)

View to north. Exterior view of the side of Fac. No. 76, 35 Makalapa Drive, representing a typical Type C unit. This view shows the original hip roof with gable in between the enclosed lanai on the left and the utility room addition on the right. The two-story portion of the unit is seen in the background.

Photographer: Ann Yoklavich

Date Photographed: August 2013

Photo 18 of 58 (HI_Honolulu County_MakalapaNavyHousingHD_0018.tif)

View to east. Exterior view of Type C Fac. No. 75, 33 Makalapa Drive, illustrating the brick screened windows on the first floor and the symmetrical window arrangement on the second floor.

Photographer: Dee Ruzicka

Date Photographed: September 2002

Photo 19 of 58 (HI_Honolulu County_MakalapaNavyHousingHD_0019.tif)

View to east. View of front façade of Type C Fac. No. 71, 25 Makalapa Drive, showing the slightly different second floor window arrangement.

Photographer: Forest City

Date Photographed: May 2008

Photo 20 of 58 (HI_Honolulu County_MakalapaNavyHousingHD_0020.tif)

View to northeast. Interior view of the second floor stair hall of Type C Fac. No. 78, 39 Makalapa Drive, showing the historic fir flooring and handrail.

Photographer: Forest City

Date Photographed: July 2010

Photo 21 of 58 (HI_Honolulu County_MakalapaNavyHousingHD_0021.tif)

View to southwest. Interior view of Type C Fac. No. 86, 30 Makalapa Drive, showing the stair as viewed from the front entry.

Photographer: Forest City

Date Photographed: December 2009

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Photo 22 of 58 (HI_Honolulu County_MakalapaNavyHousingHD_0022.tif)

View of Type C Fac. No. 72, 27 Makalapa Drive, of typical door between the dining room and kitchen.

Photographer: Dee Ruzicka

Date Photographed: August 2002

Photo 23 of 58 (HI_Honolulu County_MakalapaNavyHousingHD_0023.tif)

View to northeast. Interior view of second floor hall in Type C Fac. No. 93, 37 Hālawā Drive, showing the historic canec ceiling, the window between Bedroom 2 and the stair hall, the wood railing on the low wall around the stair, the built-in bookcase, and wood trellis.

Photographer: Forest City

Date Photographed: December 2008

Photo 24 of 58 (HI_Honolulu County_MakalapaNavyHousingHD_0024.tif)

View to north. Interior view of Type D addition off of the rear of the house. The original exterior wall is seen on the left in the photo.

Photographer: Forest City

Date Photographed: August 2008

Photo 25 of 58 (HI_Honolulu County_MakalapaNavyHousingHD_0025.tif)

View to northeast. Interior view of Type D enclosed front lanai showing the doors leading to the living room on the left and to the utility area on the right.

Photographer: Forest City

Date Photographed: August 2008

Photo 26 of 58 (HI_Honolulu County_MakalapaNavyHousingHD_0026.tif)

View to south. Exterior view of Type D addition off of the rear of the house.

Photographer: Forest City

Date Photographed: June 2008

Photo 27 of 58 (HI_Honolulu County_MakalapaNavyHousingHD_0027.tif)

View to southeast. View of front façade of Type F Fac. No. 79, 41 Makalapa Drive.

Photographer: Ann Yoklavich

Date Photographed: August 2013

Photo 28 of 58 (HI_Honolulu County_MakalapaNavyHousingHD_0028.tif)

View to east. View of front façade of Type G Fac. No. 80, 43 Makalapa Drive.

Photographer: Forest City

Date Photographed: December 2008

Photo 29 of 58 (HI_Honolulu County_MakalapaNavyHousingHD_0029.tif)

View to northwest. Interior view in Type I Fac. No. 68, 19 Makalapa Drive, of typical built-in bench in the kitchen.

Photographer: Forest City

Date Photographed: December 2007

Makalapa Navy Housing Historic District
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Photo 30 of 58 (HI_Honolulu County_MakalapaNavyHousingHD_0030.tif)

View to southeast. Interior view in Type L showing a typical built-in bench including the custom support leg.

Photographer: Dee Ruzicka

Date Photographed: April 2002

Photo 31 of 58 (HI_Honolulu County_MakalapaNavyHousingHD_0031.tif)

View to northwest. Interior view in Type I Fac. No. 68, 19 Makalapa Drive, showing a typical full height built-in bookcase in the living room.

Photographer: Forest City

Date Photographed: December 2 007

Photo 32 of 58 (HI_Honolulu County_MakalapaNavyHousingHD_0032.tif)

Interior view in a Type M unit showing a typical low built-in bookcase in the living room.

Photographer: Angela Thompson

Date Photographed: April 2009

Photo 33 of 58 (HI_Honolulu County_MakalapaNavyHousingHD_0033.tif)

View to northeast. Interior view in Type I Fac. No. 68, 19 Makalapa Drive, showing the typical pivot windows between a bedroom and the second-floor stair.

Photographer: Forest City

Date Photographed: December 2007

Photo 34 of 58 (HI_Honolulu County_MakalapaNavyHousingHD_0034.tif)

View to northwest. View of front façade of Type I Fac. No. 53, 4 Midway Drive.

Photographer: Dee Ruzicka

Date Photographed: January 2002

Photo 35 of 58 (HI_Honolulu County_MakalapaNavyHousingHD_0035.tif)

View to southeast. View of front façade of Type I Fac. No. 31, 13 Midway Drive.

Photographer: Ann Yoklavich

Date Photographed: August 2013

Photo 36 of 58 (HI_Honolulu County_MakalapaNavyHousingHD_0036.tif)

View to southeast. View in Type I Fac. No. 55, 3 Makin Place, showing the historic oak flooring which is in the front entry, living room, and dining room.

Photographer: Dee Ruzicka

Date Photographed: April 2003

Photo 37 of 58 (HI_Honolulu County_MakalapaNavyHousingHD_0037.tif)

View to north. View at Type J Fac. No. 61, 14 Makalapa Drive, showing the historic doors between the dining room and patio as viewed from the patio.

Photographer: Forest City

Date Photographed: May 2007

Makalapa Navy Housing Historic District

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Photo 38 of 58 (HI_Honolulu County_MakalapaNavyHousingHD_0038.tif)

View to southeast. View of Type J Fac. No. 64, 22 Makalapa Drive.

Photographer: Dee Ruzicka

Date Photographed: January 2002

Photo 39 of 58 (HI_Honolulu County_MakalapaNavyHousingHD_0039.tif)

View to west. View of Type J Fac. No. 54, 6 Midway Drive.

Photographer: Dee Ruzicka

Date Photographed: January 2002

Photo 40 of 58 (HI_Honolulu County_MakalapaNavyHousingHD_0040.tif)

View to northeast. View of Type J Fac. No. 69, 21 Makalapa Drive.

Photographer: Ann Yoklavich

Date Photographed: August 2013

Photo 41 of 58 (HI_Honolulu County_MakalapaNavyHousingHD_0041.tif)

View to southeast. View of Type J Fac. No. 30, 9 Midway Drive.

Photographer: Dee Ruzicka

Date Photographed: April 2003

Photo 42 of 58 (HI_Honolulu County_MakalapaNavyHousingHD_0042.tif)

View to east. View of Type K Fac. No. 95, 41 Hālawa Drive.

Photographer: Dee Ruzicka

Date Photographed: April 2003

Photo 43 of 58 (HI_Honolulu County_MakalapaNavyHousingHD_0043.tif)

View to south. View of Type K Fac. No. 56, 1 Makin Place.

Photographer: Dee Ruzicka

Date Photographed: April 2003

Photo 44 of 58 (HI_Honolulu County_MakalapaNavyHousingHD_0044.tif)

View in a Type M unit showing a typical view in Types M and N looking from the living room through the hallway to what was historically the maid's room.

Photographer: Angela Thompson

Date Photographed: April 2009

Photo 45 of 58 (HI_Honolulu County_MakalapaNavyHousingHD_0045.tif)

View in a Type M unit showing a typical view in Types M and N looking toward the kitchen as renovated by Forest City.

Photographer: Angela Thompson

Date Photographed: April 2009

Photo 46 of 58 (HI_Honolulu County_MakalapaNavyHousingHD_0046.tif)

View to south. Exterior view of Type L.

Photographer: Ann Yoklavich

Date Photographed: August 2013

Makalapa Navy Housing Historic District
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Photo 47 of 58 (HI_Honolulu County_MakalapaNavyHousingHD_0047.tif)
View to southwest. Exterior view of Type M Fac. No. 50, 4819 Samoa Place.
Photographer: Ann Yoklavich
Date Photographed: August 2013

Photo 48 of 58 (HI_Honolulu County_MakalapaNavyHousingHD_0048.tif)
View to east. Exterior view of Type M Fac. No. 50, 4819 Samoa Place.
Photographer: Ann Yoklavich
Date Photographed: August 2013

Photo 49 of 58 (HI_Honolulu County_MakalapaNavyHousingHD_0049.tif)
View to northeast. Exterior view of Type N Fac. No. 44, 7 Makalapa Drive.
Photographer: Ann Yoklavich
Date Photographed: August 2013

Photo 50 of 58 (HI_Honolulu County_MakalapaNavyHousingHD_0050.tif)
View to west. Exterior view of Type N Fac. No. 43, 5 Makalapa Drive.
Photographer: Ann Yoklavich
Date Photographed: August 2013

Photo 51 of 58 (HI_Honolulu County_MakalapaNavyHousingHD_0051.tif)
View to east. View of Type O Fac. No. 37, 4773 Makalapa Drive.
Photographer: Ann Yoklavich
Date Photographed: August 2013

Photo 52 of 58 (HI_Honolulu County_MakalapaNavyHousingHD_0052.tif)
View to southwest. View of Type O Fac. No. 36, 4774 Makalapa Drive.
Photographer: Ann Yoklavich
Date Photographed: August 2013

Photo 53 of 58 (HI_Honolulu County_MakalapaNavyHousingHD_0053.tif)
View to north. View of Fac. No. 225, a typical four-car carport.
Photographer: Ann Yoklavich
Date Photographed: August 2013

Photo 54 of 58 (HI_Honolulu County_MakalapaNavyHousingHD_0054.tif)
View to southwest. View of Fac. No. 203, a typical two-car carport.
Photographer: Ann Yoklavich
Date Photographed: August 2013

Photo 55 of 58 (HI_Honolulu County_MakalapaNavyHousingHD_0057.tif)
View to north. View of the pool dressing rooms building, Fac. No. 117, as seen across the pool.
Photographer: Ann Yoklavich
Date Photographed: August 2013

Makalapa Navy Housing Historic District
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Photo 56 of 58 (HI_Honolulu County_MakalapaNavyHousingHD_0056.tif)
View to north. View of splinterproof structure near Fac. No. 116.
Photographer: Ann Yoklavich
Date Photographed: August 2013

Photo 57 of 58 (HI_Honolulu County_MakalapaNavyHousingHD_0057.tif)
View to southwest. View of Fac. No. S-331.
Photographer: Ann Yoklavich
Date Photographed: August 2013

Photo 58 of 58 (HI_Honolulu County_MakalapaNavyHousingHD_0058.tif)
View to northeast. View of the enclosed garage Fac. No. 229.
Photographer: Ann Yoklavich
Date Photographed: August 2013

Paperwork Reduction Act Statement: This information is being collected for applications to the National Register of Historic Places to nominate properties for listing or determine eligibility for listing, to list properties, and to amend existing listings. Response to this request is required to obtain a benefit in accordance with the National Historic Preservation Act, as amended (16 U.S.C. 460 et seq.).

Estimated Burden Statement: Public reporting burden for this form is estimated to average 100 hours per response including time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding this burden estimate or any aspect of this form to the Office of Planning and Performance Management, U.S. Dept. of the Interior, 1849 C. Street, NW, Washington, DC.

**United States Department of the Interior
National Park Service**

**National Register of Historic Places
Continuation Sheet**

Makalapa Navy Housing Historic District
Name of Property
Honolulu, Hawai'i
County and State
Name of multiple listing (if applicable)

Section number 7 Page 1

(Continued)

free from direct contact with, or even encroachment by, these major highways.”¹ As discussed in the Geography and Topography section, the layout of the neighborhood incorporates natural features to create barriers between housing and highway. The design of circulation patterns within the neighborhood adds to the natural topographic buffer and shields its inhabitants from traffic and highway noise as much as possible. Today, the view of the neighborhood from the highway consists mainly of a fence and treetops (Photo1).

Accessing the neighborhood is limited and secured through a guarded checkpoint, preventing those without security clearance from entering the area. Currently, the only point of access into the neighborhood is from the north via Halawa Drive, a peripheral road off Kamehameha Highway. Before entering the neighborhood, a car must first travel along Halawa Drive through an adjacent administrative area that includes the headquarters of the Commander in Chief of the Pacific Fleet (CINCPAC, Facility 250). Circulation patterns further minimize traffic within Makalapa Historic District (Figure 7-4a thru 7-4c). The street arrangement of the neighborhood turns inward, away from the surround highways and primary administrative area access routes, directing non-residents away from the historic district.

During the period of significance, an additional access point was available at the southern end of the neighborhood, at the intersection Makalapa Drive and Kamehameha Highway. In 1944, the 62nd Naval Construction Battalion constructed an interchange off Kamehameha Highway. The new interchange provided access to Makalapa Historic District at both Midway Drive and Makalapa Drive. At the same time it created the Makalapa Gate, to provide access to the Pearl Harbor Main Base (Figure 7-4c and 7-5), across Kamehameha Drive to the west. The interchange was later altered with the extension of Radford Drive in 1976 (Figure 7-6), which was intended to provide access across the newly constructed H1 Freeway from Kamehameha Highway to Bougainville Drive. The Radford Drive extension preserved the access points to Makalapa Historic District at Midway Drive and Makalapa Drive. Today, a perimeter fence blocks access to both Makalapa Drive and Midway Drive from the 1976 Radford Drive extension.

Within the neighborhood, the streets do not form a grid or geometrical pattern. Instead, they follow the Garden City and City Beautiful movements’ dogmas by reflecting the site’s complex topography (Figure 7-4a thru 7-4c). Halawa Drive and Makalapa Drive run parallel to each other before converging and ultimately forming a long narrow loop at the site’s northern portion. Makalapa Drive and Midway Drive create a loop around the crater’s perimeter and green space at the neighborhood’s southern side. Houses generally face out toward the streets, and driveways and culs-de-sac branch off from the neighborhood’s primary streets. This design intended to create a safe and scenic environment within

¹ Contractors Pacific Naval Air Bases (CPNAB), *Technical Report and Project History, Contracts NOy-3550 and NOy-4173: Pacific Naval Air Bases and Aviation Facilities, Dredging, Buildings, Accessories, Quay Walls, Berms, and Oil and Gas Storage at Naval Station, Pearl Harbor, Hawaii and Pacific Islands* (undated), XXVI, A-917. Microfilm of typescript report from Pacific Division, Naval Facilities Engineering Command Library from the archives of NAVFAC Hawai'i, Joint Base Pearl Harbor-Hickam, Honolulu, Hawai'i. Note that the use of the term “unusual” probably was not accurate; in retrospect it is clear that a number of housing development projects across the United States were intentionally located near highways during this period.

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the neighborhood, to encourage walking and recreation. As Section 8 will detail, Admiral Nimitz took daily walks through the neighborhood between his quarters in Facility 77 and his office in Facility 250.

LANDSCAPE PATTERNS

Original plans for the Makalapa Navy Housing Historic District included landscape designs. Their implementation is a key design element throughout the neighborhood. Landscaping helps to create a unique sense of feeling and contrast between the neighborhood and the surrounding active naval installation of insulation and separateness. Trees planted, immediately after the neighborhood's construction, around homes and along the neighborhood's border, provide natural buffers throughout the district and along roadways to the west, south, and east (Figure 7-7). Passive green spaces throughout the neighborhood, between houses, vegetated borders, and roadways, enhance the neighborhood's natural buffers and create a setting for residents of living in a quite suburb, rather than in the middle of a bustling military installation.

The neighborhood's variety and amount of landscaping does much to establish the district's character, as well as to distinguish this housing area from its surroundings. Heavy vegetation flourishes around most of the homes—trees, bushes, flowers, groundcovers, and grasses—due to various residents' planting preferences. Generous lawns and mature trees create an oasis among the large paved areas and industrial or office buildings seen in the working areas of JBPHH (Photo 3 thru 6). Sheltering banyans and several species of palm trees lend the neighborhood a tropical appearance. The use of local stone in the retaining walls along Makalapa Drive and Makin Place also add to the district's regional character. The area's slopes make retaining walls necessary along streets, using the local "mud-rock" (tuff) as well as lava (basalt) rock. These natural materials give the neighborhood a distinctive appearance. There are no sidewalks in the neighborhood, yet many houses have concrete walkways from the street to the house's front entrance. White picket fences are located along some streets and between some backyards (Photo 2-6) and are considered non-contributing to the historic district.

RELATIONSHIP OF BUILDINGS TO ONE ANOTHER

The Makalapa Historic District contains 90 dwellings, 48 carports, 2 tennis courts, a swimming pool with 2 supporting buildings, rock retaining walls, a telephone cable vault, and sections of 2 former bomb shelters (refer to Table 1 for a full list of contributing buildings). A former volleyball court converted to a playground area, a basketball court, and a non-historic garage do not contribute to the historic district (refer to Table 2 for a list of non-contributing buildings).

Because of the non-linear circulation patterns, Makalapa Historic District does not have strict geometry throughout the placement of buildings. Instead, buildings are located irregularly in response to the neighborhood's topography and curving streets. Earlier residential areas on the main base established a similar pattern; these include Hale Ali I and Hospital Point, as well as the historic neighborhoods on Ford Island. However, not all buildings respond to the natural topography; in some cases (Facilities 91 and 92); the houses appear to have been sited at an angle simply to create interest.

The density of the neighborhood is highest in the area around Kamakani Place, Samoa Place, and the northeast section of Makalapa Drive. Some of this high density is due to the topography limiting the placement options for larger buildings. Unit sizes and space between units reflect the military's rank-consciousness, as the junior officers' buildings are more closely spaced than the senior officers' houses. There are no defined yards or lots, since all the land is Navy-owned. Yet, if lot lines were to be drawn, the

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flag quarters' "parcels" would have a street frontage of about 150 feet. Frontage for the others—both single-family and duplex buildings—would be approximately 100 feet along the street.

Each residence has an associated carport. Houses along Halawa Drive and Makalapa Drive in the northern part of the neighborhood share detached carports. These carports are located between two houses directly off from the street with each house set further back. Houses along Betio Place share detached carports as well. Detached carports for houses located on Samoa Place are located across the street instead of directly in front of the housing units. Along Midway Drive and Makin Place's southern side, carports are located at the street but attached to each house. With the exception of the two southeastern-most houses which share a detached carport. The houses along the northern side of Makin Place, Kamakani Place, and at the southeastern portion of Makalapa Drive each have individual detached carports at the street.

Non-residential buildings and structures are randomly located throughout the neighborhood. Most recreational resources—the pool, tennis courts, and the basketball court—are located among the houses in Makalapa Historic District. The former volleyball court is located in a greens space at the neighborhood's southeast corner. A fence around the pool separates it and its two buildings from nearby residences, of which several are especially close. Two former air raid shelters are located along the border of the neighborhood at the end of the line of residences, set among trees. Located near the neighborhood's southwestern-most corner, the telephone cable vault (S-331) sits unimposing along the fence line, away from the residences.

ARCHITECTURAL DESCRIPTION

OVERVIEW

Makalapa Historic District includes 152 resources, the most prevalent of which are the 90 units of housing. The housing units in Makalapa display a consistency of materials and design detail, designed by architect C. W. Dickey in a style influenced by the Modern movement with some Ranch style influences (Figure 7-8). Constructed under the same project, between 1941 and 1946, the consistency of architectural design is not monotonous. There are thirteen house types; classified by the Navy as Type A through O.² The Navy did not originally designate the houses by this classification type, mainly identifying them as either Senior Officers' Quarters, which were typically single-family houses, or Junior Officers' Quarters, which were typically duplex houses. Since World War II, additional house types developed once the Navy renovated some of the homes from each type, rather than systematically renovating all units of a type. This means that a house might have been classified as one type of residence (i.e. Junior Officers' Quarters) when constructed between 1941 or 1942, but was later converted into a new type of residence. For the purposes of this discussion, the housing units follow the

² This classification is based on floor plans. Within Makalapa thirteen of the fifteen types are found. The Navy's Types C and E were the reverse of one another, and so are both here considered variations of Type C. Additionally, the only Type H house, Facility 261, at 47 Makalapa Drive, falls outside of the historic district's proposed boundaries, as alterations to it and the adjacent Facility 81 have caused them to lose integrity. All but one of the duplexes were changed to single-family homes in 2009, making two variations of Type M.

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five categories: Senior Officers' Quarters, Junior Officers' Single-Family, Junior Officers' Duplexes, and One-Story Houses.³

The consistent use of standardized designs, uniformity of building materials and color tie the neighborhood together. The dominant building materials are horizontal wood siding and concrete brick. Historic photos indicate that the present-day exterior white color scheme is similar to the original. Most of the concrete brick is a painted tan color that echoes the brick's original khaki color. Until the 1990s, much of the concrete brick was natural and unpainted. The majority of housing units within the district are two stories in height, but there are also three one-story housing units. The design of all the house types have a horizontal emphasis with proportions roughly two to three times as wide as they are tall; this is typical of Dickey's work.⁴ The hipped roof design with wide eaves and exposed rafters further contribute to the buildings' horizontality. On two-story houses, pent roofs cast shade over first-floor windows, creating a line of shadow that further adds to their horizontality. Most porches have shed roofs supported by either square posts or grid-like geometric trellises. Another similar characteristic shared amongst most residences is wood-sash one-over-one double-hung windows, many of which are original. Many houses feature a fenestration pattern with corner windows on the upper floor, a hallmark of design influenced by the Modern movement. Original wood-sash sliding windows and hopper windows also are common throughout the district. At some windows, decorative brick screens, known as *brise soleils*, provide privacy. Houses consistently have single door entrances. Some houses have decorative concrete work at the entrance that was originally finished with an acid stain.

SENIOR OFFICERS' QUARTERS

Facility Nos. 71-78, 82-87, 93 (Type A: Facility 77; Type C: Facilities 71, 72, 74-76, 78, 82-87, 93; Type D: Facility 73)

Fourteen of the fifteen Senior Officers' quarters are located on Makalapa Drive's northern portion, with the exception of Facility 93, which is located on Hālawā Drive. These houses range from approximately 2,960 square feet (Type C) to over 4,500 square feet (Type D) and up to 5,000 square feet for Facility 77 (Type A).⁵ Many of these houses served as flag officer's quarters, and have been subject to alterations throughout the years. Within this grouping, Facility 77—the former residence of the Commander in Chief of the US Fleet—is the largest. At the request of its high-ranking residents, it has had many alterations and additions. When originally constructed, each of these houses shared common character-defining features with slight variations in fenestration patterns, building orientation, and square footage. Many of these features remain intact; but, because these houses have undergone significant alterations and additions, some are no longer extant.

Eight of these houses sit above street level and seven below, due to the neighborhood's topography. The houses on the east side of Makalapa Street have a rock retaining wall along the street and their

³ Mason Architects and Belt Collins Hawaii, *Historic Context Study of Historic Military Family Housing in Hawaii* (Washington, D.C.: Department of Defense Legacy Resources Management Program, 2003), 5-103. This study sets forth the organization of types adopted herein.

⁴ The proportions of the Makalapa residences are similar to Dickey's Alexander and Baldwin building as well as numerous others of Dickey's designs. The proportions and massing of these houses is similar to Dickey's high-style works, although they have less ornamentation.

⁵ Archives of NAVFAC Hawai'i, Joint Base Pearl Harbor-Hickam, Honolulu, Hawai'i, ICRMP-MAI-2011 Files, Box 3B, Folder "2175 Fac. 77 37 MAKALAPA DR. TYPE A 2 STORY MAKALAPA HOUSING."

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front lawns. A hedge usually tops this wall (Photo 3). Each house has a concrete stair and walkway from the street to its front entry, which has an entry slab with faint grid patterns. The houses in this category have complex plans—Navy Types A, C, and D—and have one- and two-story sections (Figures 7-9, 7-11, and 7-12). Each house originally featured a lanai and rear porch. They were later enclosed.

Built upon concrete slab foundations, these houses have first-floor exterior walls composed of concrete bricks and second-floor exterior walls clad with 6-1/2 inch drop siding and vertical molding at the corners. Facility 93 is the only house to have wood siding along the exterior wall within its entry porch. This detail is not on the 1940 drawings and may not be original. Each house has a hipped roof with a pent roof located between first and second floors. The roofs have wide eaves with exposed rafters and asphalt shingles. Between the rafters at the eaves, circular screened openings provide attic ventilation. Shed roofs top most of the additions on these houses.

These houses have symmetrical fenestration patterns on their second floors, with the majority of them having four central windows flanked by a pair of windows (Photo 19). Most windows throughout the houses are double-hung wood-sashes with one-over-one lights. Sliding windows are located at the living room and entry, with a three-light configuration. One-light hopper windows are located in the bedrooms and bathrooms. Decorative brick screens, *brise soleils*, are located at the bathroom windows to provide privacy (Photo 8). Non-original *jalousie* windows enclose lanais and rear porches. Most windows have wood-sash window screens with narrow half-round screen molding. Each house has a single-door front entry with three lights over a single panel; each originally had lever-handled mortised hardware. Wood-sash exterior screen doors are located at each entry door. The entry sits below a pent roof, supported by wood posts and grid-like trellis walls. Historic nautical-style rounded metal-cage lights are located at the entries, as well as along the sidewalks and on carports (Figure 7-13).

Originally, each house had an entry hall with living and dining rooms on the right, and two bedrooms, two bathrooms, a dressing room, small closet, and connecting halls either behind it or on the left. The kitchen, front lanai, service hall, maid's room, and bathroom were located behind the dining room. Facility 77 and Facility 73 varies from this plan. Facility 77 has a library instead of a second bedroom on the first story. Facility 73 has an addition behind the dining room, which acts as an enclosed lanai (Photo 24), as well as an enclosed front terrace room (Photo 25). With the exception of Facility 77, all houses now also have a family room to the right of the dining room.

Stairs lead from the entry hallway to the second floor and feature a large round wood handrail and wood cap, typically stained. The upstairs floor plan originally had two bedrooms, a bathroom, a study, a stair hall, and a trunk storage room (Photo 20 and 21). The trunk storage rooms, in most houses, are now bathrooms. The second-story landing in some homes, have an abstract geometric wood screen at the top of the stairs (Photo 23). Some houses retain their original tongue-and-groove fir floors on the second floor (Photo 20), others have been tiled or carpeted.

Like the houses' exteriors, the interior color scheme is largely white. Plywood panel walls with bevel joints are painted white, as are the simple crown moldings and baseboards with quarter-round shoe moldings. Most living area ceilings were originally panels of canec (a material manufactured from sugarcane) with V-grooves. Painted white gypsum panels have replaced many these canec ceilings. Plywood-paneled white ceilings are located in the kitchen, bathrooms, and utility areas. Second-floor ceilings are sloped, reflecting the exterior roof form. Wood interior doors are flush with the walls and

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have plated brushed chrome or solid bronze doorknobs and hardware. Swinging doors with glass inserts originally separated the areas between the dining/living room area from the kitchen (Photo 22), and the area between the front enclosed lanai and the service hall. Kitchens throughout the district feature modern equipment; though renovated, their configurations remain largely the same (Photo 7).

Many of the flag officers' quarters originally had interior features with Japanese influences, like *shoji* screens separating the formal dining room from the living room, as well as large sliding window and door features (Photo 25).⁶ Some of these carpentry features are gone. Others, such as built-in shoe racks, vanity tables, linen closets, ironing boards, and wall-to-wall, built-in dressers in dressing rooms, remain. Original textured-glass and milk-glass light fixtures, as well as square-geometric patterned grills over recessed light fixtures in the living room, are still present in some houses (Photo 10).

JUNIOR OFFICERS SINGLE-FAMILY QUARTERS

Facilities 26-31, 52-70, 88-92, 94-116 (Type B: Facility No. 70; Type I: Facilities 31, 53, 55, 68, 88, 90, 92, 94, 96, 98, 100, 102-104, 106, 108, 110; Type J: Facilities 26-30, 52, 54, 58-67, 69, 112-116; Type K: Facilities 56, 57, 89, 91, 95, 97, 99, 101, 105, 107, 109, 111)

Within Makalapa Historic District, single-family houses for Junior Officers are located along Halawa Drive, Betio Place, Makin Place, and Midway Drive. The Navy classifies these houses as Types B, J, K, and I. Each has slightly different configurations, layouts, massing, and material variations, but overall they share common character-defining features (Photo 12, 34, 35, 30, 40, 41, 42, 43). Housing sizes range from approximately 1,785 (Type J) to 2,140 square feet (Types I and K) to 3,000 square feet (Type B).

These single-family houses all have concrete walkways and/or stairs leading from the street to the front entry and all have hipped roofs. Facilities 26, 29, 54, 56, and 59 have attached carports built onto the front of their façades. Some of these carports retain their original trellis sides, while others, such as Facility 55's carport, have lined the trellises with plywood to provide a more enclosed carport (Photo 35). All built atop concrete slab foundations, the Type B, Type I, and Type K houses have rectangular plans on the first and second stories (figs. 7-11, 7-16, and 7-18). Meanwhile, the Type J houses have second stories that are smaller than the first story, creating distinct one- and two-story sections rather than one boxy volume like the other houses (fig. 7-17). The second stories on all houses are clad in painted white horizontal drop siding. Facilities 26, 29, 53, 54, 56-59, 63-66, 68, 70, 88-92, 94-116 have first stories comprised of concrete brick. These houses have a first floor topped by a concrete bond beam. The remaining facilities have first stories clad in matching horizontal drop siding.

All Junior Officers Single Family Quarters have hipped roofs with asphalt shingles, wide eaves, and exposed rafters. Houses with boxy volumes (Types B, I, and K) display a cantilevered concrete ledge between the first and second stories (Photo 42). This ledge extends over the front and side entries, supported by either metal or wood posts, creating a covered porch. Some of these houses display grid trellis walls at their entry. For houses with complex massing (Type J), a pent roof similar to those found

⁶ These features may be attributable to the Japanese architects working on Dickey's staff, which will be discussed in Section 8, or to Japanese workers and carpenters who came from the shipyard after wartime restrictions prohibited workers of Japanese descent. Many of these men found work through the CPNAB construction contracts, including the big push on housing construction at Makalapa.

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on the Senior Officers' Quarters is present. Houses with wood siding at the first story have supporting brackets for the pent roof. The main entries on the complex-mass houses have pent roofs, which extend across the front of the façade and typically have four wood post supports. The hipped roofs of the living room wings extend on the front and one side to cover the porches that wrap around these two sides. Some porches wrap around the entire house, like the porch at Facility 52, while others, like that at Facility 69, do not. The railings of the porches are made of alternating narrow and wide horizontal boards, creating a decorative geometric pattern. A single door entry with two horizontal lights over two vertical panels and a wood-frame exterior screen door with kick board create the main entries on all houses. They have the same nautical-themed lighting present on the Senior Officers' Quarters.

The Junior Officers Single Family Quarters have variations of a symmetrical fenestration pattern on the second-floor, and the majority of the windows are one-over-one double-hung wood-sash. The fenestration pattern is often similar to that on the Senior Officers' Quarters, with a grouping of three or four windows in the center of the second story with a pair of windows located at the corners. Windows oftentimes abut or flank the main entry. To one side of the entry, typical groupings of two to four windows create a wide expanse of windows along the living room. On some houses, there is a distinctive high sliding window at this location. Smaller windows are located on the opposite side of the entry, at the location of the bedroom and bathroom. On some of these houses, *brise soleil* provide privacy at these windows.

The floor plan is quite similar for each type, though mirror-image plans create some variety. All Junior Officers' Single-Family Quarters first floor plans consist of an entry hall, living room, dining room, family room, kitchen, and utility room. Additionally, these houses originally had a maid's room and bathroom on the first floor; in many cases, these rooms have been converted for use as a study, exercise room, or storage. In each of these houses, the stairway is located in the entry hallway. Stair features consisted of oak stair treads and a solid walled rail with clear varnish wood cap. These houses' second story plans have three bedrooms and two bathrooms, arranged in slight variations (Figures 7-10, 7-15, 7-16, and 7-17). Ceilings on the second floor are sloped, reflecting the exterior roof form. Original wood floors remain in some buildings. Oak flooring is located on the first floor and fir on the second story (Photo 53).

Junior Officers' Single-Family Quarters have wall and ceiling materials that are the same as those of the Senior Officers' Quarters. Common interior finishes include panel doors and pivoting windows on the second-floor central bedroom wall (Photo 16), built-in kitchen breakfast nooks (Photos 29 and 30), and built-in foldaway ironing boards in the utility room. Many have built-in bookcases in the living room, either full or half-height (Photo 31 and 32). These space-saving built-in features help to compensate for the smaller size of these units. All houses, except Facility 70, have a pair of interior windows between the bedroom abutting the stairway and the stair hall (Photo 33). These windows, which pivot on a horizontal axis, allow for cross-ventilation of these bedrooms.

The interior of Facility 70 (Type B) varies the most from the other houses. This house, most similar to a Type I house, is larger and has a master bedroom wing on its first story, as well as an extension at the rear (now used as a living room and a library). The original living room is now the dining room, and the original dining room space is part of the kitchen. The house also has a more recent covered lanai at its rear. The date of these additions and alterations (with the exception of the covered lanai) is most likely

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around the 1960s, when it became a Flag Quarters, occupied by Brigadier General George S. Bowman.

JUNIOR OFFICERS' DUPLEXES

Facilities 32-51 (Type L: Facility 45; Type M: Facilities 32 [duplex] and 35, 38, 41, 46, 47, 48, 49, 50, and 51; Type N: Facilities 33, 34, 39, 40, 42, 43, and 44; and Type O: Facilities 36 and 37)

Residential units within this grouping include one- and two-story, wood-frame duplexes with L-shaped building footprints (Photo 49); clustered together on Kamakani Place, Samoa Place, and at the end of Makalapa Drive. They fall within three major type categories (Types M, N, and O), each of which is defined by the building's orientation, interior floor plan and configuration, and the number of bedrooms and bathrooms within each unit. Facility 45 (Type L) is the single anomaly (Photo 47). Originally classified in the Type M category, significant changes to the building following a severe fire at an unknown date have created a new classification type for this building. After the fire, one side of the Type L duplex was demolished, and the remaining section was stabilized, repaired, and rehabilitated as a "half duplex" (Figure 7-18). The amount of interior space ranges from 2,888 (Types N and O) to 3,490 square feet (Type M). Type M duplexes have three bedrooms and two bathrooms on the second floor (Figure 7-19 and 7-20), while the slightly smaller Type N and O duplexes have two bedrooms and one bathroom on the second floor (Figure 7-21 and 7-22). The orientation and location of the entry lanais distinguish the Type M duplexes from those in the Type O category.

Regardless of subtype classification, all Junior Officers' Duplexes in the district rest on post-on-block foundations and have wood foundation screening with alternating rows of narrow and wide boards. The buildings are of wood-frame construction with wood siding. The first floors typically have tongue-and-groove redwood siding, but the second floors use the same type of drop siding seen on the second floor of other residences in the neighborhood. Concrete paths and/or steps with pipe railings extend to each unit's front porch and primary entrances. The front door typically has two horizontal lights over two vertical panels, while the rear entrance has a single-panel door with a vertical sliding window. Wood-frame exterior screen doors are common. Windows on the duplexes are double-hung with wood sashes and have one-over-one lights. Wood-sash window screens with narrow, half-round molding are a typical exterior architectural feature. All of the duplexes have low-pitched hipped roofs with broad eaves and exposed rafters. Those in the Type N and O category have complex forms, with hipped roofs on both the one-story and two-story portions of the house (Photo 50).

The first floor of each duplex unit has a living room, dining room, bathroom, kitchen, utility room, and a small room that was originally a maid's room, while the upper floor has bedrooms and bathrooms, the number and configuration of which depends on duplex type. The interiors also have many common architectural features, detailing and ornamentation, and similar materials. Noteworthy built-in features include half-height bookshelves at the foot of stairways; built-in breakfast nooks in kitchen corners, and small closets in maids' rooms underneath stairways. Large, walk-in closets, wood stairs, and a second-floor stair hall with solid rails and attached cylindrical wood pieces are other typical interior features. Most interior doors have a single wood panel; some retain their original hardware. Common interior finishes include plywood panel walls with bevel joints, planar crown moldings, and baseboards with quarter-round shoe moldings. Other kinds of materials used in interior spaces include unadorned window and door casings, vinyl wood flooring, and plywood panel ceilings, especially in kitchens, bathrooms, and utility areas. Common kitchen features include laminate-covered counters, backsplashes with metal edging, and arched kitchen drawer pulls.

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ONE-STORY HOUSES

Facilities 79, 80, 261 (Type F: Facility 79; Type G: Facility 80; Type H: 261)

There are three one-story houses in the Makalapa Navy Housing Historic District. None of these buildings were used as residences during World War II. Of these, two were used as a Staff Officers' Mess (Facility 79, Type F) and a Junior Officers' Mess (Facility 80, Type G). The other was used as a Transportation Office (Facility 261, Type H).

Facilities 79 and 80 are located on Makalapa Drive atop an incline; they feature concrete walkways with steps rising across large lawns to their front entries (Photos 27 and 28). The appearance of these buildings is similar to Senior Officers' Quarters, except for their large spans of windows on the front façade, suggesting a large open space inside (Photos 27 and 28). Both of their exterior facades are comprised of concrete bricks painted white. The homes have hipped roofs with gable vents and ventilation holes at the eaves. *Brise soleil* are located at windows on their front façades. Initial plans for Facility 79 and Facility 80 reserved them as officers' quarters on Makalapa Drive, but Admiral Nimitz suggested, in a January 1942 memo, to convert these yet-unfinished four-bedroom officers' quarters into mess halls. To do so, Nimitz suggested eliminating one of the four planned bedrooms, along with a bathroom and passage, in order to retain three bedrooms in each building for berthing, as well as a large open mess area. Nimitz probably intended that these buildings would be two stories, with three bedrooms upstairs and one bedroom downstairs. Instead, they have only one story, with only one bedroom located downstairs. In 1943, a dormitory for Junior Bachelor Officers was constructed adjoining Facility 80, but it is no longer extant.⁷ According to drawings, Facility 79 and Facility 80 became living quarters in 1946.⁸ Facility 79 is approximately 2,560 square feet. It contains three bedrooms and bathrooms, including the ones originally designated for a steward or maid. Facility 80 varies from Facility 70 in that it has large spans of windows on the front façade and an additional rear wing (Figure 7-14).

Facility 261 (Type H) was a Transportation Department office building and is now additional quarters. The changes made to this building over the years have been so extensive that its design integrity appears lost. Thus, it is not included as a contributing resource to the Makalapa Navy Housing Historic District.

CARPORTS

Fourteen houses within the district have attached carports, but detached carports are more prevalent. There are two main types of carports: four-car carports (shared by two Senior Officers' Quarters), and two-car carports with storage rooms in the center (typically shared by two houses or one former duplex building). The carports sit near the street between the houses, which results in a pleasing variety of alternating patterns. Small carports contrast with larger houses, and carports located close to the roads while houses are set back from the streets. The wooden carports have shed roofs with asphalt rolled roofing or built-up gravel-surfaced roofing.

⁷ Mason Architects, *Historic Context Study of Military Housing in Hawai'i*, 5-116, 5-117

⁸ Architectural Drawing No. PW OA-N4-4539, Archives of NAVFAC Hawai'i, Joint Base Pearl Harbor-Hickam, Honolulu, Hawai'i.

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Four-car Carports: Facilities 201, 222, 225-228, and 230-233

There are 10 four-car carports: Facilities 201, 222, 225 through 228, and 230 through 233 (Photo 53). Except for 201 and 222, which are located on Midway Drive and Makin Place, respectively, all the others are located along the northern part of Makalapa Drive (Figure 7-2a and 7-2b). It is difficult to know if the original design for every four-car carport included the same design details, since no 1940s drawings or photographs are available for them. However, every carport is now slightly different, due to changes to their structures over the years as well as to their sites.

These carports are 40 feet and 8 inches wide and approximately 24 feet long. All have shed roofs; most have flat gravel-surfaced built-up roofing. The carports have concrete floors and partial walls of concrete, with the rest of the structure built of wood (Photo 53). The carports' rear and side elevations vary, depending on whether or not these walls required excavation into the sloping hillside, and the excavation's extent. In cases where the ground's slope is steep, the concrete sidewalls are stepped. In most cases the rear wall is solid (either concrete or concrete and 8 inch drop siding), while the sidewalls above the concrete sections are an open grid-like trellis. In some carports, horizontal boards or plywood sheets enclose the sidewalls. Three center posts demarcate the carports' centerline. These posts also serve as supports for the center beam of the carports. At the entrance, the post usually rests on a concrete base shaped like a truncated pyramid. Some of the carports have knee braces, angled from the three posts at the entrance corners and center. The storage areas in the four-car carports are along the rear wall. In Carport 231 and half of Carport 222, the storage units do not extend to the ground and are instead a row of screened boxes along the back wall, hung from the roof structure. In other carports, the storage area is a four-foot deep room stretched along the rear wall. This room is typically comprised of a wood wainscot wall with a row of screens above. Many carports feature roll-up fabric awnings at the open end, each awning spanning one parking space; but are not original features.

Two-car Carports with Central Storage Room: Facilities 202-221, 223, 224, 234, 235, 238-243, 245, 247, 248, 264, and 265

Most of the remaining detached carports are two-car carports with central storage rooms: Facilities 202-221, 223, 224, 234, 235, 238-243, 245, 247, 248, 264, and 265 (Photo 54). Some variations in the concrete bases of these carports exist due to their site's topography. Great variety in the placement and size of the windows of the storage rooms and the type of doors also exists. However, a typical carport of this type has a shed roof supported by three braced posts on each side, covering open-sided parking spaces and a central storage area with two rooms. The central storage rooms are enclosed with eight-inch drop siding. There is a semi-circular curb in front of each storage area, protecting a planting area. Two houses or a duplex typically share a single carport with a central storage space separated into two rooms. The original plan assigned one room and one covered parking space to each housing unit. The storage rooms divide into a front room near the road and a rear room. This division is not very evident, since the doors to the two rooms are always on opposite sides, placed near the center. There is typically one window for each room, often placed on the front and rear walls, but sometimes placed in the sides facing the parking spaces. Window sizes, types, and placements vary, which suggests that there were no windows in the carports originally, but added over the intervening years. Unfortunately, no historic plans or photographs of these carports are available. All the carports show slight variations, usually relating to the windows, the doors, the addition of lattice or slats on the open sides and backs of the carports, or the installation of storage enclosures in the parking space. Carport 223 was reconstructed ca. 2010 following the design of the existing carports.

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There are noticeable differences between carports 204, 205, 206, 264, and 265 and others of this type due to alterations. They remain contributing resources because their overall design is compatible with the original. Carports 204 and 205 are new structures; following the original design but using vertically scored plywood instead of the horizontal drop siding on the central storage rooms. The roof structure of Carport 205 is also new, with eighteen rafters, while Carport 204 maintains the original structural system of four main beams. Carport 206 has a third covered parking space, created by extending the roof on one side. Carport 264 does not show up on a 1944 map of the area,⁹ indicating it was built after that date, although it is listed in Navy property records with the same construction year (1941) as the other buildings. It has side and rear walls mostly enclosed with drop siding, except for two large openings on each side. Carport 265 has diamond-shaped ventilation openings and part of the siding of the storage area is corrugated metal panels.

Other Contributing Carports

One carport, Facility 246, is essentially like the above two-car carports with central storage area, but with only one covered parking space. Because of the house's sitting, there was no need to share this carport with another house.

Within the Makalapa Historic District boundaries, there are two two-car carports with no central storage room: Facilities 236 and 237. The storage spaces in these carports a cabinet type, built on the upper part of the rear wall. These buildings are more similar to the four-car carports in design than to the two-car carports with central storage rooms.

OTHER CONTRIBUTING RESOURCES

Other than the housing and carports, there are 10 other contributing resources in the Makalapa neighborhood. Six of these are recreational buildings or structures: a pool complex (Facilities S-124, 117, 118), two tennis courts (Facilities S-120 and S-122), and a practice tennis court. Two retaining walls of local rock, two former air raid shelter remnants, a telephone vault structure (S-331), and the landscaping of the neighborhood also contribute to the district's significance.

The pool complex, constructed in ca. 1944, includes a dressing room building and a pump house building (Facilities 117 and 118) flanking the ends of the pool (Facility S-124). Wood plank fences, which abut the buildings and run the pool's length, enclose the pool complex (Photo 55). The complex is on Makalapa Drive near Facilities 27 and 28. The buildings have walls of concrete brick and hip roofs with gabled vents. The pool complex retains its historic recreational function and layout and therefore contributes to the district's significance.

Two tennis courts (Facilities S-120 and S-122) and the practice court (no facility number) between them are the only other recreational facilities from World War II to survive in their original location and to continue their original function. They retain sufficient integrity to convey their important role in maintaining the morale of officers and their families.

Local lava rock and tuff retaining walls run along the east side of Makalapa Drive and the north side of Makin Place. These original resources have integrity of location, design, setting, materials, and

⁹ Drawing No. 03347, Archives of NAVFAC Hawai'i, Joint Base Pearl Harbor-Hickam, Honolulu, Hawai'i.

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workmanship, contributing to the district both visually and as site elements that communicate the feeling and association of the neighborhood's history.

The arched bomb shelter segments are pre-cast concrete units, about 5 feet in length, and approximately 13 feet in both width and height (Photo 56). The wall thickness ranges from six to twelve inches and feature metal rings for lifting and positioning the shelters. A comparison of current maps and several from the 1940s show there were originally more shelters, some of which were longer, located in different positions than found in the neighborhood today. The remaining shelters are important contributing structures; they are reminders of the early war years when the neighborhood's occupants (and the whole Territory) expected another attack by the Japanese.

A Telephone Cable Vault (Facility S-331) is located at the south end of the historic district, which dates from 1941 (Photo 57). Because this neighborhood included housing for high-ranking officers, telephone communications were important and protected by this concrete structure. As with the air raid shelter segments, the concrete was designed to be thick enough to protect the equipment inside from shrapnel, bullets, and fire in the event of another attack. This structure, built partly below grade, is a rectangular box with a footprint approximately eight-by-eight feet and a height of about seven feet above ground level. From the bottom of the stair, that leads to the metal entry door, its height measures to 10 feet. The entry stair area is sealed shut (at an unknown date) with a corrugated metal shed roof and metal mesh on the sides.

The trees, grass, hedges, and other landscaping materials are also contributing features to the site, and one of the neighborhood's character defining resources. The lawns around the houses have been a feature of the landscaping from the earliest years of the neighborhood. The 2002 *Makalapa Neighborhood Cultural Landscape Assessment*, by Hebert Hastert and Fee, notes that the higher-ranking officers' quarters originally had "more extensive plantings of palms, other trees, and shrubs compared to landscaping around housing for junior officers."¹⁰ Over the decades since their original installation the trees have grown, plus additional and replacement plants have been introduced around the houses and other buildings. The district maintains the original landscape plans, with informal groupings of diverse vegetation creating a park-like quality in the neighborhood.

NON-CONTRIBUTING RESOURCES

Facility 229 is a four-car garage built around 1990, on the former site of a four-car carport (Photo 58). Two high-ranking officers share the garage. It is a security measure to protect against car tampering. Due to its recent reconstruction, the facility is non-contributing to the historic district. However, it does not detract from it. Although it is a non-historic building, its design blends with the district in terms of scale, materials, and color. The building's total enclosure is what contrasts with the open carports, including those rebuilt in the 1990s and 2000s.

Facility S-126 is a basketball court, but it does not appear to date from the neighborhood's period of significance. The 1944 map of the neighborhood shows a tennis court and an adjacent ball court in this location, both with no facility number.¹¹ The 1948 Makalapa map shows only the current facility

¹⁰ Herbert, Hastert, & Fee, Planners, "Integrated Cultural Resources Management Plan: Naval Complex Pearl Harbor." Prepared for the Commander, Naval Pacific Region, Hawaii (Honolulu, Hawaii, March 2002).

¹¹ Map No. OA-N1-1013, Archives of NAVFAC Hawai'i, Joint Base Pearl Harbor-Hickam, Honolulu, Hawai'i.

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number, but lists it as a volleyball court.¹² Since the court has changed functions since the period of significance, it is a non-contributing resource. Because of its location behind several houses (Facilities 29-33), it is not a detracting element.

The location of a volleyball court shown on the 1948 as Facility S-127 is now a playground area with recently installed equipment. This modern recreational facility does not contribute to the neighborhood's historic character. Due to its location in a large grassy area and the neighborhood appropriate function of the playground equipment, it does not detract from the overall historic district's setting.

A stair leading down to the crater floor between Facilities 76 and 75 is a recent replacement of an earlier wooden stair. The earlier stair did not date from the historic period of the neighborhood. Therefore, this new stair is a non-contributing resource. It is not a detracting element, since it is not visible from most parts of the historic district.

INTEGRITY

Setting, Feeling, and Association

To a large degree, the Makalapa Navy Housing Historic District's overall setting, feeling and association retain the same degree of integrity during its period of significance. Minor changes to the district, in terms of the addition and subtraction of resources, growth of landscaping materials, and changes in circulation patterns have accord. However, non-have altered the district's integrity.

The maturity of the historic district's landscaping is the biggest difference between the neighborhood's original and present appearance, since only small trees were planted in 1941 (Figure 7-3), and the plants have attained their larger size over the subsequent seven decades. The surrounding area continues to serve as a major transportation artery between Joint Base Pearl Harbor Hickam, Pearl City, and Honolulu; with concentrated development of military and commercial services.

Changes to the neighborhood's buildings have been limited. Demolition of two large buildings—the Bachelor Officers' Quarters—changed the overall district somewhat, but their sites have been open grassy areas for more than fifty years. Other buildings dating from the World War II era that have since been demolished include the outdoor theater, concrete bomb shelters, and a number of Quonset huts. These facilities served as emergency responses to wartime needs, not contributing to the original plan for the neighborhood. Mess halls and transportation offices are now residences. However, original plans suggest they were intended to be residences, so their change in function aligns closely with the neighborhood's historic sense of feeling. As such, these changes do not seriously impair the district's integrity of setting, feeling, and association.

Within the district, there are two minor changes to the street layout. Betio Place became a cul-de-sac in 1948.¹³ Historic maps show that from 1941 through at least 1944 the south end of Midway Drive

¹² Map No. OA-N1-1672, Archives of NAVFAC Hawai'i, Joint Base Pearl Harbor-Hickam, Honolulu, Hawai'i.

¹³ Drawing No. OA-N1-1738, Archives of the Department of Public Works, Joint Base Pearl Harbor-Hickam, Honolulu, Hawai'i.

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intersected with Kamehameha Highway.¹⁴ By 1948, the south end of Midway Drive connected instead with the southern extension of Makalapa Drive, creating the road loop at the south end of the neighborhood, where a fence now exists at the intersection with Radford Drive. However, the overall curvilinear street layout remains intact. Beyond the district's boundaries, the roads had a very different layout before the 1970s construction of the H-1 Freeway and Radford Drive (Figure 7-6), but the insular quality of the neighborhood's design continues to protect it from highway noise and traffic and allows the district's integrity of setting, feeling, and association to remain intact.

The historical link between the district's influential residents and their administrative headquarters remains intact as well. From February 1941 (residents first moved in) until August 1942, the headquarters of the Commander in Chief of the Pacific Fleet (CINCPAC) were located at Facility 661 in the Submarine Base. Views from the district to the Submarine Base and Pearl Harbor's waters beyond remain unobstructed today, and circulation from the district to the Submarine Base remains easy via the Makalapa Gate. In 1942, the CINCPAC headquarters relocated to Facility 250, which is located immediately north of the district's boundaries. Views and circulation between the district and Facility 250 today remain similarly unobstructed. As a result, the neighborhood retains its integrity of association, continuing to communicate the function it served during its period of significance.

INTEGRITY OF LOCATION, DESIGN, MATERIALS, AND WORKMANSHIP

Extant buildings within the district retain their integrity of location, design, materials, and workmanship to a high degree. The buildings remain sited in their original locations. Alterations to the design, materials, and workmanship of the buildings vary, as discussed under each building type and further detailed in Table 1. The two most visible changes in the buildings' exteriors have been the wholesale replacement of the original roof shingles with asphalt shingles, and the enclosure of the lanai on most of the houses. All Type A through G houses have enclosed lanai. Besides the alteration of each front lanai by enclosure, the Types A through G houses have post-World War II additions. Types I through O had fewer alterations through the end of the twentieth century; before 2000, their changes focus on interior repairs, such as replacing stained canec ceiling panels with gypsum board panels and interior renovations, usually of kitchens and bathrooms. In the early years of the twenty-first century, 50 of the Types I, J, and K houses had extensive interior renovations; however, they still have a high level of integrity on the exterior. The Type M duplex lost a large portion of its original design and materials during a fire, but a subsequent rehabilitation project preserves the remaining historic fabric and the building retains its integrity. When Forest City LLC took over management of Navy housing, they agreed to undertake rehabilitation of the historic buildings following the Secretary of Interior's Standards. Changes to convert 18 of the duplexes (Types M, N, and O) into houses for larger families are complete, maintaining the character-defining features of the buildings wherever possible. As such, the condition of the buildings is good; deterioration and neglect do not threaten to affect the integrity of design, materials, or workmanship in the future.

¹⁴ Fourteenth Naval District, [Map of] Pearl Harbor, T.H., Makalapa Area, Oahu, T.H., Recreation Area and Officers' Quarters, Showing Conditions on June 30, 1941, #OA-NI-330, from National Archives II, College Park, Maryland, Cartographic Section, #RG 71, 1404-3-90, 1941; Navy Yard, [Map of] Pearl Harbor, T.H., Makalapa Crater Area, showing Conditions as of June 30, 1944, #OA-NI-1013, from National Archives and Records Administration, San Bruno, California, in RG 181, 14th Naval District, District Staff Headquarters, General Correspondence 1936-1944, Box 2, Folder A1-1, FF12, Shore HQ to CINCPAC, 1944.

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TABLE 1. LIST OF BUILDINGS AND STRUCTURES

Facility No.	Address or Location	Category	Plan Type	Additions/Alteration	Recent Renovations
26	3 Midway Drive	Contributing	J	Covered lanai	Note 2
27	5 Midway Drive	Contributing	J	Covered lanai	Note 2
28	7 Midway Drive	Contributing	J	Covered lanai	Note 2
29	9 Midway Drive	Contributing	J	Covered lanai	Note 2
30	11 Midway Drive	Contributing	J	Covered lanai	Note 2
31	13 Midway Drive	Contributing	I	Added storage space in carport	Note 2
32	4796 & 4798 Kamakani Place	Contributing	M	Converted into single-family house in 2009	Note 1
33	4792 Kamakani Place	Contributing	N	Converted into single-family house	Note 1
34	4786 Kamakani Place	Contributing	N	Converted into single-family house	Note 1
35	4778 Kamakani Place	Contributing	M	Converted into single-family house in 2009	Note 1
36	4774 Kamakani Place	Contributing	O	Converted into single-family house	Notes 1 & 3
37	4773 Kamakani Place	Contributing	O	Converted into single-family house	Notes 1 & 3
38	4777 Kamakani Place	Contributing	M	Converted into single-family house in 2009	Note 1
39	4785 Kamakani Place	Contributing	N	Converted into single-family house	Note 1
40	4791 Kamakani Place	Contributing	N	Converted into single-family houses	Note 1
41	4797 Kamakani Place	Contributing	M	Converted into single-family house in 2009	Note 1
42	3 Makalapa Drive	Contributing	N	Converted into single-family house	Note 1
43	5 Makalapa Drive	Contributing	N	Converted into single-family house	Note 1
44	7 Makalapa Drive	Contributing	N	Converted into single-family house	Notes 1 & 2
45	9 Makalapa Drive	Contributing	L		Note 1
46	11 Makalapa Drive	Contributing	M	Converted into single-family house in 2009	Note 1
47	13 Makalapa Drive	Contributing	M	Converted into single-family house in 2009	Note 1
48	15 Makalapa Drive	Contributing	M	Converted into single-family house in 2009	Note 1

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Facility No.	Address or Location	Category	Plan Type	Additions/Alteration	Recent Renovations
49	4811 Samoa Place	Contributing	M	Converted into single-family house in 2009	Note 1
50	4819 Samoa Place	Contributing	M	Converted into single-family house in 2009	Note 1
51	4825 Samoa Place	Contributing	M	Converted into single-family house in 2009	Note 1
52	2 Midway Drive	Contributing	J	Covered lanai	Note 2
53	4 Midway Drive	Contributing	I		Note 2
54	6 Midway Drive	Contributing	J	Covered lanai	Note 2
55	3 Makin Place	Contributing	I	Added storage space in garage	Note 2
56	1 Makin Place	Contributing	K	Attached carport; covered lanai	Note 2
57	2 Makin Place	Contributing	K	Covered lanai	Note 2
58	4 Makin Place	Contributing	J	Covered lanai	Note 2
59	10 Midway Drive	Contributing	J	Covered lanai	Note 2
60	12 Midway Drive	Contributing	J	Added enclosed storage in garage; covered lanai	Note 2
61	14 Makalapa Drive	Contributing	J	Attached carport; covered lanai	Note 2
62	18 Makalapa Drive	Contributing	J	Added enclosed storage in garage; covered lanai	Note 2
63	20 Makalapa Drive	Contributing	J	Covered lanai	Note 2
64	22 Makalapa Drive	Contributing	J	Covered lanai	Note 2
65	24 Makalapa Drive	Contributing	J	Stair hall converted to bedrooms; covered lanai	Note 2
66	26 Makalapa Drive	Contributing	J	Covered lanai	Note 2
67	17 Makalapa Drive	Contributing	J	Attached carport	Note 1
68	19 Makalapa Drive	Contributing	I		Note 1
69	21 Makalapa Drive	Contributing	J	Covered lanai	Note 2
70	23 Makalapa Drive	Contributing	B	Added covered lanai; additional first-floor bedroom wing, extended rear with living room and library.	Note 1
71	25 Makalapa Drive	Contributing	C	Covered lanai	Note 1
72	27 Makalapa Drive	Contributing	C	Covered lanai	Note 1

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Facility No.	Address or Location	Category	Plan Type	Additions/Alteration	Recent Renovations
73	29 Makalapa Drive	Contributing	D	Dining room added to rear, enlarged enclosed front terrace room, enclosed rear <i>lanai</i> off the utility area.	Note 1
74	31 Makalapa Drive	Contributing	C	Covered <i>lanai</i>	Note 2
75	33 Makalapa Drive	Contributing	C	Covered <i>lanai</i>	Note 2
76	35 Makalapa Drive	Contributing	C	Covered <i>lanai</i>	Note 1
77	37 Makalapa Drive	Contributing	A	Commander-in-Chief's residence. Increase in square footage with additional program spaces including steward's and utility rooms, dining room, front and back <i>lanai</i> , second floor deck off the study, the second-floor master bedroom over the living room. Kitchen and living room altered due to second floor alterations.	Note 1
78	39 Makalapa Drive	Contributing	C	Covered <i>lanai</i>	Note 1
79	41 Makalapa Drive	Contributing	F	Single-story designed as a residence, but used as a junior bachelor officers' mess hall between 1942-1946.	Note 1
80	43 Makalapa Drive	Contributing	G	Single-story designed as a residence, but used as a junior bachelor officers' mess hall between 1942-1946.	Note 2
82	38 Makalapa Drive	Contributing	C	Covered <i>lanai</i>	Note 1
83	36 Makalapa Drive	Contributing	C	Covered <i>lanai</i>	Note 1
84	34 Makalapa Drive	Contributing	C	Covered <i>lanai</i>	Note 1
85	32 Makalapa Drive	Contributing	C	Covered <i>lanai</i>	Note 1
86	30 Makalapa Drive	Contributing	C	Covered <i>lanai</i>	Note 1
87	28 Makalapa Drive	Contributing	C	Covered <i>lanai</i>	Note 1

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Facility No.	Address or Location	Category	Plan Type	Additions/Alteration	Recent Renovations
88	27 Hālawa Drive	Contributing	I		Note 2
89	29 Hālawa Drive	Contributing	K	Covered lanai	Note 2
90	31 Hālawa Drive	Contributing	I		Note 2
91	33 Hālawa Drive	Contributing	K	Covered lanai	Note 2
92	35 Hālawa Drive	Contributing	I		Note 2
93	37 Hālawa Drive	Contributing	C	Covered lanai	Note 1
94	39 Hālawa Drive	Contributing	I		Note 2
95	41 Hālawa Drive	Contributing	K	Covered lanai	Note 2
96	43 Hālawa Drive	Contributing	I		Note 2
97	45 Hālawa Drive	Contributing	K	Covered lanai	Note 2
98	47 Hālawa Drive	Contributing	I		Note 2
99	49 Hālawa Drive	Contributing	K	Covered lanai	Note 2
100	51 Hālawa Drive	Contributing	I		Note 2
101	53 Hālawa Drive	Contributing	K	Covered lanai	Note 2
102	55 Hālawa Drive	Contributing	I		Note 2
103	57 Hālawa Drive	Contributing	I		Note 2
104	52 Hālawa Drive	Contributing	I	Covered lanai	Note 2
105	50 Hālawa Drive	Contributing	K	Covered lanai	Note 2
106	48 Hālawa Drive	Contributing	I	Covered lanai	Note 2
107	46 Hālawa Drive	Contributing	K	Covered lanai	Note 2
108	44 Hālawa Drive	Contributing	I	Covered lanai	Note 2
109	51 Betio Place	Contributing	K	Covered lanai	Note 2
110	49 Betio Place	Contributing	I	Covered lanai	Note 2
111	47 Betio Place	Contributing	K	Covered lanai	Note 2
112	42 Hālawa Drive	Contributing	J	Stair hall converted to bedrooms; covered lanai	Note 2
113	40 Hālawa Drive	Contributing	J	Covered lanai	Note 2
114	38 Hālawa Drive	Contributing	J	Stair hall converted to bedrooms; covered lanai	Note 2
115	36 Hālawa Drive	Contributing	J	Covered lanai	Note 2
116	34 Hālawa Drive	Contributing	J	Stair hall converted to bedrooms; covered lanai	Note 2
117	Makalapa Drive, at intersection with Hālawa Drive	Contributing	Pool Dressing Rooms Building		Unknown

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Facility No.	Address or Location	Category	Plan Type	Additions/Alteration	Recent Renovations
118	Makalapa Drive, at intersection with Hālawa Drive	Contributing	Pump Building		
201	Adjacent to 2 & 4 Midway Drive	Contributing	4-car		Note a
202	Adjacent to 4796 & 4798 Kamakani Place	Contributing	2-car		Note a
203	Adjacent to 4792 Kamakani Place	Contributing	2-car		Note a
204	Adjacent to 4786 Kamakani Place	Contributing	2-car		Note a
205	Adjacent to 4778 Kamakani Place	Contributing	2-car		Note a
206	Adjacent to 4774 Kamakani Place	Contributing	2-car (now 3-car)	Added covered parking space; 3-car carport	Note a
207	Adjacent to 4773 Kamakani Place	Contributing	2-car		Note a
208	Adjacent to 4777 Kamakani Place	Contributing	2-car		Note a
209	Adjacent to 4785 Kamakani Place	Contributing	2-car		Note a
210	Adjacent to 4791 Kamakani Place	Contributing	2-car		Note a
211	Adjacent to 4797 Kamakani Place	Contributing	2-car		Note a
212	Adjacent to 3 Makalapa Drive	Contributing	2-car		Note a
213	Adjacent to 5 Makalapa Drive	Contributing	2-car		Note a
214	Adjacent to 7 Makalapa Drive	Contributing	2-car		Note a
215	Adjacent to 9 Makalapa Drive	Contributing	2-car		Note a
216	Adjacent to 11 Makalapa Drive	Contributing	2-car		Note a
217	Adjacent to 13 Makalapa Drive	Contributing	2-car		Note a
218	Adjacent to 15 Makalapa Drive	Contributing	2-car		Note a
219	Adjacent to 4819 Samoa Place	Contributing	2-car		Note a

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Facility No.	Address or Location	Category	Plan Type	Additions/Alteration	Recent Renovations
220	Adjacent to 4825 Samoa Place	Contributing	2-car		Note a
221	Across street from 4811 Samoa Place	Contributing	2-car		Note a
222	Adjacent to 2 & 4 Makin Place	Contributing	4-car		Note a
223	Adjacent to 20 & 22 Makalapa Drive	Contributing	2-car		Note b
224	Adjacent to 24 & 26 Makalapa Drive	Contributing	2-car		Note a
225	Adjacent to 19 & 21 Makalapa Drive	Contributing	4-car		Note a
226	Adjacent to 23 & 25 Makalapa Drive	Contributing	4-car		Note a
227	Adjacent to 27 & 29 Makalapa Drive	Contributing	4-car		Note a
228	Adjacent to 31 & 33 Makalapa Drive	Contributing	4-car		Note a
229	Between 37 & 35 Makalapa Drive (Facilities 76 & 77)	Non-contributing	Garage		ca. 1990
230	Adjacent to 39 & 41 Makalapa Drive	Contributing	4-car		Note a
231	Adjacent to 36 & 38 Makalapa Drive	Contributing	4-car		Note a
232	Adjacent to 32 & 34 Makalapa Drive	Contributing	4-car		Note a
233	Adjacent to 28 & 30 Makalapa Drive	Contributing	4-car		Note a
234	Adjacent to 27 & 29 Hālawa Drive	Contributing	2-car		Note a
235	Adjacent to 31 & 33 Hālawa Drive	Contributing	2-car		Note a
236	Adjacent to 35 Hālawa Drive	Contributing	2-car without central storage		Note a
237	Adjacent to 93 Hālawa Drive	Contributing	2-car without central storage		Note a

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Facility No.	Address or Location	Category	Plan Type	Additions/Alterations	Recent Renovations
238	Adjacent to 39 & 41 Hālawa Drive	Contributing	2-car		Note a
239	Adjacent to 43 & 45 Hālawa Drive	Contributing	2-car		Note a
240	Adjacent to 47 & 49 Hālawa Drive	Contributing	2-car		Note a
241	Adjacent to 51 & 53 Hālawa Drive	Contributing	2-car		Note a
242	Adjacent to 50 & 52 Hālawa Drive	Contributing	2-car		Note a
243	Adjacent to 46 & 48 Hālawa Drive	Contributing	2-car		Note a
245	Adjacent to 111 Betio Place	Contributing	2-car		Note a
246	Adjacent to 42 Hālawa Drive (carport on Betio Place)	Contributing	1-car with storage area		Note a
247	Adjacent to 38 & 40 Hālawa Drive	Contributing	2-car		Note a
248	Adjacent to 34 & 36 Hālawa Drive	Contributing	2-car		Note a
264	Adjacent to 55 & 57 Hālawa Drive	Contributing	2-car		Note a
265	Adjacent to 49 & 51 Betio Place	Contributing	2-car		Note a
S-120	Makalapa Drive, north of Facility 82	Contributing	Tennis courts	Repaved	Repaved after 1995
S-122 & no #	Makalapa Drive, north of Facility 82	Contributing	Practice court	Repaved	
S-124	Makalapa Drive, at intersection with Hālawa Drive	Contributing	Pool	Repaved	Unknown
S-126	Between 11 Midway Drive (Facility 30) and 4792 Kamakani Place (Facility 33)	Non-contributing	Basketball Court		date unknown
S-127	Across from 3 & 5 Makalapa Drive (Facilities 42 & 43)	Non-contributing	Former Volleyball Court		after 1995

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Facility No.	Address or Location	Category	Plan Type	Additions/Alteration	Recent Renovations
S-331	Near Kamehameha Highway & Radford Drive intersection	Contributing	Telephone Cable Vault		entry fenced (date unknown)
N/A	Stairway from Makalapa Crater floor to rim	Non-contributing	Stair		after 1995
N/A	Plant materials throughout district	Contributing	Landscaping of neighborhood		Unknown
N/A	Across Hālawā Drive from Facility 91 and on dirt road adjacent to Facility 42	Contributing	Former Air Raid Shelters (sections only)		None
N/A	Fronting 21 to 37 Makalapa Drive (Facilities 69-77), and 2 Makin Place (Facility 57)	Contributing	Rock retaining walls		None

Notes for Recent Renovations Column

- Note 1: Facility rehabilitated between 2007 and 2010 by Forest City LLC, following the SOI Standards.
- Note 2: Facility remodeled ca. 2001 by the Navy, exterior rehabilitation followed SOI Standards.
- Note 3: The rehabilitation of the two Type O houses (former duplexes), including planning for making them accessible with simple modifications, when needed in the future.
- Note a: Work on carports limited to minor repairs and painting, except for reconstruction of Facility 223.
- Note b: This carport reconstructed ca. 2010 by Forest City LLC, following SOI Standards.

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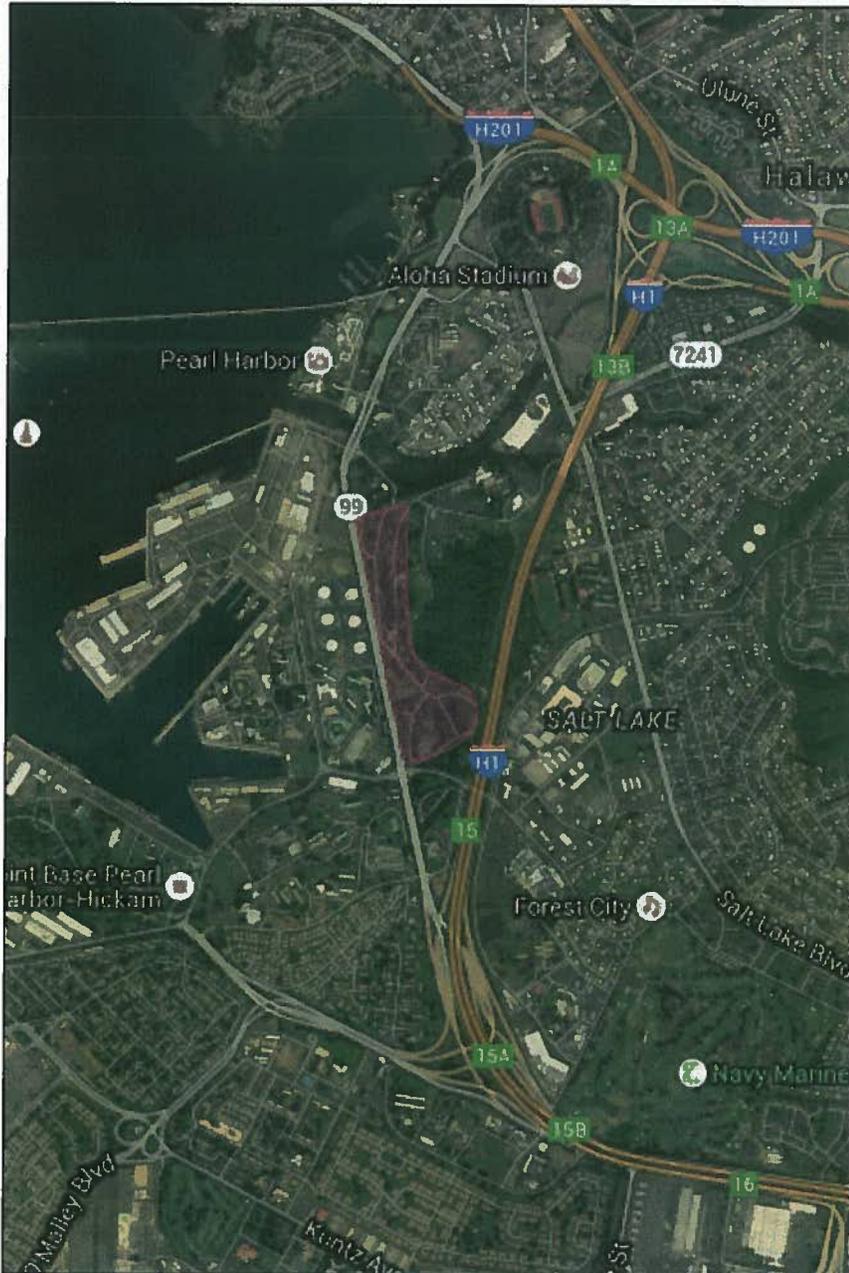


Figure 7-1. Makalapa Navy Housing Historic District,. Map data © Google, Imagery Digital Globe, Landsat, U.S. Geological Survey, USGS

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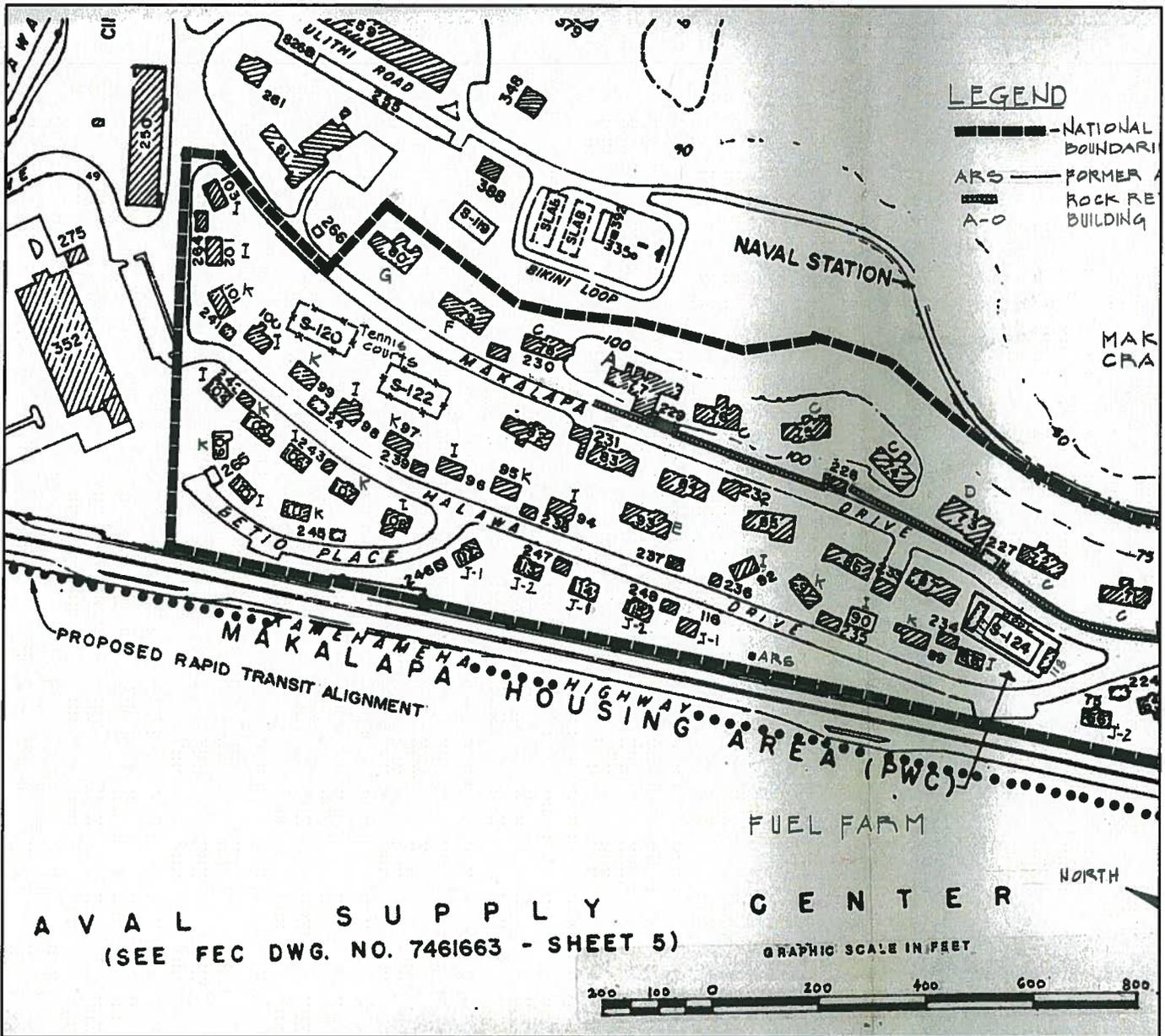


Figure 7-2a. Map of Makalapa neighborhood, northern section, showing plan types corresponding to each housing unit. Source: Mason Architects, Honolulu, Hawai'i.

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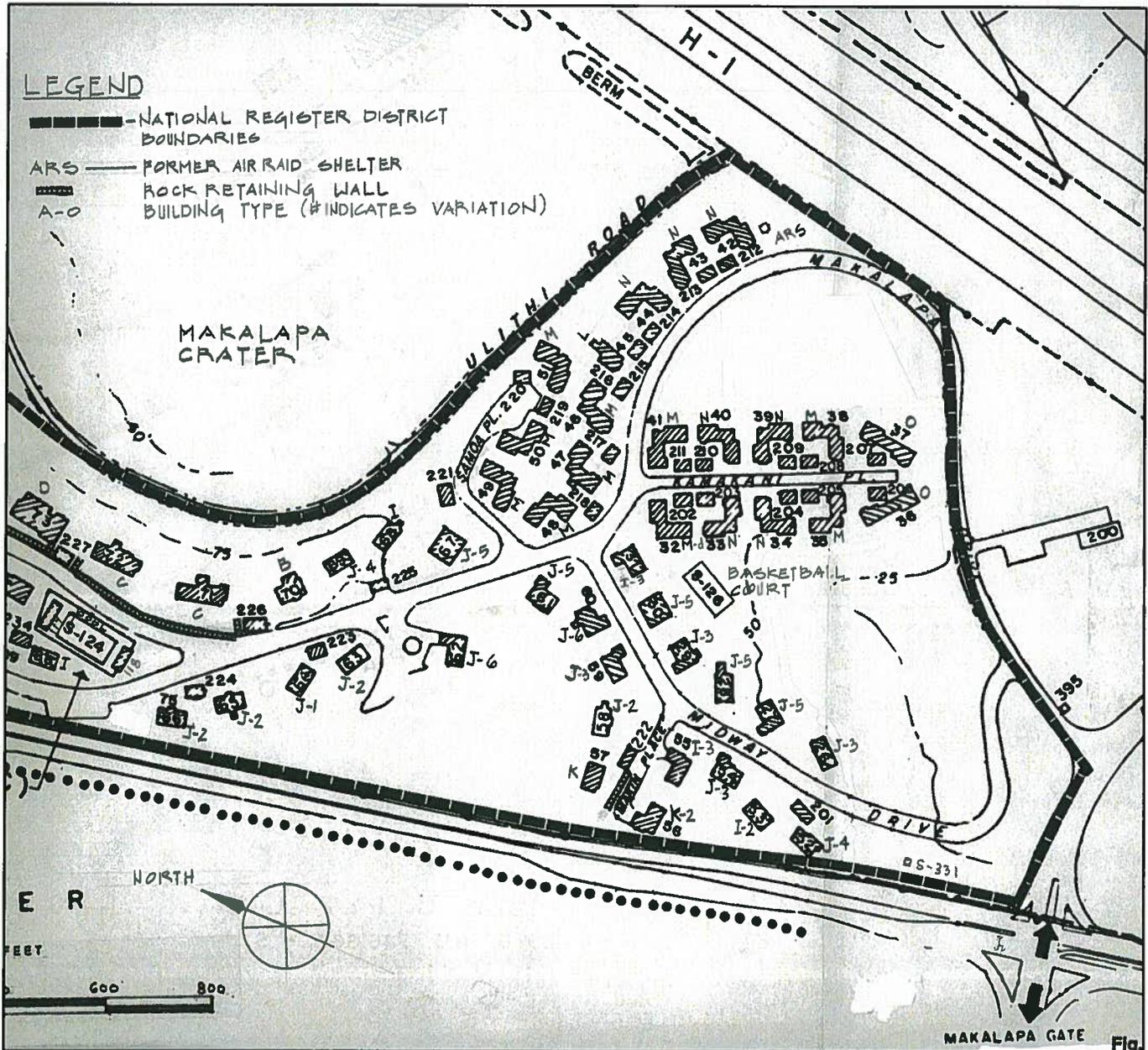


Figure 7-2b. Map of Makalapa neighborhood, southern section, showing plan types corresponding to each housing unit. Source: Mason Architects, Honolulu, Hawai'i.

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Figure 7-3. Aerial photograph, ca. 1945, photographer unknown. Source: Archives of NAVFAC Hawai'i, Joint Base Pearl Harbor-Hickam, Honolulu, Hawai'i.

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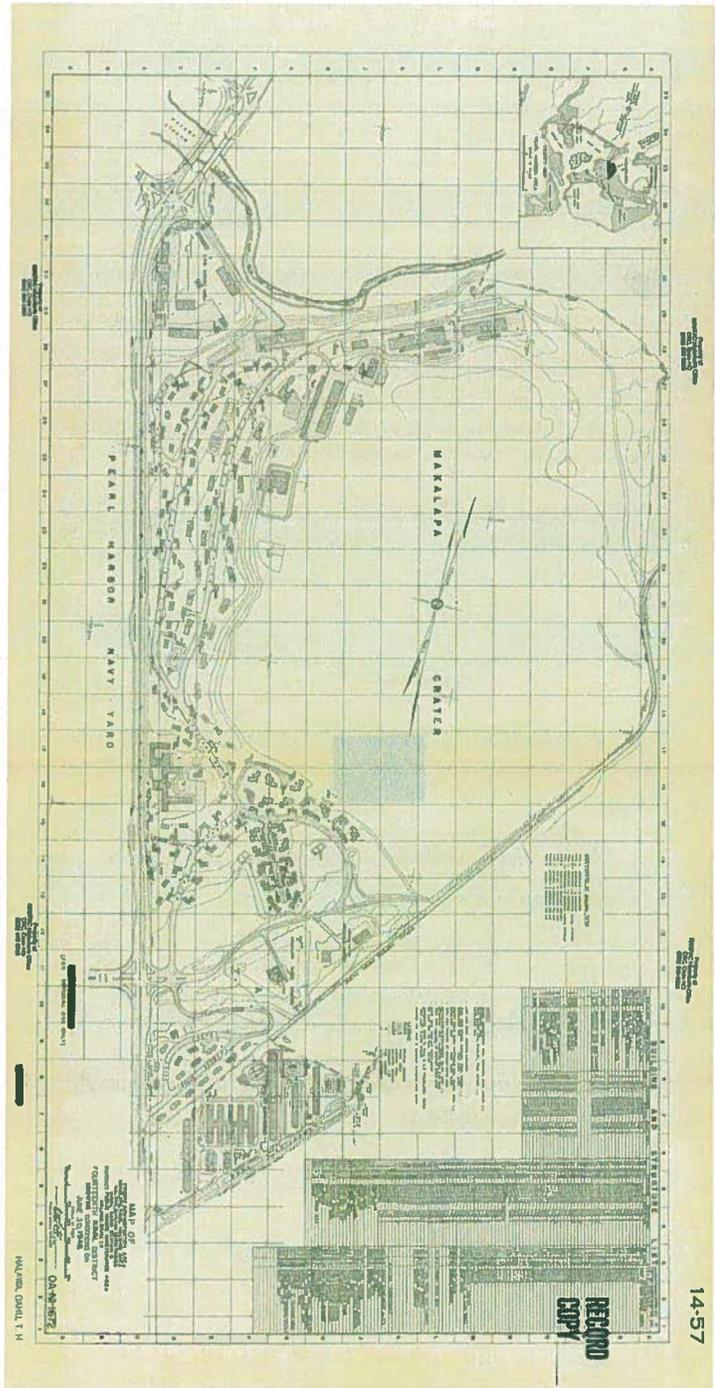


Figure 7-4a. US Navy General Development Map of the Makalapa area of Pearl Harbor, Map No. OA-NI-1672, western section. Source: Archives of NAVFAC Hawai'i, Joint Base Pearl Harbor-Hickam, Honolulu, Hawai'i.

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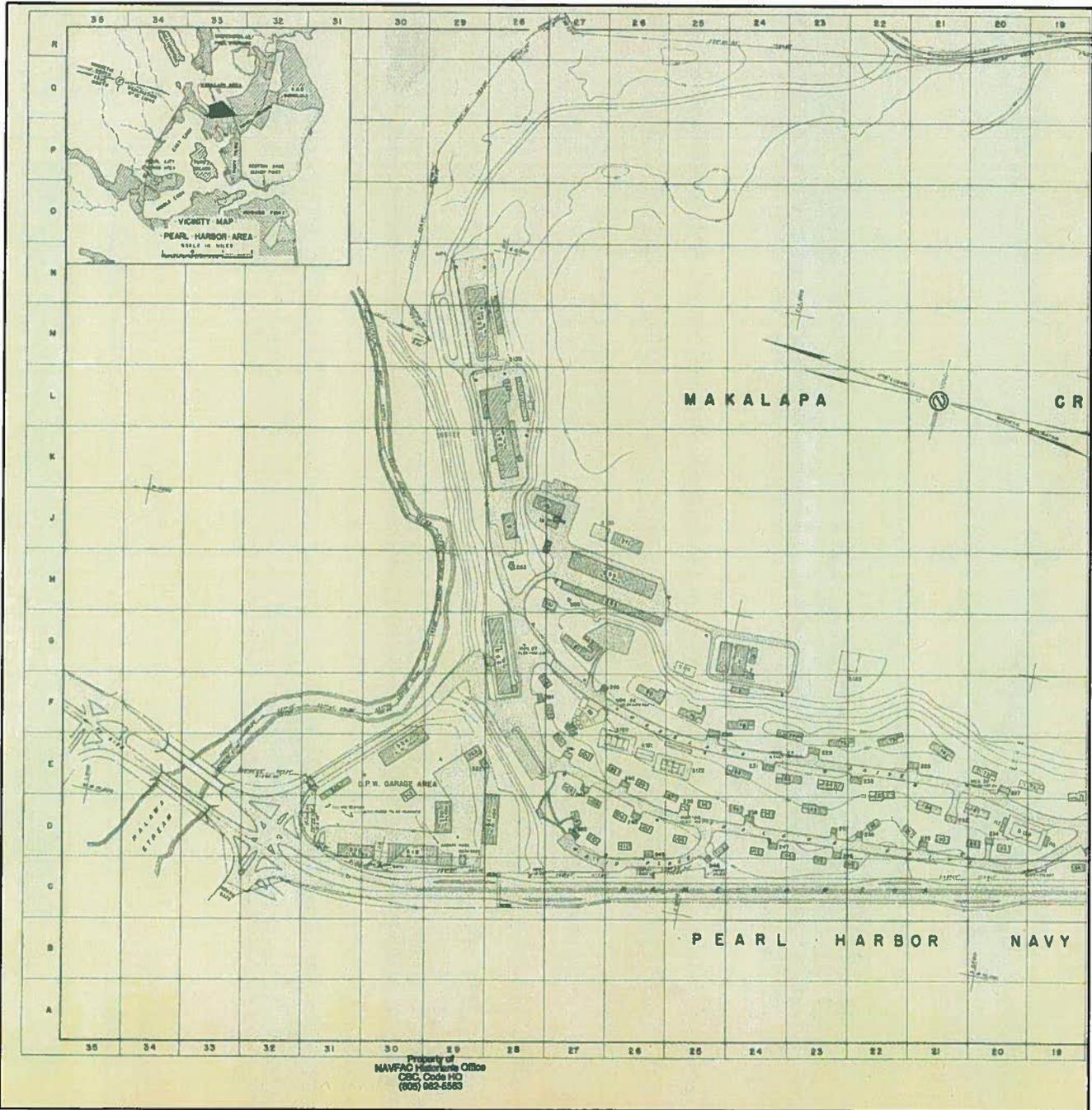


Figure 7-4b. US Navy General Development Map of the Makalapa area of Pearl Harbor, Map No. OA-NI-1672, western section. Source: Archives of NAVFAC Hawai'i, Joint Base Pearl Harbor-Hickam, Honolulu, Hawai'i.

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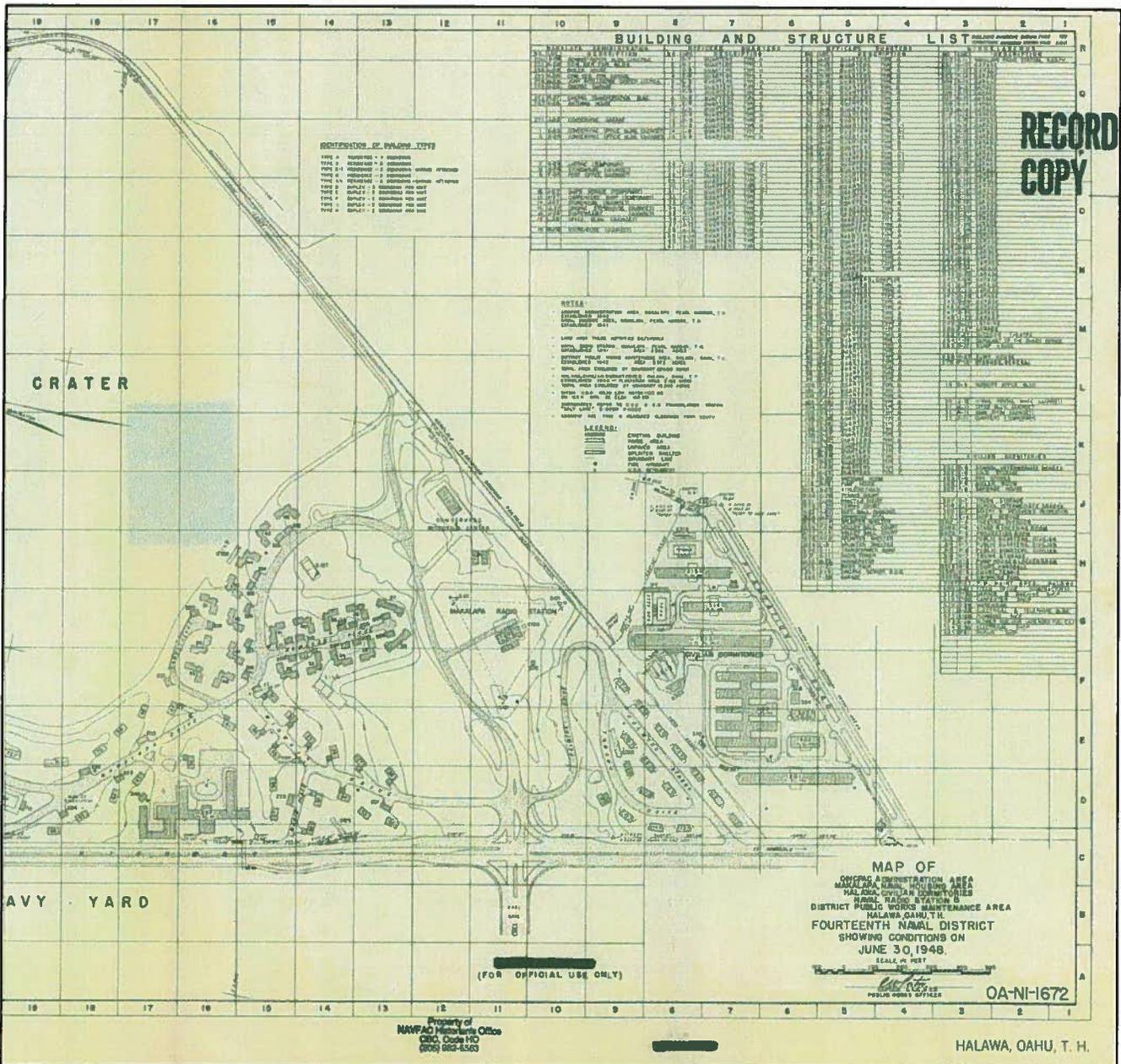


Figure 7-4c. US Navy General Development Map of the Makalapa area of Pearl Harbor, Map No. OA-NI-1672, eastern section. Source: Archives of NAVFAC Hawai'i, Joint Base Pearl Harbor-Hickam, Honolulu, Hawai'i.

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Figure 7-5. Photograph showing the Makalapa Gate Intersection under construction, ca. 1944, with fuel tanks along Kamehameha Highway in view, and the east entry gate to Pearl Harbor on the left. Source: Archives of NAVFAC Hawai'i, Joint Base Pearl Harbor-Hickam, Honolulu, Hawai'i.

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Figure 7-6. Photograph of the Makalapa Gate intersection, with hand-drawn overlay showing the future Radford Drive extension. Source: Archives of NAVFAC Hawai'i, Joint Base Pearl Harbor-Hickam, Honolulu, Hawai'i.

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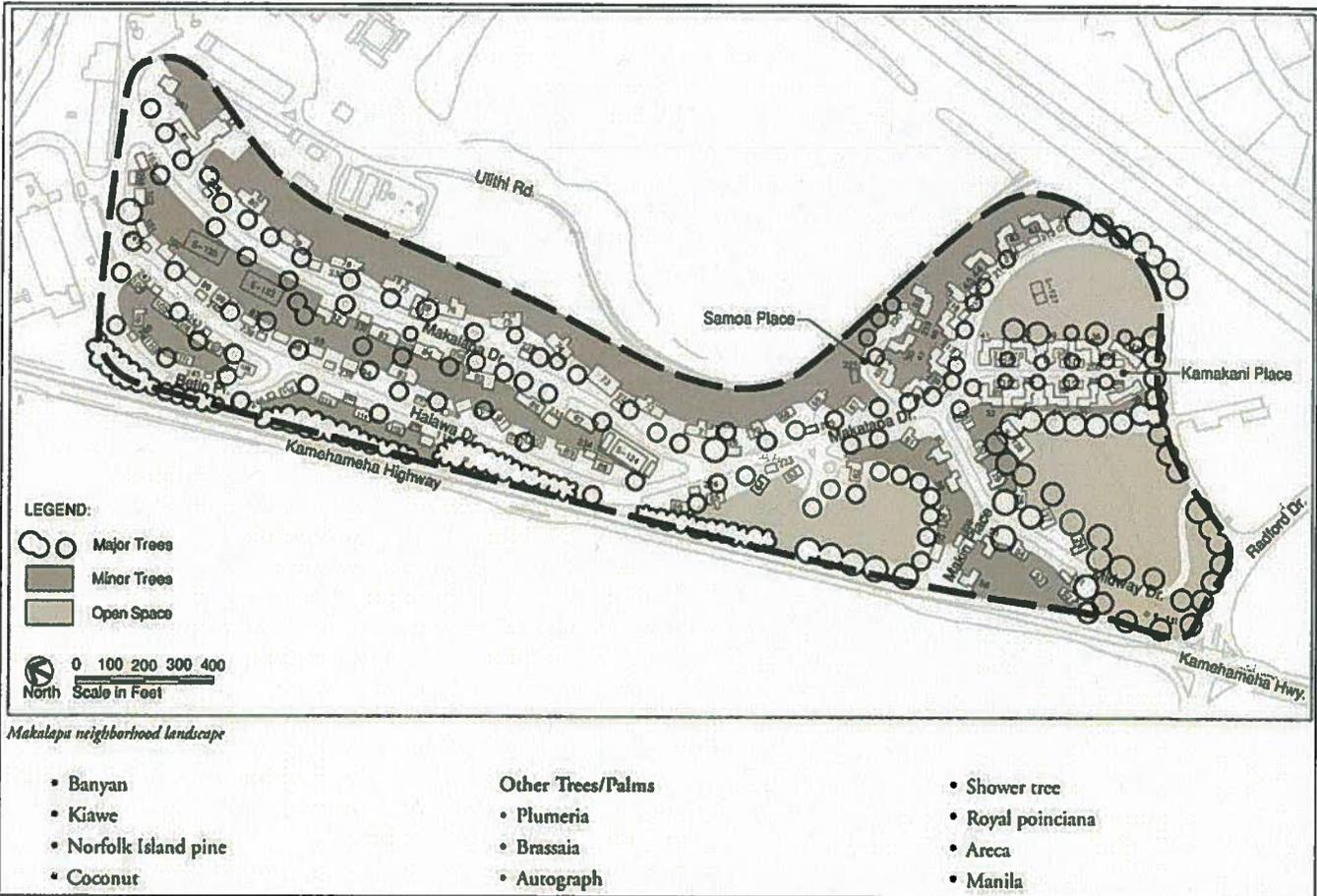


Figure 7-7. Planting map of Makalapa area. Source: Mason Architects and Belt Collins Hawaii, *Historic Context Study of Historic Military Family Housing in Hawaii*, 5-102.

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Figure 7-8. Streetscape photograph showing view down Hālawa Drive from pool parking lot, with Facilities 88 and 89 (Junior Officers' Single-Family Quarters, Plan Types I and K, respectively), June 2000, by David Franzen Photography. Source: Mason Architects, *Historic Context Study of Military Housing in Hawaii*, 5-95.

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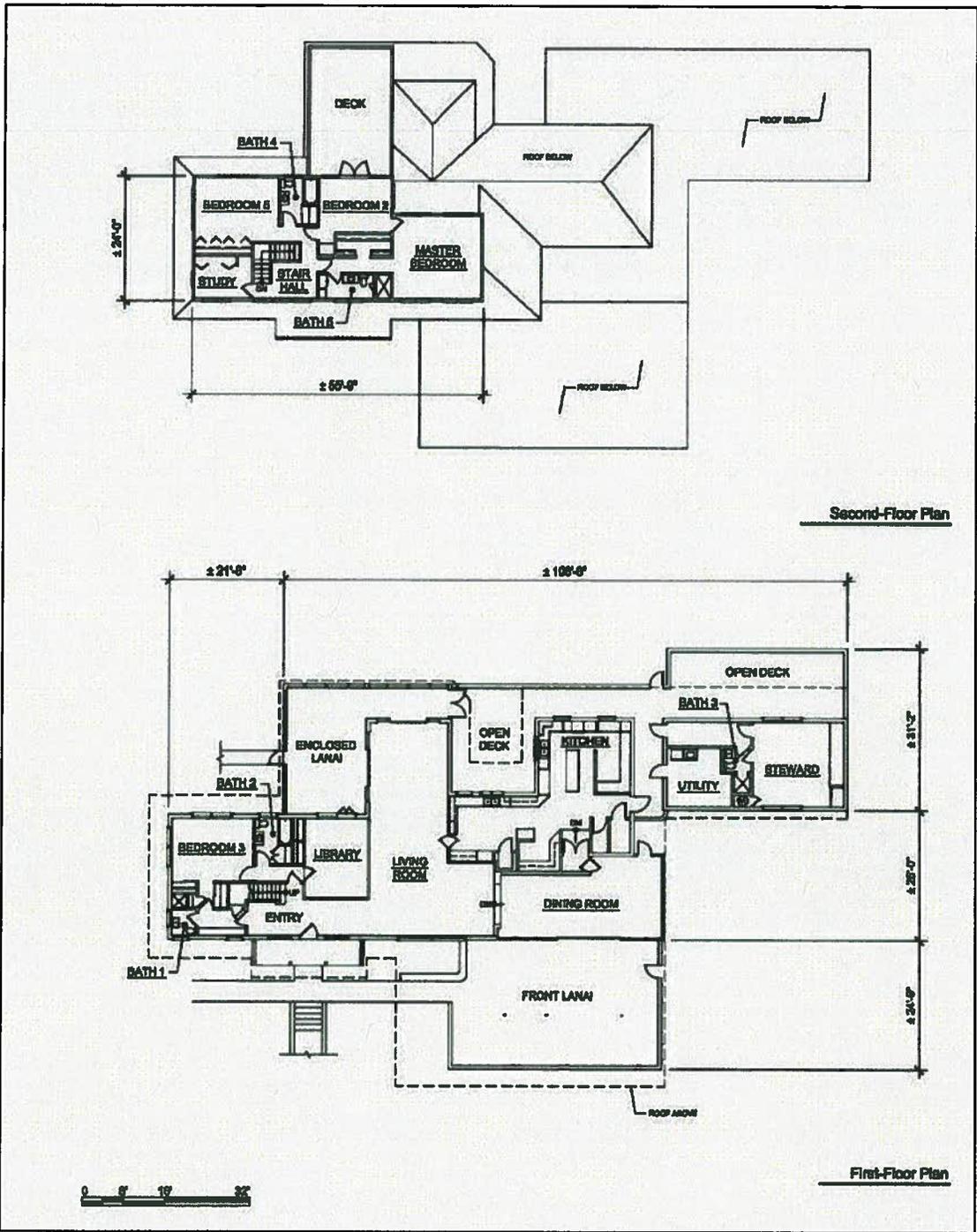


Figure 7-9. Type A floor plans. Source: Mason Architects, Honolulu, Hawai'i, ca. 2013; based on as-built drawings from the archives of NAVFAC Hawai'i, Joint Base Pearl Harbor-Hickam, Honolulu, Hawai'i.

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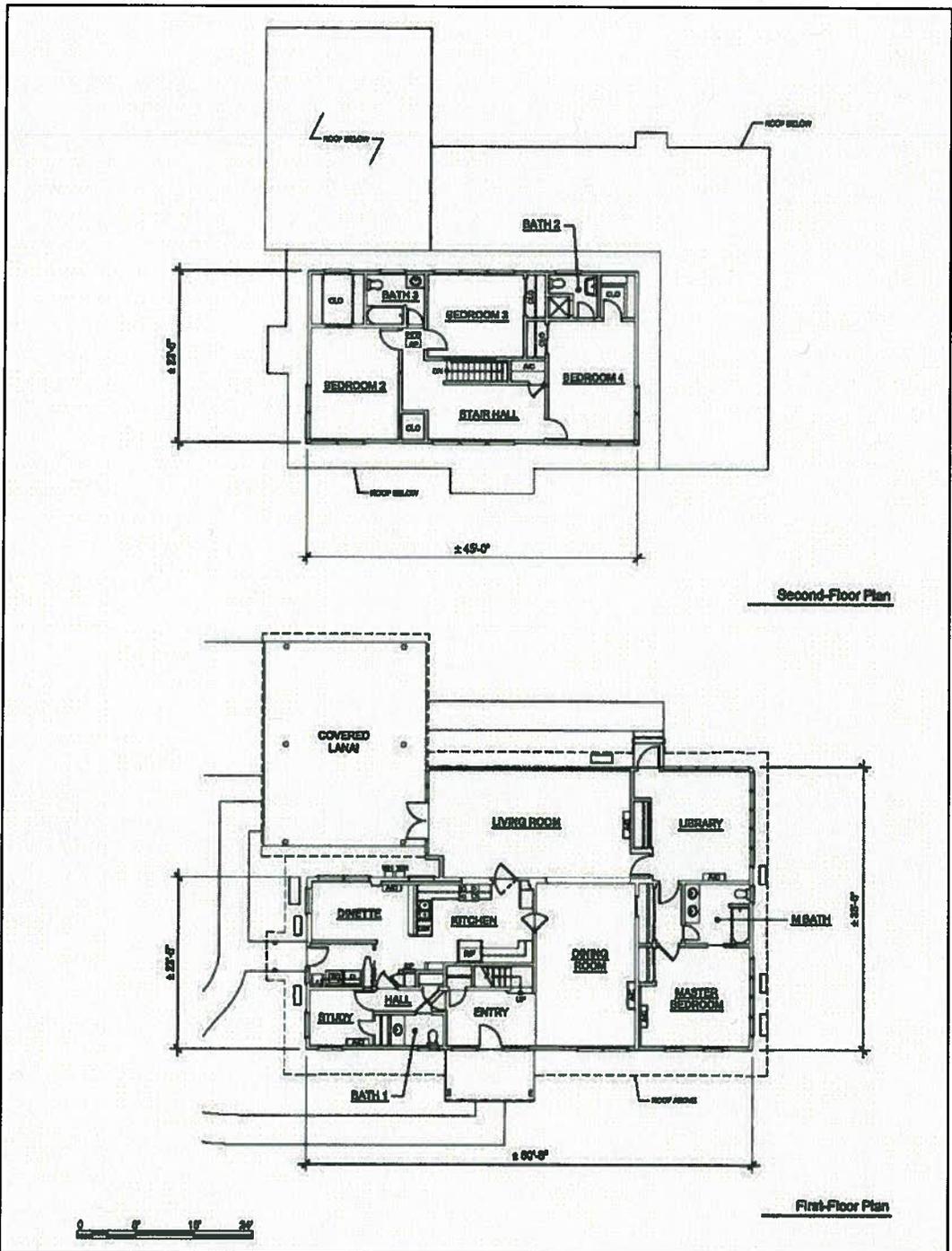


Figure 7-10. Type B floor plans. Source: Mason Architects, Honolulu, Hawai'i, ca. 2013. Based on as-built drawings from the archives of NAVFAC Hawai'i, Joint Base Pearl Harbor-Hickam, Honolulu, Hawai'i..

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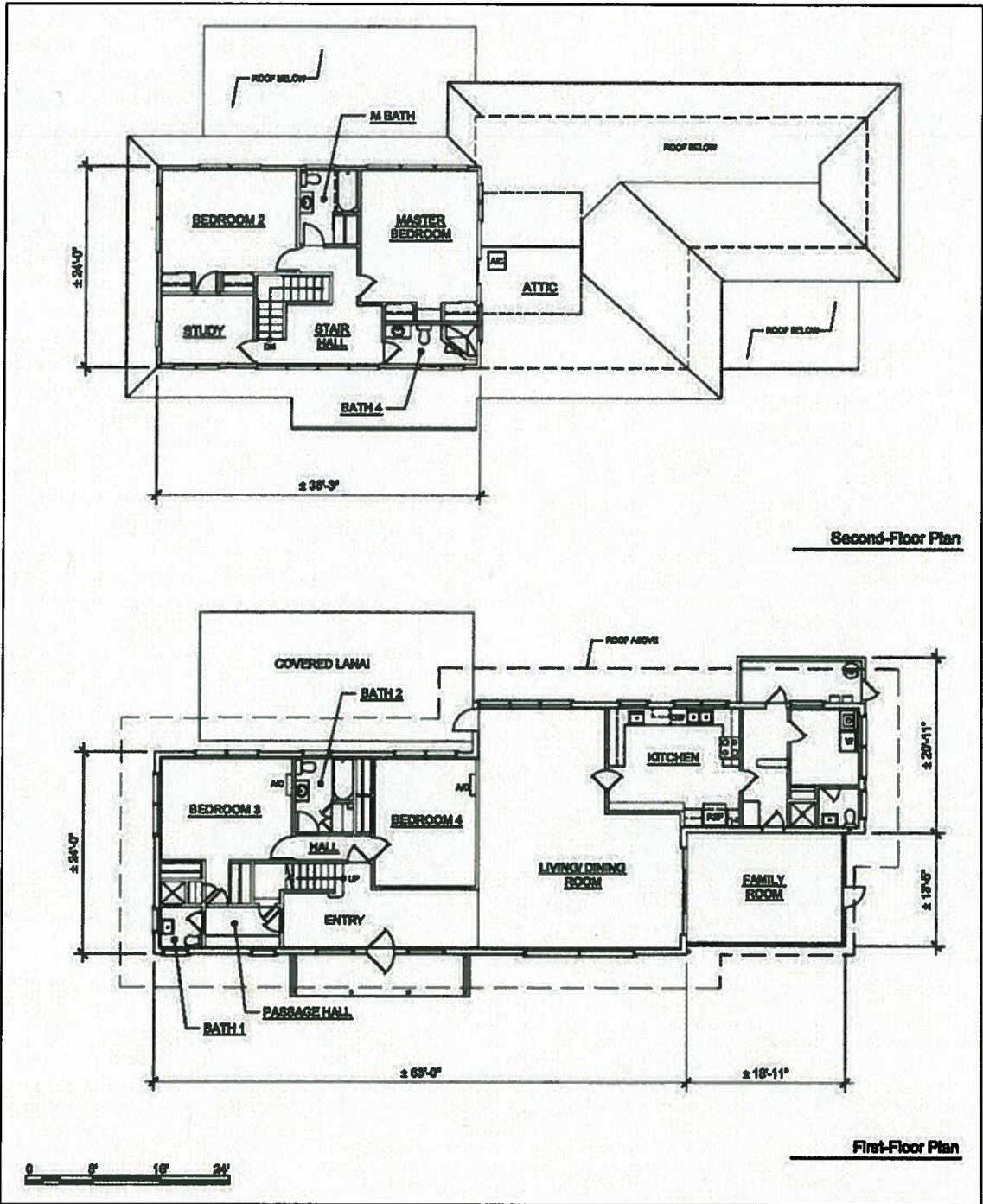


Figure 7-11. Type C floor plans. Source: Mason Architects, Honolulu, Hawai'i, ca. 2013. Based on as-built drawings from the archives of NAVFAC Hawai'i, Joint Base Pearl Harbor-Hickam, Honolulu, Hawai'i.

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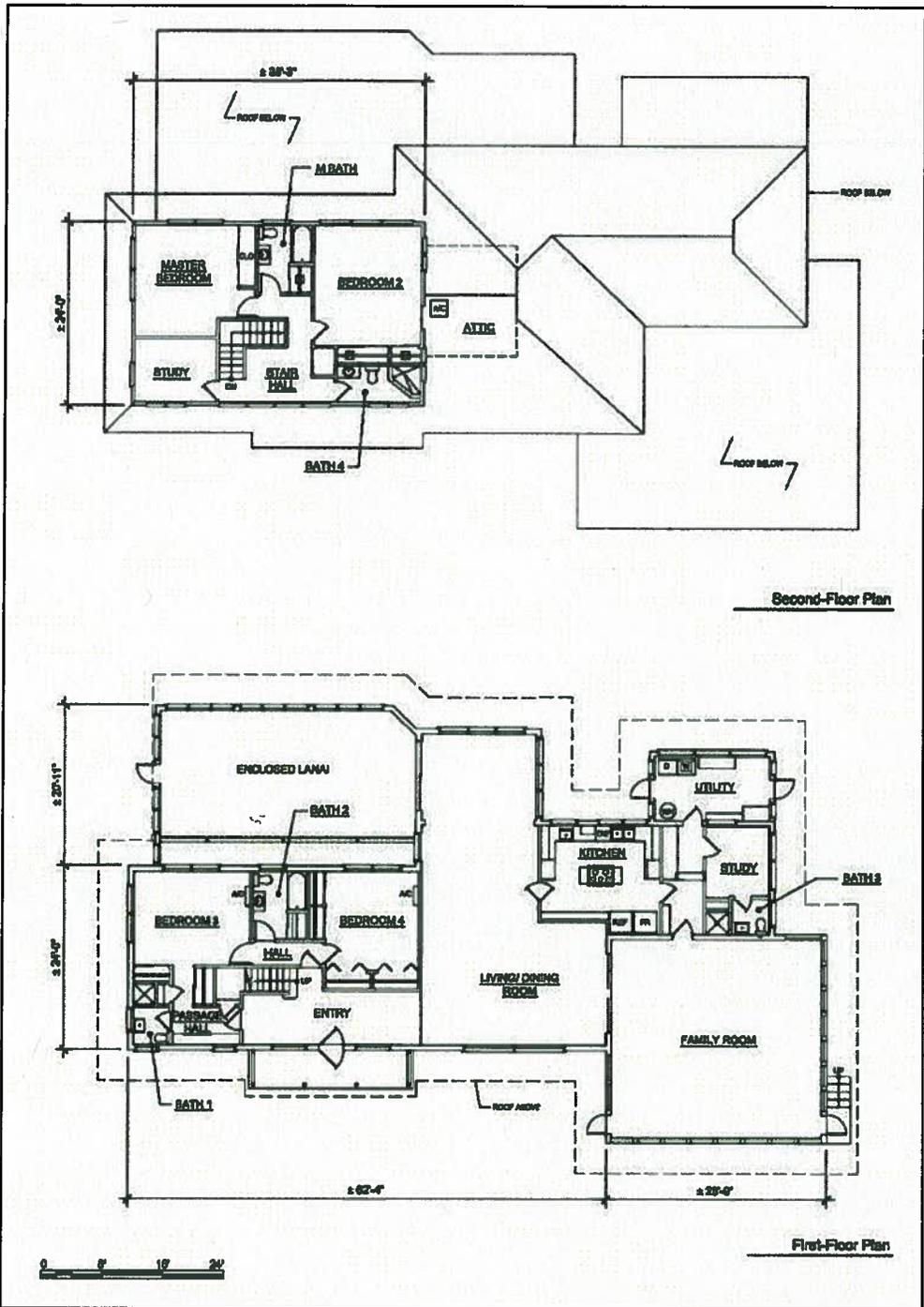


Figure 7-12. Type D floor plans. Source: Mason Architects, Honolulu, Hawai'i, ca. 2013. Based on as-built drawings from the archives of NAVFAC Hawai'i, Joint Base Pearl Harbor-Hickam, Honolulu, Hawai'i.

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Fig. 7-13. Photograph of typical nautical-influenced light fixture, at entry to Facility 97. Source: Mason Architects, *Historic Context Study of Military Housing in Hawaii*, 5-106.

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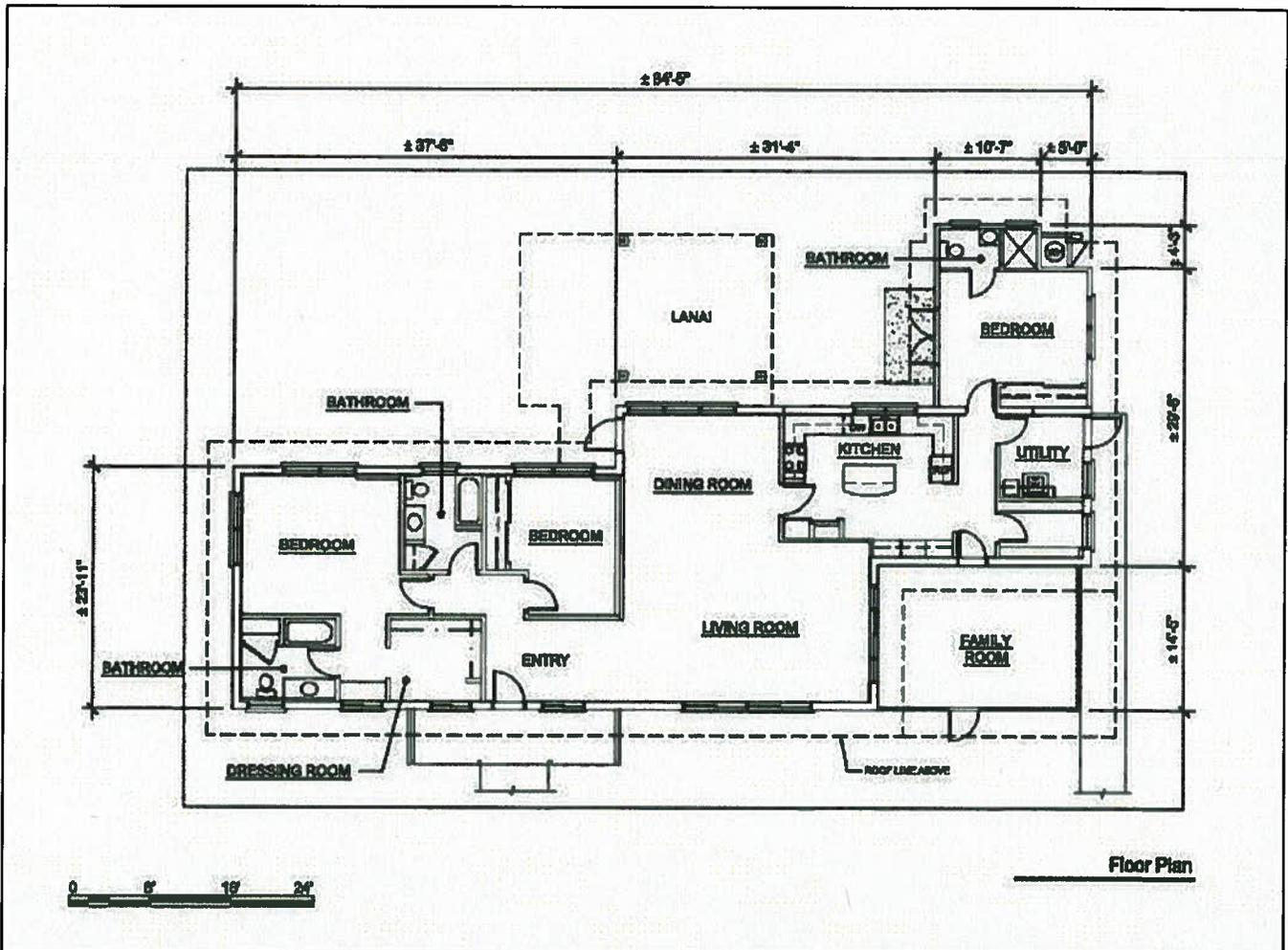


Figure 7-14. Type G floor plan (Type F similar). Source: Mason Architects, Honolulu, Hawai'i, ca. 2013. Based on as-built drawings from the archives of NAVFAC Hawai'i, Joint Base Pearl Harbor-Hickam, Honolulu, Hawai'i.

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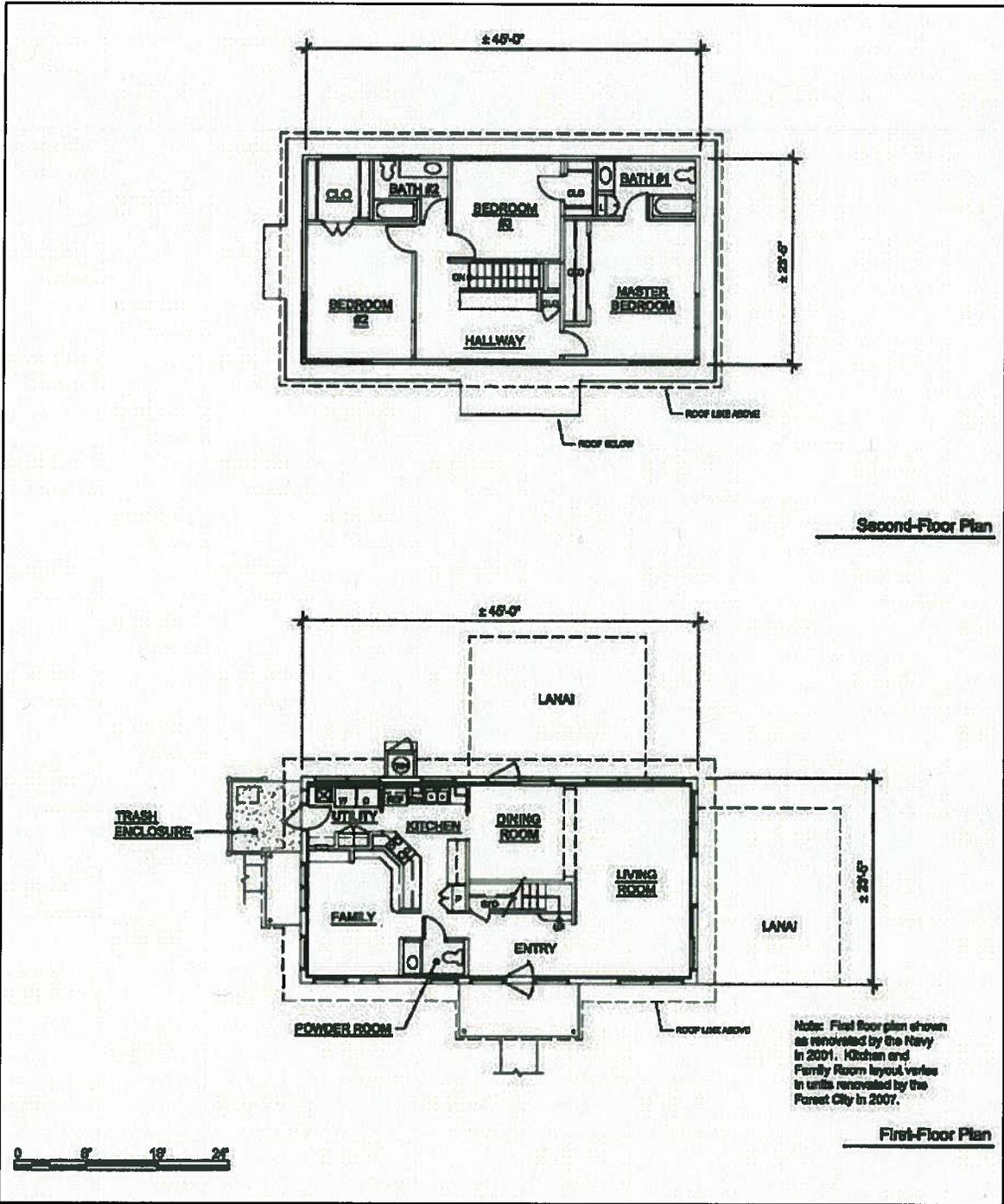


Figure 7-15. Type I floor plans. Source: Mason Architects, Honolulu, Hawai'i, ca. 2013. Based on as-built drawings from the archives of NAVFAC Hawai'i, Joint Base Pearl Harbor-Hickam, Honolulu, Hawai'i.

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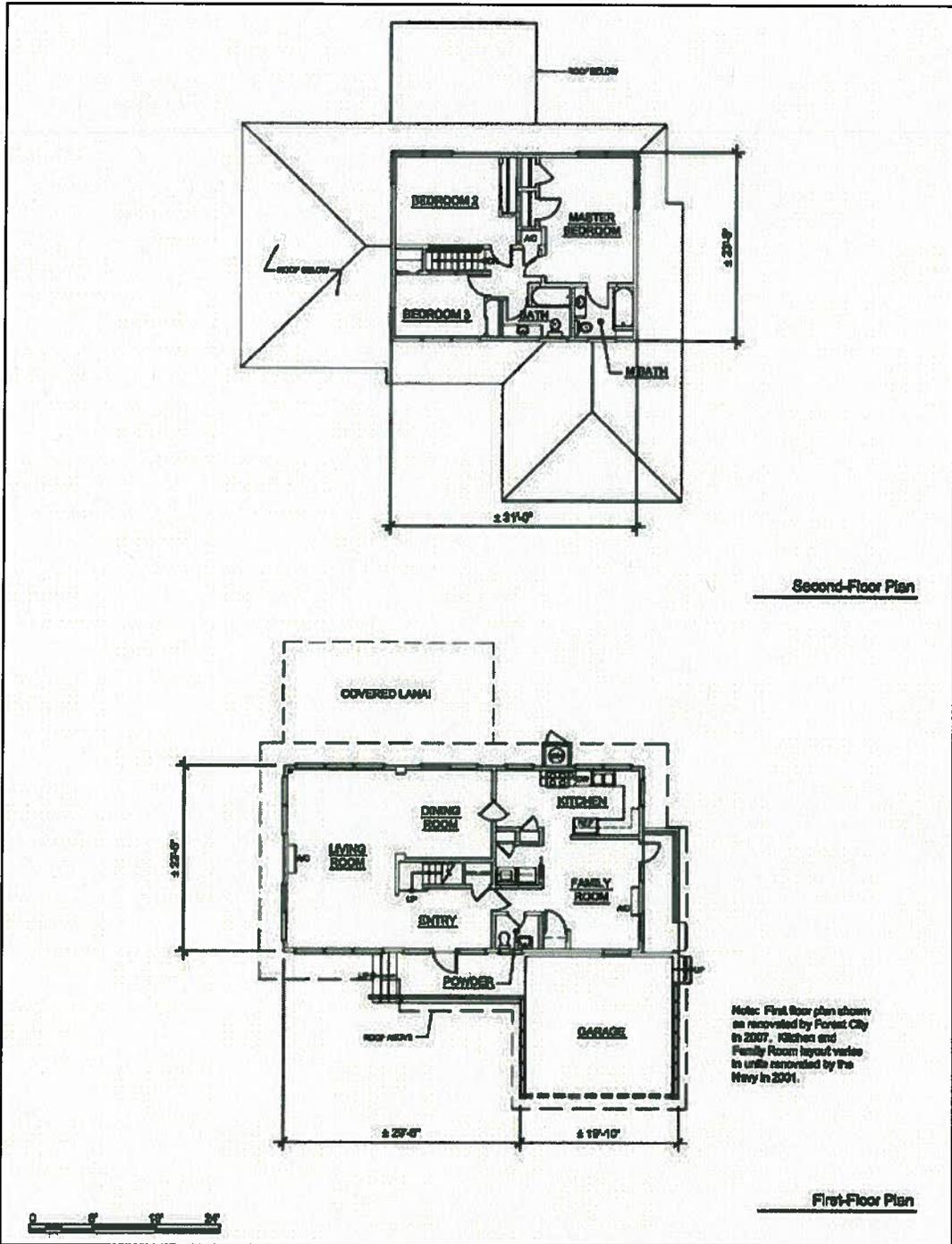


Figure 7-16. Type J floor plans. Source: Mason Architects, Honolulu, Hawai'i, ca. 2013. Based on as-built drawings from the archives of NAVFAC Hawai'i, Joint Base Pearl Harbor-Hickam, Honolulu, Hawai'i.

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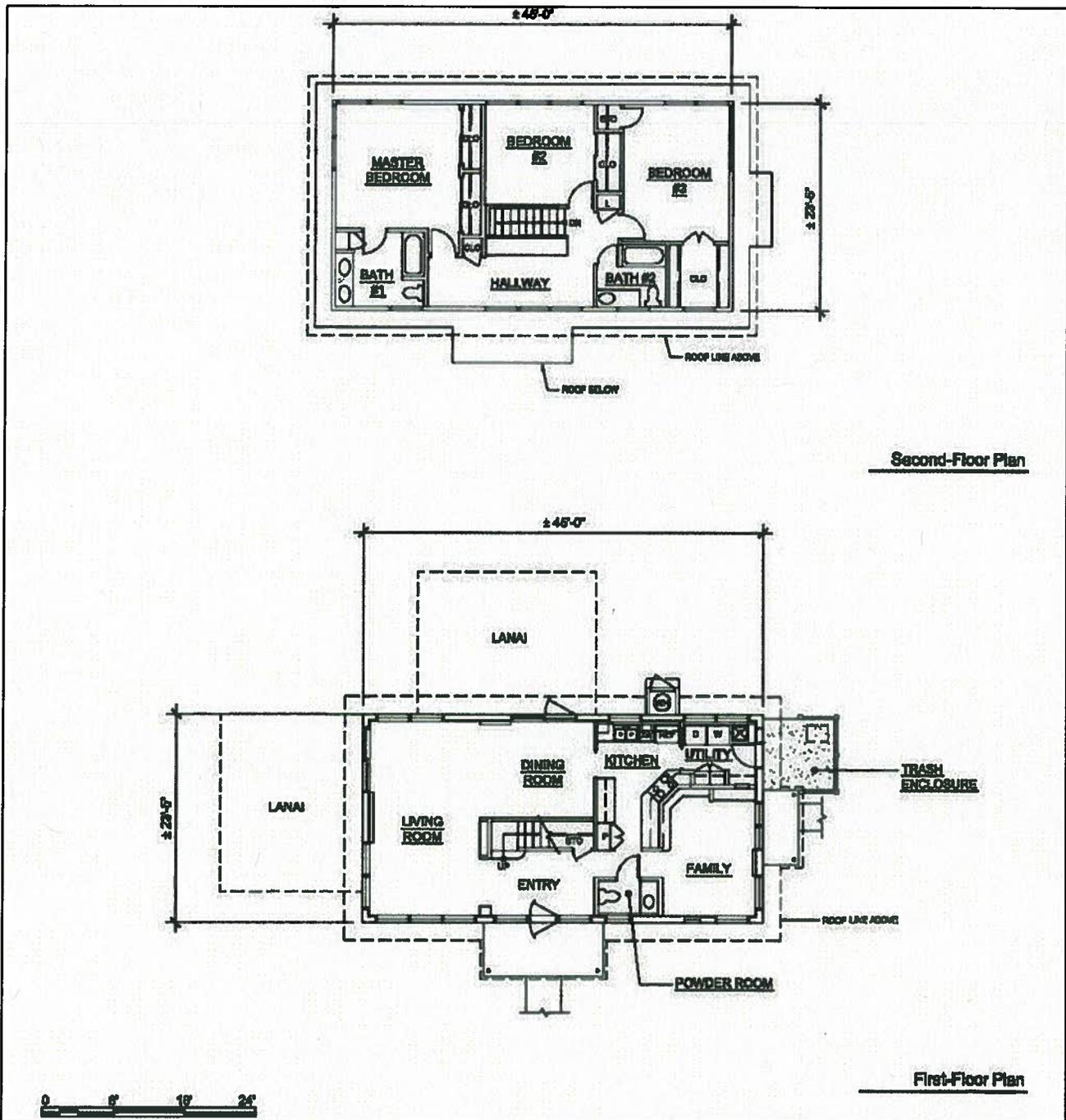


Figure 7-17. Type K floor plans. Source: Mason Architects, Honolulu, Hawai'i, ca. 2013. Based on as-built drawings from the archives of NAVFAC Hawai'i, Joint Base Pearl Harbor-Hickam, Honolulu, Hawai'i.

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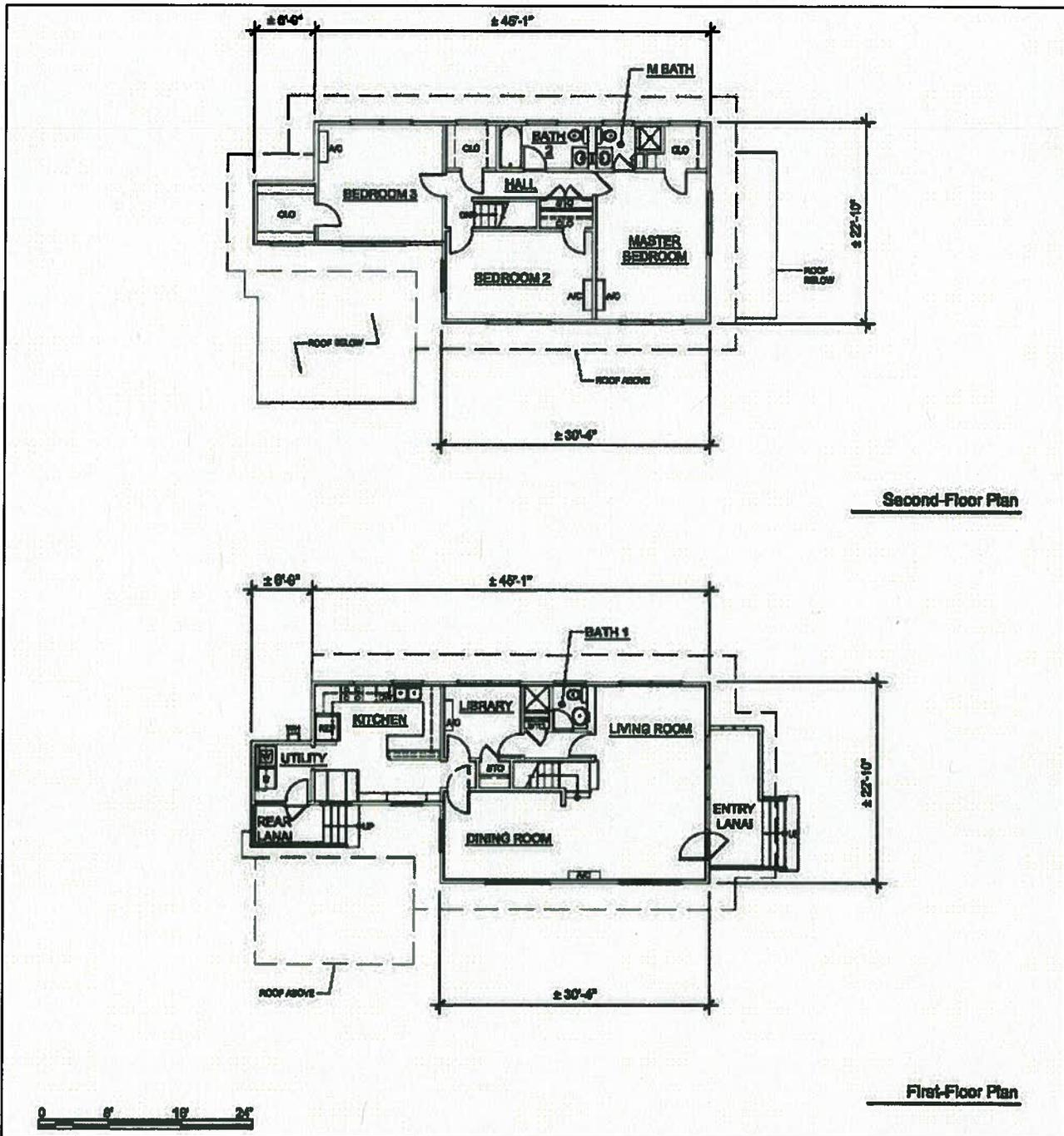


Figure 7-18. Type L floor plans. Source: Mason Architects, Honolulu, Hawai'i, ca. 2013. Based on as-built drawings from the archives of NAVFAC Hawai'i, Joint Base Pearl Harbor-Hickam, Honolulu, Hawai'i.

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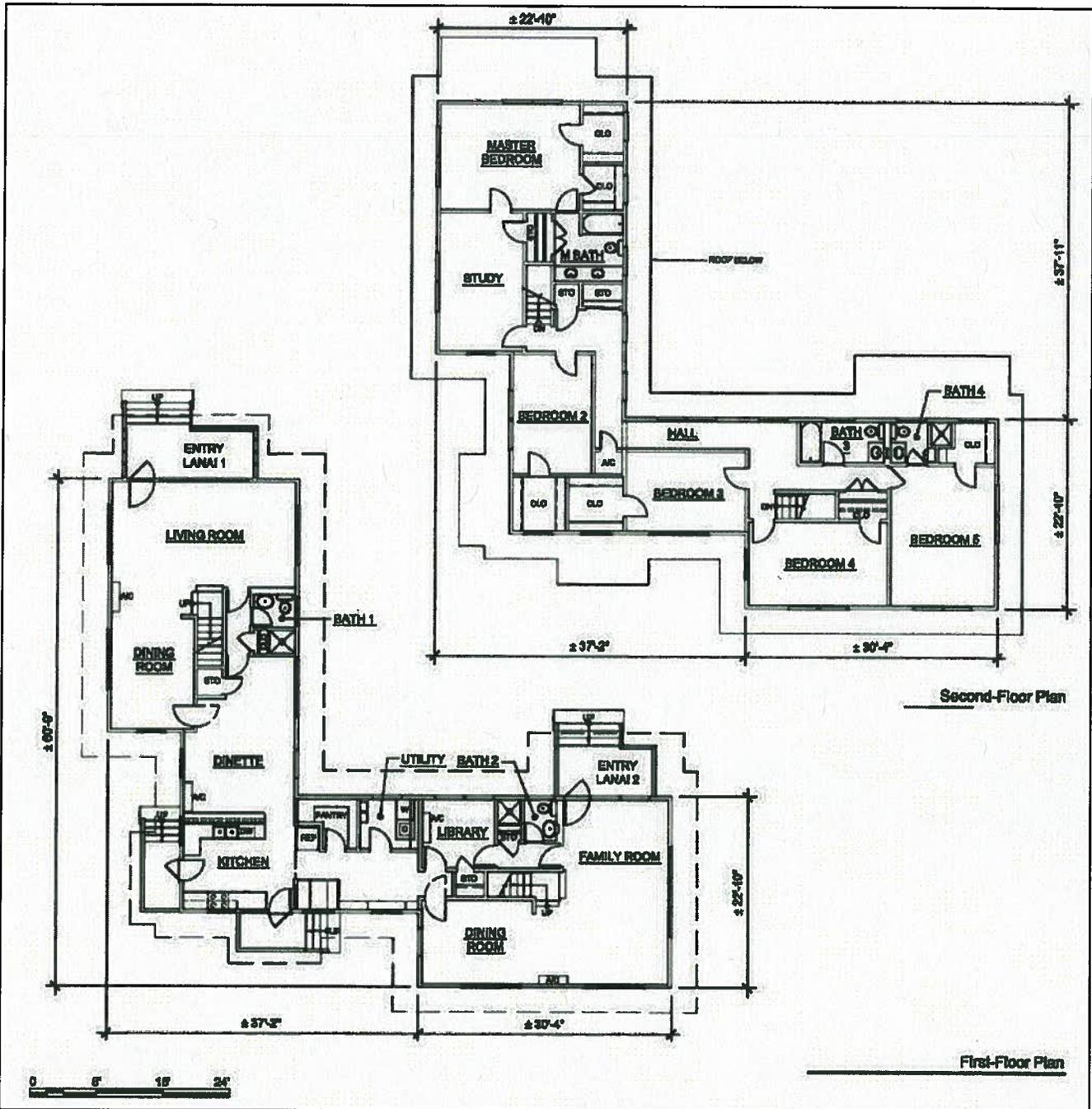


Figure 7-19. Type M floor plans single-family units. Source: Mason Architects, Honolulu, Hawai'i, ca. 2013. Based on as-built drawings from the archives of NAVFAC Hawai'i, Joint Base Pearl Harbor-Hickam, Honolulu, Hawai'i.

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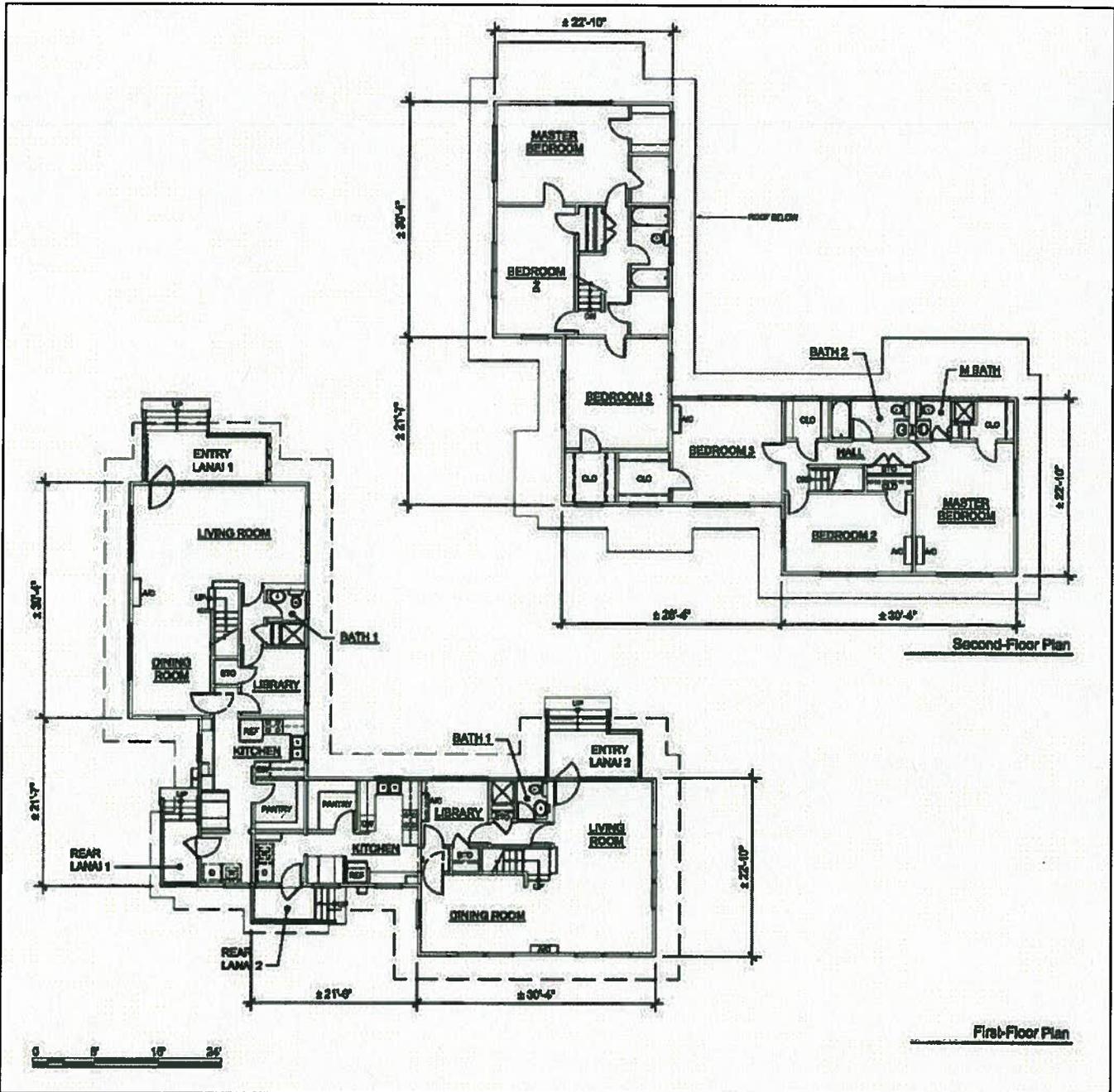


Figure 7-20. Type M floor plans historic duplex unit. Source: Mason Architects, Honolulu, Hawai'i, ca. 2013. Based on as-built drawings from the archives of NAVFAC Hawai'i, Joint Base Pearl Harbor-Hickam, Honolulu, Hawai'i.

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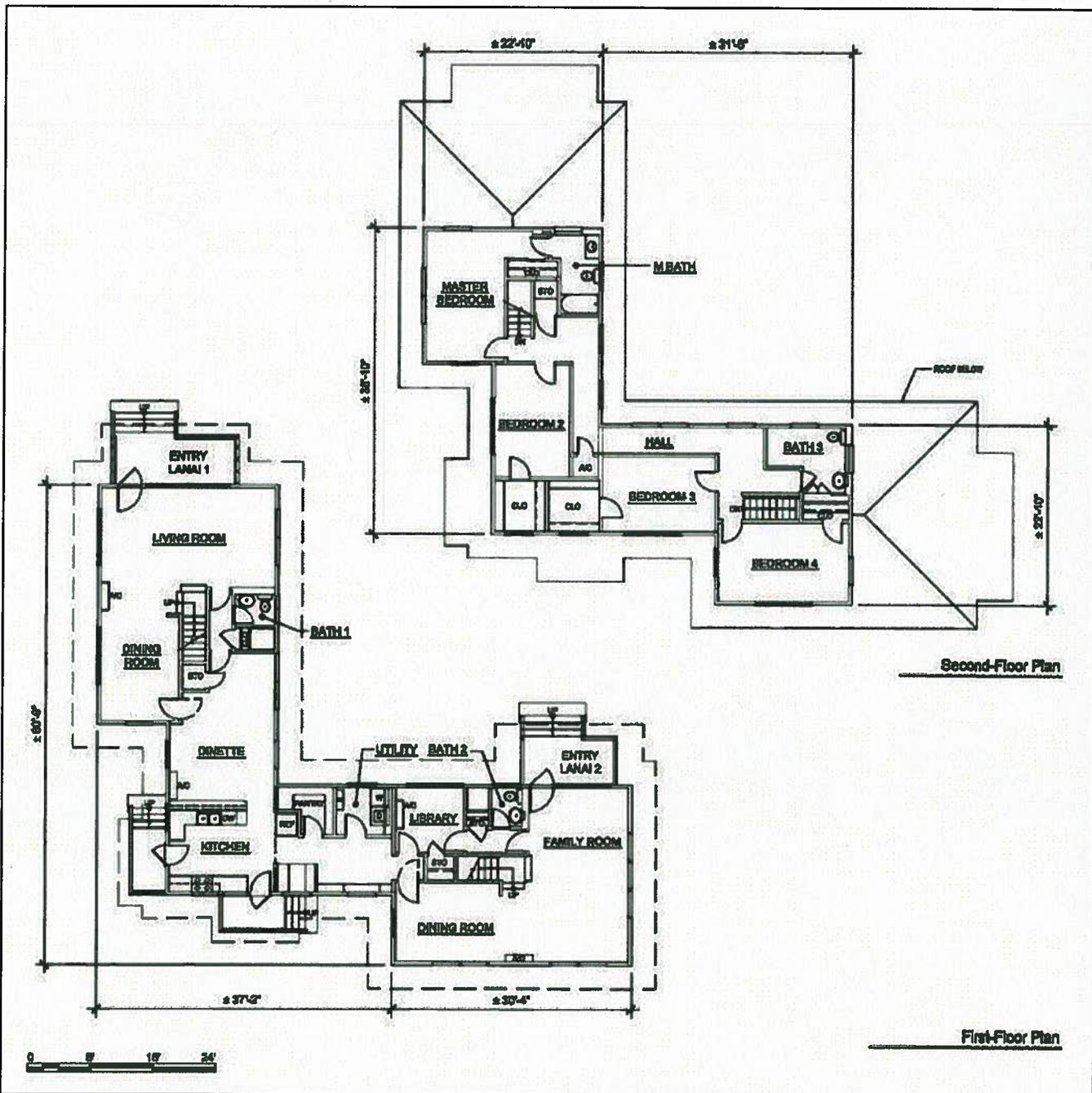


Figure 7-21. Type N floor plans. Source: Mason Architects, Honolulu, Hawai'i, ca. 2013. Based on as-built drawings from the archives of NAVFAC Hawai'i, Joint Base Pearl Harbor-Hickam, Honolulu, Hawai'i.

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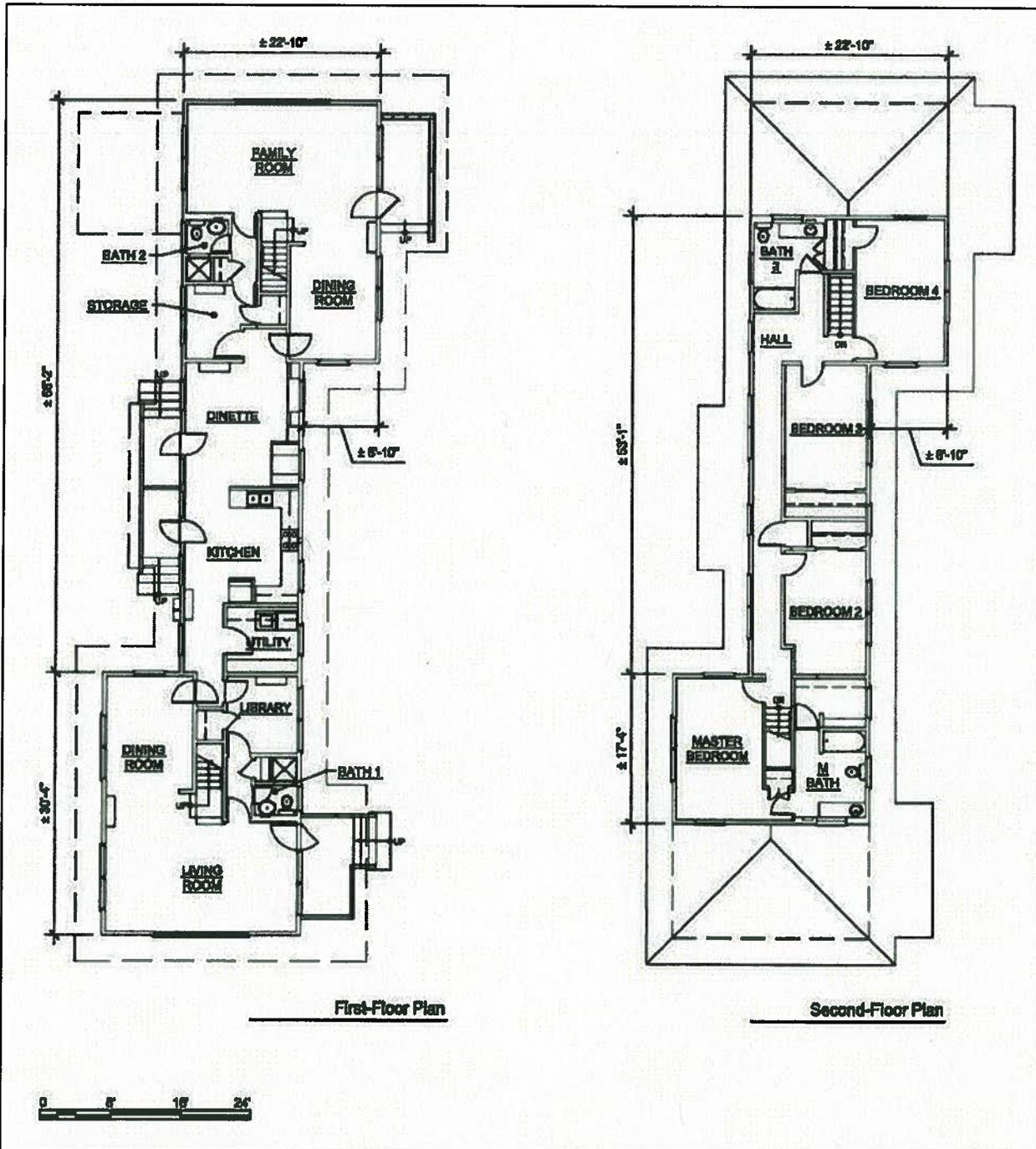


Figure 7-22. Type O floor plans. Source: Mason Architects, Honolulu, Hawai'i, ca. 2013. Based on as-built drawings from the archives of NAVFAC Hawai'i, Joint Base Pearl Harbor-Hickam, Honolulu, Hawai'i.

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The US military began scouting locations for a potential naval installation in Hawaii as early as 1873, when the *USS California* landed an American military commission at Honolulu. The mission led by two high-ranking officers of the US Army, General John M. Schofield and Brevet Brigadier General B. S. Alexander, received secret instructions from US Secretary of War William Belknap to conduct a survey of the Hawaiian Islands for potential military and commercial facilities. That same year, Hawaiian agricultural investors proposed a reciprocity treaty that would make "Pearl Lagoon" available to the US military in return for reduced tariffs on Hawaiian exports. Most of the Native Hawaiian population opposed the plan. King Lunalilo supported the agreement but negotiations ended after he passed away in 1874. The Hawaiian Legislature approved a new proposal in 1875. Approved by Lunalilo's successor, King Kalākaua, the US Congress agreed to allow the Kingdom's sugar and rice to enter into the United States tax-free for seven years, without the controversial cessation of Ke-Awalau- o-Pu'uloa (Pearl Harbor) for the US Navy. The 1875 Reciprocity Treaty proved highly profitable for the sugar plantations, and the sugar interests soon sought an extension. Opposition within the United States delayed any new agreement until January 20, 1887, when the US Senate secretly agreed to a new treaty but with a proviso that granted the United States exclusive military access to Pearl Harbor.¹⁵

The US government did not actually begin any construction activities at Pearl Harbor until after the annexation of Hawaii in 1898. In 1900, a decision-making board convened to examine the best location for the base within the Pearl Harbor estuary. The Navy ultimately decided to acquire 719 acres beside the South-East Loch that included Kūāhua Island and the south side of Moku'ume'ume (Ford) Island. This initial acquisition was located adjacent to the Makalapa crater, which would later become the Makalapa Navy Housing Historic District. Based upon past opposition to land purchases by landowners, condemnation of land began in 1902. Once lands were acquired, the United States Navy denied Native Hawaiians access to resources including shoreline *loko i'a* (fishponds) and the freshwater pond of Makalapa Crater.¹⁶ (Refer to Appendix A for additional information regarding Native Hawaiian use of the area.)

Development of the naval installation at Pearl Harbor moved slowly during the early twentieth century. Yet the balance of power in the Pacific shifted after World War I, as postwar treaties led to a redistribution of European colonial possessions in the region. Japan embarked on a program of colonial expansion in China as well as the Pacific islands to the south. In part, the Japanese adopted such policies due to a worldwide economic depression after the war and the country's need to gain access to additional natural resources. Sensing that Japan was a growing threat and that a war in the Pacific was becoming more probable,¹⁷ the US government improved and expanded the base at Pearl Harbor in the early to mid-1920s, despite the prevailing isolationist political sentiment after World War I. The era's

¹⁵ Ibid.

¹⁶ Louis Berger Group, *Draft Final Historic Context Report: Pearl Harbor National Historic Landmark* (Honolulu, Hawai'i: Submitted to NAVFAC Hawai'i, 2014), 4-18.

¹⁷ Frederick D. Parker, *United States Cryptologic History: Pearl Harbor Revisited, United States Navy Communications Intelligence, 1924-1941* (Washington, D.C.: Center for Cryptologic History, National Security Agency, 1994), 25-29. From *iBiblio: The Public's Library and Digital Archive*, <http://ibiblio.org/hyperwar/PTO/Magic/ComInt-1924-41/index.html>. This resource also details how US naval strategic planning responded to the Japanese threat. From 1905 through 1938, the US began developing "Orange" war plans, with orange representing Japan. In 1939, the United States began to develop "Rainbow" war plans, merging their Atlantic and Pacific war plans in preparation for the possibility of war on both fronts. Japan remained "Orange" within these "Rainbow" plans.

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facilities construction programs focused almost exclusively on land initially acquired by the Navy in 1902. All these developments aimed to provide the facilities that the US Pacific fleet would need if berthed at Pearl Harbor in a time of war.¹⁸ This work necessitated an increase in the labor force and an accompanying increase in labor housing. As early as 1926, a study published by a naval board known as the McKay Board estimated that the workforce in the Navy Yard could reach over 12,000 mechanics and helpers, most of whom would be transplanted from the mainland and would require new housing.¹⁹

The Great Depression's impact became apparent during 1930, and the federal government adopted conservative fiscal policies and cut federal spending in response to dwindling revenues. This affected all departments and agencies, including the Department of War and the US Navy. For example, President Herbert Hoover implemented a cost-savings program by rotating the naval fleet into reserve status on a three-year cycle. These and other cuts directly affecting the Navy relate to a series of disarmament treaties signed after World War I. These agreements limited militarization among the world's developed countries, yet Pearl Harbor's military development benefitted from those treaties. Since these agreements prevented the establishment of new military bases in the Pacific, the Navy focused most of its remaining resources for the region to improving and developing Pearl Harbor in order to maintain and consolidate US presence in the Pacific.²⁰

In 1938, Pearl Harbor's strategic significance grew following the designation of Hawaii as the westernmost point on a strategic defensive line that stretched westward from the Panama Canal to American Samoa, then northward to Hawaii and Alaska beyond (Figure 8-1). Because of its key role in this defensive scheme, Pearl Harbor thrived and expanded in an era when both economics and political sentiment limited expansion elsewhere.

With the increased demand for facilities to service the fleet, the Main Base was pressed for space. It became clear that the Navy needed additional lands at Pearl Harbor to meet these needs and to accommodate further expansion and development. Most of the area surrounding Pearl Harbor in the late 1930s was rural, with large tracts devoted to sugarcane cultivation. The land's prevailing agricultural character and the relative lack of nearby private sector rental housing could not accommodate the projected influx of military and civilian personnel. Even in the urban areas of Honolulu, the amount and quality of housing choices were few. A newspaper article reported that a Congressional subcommittee had recommended Navy housing construction, at least in part, because "a number of enlisted men with their families are now required to live in Honolulu in unsanitary, dilapidated and unhealthy surroundings."²¹ To address this need, the military began planning for expanded housing facilities adjacent to Army and Navy installations in the Honolulu area as early as 1938.

Like many contemporaneous residential suburbs developed on the United States mainland, these new neighborhoods centered on access to transportation arterials. At the time, Kamehameha Highway was

¹⁸ Berger Group, Chapters 6 and 7 of the *Draft Final Historic Context Report*. This document contains extensive detail about specific appropriations and construction projects during the 1920s and 1930s.

¹⁹ *Ibid.*, 6-28 through 6-30.

²⁰ Paolo Coletta, ed., *United States Navy and Marine Corps Bases, Domestic* (Westport, Connecticut: Greenwood Press, 1985), 445. Cited in *O'ahu Integrated Cultural Resources Management Plan*, prepared for the Commander, Navy Region Hawaii (October 2008), 5-105.

²¹ "Navy Seeks Land for \$4,214,000 Housing Project," *Honolulu Star Bulletin*, October 31, 1939. p. 1.

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under construction, using relief funding from the Works Progress Administration (WPA) (Figure 8-2).²² The first priority for this highway construction project was the segment running from 'Aiea to Pearl Harbor's main gate. The Navy targeted lands alongside this new highway segment when scoping locations for potential new housing developments whose residents could use the new highway for transportation. Among the parcels acquired for development were the sites for the proposed Makalapa and other housing areas. These developments encompassed land within the Halawa Ahupua'a, owned by the Bishop and Queen Emma Estates, and within the Moanalua Ahupua'a under the ownership of the Damon Estate (Figure 8-3). Prior to its development for housing, Makalapa Crater was full of sugar cane fields, the Honolulu Plantation Company made significant investments to the land to make it suitable for agricultural purposes.²⁴ Together, these parcels totaled 672 acres (Figures 8-4 and 8-5).

The Navy began condemnation proceedings for the acquisition of this land by October 31, 1939, as the *Honolulu Star-Bulletin* reported.²⁵ The planning process divided the land into five separate housing areas south of Halawa Stream, each planned as an independent entity (Figures 8-6 and 8-7). Ahupua'a boundaries, past ownership, topography, existing road/railway patterns and projected use determined these housing developments' physical shapes. The housing developments were located and designed according to the different military functions that they intended to support. For instance, the Makalapa housing area plan included housing for intelligence officers, so it was adjacent to the newly planned headquarters building for the Commander in Chief of the United States Pacific Fleet (CINCPAC). Military regulations also dictated physical separation of facilities designed for flag and other senior officers, junior officers and enlisted men. The physical character and function of each of the five housing areas depicted in figures 8-6 and 8-7 are designed as follows:

- Naval Housing Area No. 1 occupied a rectangular parcel consisting of 90 acres of flat land. Located between Kamehameha Highway and Dillingham Boulevard, the development contained 500 housing units in 155 buildings, including some four-plex and six-plex units. C. W. Dickey designed housing units in this area.²⁶
- Naval Housing Area No. 2 occupied a triangular parcel of 61 acres, again on flat land. It was also located between Kamehameha Highway and Dillingham Boulevard. Support , designed by

²² Berger Group, *Draft Final Historic Context Report*, 7-30, 7-90.

²³ Frank J. Rader, "The Works Progress Administration and Hawaiian Preparedness, 1935-1940," *Military Affairs* 43, no. 1 (February 1979), 12-17. Available on JSTOR at <http://www.jstor.org/stable/1987382>. This resource details the close relationship between military development and the WPA investment in the highway system in Hawai'i, stating, "The WPA's extensive highway improvement program in conjunction with the Public Roads Administration offered further proof of the strengthening ties between work relief and national defense in Hawaii. The Army, Navy and National Guard sponsored several highway projects, for as one military spokesman said, 'Good roads are important in the movement of modern mechanized troops.'"

²⁴ The Navy's taking of these lands proved to be a significant financial hardship for the company, and it would go out of business by 1946. In the 1930s, the company had drilled several wells, developed Makalapa as one of its major reservoirs, planted cane up to the shoreline and reconfigured the shape of the land in both the crater and the natural drainage channel *makai* toward Pearl Harbor. The Navy created a well-engineered intake and overflow system, parts of which remain visible below the Navy's Hale Keiki complex on Bougainville Drive, outside of the boundaries of the Makalapa Navy Housing Historic District (the drainage system still enters the South-East Loch).

²⁵ Herbert, Haster & Fee, Planners, with the Office of Cheryl Barton, *Makalapa Neighborhood Cultural Landscape Assessment*. Prepared for the Commander, Navy Region Hawai'i and Pacific Division, Naval Facilities Engineering Command (2002), 6.

²⁶ Mason Architects and Belt Collins Hawaii, *Historic Context Study of Historic Military Family Housing in Hawaii* (Washington, D.C.: Department of Defense Legacy Resources Management Program, 2003), 2-11.

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C.W. Dickey, included a fire station, laundry, mess halls, school, and four recreational structures.²⁷

- Naval Housing Area No. 3 plans date from the late 1930s, the same time as the other five housing areas. Construction was complete after the beginning of World War II, from 1942 to 1946. This was the most heavily populated of all of the housing areas – accommodating a population of 10,000 to 12,000 for most of the war. The 192-acre site contained 1,000 housing units in 238 buildings and included single-family units, four-plex units, and six-plex units. The housing area functioned as a small and mostly self-sustaining community that included service buildings such as a laundry, mess hall, meeting hall, recreational facilities, a post office, and a fire station.²⁸ The area housed workers in the Shipyard—both civilians and enlisted personnel—who were transported between the Shipyard and the housing area by train or bus.²⁹
- Naval Housing Area No. 4, also rectangular in shape and located *makai* (seaward) of Kamehameha Highway and Dillingham Boulevard, was farthest east of all. It contained a 2,000-man cantonment for bachelor employees of the contractors. (Unlike the other housing areas, the Navy did not manage this complex).³⁰
- Naval Housing Area No. 5 (Makalapa) consisted of uneven property east of Kamehameha Highway stretching from Hālawa Stream to the Hālawa/Moanalua Ahupua'a boundary.³¹ Unlike the other areas, which were located on the coastal plain, Area No. 5 occupied the rise and crater of Makalapa. The uneven topography favored more pocket development than the other sites. C. W. Dickey designed the housing units here as well.

In late 1940, the *Honolulu Star-Bulletin* began reporting on the progress of the Navy's housing development plans. A newspaper article published on November 2, 1940 noted that the land, which had been under lease to the Honolulu Plantation Company and contained sugarcane fields, was going to have new residential units (Figure 8-8). The article also noted that the housing project budget was \$3,675,000 to house 500 married enlisted men, 43 officers, and 30 key civilian employees (these numbers increased after the war began). The new housing areas were located adjacent to the fleet's largest and most complete recreation complex—the Richardson Recreation Center near 'Aiea—which featured 3 full baseball diamonds, 8 softball diamonds, 12 tennis courts, a 50-by-100-foot swimming pool, a football field with bleachers, a canteen and a clubhouse. An arena to seat 5,000 spectators cost \$175,000. The projected completion date was July 1, 1941.³²

Nearby, the slopes of the Makalapa Rise (Naval Housing Area No. 5) was the proposed site of 73 housing units for flag and other senior officers, as well as junior officers. Within the larger land acquisition, the 228-acre site selected for housing feature characteristics that include an uneven landscape, the most prominent features of which were the rising slope and adjacent crater.

²⁷ Ibid.

²⁸ Berger Group, *Historic Context Report*, 9-107.

²⁹ Ibid., 9-110.

³⁰ United States Navy. "Honolulu High-Capacity Transit Corridor Project: Navy Review of Draft NR Nominations" (June 24, 2014), 3. From the NAVFAC Hawai'i archives, Joint Base Pearl Harbor-Hickham, Honolulu, Hawai'i.

³¹ US Navy Bureau of Yards and Docks, *Building the Navy's Bases in World War II* (Washington, D.C.: U.S. Government Printing Office, 1947), 136. From iBiblio, http://www.ibiblio.org/hyperwar/USN/Building_Bases/.

³² "Navy Starts its Big Oahu Housing Project," *Honolulu Star-Bulletin* (November 2, 1940), 1. From the archives of NAVFAC Hawai'i, Joint Base Pearl Harbor-Hickham, Honolulu, Hawai'i.

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Construction work in the Makalapa area began in July 1940, under the supervision of the private contracting firm known as Contractors, Pacific Naval Air Bases (CPNAB). CPNAB was a consortium of local and mainland construction firms tasked with building Navy facilities during mobilization efforts, prior to US participation in World War II, and continuing through the duration of the conflict. For the expansion of military housing and recreational facilities east of Pearl Harbor, CPNAB-affiliated companies included Hawaiian Dredging Company, Raymond Concrete Pile Company, Turner Construction and Morrison Knudsen (civil engineers). CPNAB's staff also featured prominent local architect C. W. Dickey.

The firm's work stretched across all of Oahu and other Pacific Islands (Figure 8-9). At Pearl Harbor alone, the CPNAB contract of July 1940 included naval housing (Area Nos. 1, 2, 3, and 5) and the new Naval Receiving Barracks at 'Aiea.³³ Overall, the housing that CPNAB built under this contract allowed for a capacity of over 20,000 residents.³⁴

Initially, CPNAB's construction priorities focused on radio transmission facilities in the outlying areas of Oahu away from Pearl Harbor. On September 8, 1939, in response to the war in Europe, President Roosevelt declared a limited National Emergency, and enormous construction projects started at Pearl Harbor to support the fleet.³⁵ Despite the construction efforts of the 1920s and 1930s, Pearl Harbor remained a relatively small Navy installation (compared to today) and was not yet fully able to accommodate the Navy's fleet of ships, much less all of the supporting repair, supply, medical and housing functions. However, the need to provide housing took on more importance in 1940, when President Roosevelt ordered that the full Pacific Fleet move from San Diego to Pearl Harbor. The capacity of Pearl Harbor needed to double or perhaps even triple to meet the base's expanded mission.³⁶ Nonetheless, the fleet began moving to Pearl Harbor soon after the President's orders, with the full move completed by April 1940.

Originally intended to be only temporary, the fleet's relocation to Hawaii served as a deterrent to Japanese aggressions in the Dutch East Indies. Most of the fleet's senior officers lived afloat due to the lack of available onshore housing. However, in the summer of 1940, the Chief of Naval Operations announced that the fleet would remain in Hawaii indefinitely. This decision accelerated construction

³³ United States Navy, "Honolulu High-Capacity Transit Corridor Project: Navy Review of Draft NR Nominations," 4. This document notes that previous work completed by CPNAB had complicated the task of constructing housing on the Makalapa ridge, even beyond the challenges presented by the natural topography. CPNAB previously had received a major contract for the construction of two new graving docks adjacent to the existing battleship dock, then in operation, completed in 1939. The dredged material obtained from the construction of these docks was placed in Makalapa Crater. When the spoil deposition finally ended, the crater's floor had increased in elevation by 30 feet. As the elevation of the crater floor rose, the risk of flooding grew. The Makalapa housing developments would be located within the crater's outflow. An additional 10 to 15 feet of fill would be placed in the gorge during the course of various projects after 1944. Strata from different installments of fill can still be seen along the south side of the gorge, below Little Makalapa, where irrigation and grounds maintenance has turned the former neglected and dry area green. To date, the drainage outflow from Makalapa Crater still periodically floods.

³⁴ Mason Architects and Belt Collins Hawaii, *Historic Context Study of Historic Military Family Housing in Hawaii*, 5-97.

³⁵ US Navy, *National Historic Landmark: Historic Preservation Plan* (Honolulu, Hawai'i: Prepared for NAVFAC Pacific, February 1978), II-4.

³⁶ Berger Group, *Historic Context Report*, 6-3.

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efforts at the Makalapa Housing Area to provide quarters for the officers assigned to Pearl Harbor in support of Pacific Fleet operations.³⁷

On December 7, 1941, the Navy's long-held fear of a Japanese attack became reality. Within the Makalapa housing area, some of the houses were completed and occupied before the attack, but others were not finished until 1942 or 1943.³⁸ The main effects of the "blitz" (as CPNAB called the attack) on the housing construction at Pearl Harbor were related to labor and materials. From December 7, 1941 until March 31, 1942, navy housing construction projects benefitted from the "influx of 501 Japanese immigrants and Americans of Japanese ancestry barred from further employment in the Navy Yard," as well as from the "authorization of longer working hours."³⁹ The availability of an expanded labor force facilitated construction in housing and other areas that did not directly support mission-related military operations. However, the "demoralizing effect on personnel of the unexpected bombing...[F]ear that the attack might be repeated kept the men in a state of nervous tension that temporarily affected progress – as did their assignment to emergency work."⁴⁰ To make matters worse, difficulties related to building materials plagued all construction projects in Hawaii during the entire duration of the war. Shipments of any materials were slow to arrive in Hawaii, and those materials that were in high demand for the war effort often were impossible to attain at all. Since the Makalapa Housing Area had a relatively high priority, material shortages did not affect its progress of construction of as much as other building programs. However, "exasperating delays were recorded in the receipt of...roofing materials, hardware, bath tubs, sash, and doors."⁴¹ Blackouts further slowed construction, but men worked 16-hour days, seven days a week, even if they had to work by moonlight.⁴² Nonetheless, CPNAB kept the construction timeline relatively on track, largely because of its innovative use of assembly-line construction methods (Criterion C). CPNAB continued work on Makalapa through 1944, and construction of additional contributing resources continued through 1946.⁴³

Quarters for flag officers took priority, and these highest-ranking officers began to move into the housing early in 1941. Admiral Husband E. Kimmel, who was the CINCPAC Commander-in-chief at that time, moved into his quarters by December 1941. A photograph taken from Admiral Kimmel's home during the Japanese attack confirms his residency within Makalapa by December 7, 1941 (Figure 8-10). Figure 8-11 shows the status of construction completed as of June 30, 1941. After the attack and through the war, the neighborhood was home to the CINCPAC—first Admiral Kimmel and then Admiral Nimitz—as well as numerous intelligence officers under their respective commands.

³⁷ LDCR F. Verhofstadt, *History of 37 Makalapa* (no publisher, undated). Typescript in binder located in Quarters at 37 Makalapa Drive, from the archives of NAVFAC Hawai'i, Joint Base Pearl Harbor-Hickam, Honolulu, Hawai'i.

³⁸ US Navy, *National Historic Landmark: Historic Preservation Plan*, 5-98.

³⁹ Contractors Pacific Naval Air Bases (CPNAB), *Technical Report and Project History, Contracts NOy-3550 and NOy-4173: Pacific Naval Air Bases and Aviation Facilities, Dredging, Buildings, Accessories, Quay Walls, Berms, and Oil and Gas Storage at Naval Station, Pearl Harbor, Hawaii and Pacific Islands* (no publisher, undated), A-923& A-924. Microfilm of typescript report from Pacific Division, Naval Facilities Engineering Command Library, from the archives of NAVFAC Hawai'i, Joint Base Pearl Harbor-Hickam, Honolulu, Hawai'i.

⁴⁰ The CPNAB report notes varying completion dates on different page. Due to the complexity of contract change orders and the changing number of units to be built for the various housing projects, it is not possible to determine the exact completion date for the Makalapa housing complex as a whole.

⁴¹ CPNAB, *Technical Report*, A-925.

⁴² David O. Woodbury, Lili Réthi, and Louis H. Ruyl, *Builders for Battle: How the Pacific Naval Air Bases were Constructed* (New York: E.P. Dutton and Company, 1946), 311-312.

⁴³ US Navy, "Honolulu High-Capacity Transit Corridor Project," 6.

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At the time of the attack, the CINCPAC headquarters was located on the Submarine Base, and much of the Navy's intelligence work was in offices in the Kodak building in downtown Honolulu. A new administration building to house CINCPAC and intelligence functions was included in housing development adjacent to Makalapa Historic District, as shown in Figures 8-7 and 8-8. This new administrative building (Facility 250) was located on high ground and designed to be bomb- and gas-proof in order to ensure the utmost protection of officers in the event of a future attack. (Over 100 prefabricated, personal bomb shelters were located throughout this and other housing areas at Pearl Harbor).⁴⁴ The location of Facility 250 immediately adjacent to the Makalapa Historic District was critical to its design and function; officers could be at their command posts within minutes in an emergency. The setting and location of the building enabled the Navy to restrict public access within a broad buffer zone, for a high level of security and secrecy. By September 1942, operations had begun within Facility 250, although construction was still ongoing. Planning for many of the key battles in the Pacific during World War II took place within CINCPAC headquarters, conducted by officers, many of whom lived in quarters within the Makalapa Historic District.⁴⁵ (Refer to the information under the Criterion B heading for additional information regarding the role of CINCPAC during World War II.)

CRITERION B

CHESTER WILLIAM NIMITZ

A number of significant military figures lived in the Makalapa Historic District during its period of significance (1940–1946), the foremost being Admiral Nimitz. After Admiral Kimmel's demotion following the Japanese attack—blamed for the Navy's lack of preparedness—Admiral Nimitz assumed Kimmel's post at CINCPAC. Nimitz arrived in Hawaii on December 25, 1941, and assumed command of the Pacific Fleet on December 31, 1941. On April 3, 1942, he was designated Commander in Chief of Pacific Ocean Areas (CINCPOA) and moved to his new quarters at 37 Makalapa Drive (Facility 77). Facility 77 was Nimitz's official residence from April 3, 1942 until November 1945 and directed the U.S. operations in the Pacific theatre from the CINCPAC headquarters (Facility 250) in the office complex north of Makalapa Historic District.⁴⁶ He served the pivotal role of Commander-in-chief in the Pacific Theater for the entire war. Nimitz and other senior war planning staff met on an informal basis at

⁴⁴ No documentation has been located for a production site of these shelters. Constructed of differing lengths to accommodate various staff capacities, these structures were semi-parabolic, averaging 8 feet wide, with walls 6 to 12 inches thick. Metal rings on the top accommodated hoisting and transporting. These structures were absolutely minimal; none were even partially buried for additional protection, and any camouflage consisted simply of paint or a deliberate lack of pruning of nearby foliage. The last such remaining structure in was lost in 2014; it was in the proximity of Little Makalapa, across Kamehameha Highway immediately above the highway road cut.

⁴⁵ Facility 250 was named an individual National Historic Landmark in 1987.

⁴⁶ The other significant individuals known to have lived within the Makalapa Navy Housing Historic District do not have associations with the housing strong enough to justify significance under Criterion B. One of these individuals is Admiral Kimmel, who lived in the district for only a brief time before leaving Pearl Harbor. Admiral Raymond A. Spruance, chief of staff to Nimitz, shared Facility 77 with him in 1942 and 1943, possibly because of the wartime housing shortage. When Spruance later became Commander in Chief of the US Pacific fleet, he became the primary resident of Facility 77 from November 1945 to February 1946. However, the link between Spruance's individual significance and the Makalapa historic district are not clearly understood. Another potentially significant individual is an intelligence officer named Dr. Wilfred Jasper Holmes. Holmes was a technical expert who is credited with developing significant advancements in the field of cryptology. Holmes is the author of two books related to his work during World War II: *Double-edged Secrets: U.S. Naval Intelligence Operations in the Pacific during World War II* (Annapolis, Maryland: Naval Institute Press, 1979) and *Undersea Victory: The Influence of Submarine Operations on the War in the Pacific* (Garden City, New York: Doubleday, 1966). Additional research is required to fully understand Holmes' relationship with the Makalapa historic district, especially considering that the many documents related to his work have been classified.

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Facility 77; the house was the scene of candid private discussions between individuals that led to understandings and final decisions for conducting the war from 1941 to 1945.

The promotion to CINCPAC marked a monumental achievement in Nimitz's life and career. Nimitz was born on February 24, 1885 in Fredericksburg, Texas; and although his grandfather had been a sea captain, Nimitz was determined to be a soldier. After rejection by the United States Military Academy at West Point, New York, he went to the US Naval Academy in Annapolis, Maryland. While he found success in the Navy, he did not receive his high school diploma until after he had become a fleet admiral.⁴⁷ Nimitz served on the *USS Ohio* in the Far East after graduation from the Naval Academy. His first command was on the gunboat *USS Panay*, which later became famous in 1937 after it sank because of Imperial Japanese air forces prior to the war. Nimitz was also the commander of the *USS Decatur* when the vessel ran aground in Manila Bay in the Philippines in 1908, an error for which he was court martialed. Despite this blemish on his record, Nimitz was able to overcome his mistake and went on to a distinguished naval career.

In the early years of his career, Nimitz focused on the growing use of submarines in naval warfare, commanding a number of submarines from 1907 to 1912. In 1913, he went to Europe to study diesel engines. By 1920, he oversaw the construction of the Submarine Base at Pearl Harbor.⁴⁸ Nimitz received valuable experience in 1918 at the Office of the Chief of Naval Operations, in 1919 as Executive Officer of the battleship *USS South Carolina*, and in 1923 as Chief of Staff of the Commander in Chief, US Fleet. Other commands included Commander of Submarine Division 20 and duty at the Bureau of Navigation in Washington, D.C. Nimitz's experience and training was vital to his career and assignment at CINCPAC.

Upon Nimitz's appointment as CINCPAC, President Roosevelt reportedly gave the following instruction to Frank Knox, Secretary of the Navy: "Tell Nimitz to get the hell out to Pearl and stay there till the war is won."⁴⁹ Nimitz arrived at Pearl Harbor on Christmas Day 1941, and assumed command on December 31, simultaneously rising two ranks from Rear Admiral to Admiral.⁵⁰ He proceeded to carry out President Roosevelt's orders with the help of other senior officers, many of whom also lived in the Makalapa Historic District.

The quarters and surrounding neighborhood of this military leader, who directed the Navy's land, sea, and air forces in the Pacific throughout World War II, are associated with the most notable achievements of his stellar career. While he established a temporary headquarters in Guam in 1945 and was located there during part of the war, Facility 77 in Makalapa is the residence most closely associated with the influential decisions made by Nimitz, which affected the war's outcome. The string of naval victories under Nimitz's command began with the Battle of Midway in June 1942, and ended with the Japanese surrender in 1945. Nimitz was present aboard the *USS Missouri* on September 2,

⁴⁷ Edwin T. Layton (Rear Admiral, USN, Ret.), Roger Pineau (Captain, USN, Ret.) and John Costello, *And I Was There: Pearl Harbor and Midway—Breaking the Secrets* (New York: William Morrow and Company, 1985), 337.

⁴⁸ Frank A. Driskill and Dede W. Casad, *Chester W. Nimitz: Admiral of the Hills* (Austin: Eakin Press, 1983), 115.

⁴⁹ Verhofstadt, unpaginated.

⁵⁰ Erwin N. Thompson, *National Register of Historic Places Nomination Form: Headquarters, Commander in Chief, Pacific Fleet* (Washington, D.C.: National Park Service, 1987). From the Honolulu Authority for Rapid Transportation (HART), http://historic.honolulutransit.org/files/documents/nrhp_nom_form_cinpac_headquarters.pdf. Nimitz's nearby headquarters, Facility 250 (Headquarters, Commander in Chief, Pacific Fleet) was declared a National Historic Landmark (NHL) in 1987. The National Register nomination form for this NHL described Nimitz's background and the battles he directed during World War II.

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1945 to sign the surrender document.⁵¹ During this critical period, Nimitz's home and neighborhood were important places of contemplation. Nimitz enjoyed walking, playing tennis and horseshoes, and gardening.⁵² For Nimitz, Facility 77 served to "entertained guests and dignitaries, ranging from General MacArthur to [President and] Mrs. Roosevelt to the junior officers on his staff."⁵³

Many have recognized Nimitz's achievements and accomplishments including his superiors, personnel under his command, and a grateful nation. Soon after the conclusion of World War II, Nimitz served as Chief of Naval Operations for a two-year term. He retired in 1947 and died a national hero in 1966 at his last home, Quarters One at Yerba Buena Island, California. There are numerous memorials named after Nimitz. They include highways and roads, such as Nimitz Highway on Oahu in Hawaii; Nimitz Freeway in California; high schools, middle schools and elementary schools in Texas, Oklahoma, California and Hawaii; a combined memorial and hotel at his birthplace in Fredericksburg; and the *USS Nimitz*, the flagship of the US Navy's Nimitz Class nuclear-powered aircraft carriers.

CRITERION C

The Makalapa Navy Housing Historic District is significant under Criterion C for its environmentally sensitive and organically planned neighborhood design (area of Community Planning and Development), its association with noted Hawaii architect C. W. Dickey, and its use of innovative and time-saving construction techniques that reflected the emergency conditions under which it was developed (area of Architecture).

COMMUNITY PLANNING AND DEVELOPMENT

Garden City

Much of the thinking behind contemporary neighborhood and community planning traces its origins to Sir Ebenezer Howard in Great Britain in the late nineteenth and early twentieth centuries. Howard observed the growth of greater London, which consumed rural landscapes and housed the population in a morass of inhumane tenements. In response, Howard developed the "Garden City" approach to community planning, in which he sought to reduce dwellers' sense of alienation from nature by creating "satellite" settlements buffered from the urban core by large areas of open space. Each new satellite city would have its own core and access to the main core by rail. Howard promoted these ideas in his 1898 book *Tomorrow: A Peaceful Path to Social Reform* (retitled *Garden Cities of Tomorrow*, 1902 ed.).⁵⁴ In the late 1920s and 1930s, several American towns and suburbs developed following these principles, including Frederick Law Olmstead, Jr.'s Forrest Hills Gardens, designed in 1909. Within Pearl Harbor itself, such suburbs inspired the use of curvilinear street patterns and integration with the natural topography throughout housing developments in the 1920s and 1930s at Hale Alii and on Ford Island.⁵⁵ With the arrival of automobiles, New York City-based planner Clarence Perry refined Howard's approach by designing peripheral roadways that would prevent through-traffic in the center of

⁵¹ Thompson, *National Register of Historic Places Inventory--Nomination Form: Headquarters, Commander in Chief, Pacific Fleet*.

⁵² Driskill, 207.

⁵³ E. B. Potter, *Nimitz* (Annapolis, MD: Naval Institute Press, 1976), 469.

⁵⁴ David L. Ames and Linda Flint McClelland, *National Register Bulletin: Historic Residential Suburbs* (Washington, D.C.: National Park Service, 2002). Available online from the National Park Service. Accessed June 22, 2015. <http://www.nps.gov/nr/publications/bulletins/suburbs/INDEX.htm>.

⁵⁵ Mason Architects, *Historic Context Study of Historic Military Family Housing in Hawaii*, 2-10.

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communities and focused on providing schools, playgrounds and amenities. This effort, as well as the "City Beautiful" movement influenced military planning projects by the mid-1930s.

City Beautiful

Inspiration for the City Beautiful movement comes from classical city plans of Rome and Paris. It focused on creating social order through beauty by stepping away from the rigid grid plans of modern American cities like New York and Detroit in favor of a return to grandly designed boulevards and streetscapes⁵⁶. Daniel Burnham's plans for the World's Columbian Exposition of 1893, the White City, is perhaps the most iconic example of early City Beautiful designs. The movement translated into suburban areas at a smaller scale through beautifully landscaped neighborhoods, drives naturally canopied by trees, and walkable streetscapes.

Both the City Beautiful movement and Garden City planning sought to combine the best of urban and rural living by providing housing that was near work yet sited among spacious, beautiful, and healthful surroundings. Early examples of both the Garden City and City Beautiful movements in Hawaii are Lanai City (Lanai, begun in 1922) and Wheeler Air Field (near Wahiawa, Oahu, 1922). Adjacent to Pearl Harbor, Hickam Field developed according to these concepts in 1935.

For the naval housing developments at Pearl Harbor the topography and geography of the surrounding land, as well as the urgency to address housing shortages and needs, complicated such grand and comprehensive neighborhood designs. Much of the area near the base is highly irregular, with dramatic shifts in elevation and interruptions by waterways. Existing transportation routes cut off the land's continuity further. The Navy's 1939 acquisition of 672 acres developed as five separate housing areas rather than one cohesive area because of topography, waterways, and transportation routes (Figures 8-6 and 8-7). Considered comprehensively, the grouping of housing areas included many of the neighborhood planning features popular at the time: an axial street grid for Naval Housing Area No. 2, culs-de-sac in Naval Housing Area No. 3, curving streets in Naval Housing Area No. 5 (Makalapa), and recreational amenities provided nearby at the Richardson Recreation Center. However, because the areas are separate from one another, it was not possible for a single comprehensive scheme to unite the disparate housing areas. As such, the design of the Makalapa Historic District employs popular design features compatible with the site's limitations—such as curvilinear placement of roads according to the topography—while disregarding features not feasible for the site such as axial roadways and grand public spaces.

Documents from CPNAB credit Samuel R. Damon (later Lieutenant Commander) with designing the neighborhood layouts. Damon was a representative of the Damon Estate, the former owner of much of the property acquired by the Navy for housing in the late 1930s, as well as former owner of land acquired by the Army for its new airfield nearby (Hickam Field) in the mid-1930s. Damon was therefore aware of trends in community planning design, and likely influenced his designs for naval housing. He worked, "... (without compensation), with the Public Works Design Division of the Fourteenth Naval District" to establish the layout design for the Navy housing areas.⁵⁷ Damon's most significant contribution lay in how he adapted the design of roadways to provide traffic safety features. As CPNAB reports noted, the government had invested in a series of high-volume and high-speed highways in the

⁵⁶ William J.R. Curtis, *Modern Architecture since 1900*, 3rd Edition. London: Phaidon, 1996. 218.

⁵⁷ CPNAB, *Technical Report*, A-917.

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housing areas; these threatened pedestrian safety and neighborhood cohesion. Damon advocated the construction of peripheral roads around each of the housing areas. He noted that:

Paralleling the major traffic arteries with tract roads, although costly, was a requirement essential to the safety of residents of the various housing areas, and one that appears (in view of the abnormal accident records of traffic on Oahu's public highways) to have fully justified the expenditure involved.⁵⁸

To further control traffic within each housing area, Damon recommended limiting points of access into the site. The result was an inward-focused neighborhood with houses facing away from the perimeter and towards each other.

The historic district's designed landscape features enhance its distinctive residential quality and feeling. The deliberate placement of the houses on the site created larger yards for more senior officers' housing, and smaller yards for more junior officers' housing. Senior officers, therefore, had more privacy, and plantings of hedges enhanced this privacy. Junior officers' quarters, on the other hand, had less separation between yards, and a more open character, with yards flowing into communal and shared open spaces. Decorative plantings include a variety of different tropical species of trees, generally planted near the curb (Figure 8-12), as well as tropical foliage and flowering plantings placed around the foundation.⁵⁹ Like the curving streets and the houses' irregular angles, the plantings add visual interest and variety to the historic district, contrasting the white color palette and architectural simplicity used for the houses themselves.

ARCHITECTURE

The design and construction of the houses in the Makalapa Navy Housing Historic District is significant; they reflect the Navy's decision to incorporate stylistic elements and construction materials influenced by the Modern movement. In the 1920s and 1930s, the majority of naval housing constructed at Pearl Harbor had been one-story with a bungalow form and Craftsman (Arts and Crafts) stylistic influences.⁶⁰ In the housing areas dedicated to enlisted personnel, the Modern style's utilitarian forms (fig. 8-13) influence the architectural design.

Military hierarchy among the different housing areas corresponded to a design hierarchy.⁶¹ The architectural design of buildings in the Makalapa Historic District display the influence of a more nuanced and rarefied modernism, with elements of the emerging Ranch style. The Makalapa Historic District housing designs reflect the rush to construction and limited availability of building materials, favoring simple designs and minimal amounts of ornamentation. However, the senior officers' quarters in the historic district show an attention to detail and level of workmanship that subtly reference elements popular within Modern architectural discourses of the day, such as *brise soleils* and Japanese interior influences (Photo 9 and 10). Such architectural elements accompanied by the proportions, hipped roof form, and climatic features—such as eave overhangs and broad lanais—typify the work of their designer, noted Hawaii architect C. W. Dickey (Figure 14). Given the time constraints and scarcity of materials at the time, these details were remarkably extravagant. Dickey was able to fit them into his

⁵⁸ Ibid., A-935.

⁵⁹ Mason Architects, *Historic Context Study of Historic Military Family Housing in Hawai'i*, 5-101 – 5-102.

⁶⁰ Ibid, 2-10.

⁶¹ Ibid, 5-127.

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constrained budget and timeline largely because of his innovative use of assembly-line construction techniques influenced by industrial mass production.

C. W. Dickey, Architect

CPNAB's staff for the design of Naval Housing Area Nos. 1, 2, and 5 featured prominent local architect C. W. Dickey. Dickey's experience at Pearl Harbor predates the war; extending back to the 1920s when he designed the housing on Ford Island. Among the CPNAB staff, Dickey had a reputation for being "an exceedingly valuable man, the best part about him being his physical presence on the scene of the action."⁶² Dickey's portfolio includes public concrete structures such as the Alexander and Baldwin Building and Mabel Smyth Memorial Auditorium in downtown Honolulu, and his private residential work.⁶³ Dickey worked in a wide variety of different styles, both historicist and Modern-influenced. Yet his work in any style took on a signature "Dickey Style" through consistent use of pleasing building proportions, hipped roofs, and features adapted to Hawaii's tropical climate. His residential buildings featured cross-ventilation, wide porches, hipped roofs with deep eaves, and large windows shaded by eaves or awnings. His philosophy was that:

To be in harmony with the spirit of our people, our architecture should be simple, unpretentious and free from all effort or straining for effect. Any historic style may be modified or used, but after changed to fit our conditions it loses its historic characteristics to such an extent that it might be better called Hawaiian.⁶⁴

For his naval housing work, Dickey was constrained by standards developed in the prewar era by the Navy's Bureau of Yards and Docks and the requirements of the CPNAB contract. However, his designs also expressed his insights and understanding of the Hawaiian climate and his stylistic signatures. Of all the housing designed by Dickey under the 1939 CPNAB contract, the housing in Makalapa Historic District best exemplified the climactic adaptations and signature stylistic elements associated with Dickey's work. Among these features include the cross ventilation of most rooms, large windows, wide eaves, shading elements over first-floor windows, and a lanai in every house.

Dickey was the grandson of William Patterson Alexander, one of the early missionaries to Hawai'i. Dickey was born in Alameda, California, but raised on Maui from the age of two until he attended high school in Oakland. He obtained an architecture degree at the Massachusetts Institute of Technology in 1894.⁶⁵ He practiced in Honolulu with Clinton Briggs Ripley from 1896 to 1900, on his own in 1900, and with Edgar Allen Poe Newcomb from 1901 to 1905.⁶⁶ Dickey moved to Oakland in 1905 and mainly practiced there for the next 20 years, although he occasionally traveled to Hawai'i for commissions for his relatives on Maui.⁶⁷ Dickey established a Honolulu office with Hart Wood in 1919, while also maintaining his Oakland office before relocating permanently to Honolulu in late 1924.⁶⁸ His most notable designs date from the late 1920s and early 1930s, when he was instrumental in defining the Hawaiian regional architecture style. Some of his most noteworthy and well-known buildings are the

⁶² Woodbury et al., 130.

⁶³ Neil, J. Meredith, "The Architecture of C.W. Dickey in Hawai'i," *The Hawaiian Journal of History* 9 (1975), 112.

⁶⁴ Ronald Lee Melichar, "C.W. Dickey's Immigration Station: A History of its Site, A Proposal for its Future" (M.A. Thesis, Columbia University, 1978), 37.

⁶⁵ Robert Jay, *The Architecture of Charles W. Dickey: Hawaii and California* (Honolulu: University of Hawai'i Press, 1992), 32.

⁶⁶ *Ibid.*, 33-72.

⁶⁷ *Ibid.*, 102-103.

⁶⁸ *Ibid.*, 108-111.

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Alexander and Baldwin Building (1929) (fig. 8-15), the Halekūlani Hotel main building and several cottages (1931), several buildings at Kamehameha Schools hillside campus (1930s), the Immigration Station administration building (1934), Central Fire Station (1934), Kodak Hawaii Building (1939), Varsity Theater (1939) and numerous residences. In the late 1930s, Dickey became involved in planning several low-cost urban housing projects, including the 1939 construction of the Kamehameha Homes project on King Street, which was the “first low-cost, federally assisted housing project in Hawai'i.”⁶⁹ When Dickey’s firm was contracted in 1939 to design housing for the rapidly growing Navy population around Pearl Harbor, he “saw architectural opportunities here that were far more sophisticated than those offered by the low-cost housing projects.”⁷⁰ Around the same time, Dickey was also busy assisting with civil defense planning in Honolulu.

Despite the heavy workload before and during World War II, Dickey remained highly involved in his projects’ design and construction. He was in frequent communication with the design staff of the Department of Public Works, 14th Naval Division at Pearl Harbor. A colleague remembers Dickey “going from table to table [at the Department of Public Works], treating them as participating architects.”⁷¹ For example, architect Cyril Lemmon worked for Dickey in Los Angeles from 1932 through 1936, then moved to Honolulu through his connections with Dickey in 1946.⁷² Lemmon’s work is highly influenced by Brazilian architect Oscar Neimeyer’s translation of Modern architecture for tropical climates,⁷³ and his influence may have contributed to Dickey’s use of *brise soleils* on the bathroom windows in Makalapa Historic District. His staff also included a group of Japanese architects—Makoto (“Marco”) Sunada, Terue Fujita, and Kenji (“Kenneth”) Onodera (fig. 8-16)—who likely contributed to the use of Japanese detailing, such as the perforated screens on the interiors of senior officers’ quarters in the Makalapa Navy Housing Historic District.^{74, 75} These Japanese architects all were Hawaii-born *Nisei* (second-generation immigrants).⁷⁶ For the project at Makalapa Historic District, Dickey also teamed with local architect Walter Lamb, who designed all the interior furniture for the houses, so that personnel moving to Hawaii from the mainland would not have to ship furniture.⁷⁷ Lamb integrated the outside lanai with the interior, and designed Modern furniture to encourage indoor-outdoor living.^{78, 79} However, none of Lamb’s furnishings are extant within the historic district today.

⁶⁹ Ibid., 178.

⁷⁰ Ibid.

⁷¹ William Dickey Merrill, “Charles William Dickey, Architect,” *Hawaii Architect* (January 1997), 22. From the archives of NAVFAC Hawai'i, Joint Base Pearl Harbor-Hickam, Honolulu, Hawai'i.

⁷² David W. Moore, Jr., Justin B. Edgington, and Emily T. Payne, *A Guide to Architecture and Engineering Firms of the Cold War Era* (Washington, D.C.: Department of Defense Legacy Program, 2010), 47. From the Department of Defense, http://www.denix.osd.mil/cr/upload/FINAL_Report_A-Guide-to-Architecture-Engineering-Firms_Cold-War-Era_09-434.pdf.

⁷³ The influence of Neimeyer is most clearly visible in the design of the Hawai'i State Capitol, which Lemmon designed with his firm Belt, Lemmon, & Lo, along with John Carl Warnecke.

⁷⁴ Merrill, 22.

⁷⁵ Note that name changes among Hawaii-born *Nisei* increased in frequency in the years leading up to 1940 and were routinely advertised in the Honolulu papers.

⁷⁶ Hamilton Library, Hawaiian Collection, University of Hawaii at Manoa. Honolulu City Directories, 1937-1955.

⁷⁷ Woodbury et al., 177.

⁷⁸ Alice Booth, “Home in Hawai'i,” *House Beautiful* no. 79 (November 1937), 50-53.

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Construction Method

The housing units' architecture in the Makalapa Navy Housing Historic District is significant because of the assembly line techniques used in their construction. This method enabled rapid housing construction despite material shortages, and provided cost savings that allowed for a higher level of architectural detailing within the available construction budget. The use of partially standardized components in this project illustrates the trend towards the use of manufactured buildings, which perhaps was best illustrated by the Navy's use of thousands of Quonset huts during World War II (although Quonset hut construction evolved under a completely separate historic context).

As described by CPNAB reporting documents, the contractors developed an assembly-line process to handle the highly accelerated construction schedule for the Navy's housing in the early 1940s. The process began by clearing the land, often by burning cane fields, and then grading road and building sites. A major expense was rerouting civilian roads, railway spurs, power lines and water systems to conform to new property configurations as well as the Navy's restrictions on public utility operations on military reservations.

Construction of individual buildings followed. As described by CPNAB, "Concrete foundations for the reduplicative residence and barracks were installed by three crews, one doing the hand excavation, one placing the prefabricated forms, the other pouring the concrete from mixer trucks."⁸⁰ The system used for wall framing, though, was the most innovative and time-saving part of the process. The wall unit, floor unit, and roof unit were assembled off the construction site.⁸¹ CPNAB explained that, "[t]he prefabricated units were typically one wall of a room, except in cases, such as the long wall of a living room, where a complete wall would be too hard to handle."⁸² Off-site assembly occurred in an open-air shed "equipped with full-size assembly tables on which necessary horizontal and vertical modules of measurement were indicated, four-way locking devices installed, and saws of various types mounted."⁸³ This building was accessible via railroad, so that lumber and detail materials could be delivered by rail. The lumber used included a large quantity of plywood, which, at that time, was unusual for residential construction. Experimentation with plywood had begun only recently, in the late 1930s, for construction of depression-era affordable housing projects such as a 1939 Federal Housing Administration project in Fort Wayne, Indiana.⁸⁴

Once the assembled wall, floor, and roof assemblies were transported to the construction site, "these assemblies were joined by driving spikes; that material choice was due to the shortage of bolts, considered a critical material."⁸⁵ Painting was kept to a minimum to save labor and materials. Within the

⁷⁹ "Patio Parties: Entertaining at Home New Trend," *Los Angeles Times*, April 25, 1976, 40. From ProQuest via the University of Texas Libraries, <http://ezproxy.lib.utexas.edu/login?url=http://search.proquest.com.ezproxy.lib.utexas.edu/docview/157969341?accountid=7118>. As an indication of the significance of Lamb's work, the article notes that the "Walter Lamb Bronz" lounge chair designed for the Brown Jordan Furniture Company was on permanent display at the "Metropolitan Museum of Modern Art."

⁸⁰ CPNAB, *Technical Report*, A-919.

⁸¹ Research efforts did not locate architectural drawings or construction documents for Makalapa Historic District. However, architectural drawings depicting Dickey's use of similar techniques for construction of naval housing at Wahiawa are available from the archives of NAVFAC Hawai'i, Joint Base Pearl Harbor-Hickam, Honolulu, Hawai'i.

⁸² CPNAB, *Technical Report*, A-923.

⁸³ *Ibid.*, A-935.

⁸⁴ Jeff Dodge, interview by Lorraine Minatoishi, "Makalapa," May 23, 2014.

⁸⁵ CPNAB, *Technical Report*, A-923.

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houses themselves, standardized components included fitted electric panels, pipe assemblies, cabinets, window and doorframes, and stairs.

The bolted assemblies used during the war continued to be used post-war as "prefabricated" bolts and later as patented bolt designs. Similar methods of assembly-line housing construction would be widely adopted after World War II for construction of residential suburbs like Levittown in Pennsylvania, and continue to be widely used today. In fact, one of the early companies that fabricated the bolts for assembly of the Makalapa houses, Simpson Connectors, remains today a large manufacturer of connector assemblies, demonstrating the long-lasting influence of wartime innovations like those used to construct the Makalapa Navy Housing Historic District.

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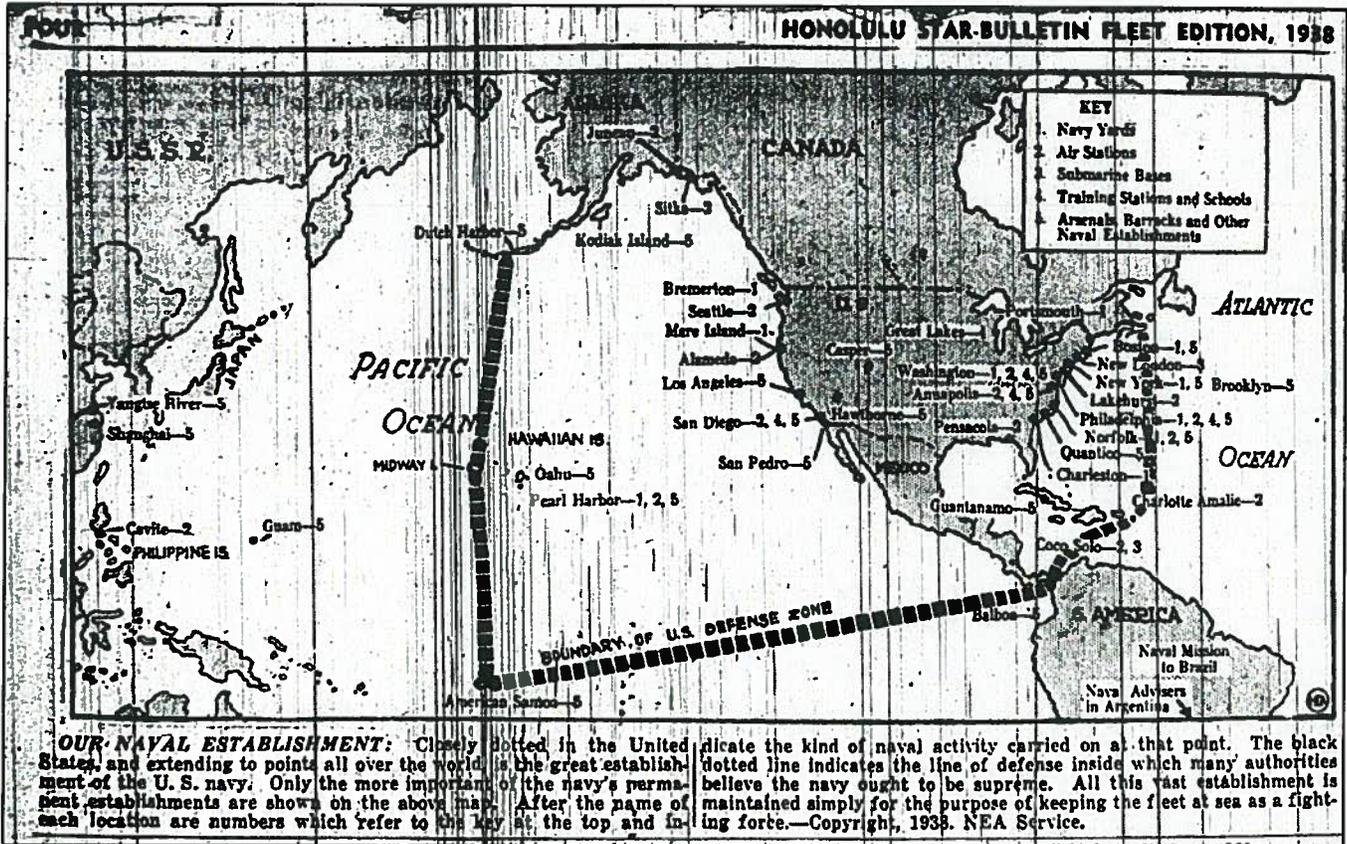


Figure 8-1. Map depicting the line of defense of the US Navy, published in the Honolulu Sart Bulletin Fleet Edition, 1938. Source: NAVFAC Hawaii Archives, Joint Base Pearl Harbor-Hickam, Honolulu, Hawai'i.

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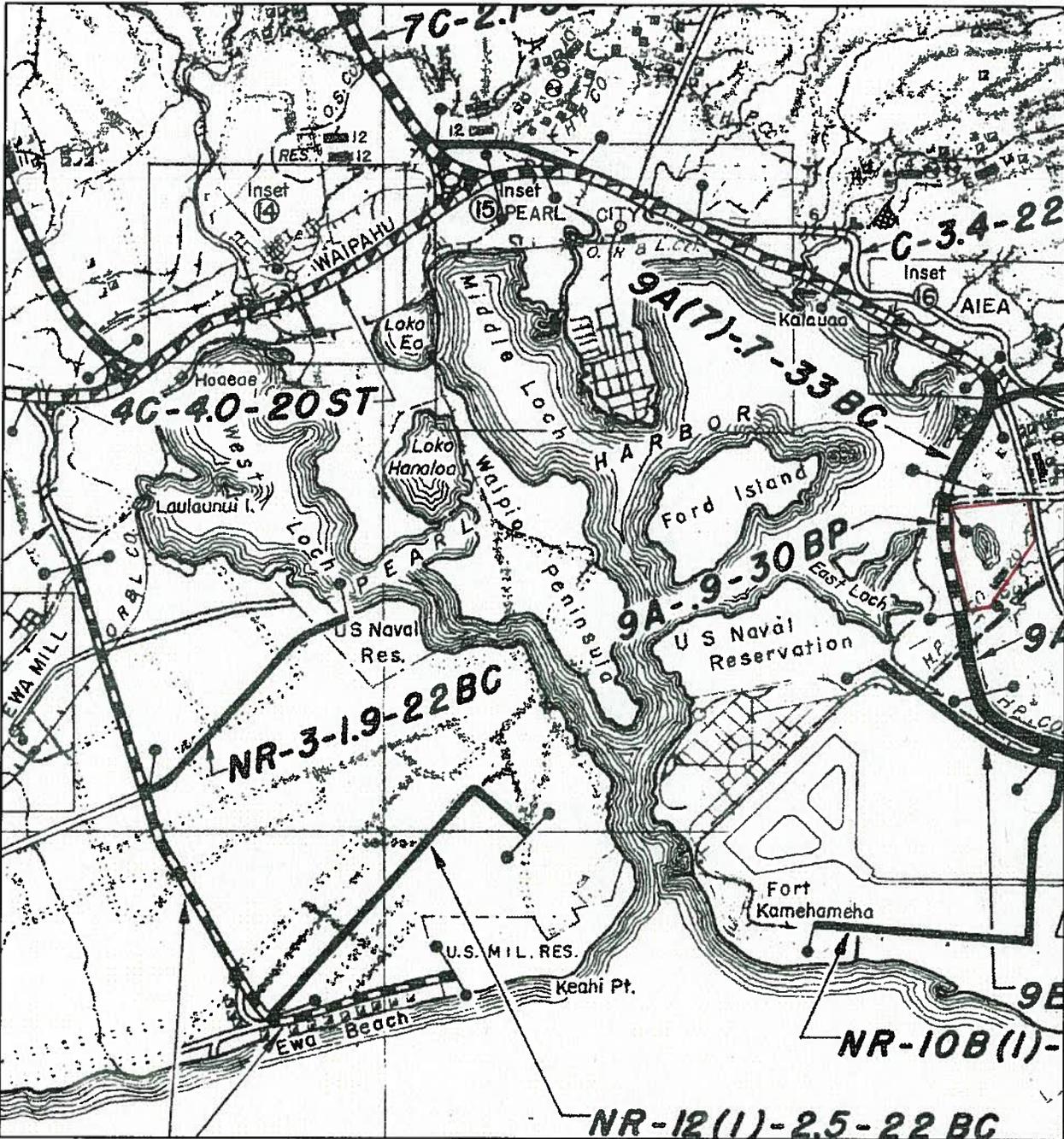


Figure 8-2. Detail of map of the O'ahu Territorial Highway System, showing the general area of the Makalapa Crater outlined in red, prepared by the Territorial Highway Department in cooperation with the Federal Works Agency, Public Roads Administration, 1944. Source: NAVFAC Hawaii Archives, Joint Base Pearl Harbor-Hickam, Honolulu, Hawai'i.

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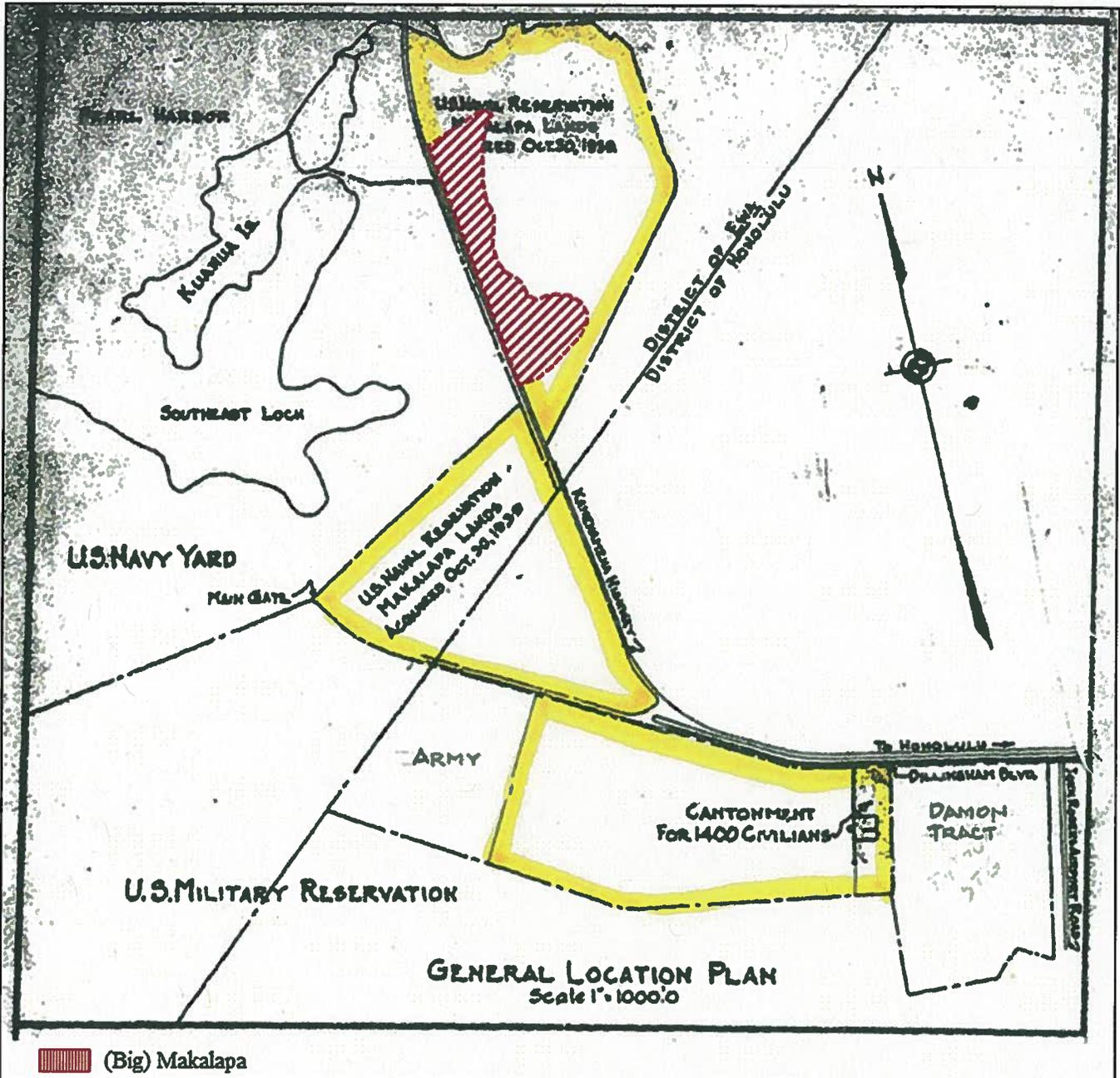


Figure 8-3. Map showing land acquisition by the US Navy, with the Makalapa housing area in red, 1939. Source: NAVFAC Hawaii Archives, Joint Base Pearl Harbor-Hickam, Honolulu, Hawai'i.

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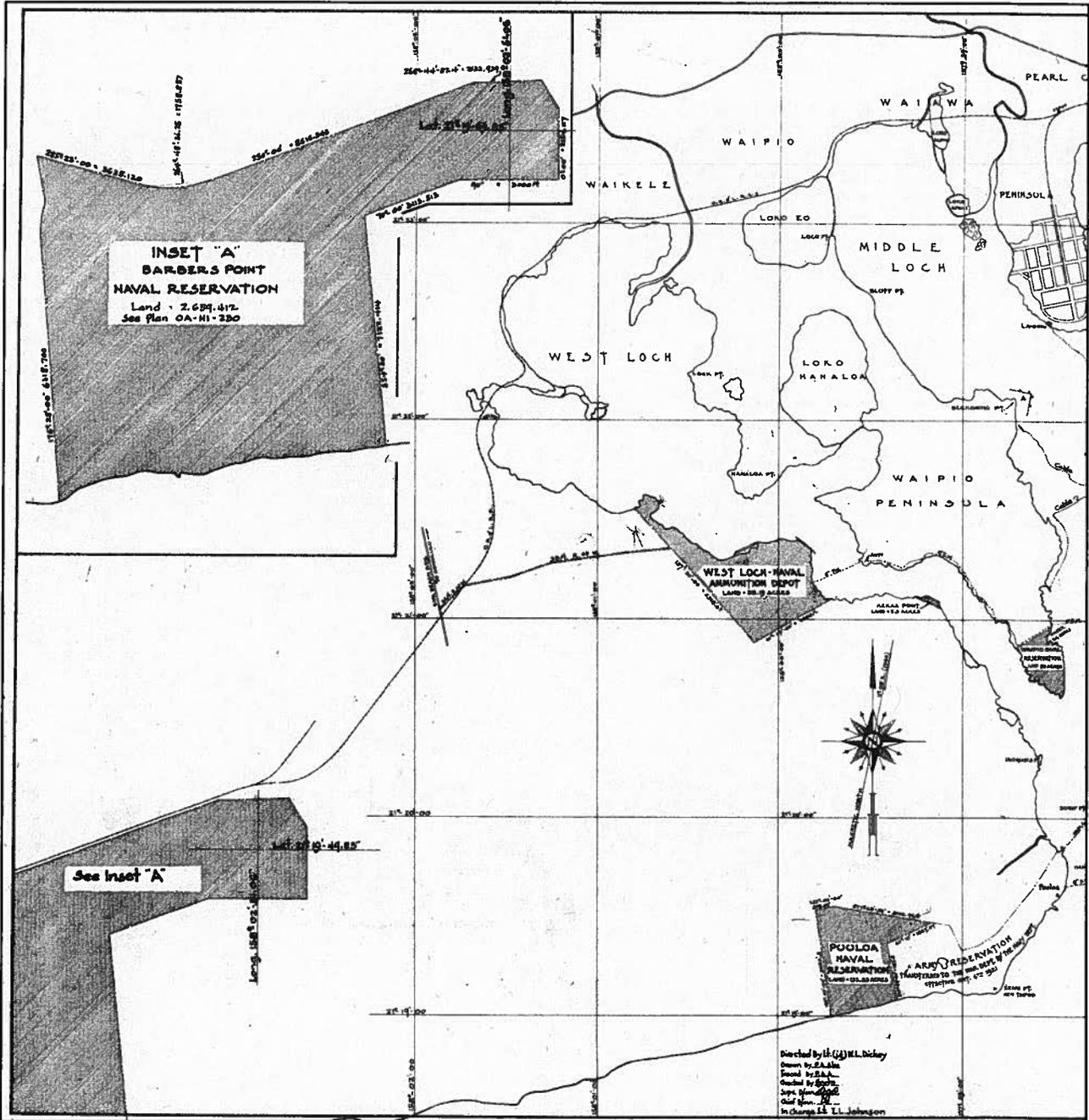


Figure 8-4. Detail of the western section of a map depicting the Navy's land ownership in the Pearl Harbor area in 1940 (the Makalapa area will appear on the western section, on the following page). Source: National Archives, College Park, Maryland, Cartographic Collection, Record Group 70.

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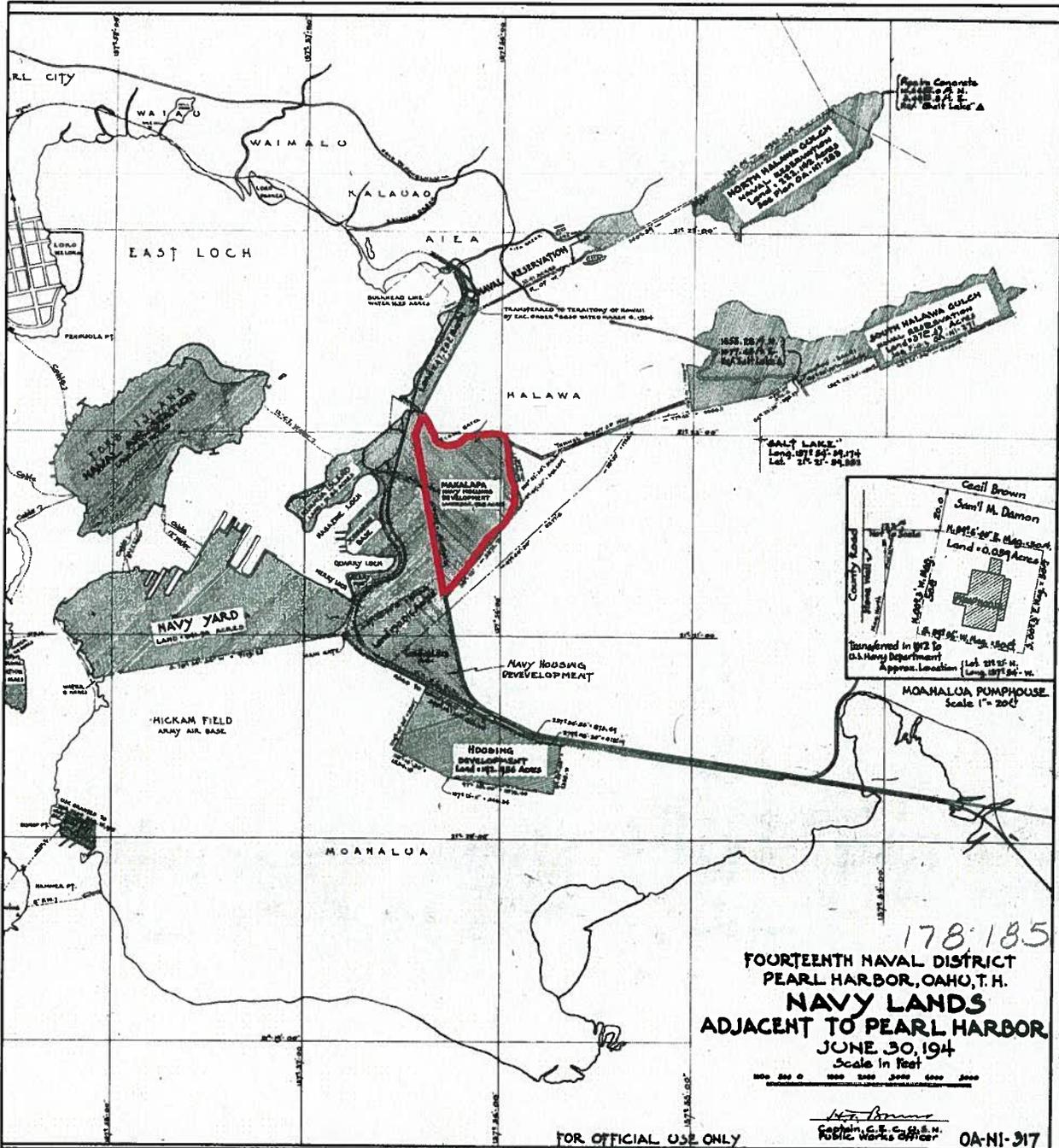


Figure 8-5. Detail of the western section of a map depicting the Navy's land ownership in the Pearl Harbor area in 1940. The general Makalapa area is shown in red. Source: National Archives, College Park, Maryland, Cartographic Collection, Record Group 70.

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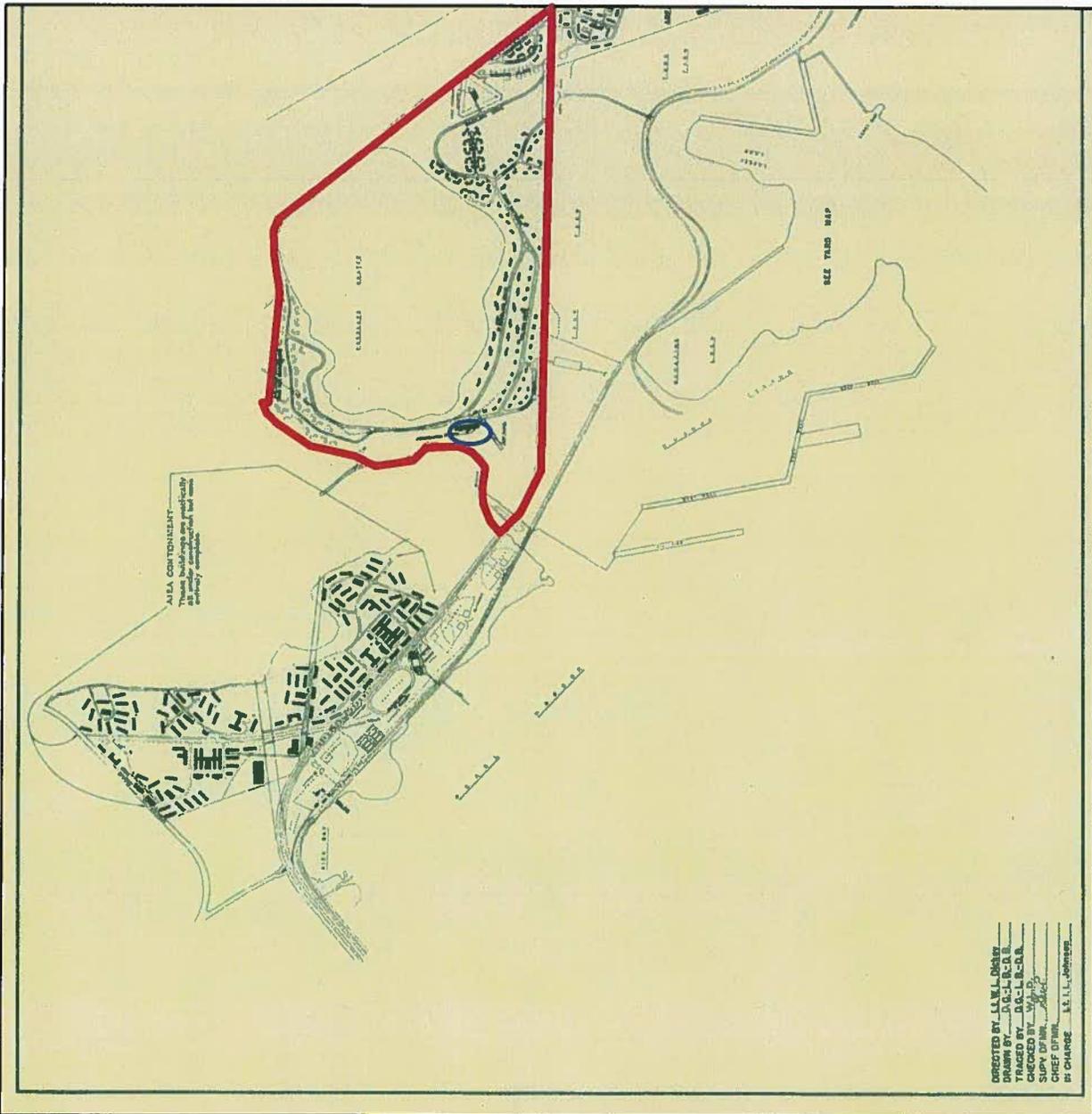


Figure 8-6. Detail of northern half of map showing how the Navy's 1939 land acquisition (depicted in fig. 3) would be platted for housing development by 1942. Potential expansion of the Makalapa area on the eastern side of the crater is shown here, but was never executed. The general Makalapa area is in red and the CINCPAC building is circled in blue. Source: NAVFAC Hawaii Archives, Joint Base Pearl Harbor-Hickam, Honolulu, Hawai'i.

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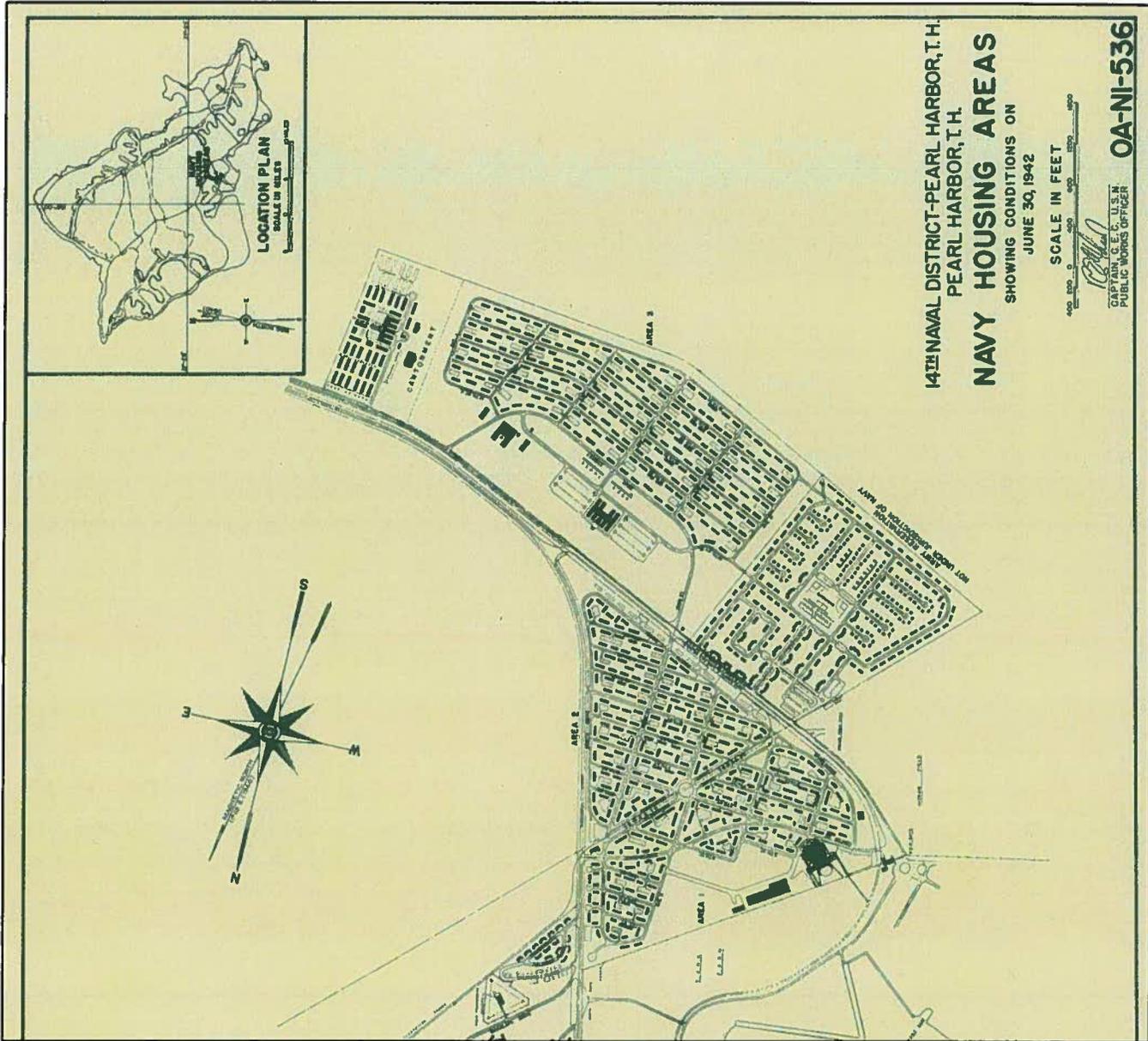


Figure 8-7. Detail of southern half of map showing how the Navy's 1939 land acquisition (depicted in fig. 3) would be platted for housing development by 1942. Source: NAVFAC Hawaii Archives, Joint Base Pearl Harbor-Hickam, Honolulu, Hawai'i.

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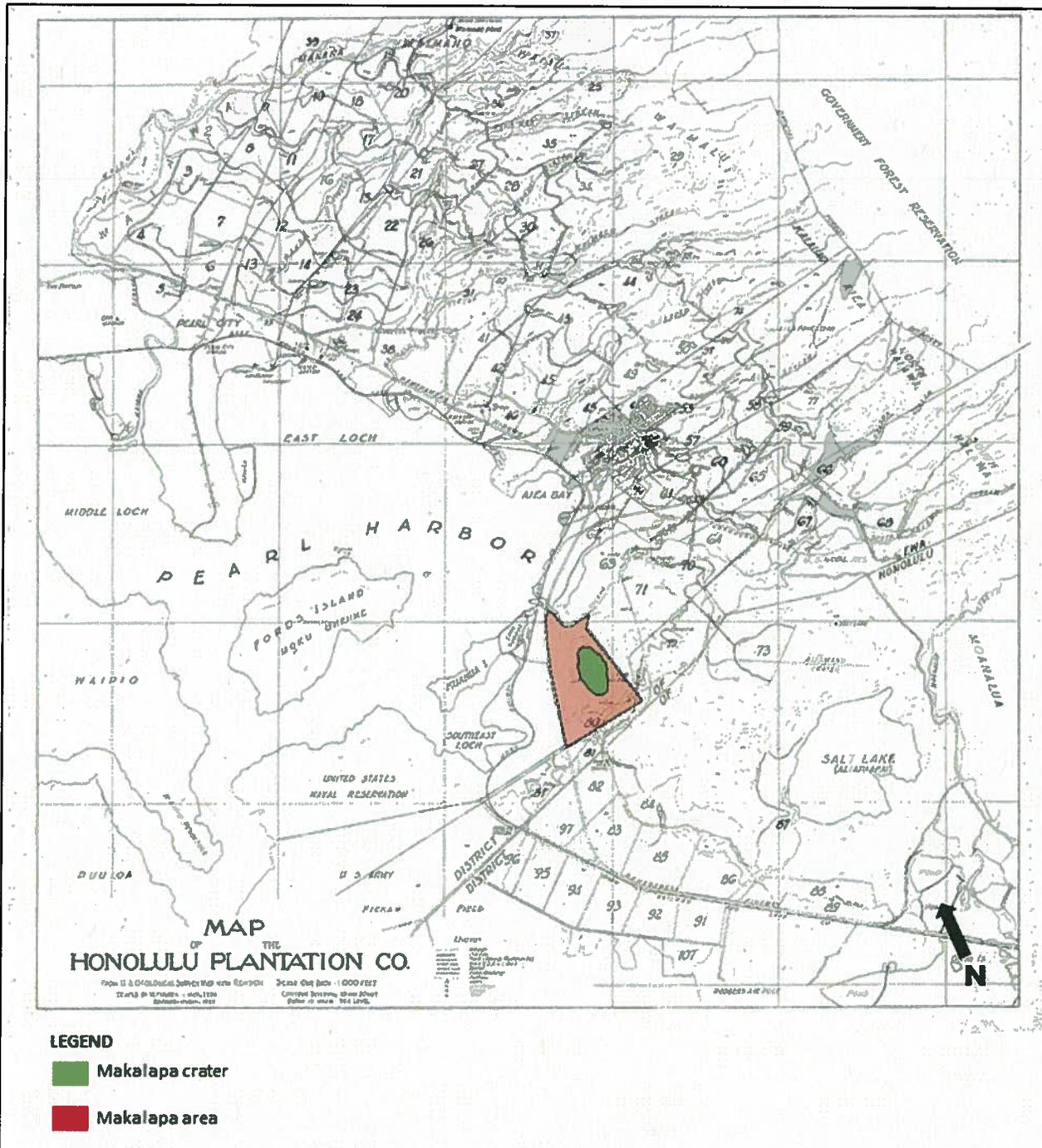


Figure 8-8. Map of Hālawā ahupua'a and the lands of Honolulu Plantation company. Source: NAVFAC Hawaii Archives, Joint Base Pearl Harbor-Hickam, Honolulu, Hawai'i.

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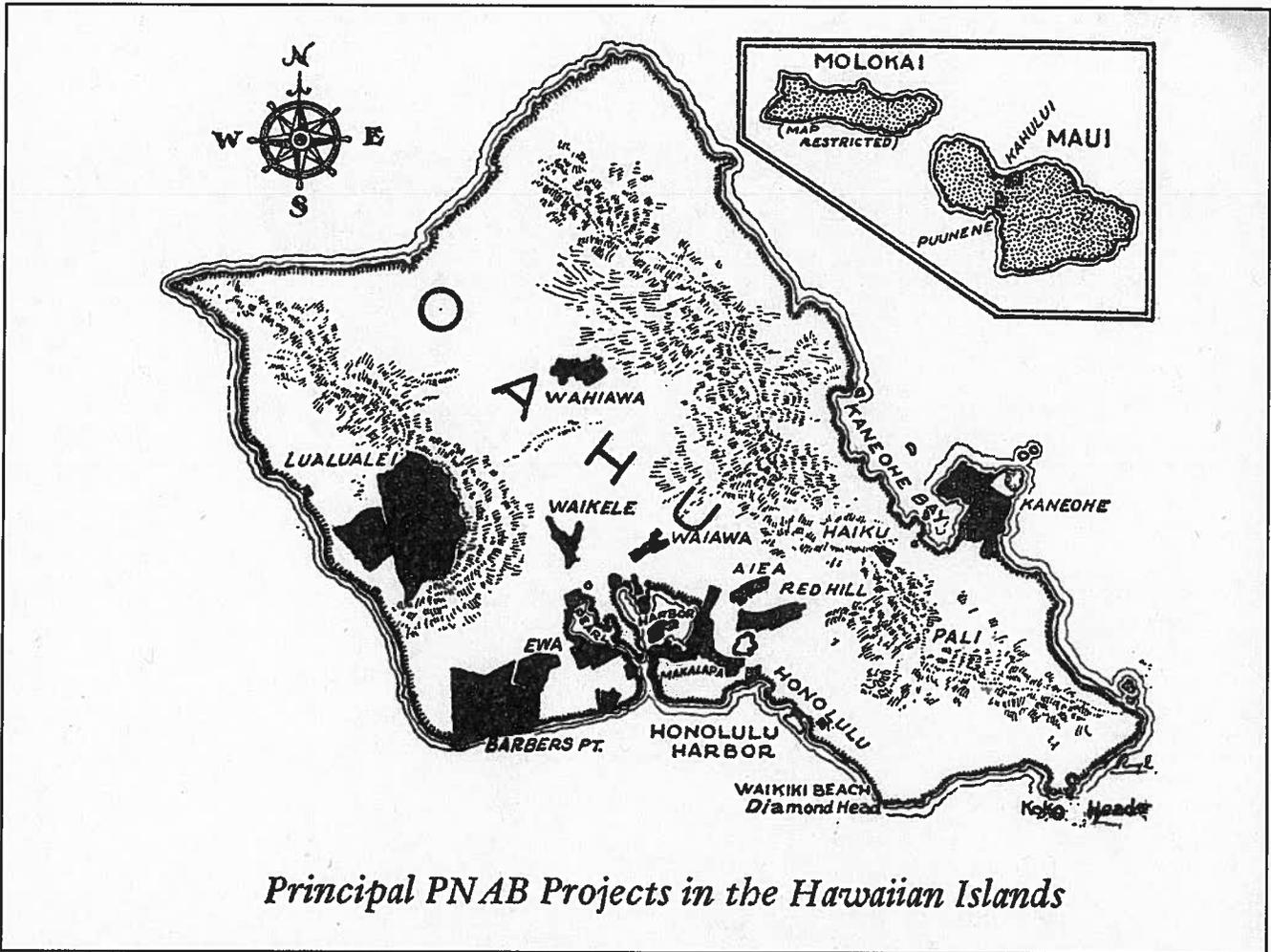


Figure 8-9. Map showing the geographic distribution of CPNAB projects in the Hawaiian Islands. Source: NAVFAC Hawaii Archives, Joint Base Pearl Harbor-Hickam, Honolulu, Hawai'i.

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Figure 8-10. A photograph taken from Admiral Kimmel's home on December 7, 1941 demonstrates his residency on Makalapa Drive with other houses nearby by that date. Source: NAVFAC Hawaii Archives, Joint Base Pearl Harbor-Hickam, Honolulu, Hawai'i.

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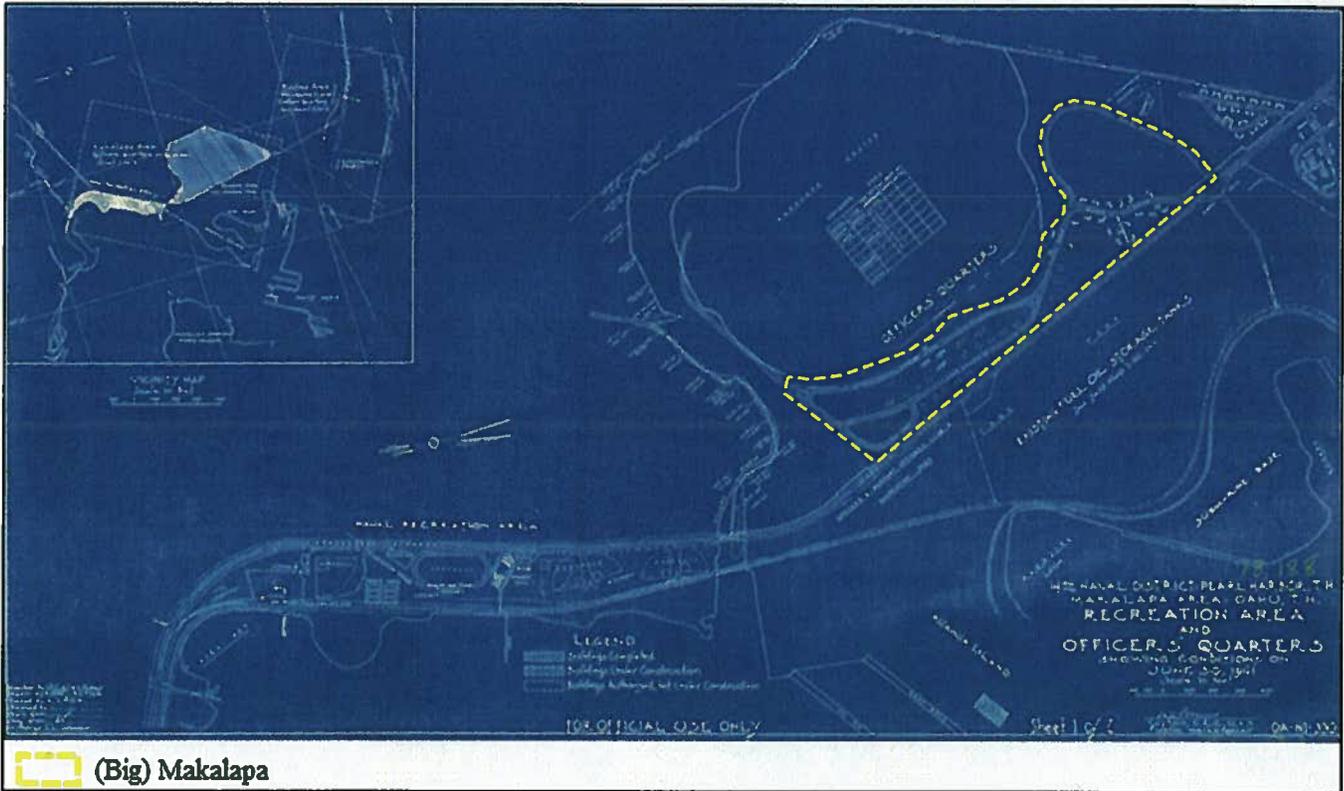


Figure 8-11. June 30, 1941 map showing the progress of Navy housing construction in Makalapa Historic District. Source: NAVFAC Hawaii Archives, Joint Base Pearl Harbor-Hickam, Honolulu, Hawai'i.

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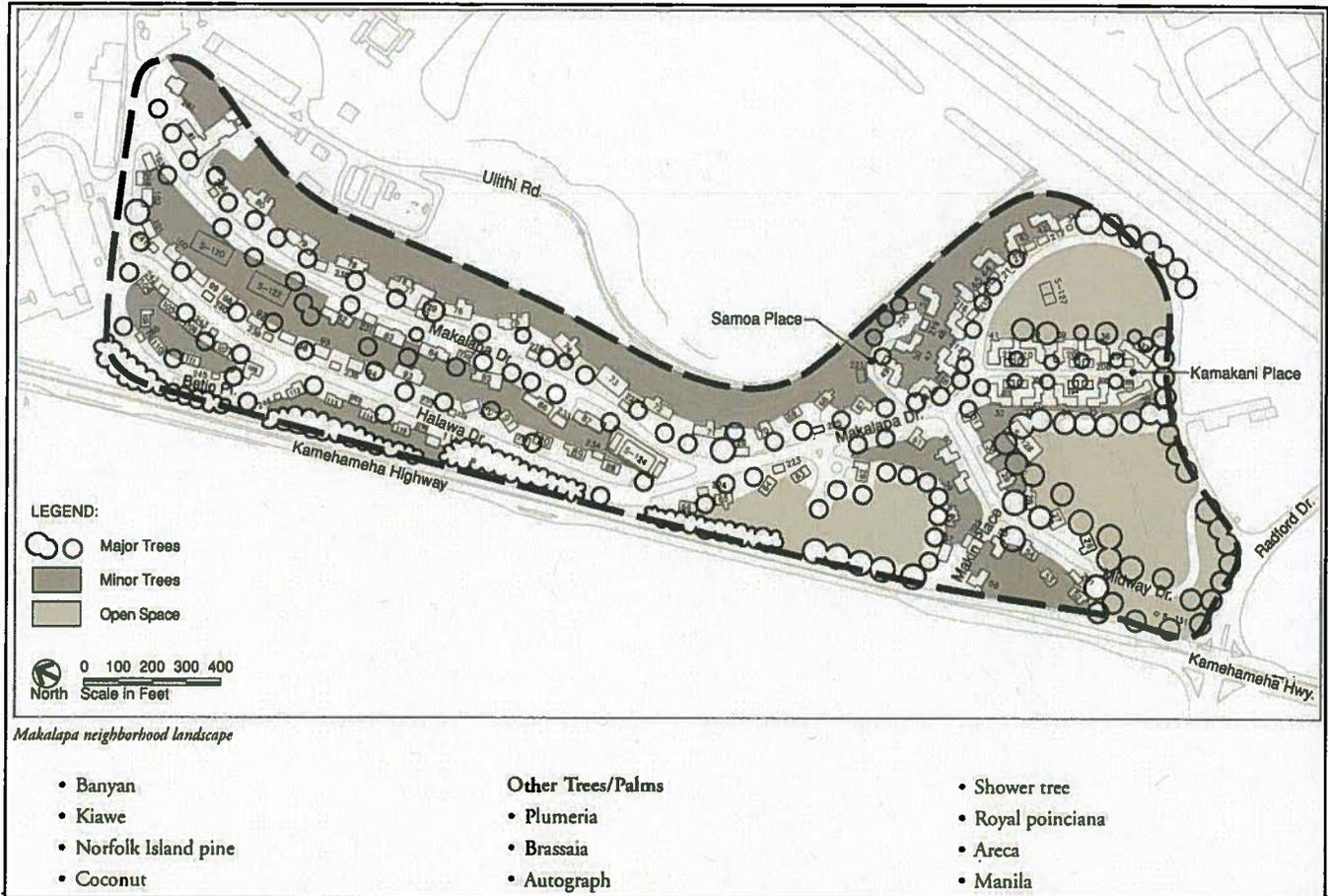


Figure 8-12. Planting map of the Makalapa area. Source: Mason Architects and Belt Collins Hawaii, Historic Context Study of Historic Military Family Housing in Hawaii (Washington, D.C.: Department of Defense Legacy Resources Management Program, 2003): 5-102.

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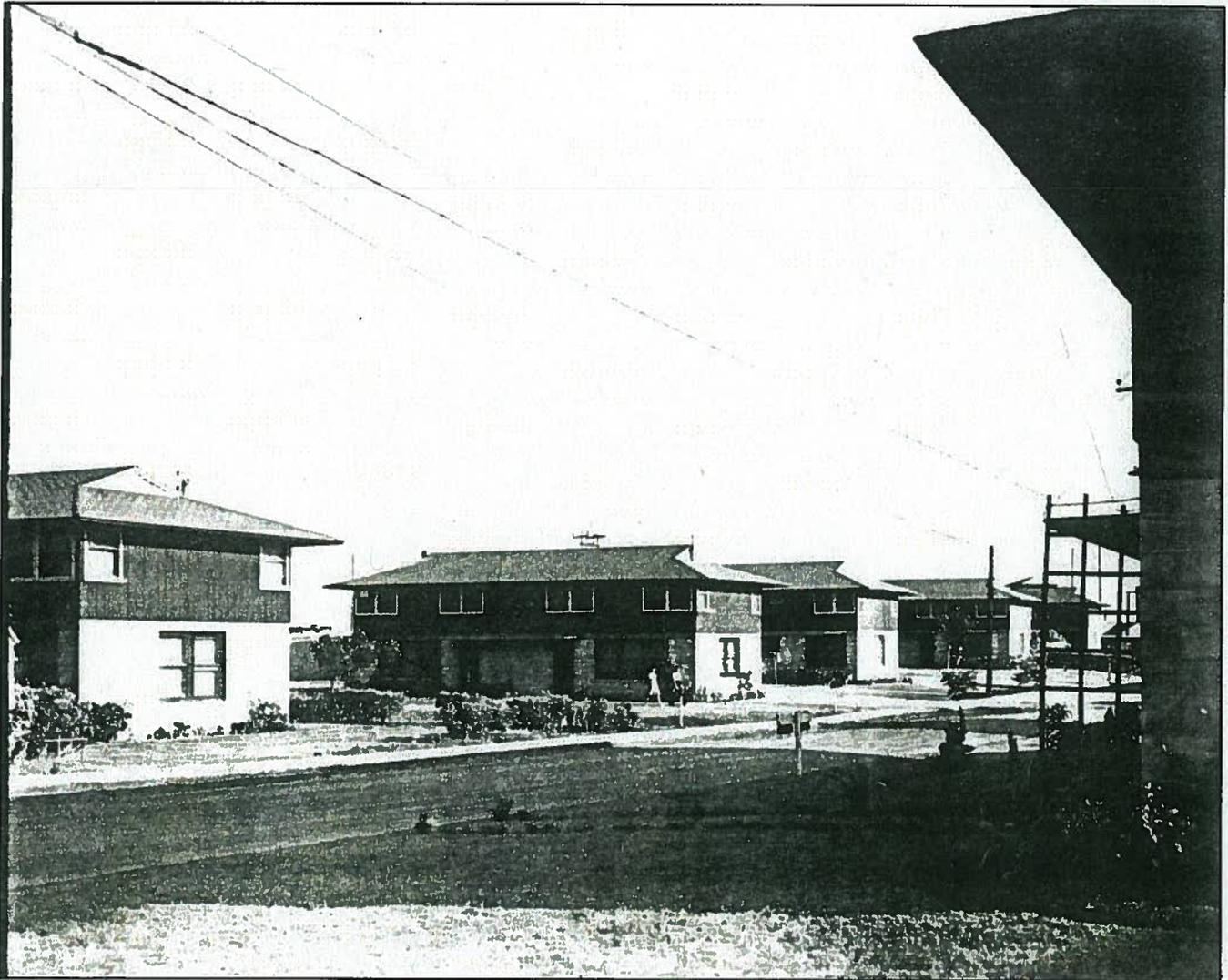


Figure 8-13. Historic photograph showing the utilitarian architecture in Naval Housing Area No. 1, ca. 1942, while the area was still under construction. The simplicity of these houses contrasts with the attention to detail in Makalapa housing. While design features on these houses are minimal, the use of corner windows and the flat, unornamented wall surfaces nod to the influence of Modern architecture. The double-sloped hipped roofs are closely associated with Dickey's signature style. Source: NAVFAC Hawaii Archives, Joint Base Pearl Harbor-Hickam, Honolulu, Hawai'i.

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Figure 8-14. Photo showing Facility No. 78, Senior Officers Quarters, 1998. Photographed by Mason Architects. Source: NAVFAC Hawaii Archives, Joint Base Pearl Harbor-Hickam, Honolulu, Hawai'i, File "325 Fac. 0078 SENIOROFFICERS' QUARTERS MAKALAPA NAVSTA."

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Figure 8-15. Photograph of the Alexander and Baldwin Building in downtown Honolulu, designed by C. W. Dickey in 1929. Source: Historic Hawaii Foundation.

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Figure 8-16. Portrait of Dickey's staff, including a number of Japanese architects. Source: William Dickey Merrill, "Charles William Dickey, Architect" *Hawaii Architect* (January 1997), 15.

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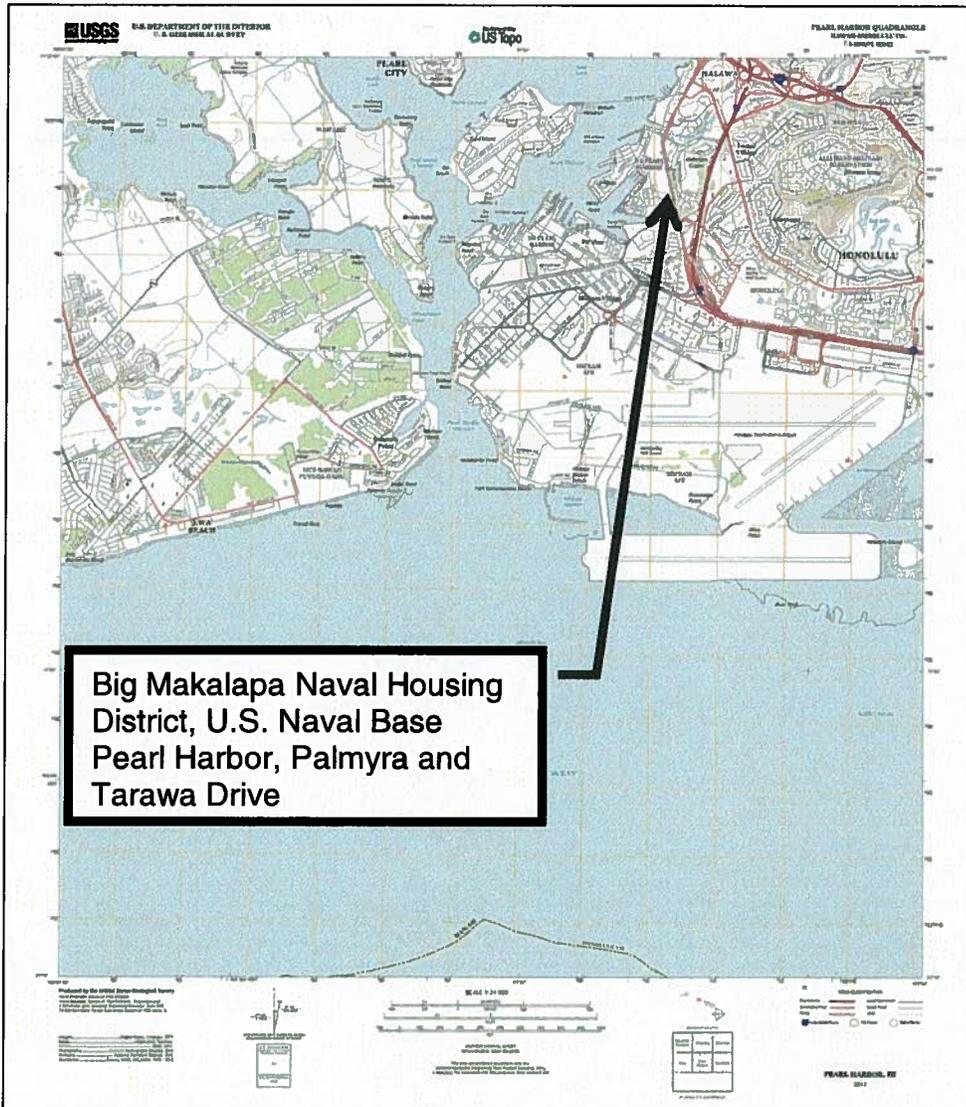
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GEOGRAPHICAL MAP



Map showing location of Big Makalapa Naval Housing Historic District, U.S. Naval Base Pearl Harbor. USGS, Pearl Harbor Quadrangle, 2013.

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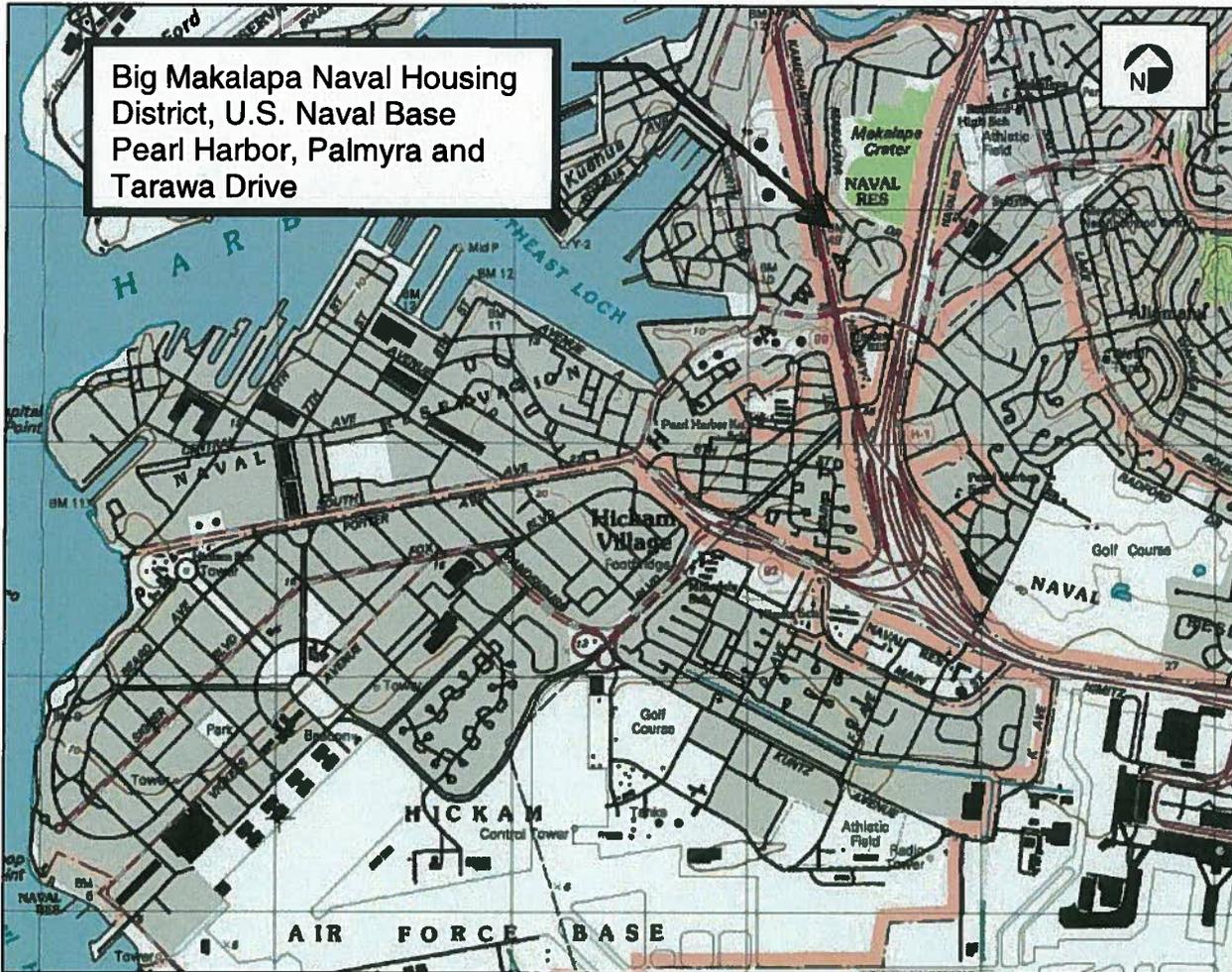
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Map showing location of Big Makalapa Naval Housing Historic District, U.S. Naval Base Pearl Harbor. USGS, 1999.

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Map showing location of Big Makalapa Naval Housing Historic District, U.S. Naval Base Pearl Harbor.

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PHOTO KEY MAP

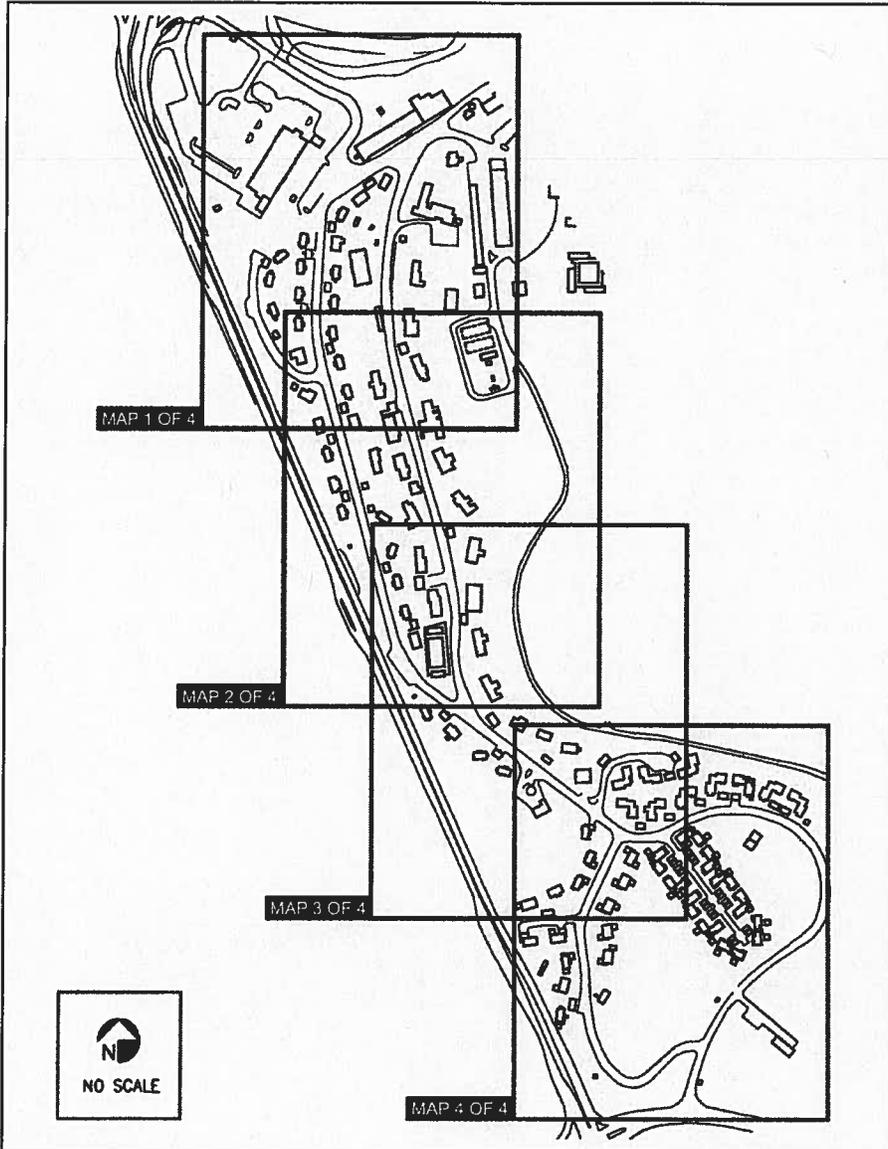


Photo Key Overview..

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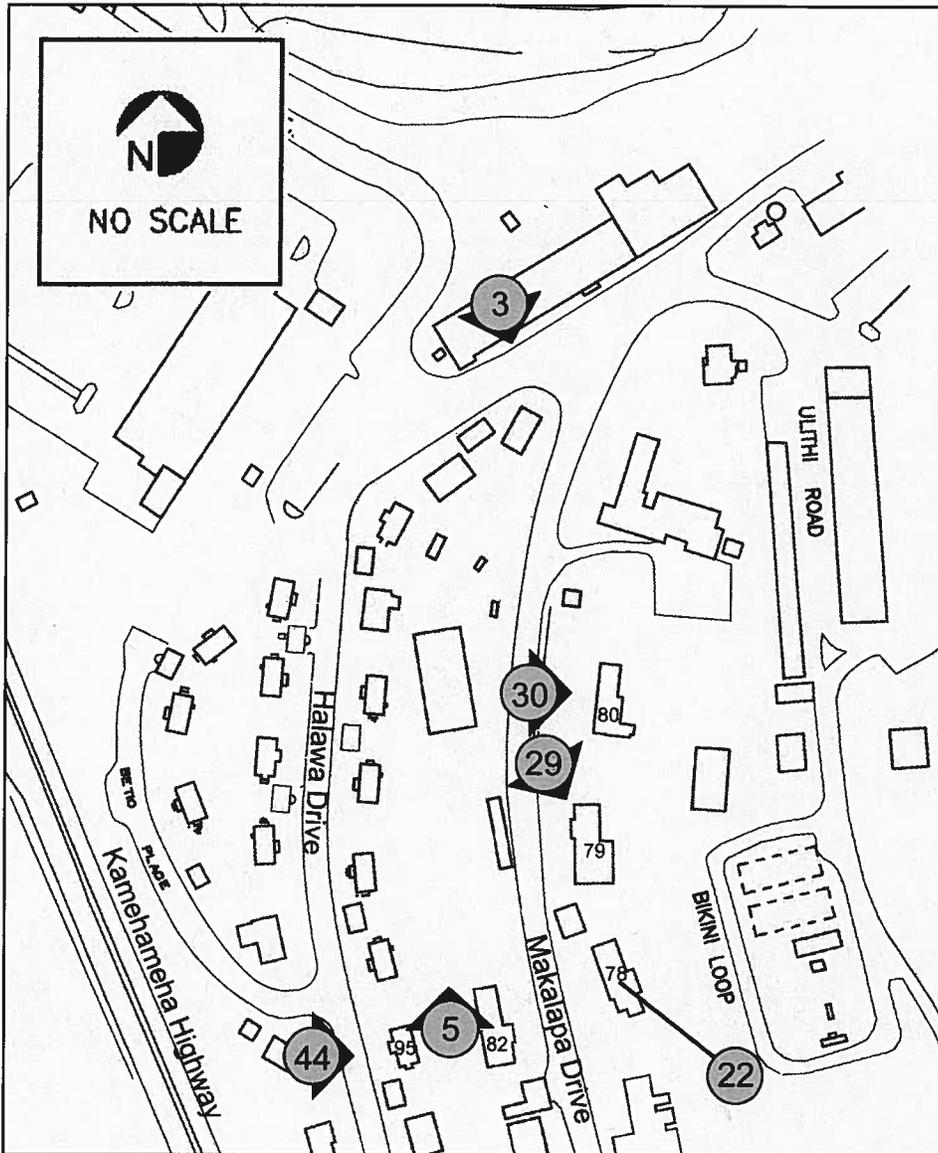


Photo Key 1 of 4.

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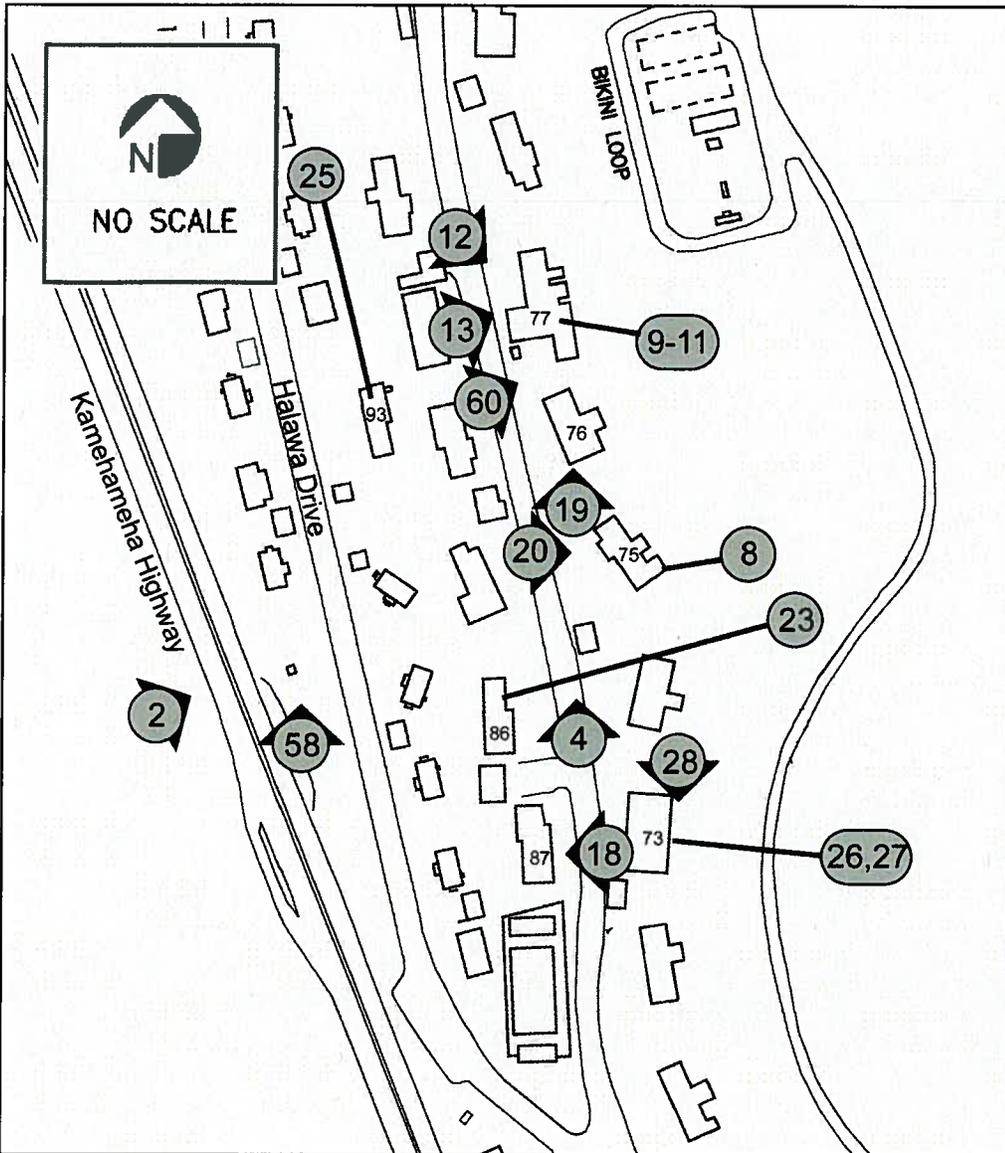


Photo Key 2 of 4.

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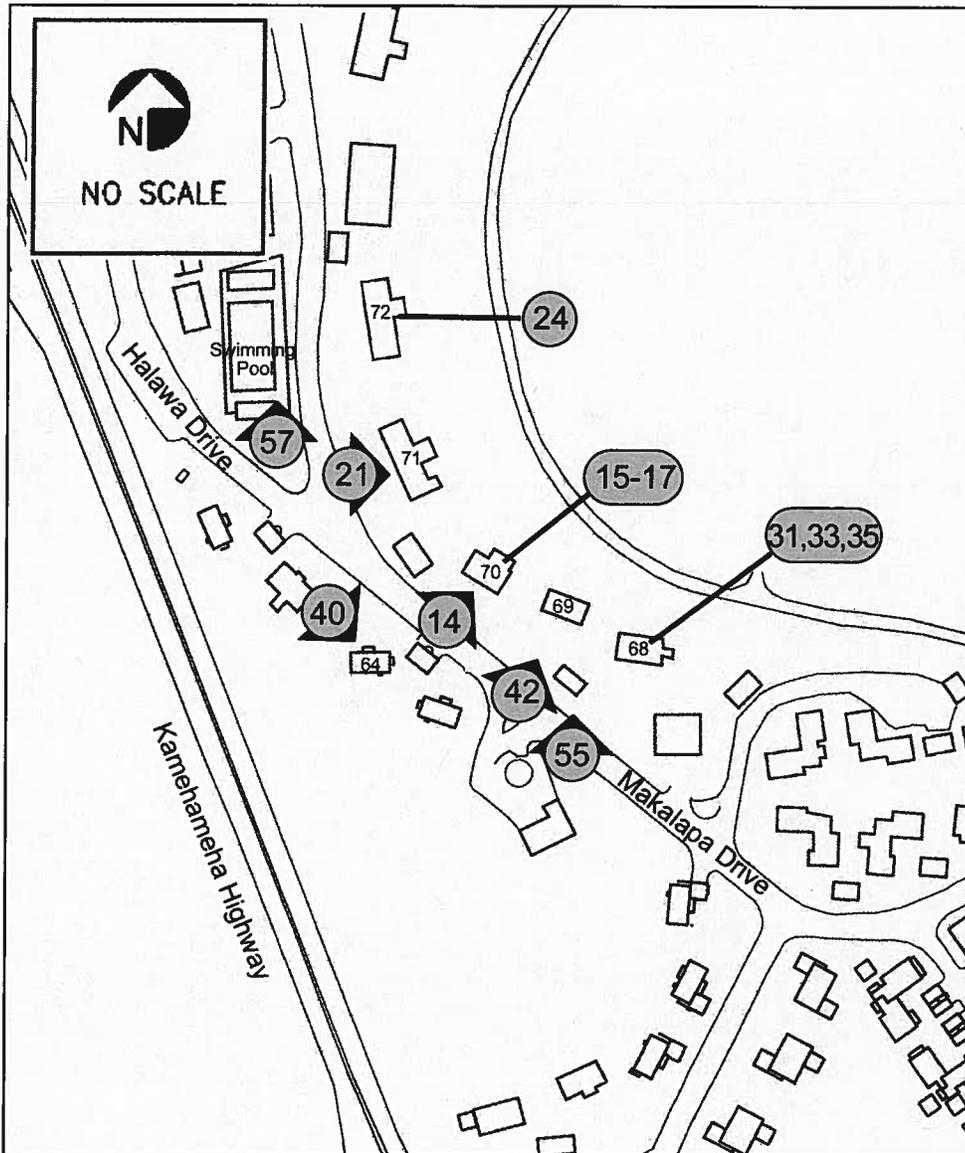


Photo Key 3 of 4.

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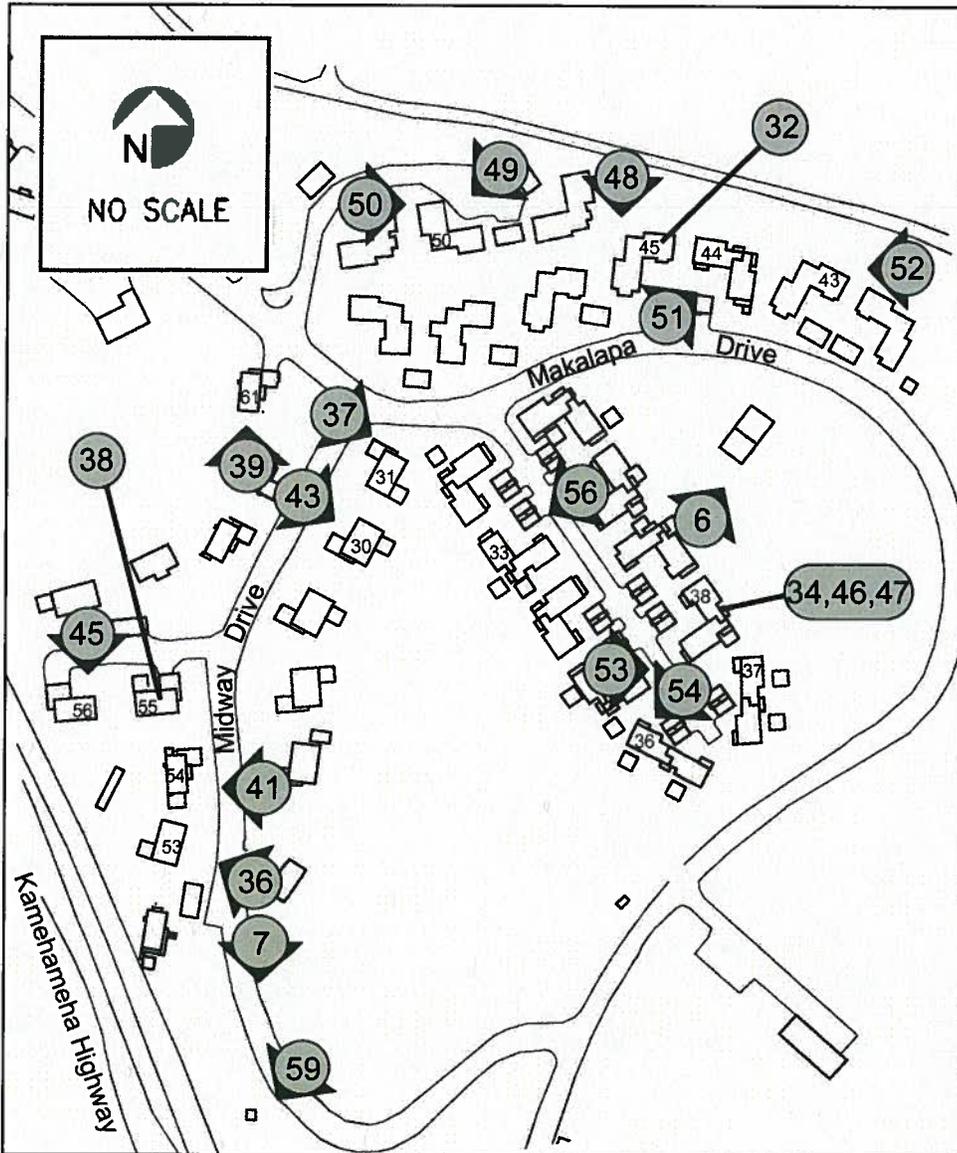


Photo Key 4 of 4.

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PHOTOGRAPHS



Photo 1 of 58. (HI_Honolulu County_MakalapaNavyHousingHD_0001.tif).
View to northeast. View of the neighborhood from makai side of Kamehameha Highway.
Photographer: Ann Yoklavich
Date Photo graphed: August 2013

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Photo 2 of 58 (HI_Honolulu County_MakalapaNavyHousingHD_0002.tif).

View to southeast. View of neighborhood showing Makalapa Drive on the left and Hālawa Drive to the right.

Photographer: Ann Yoklavich

Date Photographed: August 2013

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Photo 3 of 58 (HI_Honolulu County_MakalapaNavyHousingHD_0003.tif).
View to north. View along Makalapa Drive with Fac. No. 75 in the background.
Photographer: Ann Yoklavich
Date Photographed: August 2013

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Photo 4 of 58 (HI_Honolulu County_MakalapaNavyHousingHD_0004.tif)

View to north. View along the backyards of Fac. Nos. 95 to 98.

Photographer: Ann Yoklavich

Date Photographed: August 2013

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Photo 5 of 58 (HI_Honolulu County_MakalapaNavyHousingHD_0005.tif)

View to northeast. View across grassy, open space with Fac. Nos. 44 (left) and 43 (right) in the background.

Photographer: Ann Yoklavich

Date Photographed: August 2013

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Photo 6 of 58 (HI_Honolulu County_MakalapaNavyHousingHD_0006.tif)

View to south. View from Midway Drive looking toward the intersection of Kamehameha Highway and Radford Drive.

Photographer: Ann Yoklavich

Date Photographed: August 2013

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Photo 7 of 58 (HI_Honolulu County_MakalapaNavyHousingHD_0007.tif)

View to southwest. Interior view of typical kitchen renovation by Forest City. Fac. No. 75.

Photographer: Forest City

Date Photographed: September 2009

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Photo 8 of 58 (HI_Honolulu County_MakalapaNavyHousingHD_0008.tif)

View to east. Exterior view of brick screen covering a window in Type A, Bath 1.

Photographer: Dee Ruzicka

Date Photographed: January 2002

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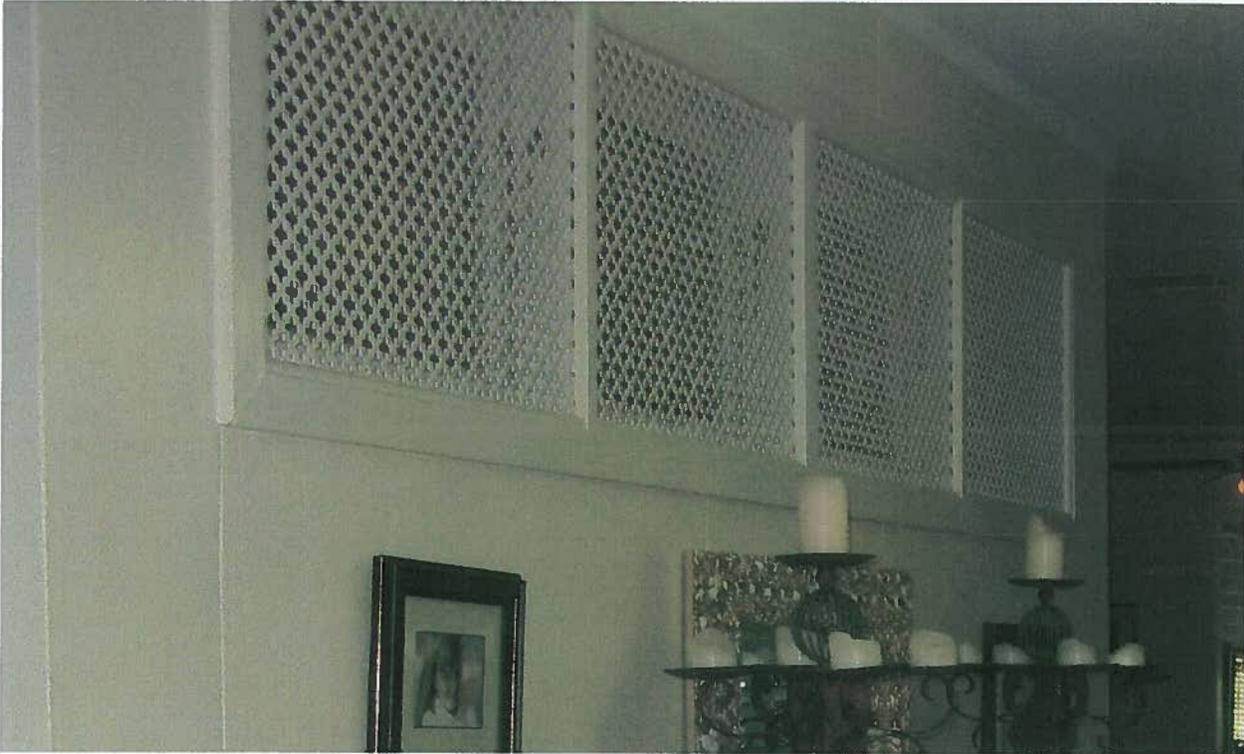


Photo 9 of 58 (HI_Honolulu County_MakalapaNavyHousingHD_0009.tif)

View to southeast. Interior view of decorative screen on the front entry side of the windows between the library and front entry in Type A.

Photographer: Forest City

Date Photographed: August 2010

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Photo 10 of 58 (HI_Honolulu County_MakalapaNavyHousingHD_0010.tif)
View of a typical screen over a recessed light fixture in the Living Room of Type A.
Photographer: Forest City
Date Photographed: May 2007

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Photo 11 of 58 (HI_Honolulu County_MakalapaNavyHousingHD_0011.tif)

View to southeast. Exterior view of the front entry of Type A.

Photographer: Dee Ruzicka

Date Photographed: January 2002

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Photo 12 of 58 (HI_Honolulu County_MakalapaNavyHousingHD_0012.tif)

View to northeast. View of front façade of Type B.

Photographer: Forest City

Date Photographed: April 2008

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Photo 13 of 58 (HI_Honolulu County_MakalapaNavyHousingHD_0013.tif)
View to west. View of pivoting door between the dining room and kitchen of Type B.
Photographer: Angela Thompson
Date Photographed: July 2007

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Photo 14 of 58 (HI_Honolulu County_MakalapaNavyHousingHD_0014.tif)

View of single-panel door in Type B. This door is common in Types B, I, J, K, L, M, N, and O.

Photographer: Angela Thompson

Date Photographed: July 2007

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Photo 15 of 58 (HI_Honolulu County_MakalapaNavyHousingHD_0015.tif)
View to north. View of the second floor stair hall of Type B. The pivoting windows between the stair hall and bedroom 3 are on the right.
Photographer: Angela Thompson
Date Photographed: July 2010

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Photo 16 of 58 (HI_Honolulu County_MakalapaNavyHousingHD_0016.tif)

View to west. Front façade of Fac. No. 87, 28 Makalapa Drive, representing a typical Type C unit.

Photographer: Dee Ruzicka

Date Photographed: September 2002

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Photo 17 of 58 (HI_Honolulu County_MakalapaNavyHousingHD_0017.tif)

View to north. Exterior view of the side of Fac. No. 76, 35 Makalapa Drive, representing a typical Type C unit. This view shows the original hip roof with gable in between the enclosed lanai on the left and the utility room addition on the right. The two-story portion of the unit is seen in the background.

Photographer: Ann Yoklavich

Date Photographed: August 2013

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Photo 18 of 58 (HI_Honolulu County_MakalapaNavyHousingHD_0018.tif)

View to east. Exterior view of Type C Fac. No. 75, 33 Makalapa Drive, illustrating the brick screened windows on the first floor and the symmetrical window arrangement on the second floor.

Photographer: Dee Ruzicka

Date Photographed: September 2002

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Photo 19 of 58 (HI_Honolulu County_MakalapaNavyHousingHD_0019.tif)
View to east. View of front façade of Type C Fac. No. 71, 25 Makalapa Drive, showing the slightly different second floor window arrangement.
Photographer: Forest City
Date Photographed: July 2010

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Photo 20 of 58 (HI_Honolulu County_MakalapaNavyHousingHD_0020.tif)

View to northeast. Interior view of the second floor stair hall of Type C Fac. No. 78, 39 Makalapa Drive, showing the historic fir flooring and handrail.

Photographer: Forest City

Date Photographed: July 2010

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Photo 21 of 58 (HI_Honolulu County_MakalapaNavyHousingHD_0021.tif)

View to southwest. Interior view of Type C Fac. No. 86, 30 Makalapa Drive, showing the stair as viewed from the front entry.

Photographer: Forest City

Date Photographed: December 2009

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Photo 22 of 58 (HI_Honolulu County_MakalapaNavyHousingHD_0022.tif)

View of Type C Fac. No. 72, 27 Makalapa Drive, of typical door between the dining room and kitchen.

Photographer: Dee Ruzicka

Date Photographed: August 2002

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Photo 23 of 58 (HI_Honolulu County_MakalapaNavyHousingHD_0023.tif)

View to northeast. Interior view of second floor hall in Type C Fac. No. 93, 37 Hālawa Drive, showing the historic canec ceiling, the window between Bedroom 2 and the stair hall, the wood railing on the low wall around the stair, the built-in bookcase, and wood trellis.

Photographer: Forest City

Date Photographed: June 2008

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Photo 24 of 58 (HI_Honolulu County_MakalapaNavyHousingHD_0024.tif)
View to north. Interior view of Type D addition off of the rear of the house. The original exterior wall is seen on the left in the photo.
Photographer: Forest City
Date Photographed: June 2008

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Photo 25 of 58 (HI_Honolulu County_MakalapaNavyHousingHD_0025.tif)
View to northeast. Interior view of Type D enclosed front lanai showing the doors leading to the living room on the left and to the utility area on the right.
Photographer: Forest City
Date Photographed: June 2008

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Photo 26 of 58 (HI_Honolulu County_MakalapaNavyHousingHD_0026.tif)

View to south. Exterior view of Type D addition off of the rear of the house.

Photographer: Forest City

Date Photographed: June 2008

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Photo 27 of 58 (HI_Honolulu County_MakalapaNavyHousingHD_0027.tif)

View to southeast. View of front façade of Type F Fac. No. 79, 41 Makalapa Drive.

Photographer: Ann Yoklavich

Date Photographed: August 2013

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Photo 28 of 58 (HI_Honolulu County_MakalapaNavyHousingHD_0028.tif)
View to east. View of front façade of Type G Fac. No. 80, 43 Makalapa Drive.
Photographer: Forest City
Date Photographed: December 2007

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Photo 29 of 58 (HI_Honolulu County_MakalapaNavyHousingHD_0029.tif)

View to northwest. Interior view in Type I Fac. No. 68, 19 Makalapa Drive, of typical built-in bench in the kitchen.

Photographer: Forest City

Date Photographed: December 2007

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Photo 30 of 58 (HI_Honolulu County_MakalapaNavyHousingHD_0030.tif)

View to southeast. Interior view in Type L showing a typical built-in bench including the custom support leg.

Photographer: Dee Ruzicka

Date Photographed: April 2002

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Photo 31 of 58 (HI_Honolulu County_MakalapaNavyHousingHD_0031.tif)

View to northwest. Interior view in Type I Fac. No. 68, 19 Makalapa Drive, showing a typical full height built-in bookcase in the living room.

Photographer: Forest City

Date Photographed: December 2 007

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Photo 32 of 58 (HI_Honolulu County_MakalapaNavyHousingHD_0032.tif)

Interior view in a Type M unit showing a typical low built-in bookcase in the living room.

Photographer: Angela Thompson

Date Photographed: April 2009

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Photo 33 of 58 (HI_Honolulu County_MakalapaNavyHousingHD_0033.tif)

View to northeast. Interior view in Type I Fac. No. 68, 19 Makalapa Drive, showing the typical pivot windows between a bedroom and the second-floor stair.

Photographer: Forest City

Date Photographed: December 2007

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Photo 34 of 58 (HI_Honolulu County_MakalapaNavyHousingHD_0034.tif)

View to northwest. View of front façade of Type I Fac. No. 53, 4 Midway Drive.

Photographer: Dee Ruzicka

Date Photographed: January 2002

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Photo 35 of 58 (HI_Honolulu County_MakalapaNavyHousingHD_0035.tif)
View to southeast. View of front façade of Type I Fac. No. 31, 13 Midway Drive.
Photographer: Ann Yoklavich
Date Photographed: August 2013

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Photo 36 of 58 (HI_Honolulu County_MakalapaNavyHousingHD_0036.tif)

View to southeast. View in Type I Fac. No. 55, 3 Makin Place, showing the historic oak flooring which is in the front entry, living room, and dining room.

Photographer: Dee Ruzicka

Date Photographed: April 2003

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Photo 37 of 58 (HI_Honolulu County_MakalapaNavyHousingHD_0037.tif)

View to north. View at Type J Fac. No. 61, 14 Makalapa Drive, showing the historic doors between the dining room and patio as viewed from the patio.

Photographer: Forest City

Date Photographed: May 2007

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Photo 38 of 58 (HI_Honolulu County_MakalapaNavyHousingHD_0038.tif)

View to southeast. View of Type J Fac. No. 64, 22 Makalapa Drive.

Photographer: Dee Ruzicka

Date Photographed: April 2003

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Photo 39 of 58 (HI_Honolulu County_MakalapaNavyHousingHD_0039.tif)

View to west. View of Type J Fac. No. 54, 6 Midway Drive.

Photographer: Dee Ruzicka

Date Photographed: April 2003

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Photo 40 of 58 (HI_Honolulu County_MakalapaNavyHousingHD_0040.tif)

View to northeast. View of Type J Fac. No. 69, 21 Makalapa Drive.

Photographer: Ann Yoklavich

Date Photographed: August 2013

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Photo 41 of 58 (HI_Honolulu County_MakalapaNavyHousingHD_0041.tif)

View to southeast. View of Type J Fac. No. 30, 9 Midway Drive.

Photographer: Dee Ruzicka

Date Photographed: April 2003

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Photo 42 of 58 (HI_Honolulu County_MakalapaNavyHousingHD_0042.tif)

View to east. View of Type K Fac. No. 95, 41 Hālawā Drive.

Photographer: Dee Ruzicka

Date Photographed: April 2003

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Photo 43 of 58 (HI_Honolulu County_MakalapaNavyHousingHD_0043.tif)

View to south. View of Type K Fac. No. 56, 1 Makin Place.

Photographer: Dee Ruzicka

Date Photographed: April 2003

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Photo 44 of 58 (HI_Honolulu County_MakalapaNavyHousingHD_0044.tif)

View in a Type M unit showing a typical view in Types M and N looking from the living room through the hallway to what was historically the maid's room.

Photographer: Angela Thompson

Date Photographed: April 2009

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Photo 45 of 58 (HI_Honolulu County_MakalapaNavyHousingHD_0045.tif)

View in a Type M unit showing a typical view in Types M and N looking toward the kitchen as renovated by Forest City.

Photographer: Angela Thompson

Date Photographed: April 2009

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Photo 46 of 58 (HI_Honolulu County_MakalapaNavyHousingHD_0046.tif)

View to south. Exterior view of Type L.

Photographer: Ann Yoklavich

Date Photographed: August 2013

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Photo 47 of 58 (HI_Honolulu County_MakalapaNavyHousingHD_0047.tif)

View to southwest. Exterior view of Type M Fac. No. 50, 4819 Samoa Place.

Photographer: Ann Yoklavich

Date Photographed: August 2013

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Photo 48 of 58 (HI_Honolulu County_MakalapaNavyHousingHD_0048.tif)

View to east. Exterior view of Type M Fac. No. 50, 4819 Samoa Place.

Photographer: Ann Yoklavich

Date Photographed: August 2013

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Photo 49 of 58 (HI_Honolulu County_MakalapaNavyHousingHD_0049.tif)

View to northeast. Exterior view of Type N Fac. No. 44, 7 Makalapa Drive.

Photographer: Ann Yoklavich

Date Photographed: August 2013

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Photo 50 of 58 (HI_Honolulu County_MakalapaNavyHousingHD_0050.tif)

View to west. Exterior view of Type N Fac. No. 43, 5 Makalapa Drive.

Photographer: Ann Yoklavich

Date Photographed: August 2013

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Photo 51 of 58 (HI_Honolulu County_MakalapaNavyHousingHD_0051.tif)
View to east. View of Type O Fac. No. 37, 4773 Makalapa Drive.
Photographer: Ann Yoklavich
Date Photographed: August 2013

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Name of multiple listing (if applicable)

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Photo 52 of 58 (HI_Honolulu County_MakalapaNavyHousingHD_0052.tif)

View to southwest. View of Type O Fac. No. 36, 4774 Makalapa Drive.

Photographer: Ann Yoklavich

Date Photographed: August 2013

**United States Department of the Interior
National Park Service**

**National Register of Historic Places
Continuation Sheet**

Makalapa Navy Housing Historic District

Name of Property

Honolulu, Hawai'i

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Photo 53 of 58 (HI_Honolulu County_MakalapaNavyHousingHD_0053.tif)

View to north. View of Fac. No. 225, a typical four-car carport.

Photographer: Ann Yoklavich

Date Photographed: August 2013

**United States Department of the Interior
National Park Service**

**National Register of Historic Places
Continuation Sheet**

Makalapa Navy Housing Historic District

Name of Property

Honolulu, Hawai'i

County and State

Name of multiple listing (if applicable)

Section number Additional Documentation Page 62



Photo 54 of 58 (HI_Honolulu County_MakalapaNavyHousingHD_0054.tif)

View to southwest. View of Fac. No. 203, a typical two-car carport.

Photographer: Ann Yoklavich

Date Photographed: August 2013

**United States Department of the Interior
National Park Service**

**National Register of Historic Places
Continuation Sheet**

Makalapa Navy Housing Historic District

Name of Property

Honolulu, Hawai'i

County and State

Name of multiple listing (if applicable)

Section number Additional Documentation Page 63



Photo 55 of 58 (HI_Honolulu County_MakalapaNavyHousingHD_0057.tif)

View to north. View of the pool dressing rooms building, Fac. No. 117, as seen across the pool.

Photographer: Ann Yoklavich

Date Photographed: August 2013

**United States Department of the Interior
National Park Service**

**National Register of Historic Places
Continuation Sheet**

Makalapa Navy Housing Historic District

Name of Property

Honolulu, Hawai'i

County and State

Name of multiple listing (if applicable)

Section number Additional Documentation Page 64



Photo 56 of 58 (HI_Honolulu County_MakalapaNavyHousingHD_0056.tif)

View to north. View of splinterproof structure near Fac. No. 116.

Photographer: Ann Yoklavich

Date Photographed: August 2013

**United States Department of the Interior
National Park Service**

**National Register of Historic Places
Continuation Sheet**

Makalapa Navy Housing Historic District

Name of Property

Honolulu, Hawai'i

County and State

Name of multiple listing (if applicable)

Section number Additional Documentation Page 65



Photo 57 of 58 (HI_Honolulu County_MakalapaNavyHousingHD_0057.tif)

View to southwest. View of Fac. No. S-331.

Photographer: Ann Yoklavich

Date Photographed: August 2013

**United States Department of the Interior
National Park Service**

**National Register of Historic Places
Continuation Sheet**

Makalapa Navy Housing Historic District

Name of Property

Honolulu, Hawai'i

County and State

Name of multiple listing (if applicable)

Section number Additional Documentation Page 66



Photo 58 of 58 (HI_Honolulu County_MakalapaNavyHousingHD_0058.tif)

View to northeast. View of the enclosed garage Fac. No. 229.

Photographer: Ann Yoklavich

Date Photographed: August 2013

Makalapa New Housing Historic District Pearl Harbor, Honolulu County, HI



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U.S. GEOLOGICAL SURVEY

U.S. DEPARTMENT OF DEFENSE
NATIONAL IMAGERY AND MAPPING AGENCY

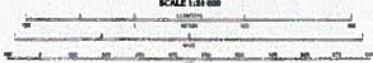
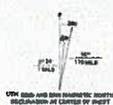
PEARL HARBOR QUADRANGLE
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7.5-MINUTE SERIES (TOPOGRAPHIC)



LAT / LONG References.

1. 21.362171 / -157.937387 MAMALA
2. 21.362309 / -157.934902
3. 21.354360 / -157.932572
4. 21.353671 / -157.935415

Produced by the United States Geological Survey in cooperation with the National Imagery and Mapping Agency. Topographic map of 1983. Photographic Aerial Base Mapping. Survey 1978 and other. Survey coordinates as of 1983. Horizontal datum is NAD 83. Vertical datum is MSL. Contour interval is 10 feet. This map is published in accordance with the boundaries of the Makalapa New Housing Historic District as shown on this map. Landmark buildings omitted 1988.



CONTOUR INTERVAL 10 FEET
SUPPLEMENTARY CONTOUR INTERVAL 10 FEET
DOTTED IS MEAN SEA LEVEL
M.S.L. MEAN SEA LEVEL BY THE APPROXIMATELY 1 FOOT
TO CORRECT FROM FEET TO METERS, MULTIPLY BY 0.3048

THIS MAP COMPLETES WITH NATIONAL MAP ACCURACY STANDARDS
FOR SALE BY U.S. GEOLOGICAL SURVEY, P.O. BOX 2588, DENVER, COLO. 80225
A FOLDER INCLUDING TOPOGRAPHIC MAPS AND SYMBOLS IS AVAILABLE ON REQUEST

ROAD TYPE	SYMBOL
1	2
3	4
5	6
7	8
9	10

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1999
USGS NAD
HISTORICAL MAP ARCHIVES

