

Building 10 Reuse Guidelines

Draft Report

Moffett Federal Air Field, California

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prepared for:

NASA/Ames Research Center

U.S. Naval Air Station Moffett Field

prepared by:

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San Francisco, California

October 2004

**U.S. Naval Air Station Moffett Field
Building 10 Reuse Guidelines**

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U.S. Naval Air Station Moffett Field Building 10 Reuse Guidelines

Introduction

NASA/Ames Research Center contracted with Architectural Resources Group, Architects, Planners & Conservators, Inc. (ARG) to develop Reuse Guidelines for the Boiler Plant, Building 10, at the U.S. Naval Station at Moffett Federal Air Field, 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

The Naval Air Station Sunnyvale, California (the historic name of the base) was listed on the National Register of Historic Places (NRHP) as a district in 1994. Building 10 is a contributor to the district and retains a high degree of integrity. The building was constructed in 1933.

Building 10 has a high degree of integrity; the building's character-defining features are intact on the exterior and interior. The massive central space, which once served as the Craneway, has been maintained as an open volume. The main alteration to the central space, addition of low walled kitchen, has not changed the character of this important interior space.

Rehabilitation of the building should comply with *The Secretary of the Interior's Standards for Rehabilitation*. Plans for the reuse of Building 10 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 noncharacter-defining features may be undertaken, but the impact to the character-defining and contributing features should be carefully evaluated. The building's continued use as the Boiler Plant is recommended.

Future renovations will require Fire/Life Safety and Disabled Accessibility upgrades to comply with current codes. These include, but are not limited to, the addition of fire sprinklers, exit path of travel and exit door upgrades, and disabled access improvements to door and door hardware, and restrooms. 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, electrical and structural systems. Existing mechanical flues, ducts and conduits protruding from windows and exposed on the exterior should be removed. The impact of these upgrades to the character-defining and contributing features should also be carefully evaluated.

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II. Methodology

ARG staff conducted a site inspection of Building 10 in June 2004. During the site visit 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.

ARG staff reviewed both primary and secondary research materials at a number of institutions including:

- 1950 Navy Docks & Yards Micro Film;
- Engineering Documentation Center; and
- Ames Imaging Library.

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 1931 through 1944;
- Architectural Drawings including;
 - o Navy Department, Bureau of Yards & Docks. "U.S. Naval Air Station, Moffett, Calif., Helium & Boiler Plant ." Drawings 31 January 1955;
 - o Fair Manufacturing Co., "Boiler Room Exterior Framing", Sheets 2 & 3, 14 November 1952

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Figure 1: View of the East and South Elevations of Building 10.

III. Building 10 Summary

Location:	Bushnell Road and Severyns Avenue
Area:	US Naval Air Station Moffett Field - Central Historic District
Date of Construction:	1933
Historic Structure:	Yes
Historic Use:	Helium & Boiler Plant
Current Use:	Boiler Plant
Hazard Level:	Low
Number of Floors:	One story
Total:	10,773 sq. ft.
Exterior Materials:	Rough Formed concrete.
Construction Frame:	Poured-in-place, reinforced concrete walls and roof with steel frame.

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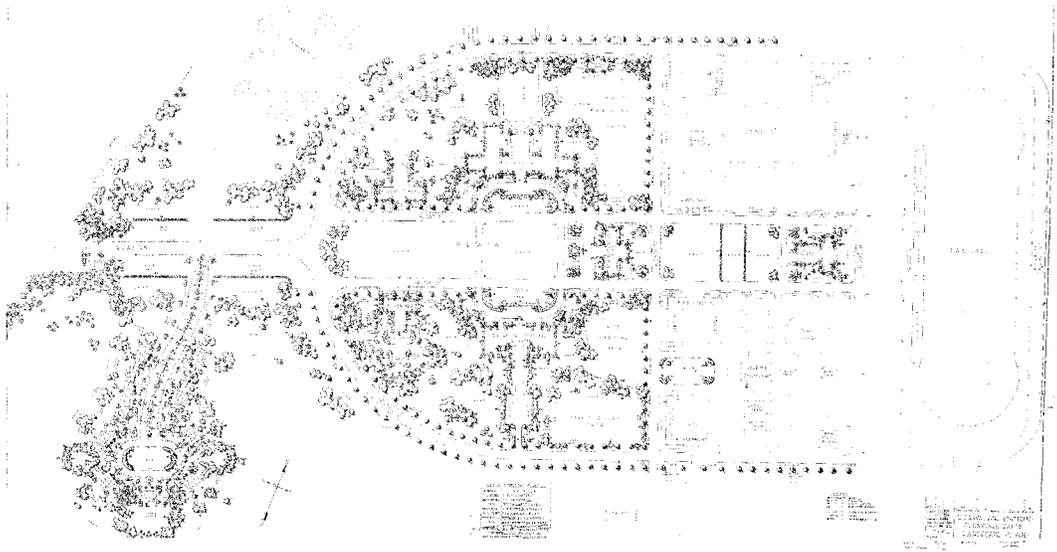


Figure 2: "U.S. Naval Air Station, Sunnyvale, Calif., Landscape Plan." 29 April 1933.

IV. Historical Background and Site Context

The 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 other airship, the U.S.S. Akron, was housed at the Naval Air Station in Lakehurst, New Jersey. The dirigibles were part of a domestic security program designed by Admiral William A. Moffett. Airships 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 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 10, were placed in a grid with very little green space. All of the buildings within the original base, with the exception of Hangar 1, were constructed in the Spanish Colonial Revival Style.

The building was constructed during the 1931-1933 building campaign on Dungan Avenue near Hangar 1. Building 10 faced west, onto a small green space bordered by buildings 15 & 16. The building is a large reinforced-concrete & steel structure. Like the other buildings constructed as part of the 1933 construction campaign, Building 10 is typical of the industrial structures which have simplified elements of the Spanish Colonial Revival Style including shaped parapet, and stringcourses.

The Boiler plant has a modified cruciform footprint. The major axis of the cruciform, which

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runs north-south, functioned as the craneway. The minor axis, running east-west, is intersected by the major axis east of center. The bulk of the building consists of the Crane Way. The western portion of the minor axis historically housed the boilers and still does. At the northeast, northwest, and southeast reentrant corner of the cruciform plan, are lower height one story spaces. The smoke stack was located in the southwest reentrant corner of the site.

Several smaller sheds have been constructed very close to Building 10, building 570 and two storage sheds, one in the southwest corner and the other in the northwest corner.

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 10 is a contributor to the district.

V. Building Description

Building 10 is a large, open high bay structure with a cruciform footprint. The building has reinforced-concrete walls painted on the exterior. The west facade has a shaped parapet. A crown mold band course wraps the entire high bay space below the clearstory windows and stepped watertable surrounds the entire base of the building. Metal trusses support the board-formed, reinforced concrete roofs of the high bay spaces. Steel beams support the low roofs at the reentrant corners. Typical of industrial building on the base, the facades used repetitive elements and are fairly symmetrical. All of the building's windows are divided-light with steel sashes and frames, unless otherwise noted. All of the windows as well as the over sized door on the north, west and south facades have splayed openings.

The west facade of the building is made up of the central high bay boiler space as well as the lower height north west corner. The west facade of the high bay boiler space has four over-sized pilasters. A top each pilaster is an over sized vertical modillion. Centered on this facade is a splayed opening with a pair of over-sized, multi-lite, metal doors and transom. Between the pilasters to the left and right is segmented-arched windows typical of the high bay spaces. The window is comprised of a pair of multi-lite (2 over 5), metal sashes and transoms. The 2nd and 3rd lights from the bottom of the window sashes are horizontal pivot. Centered above each of these windows are a pair of louvers in the clerestory openings. The west facade of the low height, north west corner has four equally spaced multi-lite (3 over 4), metal sash windows. The center two rows are horizontal pivot operable. Above, in the wall of the Crane Way, are two equally spaced, clerestory windows. The windows are a pair of horizontal pivoting, 3 over 2 metal sashes. The southern end of the western facade of the Crane Way has two of the typical segmented-arched windows.

The north facade of the Crane Way is marked by the same over sized opening, door and transom as the west facade. To each side of these doors is same multi-lite (3 over 4), metal sashed windows of the western facade of the typical of the lower height corners. Above each of these openings is the typical clerestory windows. The lower height corners to the west and east each have a pair of multi-lite, metal doors and transom with decorative entablature surrounds. above each door is a simplified recessed circular medallion. The fenestrations on the north facade of the boiler high bay space are similar to those on the west facade of the high bay boiler space

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with a pair of multi-lite (2 over 5), metal sashes and transoms; and the clerestory opening with louvers above. Due to the low height locker room in the north east corner, the facade has only a segmented arched.

The east facade of the building is comprised of the Crane Way as well as the lower height corners to the north and south. The facades of these lower height corners have the same fenestration patterns as the west elevation of the north west corner. The facade of the Crane Way is made up of three equally spaced segmented arched windows typical of the high bay spaces. To either side of this group of windows are a single multi-lite door and transom with decorative entablature and simplified recessed medallion.

The composition and fenestration of the south facade is the same as the north facade with the exception of the smoke stack being located in the south west reentrant corner rather than another lower height structure. As such, the south facade of the high bay boiler space has a pair of equally spaced segmented arched openings.

The bulk of the interior of the building consists of a massive, central Crane Way. Typical of the utilitarian structures on the base, the interior of the structure is unfinished. The floor, walls and roofs are exposed unfinished concrete; the steel columns and trusses are exposed. The Thirty foot tall Crane Way with its "I" beam rails, crane and dolly are the most significant feature within the interior. The Crane Way remains mostly unaltered. During the cold war, blimps were dropped from the Navy inventory, the need for helium was no longer necessary. The helium plant was removed. Currently, the Crane Way is occupied by a breakroom, machine shop, and offices. The configuration of the lower height reentrant corners remains as they were constructed, although the function within each space has changed. Originally the southwest corner was storage, northeast corner was laboratory, and southeast corner was office, restroom, and electrical room. Currently, the southwest corner is a locker room; northeast corner is an office; and southeast corner is office, restroom, and unassigned.

Two out buildings, 570 and the other with no designation (labeled as "UNK" on site plan, which we assume to mean "unknown"), have been constructed very close to building 10 adjacent to the northeast reentrant corner. The buildings appear to be storage sheds. For code and aesthetic reason, we recommend the buildings be moved away from Building 10 or removed.

VI. Character-Defining Features

The building's exterior and interior have been surveyed and evaluated for significant features and spaces, which have been categorized into levels of descending importance: significant, contributing, tertiary, and non-contributing (see Historic Significance Plans in Appendix). In planning the building's rehabilitation, the significant and contributing character-defining features should be retained whenever feasible.

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:

- Overall form;
- Reinforced concrete walls;
- Shaped parapets on the west elevation;
- Crown mold stringcourse;
- Stepped watertable;
- Pilasters with vertical modillions;
- Splayed segmented arched openings with divided multi-lite metal window;
- Divided multi-lite metal doors and transom with simple, decorative entablature surround;
- Splayed segmented arched openings with divided multi-lite metal door and transom;
- Interior space: large, open, central space with exposed trusses; and
- Craneway consisting of "I" beam rails, trolley and crane.

2. Contributing Features: these features are important elements that 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:

- Reentrant corners;
- Small Crane Assembly;
- Original interior divided multi-lite metal doors; and
- Original lighting fixtures.

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.

There are no tertiary features.

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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:

- Kitchen low wall;
- Wood paneling and dropped ceiling; and
- Building 570 & UNK (storage sheds)

5. Conservation of Intact Historic Fabric

The following materials require special care and treatment in their maintenance and rehabilitation:

- Craneway;
- Original window and glazing;
- Metal doors.

VII. Opportunities for Reuse

Any alterations to the significant character-defining features should be approached carefully and sensitively following *The Secretary of the Interior's Standards for Rehabilitation (The Standards)*. *The Standards* define rehabilitation as “the process of returning a property to a state of utility, through repair or alteration, which makes possible an efficient contemporary use while preserving those portions and features of the property which are significant to its historic, architectural, and cultural values.” Alteration of significant character-defining features will require consultation with the California Office of Historic Preservation.

The spatial relationships of the buildings are significant to the historic character of the district. Although Building 10 is located in the industrial section of the base away from Shenandoah Plaza, its setting is important to its integrity as well as that of the surrounding historic structures. Maintaining the relationships of the buildings and setting is important to protecting the eligibility of the Naval Air Station Sunnyvale Historic District to the NRHP.

The out buildings (building 570 and “UNK”) are non-contributing, were constructed after period of significance for the district, and could be removed.

Building 10 retains a high degree of integrity. The seven aspects of integrity as defined by the NRHP: location, design, setting, materials, workmanship, feeling, and association, are all intact.

The building’s continued use as a boiler plant is appropriate. Reuse of the building could be accomplished with a few alterations as outlined in Section VIII, below.

Restoration of the historic exterior color scheme is recommended as a long-term goal for the district, along with the other buildings in the district. The original finish has been painted many times. As it is not known what the original color scheme was, a complete analysis should be

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performed on the exterior wall surface and other exterior components. Consideration should be given to removing paint and restoring the original color scheme.

VIII. Code Evaluations and Recommendations

A. Fire/Life Safety

Description

Building 10 is composed of a massive open central space with lower height spaces built in the reentrant corners. The building does not have a fire sprinkler system. The building has a gross floor area of 10,773 square feet and consists of concrete slab, concrete exterior walls & roofs with steel truss supporting. The building was reviewed for general code compliance with the provisions of the 2001 California Building Code (CBC).

The building is currently classified as F.1 occupancy and Type II-N construction for the original building. The following review is based on the same occupancy. If a change in occupancy or mixed occupancies is proposed, further detailed code analysis will be required.

California's State Historical Building Code (SHBC) 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."

Requirements

1. Location on Property: Table 5-A of the CBC does not allow for openings less than 5 feet from property line. The window openings in building 10 on the west facade of the north west corner facing Building 570 & UNK are currently unprotected.

2. 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. No exit signs exist.

3. Doors: Section 1003.3.1.3 of the CBC requires a clear opening of 32 inches. Section 1003.3.1.4 of the CBC requires all exit doors to not exceed 4 feet in width. Currently, numerous doors do not have 32" clear dimension, while the three pair of doors into the Crane Way and Boiler room exceed 4 feet in width. SHBC section 8-603.2 allows certain doors to have a clear dimension as narrow as 30".

Recommendations

1. Location on Property: The out buildings 570 and UNK should be considered for relocation or removal.

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2. *Means of Egress Identification:* Provide code compliant exit signs.

3. *Doors:* Provide 32” clear at all doors (offset hinges) where possible and evaluate the doors that need to be 30”. Provide exit signs at exit doors and signage “not an exit” on over-sized doors

B. Disabled Accessibility

Requirements

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 van accessible space for every eight spaces. Currently there are no accessible parking spaces provided.

2. *Doors:* Section 1133B.2.5.2 requires hardware that is hand operable with a single effort without requiring the ability to grasp. Currently, none of the door hardware is code compliant.

3. *Restrooms/locker rooms:* Section 1115B.1 requires buildings which are required to be accessible to have accessible restrooms and lockers. Currently the building does not have code compliant accessible restrooms and lockers.

4. *Signage:* Section 1127B.3, 1129B.5, and 1115B.5 of the CBC require code-compliant signage identifying accessible entrances, parking, and restrooms.

Recommendations

1. *Accessible Parking:* Provide code-compliant, accessible parking.

2. *Doors:* Provide 32” clear at all non-compliant doors, where possible. Where not possible, evaluate the doors that are 30”. All doors should have code-compliant hardware.

3. *Restrooms/locker rooms:* Provide code compliant accessible toilets and lockers.

4. *Signage:* Provide code compliant signage.

C. Energy Conservation

Description

The historic structure was designed with some energy-conserving features; monolithic terrazzo floors throughout the building and thick concrete walls contribute to passive climate control for the building.

Recommendations

As an historic building, Building 10 is exempt from energy code requirements. However, measures to reduce energy consumption and provide for user comfort are recommended. These actions may include insulating the ceiling and exterior walls during construction. The existing steel, sash windows are historic features and should be repaired and weather-stripped rather than replaced.

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IX. Future Studies Needed

A. Hazardous Materials

Although a hazardous materials report has not yet been completed, signs posted around the building indicate several types of historic material and finishes are known to contain asbestos and other hazardous materials exist in the building.

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

B. Mechanical and Electrical Systems

The mechanical and electrical systems were not inspected as part of this report. It is assumed that the rehabilitation and reuse of Building 10 will entail the installation of new mechanical and electrical systems, with the exception of the plumbing drainage/waste system.

Existing mechanical flues, ducts and conduits protruding from windows and exposed on the exterior should be removed. All new mechanical and electrical systems should be designed to preserve the character of the significant materials and spaces identified in this report.

C. Structural Systems

The exterior walls of Building 10 are reinforced concrete. The roof/ceiling are steel trusses and purlins and concrete decking.

The building appears to be in excellent 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 spaces.

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Building 10 Reuse Guidelines**

United States Naval Air Station
Sunnyvale, California Historic District
Building 2 Reuse Guidelines
Moffett Federal Air Field

Appendix I. Character-Defining Features

**U.S. Naval Air Station Moffett Field
Building 10 Reuse Guidelines**

Character-Defining Features

Elements	Significance	Condition	Comments
Exterior			
North Elevations			
Stepped Water Table Base Course	S	G	
Rough Concrete Surface	S	G	
Ornametal Band (Main Crane Bay Structure)	S	G	
Windows:			
Multi-Lite Metal Sash Windows	S	F	
Splayed Openings	C	G	
Segmented Arch Openings (Main Crane Bay)	S	G	
Louvered Openings at Boiler Room	T	G	
Doors:			
Multi-lite Metal Door and Frame	S	F	
Metal Transom (lower Story)	C	G	
Simplified Entablature Surrounds (lower story)	C	G	
Simplified Recessed Madalion (lower story)	C	G	
Collection Boxes	C	F	
East Elevation			
Stepped Water Table Base Course	S	G	
Rough Concrete Surface	S	G	
Ornametal Band (Main Crane Bay Structure)	S	G	
Windows:			
Multi-Lite Metal Sash Windows	S	F	
Splayed Openings	C	G	
Segmented Arch Openings (Main Crane Bay)	S	G	
Doors:			
Multi-lite Metal Door and Frame	S	F	
Simplified Entablature Surrounds (Main Crane Bay Structure)	C	G	

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

Condition Rating
G=Good
F=Fair
P=Poor

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Building 10 Reuse Guidelines**

Simplified Recessed Madalion (Main Crane Bay Structure)	C	G	
Collection Boxes	C	F	
South Elevation			
Stepped Water Table Base Course	S	G	
Rough Concrete Surface	S	G	
Ornametal Band (Main Crane Bay Structure)	S	G	
Windows			
Multi-Lite Metal Sash Windows	S	F	
Splayed Openings	C	G	
Segmented Arch Openings (Main Crane Bay)	S	G	
Louvered Openings at Boiler Room	T	G	
Doors			
Multi-lite Metal Door and Frame	S	G	
Metal Transom (lower Story)	C	G	
Simplified Entablature Surrounds (lower story)	C	G	
Simplified Recessed Madalion (lower story)	C	G	
Collection Boxes	C	F	
West Elevation			
Stepped Water Table Base Course	S	G	
Rough Concrete Surface	S	G	
Ornametal Band (Main Crane Bay Structure)	S	G	
Decorative Shaped Parapet Profile	S	G	
Pilasters and Vertical Modillions	S	G	
Windows			
Multi-Lite Metal Sash Windows	S	F	
Splayed Openings	C	G	
Segmented Arch Openings (Main Crane Bay)	S	G	
Louvered Opening at Boiler Room	T	G	

Significance Rating
 S=Significant
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Doors			
Multi-lite Metal Door and Frame	S	F	
Metal Transom	C	F	
Splayed Openings	C	G	
Collection Boxes	C	F	
Interior			
Main Crane Bay			
Large Open Volume	S	G	
Concrete Floors	C	F	
Original Steam Trench	C	G	
Unfinished concrete walls	C	G	
Exposed Columns	C	G	
Exposed trusses and concrete roof deck	C	G	
Cranes	S		
2 Ton Capacity	S	G	
Smaller	C	G	
Kitchen Space	N		
Boiler Room			
Large Open Volume	S	G	
Concrete Flooring	N		
Unfinished Concrete walls	C	G	
Exposed Columns	C	G	
Exposed trusses and concrete roof deck	C	G	
Mechanical equipment	N		
Doors	N		
Support Spaces			
NorthEast Corner			
Configuration (single space)	C	G	
Concrete Floor	T	G	
Faux Wood Paneling	N		
Suspended Acoustical Ceiling	N		
Metal Multi-lite Doors and Frame	C	G	

Significance Rating
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SouthEast Corner			
Configuration	C	G	
Office (not accessible for review)			
Restroom	N	P	
Floors	T	F	
Walls	T	F	
Ceiling	T	F	
Fixtures	N	P	
Transformer Room			Transformer relocated into the crane bay
Metal Multi-lite doors and frames	C	G	
NorthWest Corner			
Configuration (single space)	C	G	
Floors	T	G	
Walls	T	G	
Ceiling	T	G	
Lockers	N		
Metal Multi-Lite Doors and frame	C	G	

Figure 3: Character Defining Features Matrix

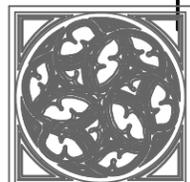
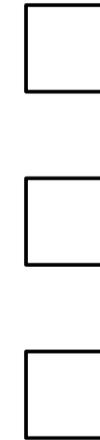
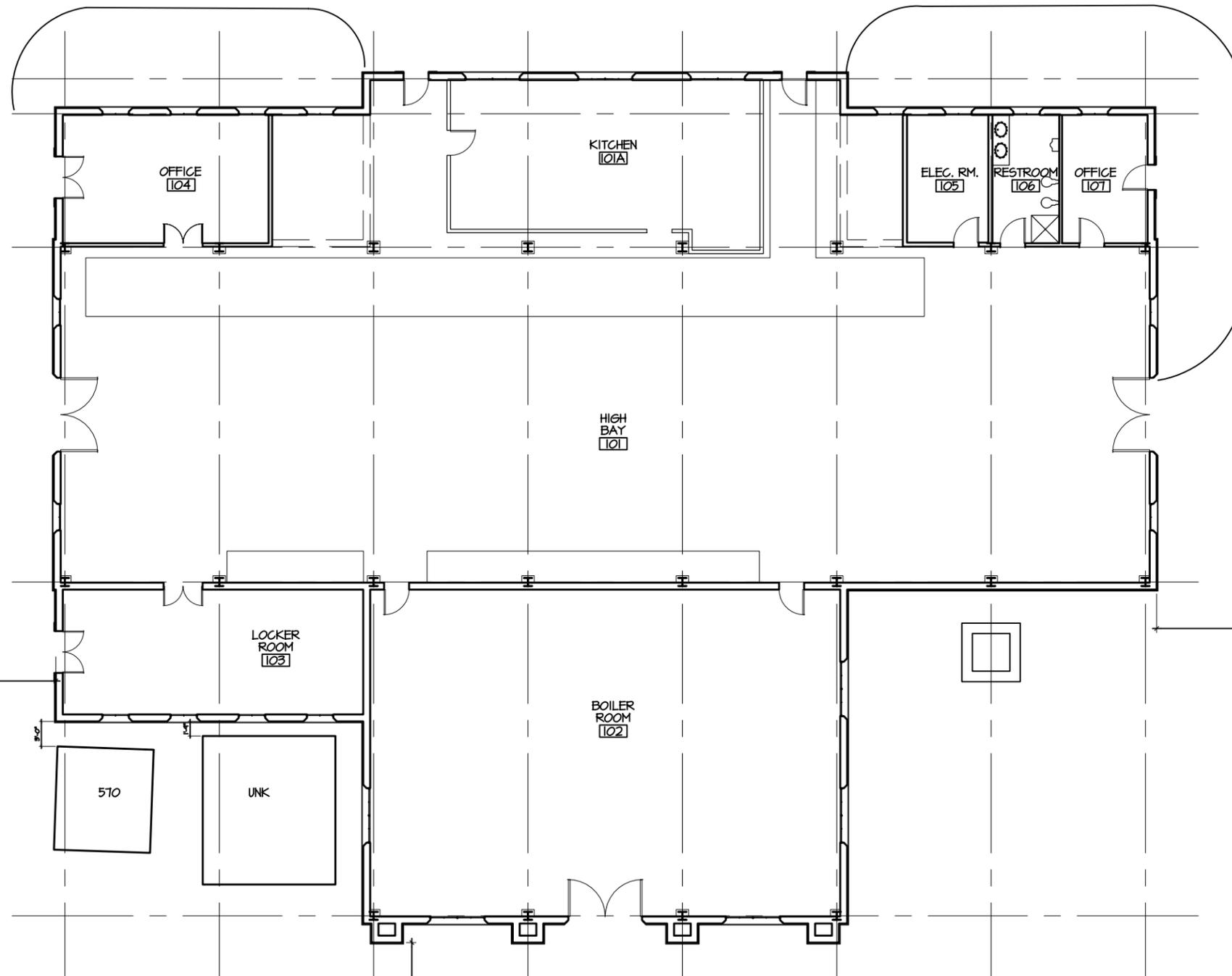
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United States Naval Air Station
Sunnyvale, California Historic District
Building 2 Reuse Guidelines
Moffett Federal Air Field

Appendix 2. Existing Configurations Floor Plan



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US Naval Air Station Historic District
Sunnyvale, California
00114
AUGUST 2004

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United States Naval Air Station
Sunnyvale, California Historic District
Building 2 Reuse Guidelines
Moffett Federal Air Field

Appendix 3. Historic Aerial Photographs

**U.S. Naval Air Station Moffett Field
Building 10 Reuse Guidelines**

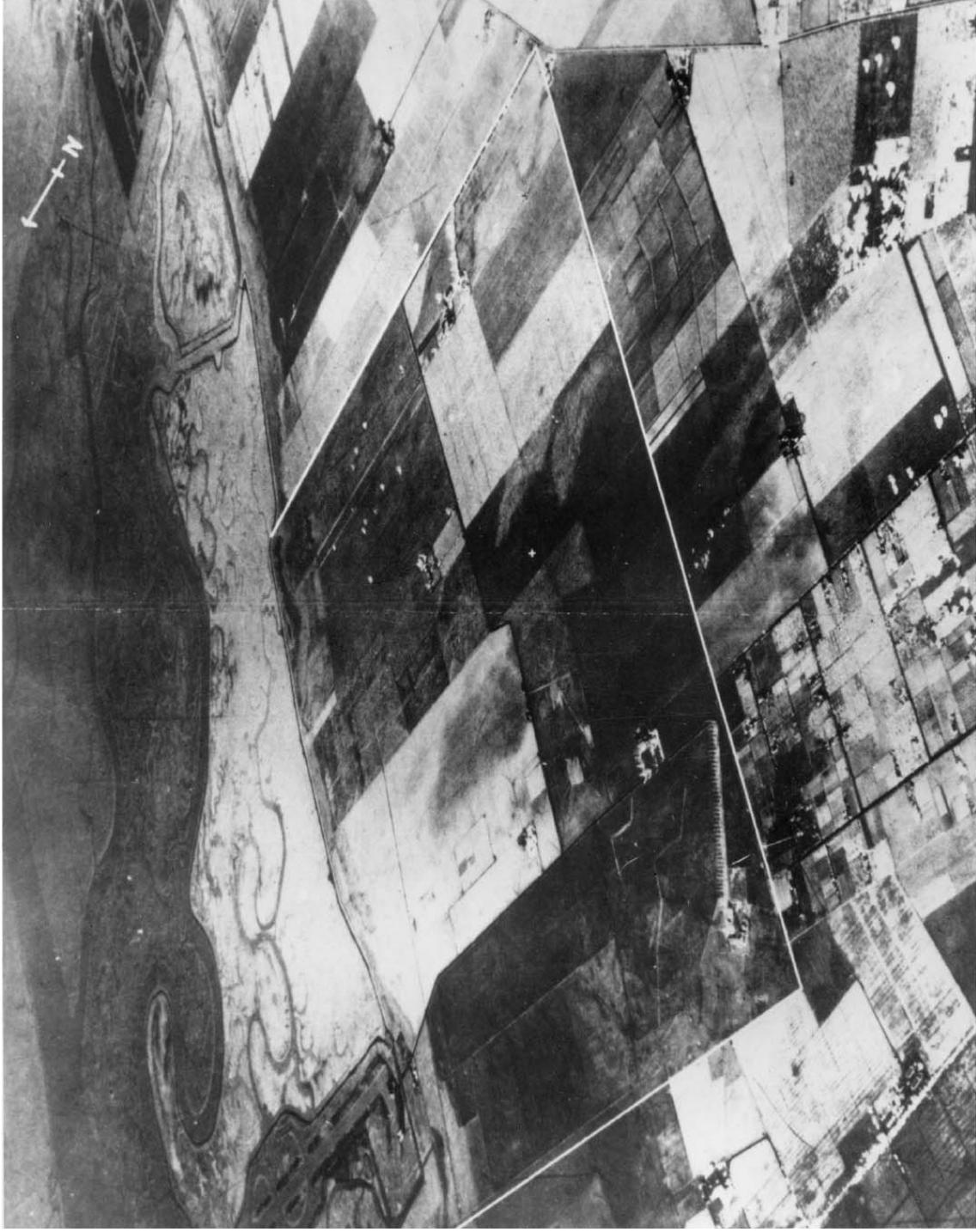


Figure 5: 1930 Aerial of future Moffett Filed site.

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Figure 6: 1931 Aerial of Main Hanger under construction.

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Figure 7: 1931 Aerial of Building 17. Building 10 is in the upper right-hand corner

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Figure 8: 1935 Aerial showing Building 10, right of center

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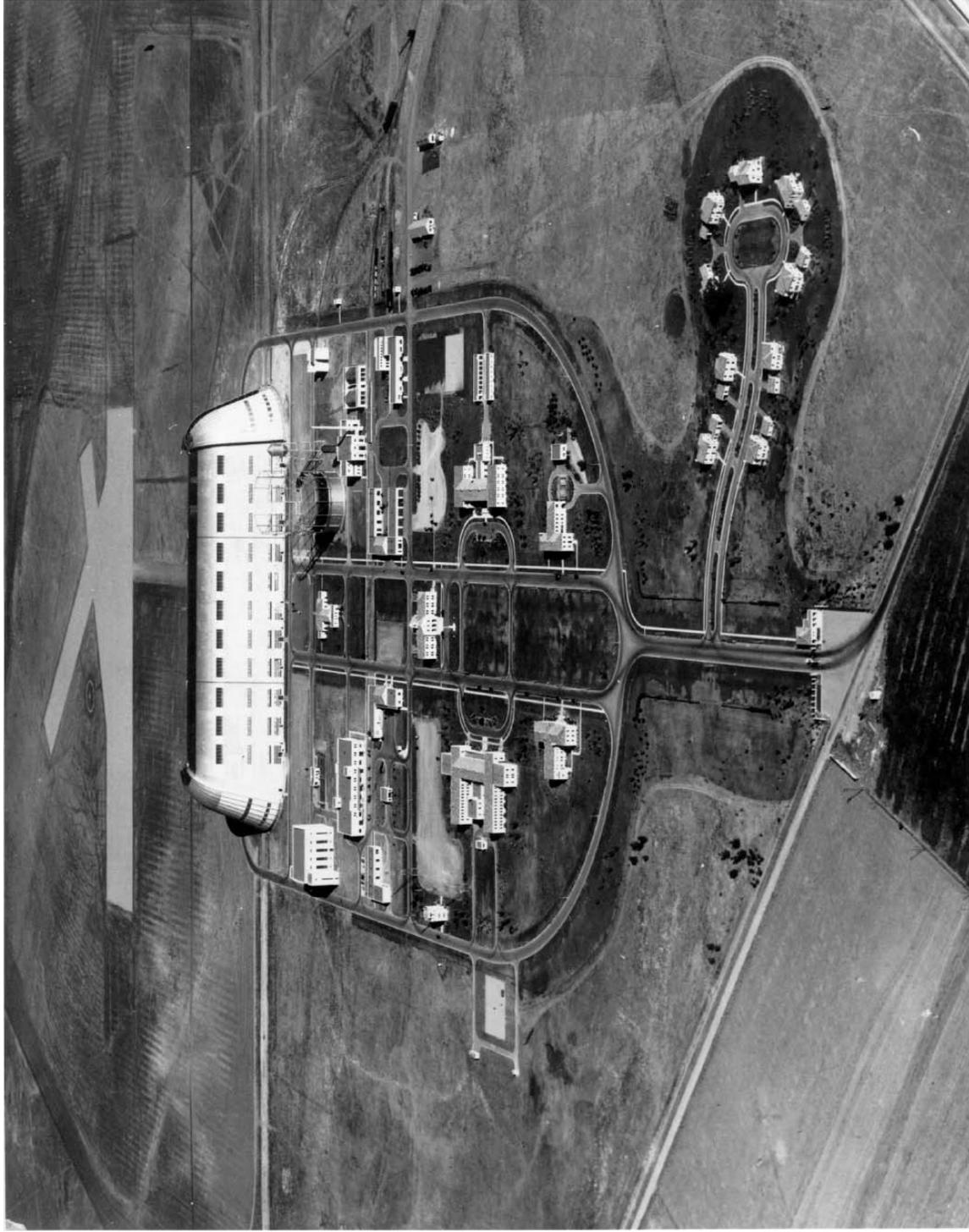


Figure 9: 1935 Aerial showing Building 10, right of center.

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Figure 10: 1936 Aerial showing Building 10, center.

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**U.S. Naval Air Station Moffett Field
Building 10 Reuse Guidelines**

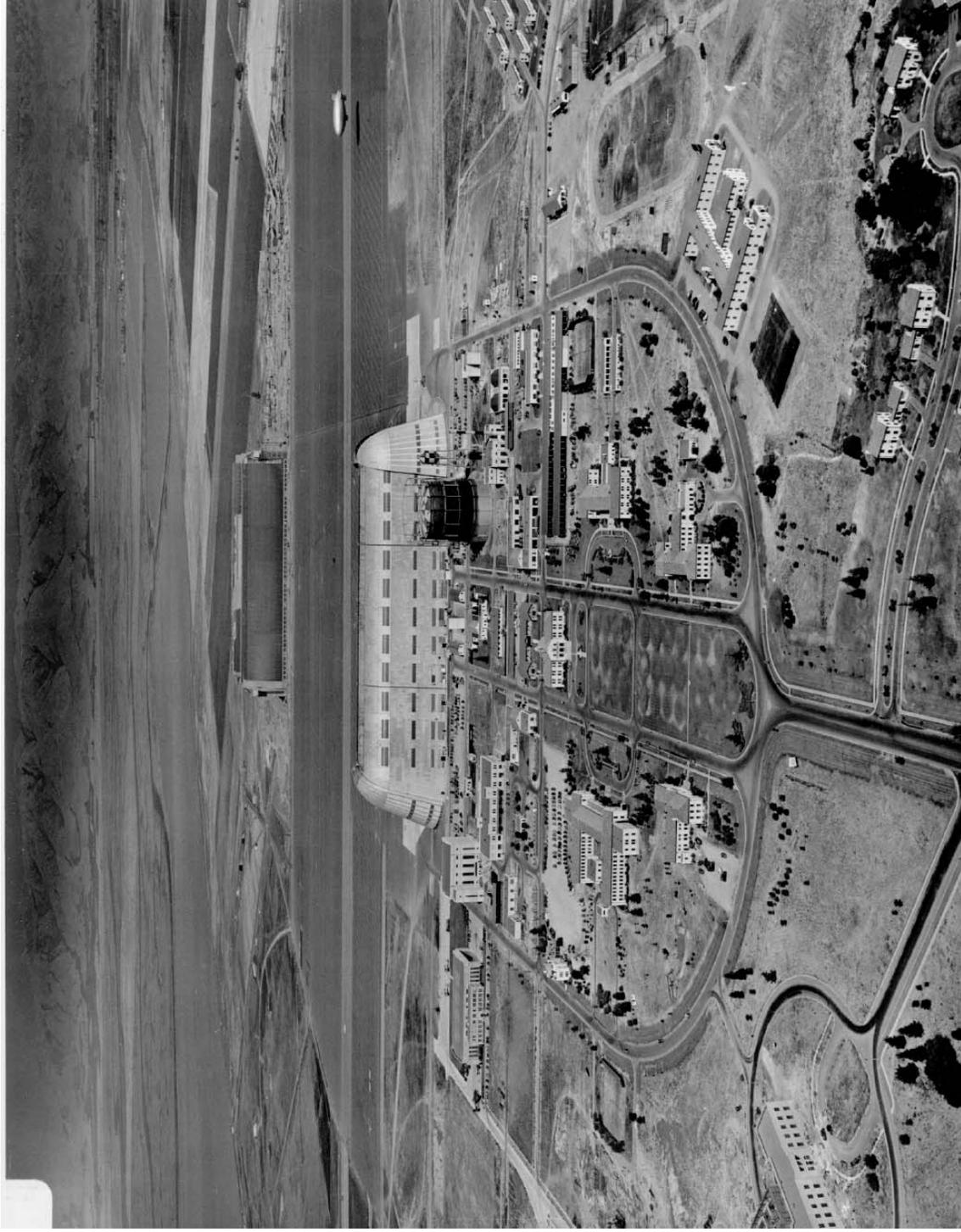


Figure 11: 1943 Aerial showing Building 10, right of center.

**U.S. Naval Air Station Moffett Field
Building 10 Reuse Guidelines**

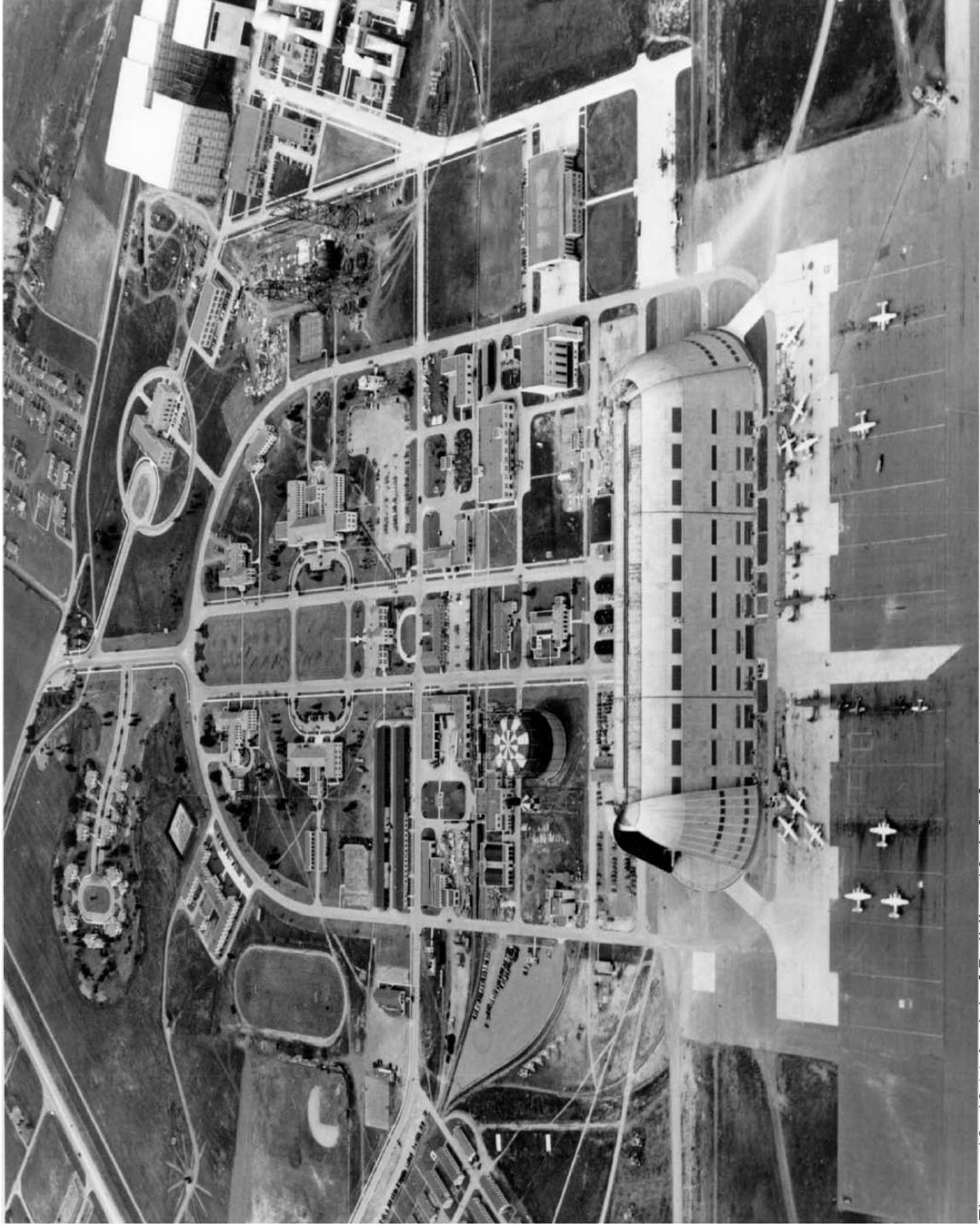


Figure 12: 1944 Aerial of Building 10, left of center

**U.S. Naval Air Station Moffett Field
Building 10 Reuse Guidelines**

United States Naval Air Station
Sunnyvale, California Historic District
Building 2 Reuse Guidelines
Moffett Federal Air Field

Appendix 4. Current Conditions Photographs
(2003)

**U.S. Naval Air Station Moffett Field
Building 10 Reuse Guidelines**



Figure 13: View of a portion of the West Elevation of Building 10



Figure 14: View of a portion of the North and West Elevations of Building 10

**U.S. Naval Air Station Moffett Field
Building 10 Reuse Guidelines**



Figure 15: View of a portion of the North and East Elevations of Building 10



Figure 16: View of East Elevation of Building 10

**U.S. Naval Air Station Moffett Field
Building 10 Reuse Guidelines**



Figure 17: View of a portion of the East and South Elevations of Building 10



Figure 18: View of a portion of the West and South Elevations of Building 10

U.S. Naval Air Station Moffett Field
Building 10 Reuse Guidelines



Figure 19: Typical Segmented Arched Metal Window and Clerestory Window (Inset: Typical Louver)



Figure 20: Typical 3 over 4 Metal Window with Pivot Sash

**U.S. Naval Air Station Moffett Field
Building 10 Reuse Guidelines**



Figure 21: Typical Over-Sized Metal Door and Transom.



Figure 22: Typical Metal Door and Transom with Entablature Surround



Figure 23: Pilaster and Vertical Modillion.



Figure 24: Typical Collection Box.

U.S. Naval Air Station Moffett Field
Building 10 Reuse Guidelines



Figure 25: View of South end of the Crane Way



Figure 26: View of the east wall of the kitchen.

U.S. Naval Air Station Moffett Field
Building 10 Reuse Guidelines



Figure 27: View of south east corner of the Crane Way

U.S. Naval Air Station Moffett Field
Building 10 Reuse Guidelines



Figure 28: View of the relocated transformer

**U.S. Naval Air Station Moffett Field
Building 10 Reuse Guidelines**



Figure 29: View of a south west corner of the Boiler Room

**U.S. Naval Air Station Moffett Field
Building 10 Reuse Guidelines**



Figure 30: View of doors from the Office

**U.S. Naval Air Station Moffett Field
Building 10 Reuse Guidelines**



Figure 31: View of the Restroom.

**U.S. Naval Air Station Moffett Field
Building 10 Reuse Guidelines**



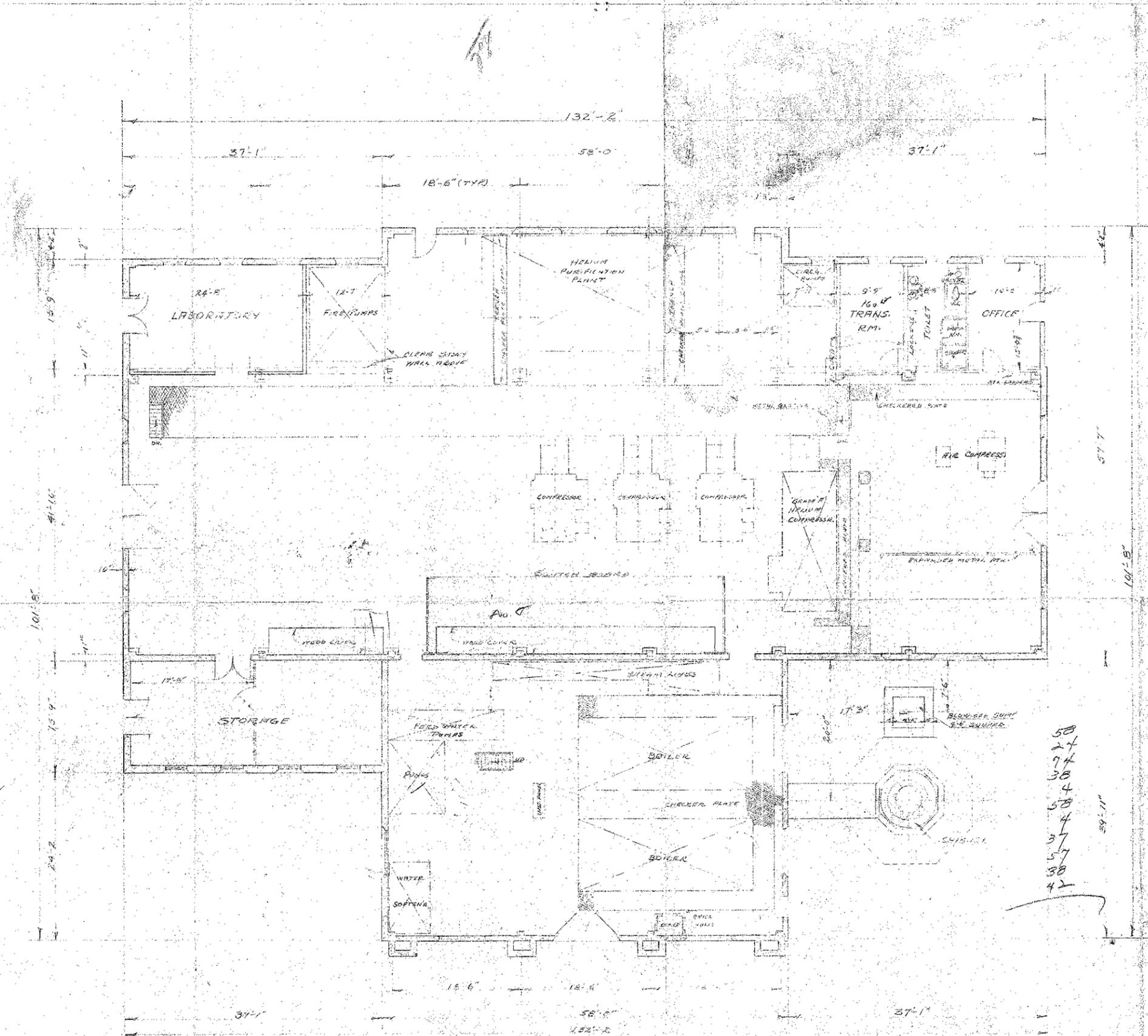
Figure 32: View of Locker Room.

**U.S. Naval Air Station Moffett Field
Building 10 Reuse Guidelines**

United States Naval Air Station
Sunnyvale, California Historic District
Building 2 Reuse Guidelines
Moffett Federal Air Field

Appendix 5. Construction Plans

REFERENCE DRAWINGS	
NOS.	DESCRIPTION
YD112731	TRAIL ORIGINAL CONSTRUCTN. DRAWG.
YD112792	INCL. " " " " " "
YD112841	TRAIL " " " " " "
YD112844	INCL. " " " " " "
YD112847	" " " " " "
YD112857	TRAIL " " " " " "
YD112858	INCL. " " " " " "
YD112875	" " " " " "
YD112700	" " " " " "
YD51018	BOILER DETAILS - CONTRACT No. 28855
302-34-2	COMPRESSOR FOUNDATION
302-34-3	PLATFORM & BELT GUARDS
302-34-4	STERILIZING UNIT
302-293	GRADE 'A' HELIUM COMPRESSOR
307-19	ELECT. WIRING
309-12	SULLIVAN AIR COMP. INSTALLN.



56
232

132
27
96
9636
12

58
27
74
38
4
58
4
37
57
38
42

ARC - MOFFETT
A4566-9295-A 1302

SYMBOL	DESCRIPTION	DATE	BY	APPROVAL
REVISIONS				
DEPARTMENT OF THE NAVY		BUREAU OF YARDS & DOCKS		
NAVAL AIR STATION		MOFFETT FIELD, CALIF.		
BLDG. NO. 10				
HELIUM & BOILER PLANT				
FLOOR PLAN #46				
DRWN. Philipp 1-31-55	APPROVED <i>Harry Crowe</i> DATE 2/12/55			
CHK. JIM OLSON 2/12/55	PUB. WORKS OFFICER			
ASST. DIRECTOR, E.P.	SCALE 1/4" = 1'-0"			
DIR. OF ENGRS.	SHEET 1 OF 1			
APPROVED	DATE 2/12/55			
SATISFACTORY TO	DWG. NO. 302-354A			

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

A4566-9295-A

**U.S. Naval Air Station Moffett Field
Building 10 Reuse Guidelines**

United States Naval Air Station
Sunnyvale, California Historic District
Building 2 Reuse Guidelines
Moffett Federal Air Field

Appendix 6. NRHP 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 *HP-47*

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 R. Fugate
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
County

CA
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)

United States Department of the Interior National Park Service

JAN 13 1994

RECEIVED

National Register of Historic Places Registration Form

NATIONAL REGISTER

JUL 15 1993

OMP

84047

NPS-94000045-9999 ID AC

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 (checked). Category of Property: building(s), district (checked), site, structure, object. Number of Resources within Property: Contributing (40), Noncontributing (54 buildings, 1 structures, 2 objects, Total 54). Number of contributing resources previously listed in the National Register: 1

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: Department of the Navy Federal Preservation Officer. Date: Jan 5/94

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):

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 it's 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."

See continuation sheet

9. Major Bibliographical References

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

Unpublished:

Histoirc 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 Luthe
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 3 7 7 0 3 6 1 2 2 0 5 9 8
Zone Easting Northing
C 1 0 3 7 6 9 9 9 1 2 2 0 6 2 5

B 1 0 3 7 6 9 7 5 1 2 2 0 6 0 4
Zone Easting Northing
D 1 0 3 7 7 0 6 3 1 2 2 0 5 3 0

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 Service

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Section 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'etre 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.

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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 Churriguere, 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.

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Section 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 um 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 multi-light 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.

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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.

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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 NPS-9400045-0001 ID

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 Modeme architectural design, ingenious

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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 115585 115587
-0038 -0039 1D

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 urbanscape which still dominates the low horizontal design of the Santa Clara Valley.

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115554 NPS - 94000045 - 0007 1D

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.

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115557 NPS-94000045-0010 1D

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.

115549
GYMNASIUM: BUILDING #2 NPS-94000045-0002 1D

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.

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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.

115560 NPS-94000045-0013 1D

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.

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BUILDING #25 THEATER 115562 NPS-94000045-0015 1D

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 115558 115559 115561 1D
-0011 -0012 -0014

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 115551 NPS-94000045-0004 1D

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.

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STRUCTURE #5 - Water Tower: 115550 NPS-94000045-0003 1D

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):

- 115567 The original 1933 detached residential structures are all designed in a like architectural style of
- 115568 which any single building represents an archetype for the whole. The example used here is site
- 115569 #A1, which is referred to in the 1933 landscape plan as the "Commanding Officers' Quarters".
- 115570
- 115571 The site consists of a very simple, two-storied, rectangular-planned single family residence that
- 115572 is constructed of wood frame with a low gabled red Spanish tiled roof over a very plain stuccoed
- 115573 exterior (which is punctuated by a formal placement of both windows and doors). A simple
- 115574 chimney adorns the western facade. An attached single-storied, round-arched breezeway
- 115575 connects the residence with a large, two-storied, rectangular-planned garage set slightly behind
- 115576 the main structure.
- 115577
- 115578 Stylistically, the residence reflects all of the specific design criteria which unifies all of the origi-
- 115579 nal 1933 Spanish Colonial Revival architecture on the base. Windows are almost flush with the
- 115580 plain exterior walls. They are also essentially rectangular in shape, double hung, multi-paned and
- 115581 symmetrically placed along the facades. A colored, projecting stringcourse separates the two
- 115582 stories. The front entry is the most prominent exterior feature with a slightly recessed almost flat
- 115583 arched entry with projecting surrounds. An ornamental sidelight window is balanced by a large
- 115584 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.

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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.

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-0018

1E

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.

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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.

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SIGNIFICANT AND CONTRIBUTING BUILDINGS

BLDG. #	CURRENT USE	ORIGINAL USE
1D 1 115548	Hangar #1	Hangar #1
2 " 2 115549	Gymnasium	Balloon Hangar
3 " 5 115550	Water Tank	Water Tank
4 " 10 115551	Heat Plant Building	Storehouse
5 " 15 115552	PW Shop	Fire Station/Laundry/Garage
6 " 16 115553	PW Shop	Locomotive Crane Shed
7 " 17 115554	CPWP Administration	Administrative Building
8 " 18 115555	NAV RES Administration	Aereological Center
9 " 19 115556	BEQ	BEQ/Brig
10 " 20 115557	BOQ	BOQ/Mess Hall & Galley
11 " 21 115558	BOQ Detached Garage	BOQ Detached Garage
12 " 22 115559	BOQ Detached Garage	BOQ Detached Garage
13 23 115560	Instruction Building	Dispensary E
14 24 115561	Administrative Office Building	Ambulance Garage
15 25 115562	Base Theater/Recreation Service/Thrift Shop	Bowling Alley/Recreation Building
16 26 115563	Gate House/Iron Fence	Gate House/Iron Fence
17 32 115564	Storage	Tank House
18 33 115565	Storage	Water Tower
19 37 115566	Scale House	Scale House
20 21 A, A1 115567, 115568	Officers Housing and Garages	Housing and Garages
21 23 B, B1 115569, 115570		
22 25 C, C1 115571, 115572		
23 27 D, D1 115573, 115574		
24 29 E, E1 115575, 115576		
25 31 F, F1 115577, 115578		
26 33 G, G1 115579, 115580		
27 35 H, H1 115581, 115582		
28 37 I, I1 115583, 115584		
29 46 115585	Hangar #2	Hangar #2
30 47 115587	Hangar #3	Hangar #3
31 45 115588	Heat Plant for Hangars #2 and 3	Heat Plant for Hangars #2 and #3

SIGNIFICANT OBJECTS

41 40 115589	Flagstaff/Commons	Flagstaff and Commons
42 115590	Memorial Anchor	Anchor

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0045 115594

0046 115595

0047 115596

NON-CONTRIBUTING BUILDINGS

0048 115597

0049 115598 1930-1933 - Altered (loss of architectural integrity): Buildings # 3, #6, #12, #13, #14, ✓

0050 115599 #29, #31, #36, #501:

0051 115600

0052 115601 1940-1944 - Altered (loss of architectural integrity): Buildings #240, #241, #242, #514, ✓

0053 115602 #515, #516, #517

0054 115603

0055 115604 Assembly Buildings: #45, #85, #115 ✓ ✓ ✓

0056 115605

0057 115606 Quonsets: #81, #117 ✓ ✓

0058 115607

0059 115608 Sheds: #34, #44, #83, #347 ✓ ✓ ✓ ✓

0060 115609

0061 115610 1940 - 1944 (outside period of Significance) Buildings: #67, #64, #86, #87, ✓ ✓ ✓ ✓

0062 115611

0063 115613 All buildings and structures constructed after 1944, including: #76, #77, #123. ✓ ✓ ✓

0064 115614

0065 115615 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, ✓ ✓ ✓ ✓ ✓ ✓ ✓

0066 115617 #440, #470, #472, #499, #539, #540.

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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

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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 Kemey 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 Kemey.

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.

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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 bemoth 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.

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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.

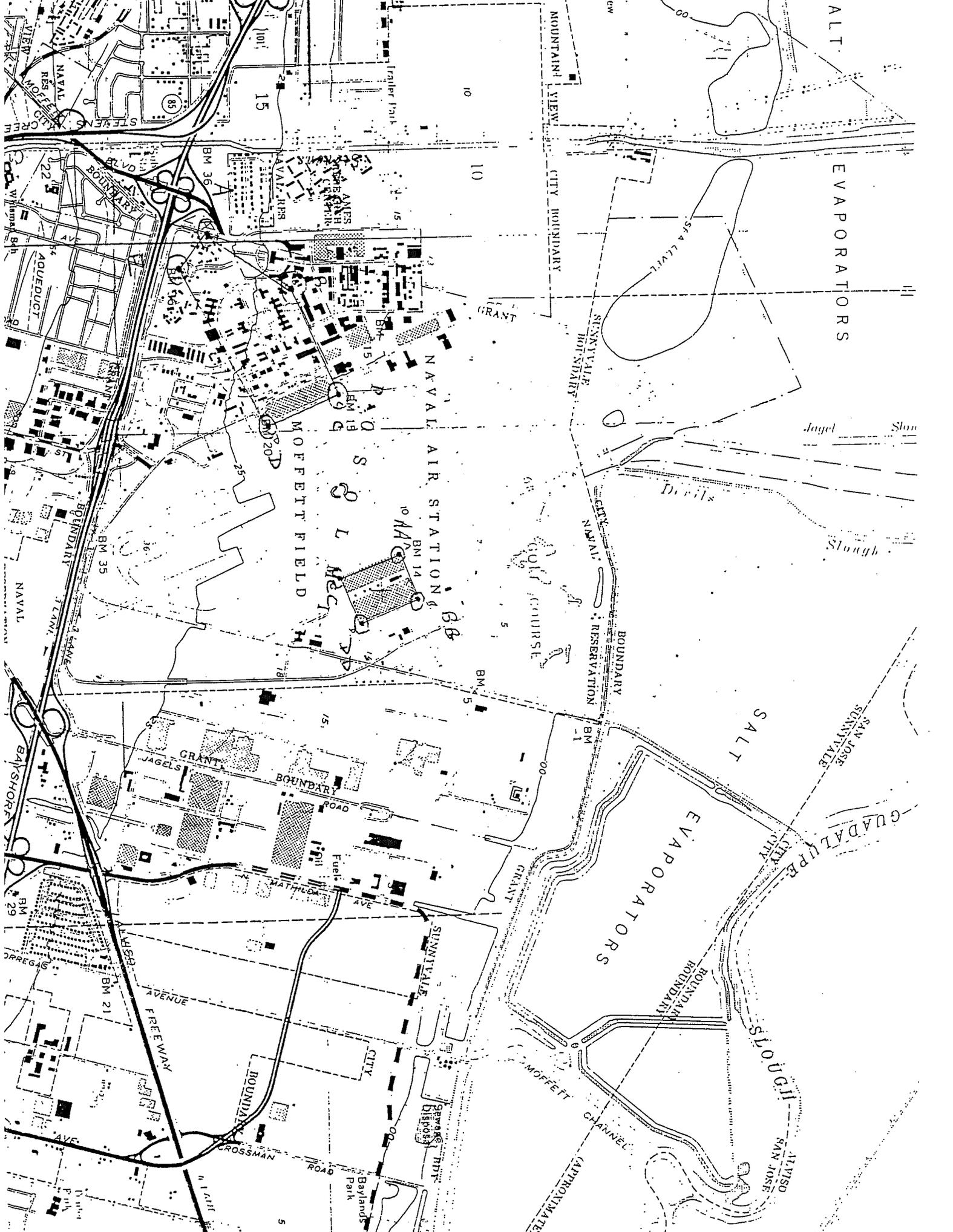
The landscape plan (Y&D drawing No. 115840) was approved on April 29, 1933. This plan shows the base in its entirety.

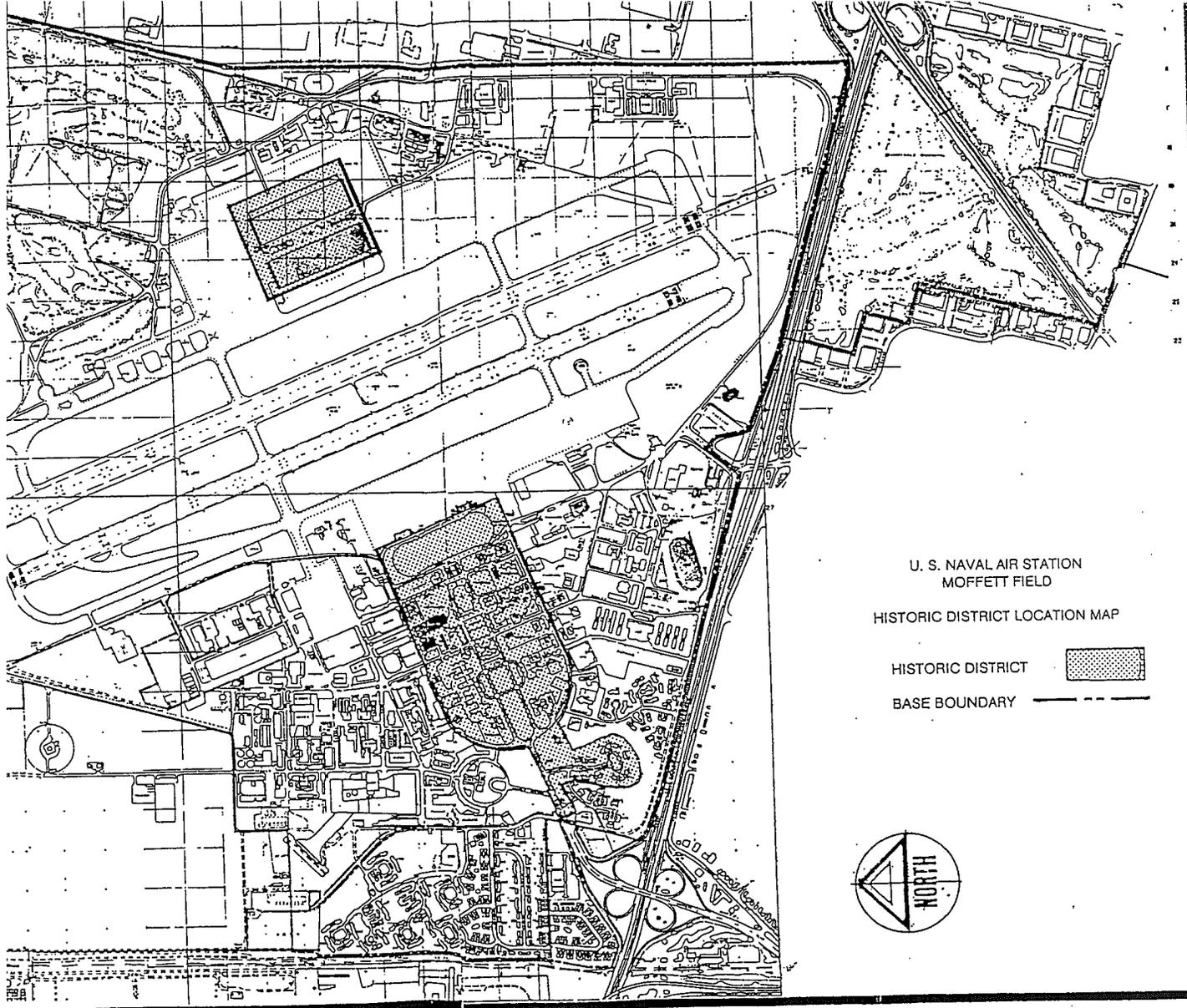
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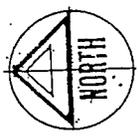
Section number 10 Page 2

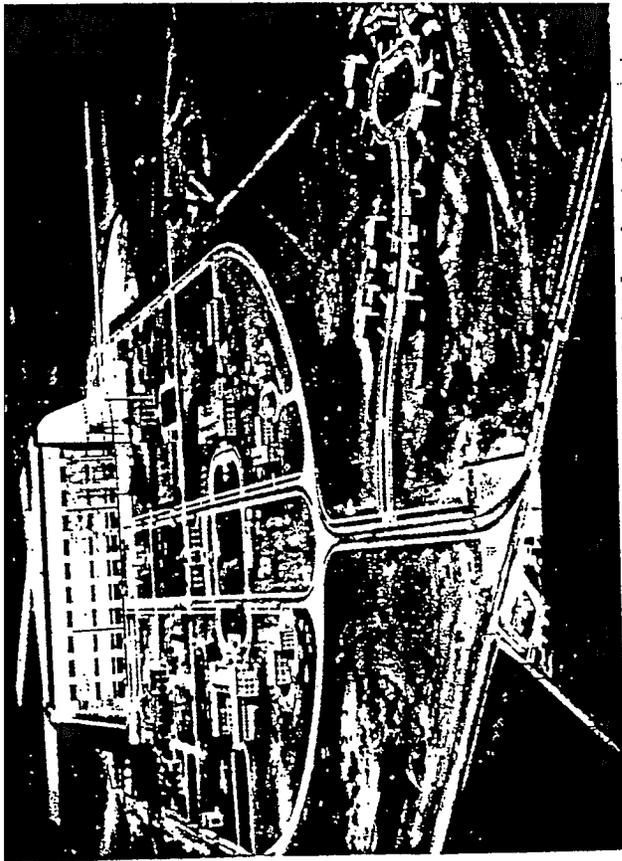
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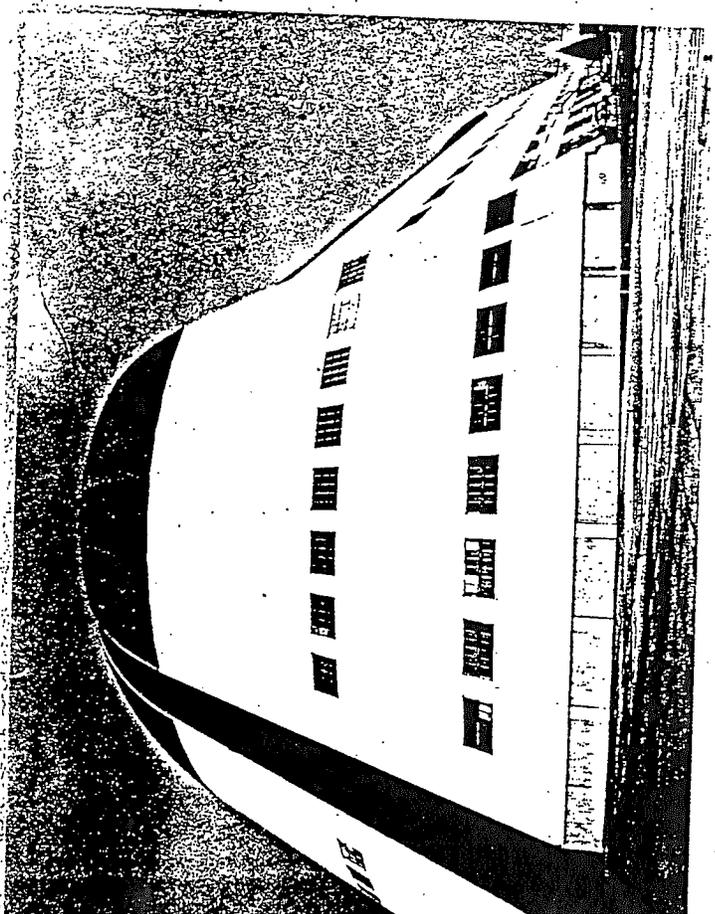
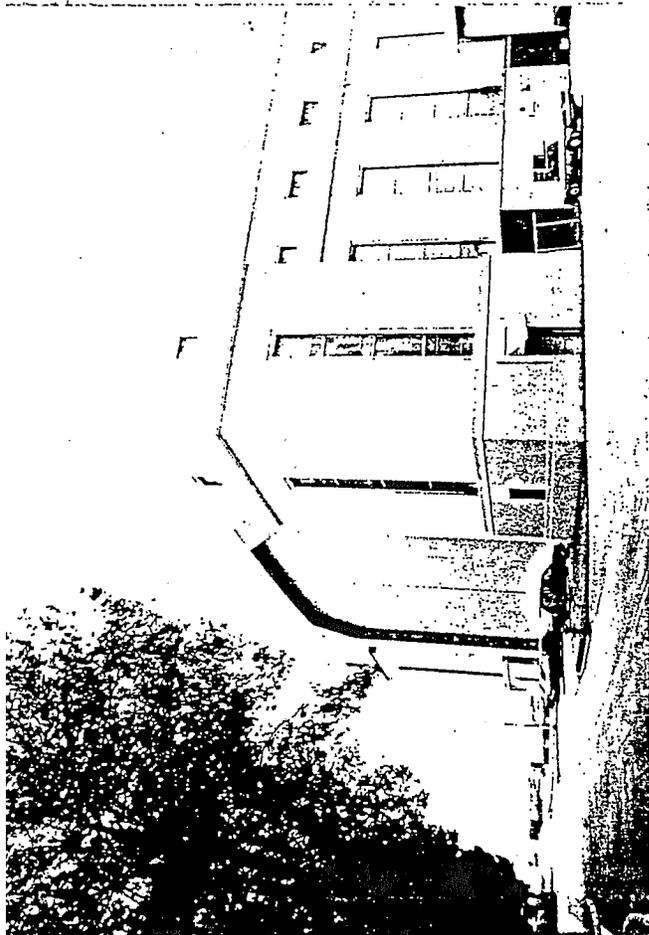
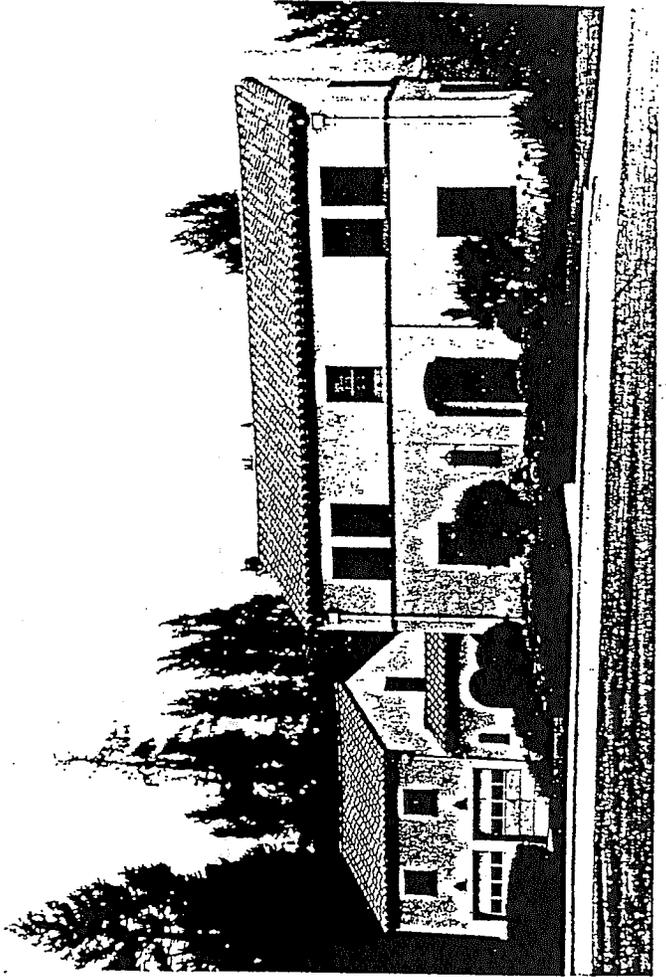
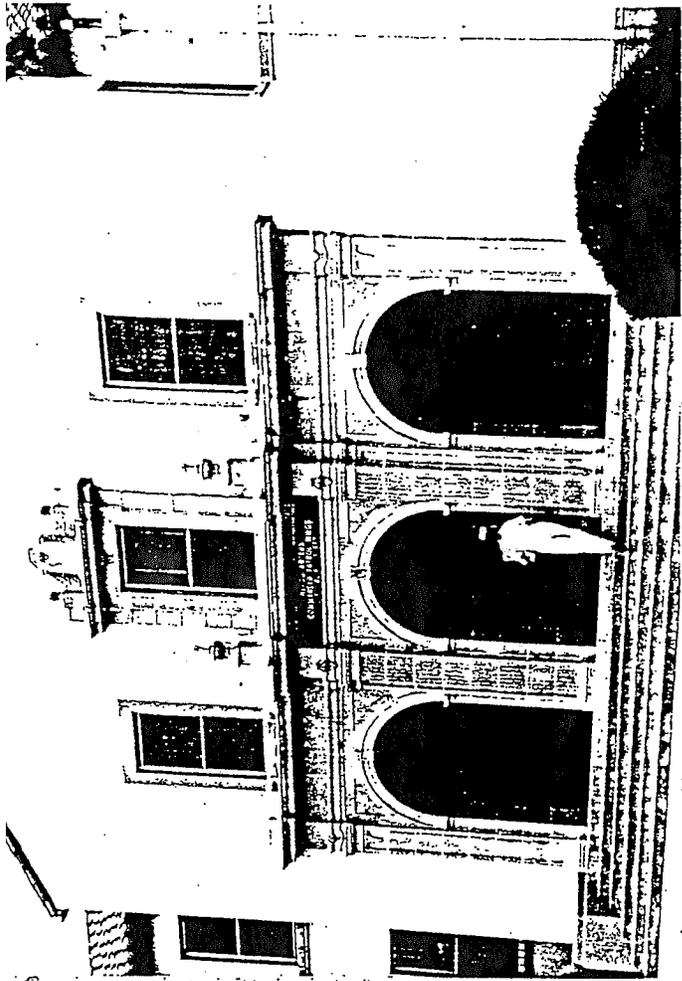


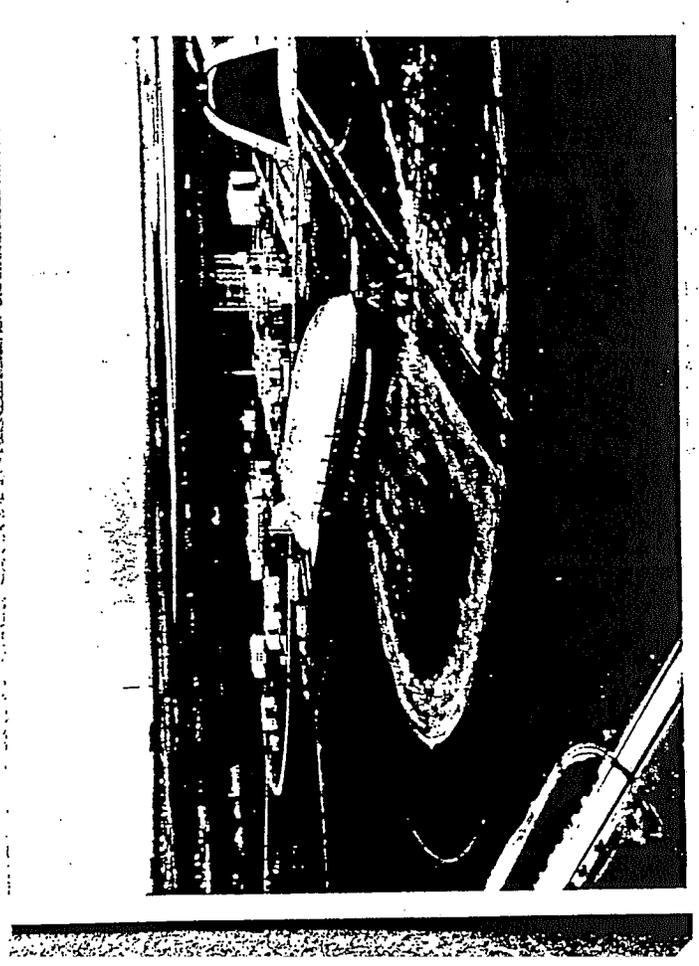
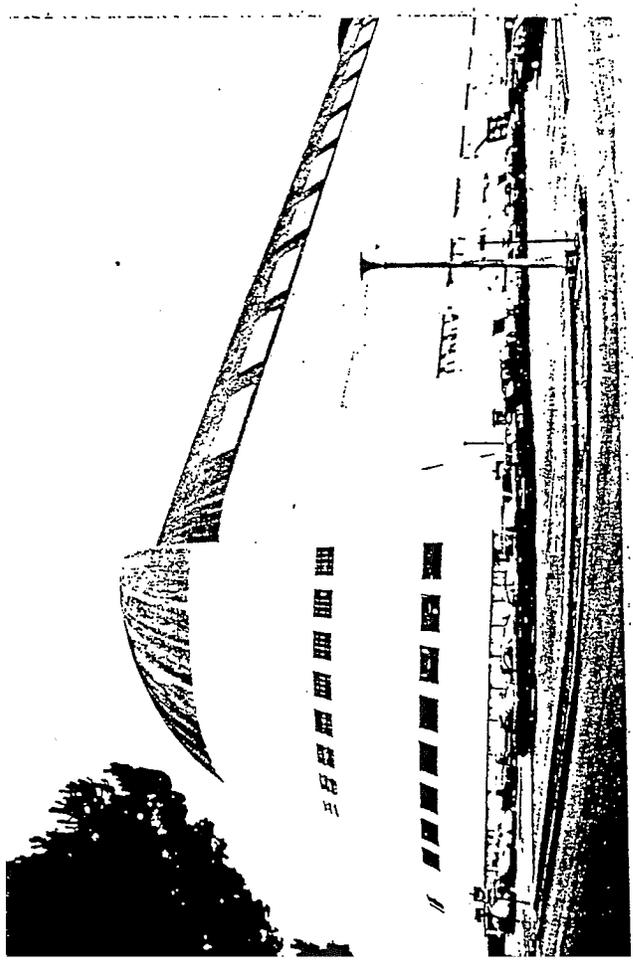
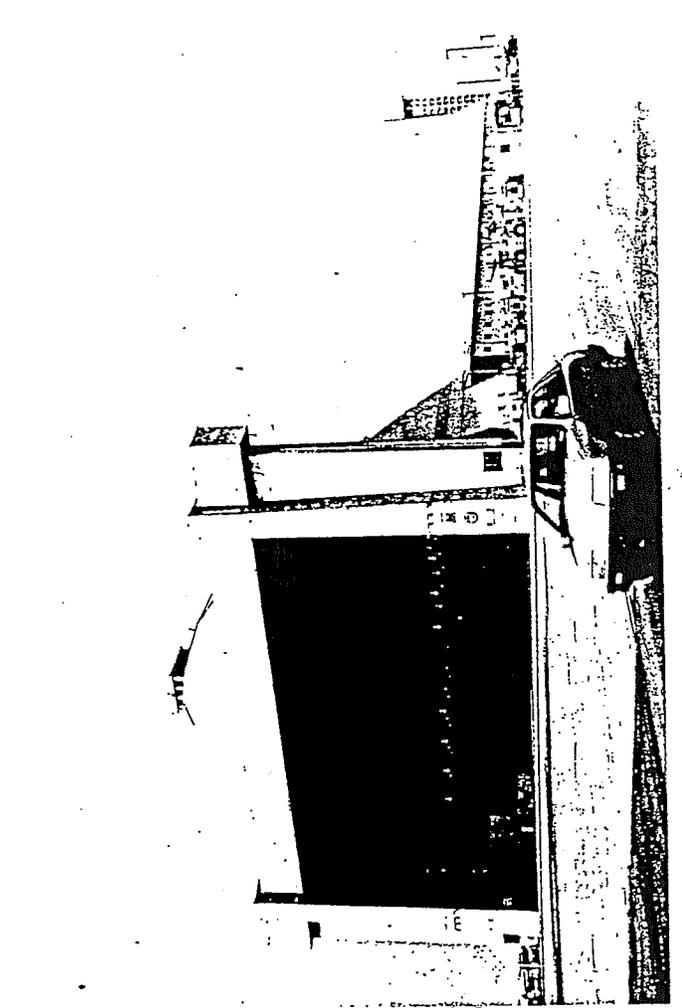
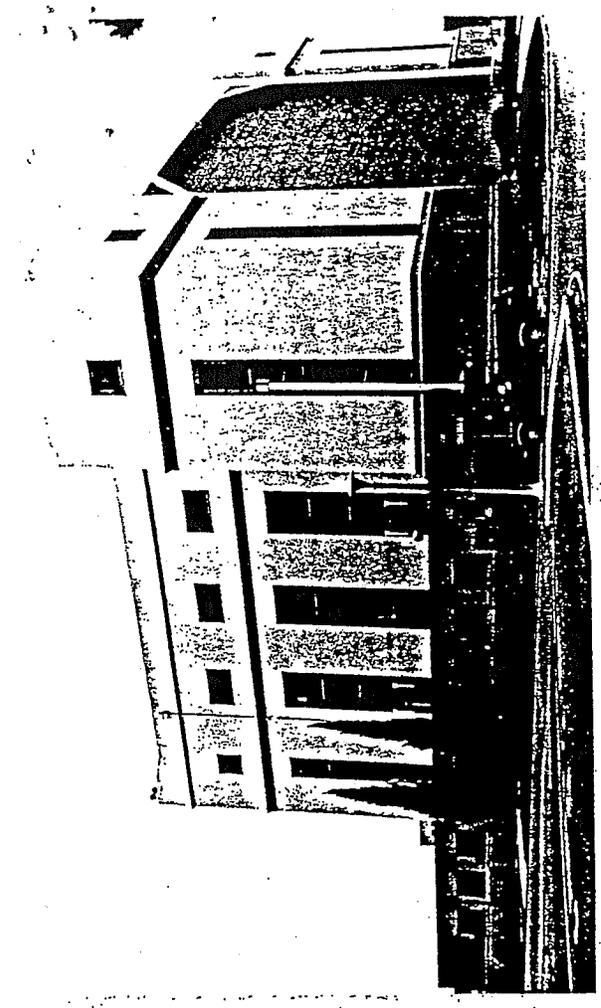
U. S. NAVAL AIR STATION
MOFFETT FIELD
HISTORIC DISTRICT LOCATION MAP
HISTORIC DISTRICT 
BASE BOUNDARY 

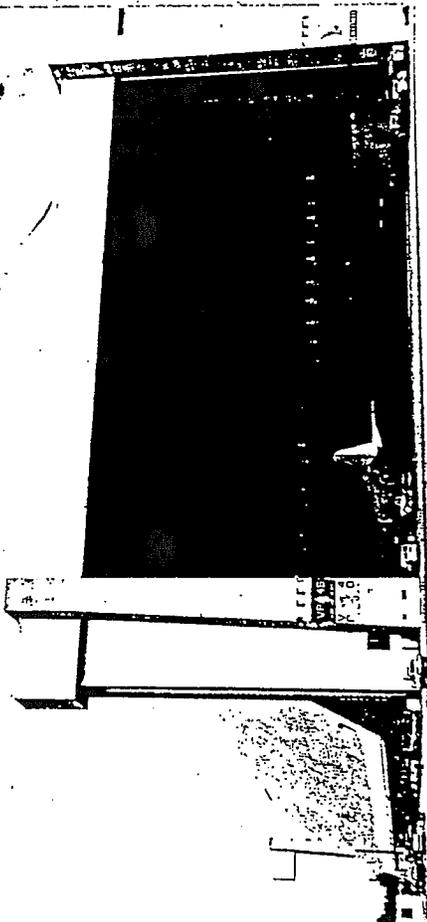
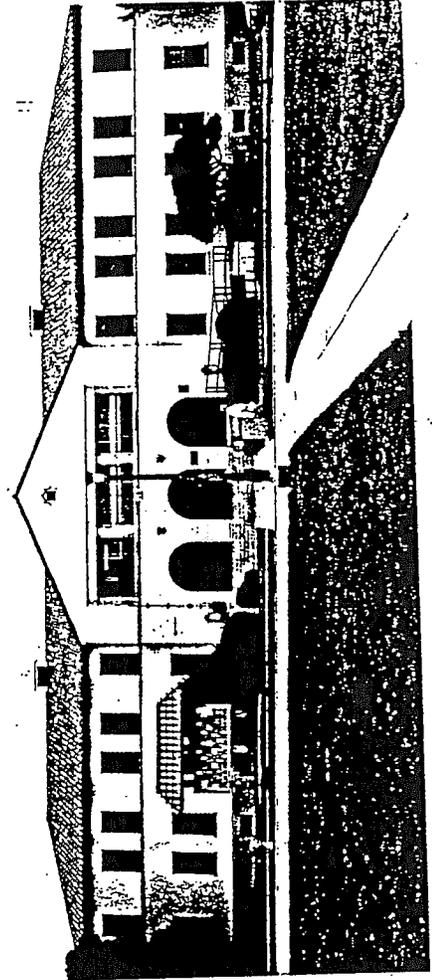


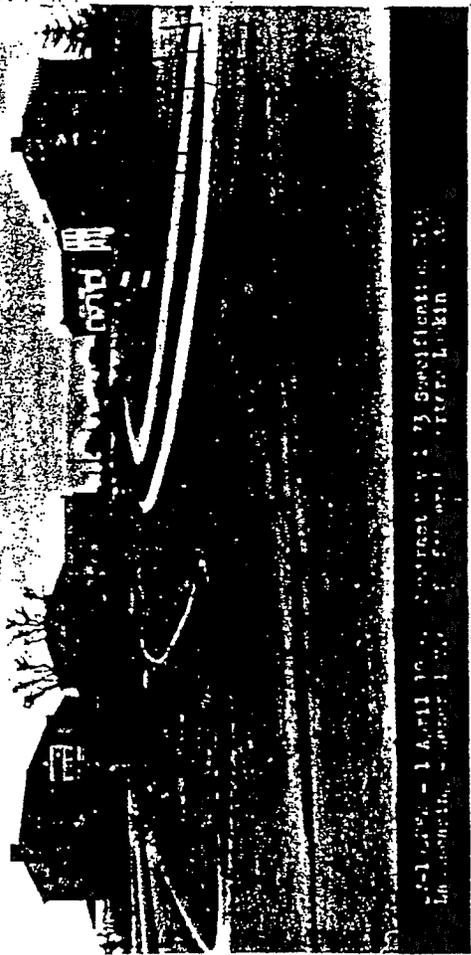
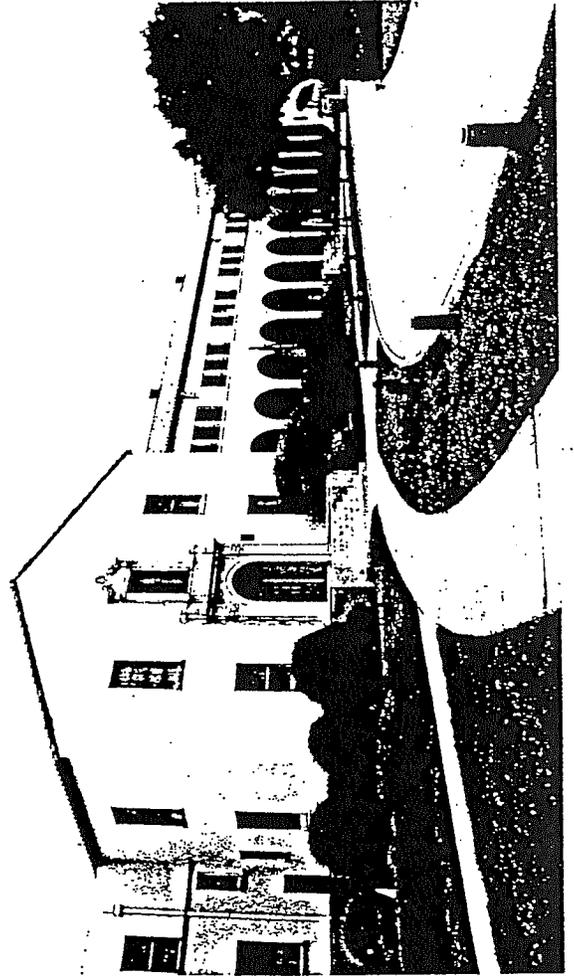


SWL 1897 Naval Air Station Moffett Field Calif. July 26, 1943
Full View both Hangar #2 and Hangar #3 taken from south end.
Contractor E.N. Heple & J.H. Fomeroy Inc. Contractors
Contract No. 5404









2-1-1940 - 1 April 1940 - Project No. 11 Specialist: Mr. J. L. ...
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