FINAL

Building 146/146A
Engineering and Manufacturing 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

CH2MHILL

HISTORIC AMERICAN BUILDINGS SURVEY

RYAN AERONAUTICAL COMPANY HISTORIC DISTRICT

BUILDING 146 - ENGINEERING AND MANUFACTURING BUILDING

Location: 2701 North Harbor Drive, San Diego, CA 92101, USA

Present Owner/Occupant: San Diego County Regional Airport Authority

Present Use: Vacant

Significance: Building 146 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 level for the National Register of Historic Places (NRHP) under Criteria A, B, and C and 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, 2008).

Building 146 (including Building 146A, a 1956 addition to the west elevation of Building 146), is a contributing resource to the Ryan Aeronautical Company Historic District. It functioned as the Sub-Assembly building for the manufacture of aircraft, adjacent to the Building 140, the Final Assembly Building. This building is representative of the period and type of construction found at aviation factories in the mid-20th century in California and the U.S.

Historian: Sara Orton

PART I. HISTORICAL INFORMATION

A. Physical History:

1. Date of erection: Building 146, 1945; Building 146A, 1956

2. Architect: Frank L. Hope, Jr. & Associates

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: The original portion of Building 146 is a two-story, rectangular, mostly open-interior building. It measures 306 feet by 215 feet. The interior of the north half of the building is open while the south half of the building is divided into shops and offices on both floors. The north wall of Building 146 is the exterior southern wall of Building 140 (URS Corporation, 2009).

5. Alterations and additions: Building 146 was modified in 1956 with the addition of the Engineering Annex (Building 146A) on the west elevation of the original building. Building 146A measures 101 feet by 145 feet and is two stories tall. The first floor is open with just metal support beams and the second floor is divided into offices (URS Corporation, 2009).

B. Historical Context:

1. San Diego's Aviation History:

During the first three decades of the 20th 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 used for administrative offices and several other buildings used for storage.

PART II. ARCHITECTURAL INFORMATION

A. General Statement:

1. Architectural Character: Building 146 (including the 1956 addition of Building 146A to the west elevation) is an industrial-style building within an industrial facility. Building 146 has retained its two rows of multi-paned steel-framed awning windows, corrugated sheet metal cladding, and large hanging doors (URS Corporation, 2009).

2. Condition of Building Material: Building 146 is in fair condition. Building 146A is in poor condition due to roof leaks unique to that addition.

B. Description of Exterior:

1. Overall Dimensions: Building 146 is a two-story rectangular building measuring 215 feet by 306 feet. Building 146A, on the west elevation measures 101 feet by 145 feet.

2. Foundations: Building 146 sits on a concrete slab floor and foundation.

3. Walls: The exterior walls of Building 146 are sheathed in corrugated metal.

4. Structural System: Building 146 is supported by a steel grid system and perimeter rows of I-beam posts. The north wall of Building 146 is the former exterior southern wall of Building 140. The east, west, and south walls are constructed of steel I-beam posts placed approximately 12 feet apart and support a steel frame covered with corrugated sheet metal. A steel grid supported by perimeter rows of –I-beam posts and a row of concrete buttresses on the south wall of Building 140 hold rectangular roof trusses placed 12 feet apart across the east and west side of the building. Three interior rows of steel I-beams in the north half of the building provide additional roof support (URS Corporation, 2009).

5. Openings:

   a. Doorways: The main entry of Building 146 is a large, two-story, set of sliding doors on the west elevation, leading into the factory area. A double personnel door has been cut into the larger sliding door. The west elevation also has a double door leading directly to a set of stairs to the second floor offices. There are several other garage door-type entrances on the west and south elevations that may not be operable. The south elevation has a double, aluminum-frame entry to the first- and

second-floor offices of Global Hawk. The west elevation (Building 146A) has two garage doors on the first floor and a double entry at the top of the exterior stair.

b. Windows: Building 146 has two rows of multi-paned steel-framed windows with awning openings; one row on the first floor and one row on the second floor on the west, south and east elevations.

6. Roof: The roof of Building 146 is constructed of 2-inch-by-6-inch board sheathing with an asphalt roofing material on the exterior.

C. Description of Interior:

Floor Plans: Building 146 is a two-story, rectangular building measuring approximately 230 feet by 300 feet. The interior of the north half of the building is open while the south half of the building is divided into shops and offices. Building 146A, added to the west elevation in 1956, has an open first floor and offices on the second floor.

D. Site:

Historic Landscape Design: As part of the original design, Building 146 creates a courtyard, gathering area with Buildings 120, 127, and 140.

PART III. SOURCES OF INFORMATION

A. Early Views: N/A

B. Interviews: N/A

C. Bibliography

1. Primary and Unpublished Sources:

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2. Secondary and Published Sources:

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Moomjian, Scott A. and Wendy L. Tinsley. 2001. *Historic Survey Report of the Former Teledyne-Ryan Aeronautical Complex, 2701 North Harbor Drive, San Diego, California, 92101.* Prepared by Office of Maria Burke Lia, Attorney at Law, 427 C Street, Suite 416, San Diego, CA 92101. Prepared for Jones Lang La Salle, 2701 North Harbor Drive, Building 100, San Diego, California 92101. Copy on file with the San Diego Regional Airport Authority.

Moore, Floyd Roscoe. 1960. San Diego Airport Development. Thesis, Political Science, San Diego State College, San Diego, CA.

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San Diego Union. Various Dates. Issues cited in text from Lindbergh Field Vertical Files, San Diego Historical Society, San Diego, CA.

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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.

Aerial view, Building 146 in the center background, attached to Building 140, the barrel roof structure south of the runway, San Diego, California, c. 1960. Annual Report 1960.

Building 146 – Engineering and Manufacturing Building Interior, San Diego, California, Date unknown. Teledyne-Ryan Archives.

Building 146 – Engineering and Manufacturing Building, East Elevation with the central courtyard in front, San Diego, California, October 2009.

Building 146 – Engineering and Manufacturing Building, East Elevation, second floor entry detail, San Diego, California, October 2009.

Building 146 – Engineering and Manufacturing Building, Southeast Oblique, San Diego, California, October 2009.

Building 146 – Engineering and Manufacturing Building, South Elevation, San Diego, California, October 2009.

Building 146 – Engineering and Manufacturing Building, South Elevation, facing Northwest, the white brick facing indicates the Global Hawk office entrance San Diego, California, October 2009.

Building 146 – Engineering and Manufacturing Building, Southeast Elevation, San Diego, California, October 2009.

Building 146A – Engineering and Manufacturing Building, Southwest Oblique, San Diego, California, October 2009.

Building 146A – Engineering and Manufacturing Building, Southwest Oblique, Building 146A is the portion with the lower roof level, San Diego, California, October 2009.

Building 146A – Engineering and Manufacturing Building, West Elevation, facing northeast, San Diego, California, October 2009.

Building 146A – Engineering and Manufacturing Building, Northwest Oblique, San Diego, California, October 2009.

Building 146A – Engineering and Manufacturing Building, Northwest Oblique, San Diego, California, October 2009.

Building 146A – Engineering and Manufacturing Building, South Elevation, door and window detail, San Diego, California, October 2009.

Building 146 – Engineering and Manufacturing Building, Interior, facing Northeast, buttresses from the former exterior of Building 140 along back wall San Diego, California, October 2009.

Building 146 – Engineering and Manufacturing Building, Interior door, San Diego, California, October 2009.

Building 146 – Engineering and Manufacturing Building, Interior storage, facing Southeast, San Diego, California, October 2009.

Building 146 – Engineering and Manufacturing Building, Interior, first floor, central portion of the building, facing Northwest, San Diego, California, October 2009.

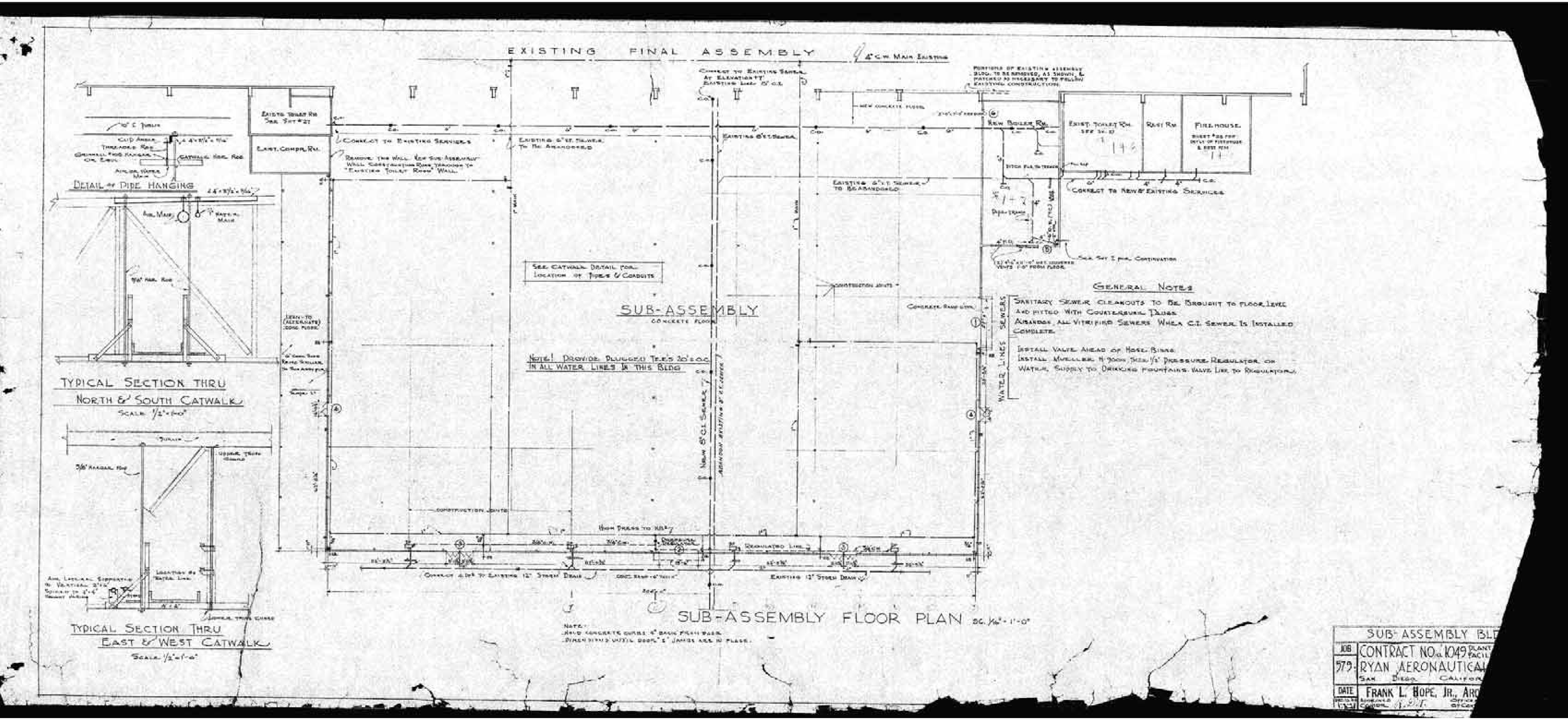
Building 146 – Engineering and Manufacturing Building, Interior, second floor conference room, Southeast corner of the building, San Diego, California, October 2009.

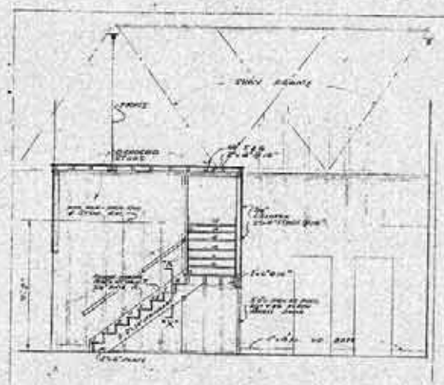
Building 146/146A – Engineering and Manufacturing Building, Interior, second floor office space in the southern portion of the building, facing West, San Diego, California, October 2009.

Building 146 – Engineering and Manufacturing Building, Interior, first floor, entry to Global Hawk offices in the southern portion of the building, facing east, San Diego, California, October 2009.

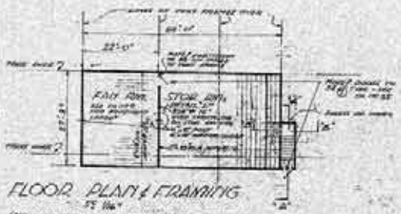
Building 146-A – Engineering and Manufacturing Building, Interior, first floor facing Southeast, San Diego, California, October 2009.

Building 146-A – Engineering and Manufacturing Building, Interior, second floor facing Northeast, San Diego, California, October 2009.

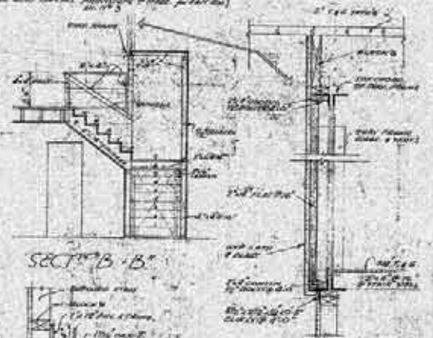

EXISTING FINAL ASSEMBLY
SUB-ASSEMBLY
CONCRETE FLOOR
SEE CATWALK DETAIL FOR LOCATION OF PIPES & CONDUITS
NOTE! PROVIDE PLUGGED TEE'S 20' O.C. IN ALL WATER LINES IN THIS BLDG
NEW 8" C.I. SEWER
EXISTING 6" ST. SEWER TO BE ABANDONED
CONNECT TO EXISTING SERVICES
CONNECT TO NEW & EXISTING SERVICES
NEW BOILER RM.
EXIST. TOILET RM.
REST RM.
FIRE HOUSE
EXIST. COMPR. RM.
EXISTING 12" STORM DRAIN
REGULATED LINE
CONSTRUCTION JOINTS
WATER LINES
SEWERS
GENERAL NOTES
SANITARY SEWER CLEANOUTS TO BE BROUGHT TO FLOOR LEVEL AND FITTED WITH COUNTERSUNK PLUGS
ABANDON ALL VITRIFIED SEWERS WHEN C.I. SEWER IS INSTALLED COMPLETE
INSTALL VALVE AHEAD OF HOSE BIBBS
INSTALL MUELLER H-9000 SIZE 1/2" PRESSURE REGULATOR ON WATER SUPPLY TO DRINKING FOUNTAINS. VALVE LINE TO REGULATOR.
DETAIL OF PIPE HANGING
TYPICAL SECTION THRU NORTH & SOUTH CATWALK
SCALE 1/2"=1'-0"
TYPICAL SECTION THRU EAST & WEST CATWALK
SCALE 1/2"=1'-0"
SUB-ASSEMBLY FLOOR PLAN SC. 1/16"=1'-0"
SUB-ASSEMBLY BLD
CONTRACT NO. 1049
RYAN AERONAUTICAL
SAN DIEGO CALIFOR
FRANK L. HOPE, JR., ARC



SECT'N A' STAIRS TO FAN & STOR. RM.
SCALE 1/4"=1'-0"



FLOOR PLAN & FRAMING
SCALE 1/4"=1'-0"

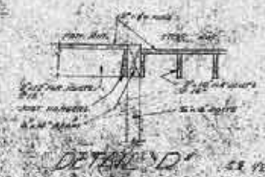


SECT'N B-B'

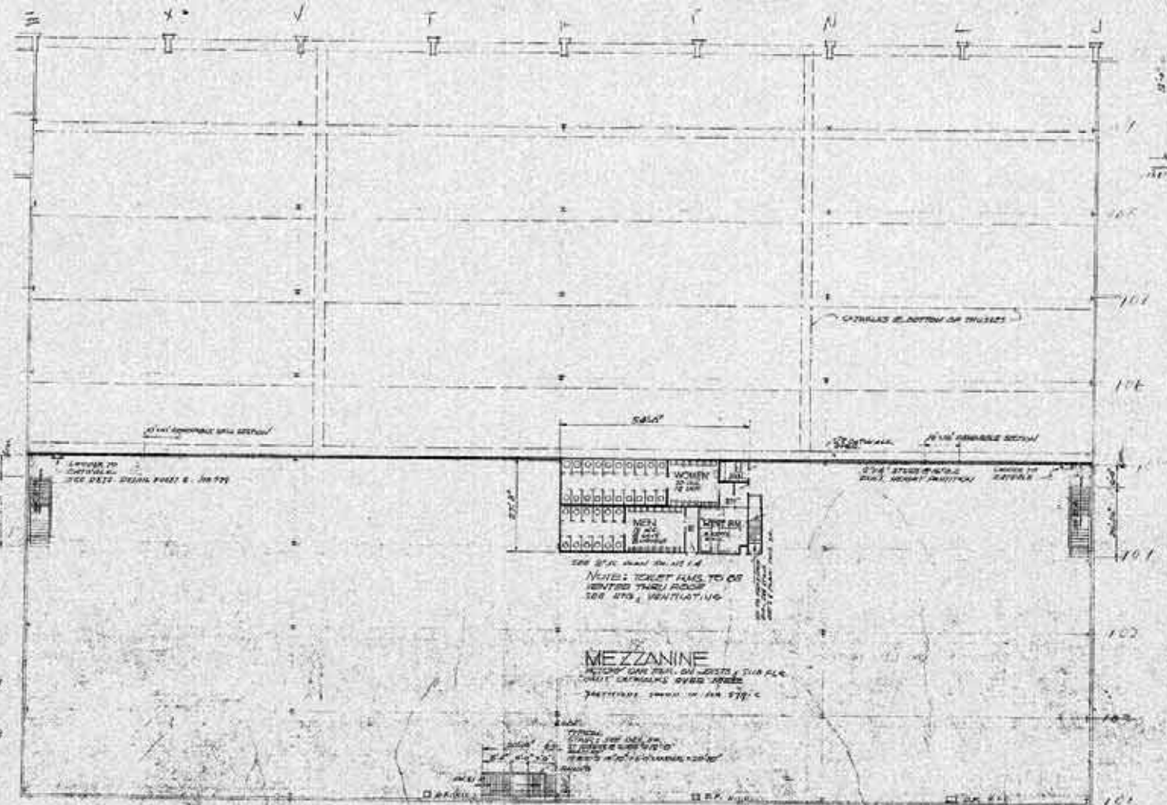
SECT'N X-X'

VALL & SWAY FRAME
SCALE 1/4"=1'-0"

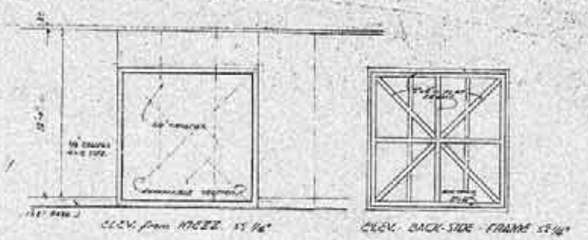
HAND RAIL DET.



DETAIL 'D'
SCALE 1/2"=1'-0"



BALCONY FLOOR PLAN SCALE 1/16"=1'-0"

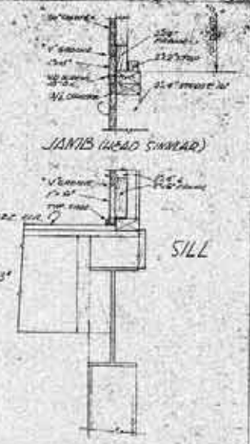


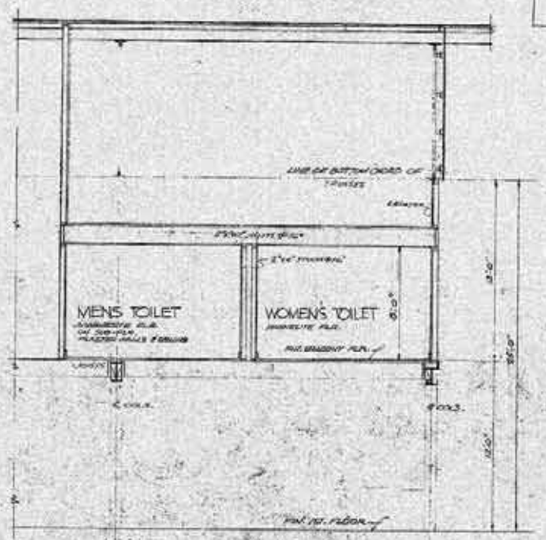
CLEV. FROM INSIDE SCALE 1/4"

CLEV. BACK SIDE - FRAME SCALE 1/4"

REMOVABLE SECTION DET.

SECTION SCALE 3"

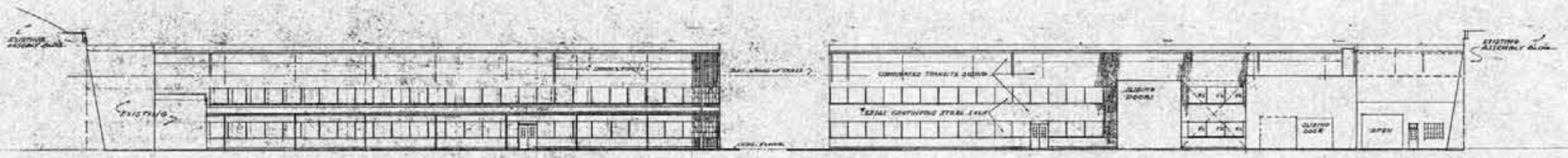




SECTION THRU TOILET RMS. SCALE 1/4"

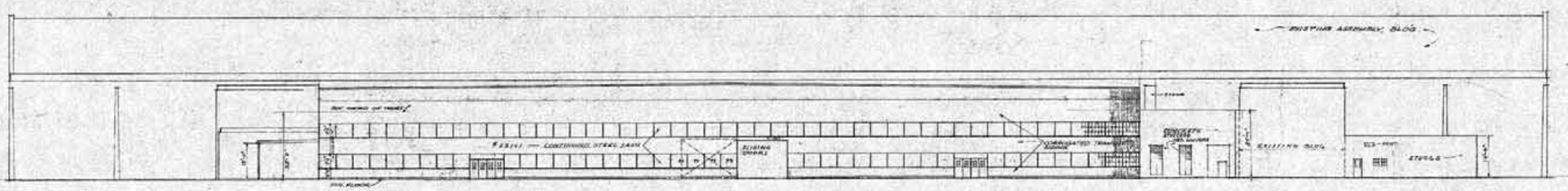
SUB-ASSEMBLY BLDG.
REVISED 1ST. FLR. & MEZZANINE PLAN

JOB	CONTRACT NO. AC-1049 PLANT FACILITIES	SHT.
579	RYAN AERONAUTICAL CO. SAN DIEGO, CALIFORNIA	32
DATE	FRANK L. HOPE, JR., ARCHITECT	DWG.



WEST ELEV. sc. 1/16"

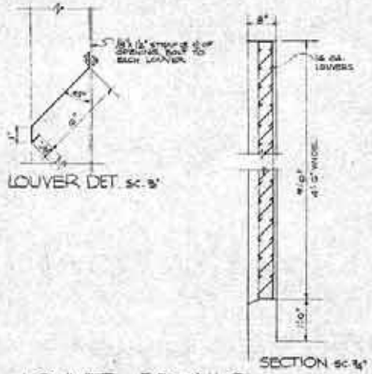
EAST ELEV. sc. 1/16"



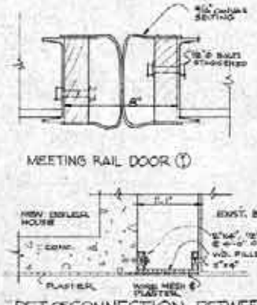
SOUTH ELEV. sc. 1/16"

SUB-ASSEMBLY
ELEVATIONS

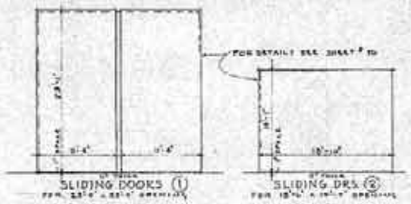
JOB	CONTRACT NO. 1049 PLANT FACILITIES	SH.
579	RYAN AERONAUTICAL CO SAN DIEGO CALIFORNIA	6
DATE	FRANK L. HOPE, JR., ARCHITECT	OF
DRAWN 1-2-41	APPROVED CHIEF'S OFFICER IN CHARGE OF CONSTRUCTION	



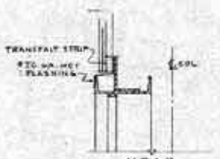
LOUVER DETAILS

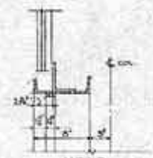


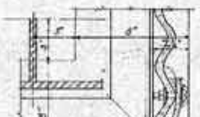
DET. OF CONNECTION BETWEEN BOILER HOUSE & EXISTING BLDG. SC: 1"



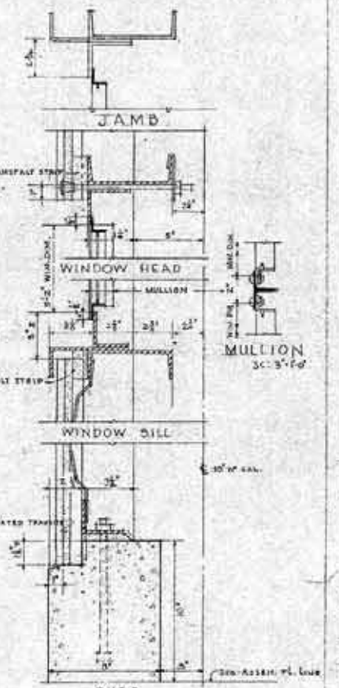
DOOR ELEVATIONS SC: 3/4"=1'-0"





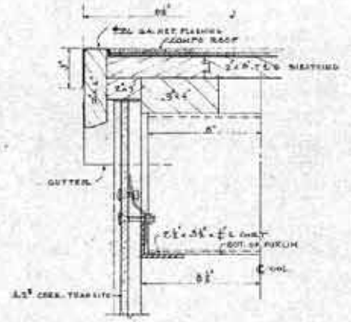


TRANSITE CORNER ROLL STEEL SASH AT CORNER
CONSTRUCTION DET'LS
SCALE 3" = 1'-0"

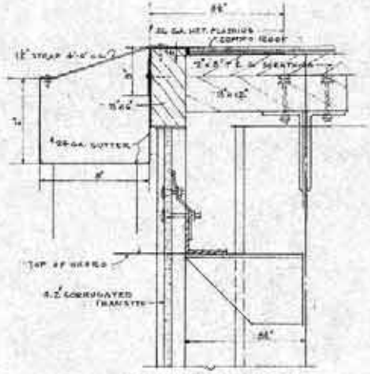


WALL SECTIONS
THRU TYPICAL STEEL SASH (continuous)
WINDOW DETAILS ARE TYPICAL

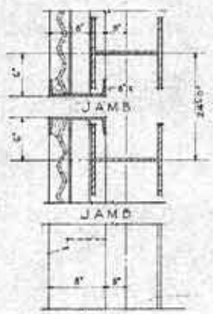
MULLION SC: 3"=1'-0"

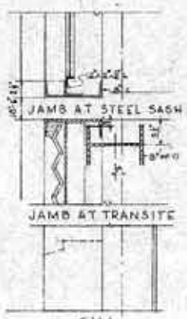


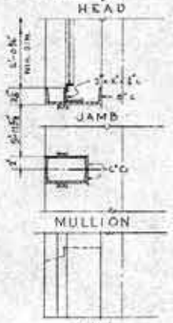
RAKE DETAIL SC: 3"=1'-0"

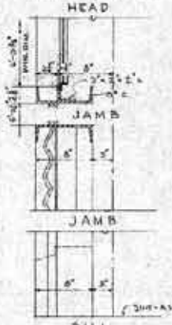


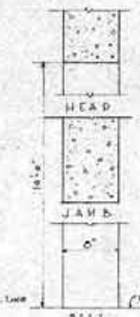
GUTTER DETAIL SC: 3"=1'-0"

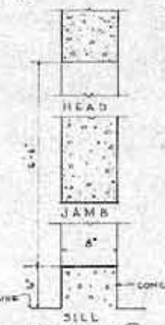


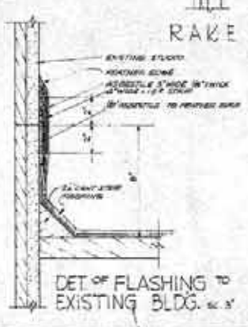










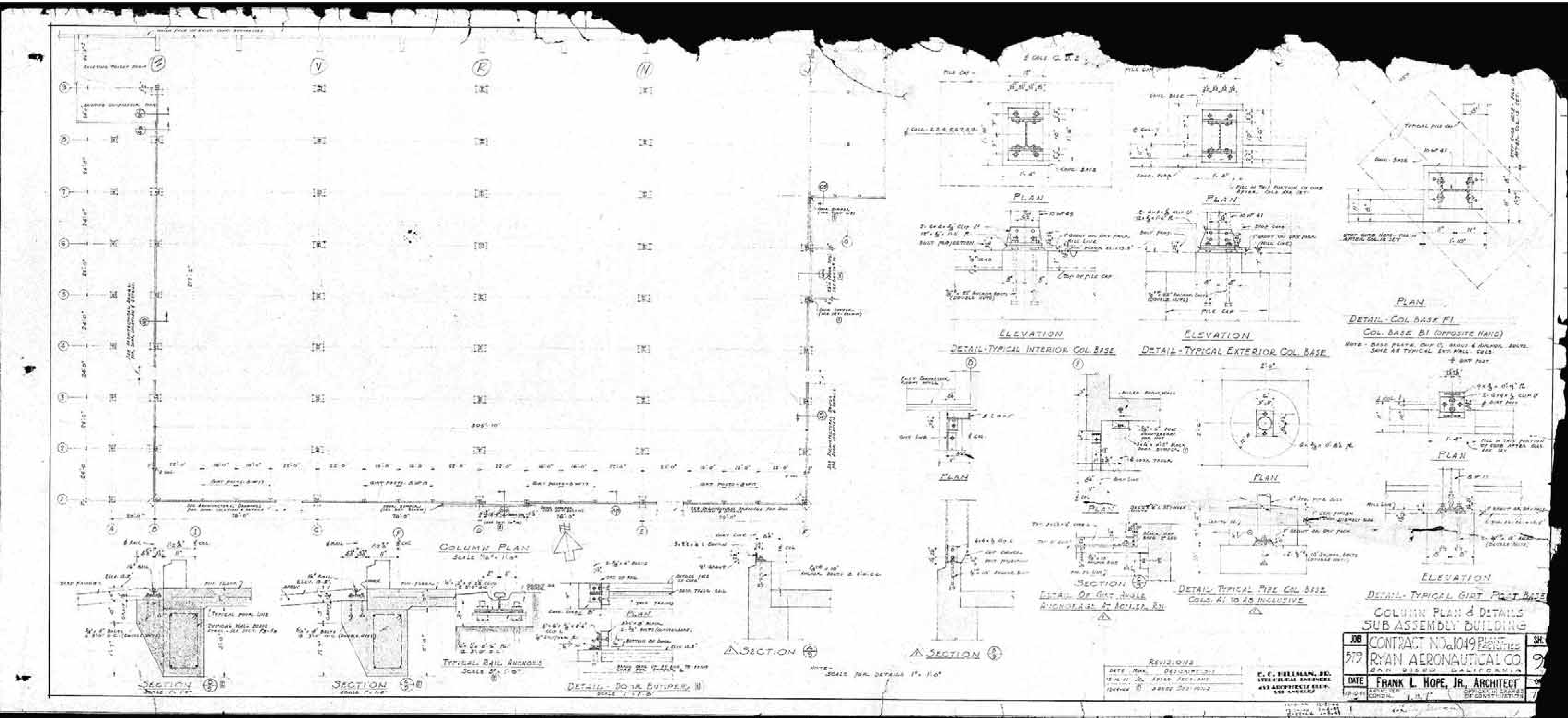


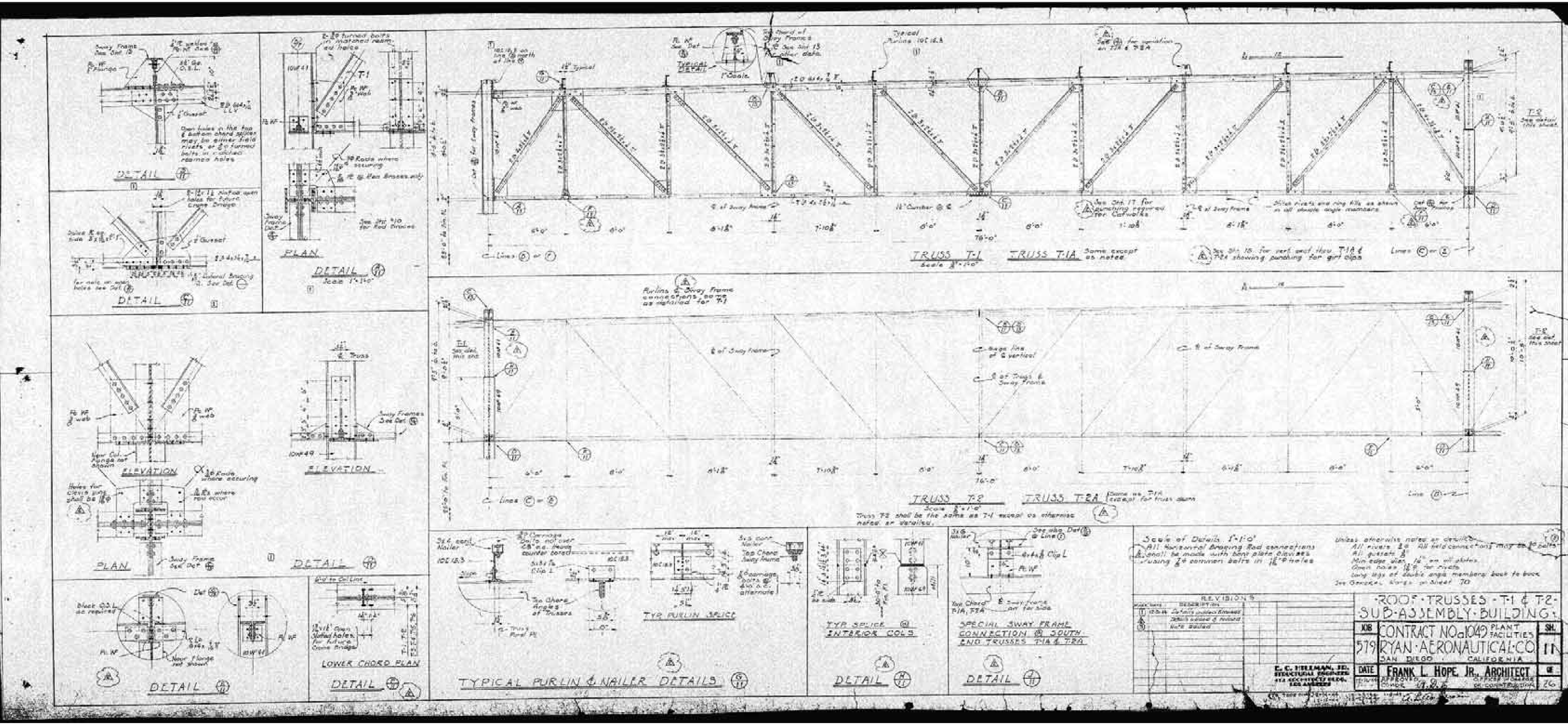
DET. OF FLASHING TO EXISTING BLDG. SC: 3"

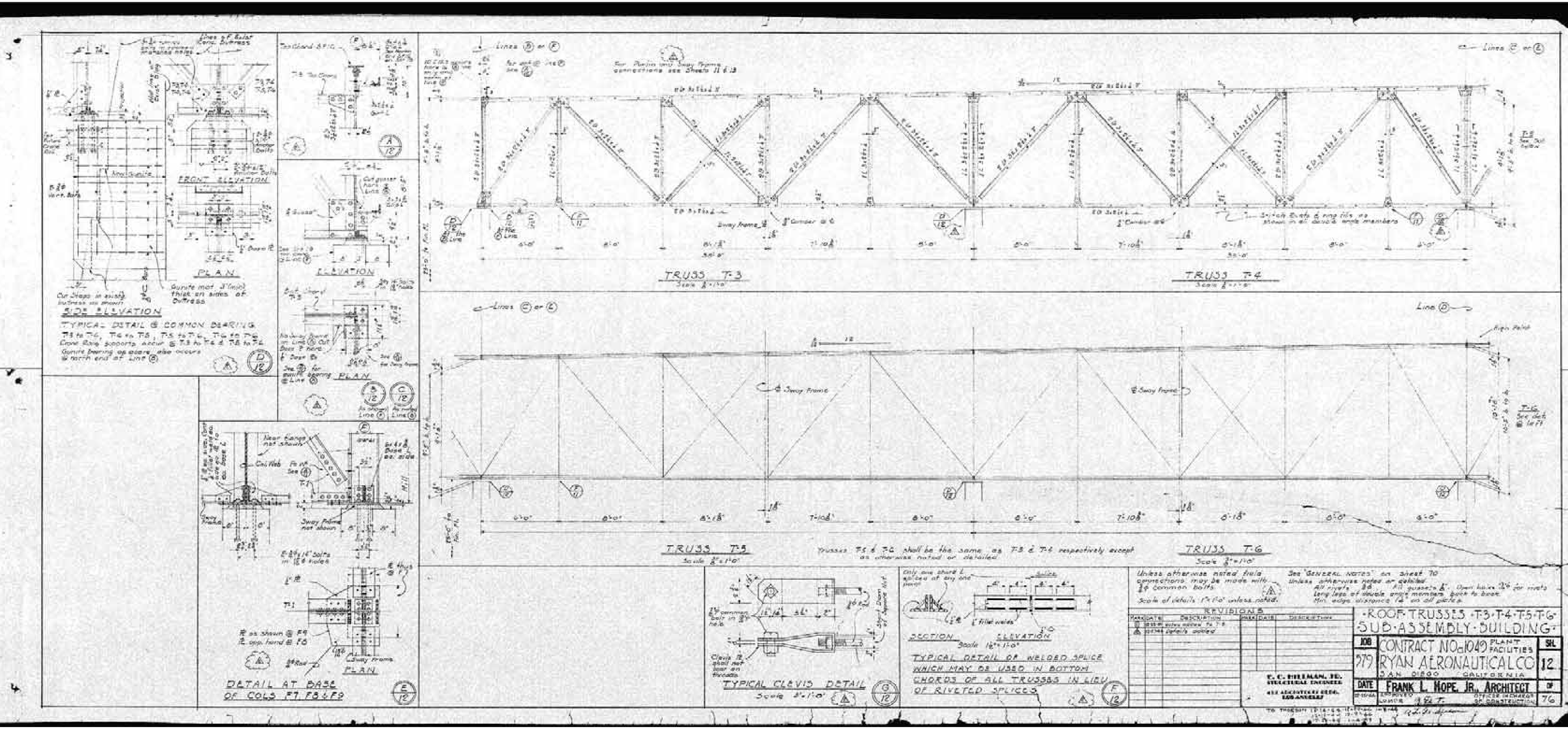
DETAILS

SUB-ASSEMBLY BLDG

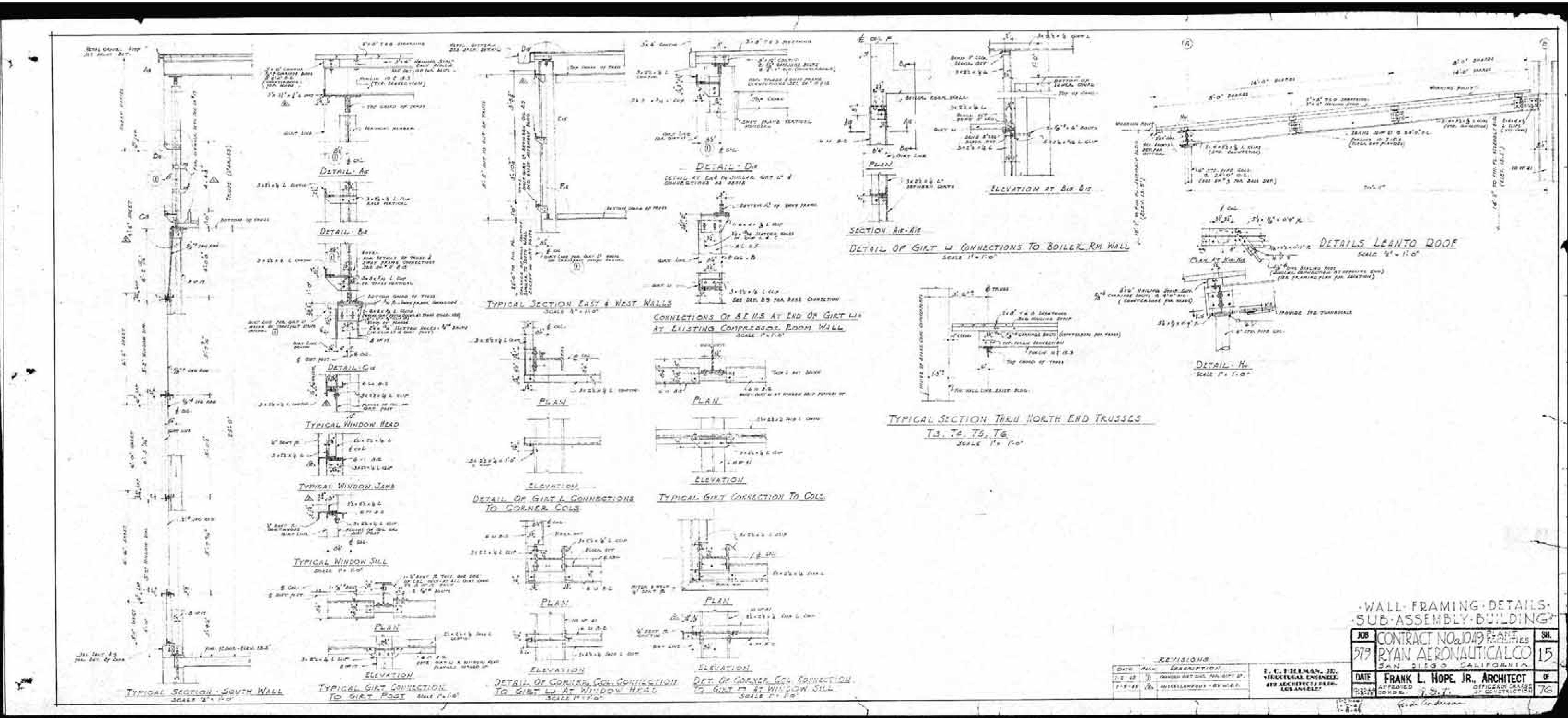
JOB 579	CONTRACT NO. 1049 - PLANT FACILITIES RYAN AERONAUTICAL CO. SAN DIEGO - CALIFORNIA	SH. 7
DATE 11-28-51 APPROVED 1-8-52 COUNCIL	FRANK L. HOPE, JR., ARCHITECT OFFICER IN CHARGE OF CONSTRUCTION	OF 76


COLUMN PLAN
SCALE 1/16" = 1'-0"
PLAN
ELEVATION
DETAIL - TYPICAL INTERIOR COL. BASE
PLAN
ELEVATION
DETAIL - TYPICAL EXTERIOR COL. BASE
PLAN
DETAIL - COL. BASE F1
COL. BASE B1 (OPPOSITE HAND)
PLAN
DETAIL - TYPICAL PIPE COL. BASE
COLS. A1 TO A8 INCLUSIVE
ELEVATION
DETAIL - TYPICAL GIRT POST BASE
TYPICAL RAIL ANCHORS
DETAIL - DOCK BUMPER
SECTION
REVISIONS
COLUMN PLAN & DETAILS
SUB ASSEMBLY BUILDING
JOB
579
CONTRACT NO. a1049 PLANT FACILITIES
RYAN AERONAUTICAL CO.
SAN DIEGO CALIFORNIA
DATE
FRANK L. HOPE, JR., ARCHITECT
SH.
9


TRUSS T-1
TRUSS T-1A
TRUSS T-2
TRUSS T-2A
TYPICAL PURLIN & NAILER DETAILS
TYP PURLIN SPLICE
TYP SPLICE @ INTERIOR COLS
SPECIAL SWAY FRAME CONNECTION @ SOUTH END TRUSSES T-1A & T-2A
LOWER CHORD PLAN
ELEVATION
PLAN
DETAIL
REVISIONS
ROOF · TRUSSES · T-1 & T-2 ·
SUB-ASSEMBLY · BUILDING ·
CONTRACT NO. a 1049 PLANT FACILITIES
RYAN · AERONAUTICAL · CO
SAN DIEGO CALIFORNIA
FRANK L. HOPE, JR., ARCHITECT



TYPICAL DETAIL @ COMMON BEARING
SIDE ELEVATION
FRONT ELEVATION
PLAN
ELEVATION
TRUSS T-3
TRUSS T-4
TRUSS T-5
TRUSS T-6
Scale 1/8"=1'-0"
DETAIL AT BASE OF COLS F7 F8 & F9
TYPICAL CLEVIS DETAIL
Scale 3"=1'-0"
SECTION
ELEVATION
TYPICAL DETAIL OF WELDED SPLICE WHICH MAY BE USED IN BOTTOM CHORDS OF ALL TRUSSES IN LIEU OF RIVETED SPLICES
Unless otherwise noted field connections may be made with 3/4"ϕ common bolts.
Scale of details 1"=1'-0" unless noted.
See "GENERAL NOTES" on sheet 70
REVISIONS
F. C. HILLMAN, JR.
STRUCTURAL ENGINEER
LOS ANGELES
·ROOF·TRUSSES ·T-3·T-4·T-5·T-6·
·SUB·ASSEMBLY·BUILDING·
JOB
979
CONTRACT NO. a1049 PLANT FACILITIES
RYAN AERONAUTICAL CO
SAN DIEGO CALIFORNIA
FRANK L. HOPE, JR., ARCHITECT
SH.
12
OF
76



DETAIL - A15
DETAIL - B15
DETAIL - C15
TYPICAL WINDOW HEAD
TYPICAL WINDOW JAMB
TYPICAL WINDOW SILL
TYPICAL SECTION - SOUTH WALL
TYPICAL GIRT CONNECTION TO GIRT POST
TYPICAL SECTION EAST & WEST WALLS
DETAIL OF GIRT L CONNECTIONS TO CORNER COLS
DETAIL OF CORNER COL. CONNECTION TO GIRT AT WINDOW HEAD
DETAIL - D15
CONNECTIONS OF B2 & B3 AT END OF GIRT AT EXISTING COMPRESSOR ROOM WALL
TYPICAL GIRT CONNECTION TO COLS.
DET. OF CORNER COL. CONNECTION TO GIRT AT WINDOW SILL
PLAN
ELEVATION
SECTION A15-A15
ELEVATION AT B15-B15
DETAIL OF GIRT CONNECTIONS TO BOILER RM WALL
TYPICAL SECTION THRU NORTH END TRUSSES T3, T4, T5, T6
DETAILS LEANTO ROOF
DETAIL - H15
REVISIONS
DATE MARK DESCRIPTION
T. C. KIEHMAN, JR.
STRUCTURAL ENGINEER
·WALL·FRAMING·DETAILS·
·SUB·ASSEMBLY·BUILDING·
JOB 579
CONTRACT NO. 1049 PLANT FACILITIES
RYAN AERONAUTICAL CO
SAN DIEGO CALIFORNIA
SH. 15 OF 76
DATE
FRANK L. HOPE JR., ARCHITECT
APPROVED
OFFICER IN CHARGE OF CONSTRUCTION

PLAN SECTION A-A

PLAN SECTION C-C

SECT. B-B

SECT. D-D

DETAIL

DETAIL

DETAIL

DETAIL

DETAIL

DOOR (1) DETAILS

DETAIL

DOOR (2) DETAILS

△ ELEVATION

FRAMING DETAILS - SLIDING DOOR (2) SOUTH WALL

△ ELEVATION

FRAMING DETAILS - SLIDING DOOR (1) EAST WALL

△ HEAD DETAIL DOOR (2)

△ HEAD DETAIL DOOR (1)

△ JAMB DETAIL DOOR (2)

△ JAMB DETAIL DOOR (1)

HARDWARE LIST

HARDWARE LOCATION DIAGRAMS

SLIDING DOOR DETAILS
SUB-ASSEMBLY BUILDING

JOB	CONTRACT NO. 1049 PLANT FACILITIES	SH.
779	RYAN AERONAUTICAL CO. SAN DIEGO CALIFORNIA	16
DATE	FRANK L. HOPE, JR., ARCHITECT	OF

E. C. BILLMAN, JR. STRUCTURAL ENGINEER 417 ARCHITECTS BLDG. LOS ANGELES

GENERAL NOTES

1. PAINT ALL NEW WORK (3) COATS
   A) (1) PRIM COAT
   B) (2) COAT ACRILIC BASE
2. PAINT EXISTG PERIMITER WALLS & INTERIOR COLS.
   (2) COAT ACRILIC BASE 9'-6" HIGH.
3. RESURFACE & REFINISH WOOD FLOORS IN ROOM # 201, 202, 203 & LOBBY
   A) SAND FLOORS WITH NECESSARY GRIT PAPER TO ACCOMPLISH LEVEL & TIGHT GRAIN FIN FLR. NO CROSS SANDING ALLOWED
   B) SPOT FILL NAIL HOLES, CRACKS, ECT AS REQ.
   C) (3) COATS MOISTURE CURED URETHANE (KEM GLAZE).
4. ALL WORK ACCORDING TO U.B.C. 1961 ED.
5. CORNER BRACE 9' WALLS.

REF NORTH

EXISTG GAS VENT (B) PLACE FLUES ACCORDING TO UBC 1961 ED.

NEW 9'+ HIGH WALL W/ 5/8" GYP BD. (1) SIDE

EXISTG. ELECT PANEL- RELOCATED BY OTHERS

EXISTG DRINKING FOUNTAIN

EXISTG. WALL

DRAFT STOP 100'

LOBBY 12'-0"

COUNTER

202

203

201

CONFERENCE ROOM #1

BRACE TO CLG ABOVE

NEW 9'+ WALLS

OFFICE #1 | SECY #1 | OFFICE #2 | OFFICE #3 | SECY #2 | OFFICE #4 | OFFICE #5 | SECY #3

SPRINKLER RISER FUTR.

12'-0" 12'-0" 33'-6" 14'-6"

16'-6" 9'-6" 13'-9" 13'-9" 9'-6" 13'-9" 13'-9 9'-6"

A-D A-C A-B A-A Z

50'-0" 50'-0"

(6) @ 24'-0" = 144'-0"

107 106 105 104 103 102 101

PARTIAL FLOOR - 2ND FLR. BLDG 146

1/8" = 1'-0"

REF DWG.
ELECT. - D-3456
MECH. D-8446

REV. #	NATURE OF REVISION	D FTSMAN	CHECKER	DATE

APPROVALS	DATE

SUBASY	PART	DESCRIPTION	SIZE	MAT'L	REQ'D	CODE
		BILL OF MATERIAL				

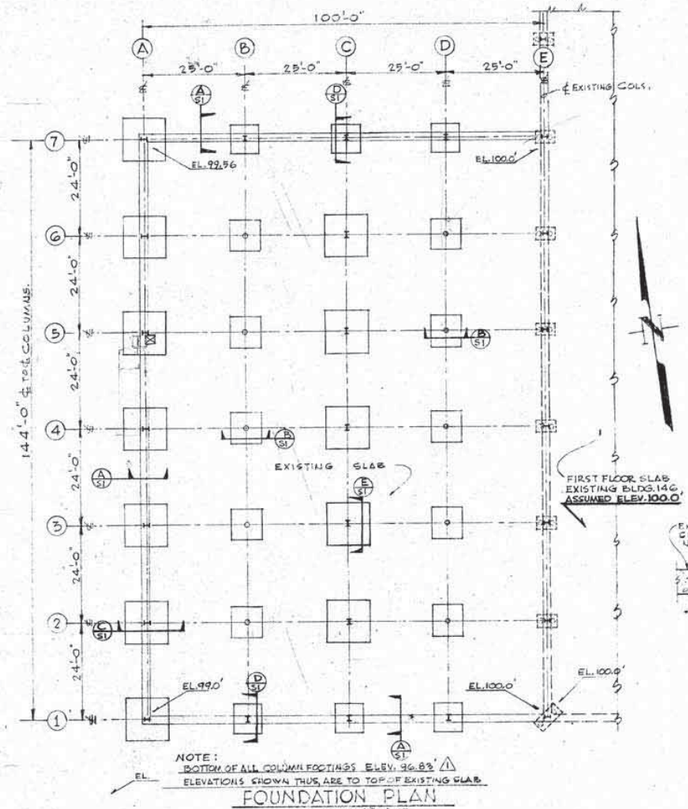
RYAN AERONAUTICAL COMPANY
PLANT ENGINEERING DEPARTMENT
SAN DIEGO, CALIFORNIA

SCALE	DATE	DRAFTSMAN	DESIGNER	CHECKED	APPROVED
NOTED	6-30-66	AYLWARD			

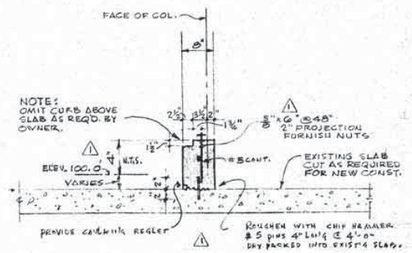
REHAB - OFFICE AREA - 2ND FLOOR
BLDG 146 PHASE 1
FLOOR PLAN

UNLESS SPECIFICALLY NOTED TOLERANCES ARE TO BE
FRACTION ± DECIMAL ±.005 ANGULAR ±
BREAK ALL SHARP EDGES

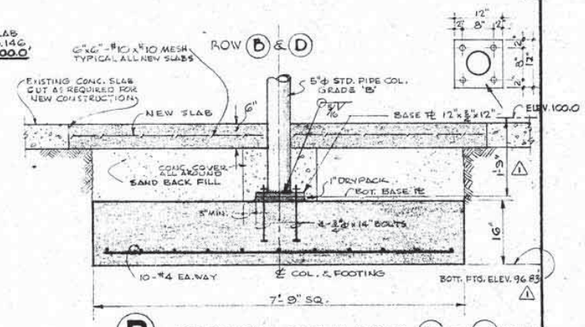
NO. SHORTAGE REPORTS REQ'D.
DATE 7-9-66
I.W.O. 50-30-3861
SHEET OF SHTS. 1 2
DWG. SIZE D
PART NO.
FILE NO. 1-2289



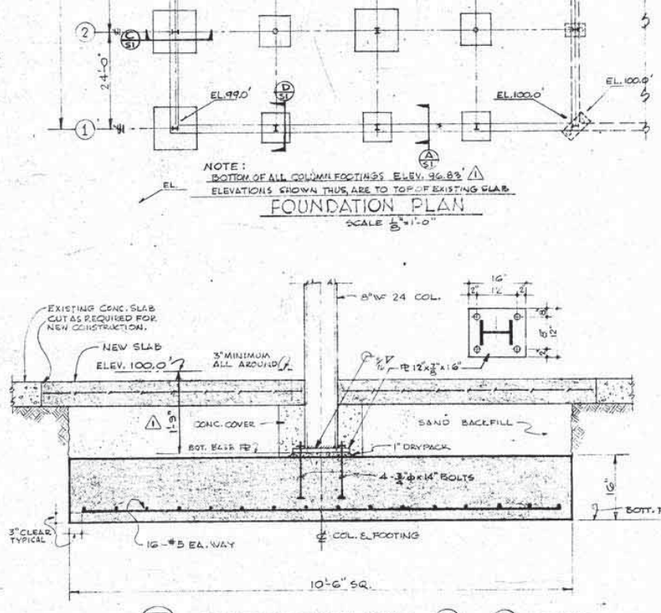
FOUNDATION PLAN
SCALE 3/32"=1'-0"



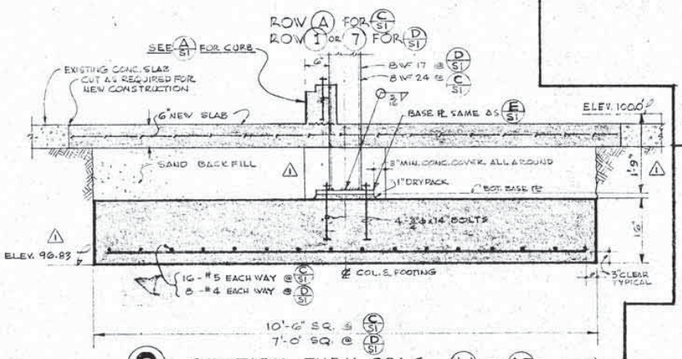
A SECTION THRU CONC. CURB
SCALE ¾"=1'-0"



B SECTION THRU COLS. B-2 THRU B-6 INCLUSIVE
SECTION THRU COLS. D-2 THRU D-6 INCLUSIVE
SCALE ¾"=1'-0"

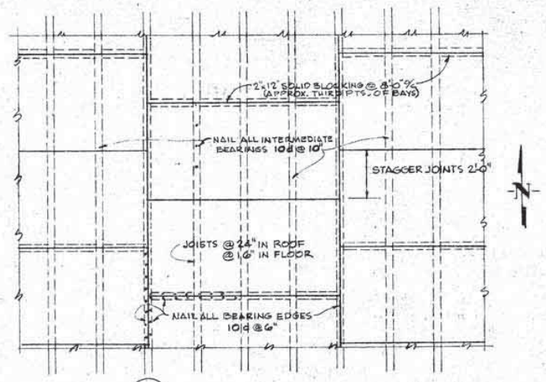


E SECTION THRU COLS. C-2 THRU C-6 INCLUSIVE
SCALE ¾"=1'-0"

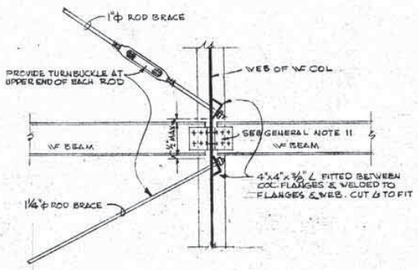


C SECTION THRU COLS. A-1 THRU A-7 INCLUSIVE
D SECTION THRU COLS. B-1 C-1 D-1 & B-7 C-7 D-7
SCALE ¾"=1'-0"

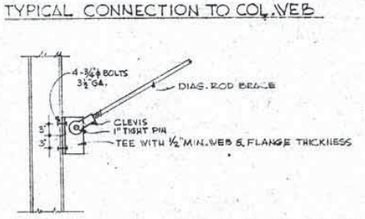
NOTE:
MAKE ALL ELEVATIONS FROM 100.00' (FLOOR OF EXISTING BLDG)



F TYPICAL PLYWOOD DETAIL
SCALE ⅜"=1'-0"

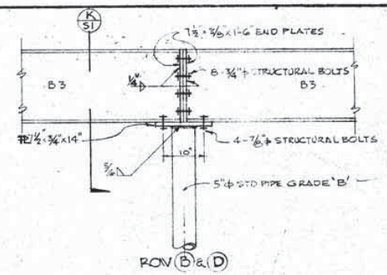


TYPICAL CONNECTION TO COL. WEB

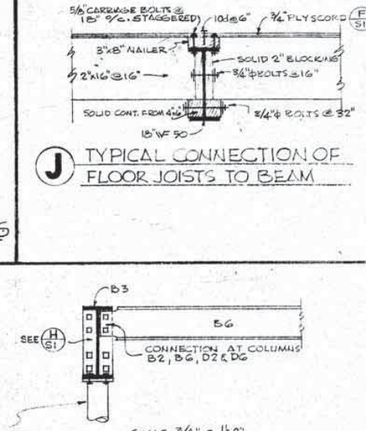


TYPICAL CONNECTION TO COL. FLANGE

G DIAGONAL ROD BRACING DETAILS
NO SCALE



H TYPICAL CONNECTION OF FLOOR BEAMS TO PIPE COL.
SCALE ¾"=1'-0"



J TYPICAL CONNECTION OF FLOOR JOISTS TO BEAM

Scale ¾" = 1'-0"

K TYPICAL CONNECTION OF FLOOR STRUTS TO BEAM

GENERAL NOTES

1. CONTRACTOR SHALL VERIFY ALL EXISTING DIMENSIONS, AND REPORT ANY DISCREPANCY TO OWNER.
2. SOIL PRESSURE ASSUMED 1000 PSF.
3. CONCRETE - IN 28 DAYS 2000 PSI
4. DESIGN LOADS ROOF - 20# L.L. - 37# TOTAL
   FLOOR - 70# L.L. NET
5. COLUMNS & FOOTINGS IN ROW (A) DESIGNED FOR SAME LOADS AS INTERIOR ROW (C).
6. PLYWOOD ROOF & FLOOR SHEATHING TO BE DOUGLAS FIR PLYSCORD, IN 4'x8' MINIMUM SIZE SHEETS. LONG DIRECTION OF SHEETS TO RUN EAST & WEST. JOINTS IN NORTH-SOUTH DIRECTION TO BE CENTERED OVER JOISTS, SEE DETAIL (F S1)
7. ALL WOOD JOISTS TO BE DOUGLAS FIR 1450 f
8. EXISTING CONCRETE FLOOR SLABS TO REMAIN, EXCEPT AS REMOVED FOR CONSTRUCTION PURPOSES. WHERE REMOVED, SLAB SHALL BE SAWN OUT IN STRAIGHT, UNIFORM LINES & REPLACED WITH NEW 6" THICK CONCRETE SLAB, REINFORCED WITH 6"x6"-#10x#10 MESH IN CENTER.
9. PORTION OF EXISTING SASH, SIDING, & STEEL GIRTS SHALL BE REMOVED ALONG EXISTING WEST WALL AS SHOWN ON DRAWINGS. THIS MATERIAL, EXCEPT SIDING, MAY BE REUSED ON NEW WALLS WHERE POSSIBLE, WITH REMAINDER BEING NEW MATERIAL.
10. EXTERIOR WALLS ABOVE SECOND FLOOR, EXCEPT WHERE SASH OCCURS, ARE TO BE COVERED WITH 24 GA. GALVANIZED CORRUGATED STEEL SHEETS, 2½" CORRUGATIONS, MAX. SPACING BETWEEN HORIZ. GIRTS = 4'-0" INSTALLATION OF SHEETS, LAPS, FASTENERS, WASHERS, CORNERS ETC. MUST ALL BE IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS, AND MUST RECEIVE OWNERS APPROVAL PRIOR TO ERECTION.
11. ALL STEEL FABRICATION SHALL BE IN ACCORDANCE WITH STANDARD SPECIFICATIONS OF A.I.S.C. TRUSS JOINTS SHALL BE RIVETTED OR WELDED CONFORMING TO STRESSES SHOWN. ALL BEAM CONNECTIONS SHALL BE A.I.S.C. STANDARD 'B' USING ¾" RIVETS. ALL FIELD CONNECTIONS SHALL BE MADE WITH ¾" HIGH TENSILE BOLTS, EXCEPT THAT STRUCTURAL BOLTS MAY BE USED FOR GIRT CONNECTIONS, & WHERE SPECIFICALLY NOTED.
12. SHOP DRAWINGS FOR ALL STRUCTURAL STEEL WORK SHALL BE SUBMITTED FOR OWNERS APPROVAL.
13. ALL TRUSS, BEAM, OR COLUMN WELDING SHALL BE INSPECTED & APPROVED BY AN APPROVED TESTING LABORATORY.
14. ALL BOLTS BEARING AGAINST WOOD SHALL BE PROVIDED WITH A SQUARE STEEL WASHER UNDER HEAD & NUT. USE 2½"x2½"x1/4" FOR ⅝" BOLTS. & 2¼"x2¼"x5/16 FOR ¾" BOLTS.

REVISION	BY	DATE	DESCRIPTION
1	F.B.	4/24/56	PTG. & CURB CHANGES

FRANK L. HOPE & ASSOCIATES
ARCHITECTS SAN DIEGO, CALIF.

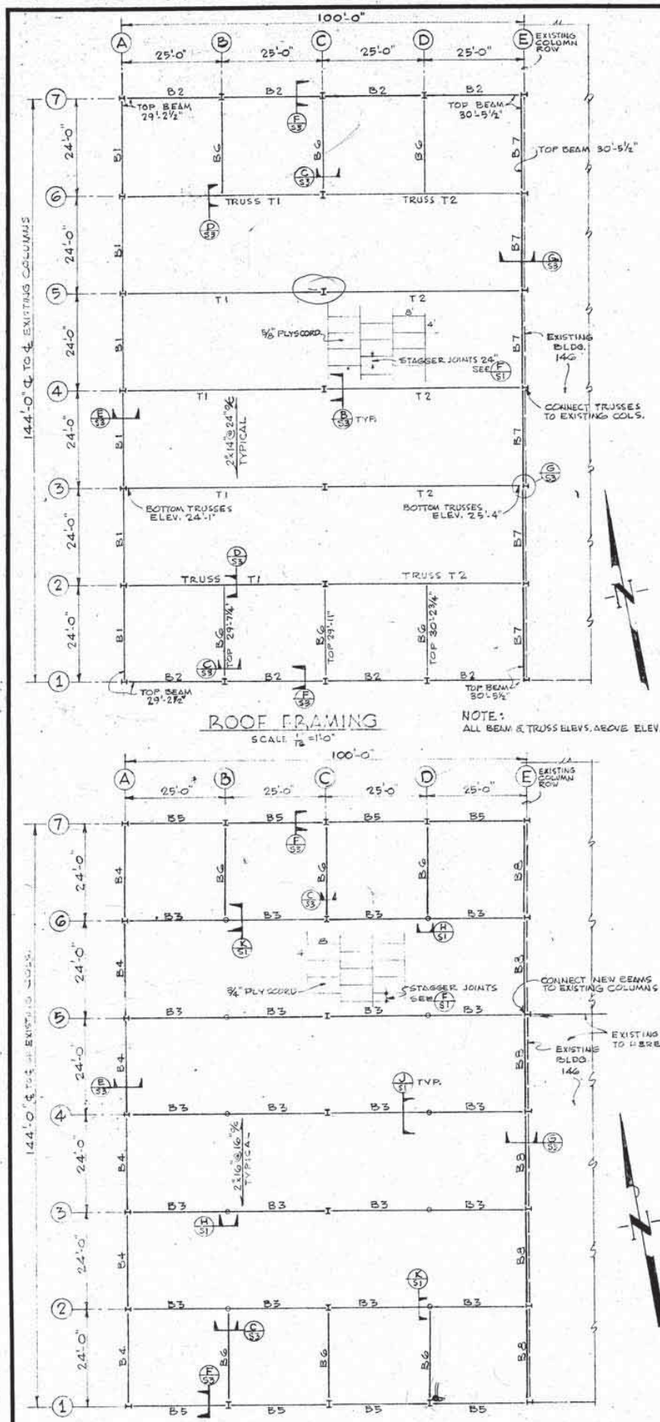
JOB NO. 267
P.O. # C-67198

ADDITION TO BLDG. #146
RYAN AERONAUTICAL CO.
SAN DIEGO, CALIFORNIA

DRAWN BY JOHN SUSSMAN
CHECKED BY W. H.
DATE 1-24-56
REV. 4-24-56

FOUNDATION DETAILS

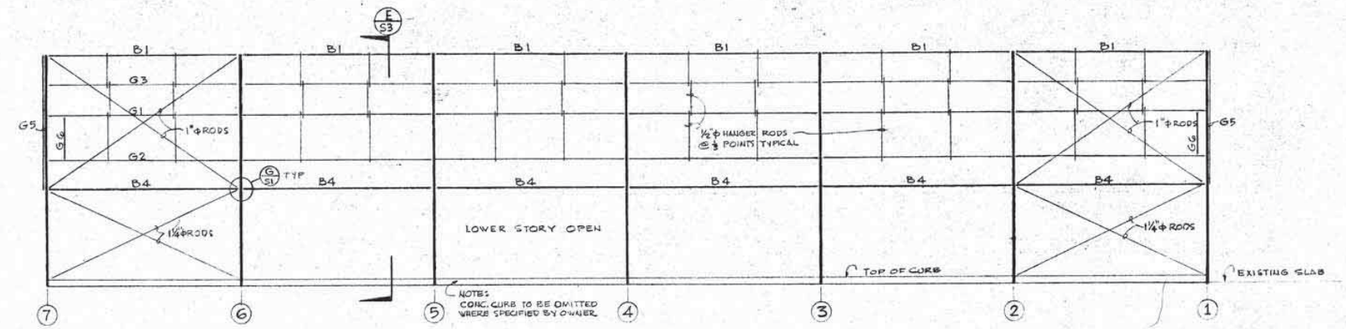
SHEET S1 OF 3



ROOF FRAMING

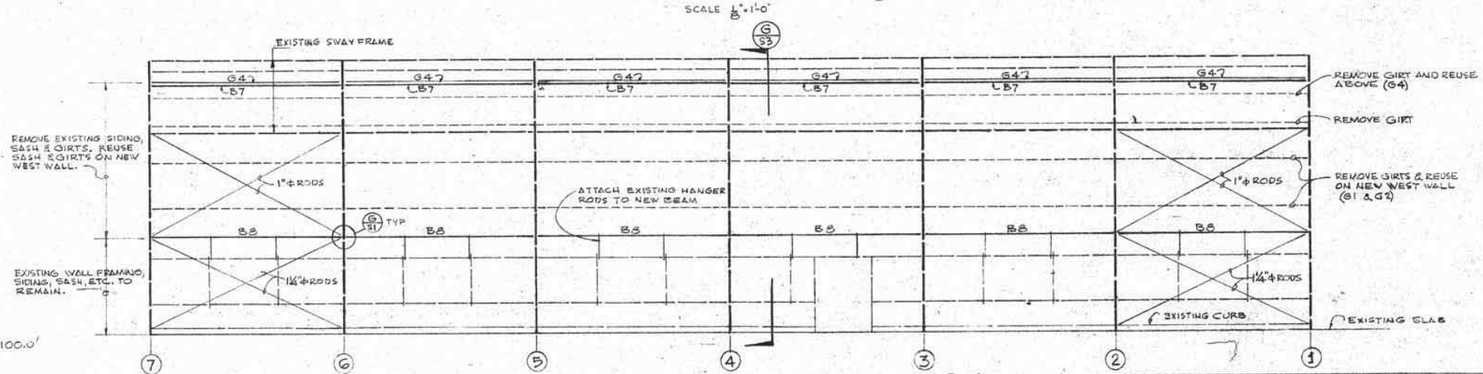
SCALE 1/16" = 1'-0"

NOTE:
ALL BEAM & TRUSS ELEVS. ABOVE ELEV. 100.0'



WEST ELEVATION ROW (A)

SCALE 1/8" = 1'-0"



WEST ELEVATION @ EXISTING BLDG. 146 ROW (E)

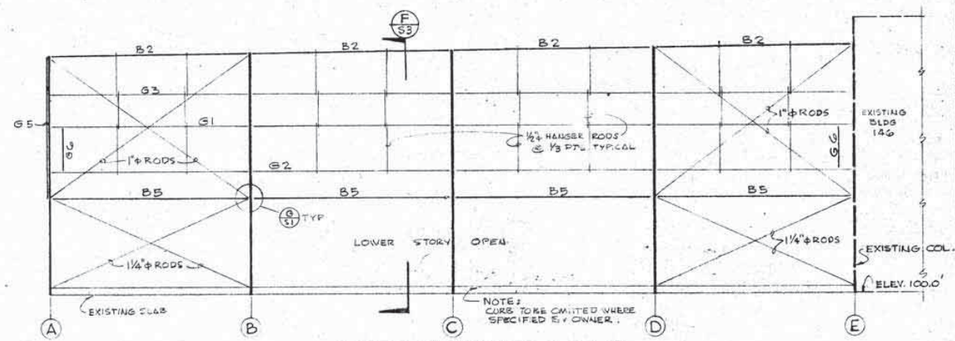
SCALE 1/8" = 1'-0"

NOTE:
ALL COLUMNS THIS ROW ARE EXISTING

SECOND FLOOR FRAMING

SCALE 1/16" = 1'-0"

TOP OF ALL BEAMS AT ELEV. 11'-11"± ABOVE 100.0'



SOUTH ELEVATION ROW (1)

(NORTH ELEVATION ROW (7) SIMILAR BUT OPPOSITE HAND)

SCALE 1/8" = 1'-0"

NOTE:
ALL DIAGONAL BRACING RODS TO BE PROVIDED WITH TURNBUCKLES AT UPPER END

COLUMN SCHEDULE

MARK	A1, A2, A3, A4, A5, A6, A7 C2, C3, C4, C5, C6	B1, C1, D1 B7, C7, D7	B2, B3, B4, B5, B6 D2, D3, D4, D5, D6	E1, E2, E3, E4 E5, E6, E7
SIZE	8WF 24	8WF 17	5"ø STD. PIPE GRADE 'B'	EXISTING COLUMNS 10WF 41

STEEL SCHEDULE

MARK	SHAPE	MATERIAL	MARK	SHAPE	MATERIAL
B1	I	8WF 17# 3x2½x¼ ⌐ BRACKETED @ 4'	G1	⌐	6 ⊔ 8.2# 3x2½x¼ ⌐ (PARTLY REUSED)
B2	I	12WF 27# 3x2½x¼ ⌐ BRACKETED @ 4'	G2	⌐	2½x2½x¼ L ⅛" BENT FR 6 ⊓ 8.2# (PARTLY REUSED)
B3	I	18WF 50#	G3	⌐	6 ⊓ 8.2#
B4	I	10WF 21# 3x2½x¼ ⌐ BRACKETED @ 4'	G4	⌐	3x2½x¼ L REUSED BRACKET TO EXISTING SWAY FRAME, SAME AS EXISTING.
B5	I	14 WF 34# 3x2½x½ ⌐ BRACKETED @ 4'	G5	⌐	2½x2½x¼ L BRACKET TO COL. @ 4'-0"
B6	I	8WF 17#	G6	⌐	6" ⊔ 8.2# ⅛" BENT FR 2½x2½x¼ L (AS REQUIRED TO SUIT SASH END)
B7	]	12 E 20.7# SEE DETAIL (G/S3)			
B8	I	10WF 21# 3x2½x¼ ⌐ BRACKETED @ 4' STANDARD 'B' CONNECTION TO EXISTING COLUMNS.			

REVISION	BY	DATE	DESCRIPTION

FRANK L. HOPE & ASSOCIATES
ARCHITECTS SAN DIEGO, CALIF.

JOB NO. 967
P.O. # C-67198

ADDITION TO BLDG. 146

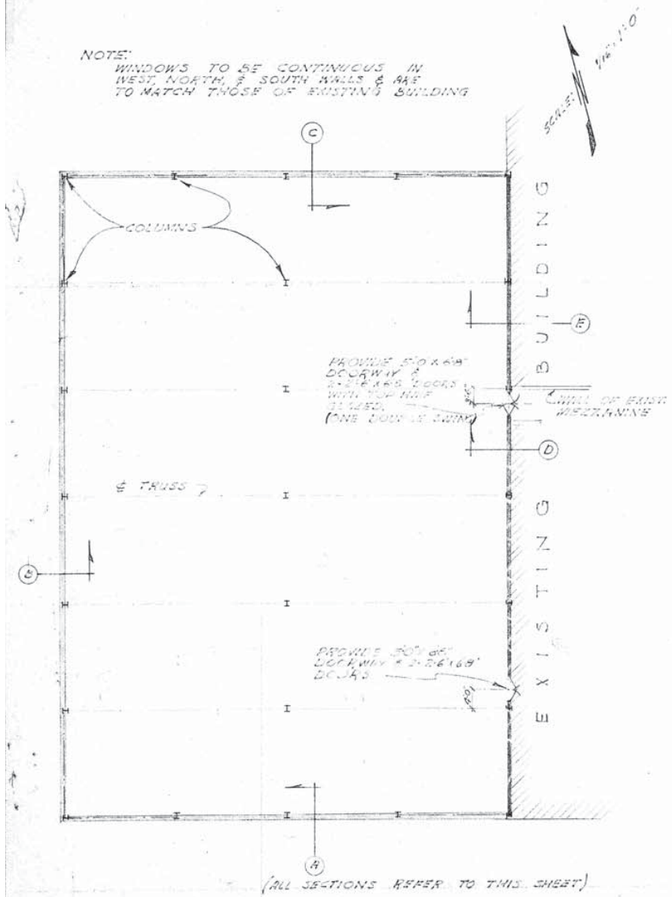
RYAN AERONAUTICAL CO.
SAN DIEGO, CALIFORNIA

DRAWN BY JOHN RUSKIN
CHECKED BY J.H.
DATE 4-24-56
REV. 5-22-56

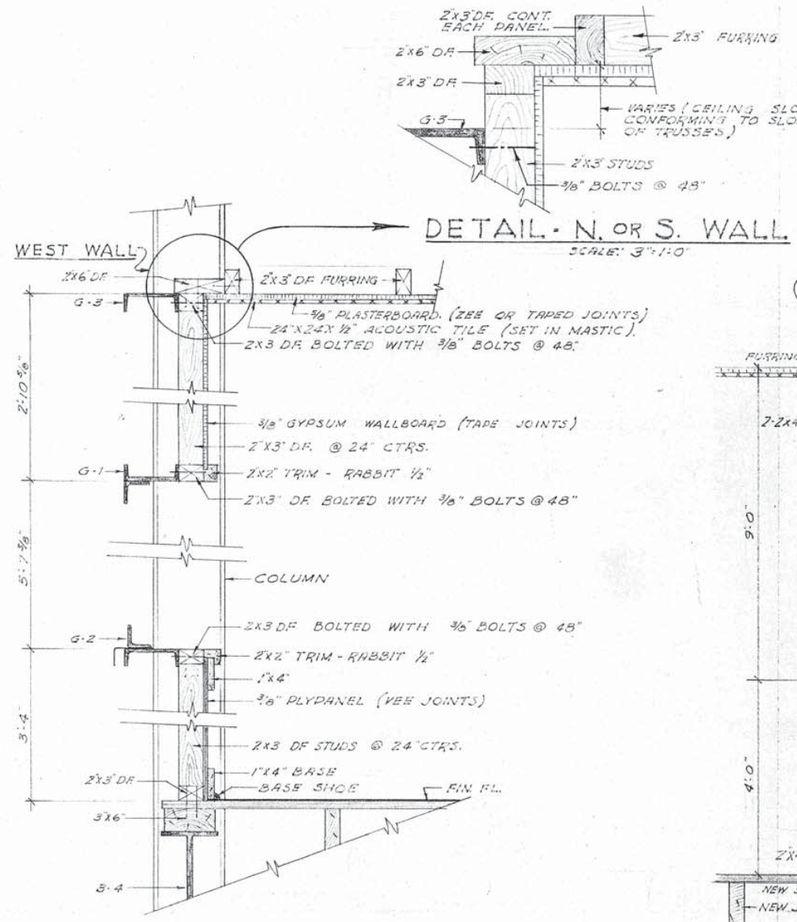
FRAMING PLANS & ELEVATIONS

SHEET S2 OF 3

NOTE:
WINDOWS TO BE CONTINUOUS IN WEST, NORTH, & SOUTH WALLS & ARE TO MATCH THOSE OF EXISTING BUILDING

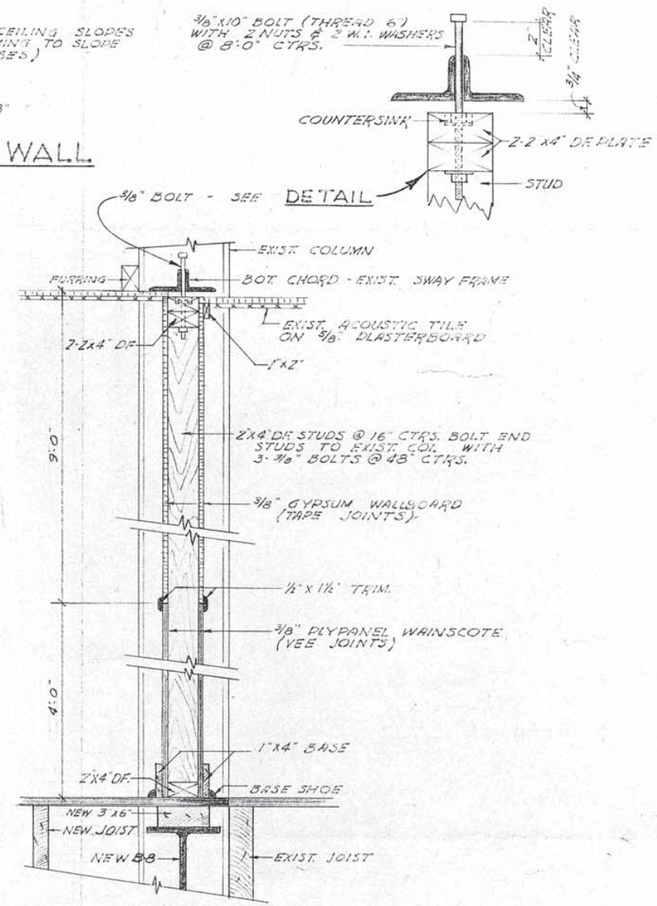


PLAN - SECOND FLOOR
SCALE: 1/16"=1'-0"



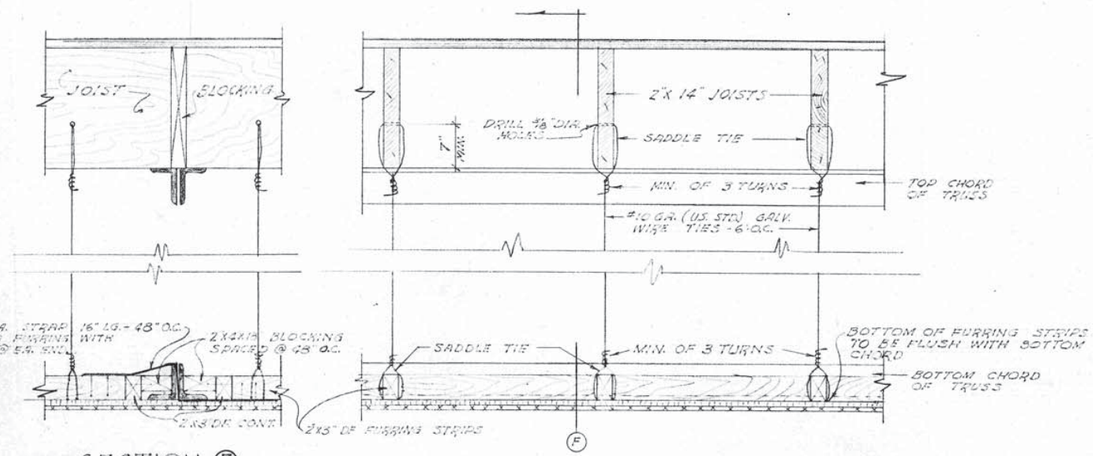
DETAIL - N. OR S. WALL.
SCALE: 3"=1'-0"

A B C SECTION - EXTERIOR WALL
SCALE: 1 1/2"=1'-0"



D SECTION - INTERIOR WALL
SCALE: 1 1/2"=1'-0"

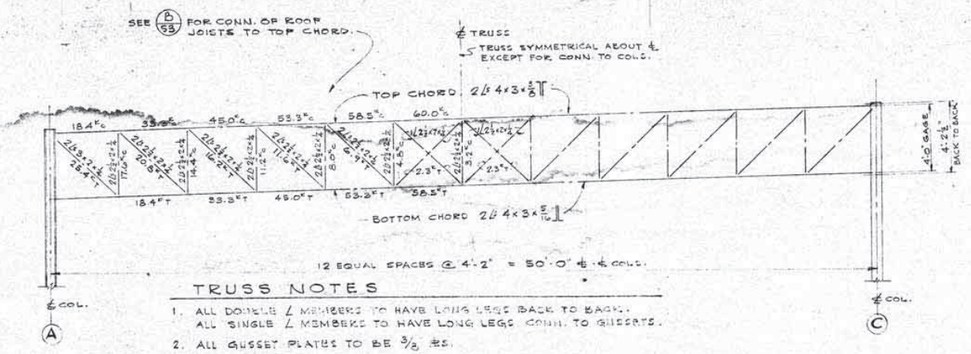
E IDENTICAL SECTION "D" EXCEPT OMIT WALLBOARD & WAINSCOTE ON THE FACTORY SIDE.



SECTION F DETAIL - HUNG CEILING
SCALE: 1 1/2"=1'-0"

APPROVED	DATE	RYAN AERONAUTICAL CO. PLANT ENGINEERING DEPARTMENT			
		NOTED	WOOD	SHEET OF SHEETS 2	2
		100'X144' ADDITION TO BUILDING 146		DRAWING SIZE D	
		INTERIOR FINISH DETAILS		DRAWING NO. 1-2070	

1-2070

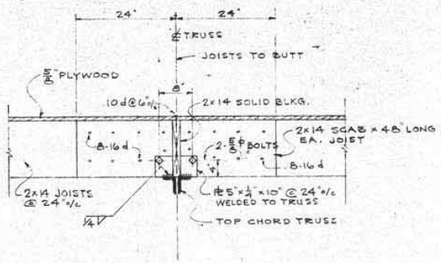


TRUSS NOTES

1. ALL DOUBLE ∠ MEMBERS TO HAVE LONG LEGS BACK TO BACK. ALL SINGLE ∠ MEMBERS TO HAVE LONG LEGS CONN. TO GUSSETS.
2. ALL GUSSET PLATES TO BE 3/8 #S.
3. ALL RIVETS TO BE 3/4 ϕ TWO BOLTS MIN. EA. CONN.
4. AT ROW A TRUSS T1 FRAMES INTO FLANGE OF BWF 24 COL. AT ROW C TRUSS T-1 & T-2 FRAMES INTO WEB OF BWF 24 COL. AT ROW E TRUSS T-2 FRAMES INTO FLANGE OF EXISTING 10 WF 41 COL.

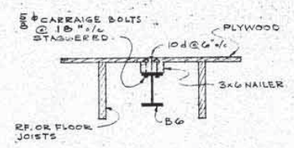
A TRUSS T-1 & T-2

SCALE 1/4" = 1'-0"



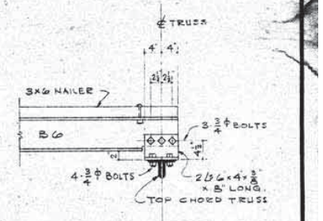
B TYP. CONNECTION OF ROOF JOISTS TO TRUSS

SCALE 3/4" = 1'-0"



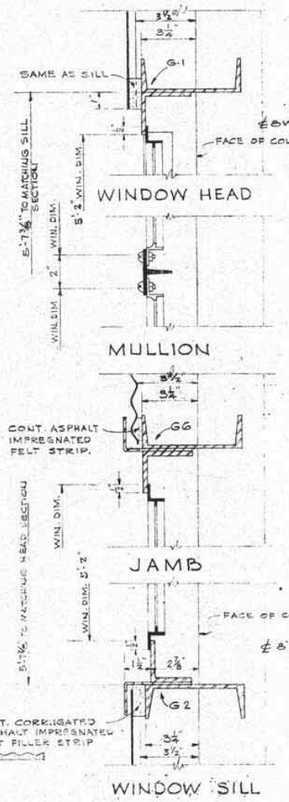
C TYP. CONN. OF FLOOR & ROOF TO STRUT B6

SCALE 3/4" = 1'-0"



D TYP. CONN. OF ROOF STRUT B6 TO TRUSS

SCALE 3/4" = 1'-0"



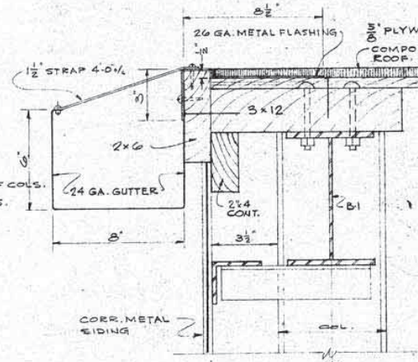
WALL SECTION THRU TYPICAL STEEL SASH

WINDOW DETAILS ARE TYPICAL

H

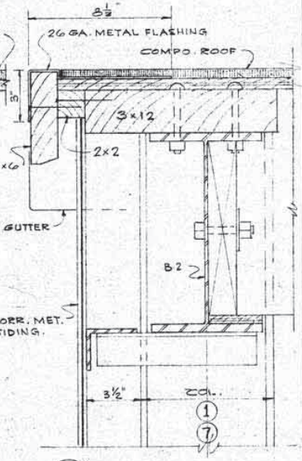
SCALE 3" = 1'-0"

NOTE:
1. GIRT AND SASH DIMENSIONS SHOWN ARE OFF OF EXISTING PLANS. (CONTRACTOR SHALL CHECK ON JOB & WITH OWNER.)
2. BACK FACE OF CORRUGATIONS TO BE ALWAYS 3 1/2" FROM FACE OF COLS. FRONT FACE OF GIRTS TO BE 3 1/4" OR 3 1/2" AS DETAILED



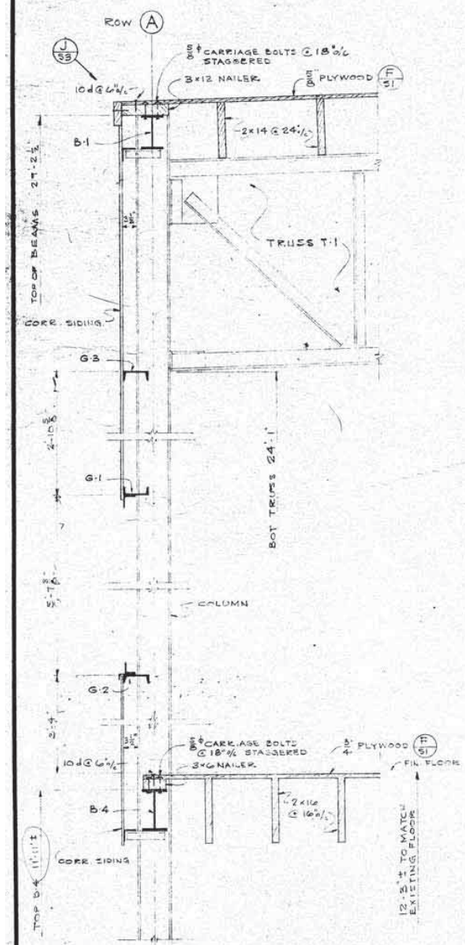
J GUTTER DETAIL

SCALE 3" = 1'-0"



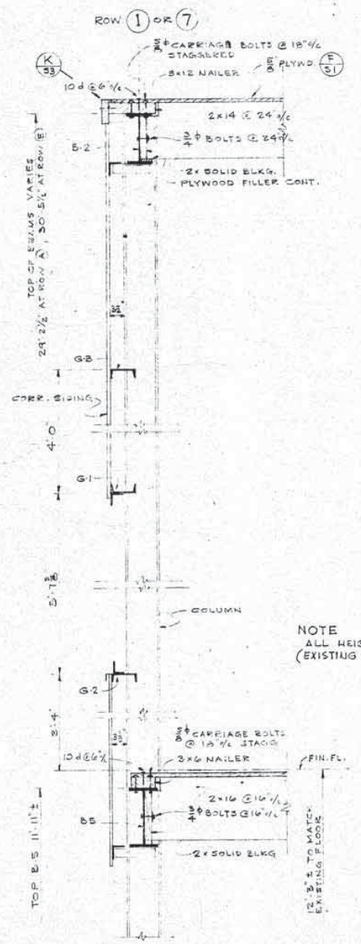
K RAKE DETAIL

SCALE 3" = 1'-0"



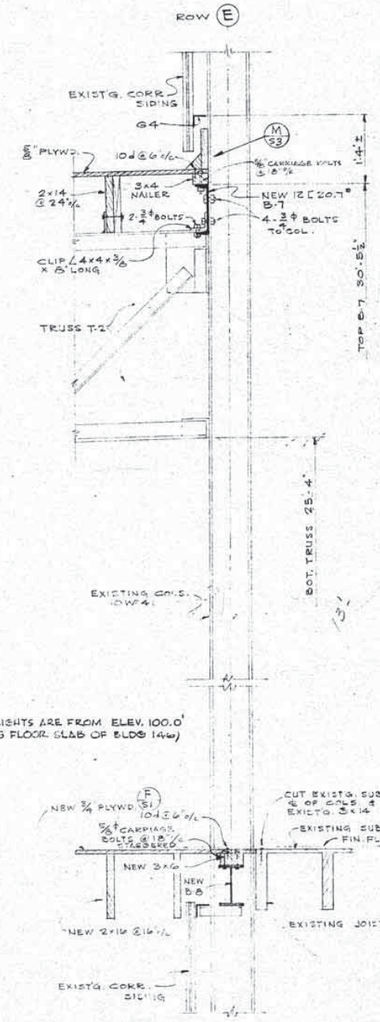
E WEST WALL

SCALE 3/4" = 1'-0"



F NORTH OR SOUTH WALL

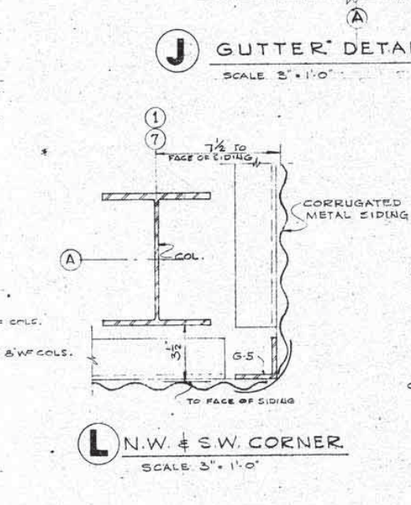
SCALE 3/4" = 1'-0"



G SECTION ROW (E)

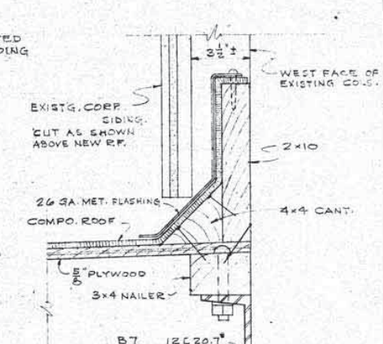
SCALE 3/4" = 1'-0"

NOTE
ALL HEIGHTS ARE FROM ELEV. 100.0' (EXISTING FLOOR SLAB OF BLDG 146)



L N.W. & S.W. CORNER

SCALE 3" = 1'-0"



M DETAIL OF FLASHING TO EXISTING BLDG. ROW (E)

SCALE 3" = 1'-0"

REVISION	BY	DATE	DESCRIPTION

FRANK L. HOPE & ASSOCIATES
ARCHITECTS SAN DIEGO, CALIF.

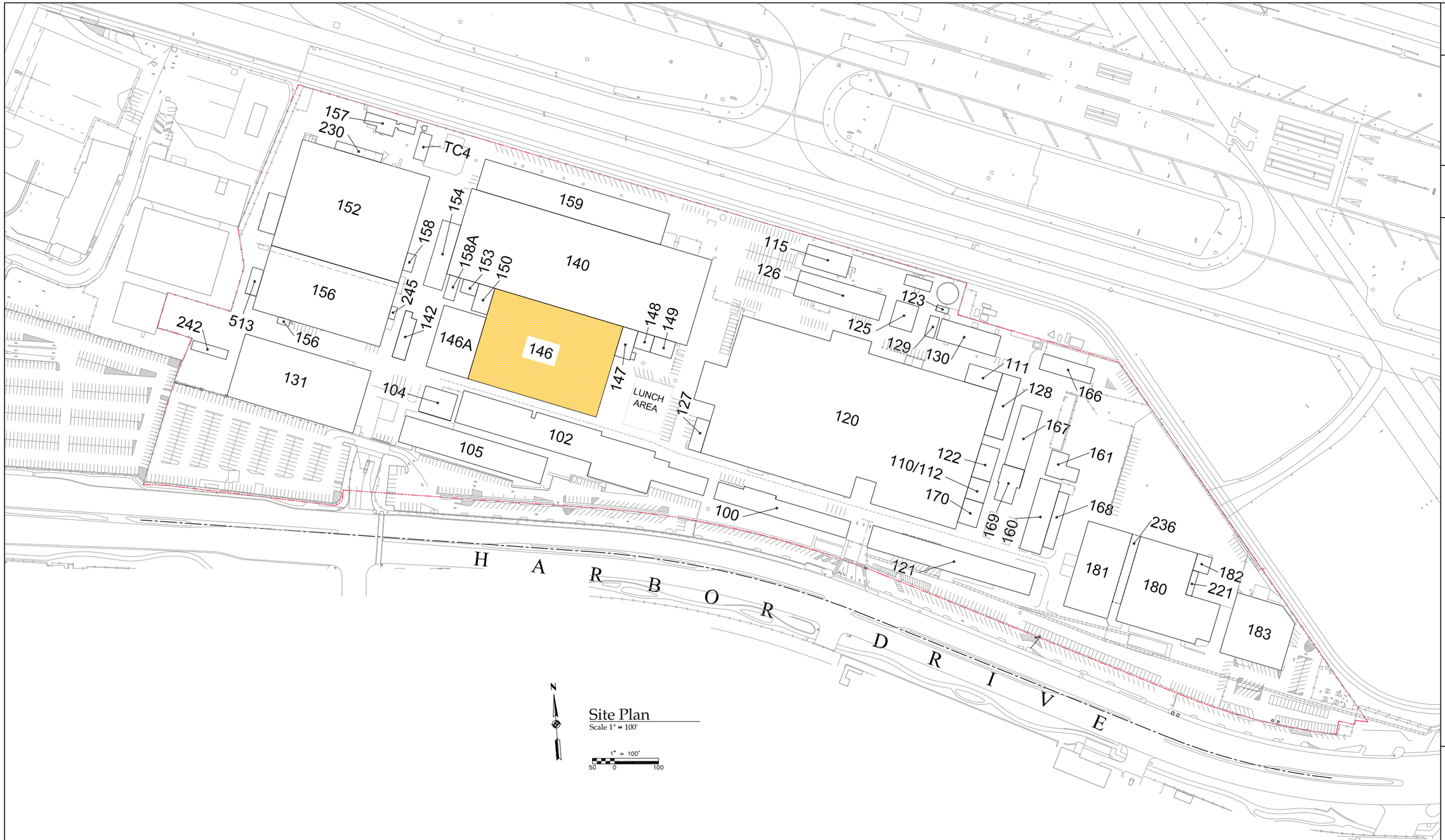
JOB NO. 967
Ro. # 66198

ADDITION TO BLDG. #146
RYAN AERONAUTICAL CO.
SAN DIEGO CALIFORNIA

DRAWN BY JOHN RUSKIN
CHECKED BY J.H.
DATE 9-14-56
REV. 3-25-58

DETAILS

SHEET S3 OF 3



Library of Congress Index Number

HISTORIC AMERICAN BUILDINGS SURVEY

SURVEY NO.

SHEET 1 OF 5 SHEETS

SAN DIEGO COUNTY

NAME AND LOCATION OF STRUCTURE

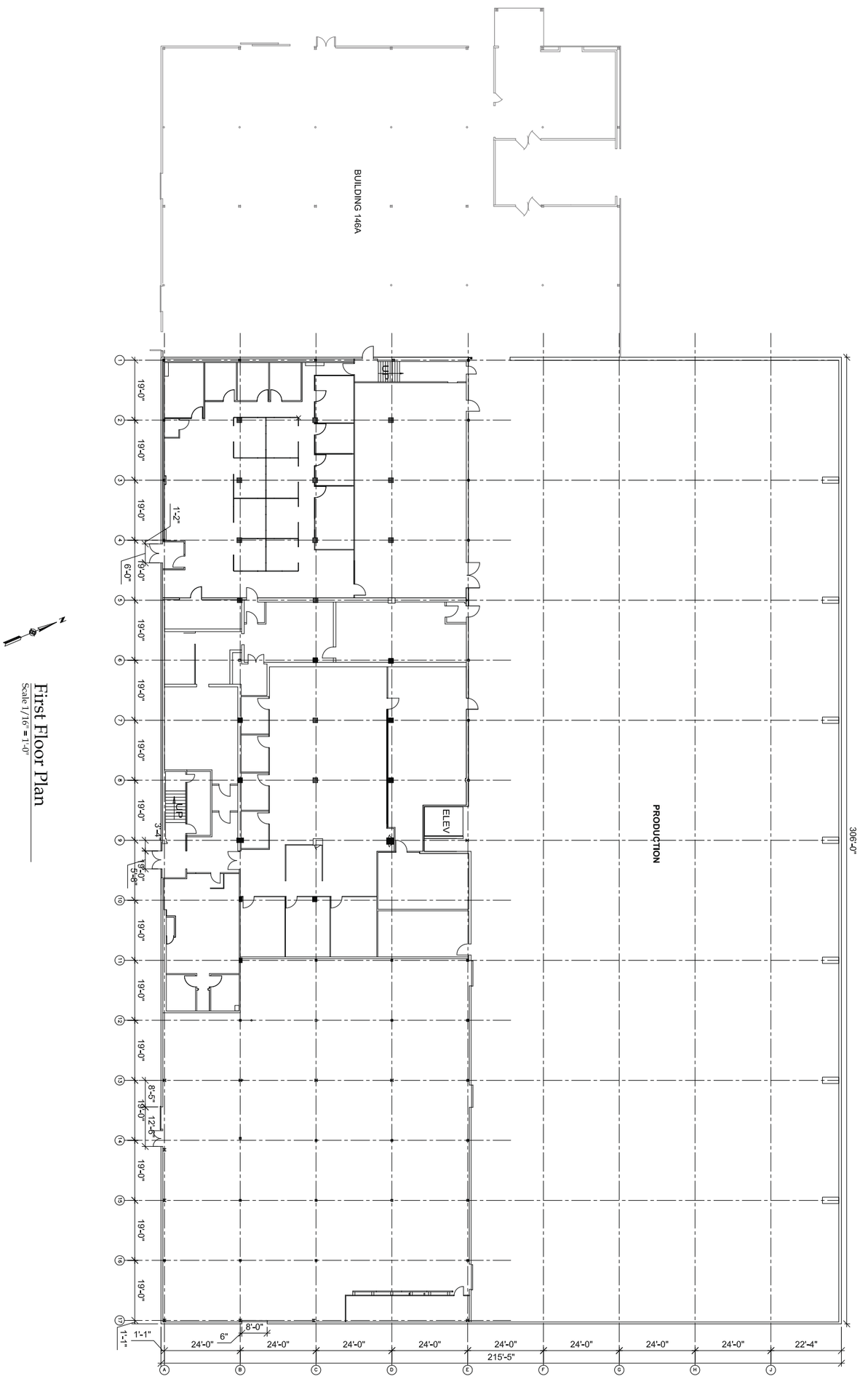
BUILDING 146 - ENGINEERING AND MANUFACTURING BUILDING

SAN DIEGO, CALIFORNIA

2701 N. HARBOR DRIVE

RYAN AERONAUTICAL COMPANY
HISTORIC DISTRICT
JANUARY 2010

DRAWN BY: EMERY R. WEAVER

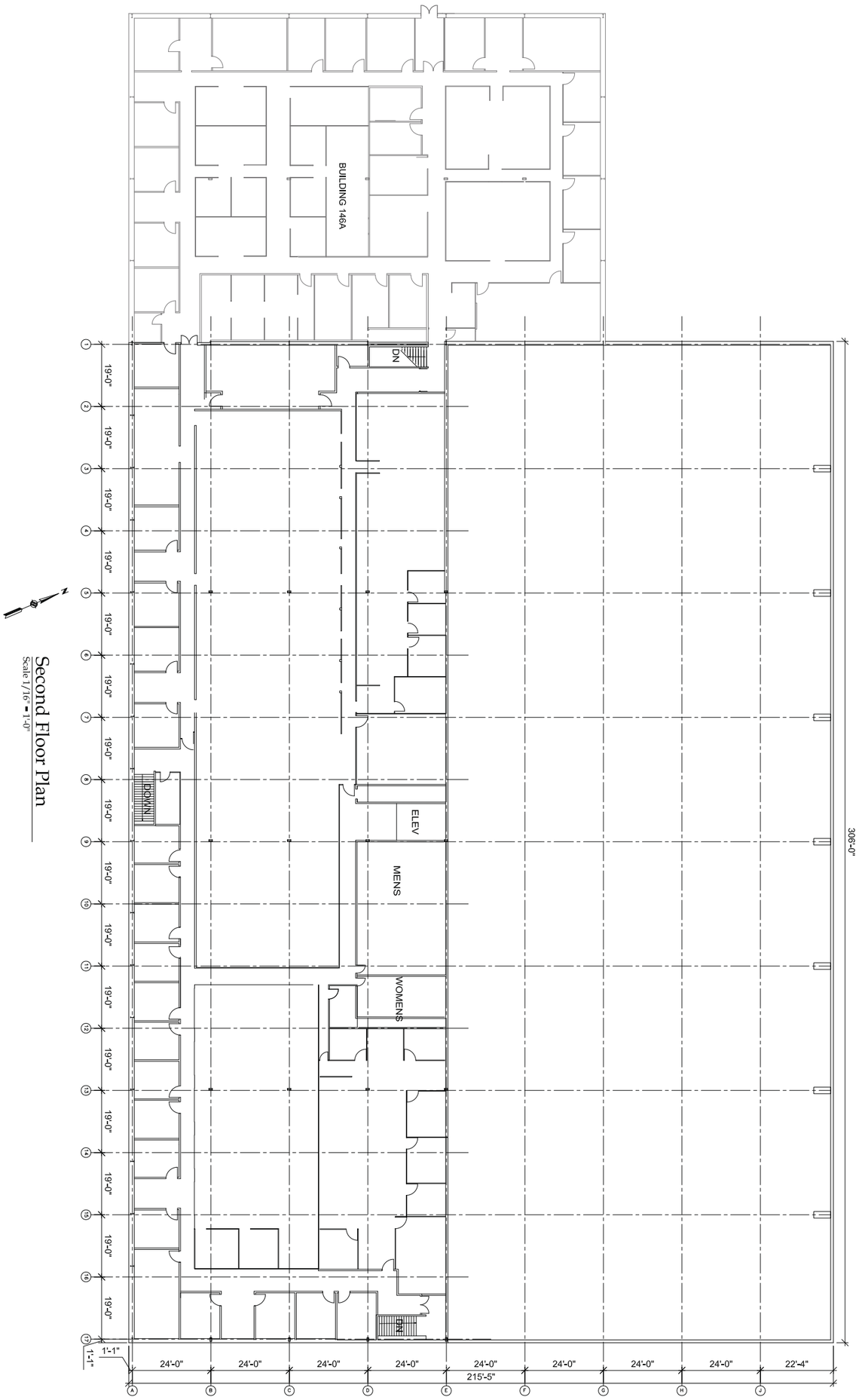


First Floor Plan

Scale 1/16" = 1'-0"

DRAWN BY: EMERY R. WEAVER

RYAN AERONAUTICAL COMPANY HISTORIC DISTRICT JANUARY 2010	NAME AND LOCATION OF STRUCTURE BUILDING 146 - ENGINEERING AND MANUFACTURING BUILDING 2701 N. HARBOR DRIVE SAN DIEGO, CALIFORNIA SAN DIEGO COUNTY	SURVEY NO. SHEET 2 OF 5 SHEETS	HISTORIC AMERICAN BUILDINGS SURVEY	Library of Congress Index Number

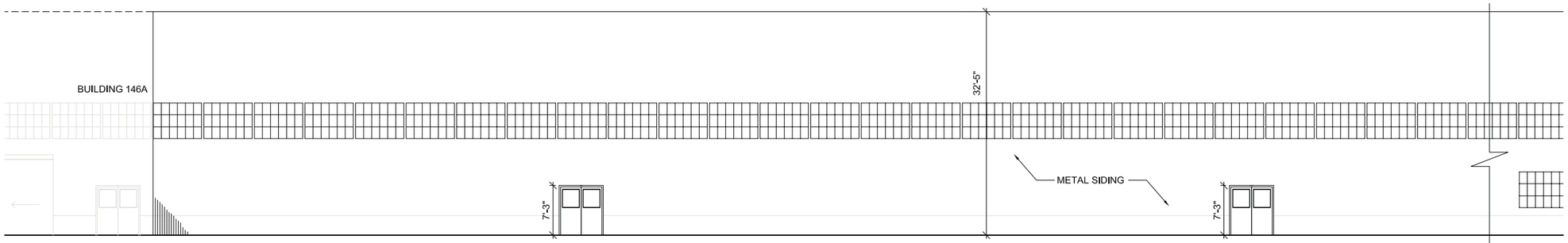


Second Floor Plan

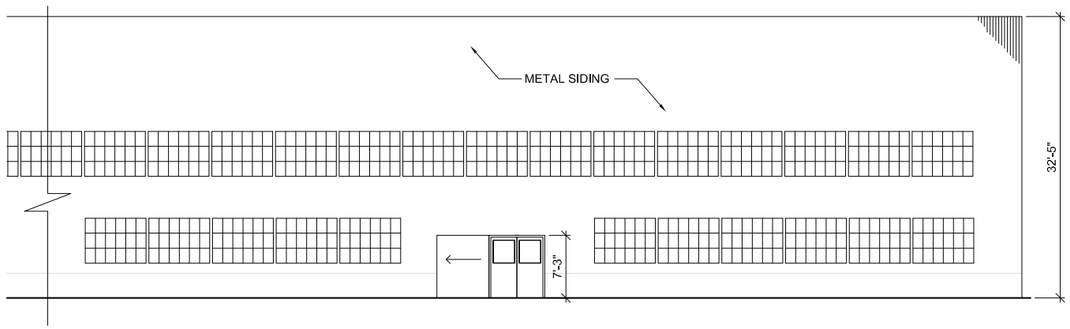
Scale 1/16" = 1'-0"

DRAWN BY: EMERY R. WEAVER

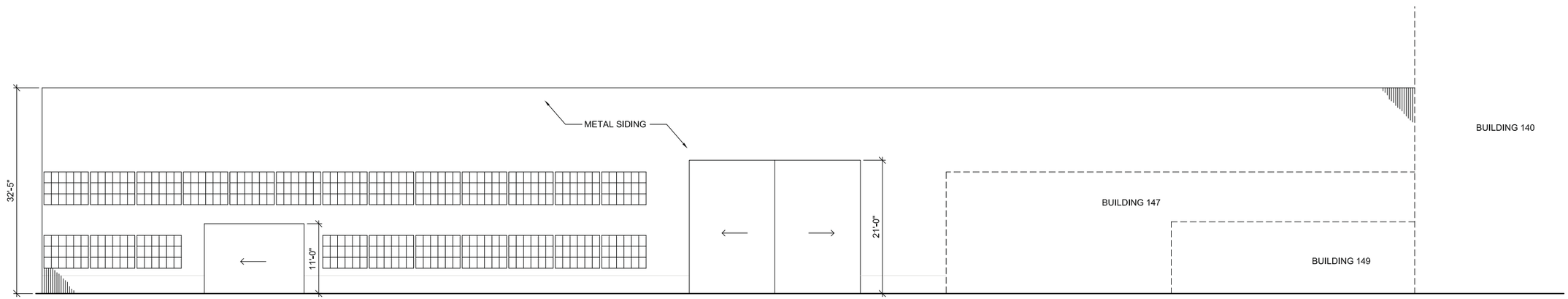
RYAN AERONAUTICAL COMPANY HISTORIC DISTRICT JANUARY 2010	NAME AND LOCATION OF STRUCTURE BUILDING 146 - ENGINEERING AND MANUFACTURING BUILDING 2701 N. HARBOR DRIVE SAN DIEGO, CALIFORNIA SAN DIEGO COUNTY	SURVEY NO. SHEET 3 OF 5 SHEETS	HISTORIC AMERICAN BUILDINGS SURVEY	Library of Congress Index Number	



South Elevation
Scale 1/8" = 1'-0"



South Elevation Continued
Scale 1/8" = 1'-0"



East Elevation
Scale 1/8" = 1'-0"

Library of Congress Index Number

HISTORIC AMERICAN BUILDINGS SURVEY

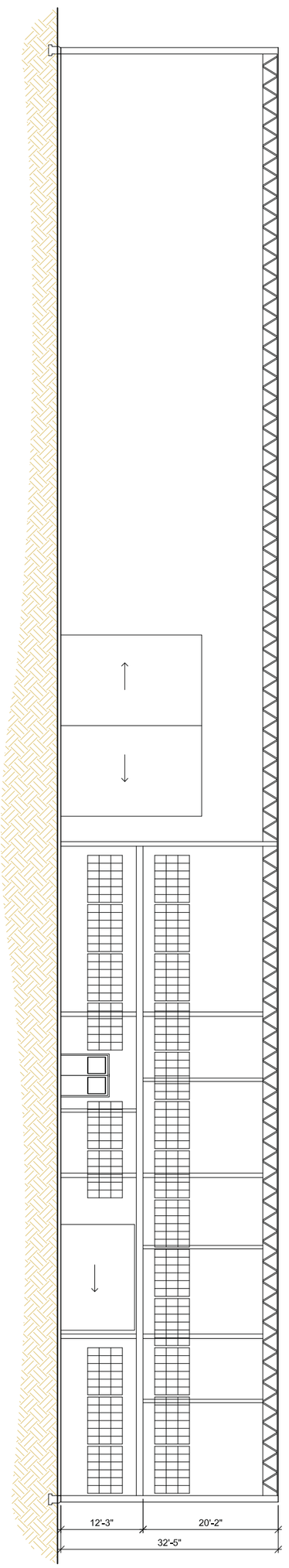
SURVEY NO.

SHEET 4 OF 5 SHEETS

NAME AND LOCATION OF STRUCTURE
BUILDING 146 - ENGINEERING AND MANUFACTURING BUILDING
SAN DIEGO COUNTY
2701 N. HARBOR DRIVE

DRAWN BY: EMERY R. WEAVER

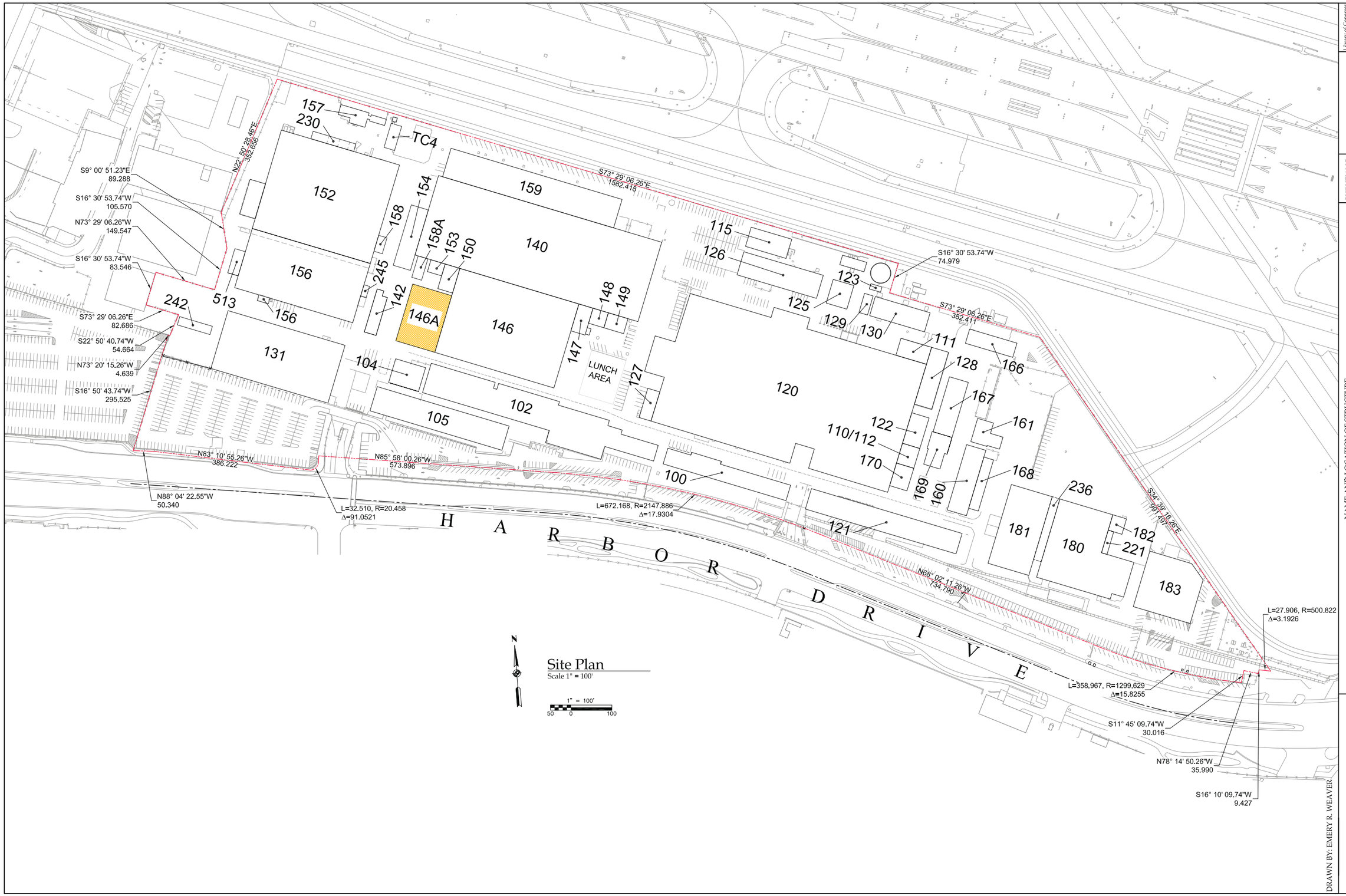
RYAN AERONAUTICAL COMPANY
HISTORIC DISTRICT
JANUARY 2010



Section
Scale 1/8" = 1'-0"

DRAWN BY: EMERY R. WEAVER

RYAN AERONAUTICAL COMPANY HISTORIC DISTRICT JANUARY 2010	NAME AND LOCATION OF STRUCTURE BUILDING 146 - ENGINEERING AND MANUFACTURING BUILDING 2701 N. HARBOR DRIVE SAN DIEGO, CALIFORNIA SAN DIEGO COUNTY	SURVEY NO. SHEET 5 OF 5 SHEETS	HISTORIC AMERICAN BUILDINGS SURVEY	Library of Congress Index Number



Library of Congress Index Number

HISTORIC AMERICAN BUILDINGS SURVEY

SURVEY NO.

SHEET 1 OF 4 SHEETS

NAME AND LOCATION OF STRUCTURE

BUILDING 146A - ENGINEERING AND MANUFACTURING BUILDING

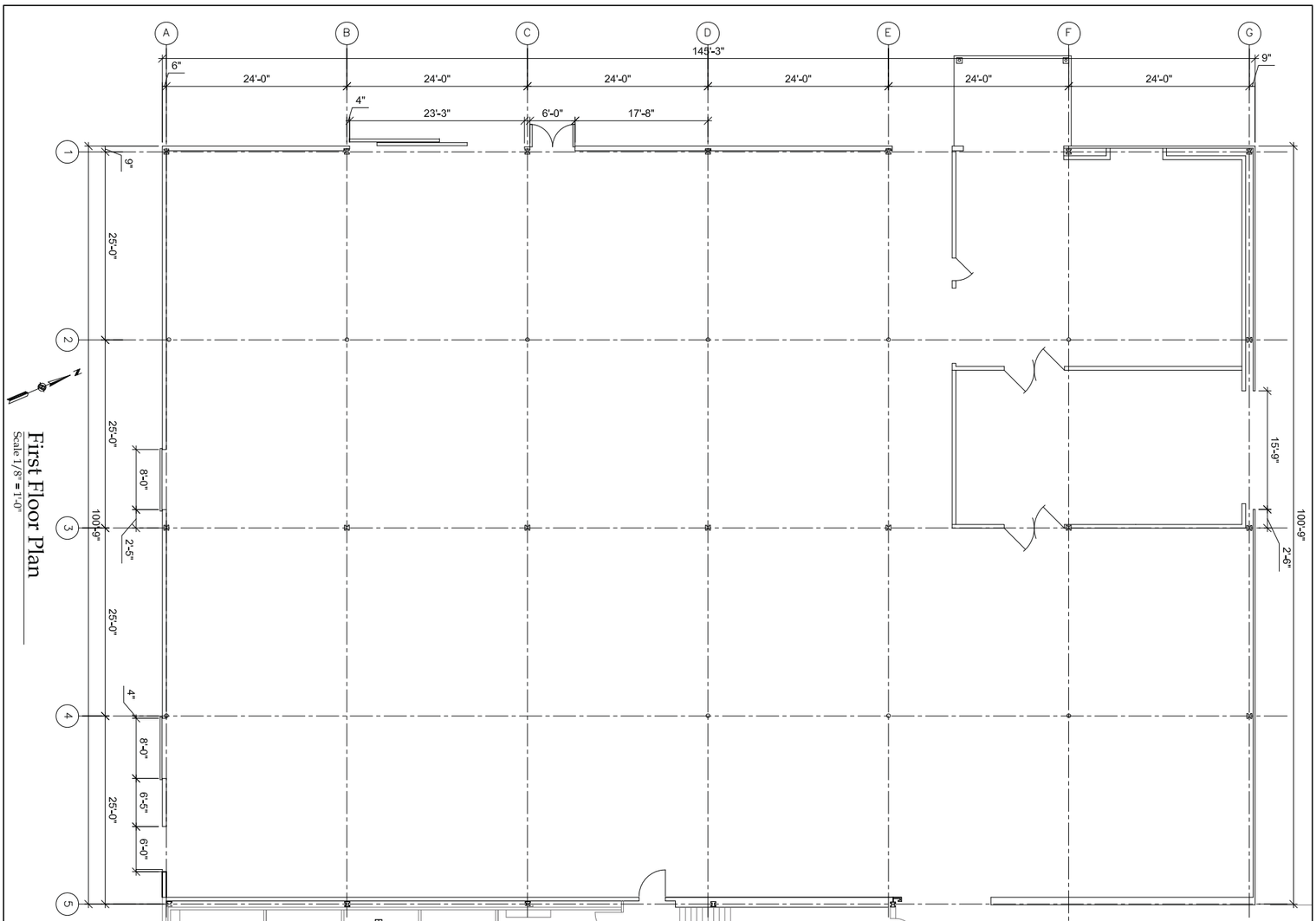
SAN DIEGO, CALIFORNIA

SAN DIEGO COUNTY

2701 N. HARBOR DRIVE

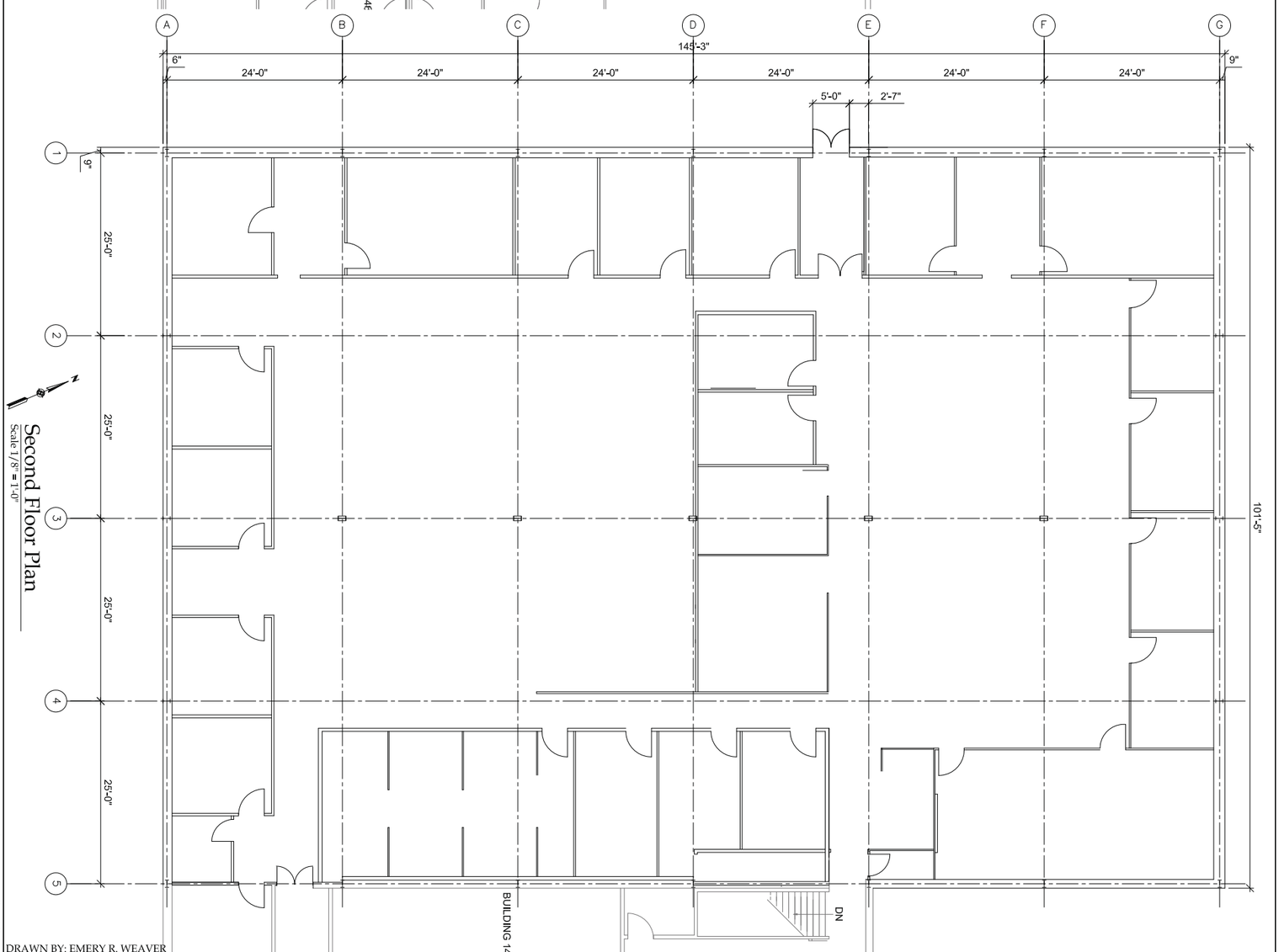
DRAWN BY: EMERY R. WEAVER

RYAN AERONAUTICAL COMPANY
HISTORIC DISTRICT
JANUARY 2010



First Floor Plan

Scale 1/8" = 1'-0"

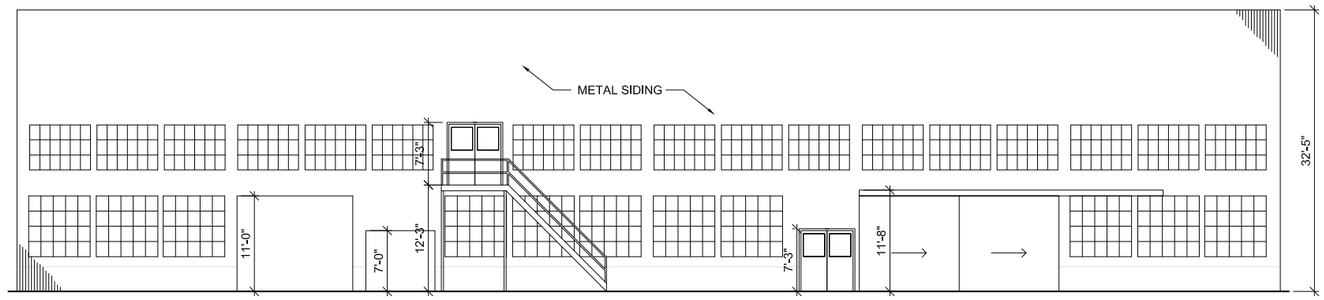


Second Floor Plan

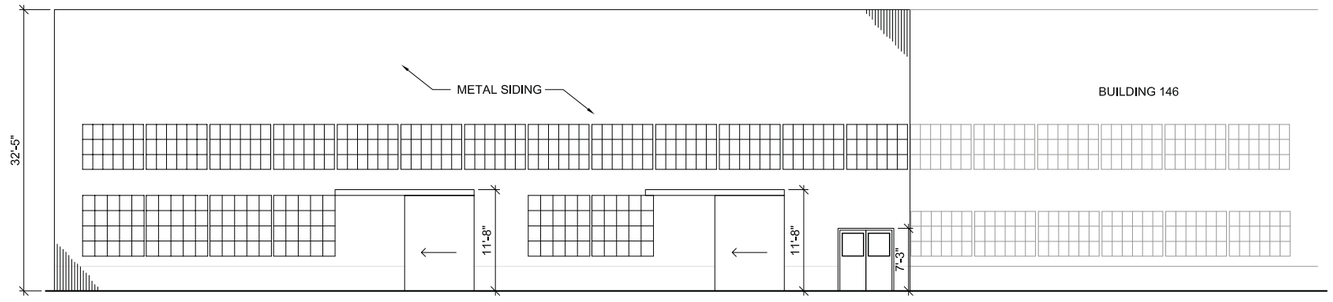
Scale 1/8" = 1'-0"

DRAWN BY: EMERY R. WEAVER

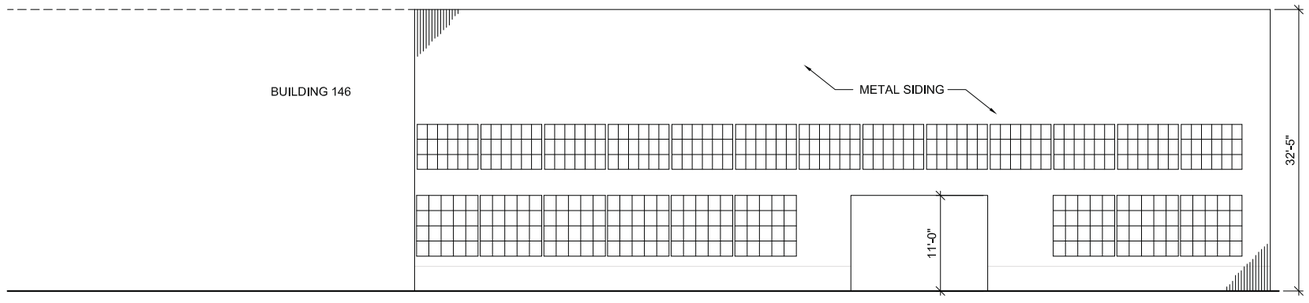
RYAN AERONAUTICAL COMPANY HISTORIC DISTRICT JANUARY 2010	NAME AND LOCATION OF STRUCTURE BUILDING 146A - ENGINEERING AND MANUFACTURING BUILDING 2701 N. HARBOR DRIVE SAN DIEGO, CALIFORNIA SAN DIEGO COUNTY	SURVEY NO. SHEET 2 OF 4 SHEETS	HISTORIC AMERICAN BUILDINGS SURVEY	Library of Congress Index Number



West Elevation
Scale 1/8" = 1'-0"



South Elevation
Scale 1/8" = 1'-0"



North Elevation
Scale 1/8" = 1'-0"

Library of Congress Index Number

HISTORIC AMERICAN BUILDINGS SURVEY

SURVEY NO.

SHEET 3 OF 4 SHEETS

NAME AND LOCATION OF STRUCTURE

BUILDING 146A - ENGINEERING AND MANUFACTURING BUILDING

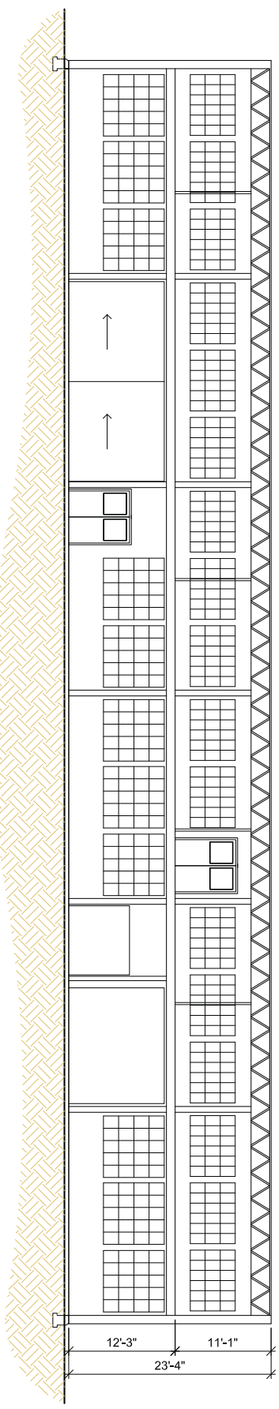
SAN DIEGO, CALIFORNIA

SAN DIEGO COUNTY

2701 N. HARBOR DRIVE

DRAWN BY: EMERY R. WEAVER

RYAN AERONAUTICAL COMPANY
HISTORIC DISTRICT
JANUARY 2010



Section
Scale: 1/8" = 1'-0"

DRAWN BY: EMERY R. WEAVER

RYAN AERONAUTICAL COMPANY HISTORIC DISTRICT JANUARY 2010	NAME AND LOCATION OF STRUCTURE BUILDING 146A - ENGINEERING AND MANUFACTURING BUILDING 2701 N. HARBOR DRIVE SAN DIEGO, CALIFORNIA SAN DIEGO COUNTY	SURVEY NO. SHEET 4 OF 4 SHEETS	HISTORIC AMERICAN BUILDINGS SURVEY	Library of Congress Index Number