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*FINAL*

**Building 100  
Administration Building**

**Historic American Buildings Survey  
Level I**

**2701 North Harbor Drive,  
San Diego, California 92101**

Prepared for

**San Diego Unified Port District (SDUPD)  
San Diego County Regional Airport Authority**

April 2010

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**CH2MHILL**

HISTORIC AMERICAN BUILDINGS SURVEY  
RYAN AERONAUTICAL COMPANY HISTORIC DISTRICT  
BUILDING 100 - ADMINISTRATION BUILDING

Location:	2701 North Harbor Drive, San Diego, CA 92101, USA
Present Owner/Occupant:	San Diego County Regional Airport Authority
Present Use:	Administrative building
Significance:	<p>Building 100 is located within the boundaries of the Ryan Aeronautical Company Historic District, a 46-acre complex containing 17 contributing resources and 30 non-contributing resources. The district is eligible on the local and national levels for the National Register of Historic Places (NRHP) under Criteria A, B, and C and is eligible for the California Register of Historical Resources (CRHR) under Criteria 1, 2 and 3. The historic district is eligible under NRHP Criterion A (CRHR 1) for its association with the contribution of aircraft manufacturers at Lindbergh Field to World War II defense production. It is also eligible for its association with Cold War research, development projects, and defense manufacturing. Under Criterion NRHP B (CRHR 2) the district is eligible for its association with aviation pioneer T. Claude Ryan and his aircraft aerospace manufacturing businesses. Ryan Aeronautical Company, under Mr. Ryan’s leadership, made significant contributions to national defense production during World War II, as well as important developments in aerospace research and development in the 1950s and 1960s. The historic district is eligible under NRHP Criterion C (CRHR 3) for its representation of industrial architecture associated with the 1930s and World War II. The district embodies the distinctive architectural characteristics of aircraft manufacturing buildings of the period in Southern California. The building and structures in the district illustrate the design fabrication concepts common to aircraft manufacturing plants from the 1930s to the 1960s. During this period, the aerospace industry played a dominant role in the economy of the region (URS Corporation, 2009).</p> <p>Building 100, built in 1940, was the main administration building for Ryan Aeronautical Company and Teledyne Ryan. It was the second structure constructed at Ryan Aeronautical Company. It is a contributing resource to the Ryan Aeronautical Company Historic District under Criteria B and C because of its association with T. Claude Ryan (Criterion B) and its distinctive architectural characteristics of a type, period, and method of early 1940s Art Moderne construction for industrial/administrative use (Criterion C).</p>

Historian: Megan Venno

PART I. HISTORICAL INFORMATION

A. Physical History:

1. Date of erection: 1940
2. Architect: Marshall D. Sylvester
3. Original and subsequent owners: Ryan Aeronautical Company signed a 50-year lease in 1939. Ryan Aeronautical Company sold to Teledyne Inc. in 1969, and the combined company became Teledyne-Ryan Aeronautical Company (TDY Industries). TDY Industries merged with Allegheny Ludlum Corporation in 1996, and Northrop Grumman Corporation acquired TDY Industries from Allegheny in 1999. Presently, the property is leased by the San Diego County Regional Airport and is under the Jurisdiction of the San Diego Unified Port District.
4. Original plans and construction: Building 100 is two stories with a rectangular footprint. The building was originally half the size of the current 30-foot-by-315-foot structure. It is wood-framed with lath and stucco plaster exterior cladding, a flat roof, and wood-framed windows. Fenestration consists of two rows (one on the upper level and one on the lower level) of one-over-one double-hung sash windows set in pairs along the main (south), east, and west ends. Windows of the same style are arranged in various groupings along the north elevation (URS Corporation, 2009).
5. Alterations and additions: An 177-foot addition was added in 1942 to the west elevation of the building, nearly doubling its size. Building 100 has been modified with the addition of window air conditioning units, a canopy along the east elevation, narrow stile doors, and the replacement of many original wood-framed windows with steel-framed in the original openings. The interior of the building has been altered over time with the removal and addition of multiple walls to suit the changing administrative needs.

B. Historic Context:

1. San Diego’s Aviation History:

During the first three decades of the 20<sup>th</sup> century, the aviation industry was established in San Diego and it became a focal point of San Diego’s activities and reputation. In 1912, the Army founded an air base and the first year-round military aviation school at Rockwell Field on Naval Air Station North Island, San Diego (Macaulay, 1928; Moore, 1960). The creation of the military air bases helped establish aviation in the region during the industry’s pioneering years. In 1928, the Army and Navy had invested \$5,500,000 in the air bases at North Island (Macaulay, 1928). The high profile attained by aviation in the local community during these years resulted in an awareness of the potential future of the industry by the inhabitants of the region. San Diego became the first U.S. city to establish a Municipal Board of Air Control in 1926, and was also the first to issue a complete set of air ordinances (Macaulay, 1928).

In 1922, T. Claude Ryan, an aviation pioneer who began his career as an Army pilot, left the Army and moved to San Diego, where he began giving airplane rides and flying instructions. He soon established the Ryan Flying Company at the Dutch Flats Airfield in San Diego, which later became Ryan Airport. Dutch Flats Airfield was located at present-day Barnett Avenue and Midway Drive, off the current San Diego airport site and not within the current historic district boundaries. In the 1920s, Ryan Airport was the focal point for Ryan’s expanding aeronautical enterprises (flying school, flying service, and an airplane manufacturing company). In the late 1920s, the use of the airport expanded as civil aviation came of age with other companies using

Ryan’s field to operate air services. With the help of T. Claude Ryan, civilian aviation flourished in San Diego County during these decades.

In the mid-1920s, the Chamber of Commerce promoted San Diego as the “Air Capital of the West.” The development of what is now Lindbergh Field would be the central effort in this campaign. The committee realized that in order to maintain a leadership role in aviation, San Diego must have an adequate municipal airport. They wanted the location of the airport to be a place that would combine facilities for the operation of land and seaplanes, and be as near to the city of San Diego as possible. They selected an area at the north end of San Diego Bay on City-owned tideland; however, this area did not contain enough area to meet government requirements. Negotiations were made with the United States Navy to provide portions of the Marine Corps-owned tidelands for the airport expansion (URS Corporation, 2009).

Ryan was instrumental in the development of Lindbergh Field, San Diego’s nascent municipal airport, which was established in 1928. In 1929, 4,755 planes and over 20,000 passengers arrived or departed from the Dutch Flats Airfield (Leiser, 2000). Within a few years, the majority of these activities would move to Lindbergh Field. In 1939, Ryan established a manufacturing site on airport grounds, which is the location of the historic district.

2. Ryan Aeronautical Company:

T. Claude Ryan was born in Parsons, Kansas in 1898, but moved with his family to Orange, California in 1912. Ryan began a lifelong relationship with the aviation industry when, around the age of 19, he enrolled at the American School of Aviation in Los Angeles. In 1919, Ryan began studying mechanical engineering at Oregon State College. While in school, he applied to the Army for aviation cadet training and was accepted, but left the Army by January 1922 in hopes of flying as a civilian (National Aviation Hall of Fame, 2009). Ryan moved to San Diego to establish the Ryan Flying Company. The Ryan Flying Company changed its name to Ryan Airlines, Inc. when it was reorganized in 1924 to begin operating the first year-round, scheduled airline service in the United States from Dutch Flats (URS Corporation, 2009). Around the same time, in the mid-1920s, Ryan entered the aircraft manufacturing business with partner Frank Mahoney and created the Ryan M-1 Monoplane, which became one of the best-known air mail carriers in the country. A modified Ryan Monoplane became the *Spirit of St. Louis*, the plane Charles Lindbergh flew from New York to Paris in May 1927 on the first solo flight across the Atlantic Ocean. Ryan sold the company to Mahoney in 1926 and established the Ryan Aeronautical Corporation for the sale and manufacture of aircraft engines. The company changed its name to the Ryan Aeronautical Company in 1934.

Ryan Aeronautical Company signed a 50-year lease, starting in 1939, on land at the southeastern edge of Lindbergh Field along North Harbor Drive. Three buildings from the site of the previous company were relocated to this new location. The Ryan plant was one of several aircraft manufacturers located at Lindbergh Field that contributed to the nation’s war effort in the 1940s. At peak wartime production, the Ryan plant had 8,500 employees and annual production exceeded \$55 million. Following the war, workforce was reduced to 1,200 and annual production to \$8 million (URS Corporation, 2009).

The Korean conflict provided the Ryan Aeronautical Company the opportunity to work with electronics for aerospace applications. The role in aerospace electronics led to the development

of a variety of aircraft navigation and positioning equipment, including helicopter hovering devices, altimeters, and remote sensors (URS Corporation, 2009).

In 1947, the United States Navy awarded Ryan a contract to research the feasibility of reaction controls for jet aircraft. With jet engines and reaction controls handled by remote control, a Ryan vertical test rig lifted itself off the ground for the first time in 1950. In 1953, the Air Force awarded Ryan a contract to design and build two manned vertical takeoff jet research planes and 2 years later, the Ryan X-13 Vertijet was constructed. In the 1960s, Ryan continued target drone and electronic systems production and vertical takeoff and landing research (URS Corporation, 2009).

In 1969, the company was sold for \$128 million to Teledyne Inc. and became known as Teledyne-Ryan Aeronautical Company (TDY Industries). T. Claude Ryan remained with the company as chairman until his death in 1982. In 1996, TDY Industries merged with Allegheny Ludlum Corporation, and then later became a subsidiary of that company. In 1999, Northrop Grumman Corporation acquired TDY Industries from Allegheny and relocated the plant to a site in Ranch Bernardo, California, leaving the former plant site vacant. The site continues to be mostly vacant, with only a small portion of Building 100 temporarily used by the Airport Authority for administrative offices and several other buildings at the site used for storage space.

PART II. ARCHITECTURAL INFORMATION

A. General Statement:

1. Architectural Character: Building 100 is a vernacular two-story Art Moderne-inspired administrative building in an industrial facility. The building appears to be in fair condition and has retained its major features, such as Art Moderne-inspired decorative horizontal banding along the main (south) and east elevations. The banding is located in two areas: above the eave lines (as a parapet wall) composed of projecting corrugated metal, and above and below the window openings composed of applied stucco. The horizontal banding compartmentalizes the south elevation (façade) and creates a distinctive rhythm and pattern. The building is also characterized by its horizontal rows of windows (on the lower and upper parts of the façade) and its stepped massing, which is accentuated by its Art Moderne entryway, stucco exterior, flat roof, and emphasis on the design’s horizontal lines. A canopy was added to the east elevation, but it does not detract from the architectural character of the building. Building 100 remains reflective of an Art Moderne-inspired administrative building located at an industrial facility during its period of significance (URS Corporation, 2009).

2. Condition of Building Material: Building 100 is in fair condition.

B. Description of Exterior:

1. Overall Dimensions: Building 100 is 28,072 square feet and measures approximately 30 feet by 315 feet.
2. Foundations: Building 100 is built on a concrete slab with raised perimeter concrete foundation.



- 3. Walls: The walls in Building 100 are concrete in composition and are covered with stucco.
- 4. Structural System: Building 100 is a wood-framed building with lath and plaster exterior cladding.
- 5. Openings:
  - a. Doorways: The south elevation is the primary elevation and features a stepped entry with a surround that has metal banding, corner windows, and a stepped parapet. An entry closer to the center of the elevation was filled in, though original lighting is present. The east elevation has a personnel door. The north elevation has several personnel doors.
  - b. Windows: Building 100 has steel-framed replacement windows. Fenestration consists of two rows (one on the upper level and one on the lower level) of one-over-one double hung sash windows set in pairs along the south, east, and west elevations. The same style of windows is arranged in various groupings on the rear (north) elevation.
- 6. Roof: The flat roof of Building 100 consists of three multi-ply built-up roofs over a wood substrate deck. It is covered with a white protective coating.

C. Description of Interior:

Floor Plans: Building 100 is a two-story rectangular building measuring approximately 30 feet by 315 feet. The building is subdivided into offices on both floors.

The first floor has a central corridor that runs the length of the building from east to west. The building has two sets of stairs; in the center of the eastern portion of the building and in the center of the western portion of the building. There are various walls and partitions through the building that have changed over time. The walls are a mixture of half-height cubicle walls, full-height walls, and full-height glass with glass sliding doors. The doors throughout the building are metal or wood. There are restrooms located on both floors. The second floor is more open in plan, with a wide central open area and smaller offices flanking it to the north and south.

An addition was added to the western side of the building, doubling its original size. The building is connected to Building 102 through a two-story walkway. The eastern end of the building has been renovated more recently than the rest of the building. The first floor has a large conference room, and the second floor has occupied office space.

A two-story cast-in-place concrete structure in the middle of the north end of the building contains a secure vault on each floor.

D. Site:

Historic Landscape Design: None

PART III. SOURCES OF INFORMATION

- A. Early Views: From the Teledyne-Ryan
- B. Interviews: N/A
- C. Bibliography

1. Primary and Unpublished Sources:

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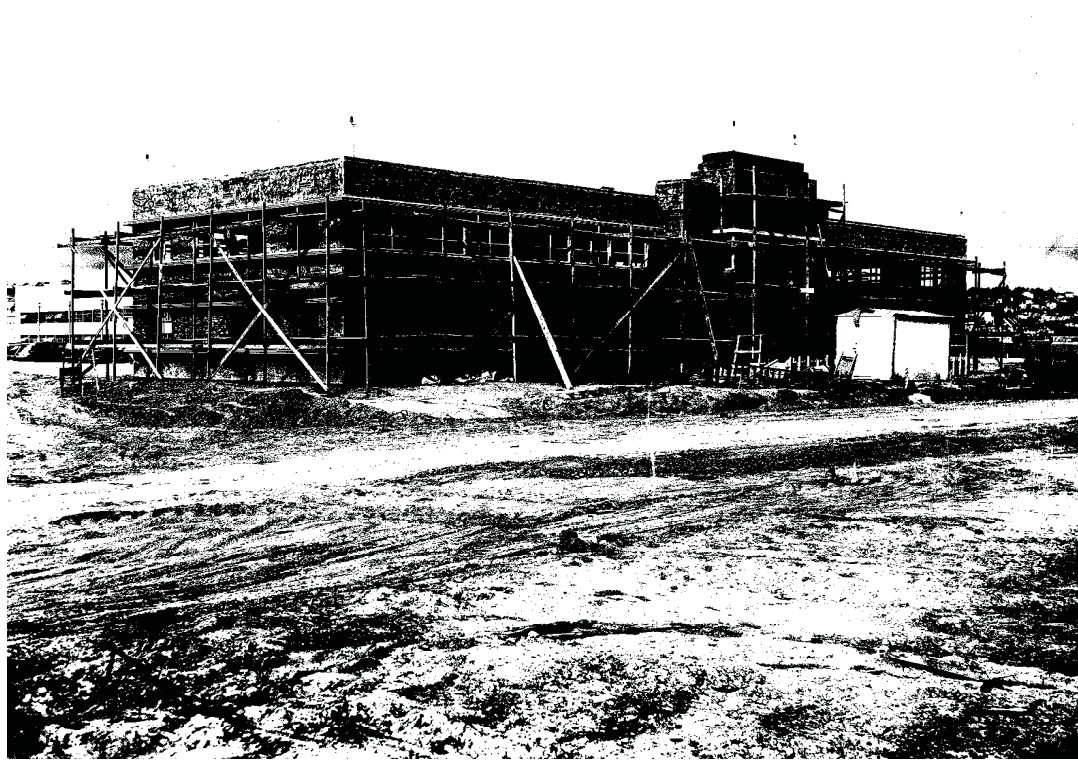
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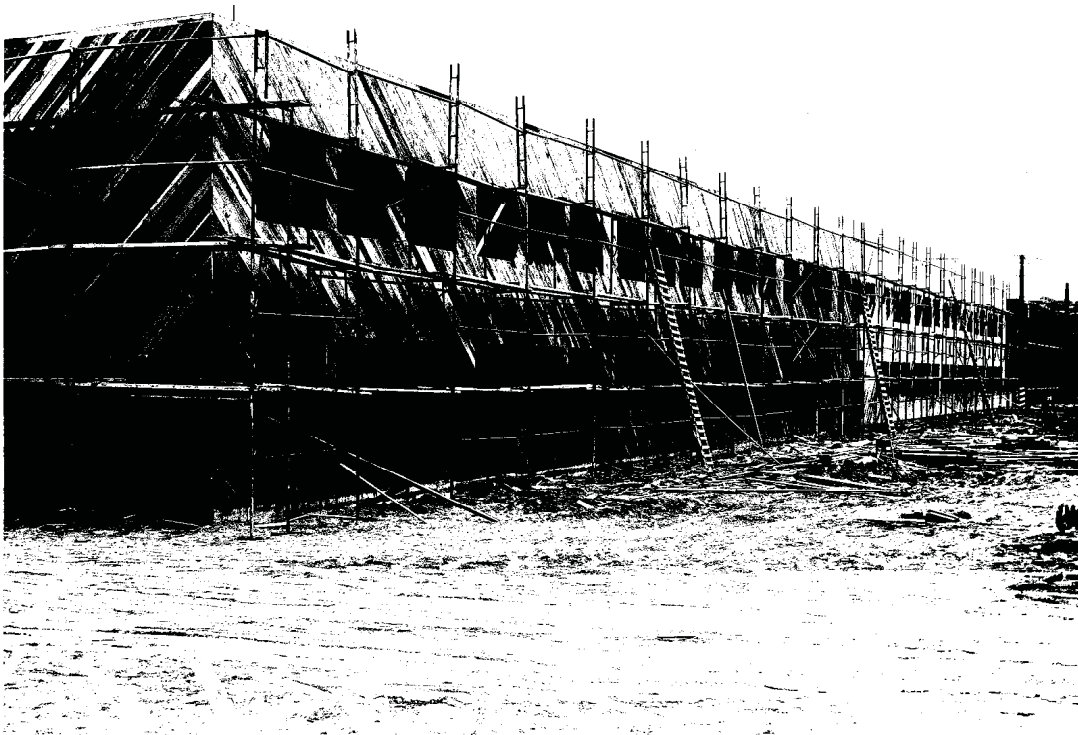
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San Diego Unified Port District. 1971. *San Diego Unified District Annual Report: 1970-71*. Carl Reupsch Collection, San Diego Historical Society, San Diego, CA.

San Diego Unified Port District. 1977. *San Diego Unified District Annual Report: 1976-77*. Carl Reupsch Collection, San Diego Historical Society, San Diego, CA.



Building 100 - Administration Building, Southwest Oblique, San Diego, California, c. 1940. Teledyne-Ryan Archives.



Building 100 - Administration Building, construction, San Diego, California, 1942. Teledyne-Ryan Archives.



Building 100 - Administration Building, South Elevation, San Diego, California, c. 1942. Teledyne-Ryan Archives.



Building 100 - Administration Building, South Elevation, San Diego, California, October 2009.





Building 100 - Administration Building, Southwest Oblique, San Diego, California, October 2009.



Building 100 - Administration Building, East Elevation, San Diego, California, October 2009.



Building 100 - Administration Building, Northeast oblique, San Diego, California, October 2009.



Building 100 - Administration Building, Southeast Oblique, San Diego, California, October 2009.





Building 100 - Administration Building, window detail, San Diego, California, October 2009.



Building 100 - Administration Building Interior, first floor hall, facing East, San Diego, California, October 2009.



Building 100 - Administration Building Interior, stairwell detail, San Diego, California, October 2009.





Building 100 - Administration Building Interior, second floor, facing Southeast, San Diego, California, October 2009.



Building 100 - Administration Building Interior, second floor, floor detail, San Diego, California, October 2009.













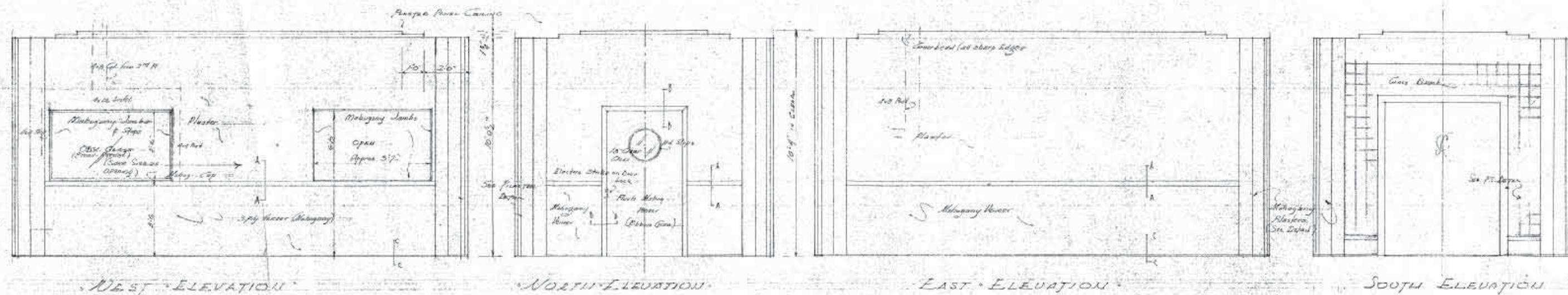




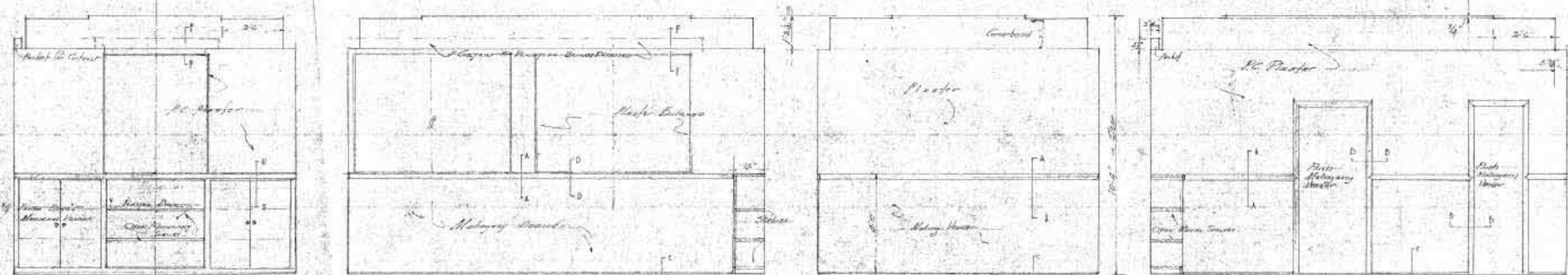




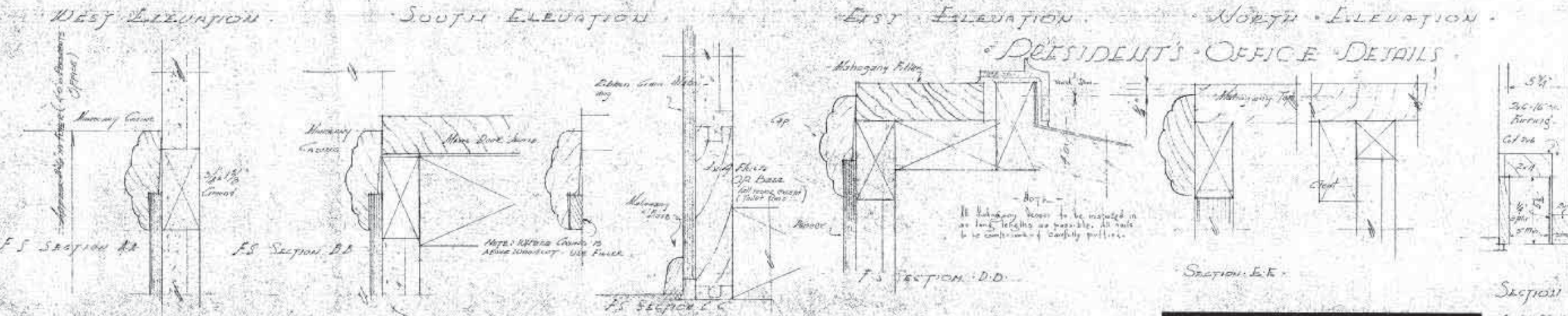




# FOYER DETAILS



# PRESIDENT'S OFFICE DETAILS



F.S. SECTION A-A

F.S. SECTION B-B

F.S. SECTION C-C

F.S. SECTION D-D

SECTION E-E

SECTION F-F

F.S. SECTION THRU FOYER

DILASTES

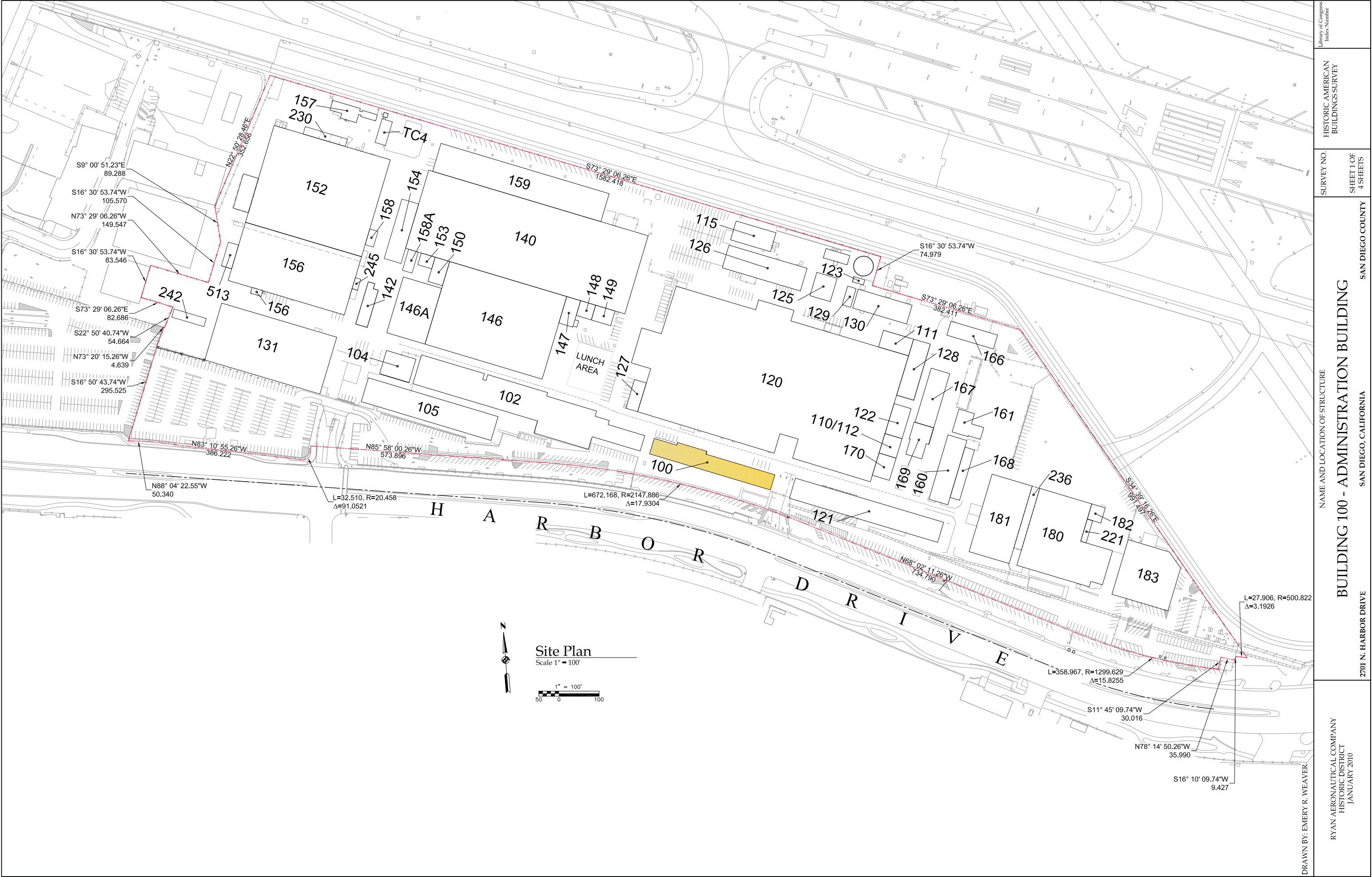
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ADMINISTRATIVE BUILDING

RYAN AERONAUTICAL CO.

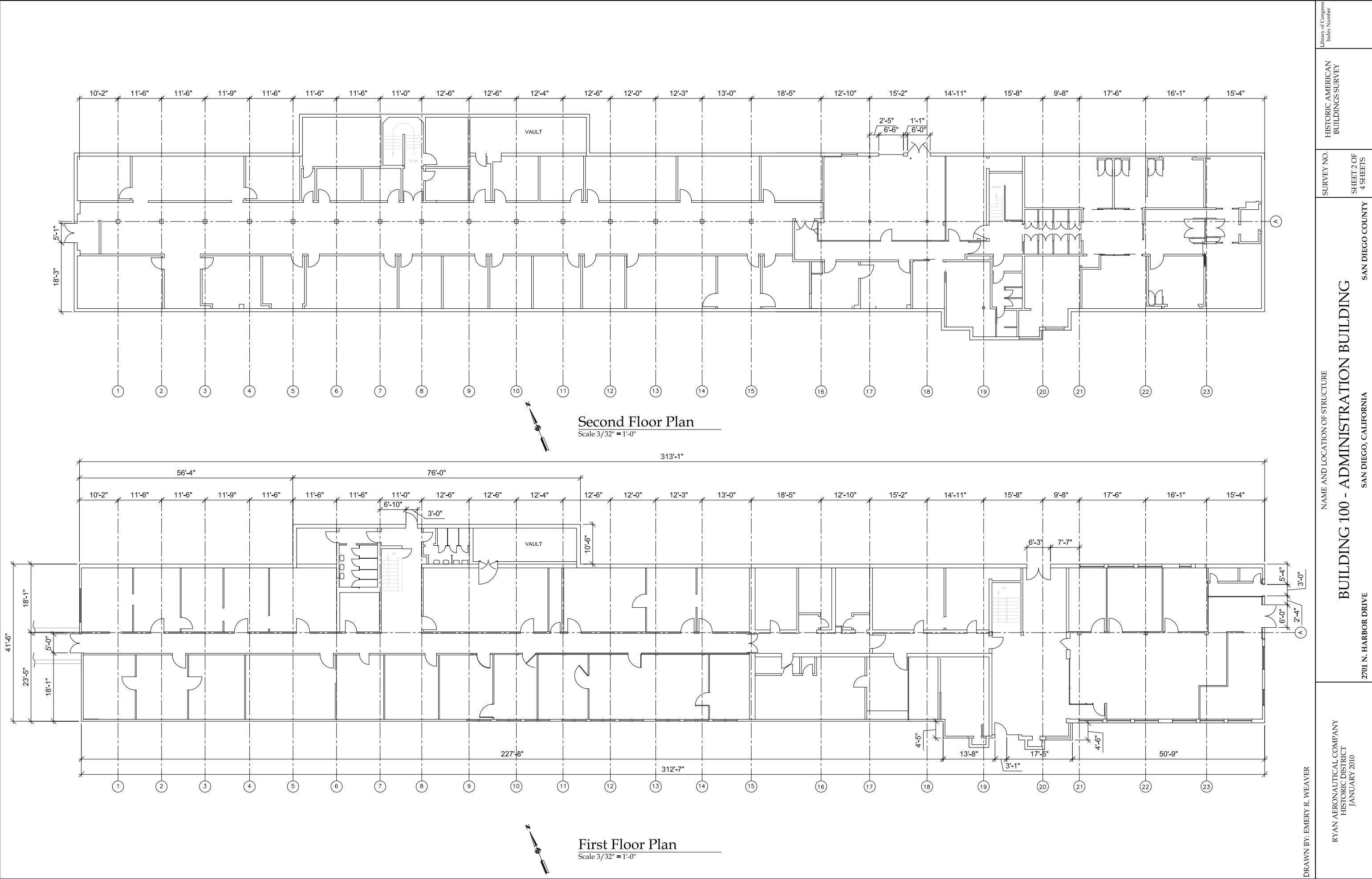
MARSHALL D. SYLVESTER

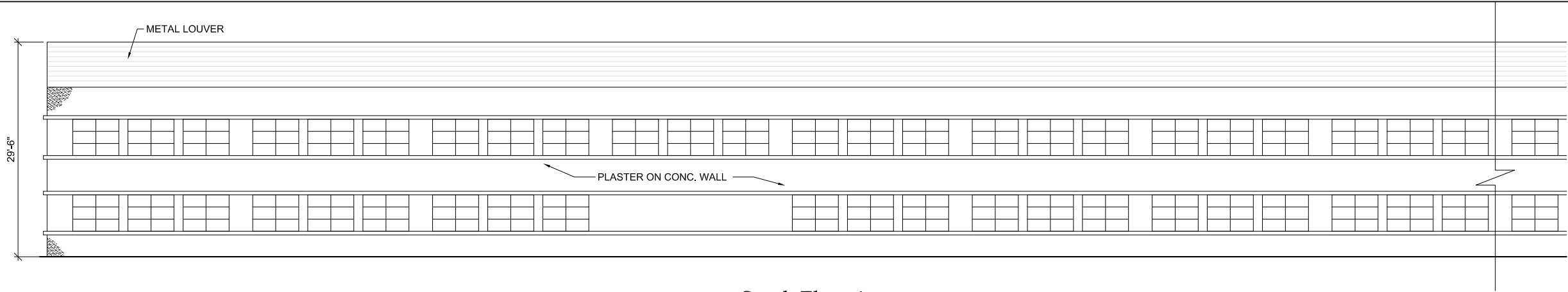




Library of Congress Index Number	HISTORIC AMERICAN BUILDINGS SURVEY	
	SURVEY NO.	SHEET 1 OF 4 SHEETS
NAME AND LOCATION OF STRUCTURE		
BUILDING 100 - ADMINISTRATION BUILDING		
SAN DIEGO COUNTY		
SAN DIEGO, CALIFORNIA		
2701 N. HARBOR DRIVE		
DRAWN BY: EMERY R. WEAVER		
RYAN AERONAUTICAL COMPANY HISTORIC DISTRICT JANUARY 2010		

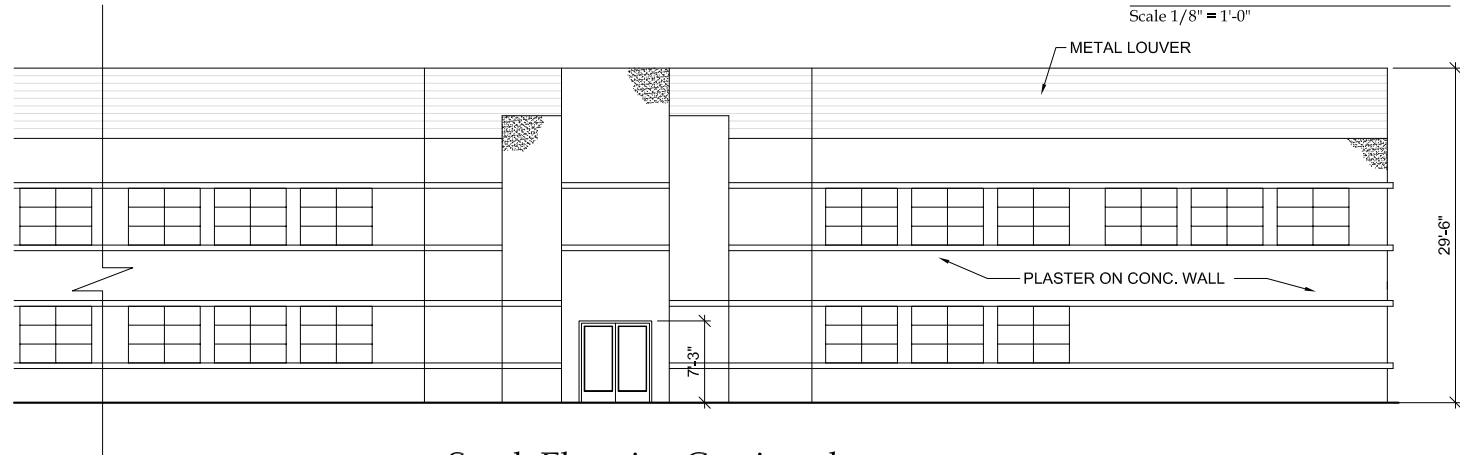






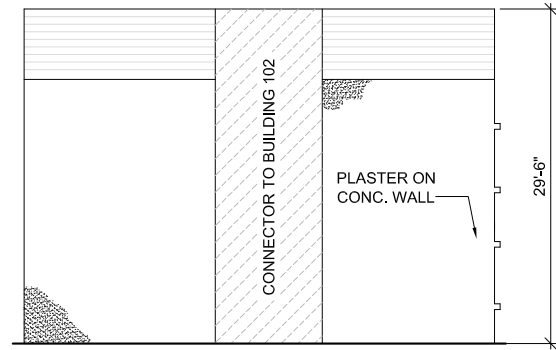
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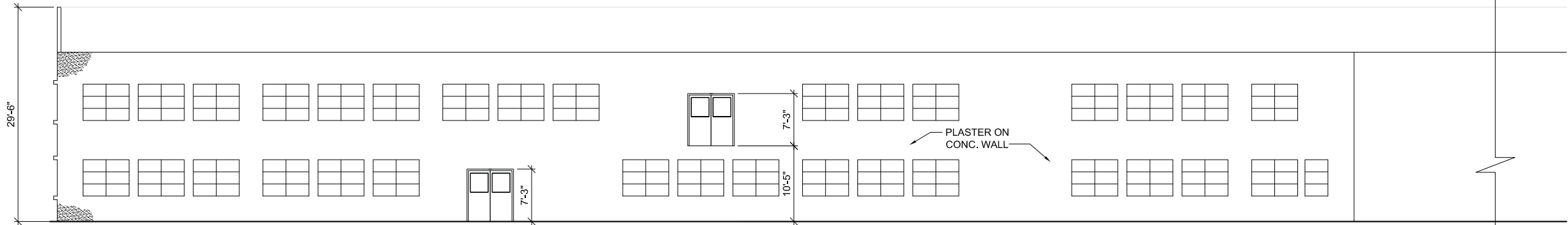
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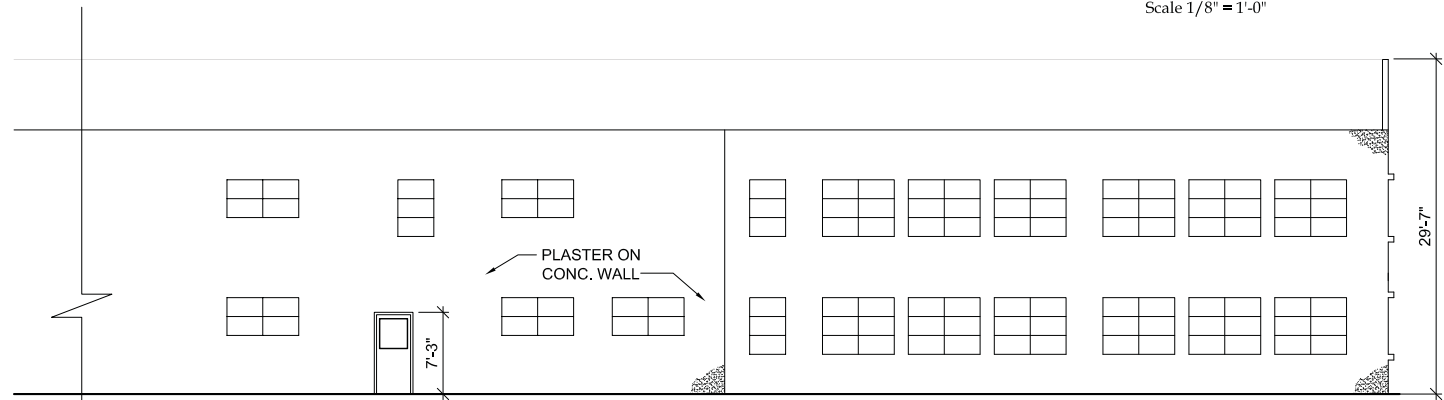
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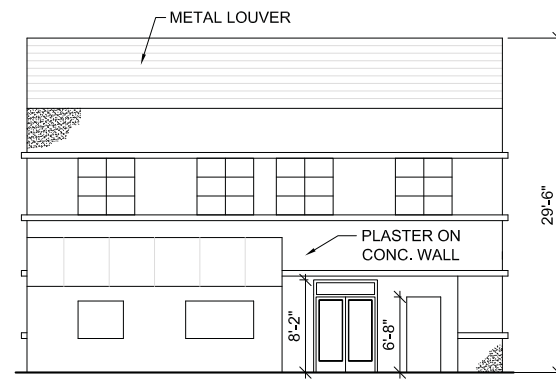
North Elevation

Scale 1/8" = 1'-0"



North Elevation Continued

Scale 1/8" = 1'-0"



East Elevation

Scale 1/8" = 1'-0"

DRAWN BY: EMERY R. WEAVER

RYAN AERONAUTICAL COMPANY  
HISTORIC DISTRICT  
JANUARY 2010

NAME AND LOCATION OF STRUCTURE

BUILDING 100 - ADMINISTRATION BUILDING

2701 N. HARBOR DRIVE

SAN DIEGO, CALIFORNIA

SAN DIEGO COUNTY

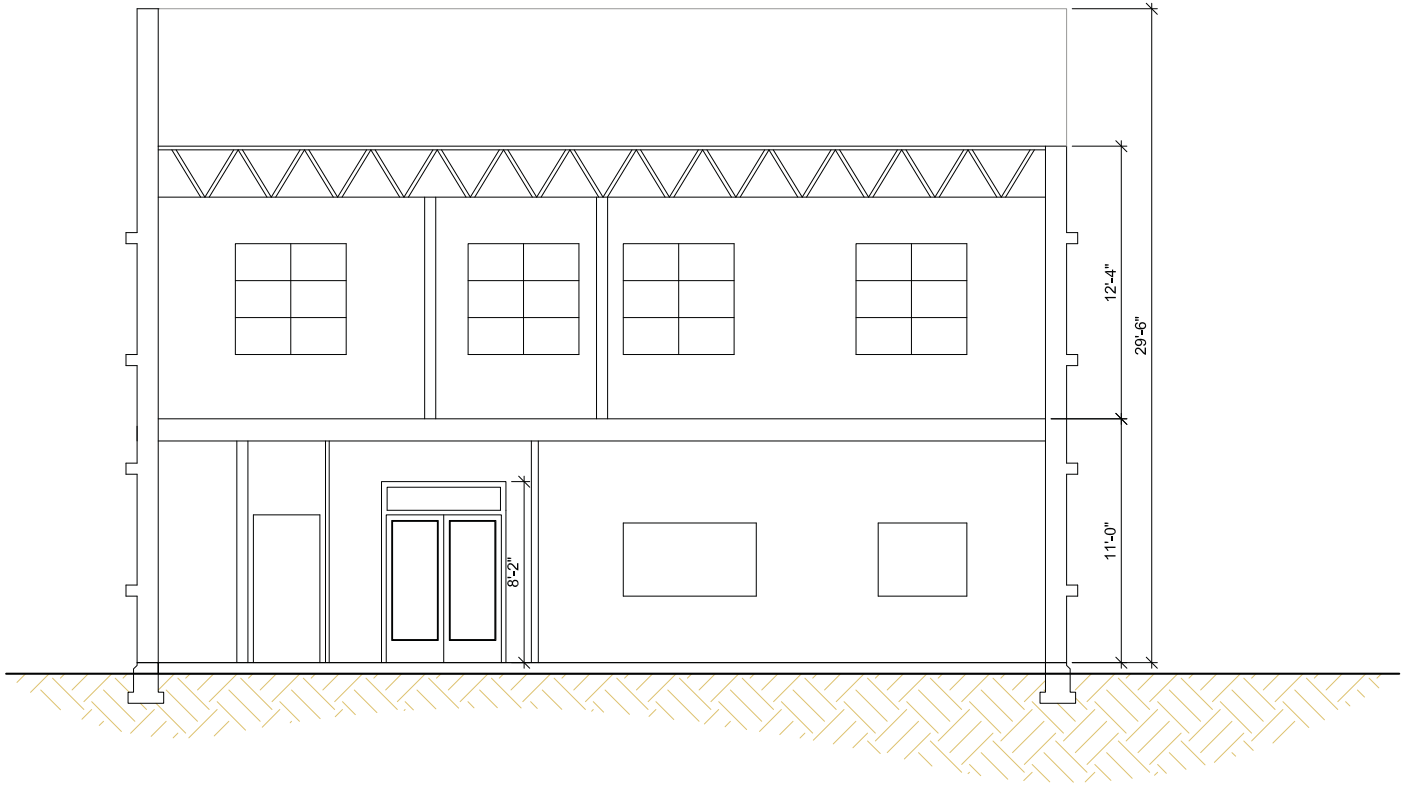
SURVEY NO.

SHEET 3 OF 4 SHEETS

HISTORIC AMERICAN  
BUILDINGS SURVEY

Library of Congress  
Index Number





Section  
Scale 1/4" = 1'-0"

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RYAN AERONAUTICAL COMPANY  
HISTORIC DISTRICT  
JANUARY 2010

NAME AND LOCATION OF STRUCTURE  
**BUILDING 100 - ADMINISTRATION BUILDING**  
2701 N. HARBOR DRIVE      SAN DIEGO, CALIFORNIA      SAN DIEGO COUNTY

SURVEY NO.  
SHEET 4 OF 4 SHEETS

HISTORIC AMERICAN  
BUILDINGS SURVEY

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Printed Number