

Hamilton Field, Maintenance Hangars
(Facility Nos. 370, 380, 390)
Hangar Avenue between 6th Street
and San Pablo Avenue
Novato
Marin County
California

HABS No. CA-2398-H

HABS
CAL
21-NOVA,
1H-

PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

Historic American Buildings Survey
National Park Service
Department of the Interior
San Francisco, California

HISTORIC AMERICAN BUILDING SURVEY

HAMILTON FIELD
Maintenance Hangars
(Facility Nos. 370, 380, 390)

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Location: Hamilton Army Air Field
Novato, Marin County, California
Maintenance Hangars
Facility Nos. 370, 380, 390 (Hangar Avenue between 6th Street and San Pablo Avenue)

U.S.G.S.: Novato, CA. Quadrangle (7.5' series), 1954 (revised 1980)
Petaluma Point, CA. Quadrangle (7.5' series), 1959 (revised 1980)
UTM Coordinates: Zone 10; A: 542100/4213620; B: 544720/4212220;
C: 542760/4210650; D: 541040/4212600

Present Owner: General Services Administration, Washington, D. C.

Present Occupant: Vacant (Facility Nos. 370 and 380), U.S. Coast Guard (Facility No. 390)

Present Use: Vacant (Facility Nos. 370 and 380), hangar/offices (Facility No. 390)

Statement of Significance:

The air field double hangars were used for storage and maintenance of aircraft of all types. Each hangar was capable of housing 20 planes. During the war the hangars were painted in camouflage to conceal them from overhead view, and served not only as storage and repair buildings but as defensive facilities as well, demonstrating the manner in which the base was adapted to wartime operation. These buildings are an example of the application of an important architectural trend (Spanish Colonial Revival) adapted to reflect California's Mission heritage in a departure from traditional military architecture.

See narrative for Hamilton Field (HABS No. CA-2398) for a comprehensive Statement of Significance and individual report HABS No. CA-2398-F for a condensed general Statement of Significance.

PART I: HISTORICAL INFORMATION

A. Physical History:

1. **Date of Erection:** The contract for these buildings was awarded on November 10, 1933, and construction on the maintenance hangars was completed on November 12, 1934 (Hamilton Facility Cards 1933-1971).

2. **Architect:** Hamilton Field was designed under the guidance of Captain Howard B. Nurse, Construction Quartermaster. He was assisted by a corps of civilians headed by H. P. Spencer, Chief Architect, and F. W. Salfinger, Chief Engineer. Captain F. C. Petes and Lieutenant J. H. Veal of the Quartermaster's Corps were detailed to Marin County by the War Department to assist Nurse (*Novato Advance* May 28, 1932). Landscaping efforts were directed by C. C. Stevens, a local landscape engineer, using plantings chosen by Nurse and donated by Marin County citizens.

3. **Original Owner:** Hamilton Field is on land originally owned by private individuals and companies. In 1930, the California Packing Company sold 630 acres of land to Marin County to use to entice the Army to build on the site. An additional 161 acres were purchased from Dr. T. Peter and Julia Bodkin. These parcels were combined with other County-owned land, and in 1932 Marin County sold a 927-acre parcel of land to the Department of the Army for \$1.00 for use by the Army Air Corps as an air field. In 1947 Hamilton Air Field was transferred to the newly-formed U. S. Air Force and renamed Hamilton Air Force Base. In 1974 the U. S. Congress declared the installation excess to military needs and closed the base (Maniery et al. 1993).

4. **Builder, Contractor, Supplier:** The hangars were built by Robert E. McKee Company of Los Angeles for a cost of \$259,358.04.

5. **Original Plans and Construction:** Copies of Nurse's original plans for these buildings are filed at the National Archives, Pacific Division, San Bruno, CA. and the Hamilton Room, Novato History Museum, Novato. The original ink on linen drawings were not located. Copies of later modifications were also found, although original pencil on vellum drawings are missing.

6. **Alterations/Additions:** North/central additions to Facility No. 370 were made in 1943. In addition, it has been somewhat altered by numerous additions to the shop area between the double hangars from 1942 to 1962; these changes are not significant. Facility No. 380 has had very few alterations and is the most original in appearance. Modifications to Facility No. 370 include reconfiguration of interior shop bay space in 1956, new floor

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covering in shop bay and wings, and replacement of incandescent fixtures with suspended two- and four-tube fluorescent lights. Transformer and heating equipment is also new.

Modifications to Facility No. 380 are similar to Facility No. 370, although it has not had extensive additions. The air conditioning system was modified in 1960 and a concrete block heating plant was added to all three of these double hangars in 1960.

Facility No. 390 has been upgraded to modern standards and is maintained at present by the U.S. Coast Guard. It retains its historic appearance, and its mass, shape, basic plan, and architectural features have not been altered.

B. Historical Context:

See narrative for Hamilton Field (HABS No. CA-2398).

PART II: ARCHITECTURAL INFORMATION

A. General Statement:

1. **Architectural Character:** Nurse and his team of architects designed reinforced concrete buildings covered with white stucco and red tile roofs and other features such as arcades and ornamental door surrounds in a basic Spanish Colonial Revival style. This style was used by Captain Nurse at Randolph Field in Texas and by other Army architects at various bases (Fine and Remington 1972:48; Thomason and Associates 1993). Captain Nurse blended the standard Colonial Revival design with elements borrowed from Moorish, Spanish Churrigueresque, Mission, and Art Moderne styles, creating a unique Spanish Eclectic look.

Buildings in the industrial area are built of reinforced concrete on concrete piers and foundations; steel bars were used during construction in consideration of the seismic activity of the region. Even though industrial in function, these buildings have design elements consistent with the Spanish Eclectic theme of the base.

Some architectural elements reflect the military function of the base, including the use of the eagle and shield on the NCO barracks, the group headquarters building, and the fireplaces at the officers' club; the caduceus in the brackets supporting the hospital portico; and the Army five-pointed star on the hangars and other buildings.

2. **Condition of fabric:** The original hangars are in good condition. The World War II wood frame additions are dilapidated. In some places the roofs and floors are collapsing in these additions.

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B. Description of Exterior:

1. Overall dimensions: Facilities No. 370, 380, and 390 consist of two one and one-half story rectangular masses connected by a shop bay in an H-shape. The front elevations of the almost identical structures consist of hangars with multiple sliding doors anchored with square concrete corner pillars. They have broad arched roofs with central round metal louvers and are separated by recessed shop bays with stepped parapet roofs. One-story rectilinear wings are present along the northeast and southwest elevations of each hangar block. The buildings measure 245 feet by 180 feet. Each hangar is 121 feet by 240 feet, the connecting bay is 81 feet by 66 feet, and there are one-story annexes on either side, each measuring 20 by 218 feet. Exterior wood frame additions have been made to the shop bays in several of the hangars, but they are otherwise in original condition and footprint.

2. Foundation: The foundations are reinforced concrete beams set on composite piles. The floors consist of seven-inch concrete slabs over an eight-inch layer of crushed stone or gravel fill.

3. Walls: The walls are constructed of 12-inch blocks of terra cotta tile coated with cementitious stucco rendered with a smooth face. Exterior detailing on the hangars consists of square corner pillars (labeled "Parachute towers" on the original plans) made of 12-inch thick concrete, with recessed vertical panels of multi-light windows, circular louvers in each end of the hangar roof, and raised lettering bracketed with raised cast aluminum stars immediately above the hangar doors stating "HANGAR NO. 1, 2," etc. The area above the main doors extending to the roof is stucco-covered gunnite. Exterior detailing on the shop bays consists of a concrete and stucco stepped parapet roofline with a series of six square pilasters at the corners and separating the windows and central entrance and gunnite trim.

4. Structural systems, framing: Structural support is provided by reinforced concrete columns and a steel girder system with concrete slab flooring spanning between concrete joists. Infill material is poured-in-place reinforced concrete. The hangar roof is a low arched riveted steel truss system with a wood built-in roof on top of the trusses. Sidewall bracing is provided by riveted steel girders.

5. Porches, stoops, balconies, bulkheads: A concrete ramp accesses the southeast central pedestrian door.

6. Chimneys: Metal ventilators are located on the roofs and are described under ventilators.

7. Openings:

a. **Doorways/doors:** The main doors on the hangars are Morgan Hangar Doors, designed by D. Morgan and built by Allith Prouty, Danville, Illinois (or, in one notation, the Truscan Steel Co. of Youngstown, Ohio); they consist of seven metal panel doors beneath multi-lights which slide on metal tracks into each corner tower. Each door segment has three metal panels beneath nine sets of nine-light security windows. The doors are operated by a counter weight box in each tower with a hand chain wheel and measure 120 feet wide by 28 feet high. Access doors to the wings are standard metal with four lights over a recessed panel. The shop bays are accessed by central double steel doors with six lights, one on each side of a bay.

b. **Windows/shutters:** Fenestration on the side elevations of the hangars consists of continuous sets of 15-pane metal industrial sash windows. There are double rows of window sets on the southwest elevations and a single row on the northeast elevations. Window sash in the recessed panels of the corner towers is operated with a chain and pulley system. These towers have two sets of square windows, each with ten lights arranged vertically. The middle two lights are awning windows. The area between the two sets is concrete. Windows on the wings consist of 25- or 30-pane industrial metal sash; the three central lights in the center form an operable awning window. The shop bays have eight light sash windows, two on each side of the main entry doors. All of the windows in the buildings are security glass, frosted and embedded with wire mesh. The World War II infill additions have six 25-light steel sash windows, three on each side of the entry door.

8. Roof:

a. **Shape/covering:** The hangar roofs consist of broad, low arch truss systems covered with composition paper and aluminum coping. The roofs on the wings and central shop bays are flat and covered with composition paper. With the exception of the World War II period, the roofs have traditionally been painted in a large black and white check pattern. The World War II additions are shed-roofed covered with composition shingles.

b. **Cornice/eaves:** The gutter system consists of copper troughs leading to scuppers with an Art Deco design. Downspouts have cast concrete splash guard. Cornices in the hangars and wings are metal.

c. **Dormers, cupolas, towers:** Hangar No. 5 has a wood frame observation tower on its southeast corner. The tower, which is not original to the building, has a pyramidal roof with exposed rafters and four-light wood sash windows.

C. Description of Interior:

1. Floor Plans:

a. **First Floor:** Each hangar consists of a large open area with an adjoining wing of smaller rooms and connecting shop bays. In 1958 Facility No. 380 contained the 83rd OPS shop and jet repair. Floor plans from that time detail the jet hangar room functions. The main hangar was used for jet engine buildup and repair of J-75 jets. The wing rooms were in a row between the corner pillars and included a bearing hamoline room, power room, telephone communications center, MC-13231 jet engine unscheduled maintenance area, jet engine special tools and supply room, propulsion section office, J-33 Queen Bee office, J-75 jet engine office, 26 AD Training repair room, a break room (lounge), a jet engine starter task and repair room, and engineer and propeller office propeller balance room.

The shop bays had offices, repair rooms, two vaults, latrine, and soap lab. Originally these wings and bays were used for offices, training rooms, equipment storage, and repairs.

2. Stairways: Wooden stairways and metal fire ladders are located in each corner tower and provide access to the repair platforms.

3. Flooring: Subflooring for the buildings is a reinforced concrete seven-inch thick slab, with a smooth finish. The floors in the hangars have metal covered expansion joints, with each floor divided into six sections. Coverings in the office and shop areas are eight-inch vinyl asphalt tile.

4. Wall/ceiling finish: Ceilings in the hangers are plaster over steel mesh. Walls in the hangars are smooth finish stuccoed 12-inch hollow tile bricks painted white above gray paint wainscoting; dangerous areas have been outlined and painted red. The walls in the shop areas are paint over the hollow tile brick structural walls. The upper portion of the walls were originally open and covered with wire mesh, most have been covered with modern sheet rock. Wings have plaster ceilings and walls.

5. Openings:

a. **Doorways/doors:** The interior rooms in the connecting bays are accessed by steel Dutch doors with wire mesh tops and solid steel doors, while the exterior doors are double steel with four lights over one recessed panel. Other interior doors consist of solid-core wood with five recessed panels. Replacement doors are hollow core wood.

b. **Windows:** Natural lighting is provide by exterior windows; there are no interior windows.

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6. Decorative features/trim: No significant decorative trim was noted.

7. Hardware: Hardware on the primary entrance doors consists of a "Reading" lock set and handles. "Corbin" lock sets are located on the personnel doors set into the hangar doors. Hardware on the interior doors are "Yale" locks with standard circular escutcheons and circular knobs, as well as standard lock sets with rectangular escutcheons and circular knobs. Hinges are half-mortised.

8. Mechanical equipment:
 - a. Heating, air conditioning, ventilation: The original system contained gas-fired warm air units and space heaters. These were replaced in the 1940s with 12 over-head steam heaters. The heater room was added in 1960 and contains electric equipment including a Type U-H "Unitherm" manufactured by the Clarage Fan Company of Kalamazoo, Michigan, a motorized Valve Lug made by Minneapolis-Honeywell Regulator Company, and a "Cuttler/Hammer Motor Control" Square D Electrical equipment, and a Honeywell Brown electric furnace. On each end of the shop are two large air conditioner/blowers made by Clarage Fan Company. Supply and return lines lead out from these units through the building. Large ducts vent the system. An electric thermostat control "Lindberg Control/MicroMax" is located with the electrical panel in the shops. Bathrooms are heated by wall-mounted gas heaters (one in each latrine) made by "Pacific" company.

 - b. Ventilation: The hangar and main shop are vented by 36-inch capped vents in the roof. The central section of the "H" has a 20-inch capped vent in the roof. Three capped 16-inch-diameter ventilators are on each wing. The shop wing has additional square ventilators and exhaust ducts in the roof. Circular louvers over the main hangar doors are metal, made of 3-foot 9-inch long rods and have screens behind the rods.

 - c. Lighting: Original lighting fixtures in the hangars have a metal canopy and are suspended on a pole from the ceiling. Replacement fixtures include search lights and red signal lights mounted on a pole and located on the corner towers and the top of the roof arch. In addition, gimballed flood lights are located on the northeast elevations of the hangars. Replacement interior fixtures include suspended double tube florescent lights in the shop areas. The fan room has two two-tube fluorescent suspended lights. The heater room is lit by a single exposed bulb with a porcelain canopy mounted on the ceiling. An extensive electrical panel is located in the shops and includes a "Delta Star" transformer with a 440-volt box, four 220-volt safety switches, and one 220-volt panel. Wiring is through exposed conduit.

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d. **Plumbing:** A circular cast-iron enameled floor-mounted sink, measuring six feet in diameter, is found in the latrine of Building 370. They have eight faucets and four soap dispensers and are plumbed from the ceiling. In addition to the hand faucets, two insulated valve faucets are present. Plumbing in the latrines includes two flush-valve, wall-mounted urinals and three flush-valve toilets, all made by Standard. A second latrine has three flush-valve urinals, one flush-valve toilet, and one wall-mounted sink. An original drinking fountain is extant in Hangar No. 5 (Building No. 370). Chromium toilet paper holders, original to the building, are present.

e. **Miscellaneous:** Counter-weight and pulley systems are located in the corner towers of each building and operate the Morgan hangar doors. Monorail systems, operated by a cable and pulley, are located in the upper elevations of each side of the hangars and operate a movable personnel platform which provided access to the top of the airplanes for repair purposes.

D. Site:

1. **General site orientation:** The primary facades of the hangars face northwest and southeast. They are located in the original Spanish Colonial Revival district of Hamilton Army Air Field, on a flat site surrounded by rolling hills, and are aligned in a row immediately adjacent to the asphalt flight field.

2. **Historic landscape design:** Captain Nurse's overall plan for base design included thoughtful use of rock walls, terracing, and plantings to create a visual effect that was continued, in a more limited fashion, during World War II. Rock terracing throughout the original base served to simultaneously separate individual residences while visually uniting various sections of the base into an overall city-like plan. They were built as part of the final phase of original post construction in 1935 (Hamilton Official Photographs 1934-1935). Foundation and accent plantings, tree-lined streets, and retention of natural oak groves and rolling hills complement the rock work.

As originally designed, the hangars were surrounded by areas of lawn; most of these have been covered with asphalt. Foundation shrubbery is present along the side elevations of the hangars, but the area traditionally was kept clear of vegetation.

PART III. SOURCES OF INFORMATION

A. Architectural Drawings:

See narrative for Hamilton Field (HABS No. CA-2398). Copies of the original plans for these facilities are on file at the National Archives, Pacific Division, San Bruno, CA. and the Hamilton Room, Novato History Museum, Novato.

B. Historic Maps and Views:

See narrative for Hamilton Field (HABS No. CA-2398). Historical photographs of the hangars are on file at the Novato History Museum, Novato, CA.

C. Interviews:

See narrative for Hamilton Field (HABS No. CA-2398).

D. Bibliography:

See narrative for Hamilton Field (HABS No. CA-2398).

Sources cited in this individual report are listed below.

Fine, Jesse, and Lenore Remington

1972 *Army Corps of Engineers: Construction in the U.S.* U.S. Army and World War II, Office of Military History.

Hamilton Facility Cards

1933-1971 Maintenance Cards for Base Facilities. On file, Hamilton Army Air Field Installation Office, Novato, and Hamilton Room, Novato History Museum, Novato.

Maniery, Mary L., Leslie R. Fryman, and Fred Hrusa

1993 *National Register of Historic Places Evaluation, Hamilton Army Air Field Historic District, Marin County, California.* Submitted to U.S. Army Corps of Engineers, Sacramento District.

Thomason and Associates

1993 *Randolph Air Force Base, San Antonio, Texas.* Cultural Resource Survey, Final Report. Nashville, Tennessee. On file, State Office of Historic Preservation, Austin, Texas.

E. Likely Sources Not Yet Investigated:

See narrative for Hamilton Field (HABS No. CA-2398).

F. Supplemental Material:

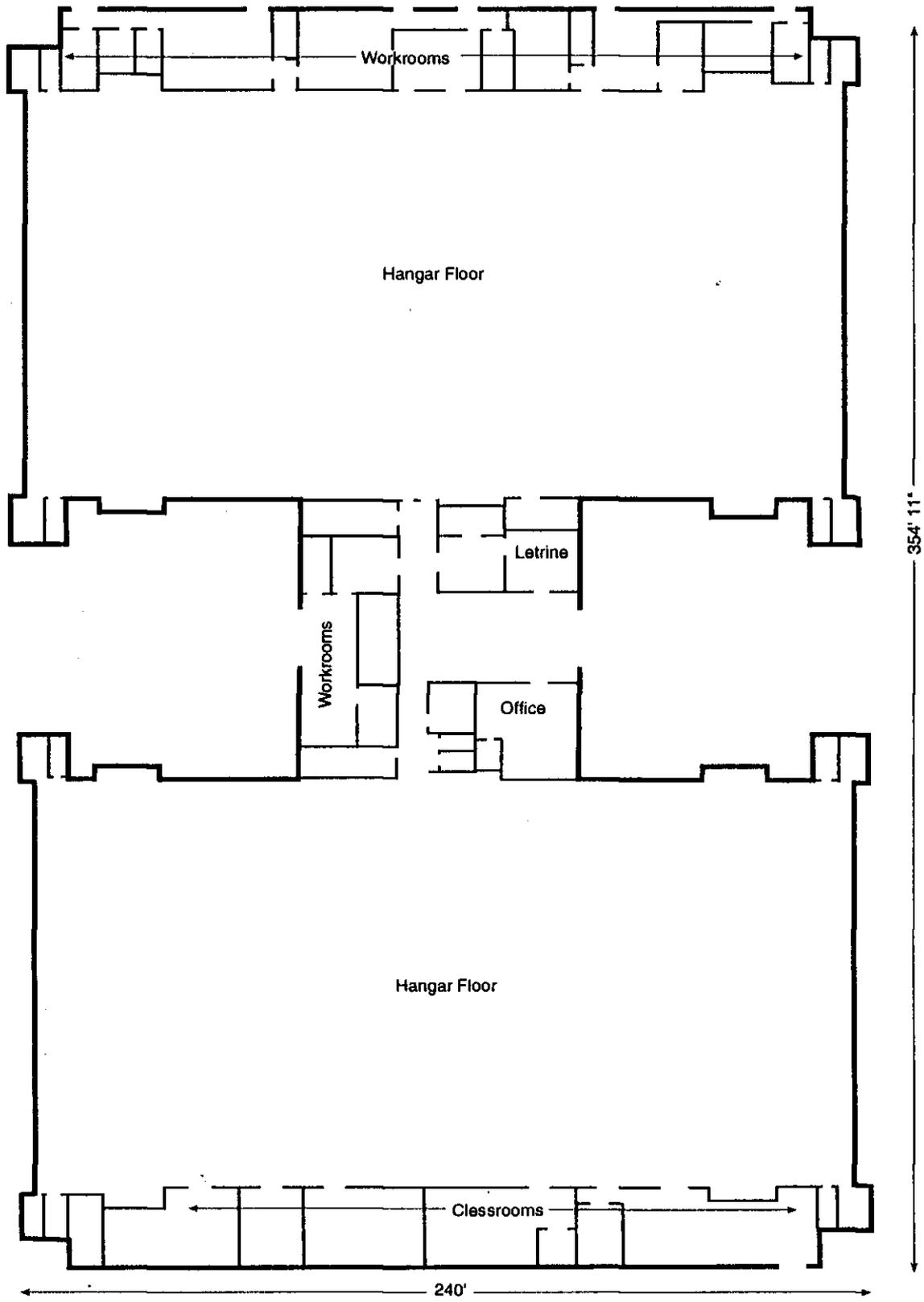
See also the project Field Record, roll 36, exposures 1-4; roll 24, exposures 10-12; and roll 47, exposures 1-2. Representative floor plans of the hangars prepared in 1935 by the Quartermaster's General Office are attached.

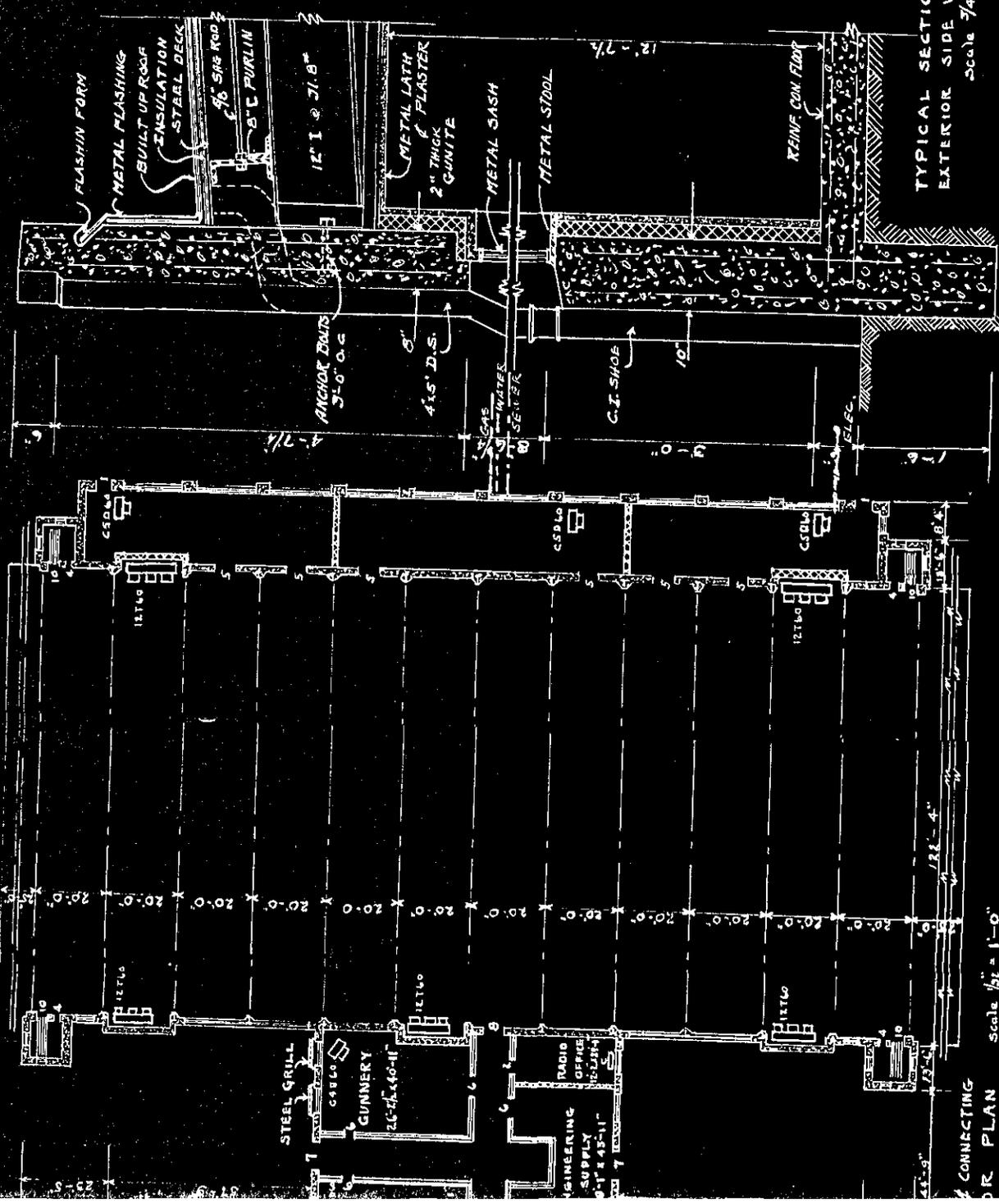
PART IV. PROJECT INFORMATION

Hamilton Army Air Field is owned by various federal entities including the Department of the Navy, Department of the Army, United States Coast Guard, and General Services Administration. The Army/GSA parcels are being excessed and sold to private developers. The Navy property is included in Base Closure and Realignment actions.

As part of the Army's undertaking, it has been determined in consultation with the California Office of Historic Preservation (OHP) that the excess sale will have an affect on properties at the air field, and that these properties are components of a district that is eligible for inclusion in the National Register of Historic Places. Based on consultation with the OHP and the Advisory Council on Historic Preservation, pursuant to 36 CFR part 800, regulations implementing Section 106 of the National Historic Preservation Act (16 U.S.C. 470f), a Memorandum of Agreement (MOA) was entered into by the interested parties in March 1994. The agreement stipulated that prior to excess sale the Army must contact the HABS/HAER division at the Western Regional Office of the National Park Service, San Francisco, California, to determine the appropriate level and kind of recordation for the subject properties. The MOA further stipulated that copies of the documentation be made available to the OHP and appropriate local archives designated by the OHP. This recordation has been prepared in order to meet those stipulations.

The title page, Part I, and Part III were prepared by Mary L. Maniery, Historian, PAR Environmental Services, Sacramento. Architectural descriptions in Part II were compiled by Judith Marvin, Historian/Architectural Historian, Foothill Resources, Murphys, California. Descriptions were checked against photographs and plans by Mary L. Maniery and were embellished and corrected, as necessary. Information on historic landscape design was extracted by Mary L. Maniery from a report prepared by Dr. Fred Hrusa, Botanist, PAR Environmental Services. Floor plans were drafted by Keith Syda, drawn by Christopher MacDonald and corrected by Claire Warshaw, all with PAR Environmental Services. Photography was prepared by David DeVries, Mesa Technical, Berkeley, California.





DOOR OPENINGS	
MK	SIZE REMARKS
1	2'-6" x 8'-0" Dble. Steel Glass Top
2	3'-0" x 7'-0" Steel Glass Top
3	2'-6" x 7'-0" Steel
4	3'-0" x 7'-0" Steel
5	3'-0" x 7'-0" Dble Steel Glass Top
6	3'-0" x 7'-0" Steel Dbl. Ins. w/ No. 10 Mesh
7	4'-0" x 8'-0" Dble Steel Glass Top
8	4'-0" x 7'-0" " " " "
9	2'-6" x 6'-6" Steel
10	12'-0" x 16'-0" Hanger Posts

GAS FIRED UNIT HEATERS		
MK	TYPE	INLET AIR TEMPERATURE
1	144-522-2	C.F.M.
2	150,000	1500
3	60,000	150
4	40,000	150
5	40,000	150

GAS-STEAM RADIATORS		
MK	SIZE	Ø H.W.R.
A	26" High	38
B	" "	51
C	" "	64

WAR DEPARTMENT
 OFFICE CONSTRUCTING QUARTERMASTER
 HAMILTON FIELD, CALIF.

A. C. DOUBLE HANGAR

DRAWN BY RPL
 TRACKED BY RPL
 CHECKED BY RPL
 DATE 12/1/45

CONSTR. QUARTERMASTER
 G. D. WISZNY

CONSTR. QUARTERMASTER
 LEONARD LARSON
 CAPT. U.S. ARMY
 373-40-9-2

CONSTR. QUARTERMASTER
 G. D. WISZNY

TYPICAL SECTION THRU
 EXTERIOR SIDE WALL
 Scale 3/4" = 1'-0"

