

## Building 15 Reuse Guidelines

NASA Ames Research Center, California

.....



*prepared for:*

**NASA/Ames Research Center**

*prepared by:*

**Architectural Resources Group**

Architects, Planners & Conservators, Inc.  
San Francisco, California

*October 2007*

## Table of Contents

Introduction.....	1
I. Executive Summary .....	1
II. Project Team .....	2
III. Methodology .....	3
IV. Building Summary .....	4
V. Historical Background and Site Context .....	5
VI. Building Description .....	6
VII. Character-Defining Features .....	9
VIII. Opportunities for Reuse .....	11
IX. Code Evaluations and Recommendations .....	11
A. Fire/Life Safety	
B. Glossary of Terms: Construction & Occupancy Types	
C. Disabled Accessibility	
D. Energy Conservation	
X. Future Studies Needed .....	17
A. Hazardous Materials	
B. Mechanical and Electrical Systems	
C. Structural Systems	
Appendix 1. Historic Character-Defining Features	
Appendix 2. Existing Floor Plans and Rehabilitation	
Appendix 3. Significance Diagrams	
Appendix 4. Historic Aerial Photographs	
Appendix 5. Current Conditions Photographs (2006)	
Appendix 6. Construction Plans	
Appendix 7. NRHP Moffett Field District Nomination	



### Introduction

NASA Ames Research Center and Architectural Resources Group, Architects, Planners & Conservators, Inc. (ARG) have developed Reuse Guidelines for the Protective Services Building, Building 15, at NASA Ames Research Center, California. This report is one of a series prepared for many of the historic buildings at the site. The Reuse Guidelines have been designed to assist NASA Ames professional staff, tenants, and their consultants in rehabilitating structures on the historic Navy base by identifying character-defining features, outlining the opportunities for reuse and evaluating code deficiencies.

### I. Executive Summary

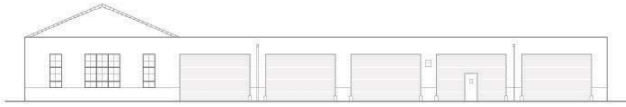
Constructed in 1933 as a part of NASA's construction campaign, Building 15 is a one-and-a-half-story, concrete building finished in colored stucco and has a clay tile gable roof. The building is characterized by its distinctive "U" shaped plan, which is divided into three wings. Historically known as the Fire Station, Garage, and Laundry building, with laundry facilities in the east wing and the Fire Station and Garage in the west wing, the building has undergone moderate modifications to the interior and exterior. The building is currently used as the NASA Ames Research Center Protective Services Office.

The United States Naval Air Station Sunnyvale, California (the historic name of the base) was listed on the National Register of Historic Places (NRHP) as a historic district in 1994 for its important role in the development of U.S. Naval aviation prior to World War II and as a collection of buildings reflective of early twentieth-century military planning, engineering, and construction. (See Appendix 7 for the NRHP Moffett Field District Nomination). Building 15 is a contributor to the district and retains a fair degree of integrity. A series of exterior and interior changes and modifications to the building have resulted in the elimination of some character-defining features and a loss of integrity, including: window replacement; door replacement; changes to interior materials; and shed additions to the exterior. Many of the alterations were done in the early 1990s and are located along the north and south elevations.

The building's continued use as offices is appropriate. Reuse of the building should comply with *The Secretary of the Interior's Standards for Rehabilitation (The Standards)*. *The Standards* can be accessed on the National Park Service website ([www.nps.gov](http://www.nps.gov)) and are presently located at the following URL: <http://www.nps.gov/history/hps/tps/tax/rhb>. Plans for the reuse of Building 15 should take into consideration the preservation of the building's character-defining and contributing features, including, but not limited to, the overall form of the building, fenestration pattern, materials, and central open interior space. Changes to non-character-defining features may be undertaken, but the impact to the character-defining and contributing features should be carefully evaluated. (Character-defining features, including significance and condition ratings are listed in section VII and Appendix 1.)

Future renovations will require Fire/Life Safety and Disabled Accessibility upgrades to comply with current codes. These include, but are not limited to, exit path of travel and exit door upgrades, and disabled access improvements to door and door hardware, restrooms, and locker rooms. The impact of these upgrades to the character-defining and contributing features should be carefully evaluated.

Further analysis is required for the management of hazardous materials and upgrades to the mechanical,



## NASA AMES RESEARCH CENTER Building 15 reuse guidelines

---

electrical and structural systems. Existing mechanical flues, ducts and conduits exposed on the exterior should be removed. The impact of these upgrades to the character-defining and contributing features should also be carefully evaluated.

### II. Project Team

#### *Client*

National Aeronautics & Space Administration (NASA)  
Ames Research Center  
Mail Stop 19-12  
Moffett Field, CA 94035-1000

#### *Consultant*

Architectural Resources Group, Inc.  
Pier 9, The Embarcadero  
San Francisco, CA 94111

Aaron Jon Hyland, AIA, Principal  
Paul Nachtsheim, Associate  
Jennifer Costa, LEED AP, Associate  
Kim Sykes, AIA, Designer  
Serpil Gezgin, Designer  
Vanessa Miller, LEED AP, Designer  
Sara Cone, Designer  
Anny Su, Architectural Historian  
Lauren MacDonald, Architectural Historian  
Nicole Fannin, Intern





### III. Methodology

ARG staff conducted site reviews of Building 15 in January and October 2006. During the site visits, notes were taken on the character-defining features of the building and photographic documentation was completed on the exterior as well as major interior spaces. Documents were provided by NASA Ames Research Center and were used as a general reference in the production of this report. The verification of the accuracy of the documents was not included in the scope of work.

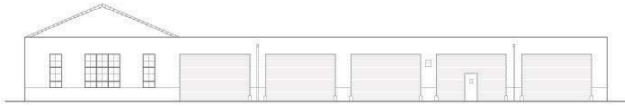
Site reviews were conducted with the understanding that the current use of the building would be continued. The site reviews were limited to a general observation of the buildings and building components and detailed survey of all interior spaces was not included in the scope of work. Furthermore, limited access to some areas of the building were required due to issues of security, privacy, safety, or other limitations.

ARG staff reviewed both primary and secondary research materials at the following institutions:

- 1950 Navy Docks & Yards Micro Film;
- Engineering Documentation Center (located in Building N-213); and
- Ames Imaging Library (located Building in building N-241).

The following documents were utilized as the main sources of information:

- The 1994 National Register of Historic Places Nomination Form for the US Naval Air Station Moffett Field Central Historic District;
- Aerial photographs dating from 1930 through 1982; and
- Architectural Drawings including:
  - o Naval Air Station, Sunnyvale, California. “Fire Station, Garage, and Laundry, Floor Plan.” Drawing dated May 11, 1932;
  - o Naval Air Station, Moffett Field, California. “Fire Station-Garage-Shop-Floor Plan, Second Floor, Building 15.” Drawing dated July 19, 1982;
  - o Naval Air Station, Moffett Field, California. “Fire Station-Shop-Garage-Floor Plan, First Floor, Building 15.” Drawing dated August 12, 1982;
  - o Naval Air Station, Moffett Field, California. “Partial Floor Plan, Building 15.” Drawing dated March 20, 1984; and
  - o Naval Air Station, Moffett Field, California. “Security Administration-Building 15, Construct New Office Space-Elevations, Sections, Wall Sections, Hatch Detail, & Details.” Drawing dated December 3, 1990.



## NASA AMES RESEARCH CENTER

### Building 15 reuse guidelines

---



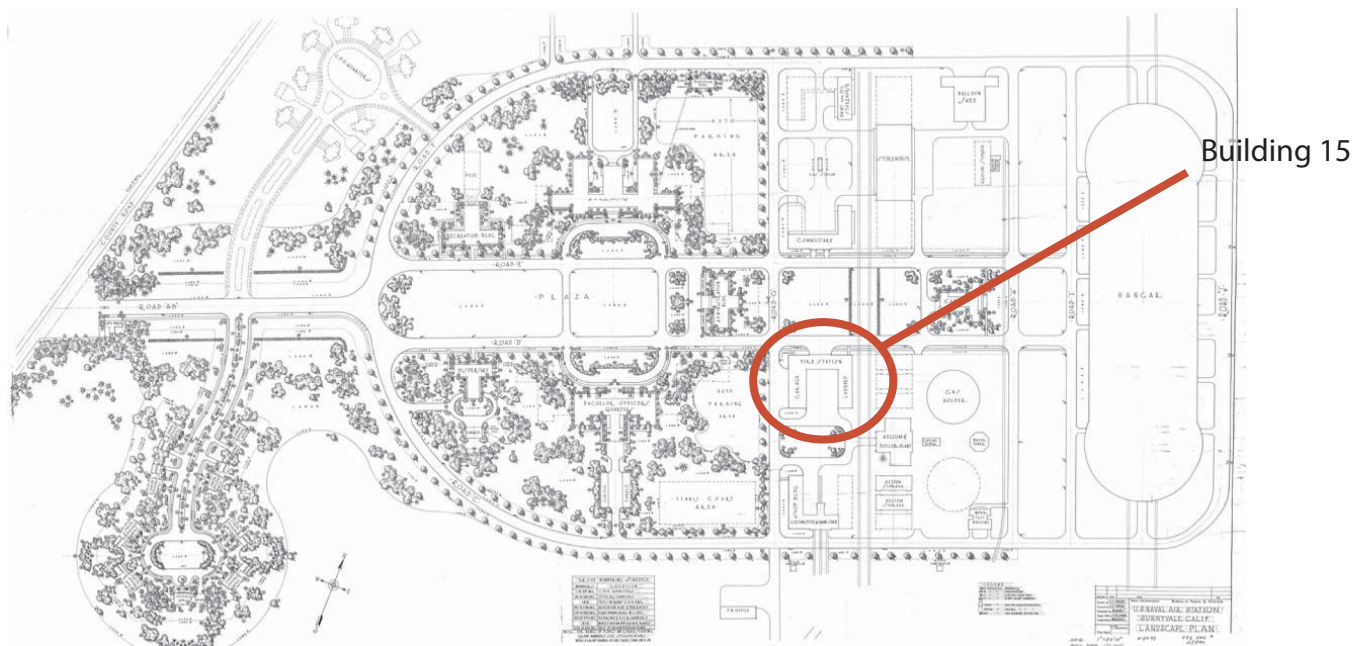
*North Elevation of Building 15.*

#### **IV. Building 15 Summary**

Location:	Shenandoah Plaza, McCord Avenue at South Akron
Area:	NASA Ames Research Center - Central Historic District
Date of Construction:	1933
Historic Structure:	Yes
Historic Use:	Fire Station, Garage, and Laundry
Current Use:	Protective Services Office
Hazard Level:	Ordinary
Number of Floors:	One, with partial second floor
1st Floor:	10,562 gross ft <sup>2</sup>
2nd Floor:	2,523 gross ft <sup>2</sup>
Total:	13,085 gross ft <sup>2</sup>
Exterior Materials:	Concrete with integral color stucco, terra-cotta tile roof
Construction Frame:	Concrete

## NASA AMES RESEARCH CENTER

### Building 15 reuse guidelines



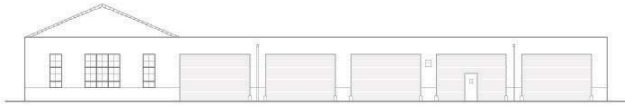
*"U.S. Naval Air Station, Sunnyvale, Calif., Landscape Plan." 29 April 1933.*

#### V. Historical Background and Site Context

The United States Naval Air Station Sunnyvale, California was commissioned on April 12, 1932. The station was one of two bases constructed to port the Navy's two large airships (dirigibles)—the U.S.S. Macon and the other dirigible, the U.S.S. Akron, which was stationed in Lakehurst, New Jersey.

The dirigibles were part of a domestic security program designed by Admiral William A. Moffett. The dirigibles were capable of staying airborne for much longer periods of time than airplanes and were considered ideal for conducting reconnaissance of the nation's coastlines.

The 1933 station was defined by perimeter roads: Wescot Road to the north and west, Bushnell Road to the south and west, and Sayre Avenue to the east. The base was arranged in a formal and hierarchical arrangement typical of American military base design. McCord Avenue, which runs north/south, divided the base into halves; the administration functions were located to the west and the industrial functions, including the massive dirigible hangar, were positioned to the east. The western section, including the Administration Building (Building 17), Dispensary (Building 23), Bachelor Officer's Quarters (Building 20), Recreation Building (Building 25), and office building (Building 19) were arranged around a central axis, Shenandoah Plaza. The buildings in the eastern, industrial section, such as the enormous Hangar 1 (the dirigible hangar) and Building 15, were placed in a grid with very little green space or relationship between the buildings. All of the buildings within the original base, with the exception of Hangar 1, were constructed in the Spanish Colonial Revival Style.



Building 15, historically a Fire Station, Garage, and Laundry (now the NASA Ames Research Center Protective Services Building), was constructed during the 1931-1933 building campaign. Plans for Building 15 were approved on May 11, 1932. The building is a large reinforced-concrete structure, comprised of three wings, located in the southeast region of Moffett Field's industrial section. When constructed, the Fire Station, Garage and Laundry had a "U" shaped footprint.

The United States Naval Air Station Sunnyvale, California was listed as a district in the National Register of Historic Places (NRHP) in 1994. The Period of Significance for these structures is 1930–1935 and 1942–1946, which corresponds to the period of Navy occupation. Building 15 is a contributor to the district.

## VI. Building Description

### *Historic Appearance of the Fire Station, Garage and Laundry*

Completed in 1933, Building 15 served as the fire station, garage, and laundry. This one-story building with partial attic has a "U" shaped footprint divided into three wings. The structure is constructed of reinforced concrete walls sheathed in stucco. A clay tile, gable roof covers the middle wing, while flat roofs cover the adjacent east and west wings. The fire station was located in the central wing, the Laundry in the east wing, and the Garage in the west wing.

### *Historic Appearance*

The central wing was one-story in height with an attic and a clay tile, gable roof. The east side of the attic was punctuated by a single, wood-frame, glazed door and wood-frame, multi-lite hopper window. A single door was located at the west elevation of the attic. The primary (north) elevation was divided into three bays. Three, metal, multi-lite garage doors were located in the central bay. The west bay was punctuated with two, steel-frame, multi-lite windows with operable hoppers. The east bay had two, steel-frame, multi-lite windows identical to those on the west bay. Adjacent to these windows was a single, metal, sash door, set within the center of a steel-frame, multi-lite window. The south elevation was comprised of a series of three garage doors identical to those located on the primary (north) elevation.

The laundry facilities were located in the east wing. The west elevation of the east wing had a steel-frame, multi-lite window with operable hoppers. Adjacent to this window was a metal, overhead garage door, followed by a steel-frame, multi-lite window with operable hoppers. A series of three, paired, multi-lite, sash doors with transom were located on the north end. A series of seven, steel-frame, multi-lite windows ran the expanse of the east elevation of the east wing.

The Garage was located in the west wing. A series of five, metal, overhead garage doors ran along the east elevation of the west wing. These five garage doors corresponded to similar metal overhead garage doors located on the west elevation of the west wing. A steel-frame, multi-lite window with operable hoppers punctuated the north end of this elevation. Adjacent to this window was a single, rectangular, steel-frame, multi-lite window. Historic drawings indicate that two, steel-frame, multi-lite windows with operable hoppers were located on the south elevation of the west wing.





### *Modifications to the Moffett Field Fire Station and Garage*

The Fire Station and Garage have undergone several phases of exterior and interior alterations as a result of the building's change in use to offices. A drawing from 1990, illustrates modifications made to the north and south elevations of the Fire Station and Garage exterior. The drawing indicates that doors were cut into the large multi-lite garage doors located on the east end of the north and south elevation of the central wing. In addition, modifications have been made to the building's interior to accommodate its current use as offices.

### *Exterior Landscape/Setting Modifications*

Building 15 was originally constructed in the eastern industrial section of Moffett Field. The location of the building remains unchanged from initial construction. However, the setting has been altered over time. Originally, small areas of lawn were located off the north and south elevations; surface parking and roads surrounded the remainder of the building. Today, surface parking and roads surround the building, no lawn remains.

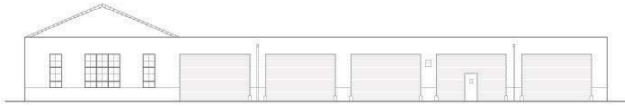
### *Interior Building Modifications*

In addition to exterior modifications, the interior has undergone an extensive series of alterations resulting in the elimination of many character-defining features. Alterations were made to the restrooms, offices, interior materials, and fixtures, with the replacement of floor, ceiling, light fixtures, and the addition of partition walls. These alterations were made as upgrades, but have resulted in the elimination of interior character-defining features.

### *Current Appearance*

Overall, in form, materials and details, the exterior portion of the Fire Station and Garage retains a fair level of its historic appearance. Except for modifications made to some of the exterior doors and windows, the exterior building remains relatively unchanged from its original design and appearance. The symmetrically composed building features a number of original character-defining features including: steel-frame multi-lite windows, garage door openings, cement plaster exterior finish, and clay tile gable roof.

The central wing is one-story in height with an attic and a gabled clay tile roof. The east side of the attic is punctuated by a single wood-frame glazed door, and wood-frame multi-lite hopper window. A door opening at the west elevation of the attic has been infilled. The primary (north) elevation is divided into three bays. Two original metal multi-lite garage doors are located in the central bay. The third garage door, located on the west end, has been infilled. The flanking bays are punctuated with two steel-frame multi-lite windows with operable hoppers. A single metal sash door set within the center of a steel-frame multi-lite window is located on the east end.



## NASA AMES RESEARCH CENTER

### Building 15 reuse guidelines

---

The south elevation was originally comprised of a series of three garage doors similar to those located on the primary (north) elevation. Today, a single metal multi-lite garage door is located on the east end of the elevation. The two adjacent garage door openings have been infilled.

The east and west wings are punctuated by a series of metal, overhead garage doors. The doors are no longer in operation. The west elevation of the east wing has a steel-frame, multi-lite window with operable hoppers. Adjacent to this window is a metal, overhead garage door, followed by a steel-frame multi-lite window with operable hoppers. A pair of multi-lite sash doors with transom is located on the north end. Adjacent to this opening are two openings similar in size and scale that have been infilled. Two steel-frame multi-lite windows with operable hoppers flank a single metal door on the south elevation of the east wing.

A series of five steel-frame multi-lite windows are located along the east elevation. A shed structure has been constructed at the far south end of the east elevation. This structure obscures from view existing historic features that may be located at this end.

There are five garage door openings that run the expanse of the east elevation of the west wing. Four of the metal overhead garage doors are extant. The opening on the far north end has been infilled with brick masonry. These five garage doors correspond to similar metal overhead garage doors located at the west elevation of the west wing. A steel-frame, multi-lite window with operable hoppers punctuates the north end of this elevation. Adjacent to this window is a single, rectangular, steel-frame, multi-lite window. Two steel-frame multi-lite windows with operable hoppers flank a single metal door on the south elevation of the west wing.

Overall, in form, material, and details, the exterior portion of Building 15 retains a fair amount of its historic appearance.



## VII. Historic Character-Defining Features

Refer to Appendix 1 for a matrix of character defining features, including specific location of building components. For illustrated plans and elevations, see Appendix 3, Significance Diagrams.

Alteration of significant and contributing building components shall be in keeping with original design, configuration and material. For more information, see the *Secretary of the Interior's Standards for the Treatment of Historic Properties*. The Standards can be accessed on the National Park Service website ([www.nps.gov](http://www.nps.gov)) and are presently located at the following URL: <http://www.nps.gov/history/hps/tps/tax/rhb>.

See Appendix 5, Current Conditions Photographs for additional photos showing the character-defining building components listed below. For building floor plans, see Appendix 2, Existing Floor Plans and Rehabilitation.

1. Significant Character-Defining Features: these are the features that convey the building's historic character and significance. Alteration or removal of these features could result in a loss of integrity and should be avoided.

The following are significant features:

- Water table base course;
- Cement plaster wall surface;
- Multi-lite metal sash windows with operable awning segments;
- 6-lite, 6-panel wood doors with exposed decorative steel strap hinges;
- Sloped terra cotta tile roof (at center block);
- Multi-lite wood awning window and multi-lite wood door (at penthouse over center block);
- Metal roll-up doors;
- Multi-lite metal doors with transoms;
- Metal bumpers; and
- Skylights.

2. Contributing Features: these features are important elements that



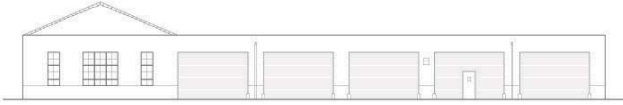
Illustration 1: The sloped clay tile roof is a significant feature. (Source: ARG, October 2006)



Illustration 2: Multi-lite wood awning window at the penthouse is a significant feature. (Source: ARG, October 2006)



Illustration 3: Metal roll-up doors are a significant feature. (Source: ARG, October 2006)



## NASA AMES RESEARCH CENTER Building 15 reuse guidelines



Illustration 4: Skylights are a significant feature. (Source: ARG, October 2006)



Illustration 5: Multi-lite metal doors with transoms are a significant feature. (Source: ARG, October 2006)



Illustration 6: The 6-lite, 6-panel wood doors with steel strapping are a significant feature. (Source: ARG, October 2006)

contribute to the understanding of the original design. Alteration or removal of these features may be necessary for programmatic or building system requirements. However, removal should be minimized and where necessary mitigated.

The following are contributing features:

- Collection boxes.

*3. Tertiary Features:* these features are original elements of the building that are of a lower importance relative to the understanding of the original design. Alteration or removal of these features, if necessary, would have a limited affect on the integrity of the building.

The following are tertiary features:

- Flooring (exposed concrete), walls and ceiling (exposed structure) in mechanical room.

*4. Non-Contributing Features:* these features are elements of the building that have been remodeled or areas where additional alteration would not affect the original integrity of the building. In some cases, removal of the non-contributing features may be beneficial to the historic integrity of the building.

The following are non-contributing features:

- Metal doors and frames;
- Metal doors and frames with glazing (at fixed roll-up doors);
- Interior configuration;
- Glass block windows;
- Flooring (vinyl, ceramic tile, or carpet);
- Walls (gypsum board or corrugated metal);
- Ceiling (exposed structure or acoustical suspended ceiling); and
- Lighting fixtures, including recessed lighting fixtures.

### *5. Conservation of Intact Historic Fabric*

The following materials require special care and treatment in





their maintenance and rehabilitation:

- Steel sash windows;
- Cement plaster exterior wall finish;
- Copper sheet metal gutters, downspouts and collection boxes; and
- 6-lite, 6-panel wood barn doors and strap hinges.

## **VIII. Opportunities for Reuse**

Building 15 has several opportunities for building reuse. The building could remain as an office use, retaining the current corridor and office configuration. An alternative use could be to return some of the original fire station and garage open bay spaces to serve industrial, manufacturing or service uses.

## **IX. Code Evaluations and Recommendations**

### **A. Fire/Life Safety**

#### **Description**

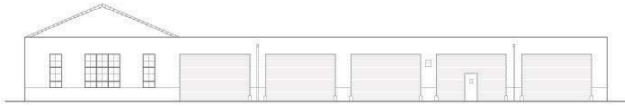
Constructed in 1933, Building 15 has a “U” shaped floor plan; the central portion of the building has a pitched tile roof and the wings on either side have low-pitched roofs.

The building has been upgraded in the process of occupancy change to office use. It is equipped with a sprinkler system. Egress signage is clearly marked. The restroom has been upgraded to meet Accessibility requirements in effect at the time of construction in 1983.

Building 15 has a gross floor area of 13,085 ft<sup>2</sup> and consists of a concrete slab, concrete exterior walls, and concrete roof system.

The building is classified as B occupancy and is being used as offices. The construction type is Type III-N. The following review is based on the occupancies remaining the same. If a change in occupancy is proposed, further detailed code analysis will be required. Section IX B. includes a glossary of building construction types and occupancy types that exist within the scope of this report.

California’s State Historical Building Code (SHBC), located in chapter 34 of the CBC, shall be used in conjunction with the California Building Code as stated in section 8-102.1: “These regulations are applicable for all issues regarding building code compliance for qualified historical buildings or properties. These regulations are to be used in conjunction with the regular code to provide alternatives to the regular code to facilitate the preservation of qualified historical buildings or properties. These regulations shall be used whenever compliance with the regular code is required for qualified historical buildings or properties.”



## Analysis

*1. Occupancy and Construction type:* The building is classified as Group B and Type III-N construction. Table 5-A of the CBC allows Occupancy B to be construction Type III-N.

*Recommendation:* The building construction type is allowable for the occupancy type currently housed in the building.

*2. Location on Property:* CBC Table 5-A limits the exterior bearing walls to be minimum 4-Hr N/C less than 5 ft. and 2-Hr N/C elsewhere. Exterior openings are not permitted less than 5 ft. and protected less than 20 ft. The distance of the portable metal structure at the south end of the east wing to Building 15 is less than 5 ft. Another portable metal structure is located at the south of center wing and it is closer than 5 ft.

*Recommendation:* The metal structures, both at the south end of the east wing and at the south end of the center wing should be removed.

*3. Allowable Area:* According to CBC Table 5-B, allowable area for B occupancy/ type III-N is 12,000 ft<sup>2</sup>. CBC Section 505.3 allows the area to be tripled in one-story buildings and doubled in the buildings more than one story. Building 15 meets code requirement, with a gross floor area of 13,085 ft<sup>2</sup> and is sprinklered throughout.

*Recommendation:* The building is within the allowable area.

*4. Allowable Height:* SHBC section 8-302.5 allows the height of the structure to not be limited, “provided such height or number of stories does not exceed that of its designated historical design.”

*Recommendation:* The building is within the allowable height.

*5. Means of Egress Identification:* Section 1003.2.8.2 requires the path of travel to and within exits to be identified with code compliant exit signs. Exit signs are clearly marked. CBC Section 1004.2.6 doesn't permit hallways and corridors more than 20 ft. in length. On the east wing-between the mechanical room and the offices there is a possible dead-end corridor. Because of the limited access in that area, code analysis here is based on construction documents dated August 12, 1982.

*Recommendation:* The remaining means of egress systems appear to be code compliant.

*6. Doors:* CBC Section 1003.3.1.3 requires a clear opening of 32 in. SHBC section 8-603.2 allows certain doors to have a clear dimension as narrow as 30 in. CBC section 1003.3.1.5 requires the door to swing in the direction of egress. Section 1003.3.1.6.2 requires a level landing on each side of all doors that are part of the means of egress system. Currently, building 15 doors meet these requirements.



*Recommendation:* A detailed survey of all doors should be undertaken to confirm compliant door width, clearances, and hardware operation.

7. *Stairs and Guardrails:* CBC section 1003.3.3.3 requires the rise and run of the stair to be a minimum of 7 in. and 11 in., respectively. CBC section 1003.3.3.6.1 requires all stairs (two or more risers) to have a handrail on each side. Section 509 of the CBC requires guardrails at all unenclosed floor or roof openings, open or glazed stairways, aisles, landings, ramps, balconies, or porches, which are over 30 in. above grade or the floor below. SHBC section 8-502.1 exception 5 allows the enforcing agent to accept “any other condition which will allow or provide for the ability to quickly and safely evacuate any portion of a building without undue exposure and which will meet the intended exiting and life safety stipulated by these regulations. According to construction documents dated August 12, 1982, there are two second floor spaces with access stairs, but the team was not able to gain access to the spaces.

*Recommendation:* The areas that are not currently accessible need to be analyzed and modified to meet the code requirements where necessary.

8. *Ramps:* There is no ramp at Building 15.

9. *Travel distance:* Section 1004.2.5.2.2 requires that the maximum travel distance in sprinklered buildings not exceed 250 ft. Travel distance is that distance an occupant must travel from any point within occupied portions of the exit access to the door of the nearest exit. Where path of travel includes unenclosed stairways or ramps, the distance of travel on such components must be included in the travel distance measurement. The travel distances inside Building 15 are well within the required limits.

*Recommendation:* Travel distance for exiting is within the required travel distance.

10. *Fire Alarm:* A fire alarm system has been provided. Any new office spaces will require the addition of horns and strobes.

*Recommendation:* The existing fire alarm system appears to be compliant.

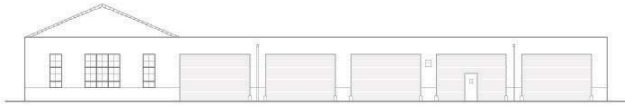
### **Summary of Fire/Life Safety Recommendations**

1. *Occupancy and Construction type:* The building construction type is allowable for the occupancy type currently housed in the building.

2. *Location on Property:* The metal structures, both at the south end of the east wing and at the south of the center wing should be removed.

3. *Allowable Area:* The building is within the allowable area.

4. *Allowable Height:* The building is within the allowable height.



5. *Means of Egress Identification:* The remaining means of egress systems appear to be code compliant.
6. *Doors:* A detailed survey of all doors should be undertaken to confirm compliant door width, clearances, and hardware operation.
7. *Stairs and Guardrail:* The areas that are not currently accessible need to be analyzed and modified to meet the code requirements where necessary.
8. *Ramps:* There is no ramp at Building 15.
9. *Travel distance:* Travel distance for exiting is within the required travel distance.
10. *Fire Alarm:* No improvements needed.

**B. Glossary of Terms: Construction and Occupancy Types**

**The following is a summary description of the Construction and Occupancy Types for Building 15.**

Glossary of Construction Types, referenced from the 2001 California Building Code:

Type III-N	Structural elements in Type II buildings may be of any materials permitted by this code. Exterior walls shall be constructed of noncombustible materials and shall comply with the fire-resistive requirements set forth in CBC Section 503 and Tables 5-A and 6-A. Bearing partitions, when constructed of wood, shall comply with CBC Section 2308.
------------	---

Glossary of Occupancy Types: Referenced from the 2001 California Building Code

Group B	A building or structure, or a portion thereof, for office, professional or service-type transaction, including storage of records and accounts; eating and drinking establishments with an occupant load of less than 50.
---------	---

**C. Disabled Accessibility**

**Analysis**

1. *Accessible Parking:* CBC section 1129B.1 requires that where parking is provided for the public as clients, guests, or employees, accessible parking will also be provided. Section 1129B.4 requires one in every eight accessible spaces, but not less than one, shall be designated van accessible. Currently there is one accessible parking space at north entry corner of the building.



*Recommendation:* Provide one van accessible parking stall near existing regular accessible parking at the northeast corner of the building and one more regular accessible parking space at the north side of the building, as shown on Appendix 2/ Existing Floor Plans & Rehabilitation.

2. *Accessible Route:* CBC Section 1114B.1.2 requires an accessible route of travel to all portions of the building that are required to be accessible. Section 1133B.7.4 doesn't allow abrupt changes in level along any accessible route exceeding ½ in. The SHBC Section 8-604 allows for equivalent facilitation to be provided in lieu of a path of travel to all areas of the building where providing access "would threaten or destroy the historical significance or character-defining features of the building or site or cause unreasonable hardship." There is a compliant disabled accessible path of travel from the parking lot to the building entrance. Disabled accessible route within the building appears to be compliant, however some areas of the building were not available to the survey team. Further analysis should be completed on the areas where the team was not able to gain access.

*Recommendation:* No improvements proposed, but a disabled access review should be completed for the areas where the survey team was not able to gain access.

3. *Doors:* Section 1133B.2.4 of the CBC requires a level landing on each side of a door. Section 1133B.2.4.2 requires maneuvering clearance to be 60 in. on the swing side of interior doors and 48 in. on the non-swing side of the door with a closer (44 in. without closer). The clearance on the swing side shall extend 18 in. beyond the strike side of the door for interior doors and 24 in. on exterior doors. The clearance for the non-swing side shall extend 12 in. when the door has a closer. Section 1133B.2.5.2 requires hardware that is hand operable with a single effort without requiring the ability to grasp. Currently most of the doors meet these requirements. However, some of them do not have code compliant lever-handled locksets. Further analysis should be completed on the doors in areas where the team was not able to gain access.

*Recommendation:* All doors should have code-compliant hardware. Provide a lever-handled lockset for all doors where accessibility is required. Further analysis should be completed on the doors in areas where the survey team was not able to gain access.

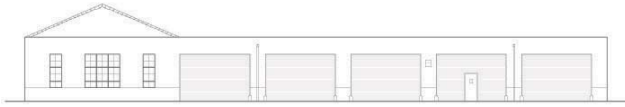
4. *Stairs:* There is no stair that requires accessibility in Building 15.

*Recommendation:* There is no stair that requires accessibility in Building 15.

5. *Restrooms:* CBC Section 1115B.1 requires buildings which are required to be accessible to have accessible restrooms. Accessible restrooms are provided in the building.

*Recommendation:* Restrooms appear to be code-compliant.

6. *Signage:* Sections 1103.2.4, 1127B.3, 1129B.5, and 1115B.5 of the CBC require code-compliant signage identifying accessible entrances, parking, and passenger loading zones, toilets, and exit signage. In addition to the international symbol of accessibility, each toilet room shall be identified by a tactile sign including raised letters and Braille. Some of this signage is provided, but it is not complete throughout the building.



*Recommendation:* Provide code compliant signage at the building entries and toilet rooms.

### **Summary of Disabled Accessibility Recommendations**

1. *Accessible Parking:* Provide one van accessible parking stall near existing regular accessible parking at the northeast corner of the building and one more regular accessible parking space at the north side of the building, as shown on Appendix 2/ Existing Floor Plans & Rehabilitation.
2. *Accessible Route:* No improvements proposed, but disabled access review should be completed for the areas where the survey team was not able to gain access.
3. *Doors:* All doors should have code-compliant hardware. Provide a lever-handled lockset for all doors where accessibility is required. Further analysis should be completed on the doors in areas where the survey team was not able to gain access.
4. *Stairs:* There is no stair that requires accessibility in Building 15.
5. *Restrooms:* Restrooms appear to be code-compliant.
6. *Signage:* Provide code compliant signage at the building entries and toilet rooms.

## **D. Energy Conservation**

### **Description**

Building 15 was designed with some energy-conserving features; monolithic concrete floors throughout the building and thick concrete walls contribute to passive climate control for the building. Insulation in the exterior walls could not be confirmed without destructive testing, but as the building was remodeled recently, interior wall partitions could have upgraded insulation. Energy-efficient fluorescent lighting is used throughout the building. The shop areas lack thermal control systems. Windows are single-glazed.

### **Analysis**

As a contributing building in a Historic District, Building 15 is exempt from energy code requirements.

*Recommendation:* Should a rehabilitation be undertaken in the future, energy saving measures that are non-invasive could be implemented. Some energy saving measures that increase energy-efficiency and improve occupant comfort would include weather-stripping of doors and windows, installation of wall and roof insulation where possible, and use of high-efficiency mechanical systems.



**X. Future Studies Needed**

**A. Hazardous Materials**

Although a hazardous materials report has not yet been completed, there are several types of historical materials and finishes that are known to contain asbestos and other hazardous materials in the building construction. The painted surfaces in the building likely have some lead-based paint residues, and should be tested.

It is recommended that a complete hazardous materials report be completed on the building.

**B. Mechanical and Electrical Systems**

There are limited thermal control systems in the building. The electrical distribution and lighting systems should be thoroughly inspected. All new mechanical and electrical systems should be designed to preserve the character of the significant materials and spaces identified in this report, and utilize energy efficient design principles to the extent possible.

**C. Structural Systems**

Overall, the building appears to be structurally in good condition. In the course of rehabilitating the building, the structural system should be analyzed for seismic and gravity load deficiencies and reinforced as necessary. Strengthening provisions should be designed to preserve significant materials and elements.

# NASA AMES RESEARCH CENTER

## Building B-15 reuse guidelines

---



NASA Ames Research Center  
Building B-15 Reuse Guidelines

### Appendix I. Character-Defining Features



**NASA Ames Research Center  
Building 15 Reuse Guidelines**

**Character-Defining Features**

Elements	Significance	Condition	Comments
Exterior			
North Elevations			
Water table base course	S	G	
Cement plaster surface	S	F	
Windows:			
Multi-lite metal sash windows with operable awning segments	S	F	two modified to include metal doors
Doors:			
Metal door and frame	N	G	
6-lite 6-panel wood barn doors	S	P	one modified to include a wood door, one removed and the opening infilled.
Collection boxes	C	P	
Sloped terra cotta tile roof	S	G	at the center block
East Elevation			
Water table base course	S	F	
Cement plaster surface	S	F	
Windows:			
Multi-lite metal sash windows with operable awning segments	S	F	some have louvers, first one from south is not accessible.
Multi-lite wood awning window	S	F	at the penthouse over center block
Doors:			
Metal door and frame	N	F	
Multi-lite wood door	S	F	at the penthouse over the center block
Metal roll-up door	S	P	fixed in place and modified to include a metal door
Collection boxes	C	F	
South Elevation - east wing			
Water table base course	S	F	

Significance Rating  
S=Significant  
C=Contributing  
T=Tertiary  
N=Non-contributing

Condition Rating  
G=Good  
F=Fair  
P=Poor

**NASA Ames Research Center  
Building 15 Reuse Guidelines**

Cement plaster surface	S	F	
Windows			
Multi-lite metal sash windows with operable awning segments	S	F	
South Elevation - west wing			
Water table base course	S	F	
Cement plaster surface	S	P	
Windows			
Multi-lite metal sash windows with operable awning segments	S	F	
Doors			
Metal door and frame	N	F	
Courtyard - south elevation			east corner closed with chain link fence
Water table base course	S	F	
Cement plaster surface	S	F	
Windows			
Multi-lite metal sash windows with operable awning segments	S	F	two of them infilled
Doors			
6-lite 6-panel wood barn doors			one modified, two removed and the openings infilled
Metal door and frame	N	F	in one of the infilled openings
Collection boxes	C	F	
Sloped terra cotta tile roof	S	G	
Courtyard - east elevation			north corner closed with chain link fence
Water table base course	S	F	
Cement plaster surface	S	F	
Windows			
Multi-lite metal sash windows with operable awning segments	S	G	
Doors			

Significance Rating  
S=Significant  
C=Contributing  
T=Tertiary  
N=Non-contributing

Condition Rating  
G=Good  
F=Fair  
P=Poor

**NASA Ames Research Center  
Building 15 Reuse Guidelines**

Metal door and frame with glazing	N	G	at the fixed roll-up door
Metal roll-up door	S	P	fixed in place and modified to include a metal door
Multi-lite metal door with transom	S	G	
Two door openings-at north corner	-	-	infilled
Collection boxes	C	F	
Courtyard - west elevation			
Water table base course	S	G	
Cement plaster surface	S	G	
Doors			
Metal roll-up doors	S	P	all fixed in place; first one from north infilled, second one modified to include metal door, third one includes louver
Metal door and frame with glazing	N	G	at the fixed roll-up door
Collection boxes	C	F	
Metal bumpers	S	G	
West Elevation			
Water table base course	S	G	
Cement plaster surface	S	G	
Windows			
Multi-lite metal sash windows with Operable awning segments	S	G	
Window opening-at the penthouse	-	-	infilled with wood panel
Doors			
Metal roll-up doors	S	P	all fixed in place; one modified to include a metal door.
Metal door and frame	N	F	
Collection boxes	C	F	

Significance Rating  
S=Significant  
C=Contributing  
T=Tertiary  
N=Non-contributing

Condition Rating  
G=Good  
F=Fair  
P=Poor

**NASA Ames Research Center  
Building 15 Reuse Guidelines**

Metal bumpers	S	G	
Interior			
Corridors			
Configuration	N	G	all new plan config. converted from fire station and shops
Flooring (vinyl, ceramic tile or carpet)	N	G	
Walls (gypsum board or corrugated metal)	N	G	
Ceiling (exposed structure or acoustical suspended ceiling)	N	G	
Lighting fixtures	N	G	
Skylights	S	G	originally four skylights at repair shop ceiling
Doors	N	G	
Glass block windows	N	G	
Support spaces (offices, toilets, etc.)			
Configuration	N	G	all new plan config. converted from fire station and shops
Flooring (carpet)	N	G	
Walls	N	G	
Ceiling (acoustical suspended ceiling)	N	G	
Lighting fixtures (recessed 2 by 4)	N	G	
Mechanical Room			
Flooring (exposed concrete)	T	P	
Walls	T	F	
Ceiling (exposed structure)	T	F	
Lighting fixtures	N	F	

*Character Defining Features Matrix*

Significance Rating  
S=Significant  
C=Contributing  
T=Tertiary  
N=Non-contributing

Condition Rating

G=Good  
F=Fair  
P=Poor

# NASA AMES RESEARCH CENTER

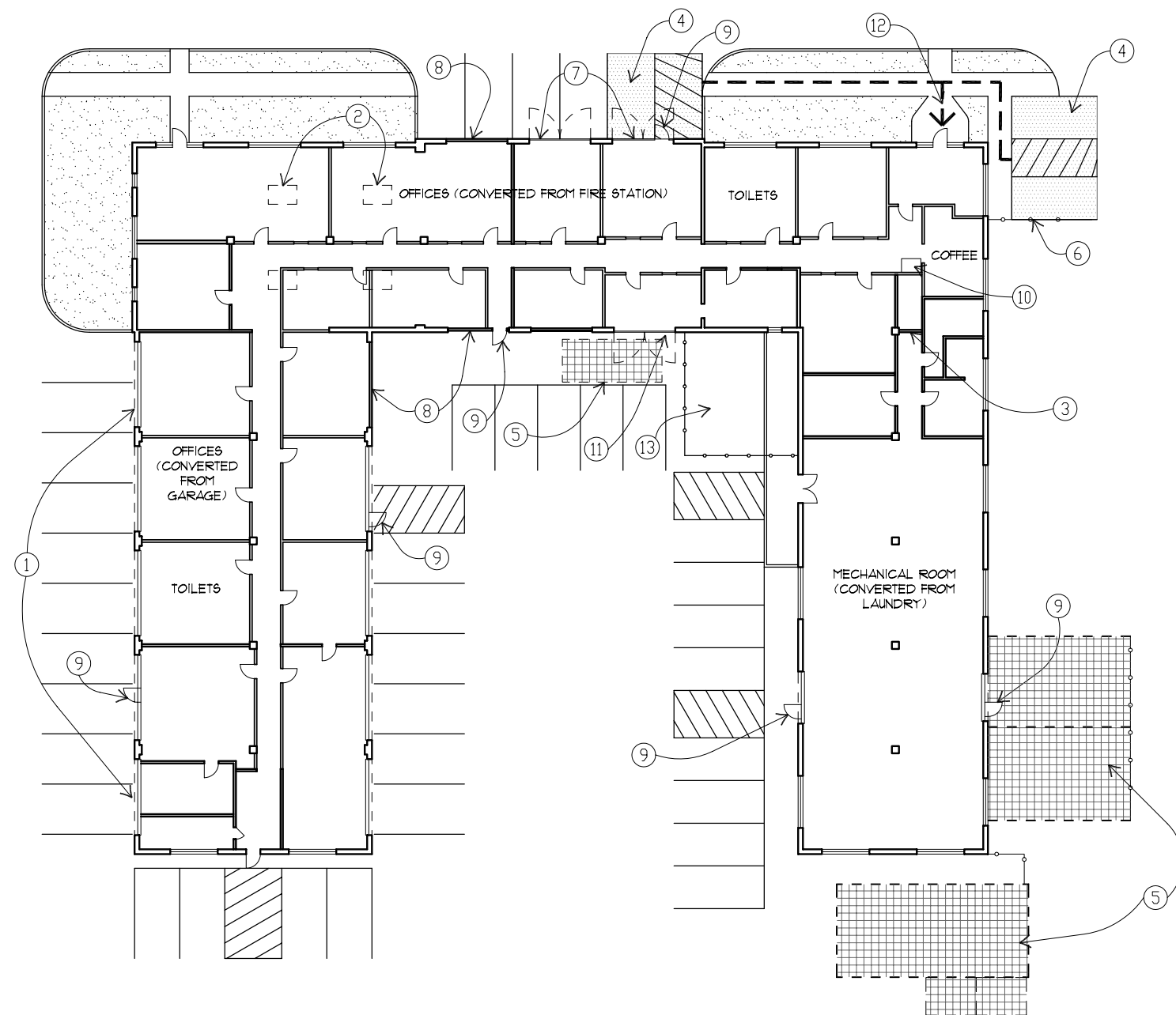
## Building B-15 reuse guidelines

---



NASA Ames Research Center  
Building B-15 Reuse Guidelines

Appendix 2. Existing Floor Plans & Rehabilitation



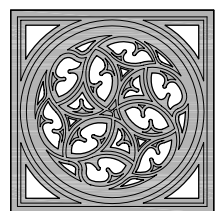
# REHABILITATION LEGEND & NOTES

- ① ROLL-UP DOORS, FIXED IN CLOSED POSITION
- ② SKYLIGHTS ABOVE
- ③ ACCORDING TO ORIGINAL CONSTRUCTION DOCUMENTS, THERE IS A POSSIBLE DEAD-END CORRIDOR AT THIS LOCATION. IT IS RECOMMENDED TO OPEN THE NORTH WALL OF THE CORRIDOR AS A SECOND EXIT
- ④ SUGGESTED MODIFICATION TO ADD VAN ACCESSIBLE AND ONE REGULAR STALL TO THE EXISTING REGULAR ACCESSIBLE PARKING
- ⑤ FENCE OR NEW STRUCTURE ATTACHED AND/ OR VERY CLOSE TO THE BUILDING, SHOWN WITH DASHED LINES. IT IS RECOMMENDED THAT ATTACHED STRUCTURES BE REMOVED
- ⑥ EXISTING FENCE
- ⑦ DOORS, FIXED IN CLOSED POSITION
- ⑧ ORIGINAL DOOR OPENING INFILLED WITH CEMENT PLASTER FINISH
- ⑨ NEW DOOR, INSIDE FIXED EXISTING DOOR OR FIXED ROLL-UP DOOR
- ⑩ VENDING MACHINE
- ⑪ DOOR BLOCKED WITH A PANEL
- ⑫ EXISTING ACCESSIBLE PATH OF TRAVEL
- ⑬ MECHANICAL EQUIPMENT INSIDE FENCE

## GENERAL NOTE

REFER TO SECTION IX, "CODE EVALUATIONS AND RECOMMENDATIONS" FOR DETAILED DESCRIPTION.

NOTE : INTERIOR WALL PARTITIONS, LOCATIONS OF CORRIDOR DOORS AND GLASS BLOCK WINDOWS ARE NOT ACCURATE DUE TO THE LIMITED ACCESS.



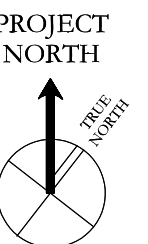
**ARCHITECTURAL  
RESOURCES GROUP**  
Architects, Planners & Conservators, Inc.

## EXISTING PLANS & REHABILITATION



**BUILDING 15**  
NASA Ames Research Center  
Sunnyvale, CA

October, 2007



# NASA AMES RESEARCH CENTER

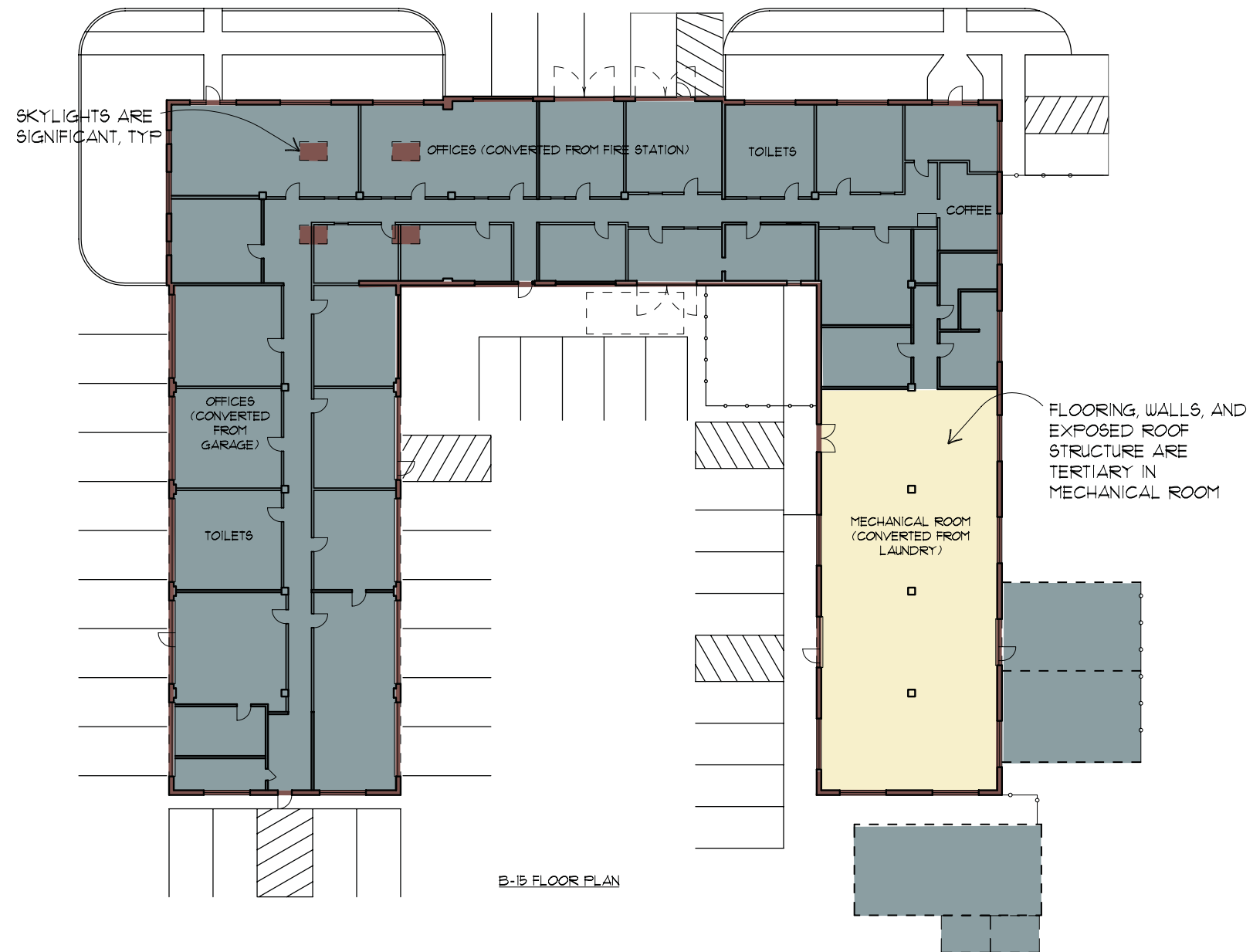
## Building B-15 reuse guidelines

---



NASA Ames Research Center  
Building B-15 Reuse Guidelines

Appendix 3. Historic Character-Defining  
Significance Diagrams

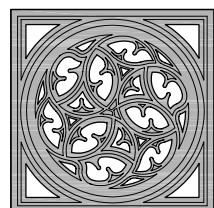


#### GENERAL NOTES

1. THESE DIAGRAMS ARE INTENDED TO SHOW THE PRINCIPAL CHARACTER-DEFINING FEATURES, NOT SPECIFIC COMPONENTS.
2. FOR A MATRIX OF SIGNIFICANCE RATINGS FOR INDIVIDUAL BUILDING COMPONENTS, REFER TO APPENDIX I. "HISTORIC CHARACTER-DEFINING FEATURES".

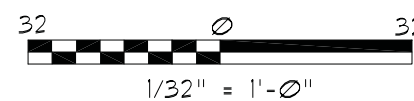
#### CHARACTER-DEFINING SIGNIFICANCE DIAGRAMS LEGEND

- SIGNIFICANT FEATURE
- CONTRIBUTING FEATURE
- TERTIARY FEATURE
- NON-CONTRIBUTING FEATURE
- NEW CONSTRUCTION - PROPOSED

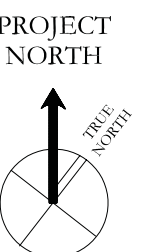


**ARCHITECTURAL  
RESOURCES GROUP**  
Architects, Planners & Conservators, Inc.

## HISTORIC CHARACTER-DEFINING SIGNIFICANCE DIAGRAMS - PLANS



BUILDING 15  
NASA Ames Research Center  
Sunnyvale, CA  
October, 2007







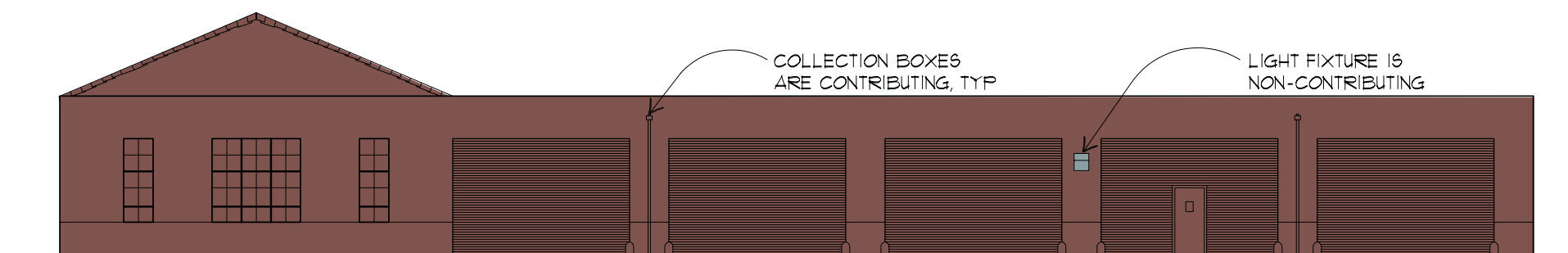
NORTH ELEVATION

### GENERAL NOTES

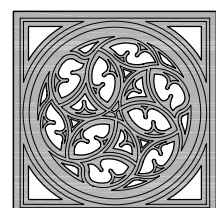
1. THESE DIAGRAMS ARE INTENDED TO SHOW THE PRINCIPAL CHARACTER-DEFINING FEATURES, NOT SPECIFIC COMPONENTS.
2. FOR A MATRIX OF SIGNIFICANCE RATINGS FOR INDIVIDUAL BUILDING COMPONENTS, REFER TO APPENDIX I. "HISTORIC CHARACTER-DEFINING FEATURES".

### CHARACTER-DEFINING SIGNIFICANCE DIAGRAMS LEGEND

- SIGNIFICANT FEATURE
- CONTRIBUTING FEATURE
- TERTIARY FEATURE
- NON-CONTRIBUTING FEATURE
- NEW CONSTRUCTION - PROPOSED



WEST ELEVATION



**ARCHITECTURAL  
RESOURCES GROUP**

Architects, Planners & Conservators, Inc.

## HISTORIC CHARACTER-DEFINING SIGNIFICANCE DIAGRAMS



**BUILDING 15**  
NASA Ames Research Center  
Sunnyvale, CA

October, 2007

# NASA AMES RESEARCH CENTER

## Building B-15 reuse guidelines

---



NASA Ames Research Center  
Building B-15 Reuse Guidelines

Appendix 4. Historic Aerial Photographs

NASA Ames Research Center  
Building 15 Reuse Guidelines

---

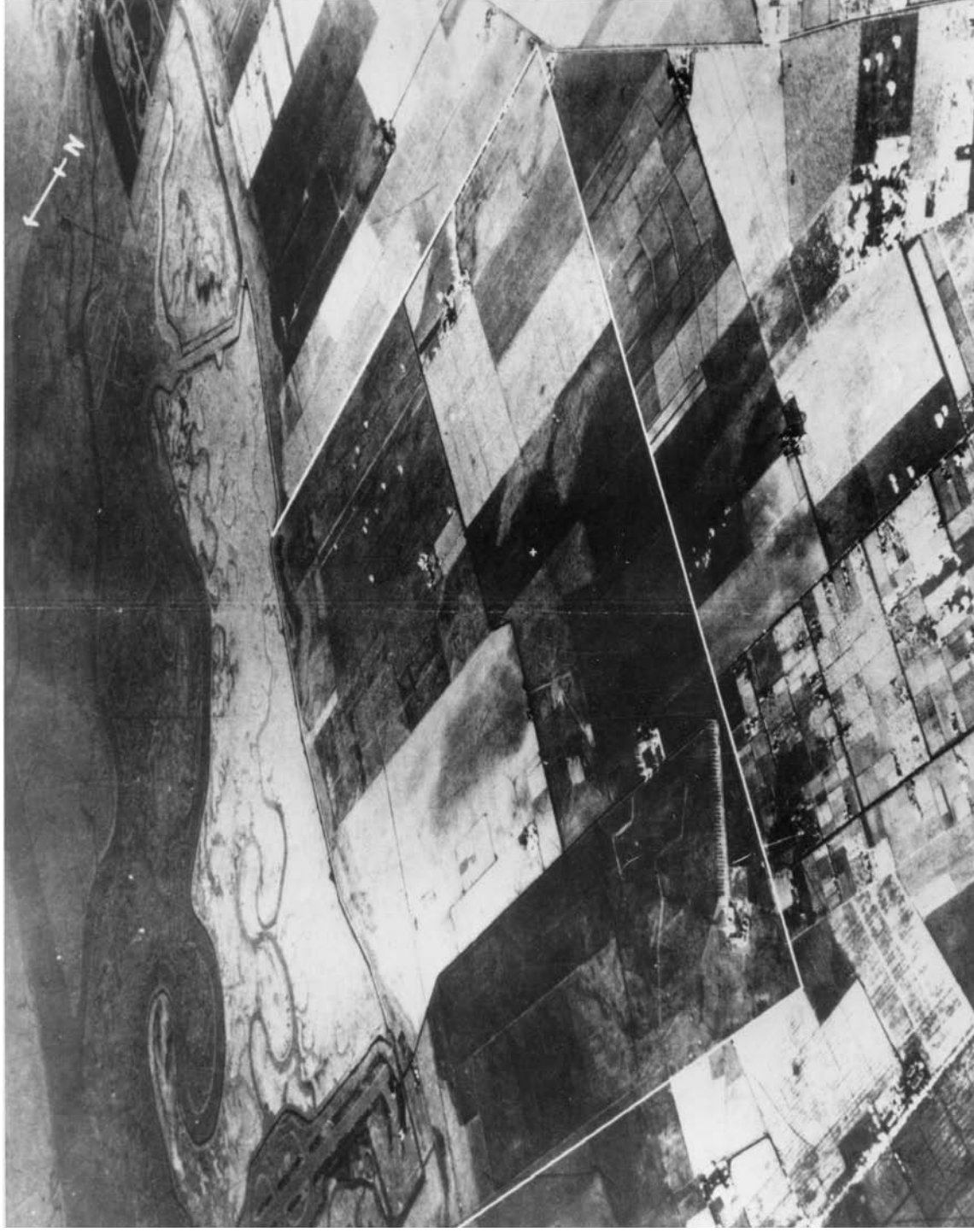
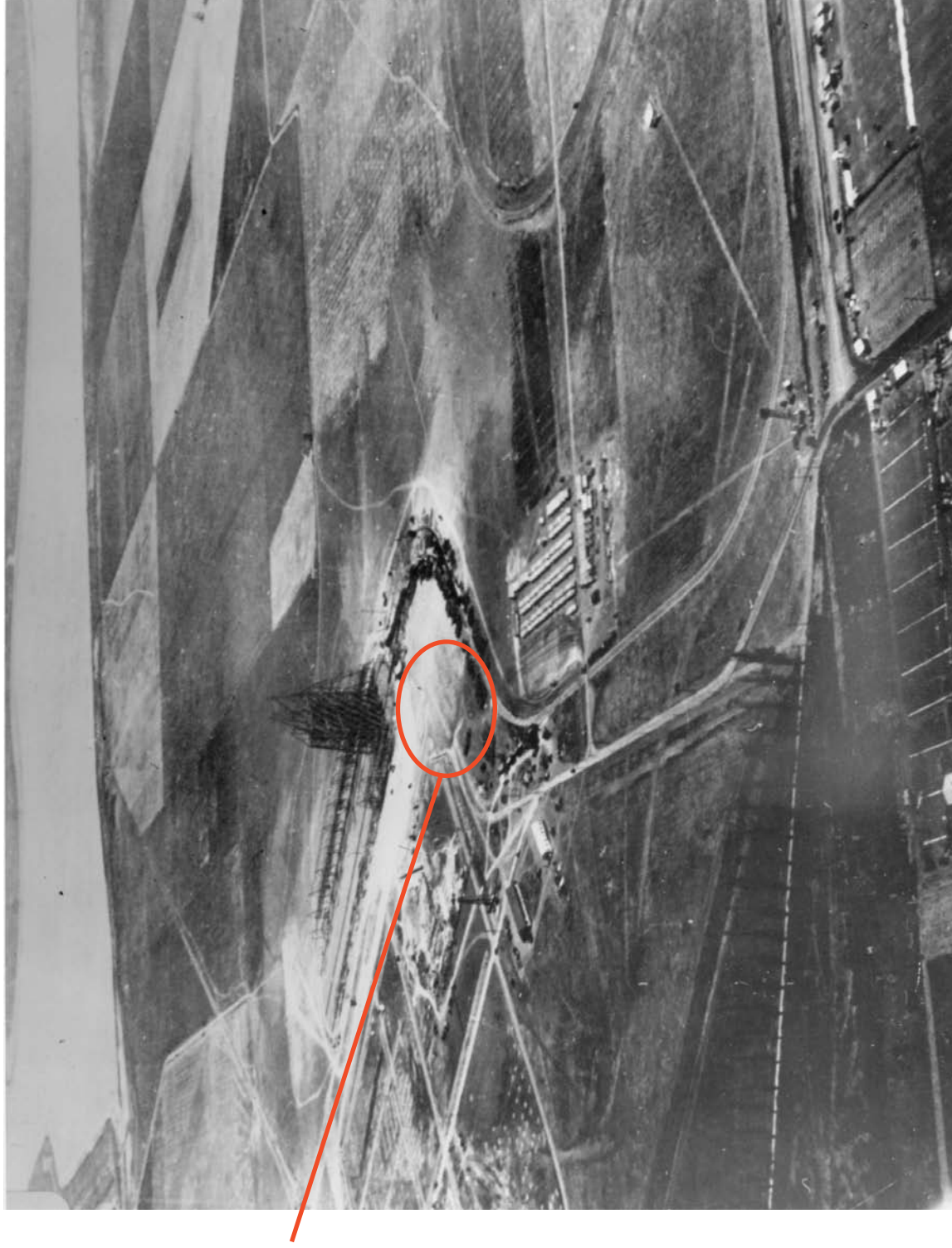


Figure 1: 1930 aerial of future Moffett Field site.

**NASA Ames Research Center  
Building 15 Reuse Guidelines**

---



*Figure 2: 1931 aerial of Hangar 1 under construction.*



NASA Ames Research Center  
Building 15 Reuse Guidelines

---

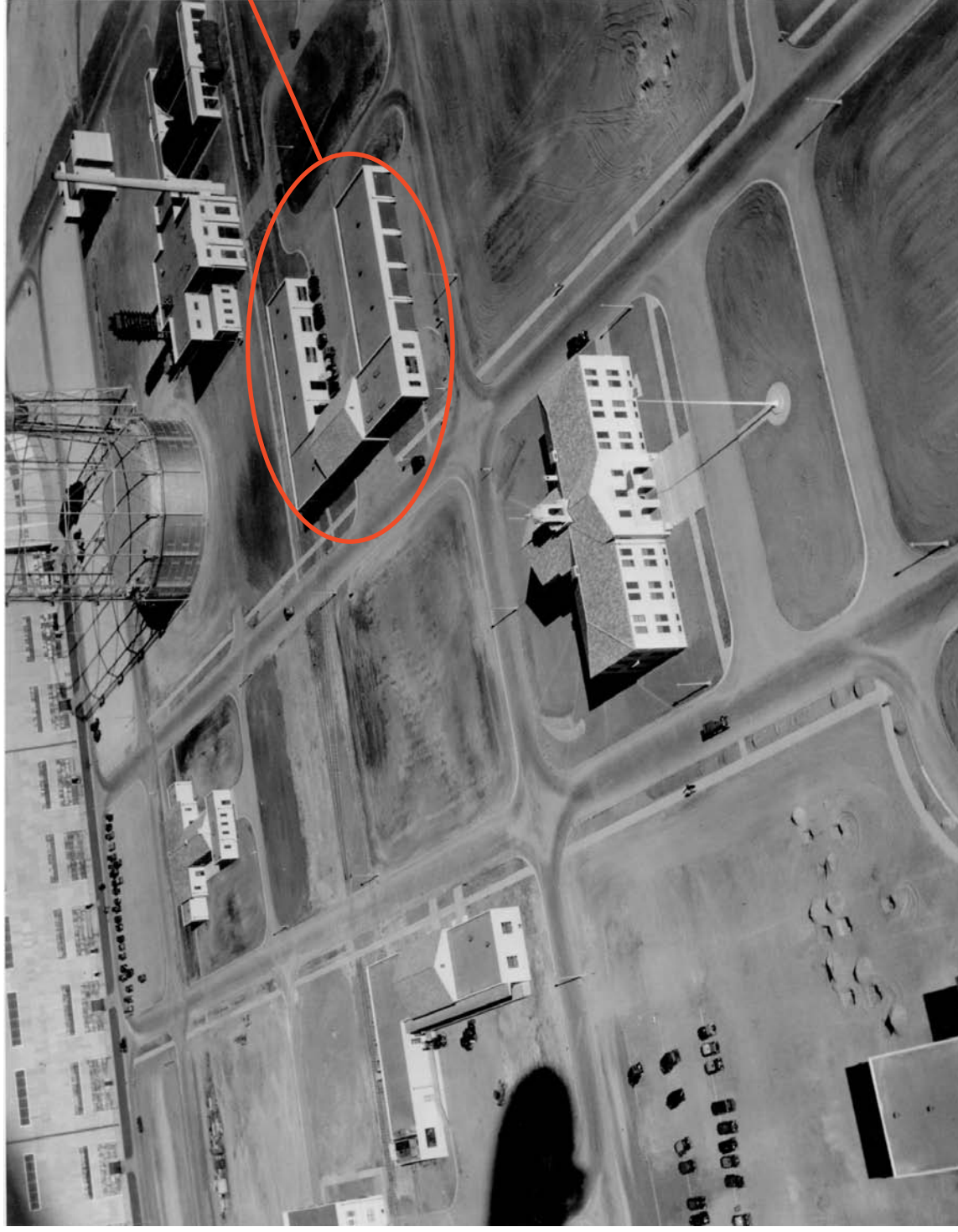
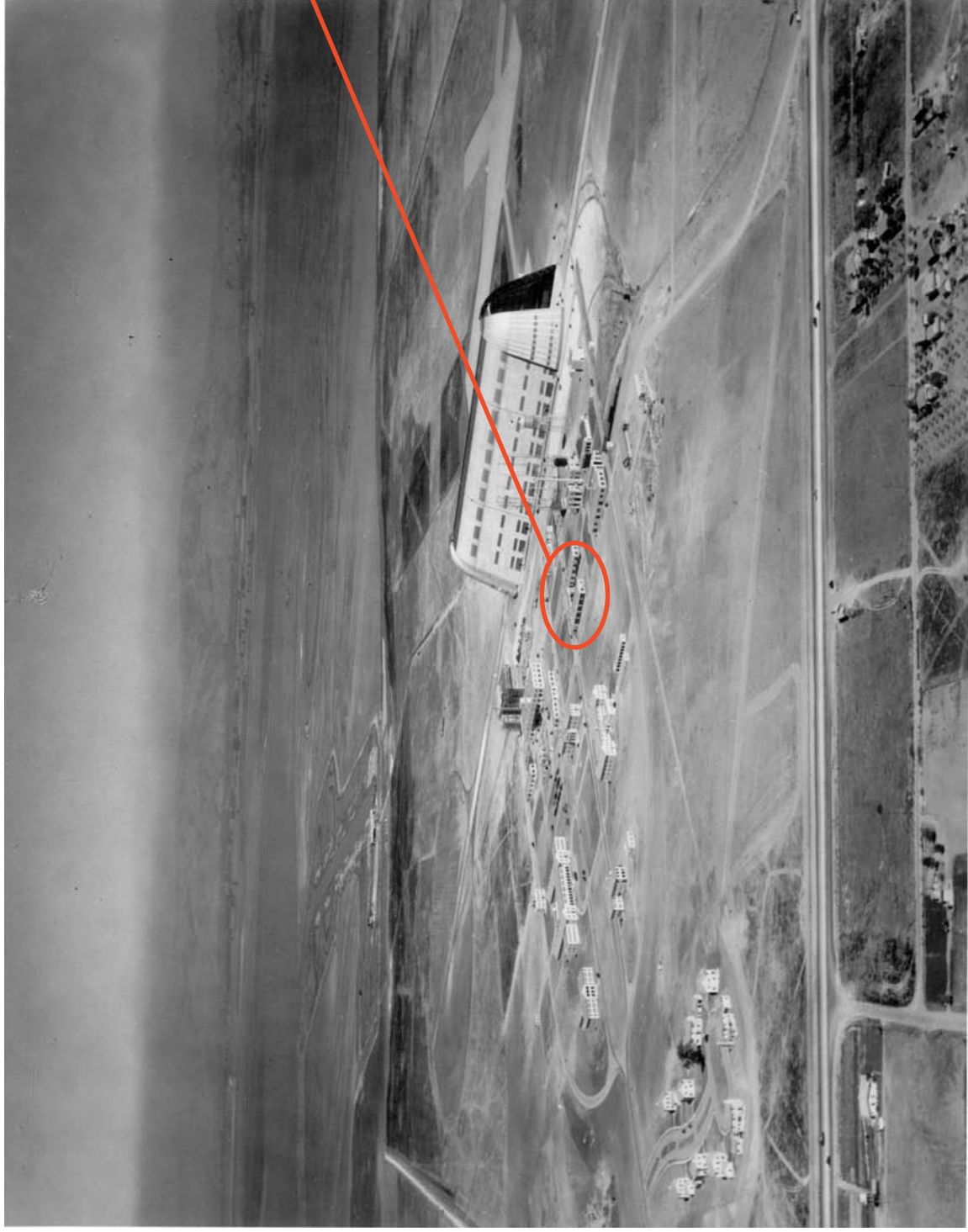


Figure 3: 1933 aerial of partial Shenandoah Plaza and Building 15.

**NASA Ames Research Center  
Building 15 Reuse Guidelines**

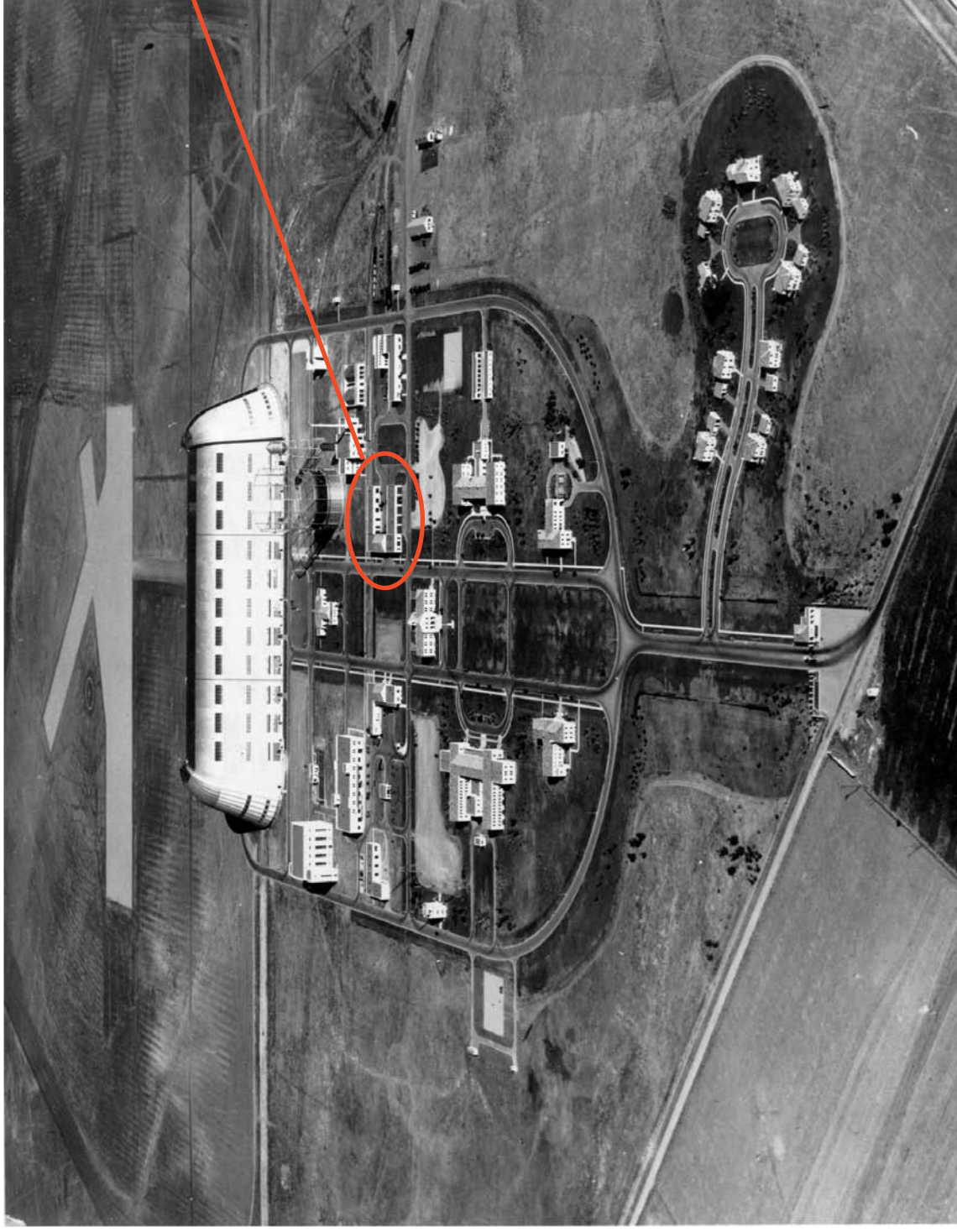
---



**Building 15**

*Figure 4: 1935 aerial showing Shenandoah Plaza and Building 15.*

NASA Ames Research Center  
Building 15 Reuse Guidelines



Building 15

Figure 5: 1935 aerial showing Shenandoah Plaza and building 15.



NASA Ames Research Center  
Building 15 Reuse Guidelines

---

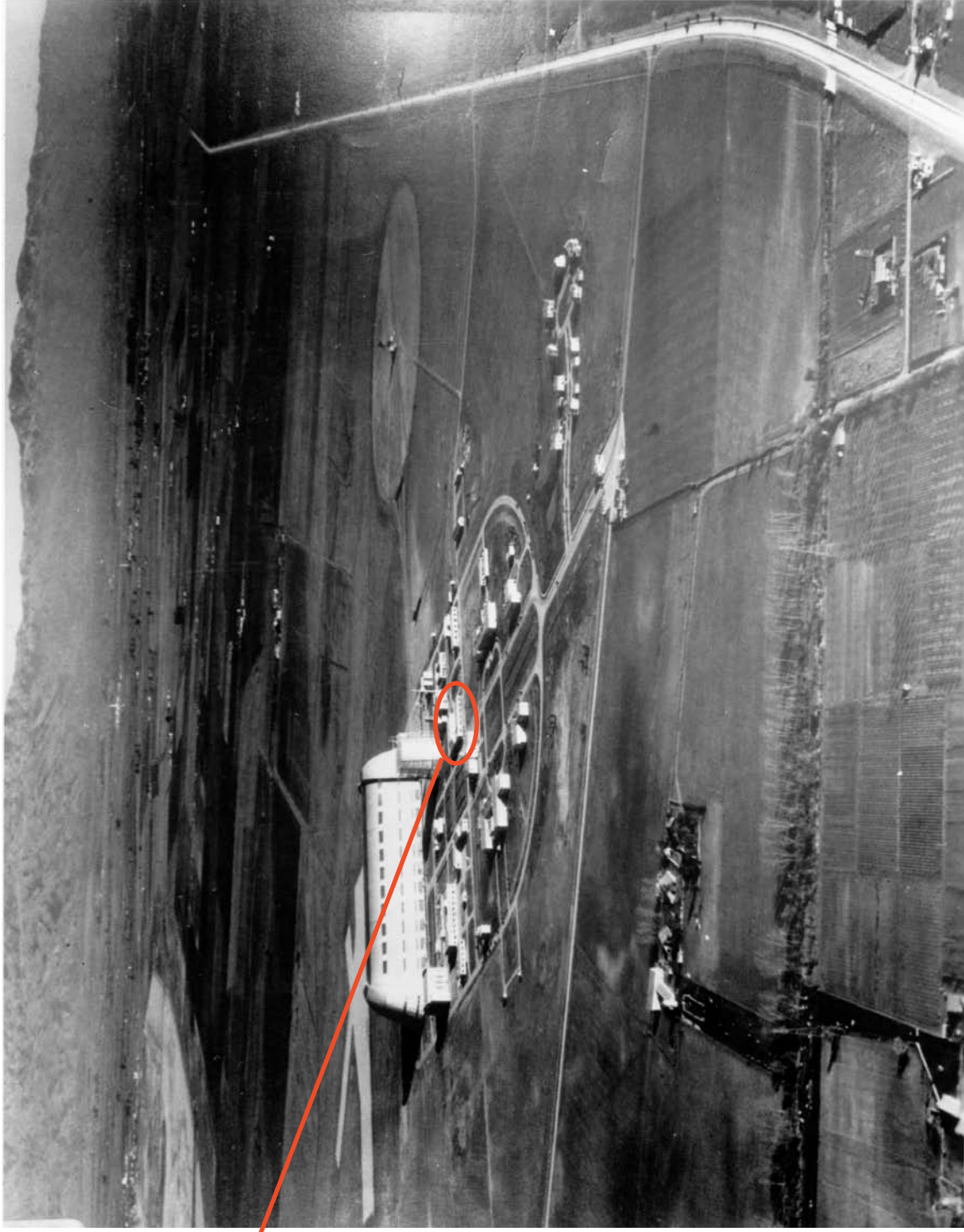


Figure 6: 1936 aerial of Moffett Field.



NASA Ames Research Center  
Building 15 Reuse Guidelines

---



Figure 7: 1940 aerial photograph.

NASA Ames Research Center  
Building 15 Reuse Guidelines

---



Figure 8: 1940 aerial photograph.



**NASA Ames Research Center  
Building 15 Reuse Guidelines**

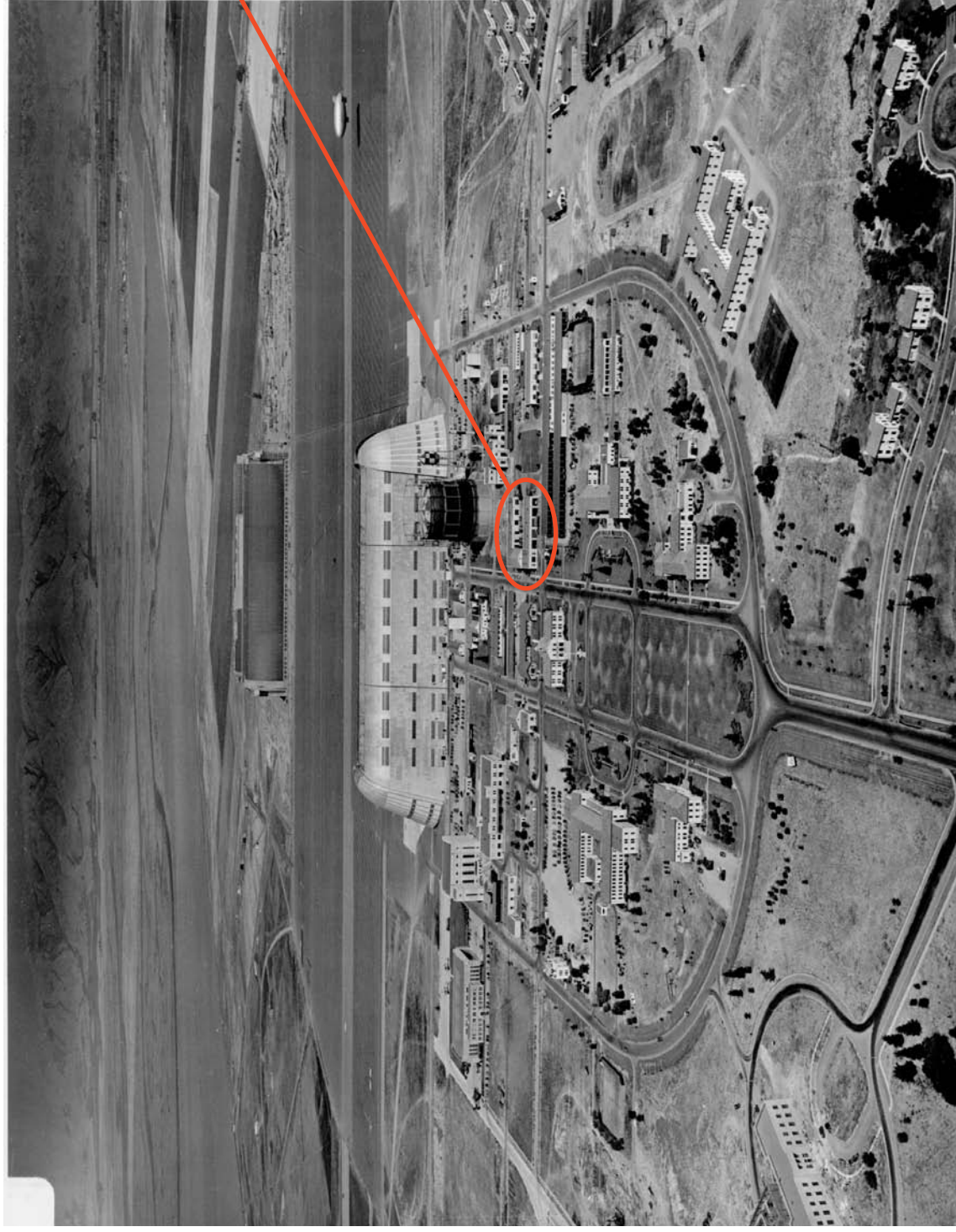
---



Figure 9: 1940 aerial photograph .

NASA Ames Research Center  
Building 15 Reuse Guidelines

---



Building 15

Figure 10: 1943 aerial Photograph of Shenandoah and Building 15.



NASA Ames Research Center  
Building 15 Reuse Guidelines

---

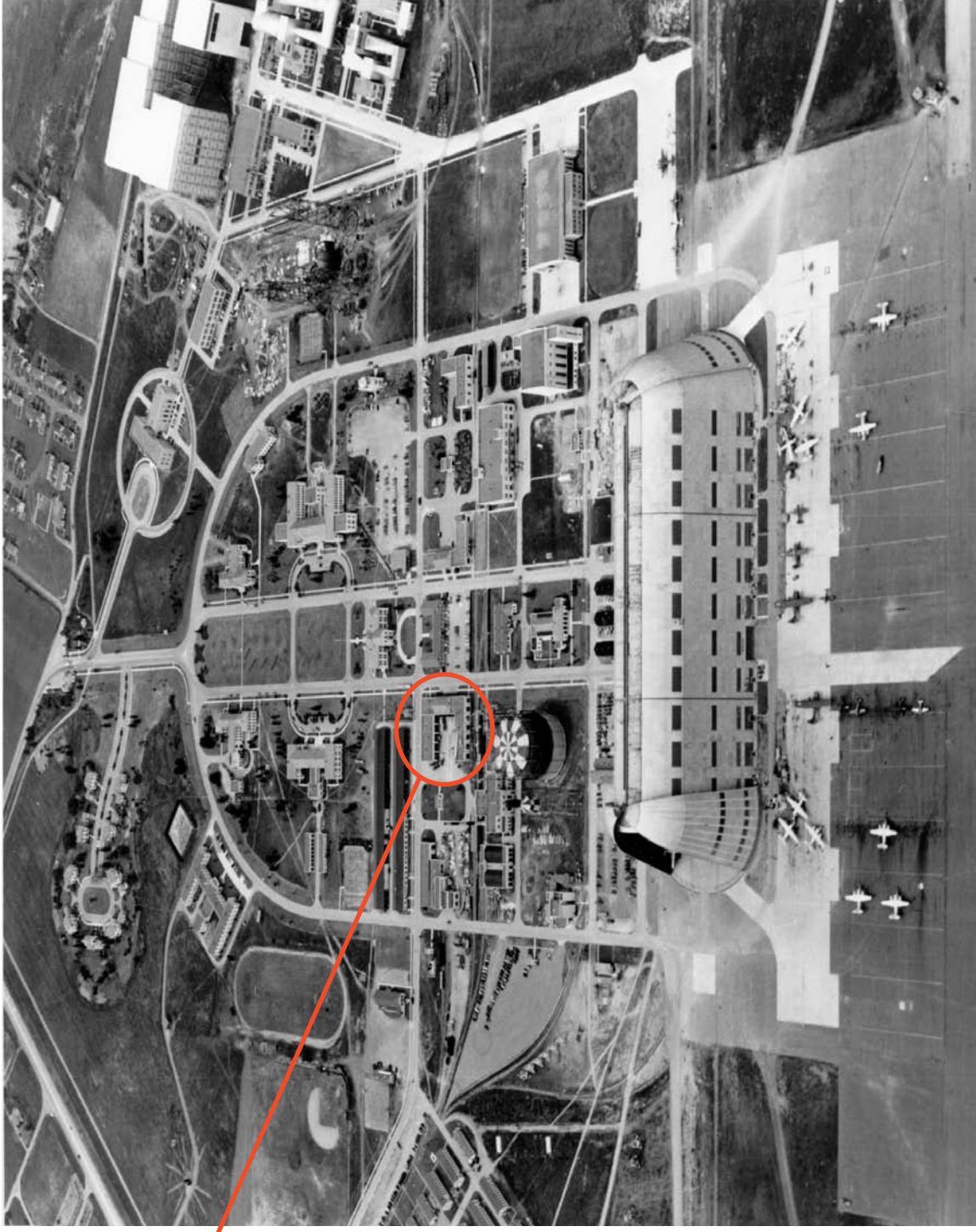
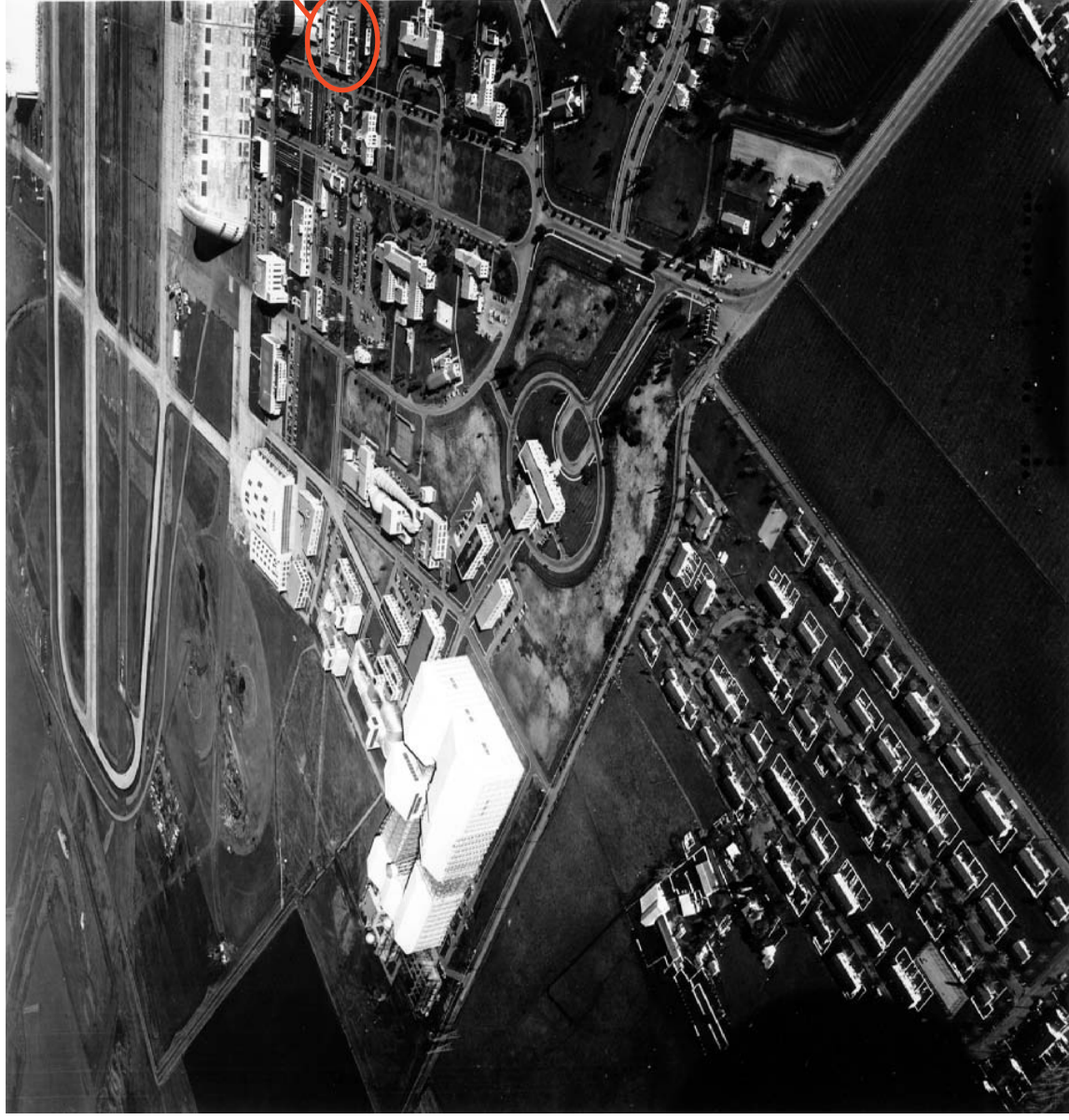


Figure 11: 1944 aerial of Moffett Field.

**NASA Ames Research Center  
Building 15 Reuse Guidelines**

---



**Building 15**

*Figure 12: 1951 aerial photograph.*

ARCHITECTURAL RESOURCES GROUP  
Architects, Planners & Conservators, Inc.



NASA Ames Research Center  
Building 15 Reuse Guidelines



Building 15

Figure 13: 1958 aerial photograph.



NASA Ames Research Center  
Building 15 Reuse Guidelines



Building 15

Figure 14: 1982 aerial photograph.



# NASA AMES RESEARCH CENTER

## Building B-15 reuse guidelines

---



NASA Ames Research Center  
Building B-15 Reuse Guidelines

Appendix 5. Current Conditions Photographs (2006)

NASA Ames Research Center  
Building 15 Reuse Guidelines

---



*Figure 15. Looking across South Akron Road towards the northeast side of the central wing. Building 15 main entrance is on the left, Hangar 1 can be seen to the east.*

NASA Ames Research Center  
Building 15 Reuse Guidelines

---



*Figure 16. Northwest end of the central wing along South Akron Road.*



*Figure 17. Northeast corner of the building from across South Akron Road.*

NASA Ames Research Center  
Building 15 Reuse Guidelines

---



*Figure 18. North façade along South Akron Road, building entrance on left.*



*Figure 19. North façade of the central wing.*



*Figure 20. North façade, 2nd story attic above, with hopper window and clay tile gable roof.*



*Figure 21. One of two in-tact, multi-lite garage doors along north façade of the central bay.*





*Figure 22. Garage door with original hardware at the central bay.*



*Figure 23. Second garage door at north façade of the central wing. (Originally the Fire Station.)*

NASA Ames Research Center  
Building 15 Reuse Guidelines

---



*Figure 24. West elevation of west wing along McCord Avenue. (West wing was originally a garage.)*



*Figure 25. Detail of water table base course and metal overhead garage doors (non-operable).*

NASA Ames Research Center  
Building 15 Reuse Guidelines

---



*Figure 26. South elevation of the west wing.*



*Figure 27. Building 15 courtyard from the south.*



NASA Ames Research Center  
Building 15 Reuse Guidelines

---



*Figure 28. East elevation of the west wing (courtyard side).*



*Figure 29. South elevation of the central wing as seen from courtyard.*

NASA Ames Research Center  
Building 15 Reuse Guidelines

---



*Figure 30. Steel frame multi-lite window at west elevation (courtyard side) of east wing.*



*Figure 31. Building 15 from the south.*

NASA Ames Research Center  
Building 15 Reuse Guidelines

---



*Figure 32. Southeast corner of building 15, new structure on right.*



*Figure 33. New structure at southeast corner.*

NASA Ames Research Center  
Building 15 Reuse Guidelines

---



*Figure 34. North end of the east wing.*



*Figure 35. East elevation of east wing from the north.*



NASA Ames Research Center  
Building 15 Reuse Guidelines

---



*Figure 36. East elevation of the east wing (north end).*

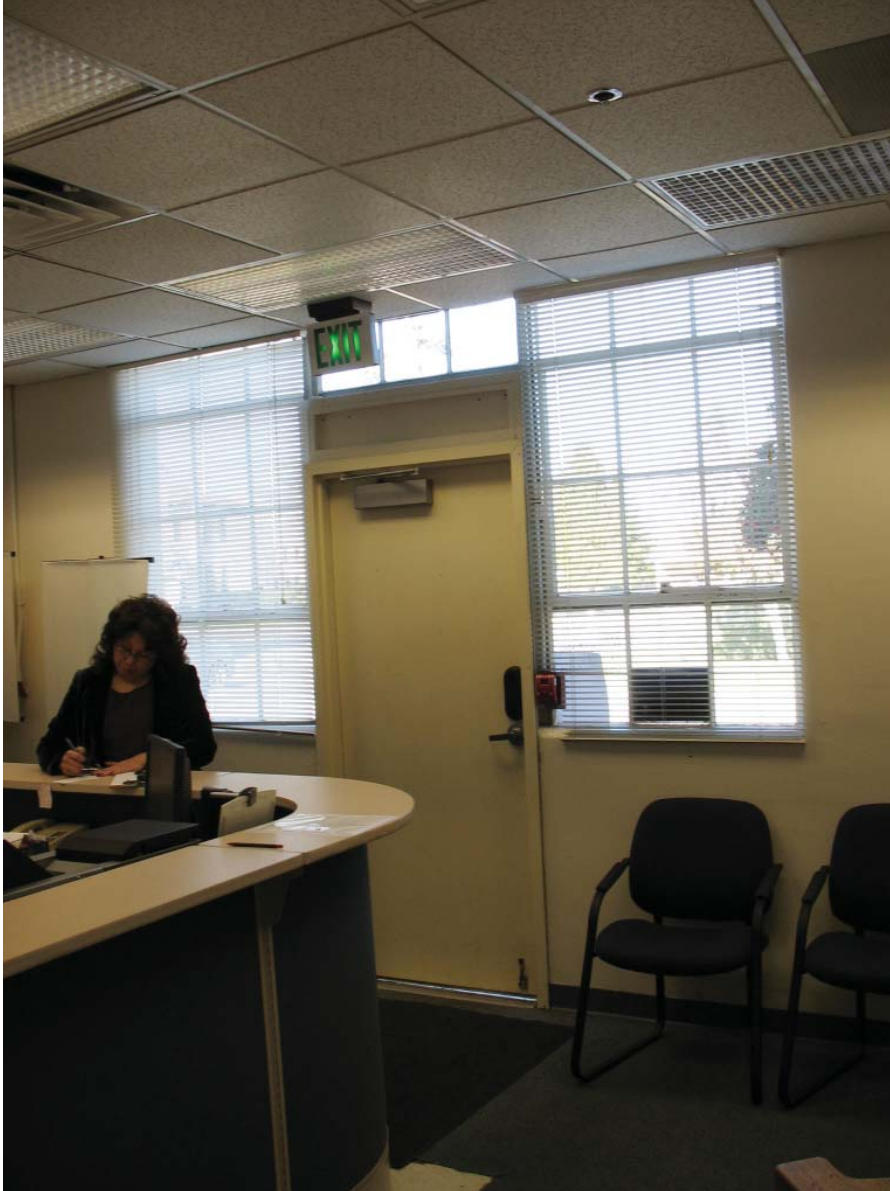


*Figure 37. Interior corridor.*



*Figure 38. Corridor with skylights above.*





*Figure 39. Office with multi-lite metal sash windows.*



*Figure 40. Mechanical room.*



*Figure 41. Original metal doors at mechanical room.*

# NASA AMES RESEARCH CENTER

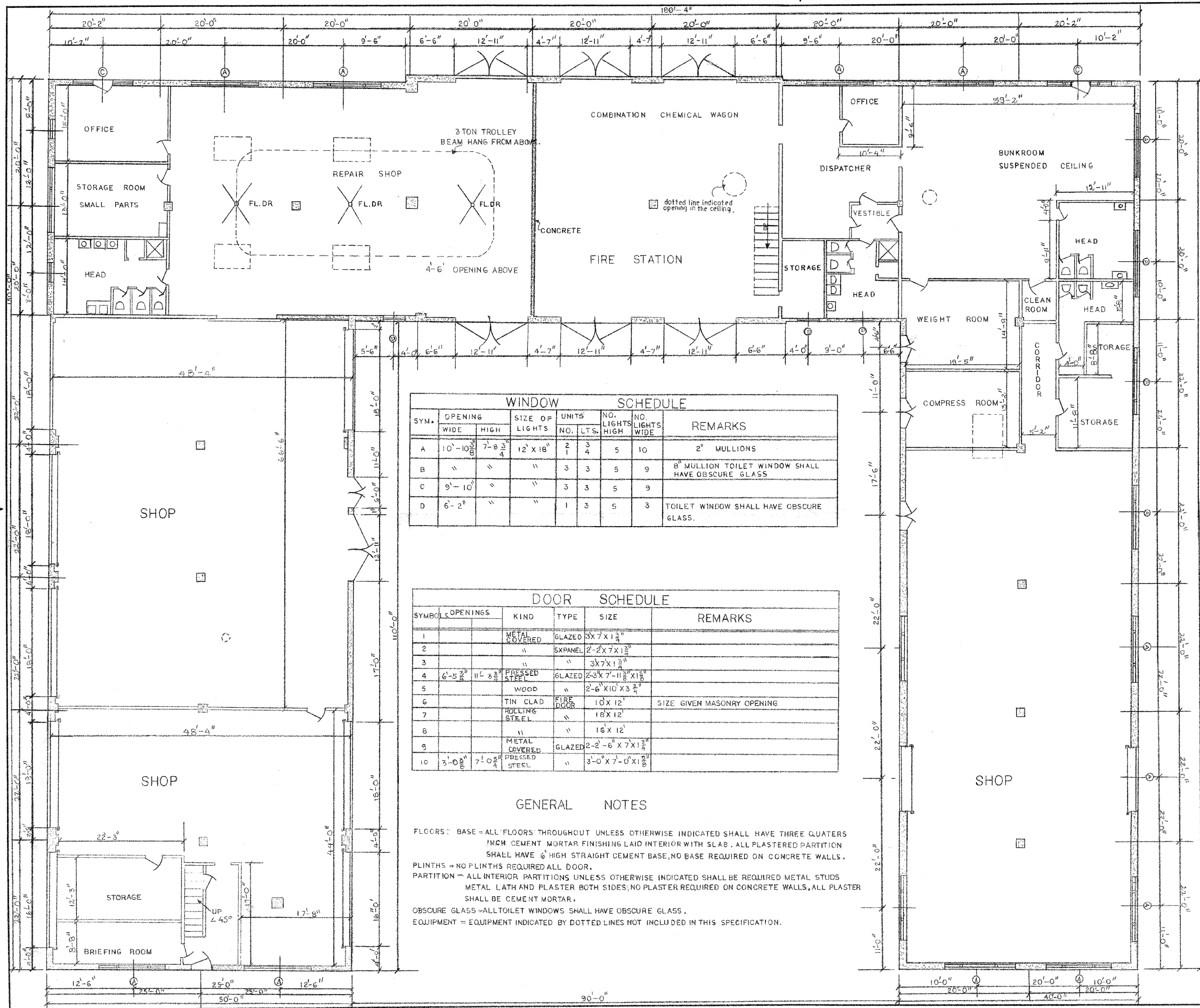
## Building B-15 reuse guidelines

---



NASA Ames Research Center  
Building B-15 Reuse Guidelines

Appendix 6. Construction Plans



REVISIONS				
SYM	DESCRIPTION	PREP'D BY	DATE	APPROVED

WINDOW SCHEDULE						
SYMBOL	OPENING WIDE	HIGH	SIZE OF LIGHTS	UNITS NO. L.T.S.	NO. LIGHTS HIGH	REMARKS
A	10'-10 1/2"	7'-8 3/4"	12' X 18"	2 1/3	5 10	2" MULLIONS
B	"	"	"	3 3	5 9	8" MULLION TOILET WINDOW SHALL HAVE OBSCURE GLASS
C	9'-10"	"	"	3 3	5 9	
D	6'-2"	"	"	1 3	5 3	TOILET WINDOW SHALL HAVE OBSCURE GLASS

DOOR SCHEDULE				
SYMBOL	OPENINGS	KIND	TYPE	REMARKS
1		METAL COVERED	GLAZED 3X7 X 1 1/4"	
2		"	SLIP PANEL 2'-2 X 7 X 1 1/2"	
3		"	" 3X7 X 1 1/4"	
4	6'-5 1/2" X 11'-2 1/2"	PRESSED STEEL	GLAZED 2'-3 X 7'-11 1/2" X 1 1/8"	
5		WOOD	" 2'-6" X 10' X 3 1/4"	
6		TIN CLAD ROLLING STEEL	FIRE DOOR 10' X 12'	SIZE GIVEN MASONRY OPENING
7		"	" 18' X 12'	
8		"	" 16' X 12'	
9		METAL COVERED	GLAZED 2'-2" X 7' X 1 1/4"	
10	3'-0 1/2" X 7'-10 1/2"	PRESSED STEEL	" 3'-0" X 7'-0" X 1 1/8"	

GENERAL NOTES

FLOORS: BASE - ALL FLOORS THROUGHOUT UNLESS OTHERWISE INDICATED SHALL HAVE THREE QUARTERS INCH CEMENT MORTAR FINISHING LAID INTERIOR WITH SLAB. ALL PLASTERED PARTITION SHALL HAVE 6" HIGH STRAIGHT CEMENT BASE, NO BASE REQUIRED ON CONCRETE WALLS. PLINTHS - NO PLINTHS REQUIRED ALL DOOR. PARTITION - ALL INTERIOR PARTITIONS UNLESS OTHERWISE INDICATED SHALL BE REQUIRED METAL STUDS METAL LATH AND PLASTER BOTH SIDES, NO PLASTER REQUIRED ON CONCRETE WALLS, ALL PLASTER SHALL BE CEMENT MORTAR. OBSCURE GLASS - ALL TOILET WINDOWS SHALL HAVE OBSCURE GLASS. EQUIPMENT - EQUIPMENT INDICATED BY DOTTED LINES NOT INCLUDED IN THIS SPECIFICATION.

National Aeronautics and Space Administration  
Ames Research Center  
Moffett Field, California

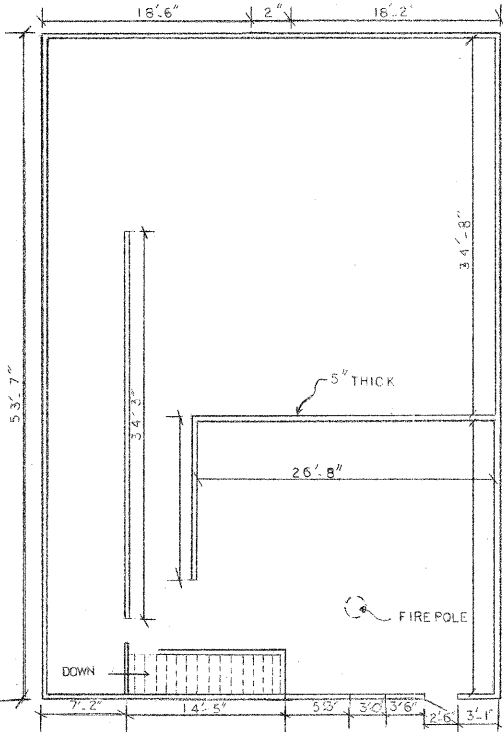
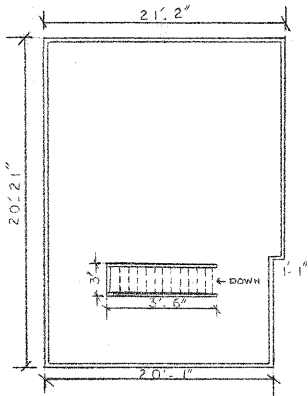
AM4--0015-A4 REV

ARC - MOFFETT

A4566-9211-A0170

PWD. DWG. NO. 302-883-1-	DATE 8-12-82	DEPARTMENT OF THE NAVY NAVAL AIR STATION	NAVAL FACILITIES ENGINEERING COMMAND MOFFETT FIELD, CA.
DSGN. DR.	DATE 8-12-82	BUILDING 15, FIRE STATION - SHOP - GARAGE - FLOOR PLAN.	
CHECKED [Signature]	DATE	SIZE D	CODE IDENT. NO. 80091
APPROVED BY DIRECTOR ENGINEERING DIV.		NAVFAC. DRAWING NO.	
APPROVED BY PUBLIC WORKS OFFICER		CONST. CONTR. NO.	
SATISFACTORY TO		SCALE 1/8" = 1'	SHEET 1 OF 2

REVISIONS				
SYM	DESCRIPTION	PREP'D BY	DATE	APPROVED



National Aeronautics and Space Administration  
Ames Research Center  
Moffett Field, California

REV  
A4566-92 71-A0171

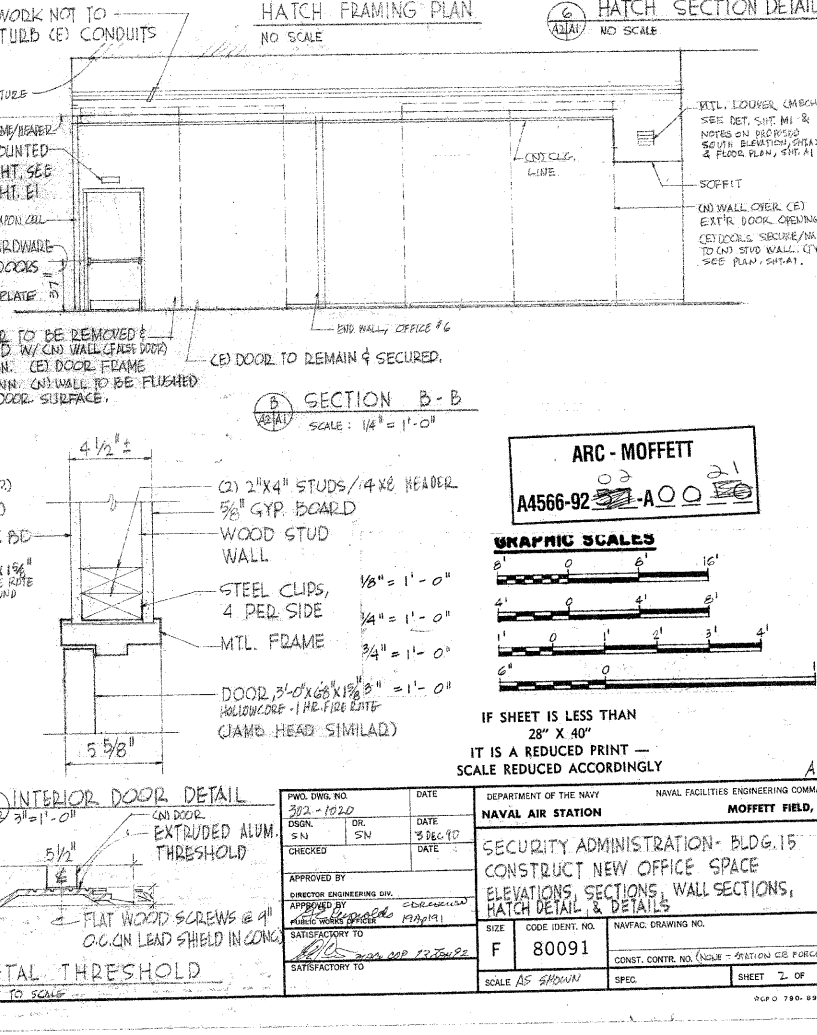
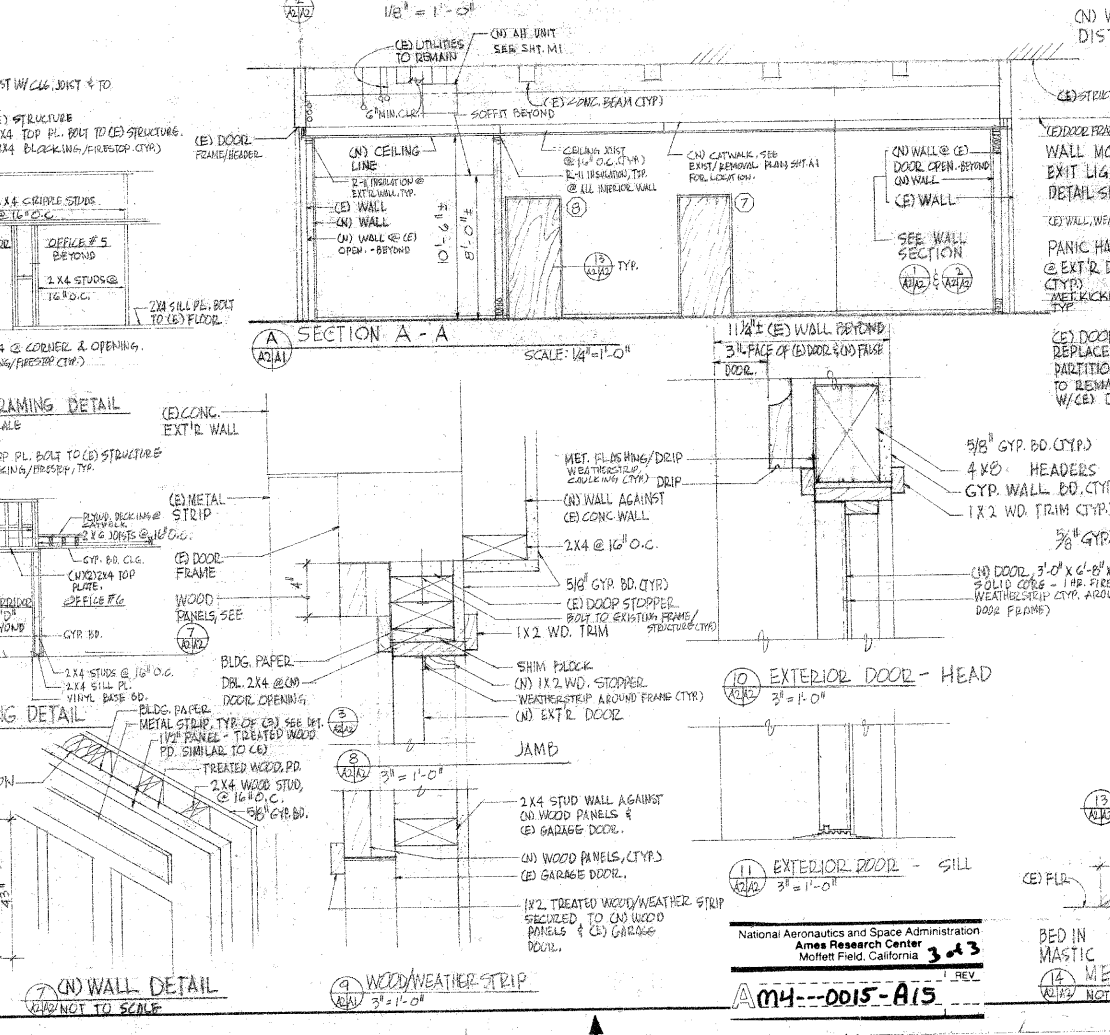
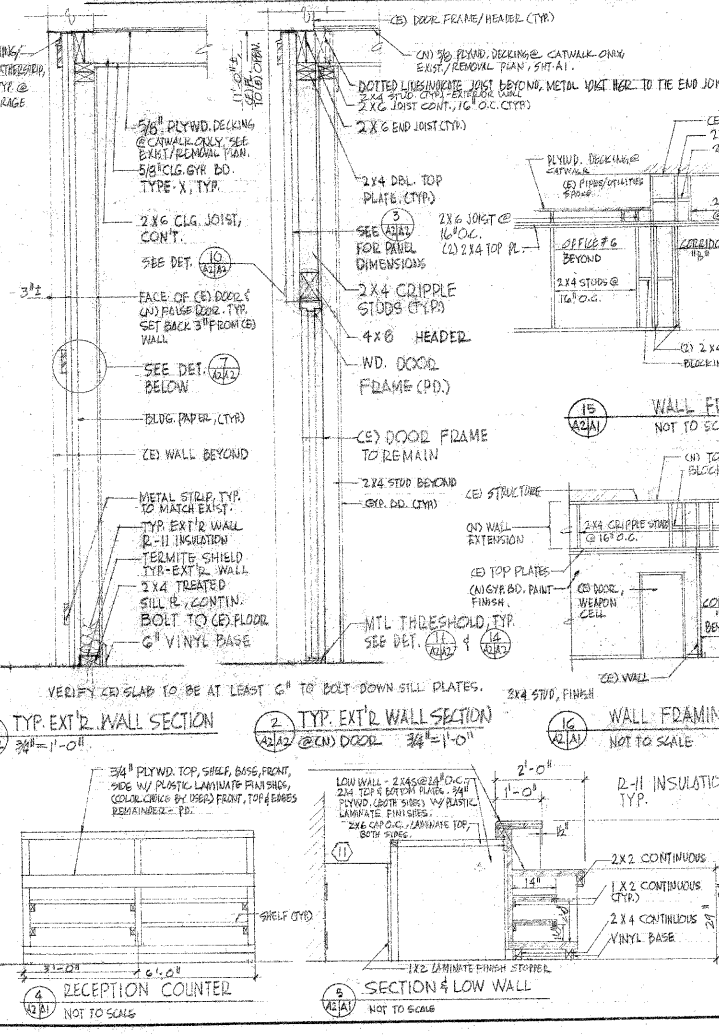
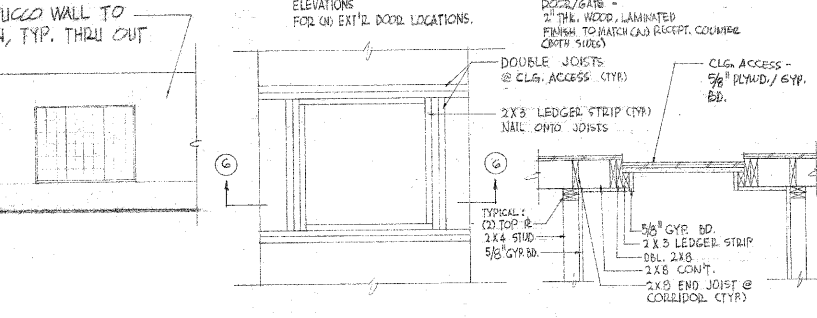
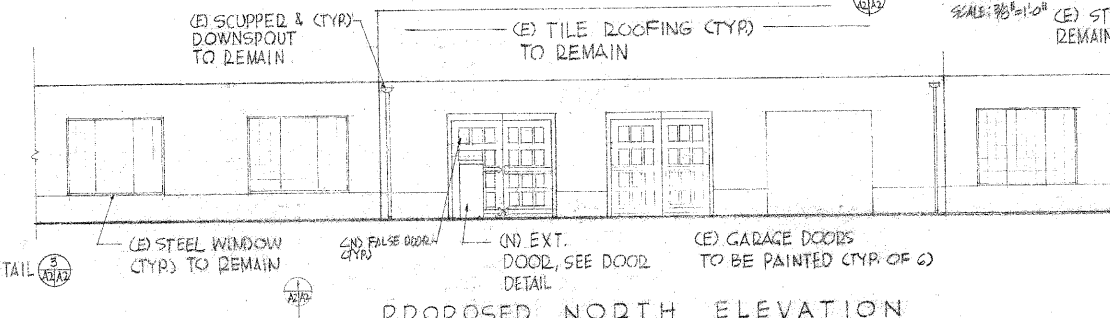
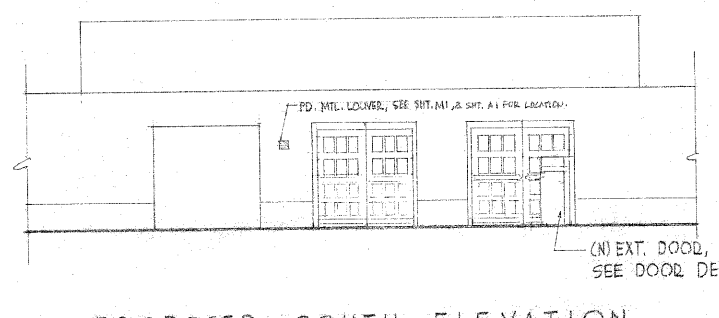
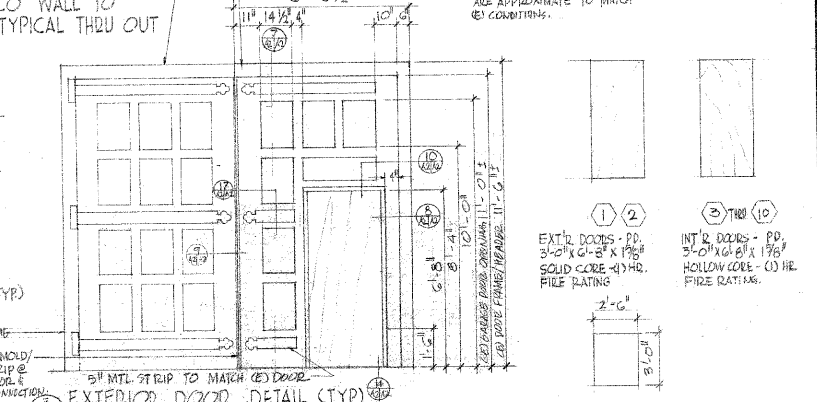
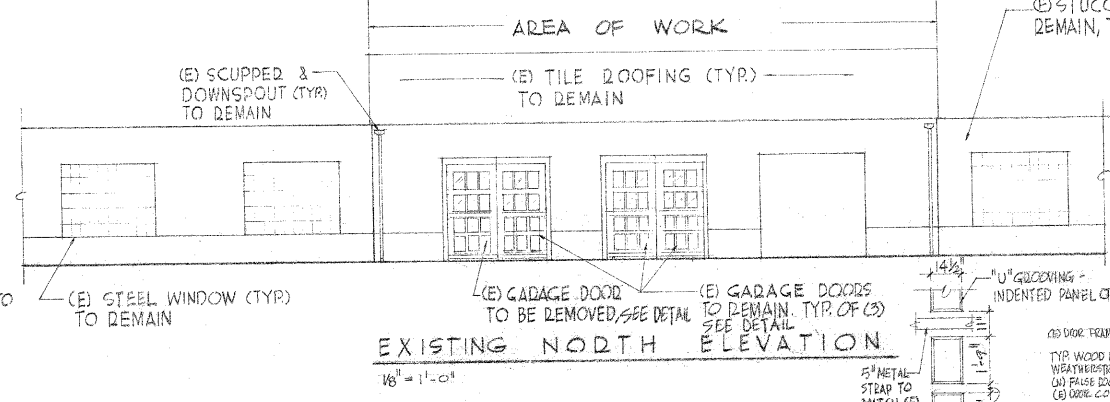
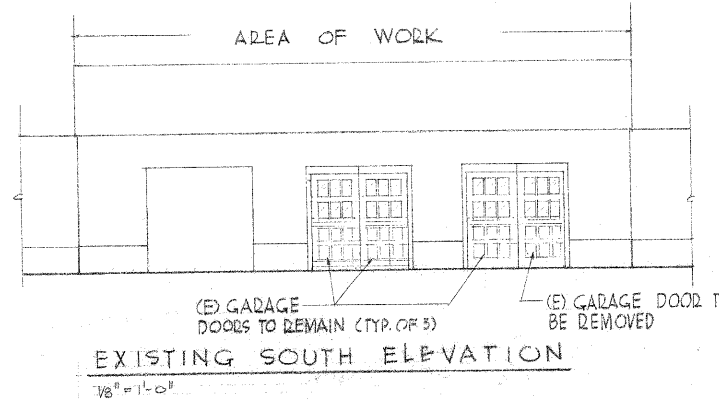
ARC - MOFFETT

A4566-92 71-A0171

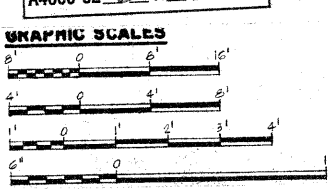
PWD. DWG. NO. 30-2-883-2	DATE 7-19-82	DEPARTMENT OF THE NAVY NAVAL AIR STATION	NAVAL FACILITIES ENGINEERING COMMAND MOFFETT FIELD, CA.
DSGN. DR.	DATE 7-19-82	FIRE STATION GARAGE SHOP BLDG 15	
CHECKED	DATE	FLOOR PLAN SECOND FLOOR	
APPROVED BY DIRECTOR ENGINEERING DIV.		SIZE D	CODE IDENT. NO. 80091
APPROVED BY PUBLIC WORKS OFFICER		NAVFAC. DRAWING NO.	
SATISFACTORY TO		CONST. CONTR. NO.	
SATISFACTORY TO		SCALE 1/8" = 1'	SHEET 2 OF 2



REVISIONS				
SYN	DESCRIPTION	PREP BY	DATE	APPROVED



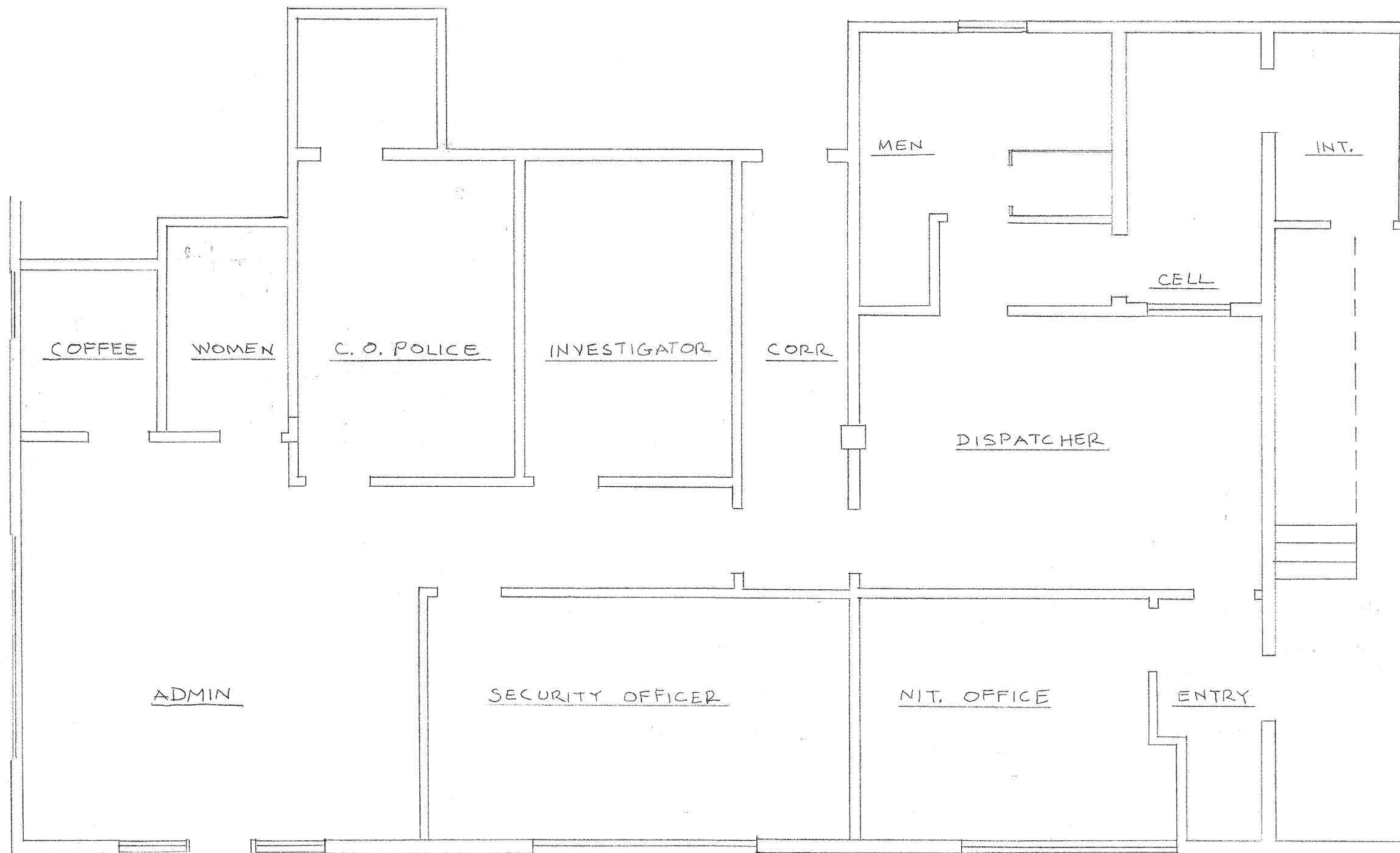
ARC - MOFFETT  
A4566-92-A00



IF SHEET IS LESS THAN 28" X 40"  
IT IS A REDUCED PRINT - SCALE REDUCED ACCORDINGLY

P.W.D. DWG. NO.		DATE		DEPARTMENT OF THE NAVY		NAVAL FACILITIES ENGINEERING COMMAND	
202-1020		1960		NAVAL AIR STATION		MOFFETT FIELD, CA.	
DESIGN		DATE		SECURITY ADMINISTRATION - BLDG. 15			
5-N		1960		CONSTRUCT NEW OFFICE SPACE			
CHECKED		DATE		ELEVATIONS, SECTIONS, WALL SECTIONS,			
APPROVED BY		DATE		HATCH DETAIL & DETAILS			
DIRECTOR ENGINEERING DIV.		1960		SIZE		NAVFAC DRAWING NO.	
APPROVED BY		DATE		F		80091	
PUBLIC WORKS DIV.		1960		CONST. CONTR. NO. (NOL - STATION CIE FORCE)		SHEET 2 OF 4	
SATISFACTORY TO		DATE		SCALE AS SHOWN		SPEC.	
1960		1960		SCALE AS SHOWN		SPEC.	

National Aeronautics and Space Administration  
Ames Research Center  
Moffett Field, California  
3-A3  
REV  
AM4-0015-A15



FLOOR PLAN - BLDG 15

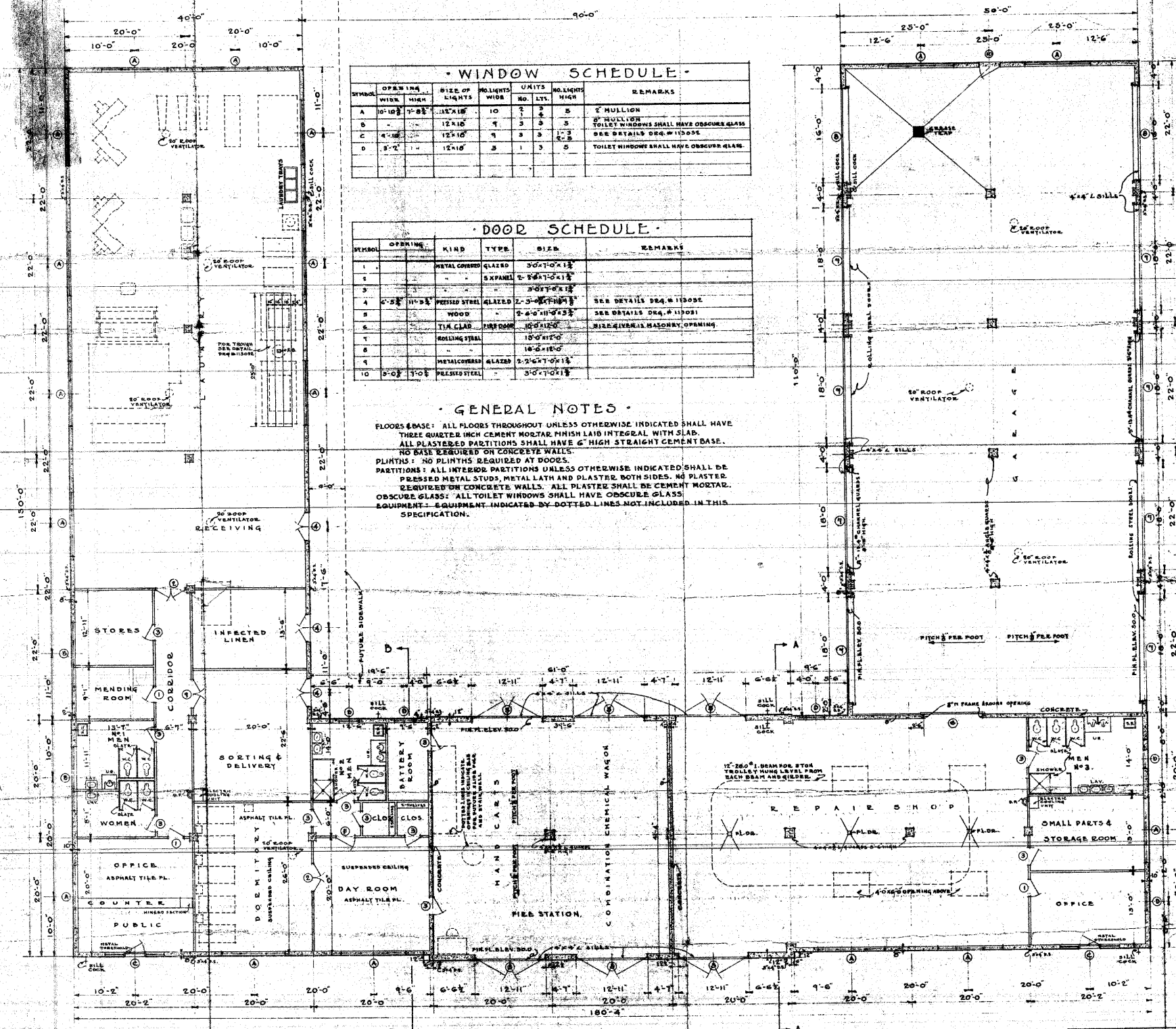
National Aeronautics and Space Administration  
Ames Research Center  
Moffett Field, California

AM4---0015-A16 REV.

ARC - MOFFETT

A4566-9202-A0040

MARCH 20, 1984



WINDOW SCHEDULE									
SYMBOL	OPENING		SIZE OF LIGHTS	NO. LIGHTS	UNITS		NO. LIGHTS	REMARKS	
	WIDE	HIGH			NO.	LTV.			
A	10'-0"	7'-0"	12'x16'	10	1	5	2' MULLION		
B	10'-0"	7'-0"	12'x16'	10	1	5	TOILET WINDOWS SHALL HAVE OBSCURE GLASS		
C	4'-0"	7'-0"	12'x16'	10	1	5	SEE DETAILS DRG. # 11005E		
D	8'-0"	7'-0"	12'x16'	10	1	5	TOILET WINDOWS SHALL HAVE OBSCURE GLASS		

DOOR SCHEDULE					
SYMBOL	OPENING	KIND	TYPE	SIZE	REMARKS
1		METAL COVERED	GLAZED	3'-0" x 7'-0" x 1'-6"	
2			EXPANDED	2'-6" x 7'-0" x 1'-6"	
3				3'-0" x 7'-0" x 1'-6"	
4	6'-0" x 11'-0"	PRESSED STEEL	GLAZED	2'-3" x 11'-0" x 1'-6"	SEE DETAILS DRG. # 11005E
5		WOOD		2'-6" x 11'-0" x 1'-6"	SEE DETAILS DRG. # 11005I
6		TIM CLAD	DOOR	10'-0" x 12'-0"	WIRE REINFORCED MASONRY OPENING
7		ROLLING STEEL		10'-0" x 12'-0"	
8				18'-0" x 12'-0"	
9		METAL COVERED	GLAZED	2'-2" x 7'-0" x 1'-6"	
10	5'-0" x 7'-0"	PRESSED STEEL		3'-0" x 7'-0" x 1'-6"	

**GENERAL NOTES**

FLOORS BASE: ALL FLOORS THROUGHOUT UNLESS OTHERWISE INDICATED SHALL HAVE THREE QUARTER INCH CEMENT MORTAR FINISH LAID INTEGRAL WITH SLAB.

ALL PLASTERED PARTITIONS SHALL HAVE 6" HIGH STRAIGHT CEMENT BASE.

NO BASE REQUIRED ON CONCRETE WALLS.

PLINTHS: NO PLINTHS REQUIRED AT DOORS.

PARTITIONS: ALL INTERIOR PARTITIONS UNLESS OTHERWISE INDICATED SHALL BE PRESSED METAL STUDS, METAL LATH AND PLASTER, BOTH SIDES. NO PLASTER REQUIRED ON CONCRETE WALLS. ALL PLASTER SHALL BE CEMENT MORTAR.

OBSCURE GLASS: ALL TOILET WINDOWS SHALL HAVE OBSCURE GLASS.

EQUIPMENT: EQUIPMENT INDICATED BY DOTTED LINES NOT INCLUDED IN THIS SPECIFICATION.

FLOOR PLAN  
SCALE: 1/8" = 1'-0"

Drawn by AUDIN Traced by AUDIN Checked by WILKINS Supv. Dirn. SULLIVAN Chief Dirn. MAGUIRE	NAVY DEPARTMENT BUREAU OF YARDS & DOCKS 112 NAVAL AID STATION SUNNYVALE, CALIF. 112 STATION GARAGE & LAUNDRY FLOOR PLAN
Design Mgr. <i>Allen</i> Sheet 27 of 54 accompanying submittal No. 6791	Approved: M. H. 11 1932 Y. & D. Drawing No. 113027

National Aeronautics and Space Administration  
Ames Research Center  
Moffett Field, California  
REV.  
m4-0015-A1

# NASA AMES RESEARCH CENTER

## Building B-15 reuse guidelines

---



NASA Ames Research Center  
Building B-15 Reuse Guidelines

Appendix 7. Moffett Field District Nomination

UNITED STATES DEPARTMENT OF THE INTERIOR  
NATIONAL PARK SERVICE

NATIONAL REGISTER OF HISTORIC PLACES  
EVALUATION/RETURN SHEET

REQUESTED ACTION: NOMINATION

PROPERTY US Naval Air Station Sunnyvale, California, Historic Distric  
NAME: t

MULTIPLE  
NAME:

STATE & COUNTY: CALIFORNIA, Santa Clara

DATE RECEIVED: 1/13/94 DATE OF PENDING LIST: 1/26/94  
DATE OF 16TH DAY: 2/11/94 DATE OF 45TH DAY: 2/27/94  
DATE OF WEEKLY LIST:

REFERENCE NUMBER: 94000045

NOMINATOR: FEDERAL *AFVY*

REASONS FOR REVIEW:

APPEAL: N DATA PROBLEM: N LANDSCAPE: N LESS THAN 50 YEARS: N  
OTHER: Y PDIL: N PERIOD: N PROGRAM UNAPPROVED: N  
REQUEST: N SAMPLE: N SLR DRAFT: Y NATIONAL: Y

COMMENT WAIVER: N

☒ ACCEPT ☐ RETURN ☐ REJECT 2/24/94 DATE

ABSTRACT/SUMMARY COMMENTS:

The U.S. Naval Air Station Sunnyvale, California Historic District is eligible under NR criteria A and C in the areas of Military History, Architecture, and Engineering. The discontinuous district represents a rather unique and significant episode in the development of U.S. naval aviation prior to World War II. The Sunnyvale base was one of two Naval Air Stations built to port lighter-than-air dirigibles during the 1930s: Dirigible Hangar #1, the later blimp hangars #2 and #3, and their accompanying support buildings all represent excellent examples of early twentieth-century military planning, engineering, and construction.

The three enormous airship hangars represent significant engineering accomplishments and they are among a limited number of extant historic airship facilities in the United States. The core of the historic Naval Air Station--centered on a landscaped "common" and dominated by the looming airship hangars--remains largely intact and includes fine regional examples of Spanish Colonial Revival design.

RECOM./CRITERIA Accept A+C  
REVIEWER PAUL R. LUSIGNAN  
DISCIPLINE HISTORIAN  
DATE 2/24/94

DOCUMENTATION see attached comments Y/N see attached SLR Y/N

United States Department of the Interior  
National Park Service

National Register of Historic Places  
Continuation Sheet

Section number \_\_\_\_\_ Page \_\_\_\_\_

SUPPLEMENTARY LISTING RECORD

NRIS Reference Number: 94000045

Date Listed: 2/24/94

US Naval Air Station Sunnyvale,  
California Historic District  
Property Name

Santa Clara CA  
County State

N/A  
Multiple Name

-----  
This property is listed in the National Register of Historic Places in accordance with the attached nomination documentation subject to the following exceptions, exclusions, or amendments, notwithstanding the National Park Service certification included in the nomination documentation.

Paul H. Lugin  
Signature of the Keeper

2-24-94  
Date of Action

=====  
Amended Items in Nomination:

Classification:

The number of previously listed resources is changed to zero (0); Hangar #1 was only determined eligible for listing.

Significance:

Area of Significance:

Architecture is added as an area of significance, defining the district as a good regional example of military design in the Spanish Colonial Revival style.

Significant Person:

The name of Adm. William Adger Moffett is removed from the significant person blank since the district was not nominated under Criterion B.

continued



United States Department of the Interior  
National Park Service

National Register of Historic Places  
Continuation Sheet

Section number \_\_\_\_\_ Page \_\_\_\_\_

SUPPLEMENTARY LISTING RECORD

NRIS Reference Number: 94000045

Date Listed: 2/24/94

US Naval Air Station Sunnyvale,  
California Historic District  
Property Name

Santa Clara CA  
County State

N/A  
Multiple Name

=====

Amended Items in Nomination:

continued

U.T.M.:

The UTM coordinates are corrected to read:

A	10	582960	4140460
B	10	583240	4140880
C	10	583800	4141120
D	10	583940	4140740
E	10	583140	4140330
AA	10	584640	4141420
BB	10	584880	4141520
CC	10	584760	4141120
DD	10	584990	4141220

This information was confirmed with Navy FPO J. Bernard Murphy.

DISTRIBUTION:

National Register property file  
Nominating Authority (without nomination attachment)

RECEIVED

OMB No. 1024-0018

United States Department of the Interior  
National Park Service

JAN 13 1994

RECEIVED

NATIONAL  
REGISTER

JUL 15 1993

ONP

National Register of Historic Places  
Registration Form

This form is for use in nominating or requesting determinations of eligibility for individual properties or districts. See instructions in *Guidelines for Completing National Register Forms* (National Register Bulletin 16). Complete each item by marking "x" in the appropriate box or by entering the requested information. If an item does not apply to the property being documented, enter "N/A" for "not applicable." For functions, styles, materials, and areas of significance, enter only the categories and subcategories listed in the instructions. For additional space use continuation sheets (Form 10-900a). Type all entries.

## 1. Name of Property

historic name United States Naval Air Station Sunnyvale, California- Historic District  
other names/site number U. S. Naval Air Station Moffett Field - Central Historic District

## 2. Location

street & number Central District ☐ not for publication  
city, town Naval Air Station Moffett Field ☐ vicinity  
state California code CA county Santa Clara code CA 085 zip code 94035

## 3. Classification

## Ownership of Property

- ☐ private  
☐ public-local  
☐ public-State  
☒ public-Federal

## Category of Property

- ☐ building(s)  
☒ district  
☐ site  
☐ structure  
☐ object

## Number of Resources within Property

Contributing	Noncontributing
<u>40</u>	<u>54</u> buildings
<u>1</u>	<u>      </u> sites
<u>2</u>	<u>      </u> structures
<u>43</u>	<u>      </u> objects
	<u>54</u> Total

Name of related multiple property listing: \_\_\_\_\_

Number of contributing resources previously  
listed in the National Register 1

## 4. State/Federal Agency Certification

As the designated authority under the National Historic Preservation Act of 1966, 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. ☐ See continuation sheet.

Signature of certifying official

Date

State or Federal agency and bureau

In my opinion, the property ☐ meets ☐ does not meet the National Register criteria. ☐ See continuation sheet.

Signature of commenting or other official

Date

State or Federal agency and bureau

## 5. National Park Service Certification

I, hereby, certify that this property is:

- ☒ entered in the National Register.  
☐ See continuation sheet.  
☐ determined eligible for the National Register. ☐ See continuation sheet.  
☐ determined not eligible for the National Register.  
☐ removed from the National Register.  
☐ other, (explain:)

Signature of the

## 6. Function or Use

Historic Functions (enter categories from instructions)

Defense Naval Facility

Air Facility

Current Functions (enter categories from instructions)

Defense Naval Facility

Air Facility

## 7. Description

Architectural Classification

(enter categories from instructions)

Late 19th and 20th Century Revivals

Mission/Spanish Colonial Revival

Other: Dirigible Hangar

WW II Blimp Hangar (2)

Materials (enter categories from instructions)

foundation concrete

walls stucco

roof clay tile

other terra cotta panels

Describe present and historic physical appearance.

## SITE DEFINITION

The site consists of a large number of buildings that were constructed over an approximately 60 year time frame from the early 1930's until today. The buildings are clustered in a formal campus-like layout that is defined by a western-facing gated entrance and a very well tended landscape which includes mature specimen trees, shrubs, and manicured lawns.

The site can be easily divided into its stylistic components that also define the different eras of construction over the base's lifetime.

The oldest and most historically significant buildings, from an architectural and engineering standpoint that form a coherent core, include the formal cluster of buildings dating from 1933 that lead up to, and include, the imposing Hangar #1 (the original dirigible hangar) and WWII Blimp Hangars. This area of the base is bounded by Bushnell Road on the north, the automobile parking spaces behind Sayre Avenue on the east, Westcoat Road on the south; and the entry, Clark Road, on the west. The central area is laid out in an axial plan in a northeasterly direction with the original buildings symmetrically placed along a grand central greensward. In addition to this very defined central space where the earliest major base buildings are located, there is an equally significant adjunct of 9 officers' residences clustered around Berry Drive just to the south of the main gated entrance in another formally laid out plan with grass medians, a grass island at the end of the southern cul-de-sac, and a characteristically suburban curved residential street. In keeping with the symmetry that was so strong to the original plan, another unbuilt residential complex was originally planned for the northern side of the entrance drive.

These earliest buildings, which were designed by the Navy Department Bureau of Yards and Docks, exemplify California's most popular contemporary architectural style of the 1920's and early '30's. They are constructed in a late Spanish Colonial Revival architectural style (a style that was equally as popular in government construction in the eastern sections of the United States during the 1920's and into the early 1940's), as well as aspects that presage the modern designs of the Internationalist styles which would predominate in American architecture for the next thirty-five years (from approximately 1940 to 1975).

## 8. Statement of Significance

Certifying official has considered the significance of this property in relation to other properties:

☒ nationally ☐ statewide ☐ locally

Applicable National Register Criteria ☒ A ☐ B ☒ C ☐ D

Criteria Considerations (Exceptions) ☐ A ☐ B ☐ C ☐ D ☐ E ☐ F ☐ G

Areas of Significance (enter categories from instructions)

Military  
Engineering

Period of Significance

1930-1935  
1942-1946

Significant Dates

Cultural Affiliation

Significant Person

Moffett, William Adger; Admiral

Architect/Builder

U.S. Navy Bureau of Yards and Docks

State significance of property, and justify criteria, criteria considerations, and areas and periods of significance noted above.

In the nation's quest to provide security for the lengthy expanse of its coastlines the opportunity for air reconnaissance was realized by the futuristic Admiral William A. Moffett. Through his efforts, two Naval Air Stations were commissioned in the early 1930's to port the two U.S. Naval Airships (dirigibles) he believed capable of this challenge. The Naval Air Station Sunnyvale was the Pacific Coast location selected, designed and developed to port USS MACON (ZRS 5). The immense structure, Hangar #1, designed to house USS MACON, with its larger counterpart in Akron, Ohio, remain the two largest structures in the United States without internal support. At the onset of WWII, the base was expanded with Hangars #2 and #3 which were designed to accommodate the smaller blimps and balloons used for reconnaissance, until the range of heavier than air aircraft (airplanes) was sufficient to patrol the coast. The significance of the U.S. Naval Air Station Sunnyvale Historic District is attributed to the association with the expanding defense capabilities of the U.S. Navy, the engineering technology found in lighter than air ships, the design of the hangar and system for porting the dirigible and in the plan and architectural style of the station designed to support this defense technology. The significance of Hangar #1, was recognized when it was designated a Naval Historical Monument. It has been designated a California Historic Civil Engineering Landmark, by the San Francisco section, American Society of Civil Engineers, and has been determined eligible for listing in the National Register of Historic Places by the U.S. Navy in consultation with the California State Historic Preservation Officer. The entire historic district is supported for listing in the National Register of Historic Places at the national level of significance under Criterion A for the association with coastal defense and naval technology that has made a significant contribution to the broad patterns of our history; and Criterion C reflecting the distinctive type, period, method of construction and high artistic values that are represented in the 1933 station plan and buildings. In 1942, the station was recommissioned, U. S. Naval Air Station, Moffett Field, in recognition of the significant contribution to naval history by Admiral Moffett, contributions that have gained him the unofficial title, "Father of Naval Aviation."

## 9. Major Bibliographical References

Gragg, Dan The Guide to Military Installations, Harrisburg, PA; Stackpole Books, 1983  
Payne, Stephen M., Santa Clara County: Harvest of Change, Santa Clara, CA; Windsor Publications, 1987

### Unpublished:

Historic Civil Engineering Landmarks of San Francisco and Northern California, 125th Annual Conference, American Society of Civil Engineers, San Francisco Section, Sponsor, 1977.

Ifft, Jerry. The Era of Dirigibles at Moffett Field, 1987; California Room, Martin Luther King, Jr. Memorial Library, San Jose, CA

### Interviews:

Benjamin Mandweiler, NAS, Moffett Field, Public Works Department  
Lt. Col. Robert N. Maupin, USAF. Ret.

☐ See continuation sheet

### 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 # \_\_\_\_\_  
☐ recorded by Historic American Engineering Record # \_\_\_\_\_

### Primary location of additional data:

- ☐ State historic preservation office  
☐ Other State agency  
☒ Federal agency  
☐ Local government  
☐ University  
☐ Other

Specify repository: \_\_\_\_\_

## 10. Geographical Data

Acreage of property 124 Acres (approximately)

### UTM References

A 

1	0
Zone	Easting

3	7	7	0	3	6
Northing					

1	2	2	0	5	9	8
Northing						

B 

1	0
Zone	Easting

3	7	6	9	7	5
Northing					

1	2	2	0	6	0	4
Northing						

C 

1	0
Zone	Easting

3	7	6	9	9	9
Northing					

1	2	2	0	6	2	5
Northing						

D 

1	0
Zone	Easting

3	7	7	0	6	3
Northing					

1	2	2	0	5	3	0
Northing						

☒ See continuation sheet

### Verbal Boundary Description

The Naval Air Station Sunnyvale includes all of the 1933 original base plan with the addition of the 22.5 acre detached area containing hangars #2 and #3. The boundary line begins at the Main Gate, including the entrance gate and fence, proceeds along Clark Road to Berry Road where the boundary turns south to encircle the quarters A through H, north behind quarter F to Westcoat Road, east to Sayre Ave., north to Bushnell Road and west to Clark Road. A detached area is included in the historic district to incorporate hangars #2 and #3 with a 25 foot band of land around the pair.

### Boundary Justification

The boundary includes the limits of development in the 1933 base plan for the Naval Air Station Sunnyvale, as prepared by the Navy Department, Bureau of Yards and Docks, and the area incorporating hangars #2 and #3 that are associated with lighter than air military aircraft.

☐ See continuation sheet

## 11. Form Prepared By

name/title Bonnie Bamburg

organization Urban Programmers

street & number 1174 Lincoln Avenue

city or town San Jose

date November 9, 1991

telephone 408-971-1421

state California zip code 95125

United States Department of the Interior  
National Park ServiceNational Register of Historic Places  
Continuation SheetSection number 7 Page 2

This hybrid style forms a unifying element that not only holds the myriad of architectural uses together, but gives the entire complex a very satisfying central theme. The style is highly ornamented in the most significant buildings (such as the Administration and Bachelor Officers' Quarters) and stripped of ornament, but no less supportive of the whole in the smaller out buildings and garages. Interestingly, the building that is the *raison d'être* of the entire Naval Air Station, Hangar #1, eschews any historicism in its design, but rather reflects the highest Streamline Moderne forms of modern technology at its finest.

Another slightly newer cluster of buildings is also defined by their distinctive architectural style which reflects the most popular designs of their time. These buildings are those structures which were built in the 1940's and early '50's and that are designed in a very plain International style of architecture defined by the simple stripped geometrical forms of the structures. These interesting examples are located at a few scattered sites within the original plat noted above (i.e. the Post Office, #67, for example), as well as being set in a long row along Dailey Road between the original campus plan and the Bayshore Freeway (#152). Other noteworthy buildings include the Control Tower (#158) at the far eastern edge of the site and the original Chapel Building (#86), which is a reinterpreted hybrid style that exhibits aspects of both a stripped Spanish Colonial Revival design and ornament hinting at more of a Mission Revival style. Additionally, two slightly smaller, but no less impressive hangars (Hangar #2 and #3), were constructed across the runways to the east of Hangar #1. These buildings were designed for the smaller blimps that replaced the huge rigid framed dirigibles of the 1930's for which Hangar #1 was designed. They also were designed in a much more prosaic and conventional architectural style than the metal sheathed futuristic Hangar #1.

A building that provides visual compatibility with the 1930's Spanish Colonial Revival buildings is the Chapel. This is due both to its physical location within the historic district, as well as to its architectural design, which is much more compatible with the older buildings on the base rather than the later International styled buildings. Early photos of the building illustrate a structure whose basic form of rather simply pitched cruciform plan appears to be very standard designed archetype military base chapel of the 1940's. But to this basic form, the designers add very site specific detailing which, though not technically a re-creation of the Spanish Colonial Revivals around it, very handsomely picks up hints of the building characteristics of the older structures. These details include, most importantly, the cupola which mimics the tower on the Administration Building, and the projecting curvilinear portico with its stone-like entry frame which takes directly from the Spanish Colonial Revival interpretations surrounding. The end result is an almost textbook example of a successfully designed new structure sensitive to an established architectural campus. Because the chapel was constructed well after the 1933 period it is not a contributing building to the historic district.

Because the International style buildings are less than 50 years old and are not individually exceptional, they will not qualify for listing in the National Register at this time and will not be discussed in any detail. This group consists of buildings 148-156, 158 and building 67.



United States Department of the Interior  
National Park Service

# National Register of Historic Places Continuation Sheet

Section number 7 Page 3

---

In addition to these two major stylistic groupings, there are a number of other buildings on the site that have been constructed over the past approximately 50 years that fill up the site, but do not represent very fine examples of architectural design. These buildings are characterized by their utilitarian function, such as the number of Quonset huts (#111, #118 and #119) found throughout the site, as well as the plethora of small wooden and stucco buildings with little discernible styling that comprise much of the barracks, enlisted housing, shopping and warehousing spaces (#E-52, #E-13, #E-29, #347, #223, #245, and #244).

Thus from a specific design standpoint, the site can be divided into the following five main components that comprise its strongest identifying features:

- A. Original Spanish Colonial Revival Design
- B. Significant Engineering Features (Hangars #1, #2, & #3)
- C. Miscellaneous Supportive Design Features
- D. Post 1935 buildings designed in the Spanish Colonial Revival Style
- E. International Style Buildings from the 40's

Out of these five categories, the proposed historic district from the 1930's will include all those features identified with item "A, B & C" immediately above.

## A. ARCHITECTURAL DESCRIPTION OF THE SPANISH COLONIAL REVIVAL-DESIGNED ORIGINAL BASE BUILDINGS.

The original plan of Moffett Field was constructed in an architectural style that had as its antecedent the exuberant and capricious ornamentation applied by the 17th Century architect, Jose Churiguere, and eloquently revived by Bertram Goodhue in the design for the 1915 San Diego Panama Pacific Exposition. The Navy first attempted the style at Chollas Heights Radio Transmission Station in 1916 and followed with Goodhues' Marine Corps Recruit Depot, c. 1920, Naval Air Station North Island, c. 1921, and his sketches for the Naval Training Center in San Diego, a year or so later. This form of Spanish Colonial Revival design reached its zenith at the end of the 1920's and was gradually losing favor to the modern designs of the mid-to-late 1930's. By the 1940's only some very late examples, usually transitional in styling that reflected the rise of both modern schools of architecture (Moderne and Deco styles, as well as the later International or Bauhaus-influenced styles) were being built.

The complex of original buildings that comprise the heart of the Naval Air Station Moffett Field are examples of late Spanish Colonial Revival design reflecting a much more severe example of this style with strong influences of the more modern style precepts, as well as hints of Eastern Colonial designs. The resulting hybrid significantly alters the original architecture of this style.

United States Department of the Interior  
National Park ServiceNational Register of Historic Places  
Continuation SheetSection number 7 Page 4

These buildings are characterized as essentially two-storied white or off-white stucco structures that are capped by very low-pitched Spanish tile roofs, which are punctuated by projecting chimneys, air ducts and, in the case of the true centerpiece building, the Administrative Building (#17), a richly ornamented, roof pavilion where corner columns support a decorated dome. The buildings are all rectangular in plan with either central projecting spaces or corner wings. Wall surfaces are very plain with the major break up of space occurring either in the location of rectangular-shaped windows, slightly projecting stringcourses between the floors, round arched entryways or arcaded ornamentation styled to look like granite around the major entry doors and surrounding significant window spaces.

It is the variation of the above major design elements that define the original base architecture. The two most handsome entrances are the round arched arcades that distinguish both the aforementioned Administration Building and the equally impressive Bachelor Officers' Quarters (#20). Repeated ornamentation include the flattened urn motif, various cartouches, and quarter-foil windows found along the exterior surfaces of all the major structures. The juxtaposition between the flat surfaces of the exteriors contrasting with the florid ornament around the major doors and windows provide the perfect tension that distinguishes the Spanish Colonial Revival style. A notable somewhat stripped example of this style is the impressive original Aircraft Tower (#18).

Some of the minor out-buildings, although stripped of much ornamentation, exhibit sensitive design features such as the low stepped parapets of buildings #22 and #2, the repeated multilight apertures of #10, and the simple, yet distinctive massing of the original portions of #6, which acts to reinforce the common design theme throughout the historic core. All of these original outbuildings significantly reinforce the common design theme of the historic campus.

The second cluster of original buildings, which forms an equally impressive uniform design statement, is found in the earliest residential units of the detached officers housing. In this extremely pleasant space, made so by its luxuriant landscaping and large unbroken lawns, a very simple house plan is repeated with only slight variations. The structures are designed in a very stripped and somewhat severe Spanish Colonial Revival style with two-storied, rectangular plan residences joined to a garage, either a one or two storied garage, by an arcade. The roof lines are low pitched gables that are sheathed in red Spanish tiles and punctuated by end fireplaces. Apertures are symmetrically placed on the structures with the dominant design characteristically reserved for the front entry. Windows are generally rectangular in shape, double hung and 3 over 2 in design. As with the major buildings on the working base section, here two stringcourses and various door surrounds provide the major contrast to the very simple stucco walls. Additionally, a similarly designed structure forms a prominent security building at the front gateway.

United States Department of the Interior  
National Park Service

# National Register of Historic Places Continuation Sheet

Section number 7 Page 5

---

**B. DESCRIPTION OF THE ORIGINAL ENGINEERING FEATURES (HANGARS #1, #2, AND #3)**

Completely separate in design, but of such striking style and size as to warrant separate discussion are the three buildings that form the raison d'être of the entire complex. The three hangars are of such proportions that for this reason alone they warrant the title "landmark". Aesthetically, the original hangar, which was constructed to hold USS MACON, a dirigible, is of such a unique design that it stands apart even from its later sister buildings. Hangar #1 is a metal sheathed behemoth whose rounded shape is both the epitome of the aerodynamically influenced Streamline Moderne style as well as a stylistic cousin to the huge airship that originally berthed inside the mammoth hangar.

Above all other buildings found on the Moffett Field site, Hangar #1 is without question the most significant building both architecturally and historically. It is one of the major buildings of Northern California, and has been recognized as an Engineering Landmark by the American Society of Civil Engineers.

Hangars #2 and #3 are significant more for their size than their unique styling or design. They represent more prosaic attempts at constructing very large military hangars. Similarly designed structures are found on Marine Corps Air Station, Tustin, California and at Coos Bay, Oregon. The more common design does not, however, detract from the sheer magnitude of the two huge buildings side by side. Along with Hangar #1, these two buildings help define the south San Francisco Bay Area from all distant directions.

**C. DESCRIPTION OF THE OTHER SUPPORTIVE DESIGN ELEMENTS (I.E. LANDSCAPING, GATEWAYS, ARTWORK AND ITEMS OF INTEREST IN THE LANDSCAPE, STREET LIGHTING, AND SIGNAGE)**

The third and final group of elements add immeasurably to the quality of design cohesion that characterizes the Naval Air Station Moffett Field site. These elements support the physical layout of the site plan as well as the quality of the original historical architecture. They also help define the campus-like quality of the base as well as unify the disparate building styles and types.

Most prominent of these supportive elements is the landscaping. The ubiquitous mature trees, the huge green spaces, and the careful placement of plants and shrubs which add immeasurably to the mise-en-scene. The luxuriant and well tended landscape is the first feature which one experiences after passing through the entry gate. Early photos of the site show a very desolate natural landscape which was essentially bay lowlands. Blueprint plans from April 29, 1933 illustrate the importance that a unifying and coordinating landscaping plan for the air station had in forming the basis for today's superlative luxuriant landscape. There could be no doubt that the existing grounds could not have been produced without a well conceived original plan.

United States Department of the Interior  
National Park Service

# National Register of Historic Places Continuation Sheet

Section number 7 Page 6

---

Of almost equal importance in differentiating the site from its surroundings is the entry wall and gate itself (#36). Although very restrained in design, the gate forms a physical entrance into the unique area from the very bland surrounds. It should be noted that the wall, gateway, and gatehouse all derive from the original base architectural design plan.

Street furniture, interesting items on the landscape, and street lighting also add to the unique quality of the site. The furniture includes a detached community message board, a sundial and an historic anchor, both in front of building #25, as well as within the central greensward. The street lighting still retains its original bases, but the lamps themselves, from a later '50's design, are somewhat inconsistent with the Spanish Colonial Revival buildings of the historic core. Replacement with a more original form should be encouraged.

Signage too helps add to the unifying elements of the site. It is, most prominently in the historic core, understated in blue with gold lettering which is very supportive of original high design standards. Such attention to detail should also be encouraged to continue. For it is in the sum of all of these disparate features that the whole of a unique and memorable built environment results.

## INDIVIDUAL SITE DESCRIPTIONS:

The following descriptions define the special design characteristics that distinguish the architecturally significant buildings from the 1933 plan (with two notable exceptions being a description of the 1943 designed Hangars #2 and #3).

### **HANGAR # 1: BUILDING #1**

The site consists of a very large (1140'x308'x194') single-story, dirigible hangar that is constructed with three hinged steel truss arches and "X" cross bracing that is sheathed in large metal plates and set on a huge rectangular-oriented, elliptical shaped, floor plan and designed in a slightly flattened parabolic form. The structure further exhibits four rows of very large rectangularshaped and horizontally-oriented window bands along its two dominating eastern and western facing flanks. These apertures appear flush with the immense metallic skin of the building and greatly add to the very futuristic aerodynamic effect of the design.

Of particular engineering note are the hangar doors that run the full height of both the north and south-facing elevations. These doors are retractable and form a halfdome shape when closed.

The building exhibits a very clean, Streamline Moderne design which perfectly mimics the form of the airships themselves. Located perpendicular to the axis of the station plan this dominate structure provides the focus of the 1933 station plan.

The mammoth structure designed to hold fully inflated giant dirigible airships from the 1930's military fleet (such as USS MACON) was actually constructed in 1932 preceding the buildings of the surrounding base which date from 1933. The structure is important due to its unique use (dirigible hangar), beautifully executed Streamline Moderne architectural design, ingenious



United States Department of the Interior  
National Park Service

## National Register of Historic Places Continuation Sheet

Section number 7 Page 7

---

engineering construction; and for its very size that still dominates a greatly urbanized Santa Clara County in the 1990's. From all aspects of national landmark status criteria, this building qualifies on its own. When added within the context of the surrounding supporting campus plan, the entire ensemble forms a very unique sense of place within the built environment and continues to exhibit national prominence.

### **HANGAR #2 AND #3: BUILDINGS #46 AND #47**

The site consists of twin hangars that were designed for the, blimp fleet during WWII. They are of treated California redwood frame construction, configured on a rectangular plan in a more flattened parabolic form than Hangar #1; and characterized by their immense, moderately pitched porticoes at each of the north and south-facing hangar doors. These dominating entries are supported by very large concrete piers at each of the four corners. The twin buildings are set on a site plan that is directly oriented with the earlier Hangar #1, which is due west. The scale of the structure is exemplified by their dimensions, which at 1,075'x297'x171' (180,518 sq. ft.) make them slightly smaller than their predecessor, but still very impressive on the landscape. The use of wood construction instead of a steel truss system was in response to the war effort. Like most west coast military facilities constructed after 1941, metal was used very sparingly to conserve the resource for use in constructing ships and armament.

The design of these two buildings is in a much more conservative architectural style than the futuristic form of Hangar #1. These later hangars are almost domestic in their gabled porticoes. They definitely lack the daring and ingenuity of the other hangar's form and they are much less a unique design to the area. In fact, four other structures of like design were built on the west coast during World War II, to house the blimps used to patrol the Pacific coastal waters of the United States. Two in Coos Bay, Oregon which are no longer owned by the Federal Government and two on what is now Marine Corps Air Station, Tustin in Southern California. All four of these structures have been nominated to the National Register.

Although not of equal architectural or design merit as Hangar #1, these two like-structures are significant from both an historic perspective (as excellent extant examples of WWII blimp hangars) as well as an architectural/engineering perspective (they are after all buildings of incredible size and stature upon the landscape). The twin structures further add to the important design whole of the best of the original 1933 plan and the just slightly less impressive structures from the 1940's which help in-fill much of the site. They were completed in 1943. The combined visual power of Hangars #1, #2, and #3 form a physical presence upon the urban scape which still dominates the low horizontal design of the Santa Clara Valley.

United States Department of the Interior  
National Park ServiceNational Register of Historic Places  
Continuation SheetSection number 7 Page 8

---

**ADMINISTRATION BUILDING: BUILDING # 17**

The site consists of a two-story structure that is constructed on a shallow cruciform rectangular floor plan which is built of wood and sheathed in stucco with red Spanish tile roofing and terra cotta ornamentation, especially notable in the window and door surrounds. The building is the most prominently sited structure within the 1933 campus plan. It is set in the very heart of the open grassy median as a definite center point to the original plan. Its architectural design represents a late example of Spanish Colonial Revival style with some modifications that give it a kinship with Eastern military bases of the same vintage (that were designed in dry formal interpretations of Colonial Revival).

The building is 148'x41 'x37' and contains 18,954 sq. ft. The structure is characterized by the features which define all of the original buildings: the very low pitched, slightly hipped and tiled roofline. Exterior walls are flat and devoid of ornament, save a stringcourse running the entire perimeter of the building and separating the two stories. The eave line is very shallow. Windows are simple, rectangular in plan, vertical in orientation, multi-paned and double hung. Overscaled terra cotta ornamentation define the major front and back entrances, as well as the centered second story window. The main or west-facing entrance projects out from the main structure and exhibits a triple round-arched, recessed entrance.

Ornamental urns, pilasters and floral design (characteristic of Churrigueresque Spanish architecture of the 17th Century) add a much needed ornamental counterpoint to the very simple and severe basic design.

A further feature which distinguishes this structure among all of the others in the original campus plan is the small centered Bell Tower. This small belvedere is capped by a diminutive, red-colored dome and distinguished by very flat arches at each of its four faces. This architectural style is much more characteristic of the colonial designs of the Eastern United States and is a major factor in classifying the overall base design as a modified Spanish Colonial Revival style.

With the nearby Bachelor Officers Quarters and the Married Officers' Residencies, the Administration Building, (which is also historically referred to as the Admirals Quarters) is the most architecturally important building from the original 1933 construction (excluding Hangar #1). This building sets the design criteria that is followed throughout the original campus plan. It acts both as a handsome example of hybrid revivalist architecture which is prominently set at the most important axial juncture of the site and as one of the most lavishly ornamented of Moffett Field's original structures. As such, the Administration Building is a key to the historic fabric of the site.

United States Department of the Interior  
National Park Service

# National Register of Historic Places Continuation Sheet

Section number 7 Page 9

---

## BACHELOR OFFICERS QUARTERS: BUILDING #20

The site consists of a large, two-storied structure that was constructed on an irregular rectangular shaped site plan which is actually symmetrical in form. The building exhibits a more ornamented interpretation of a hybrid Spanish Colonial Revival architectural design. It is characterized by the same basic features that distinguish all of the original buildings. The roofline is lowpitched and sheathed in red Spanish tile, the eave is fairly shallow, wall surfaces are unadorned white stucco; and window shapes are paired rectangular forms which are double hung, 3 over 2 in form. Major entrances are distinguished by terra cotta facing that emulates granite. Three large round arches provide the building with a very elegant entryway. Flat unadorned pilasters separate these arches. They are further adorned with flat urn detailing. The characteristic stringcourse separates the two floors. A rear wing projects toward the south.

The structure is sited symmetrically across from the equally prominent, but slightly less architecturally impressive, Bachelor Enlisted Quarters (#19) which has been greatly enlarged with a rather bland International Style addition at both ends. The structure is further enhanced by a well conceived and equally well maintained landscape plan.

Along with the cluster of major buildings that are set along the formal axis of North and South Akron Roads, the BOQ helps define the high quality design character that distinguishes the historic core of Moffett Field. The structure is an extremely fine example of historicist architecture of the 1930's and remains a key element in the cohesion of the base's physical form.

## GYMNASIUM: BUILDING #2

The site consists of a very large, single-story, plaster-sheathed, steel framed building that is constructed on a slightly irregular rectangular floor plan with a flat roof that is distinguished by slightly projecting stepped parapets that hint at the utilitarian designs of the original campus plan of 1933. The roof is wood sheathing on steel beams. This structure exhibits a ubiquitous projecting stringcourse encircling the building, as well as the very plain beige plaster walls. The major design feature on this essentially utilitarian structure is in the window placement. Here, the structure is characterized by very tall, horizontally-banded, multi-paned apertures which act to break up the surface of the exterior walls either as centered indentations on large expansions of plaster or as repeated forms which act almost like columns along the major side elevations.

This structure avoids, as do all of the original functional outbuildings, the Spanish Colonial Revival design of the major living areas of the base. Interestingly, it provides a handsome architectural bridge between the very futuristic Streamline Moderne design of Hangar #1 and the more historicist styles of the original campus plan.

United States Department of the Interior  
National Park Service

# National Register of Historic Places Continuation Sheet

Section number 7 Page 10

---

The site is significant both historically and architecturally. It was originally constructed to be a balloon hangar which justifies its extremely large interior single story space (19,691 sq. ft., 130'x88'x63'). Additionally, the building sets the reserved design criteria for the outbuildings on the base which handsomely support their more ornamental Spanish Colonial Revival contemporaries. Features which characterize these original outbuildings include flat roofs, shallow parapets which are slightly stepped; and severely unadorned exterior walls. Windows are rectangular in form and provide the dominant design ornamentation.

Although these buildings do not provide the obvious ornamentation, stylistic historicism or landscaped surroundings of the more apparently significant original Spanish Colonial Revival structures, they exemplify an extremely sophisticated design criteria of their own which greatly adds to the overall cohesion of the existing campus. In their own right, the Gymnasium, along with similarly designed original 1933 outbuildings such as the Garage (buildings #21 and #22), are major factors from the original 1933 design which make NAS Moffett Field so architecturally distinguished.

## **BUILDING #23, INSTRUCTION BUILDING**

Fronting on Akron Road, the former dispensary is one of the buildings that defines the original architectural design and is symmetrically placed, opposite building #25, to balance the entrance to the base's formal plan. The two story, above grade, building is basically a "T" form executed with the typical elements of the Spanish Colonial Revival architecture, low pitched tile roof, stucco sheathing and terra-cotta ornamentation. The front facade has a central entrance recessed behind three arched openings that form an arcade. Terra-cotta surrounds decorate the three windows above the entry and the doors at the east and west ends. The building, originally the base dispensary, was enlarged by the U.S. Army's Air Corps in 1936, when extensions were added to the rear and the east end. The building is 105 feet by 96 feet and 10,995 square feet of floor space.

Of the original buildings, #23 and #25 are significant because of their representation of the Spanish Colonial Revival design and for their locations at the entrance of the working station. Opposite each other, across the central lawn mall, these buildings provide symmetry to the original plan.



United States Department of the Interior  
National Park Service

# National Register of Historic Places Continuation Sheet

Section number 7 Page 11

---

## BUILDING #25 THEATER

The theater, two stories over a basement, is a typical example of the significant supporting buildings that define the original architecture. The "T" form is executed with a low pitched tile roof, stucco sheathing and terra-cotta ornamentation. The typical protected entry is behind an arcade that, in this case, is projected forward. The fenestration, again typical of the dominant style, is symmetrical for all floors except those voids above the entrance. Here the pattern changes to a band of windows divided into three elements that balance the three arches of the arcade. The building is 150 feet by 110 feet in an irregular plan that accommodates 7,745 square feet of floor space.

## BUILDINGS #21, #22 AND #24 - GARAGES

This group of detached garages are supportive elements in the historic district. Each is one story and is constructed using typical materials and simple forms of the ancillary buildings. Buildings #21 and #22 retain the original use and design, including corner parapets. The buildings, located behind Building #20, are almost identical, 98 feet by 24 feet with garage door openings facing each other. Building #24, located behind Building #23, was the ambulance garage. It is smaller 45 feet by 30 feet. The large garage door openings have been infilled and the interior space modified for administrative offices.

The garages are significant supportive buildings that compliment the architecture of the larger buildings. Building #24 retains the original mass and form but, the alterations have changed its appearance as a garage.

## BUILDING #10 - HEAT PLANT

One of the original buildings, the heat plant is a large industrial building of block massing in an irregular "T" form that is two stories in height. A single story element fits into the south west corner. Typical of power plant design, the dominate feature is the fenestration. This building has window banks that extend to the second story. A coursing separates the massing with smaller rectangular windows above the band. In keeping with the dominant architecture, this utilitarian building is decorated with a simple surrounds at the entrances. Flat arches top the tall window banks. The glazing is rectangular pane divided mullions. Most of the first floor windows have transoms that are operable. While the upper rows are all operable. A second coursing divides the lower portion of walls at about four feet, the basement line. Building #10, is sheathed in stucco with a flat roof. This building is a handsome version of a utilitarian industrial design.

The heat plant is one of the original buildings. It is significant as an example of the dominate architectural design stripped to the essence, entrance surrounds and arched windows, for industrial use.

United States Department of the Interior  
National Park Service

## National Register of Historic Places Continuation Sheet

Section number 7 Page 12

---

### STRUCTURE #5 - Water Tower:

Supported by a tall steel frame, the water tank is topped with a conical roof. The traditional red and white checkered paint defines this classic industrial design. One of the original structures, the water tower is a functional and visually distinctive feature.

### BUILDINGS A THROUGH I AND ANCILLARY GARAGES A-1 THROUGH I-1

#### REPRESENTATIVE SINGLE FAMILY RESIDENCES (COMMANDING, SENIOR AND JUNIOR MARRIED OFFICERS QUARTERS):

The original 1933 detached residential structures are all designed in a like architectural style of which any single building represents an archetype for the whole. The example used here is site #A1, which is referred to in the 1933 landscape plan as the "Commanding Officers' Quarters".

The site consists of a very simple, two-storied, rectangular-planned single family residence that is constructed of wood frame with a low gabled red Spanish tiled roof over a very plain stuccoed exterior (which is punctuated by a formal placement of both windows and doors). A simple chimney adorns the western facade. An attached single-storied, round-arched breezeway connects the residence with a large, two-storied, rectangular-planned garage set slightly behind the main structure.

Stylistically, the residence reflects all of the specific design criteria which unifies all of the original 1933 Spanish Colonial Revival architecture on the base. Windows are almost flush with the plain exterior walls. They are also essentially rectangular in shape, double hung, multi-paned and symmetrically placed along the facades. A colored, projecting stringcourse separates the two stories. The front entry is the most prominent exterior feature with a slightly recessed almost flat arched entry with projecting surrounds. An ornamental sidelight window is balanced by a large wrought iron projecting lamp on both sides of the main entrance.

Landscaping is characteristically both formal and very well maintained. The very large mature trees add immeasurably in setting apart the residential quarter as an oasis amid the functioning base. The open greenswards that distinguish the street directly tie in with the more formal axial plan of the rest of the base. The curved street pattern illustrates the influence of contemporary suburban design on such residential planning even on a military base.

The original 1933 detached residences form a key architectural component in the significant whole that distinguishes the site plan of the naval air station. Along with the verdant landscaping and extra wide spacing, this enclave of buildings helps define all that is special about the site from a design perspective.

United States Department of the Interior  
National Park Service

National Register of Historic Places  
Continuation Sheet

Section number 7 Page 13

---

**CONTROL TOWER: (AEROLOGICAL BUILDING FLIGHT CONTROL TOWER) BUILDING  
#18**

The site consists of a moderately-sized (3590 sq. ft.), two-storied building with a centered third story, hexagonal-shaped Control Tower. The structure is designed on a slightly varied rectangular floor plan with a very minimal attempt at exterior ornamentation. It is another of the utilitarian structures from the original plan that exhibits hints of the Spanish Colonial Revival design of the major buildings (in the centered round arch, the overscaled twin wrought iron Spanish styled lamps on both sides of the entry and the ubiquitous terra cotta surrounds ornamenting the front door). Otherwise, this structure is very simple in its design. Its walls are unadorned plaster. Windows are slightly recessed, rectangular in plan, multi-paned, double hung and symmetrically placed along the exterior facade.

The hexagonal tower is, along with the projecting metal tower above, the most distinguishing feature of the structure. It is characterized by its band of vertically oriented windows on each of the eight faces, as well as the iron railing which caps the flat-roofed tower from above.

The building's significance is due both to its history as the original Control Tower for the air station, as well as to its architectural design which once again exemplifies the sophisticated aspects of the original 1933 plan. The structure provides a transition between the more historically refined Spanish Colonial Revival architecture and the simple, yet equally impressive, more modern styles of the utilitarian outbuildings. It is the cohesion provided by the interaction between these two styles that provide the stylistic excellence of the historic core plan.

**TWIN SMALL TOWERS (FLOOR WATCHTOWERS): BUILDINGS #32 AND #33**

These two twin sites (#32 and #33) consist of very small, two-storied towers that are distinguished by their very unusual design. They are towers that are distinguished by their very unusual design. They are very small structures (578 sq. ft., 14'x14'x25') that appear to be composed of a standard two-story rectangular tower with flat roof joined to a slightly smaller two-storied rounded tower with like flat roof that is capped with metal railing. The buildings are very simple in form. There are really no specific architectural embellishments. They exhibit all of the standard features of the utilitarian structures on the base without any ornament. Recessed, double-hung, multi-paned windows provide the major characteristic design feature which ties them into the surrounding historic core buildings. A prominent projecting stringcourse characteristically separates the two floors.

The significance of these two small utilitarian buildings is primarily in their unique function and form. They are very site specific and add a distinctive counterpoint to all of the rectangular shaped structures on the base. They are architectural curiosities that add immeasurably to the historic and architectural importance of the site.

United States Department of the Interior  
National Park Service

**National Register of Historic Places  
Continuation Sheet**

Section number 7 Page 14

---

**INTERIOR SPACES:**

Naval Air Station Moffett Field has been in continuous use since it was constructed. During the years the interiors of the buildings were altered to accommodate changes in uses and space requirements. The alterations have redesigned the original interior space plans, removed the original surfaces and changed the spacial feeling of the interiors. Due to the alterations, the interiors do not retain architectural integrity or historic significance.

**NON-CONTRIBUTING BUILDINGS**

Within the boundary of the historic district the number of non-contributing buildings exceeds the number of significant buildings and structures. This unusual ratio does not diminish the significance or integrity of the district. Most of the non-contributing buildings were constructed after the period of significance and are primarily small utilitarian constructions. The Chapel and heating plant, buildings 86 & 87 were constructed after the period of significance yet are designed in the idiom of the district. Thus, Naval Air Station Moffett Field, despite the imbalance in numbers of contributing and non-contributing buildings, maintains exceptional integrity of the 1933 station plan and architectural design.

The International style buildings were predominately constructed after 1944 and are not 50 years old. Therefore, they are not eligible for listing at this time. The Post Office, building #67, constructed in 1943, one of the finest examples of this style, is not significant as an individual building and should be included with the later International style buildings.

United States Department of the Interior  
National Park ServiceNational Register of Historic Places  
Continuation SheetSection number 7 Page 15SIGNIFICANT AND CONTRIBUTING BUILDINGS

BLDG. #	CURRENT USE	ORIGINAL USE
1	Hangar #1	Hangar #1
2	Gymnasium	Balloon Hangar
5	Water Tank	Water Tank
10	Heat Plant Building	Storehouse
15	PW Shop	Fire Station/Laundry/Garage
16	PW Shop	Locomotive Crane Shed
17	CPWP Administration	Administrative Building
18	NAV RES Administration	Aereological Center
19	BEQ	BEQ/Brig
20	BOQ	BOQ/Mess Hall & Galley
21	BOQ Detached Garage	BOQ Detached Garage
22	BOQ Detached Garage	BOQ Detached Garage
23	Instruction Building	Dispensary E
24	Administrative Office Building	Ambulance Garage
25	Base Theater/Recreation Service/Thrift Shop	Bowling Alley/Recreation Building
26	Gate House/Iron Fence	Gate House/Iron Fence
32	Storage	Tank House
33	Storage	Water Tower
37	Scale House	Scale House
A, A1	Officers Housing and Garages	Housing and Garages
B, B1		
C, C1		
D, D1		
E, E1		
F, F1		
G, G1		
H, H1		
I, I1		
46	Hangar #2	Hangar #2
47	Hangar #3	Hangar #3
55	Heat Plant for Hangars #2 and 3	Heat Plant for Hangars #2 and #3

SIGNIFICANT OBJECTS

40	Flagstaff/Commons Memorial Anchor	Flagstaff and Commons Anchor
----	--------------------------------------	---------------------------------



United States Department of the Interior  
National Park Service

## National Register of Historic Places Continuation Sheet

Section number 7 Page 16

---

### NON-CONTRIBUTING BUILDINGS

1930-1933 - Altered (loss of architectural integrity): Buildings # 3, #6, #12, #13, #14, #29, #31, #36, #501.

1940-1944 - Altered (loss of architectural integrity): Buildings #240, #241, #242, #514, #515, #516, #517

Assembly Buildings: #45, #85, #115

Quonsets: #81, #117

Sheds: #34, #44, #83, #347

1940 - 1944 (outside period of Significance) Buildings: #67, #64, #86, #87,

All buildings and structures constructed after 1944, including: #76, #77, #123.

All ancillary buildings and structures, in proximity to Hangars #2 and #3, that are very small, altered or constructed after 1944; #79, #98, #186, #346, #350, #367, #368, #396, #440, #470, #472, #499, #539, #540.

United States Department of the Interior  
National Park ServiceNational Register of Historic Places  
Continuation SheetSection number 8 Page 2

---

Several factors contributed to the commissioning of the U.S. Naval Air Station Sunnyvale on April 8, 1933. Of foremost importance was the vision for the future of aircraft and influence of Admiral William A. Moffett. Appointed by President Harding on July 25, 1924, to be the first as Chief of the Naval Bureau of Aeronautics, Admiral Moffett had already established himself the proponent for increased Naval aircraft as an integral component of the Navy's ability to control the seas off the coasts of the United States. In the 12 years that Admiral Moffett lead the bureau, the U.S. Navy was catapulted into the lasting interlocking strategy of Naval presence in the air as well as the sea. But he also spoke of the future in commercial aviation. In the 1920's, he appears fascinated with the lighter than air technology of the dirigibles. The success of the zeppelins in WWI contributed to the development of the larger dirigibles. This was however, marred by the disasters resulting from the flammability of the hydrogen used to fill the chambers. Each country involved in the hydrogen filled dirigibles experienced tragedy. A memorial plaque in Shenandoah Plaza at Moffett Field commemorates USS SHENANDOAH that was lost with a crew of 14 on September 3, 1925. The largest of the dirigibles, HINDENBERG, burst into flames over Lakehurst, New Jersey in 1937, culminating a series of tragic losses involving the dirigibles and hydrogen. Helium, produced only in Texas and Kansas, had been known to be a reasonable replacement for hydrogen, but was prevented from export by the 1925 Helium Export Act. Moffett began a lobbying campaign to have the U.S. Navy use helium filled dirigibles to patrol the coasts. In Moffett's plan, these giant rigid frame airships would provide the long range observation for the surface Navy below. He believed the dirigibles could be fashioned to carry small planes and might even be equipped with bombs. The idea was not far-fetched. The technology of the 1920's allowed dirigibles which could stay aloft for 14 days and fly 10,000 miles. The lobbying proved successful with the 1926 congressional authorization for two Naval dirigibles capable of carrying aircraft and a new aircraft base for the west coast. The dirigibles were to be built by the Goodyear-Zeppelin Corporation in Akron, Ohio. The first to be completed was based at Lakehurst, New Jersey. The selection of the site and construction of a base to service the second would be undertaken on the west coast.

The west coast site appeared to be slated for Camp Kerney near San Diego when the northern California politicians realized the opportunities to be created and forced the federal planners to accept applications from the entire west coast. Applications were received from 997 locations. San Francisco mayor, James Rolph, saw the benefit to the Bay Area even though his city did not have a site suitable for the base. The appeal was for 2,000 acres with unobstructed approaches, clean water, rail access and good flying weather was heard by Mrs. Laura Whipple, a recently established real estate broker from the East Bay. Familiar with the Sunnyvale area, she selected the Rancho Unigo, a former Indian Reservation, that seemed to meet all the criteria. Appointing herself "Chairman of the Landholders Commission", she obtained an option for 1,750 acres at the price of nearly \$500,000. She wired San Jose congressman, Joseph Free, that a perfect site for the dirigible base had been located and optioned. The proposal from San Diego offered free land; in order for the Sunnyvale site to be selected the same offer would have to be made. Under

United States Department of the Interior  
National Park ServiceNational Register of Historic Places  
Continuation SheetSection number 8 Page 3

---

the leadership of presidents of the Chambers of Commerce from Mt. View and San Jose, a campaign to raise the funds and solidify the offer went forward. The newspapers, including the San Jose Mercury Herald, were enthusiastically in support of the proposal and offered publicity and public relations material to support the proposal. After three years of study and debate, it was time for a decision. On December 28, 1930, the vote registered by the House Naval Affairs Committee for H.R. 6810, introduced by Congressman Free, selected Sunnyvale by 18 to 1 and Camp Kerney as the auxiliary base. As a member of the West Coast Naval Airship Base Board, Moffett had favored Sunnyvale while the Secretary of the Navy, Charles F. Adams, preferred Camp Kerney.

Once selected, the issue remained to raise the money to purchase the land. Under the leadership of A. M. Mortensen, President of the San Jose Chamber of Commerce, the funds were raised and on August 2, 1931, the Chamber's check for \$476,165.90 completed the purchase of 1000 acres of the Rancho Unigo. Also on August 2, 1931, the land was transferred to the U.S. Navy for \$1.00. This completed a long and arduous partnership between the cities of the Bay Area to gain the prestige, jobs and economic interests that would follow the base.

The budget for constructing the base was \$5,000,000. The U.S. Navy of Yards and Docks would be responsible for the design and coordinate the construction. Lt. Commander Earl Marshall was given the responsibility. Ernest Wolf, an experienced engineer from the Goodrich Zeppelin Corporation, was to be the Associate Engineer. Hangar #1, as it would be called, was the most important building and received the first attention. The design had been refined in Akron by Dr. Hugo Ekener, to form a rounded building that followed the form of the dirigible. Enormous curved doors on each end would slide over the building, rolling on 40 wheels over standard gauge railroad track, and propelled by 150 hp electric motors, thus minimizing the turbulence and problems encountered with past designs. In fact, it was the window patterns that dictated the north-south orientation and siting of Hangar #1; the rest of the base followed. Of the \$2,250,000 budgeted for the hangar, \$1,116,044 was awarded to the Wallace Bridge and Structural Steel Company of Seattle to fabricate the steel for the structure and doors. Seims-Heimers, Inc. of San Francisco bid \$398,937 for the roofing, windows and siding on the airdock that would measure 1,133 feet long, 308 feet wide and 198 feet high. The floor area is just over eight acres. A structural space frame, the design and construction of this hangar remain a feat unparalleled in the engineering of enclosed space.

Railroad tracks ran through the hangar, culminating at the mooring tower. The tower secured the dirigible to the ground by mooring lines. This tower has been removed. The other large structure that was necessary for the dirigible was the helium tank that was located in front of the hangar.

The plan for the base and the design of the buildings was also undertaken by the Naval Bureau of Yards and Docks.

United States Department of the Interior  
National Park ServiceNational Register of Historic Places  
Continuation SheetSection number 8 Page 4

The style for the buildings, Spanish Colonial Revival, is reflective of the popularity of the revival movement and the desire of the local politicians to have the base designed in the "California Style" of white stucco walled buildings with red tile roofs. The plan and building design was very formal, an axial orientation with the hangar to the east and the base extending west. Following the Spanish influence, a large plaza is the central element with the most ornately decorated building, the Administration Building, at the head of the plaza behind the flag pole and in front of the hangar. On the south side of the plaza were located the dispensary and Bachelor Officers' Quarters. To the north were the recreation building and the barracks. To the southwest on the cul-de-sac were located the nine officers' houses and garages. Extending to the east, and south, behind this formal plaza arrangement were the utilitarian buildings, fire station, garage, laundry boiler plant, locomotive and crane shed, shops, helium storage and water tower. To the north were the commissary, store house, gas station, balloon shed and storage buildings. Directly behind the Administration Building was the cafe (later the Officers' Club), and of course, the Hangar. The base was designed in anticipation of the importance of the automobile. Broad roads, large parking areas and garages were incorporated in the plan.

Landscaping was carefully planned to mature in harmony with the buildings and circulation elements. The area considered the Naval Air Station Sunnyvale Historic District maintain the integrity of the original design and represent one of the finest formal plans for a government facility in California. It was a forward-thinking plan with expansion to occur outside the formal plaza, thus the quality of design has been maintained. The original base is a one-of-a-kind facility in the Santa Clara Valley with great importance in the architectural heritage, facility planning and economic growth of the region.

The primary significance of the historic district is the association with the "lighter than air" dirigible program. The dirigibles, to be the eyes in the sky for the Navy, were in operation for a relatively short time. USS MACON, one of the two dirigibles constructed for the Navy, was christened by Mrs. William Adger Moffett (wife of Admiral Moffett) on March 11, 1933. An article about the landing in Sunnyvale was reported in the October 15, 1933 edition of the San Francisco Chronicle that read, "30,000 Thrilled as the MACON Moors at Home Station." The sister dirigible, AKRON, had been lost on April 13, 1933, making the MACON the last dirigible. For 16 months, USS MACON was a common sight over the Santa Clara Valley as it performed in a number of military maneuvers with the Pacific Fleet. Admiral Moffett had been well aware that the slow moving dirigibles could be of great benefit when assigned as an observatory for the fleet, but were vulnerable if used in maneuvers with the fleet. Shortly after arriving at Sunnyvale, USS MACON was deployed on tactical maneuvers with the Pacific Fleet. Equipped with an internal hangar and steel frame hoist termed a "trapeze", USS MACON carried four small fighter planes. The Sparrowhawks (F9C) were bi-plane fighters developed specifically to be carried in the dirigible by Curtis. Each weighed only 2,500 pounds with a pilot. As an airborne carrier, the dirigible was a hulking target that "failed to demonstrate military usefulness," according to the Commander in Chief of the United States Fleet, Admiral David Sellers. While returning from maneuvers with the fleet on February 12, 1935, USS MACON experienced a structural failure and crashed into the Pacific. Of the 83 crew, only 2 were lost. It was the headline in the San Francisco Chronicle the next day that told the story, "Dirigible Doomed as Defense Factor, Officials Say." The era of dirigibles was over, the only remaining element of the Moffett five year plan was Hangar #1 and the base at Sunnyvale.

United States Department of the Interior  
National Park Service

# National Register of Historic Places Continuation Sheet

Section number 8 Page 5

---

During this period, the U.S. Army Air Corps operated a limited number of blimps in conjunction with observation exercises. In September, 1935, seven months after USS MACON went down, the Army assumed control of the base and Hangar #1. The facility was used by the Army for pursuit and observation activities until 1940 when it was converted to the West Coast Air Corps Training Facility. During this period, the dispensary was enlarged and barracks were added.

Shortly after the outbreak of WWII, the base was returned to the U.S. Navy. In April, 1942, the base was recommissioned Naval Air Station Moffett Field.

The return to Naval Command was to provide expanded facilities for small blimps and balloons used for coastal observation. Hangars #2 and #3 were constructed for blimps in 1942. They are included in the historic district because of the use as a lighter than air facility, and for their architectural/engineering importance.

One of the most recognizable landmarks in the San Francisco Bay Area, Hangar #1 and the original base are significant in the history of Naval Aviation, defense and in the development of the Santa Clara Valley. From the original base and because of the facility location and landing field, NASA Ames Research Center is located to the north adjacent to the original plaza boundary and at the north boundary of the historic district. It is far easier to measure the importance of the dirigible in Naval Aviation and defense history than it is to measure the enormous impact upon the growth of the defense and space industry in Northern California because of the original location of this base with the 1000+ acres.

The Naval Air Station Sunnyvale Historic District is recommended for listing in the National Register of Historic Places at the National Level of significance under Criteria A, as the only base designed specifically for the Navy to home port USS MACON, the only dirigible in the fleet, a significant contribution to the broad pattern of our history; and under Criteria C, a facility plan and architectural design that embody the distinctive characteristics of a type, period, or method of construction or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction.

The landscape plan (Y&D drawing No. 115840) was approved on April 29, 1933. This plan shows the base in its entirety.



United States Department of the Interior  
National Park Service

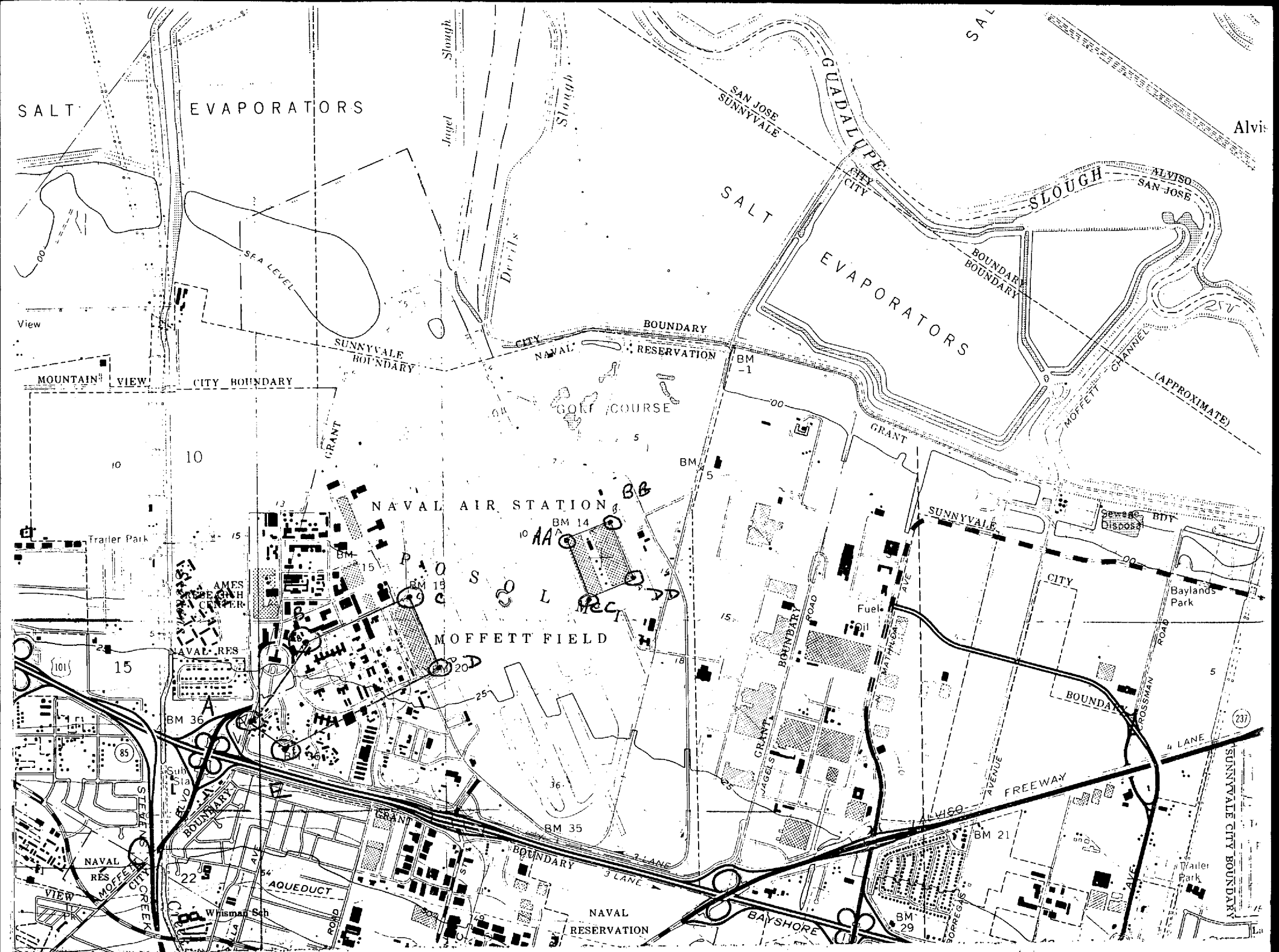
## National Register of Historic Places Continuation Sheet

Section number 10 Page 2

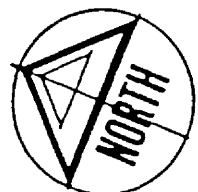
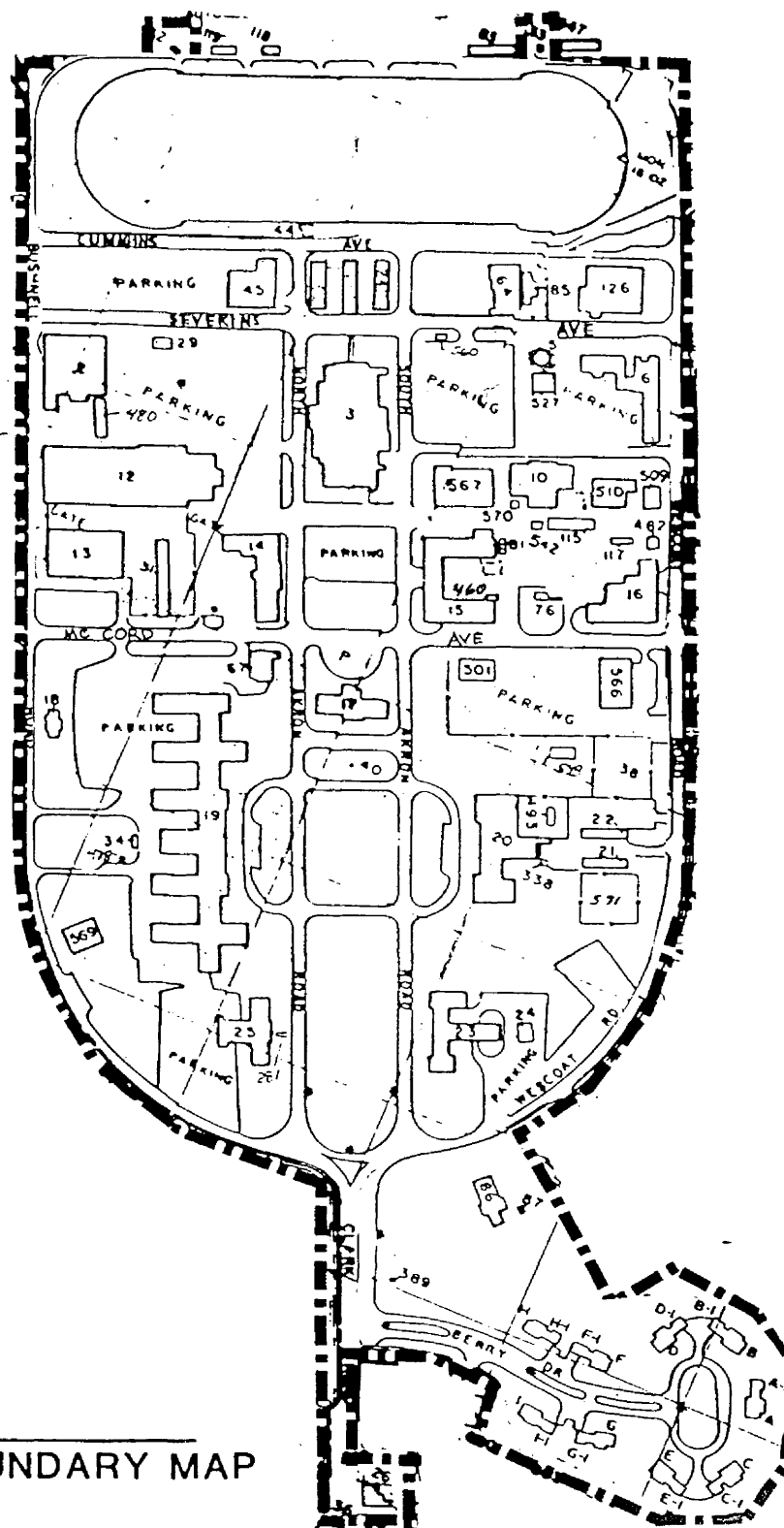
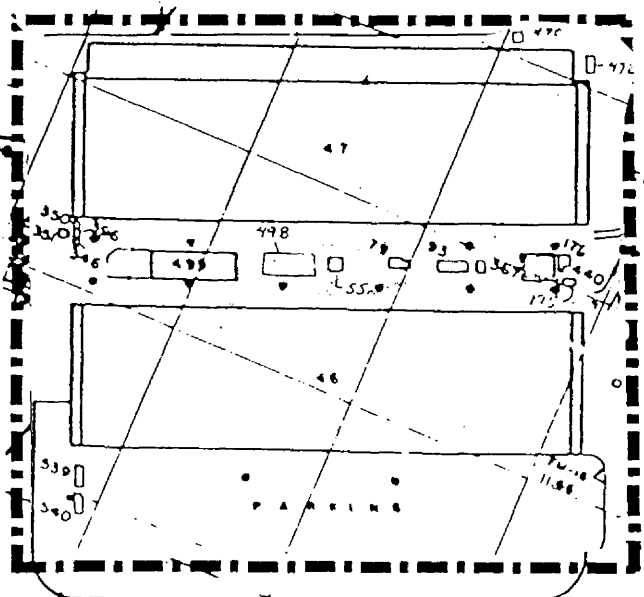
---

ZONE 10

E	37.7063	122.0530
A1	37.7095	122.0433
B1	37.7060	122.0421
C1	37.7071	122.0394
D1	37.7105	122.0408

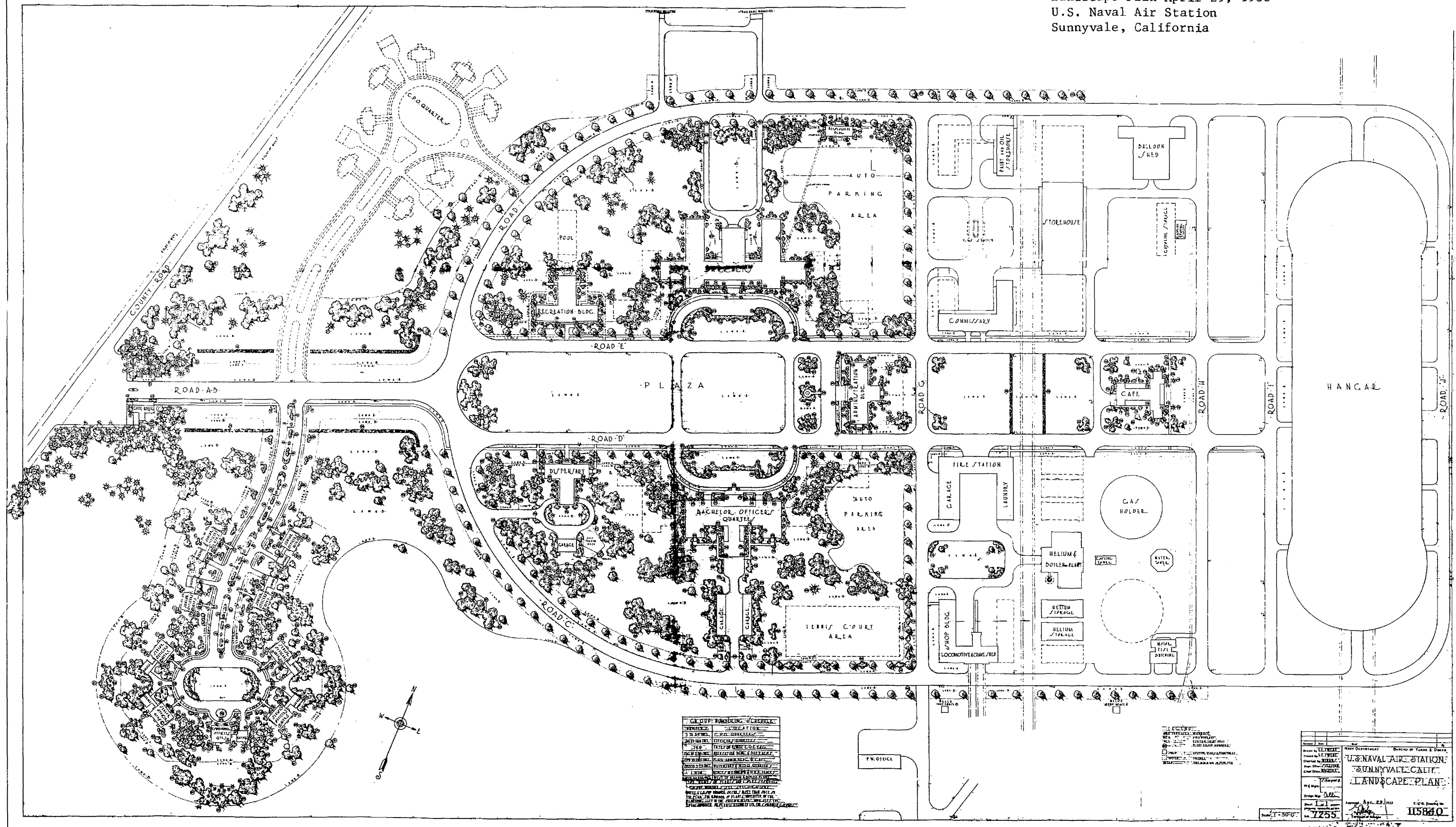




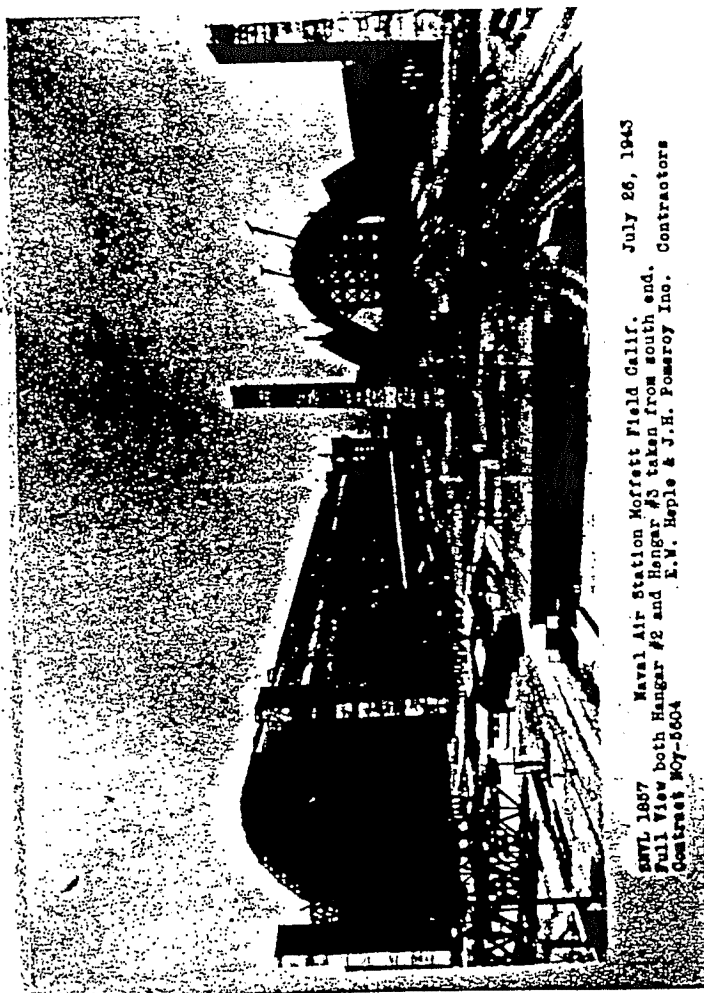
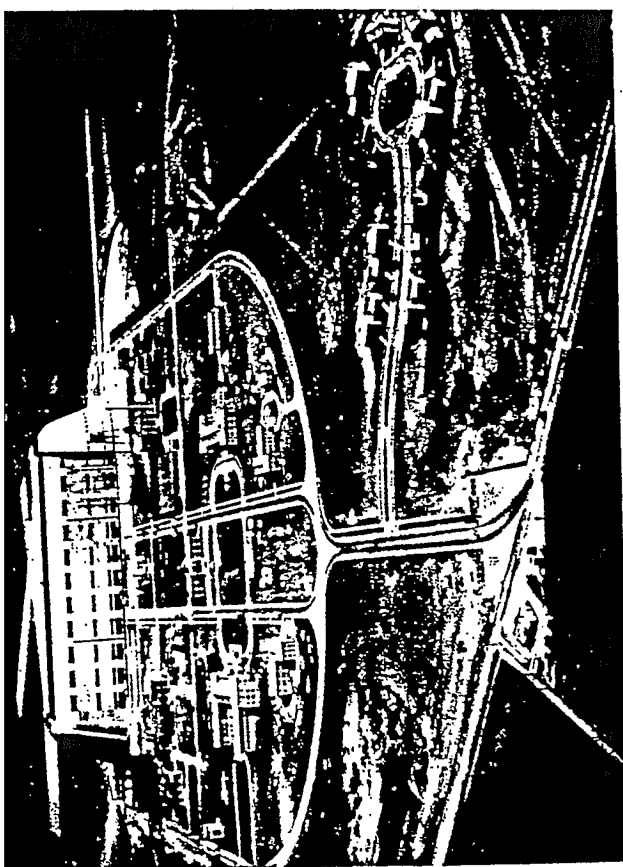


DISTRICT BOUNDARY MAP

Navy Department-Bureau of Yards and Docks  
Landscape Plan April 29, 1933  
U.S. Naval Air Station  
Sunnyvale, California







SWL 1857 Naval Air Station Moffett Field Calif. July 26, 1943  
 Full View both Hangar #2 and Hangar #3 taken from south end. Contractors  
 E.N. Heple & J.H. Fomeroy Inc. Contract W-5604

