COLUMBIA SCIENTIFIC BALLOON FACILITY

REAL PROPERTY MANUAL

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NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

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PREFACE

BACKGROUND

The Columbia Scientific Balloon Facility (CSBF) in Palestine, Texas was established in the early 1960s under the sponsorship of the National Science Foundation (NSF). The purpose of the CSBF is to provide a permanent complex for scientific balloon flight operations. Since its inception in the early 1960s, the CSBF has been a Government-owned, contractor-operated institution. Originally named the Scientific Balloon Facility, it was renamed the National Scientific Balloon Facility (NSBF) on July 1, 1972.

In October 1982, sponsorship of the NSBF was transferred from the National Science Foundation to the National Aeronautics and Space Administration (NASA).

On August 23, 2005, NASA signed off on a plan by U.S. Congressman Jeb Hensarling (R-Texas) to rename the NSBF to the Columbia Scientific Balloon Facility (CSBF) in honor of the seven astronauts who perished during the loss of the Space Shuttle Columbia.

SERVICES

The CSBF has the following threefold mission:

- To plan and develop facilities and provide operations services to meet the approved ballooning requirements of the scientific community
- To perform the necessary research and development to meet future scientific ballooning requirements
- To provide consulting services in the field of scientific ballooning

The CSBF provides complete balloon operations services and engineering support to the United States and foreign scientific communities. The operational services include:

- Balloon inflation
- Launching
- Tracking and recovering the balloon payload
- Telecommanding and data retrieval with reliable electronics systems

Engineering support services include:

- Balloon systems design
- Balloon material research
- Electronics design
- Gondola design
- Thermal analysis

PALESTINE, TEXAS FACILITY

The CSBF is five miles northwest of the City of Palestine in Anderson County, Texas. The facility is west of the Palestine Municipal Airport, accessible from U.S. Highway 287 via Farm-to-Market Road 3224. Two sides of the property are defined by the north-south and east-west runways of the airport (see Figure 1). There are 19 buildings in the complex. The buildings and two paved launch areas are situated on 473.85 acres of land, of which 165.97 acres are leased from the City of Palestine and the remaining 307.88 acres are listed as NASA real property. On February 16, 2016 10 of the NSF owned buildings and 307.88 acres of NSF owned land were transferred to NASA, the entire facility is now NASA owned. The facility is used exclusively for scientific balloon flight operations and engineering. All properties are being fully used in support of the CSBF mission and are essential to program requirements.

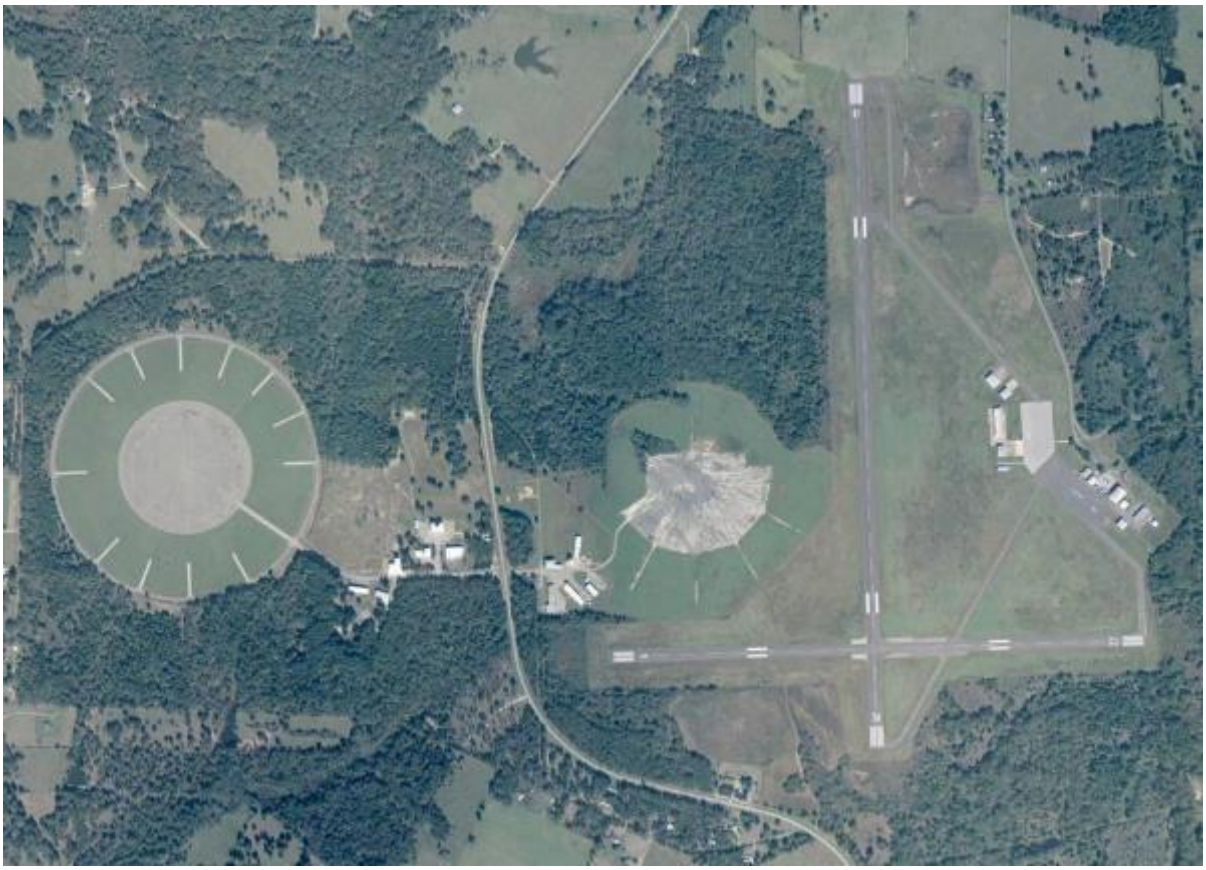

Figure 1 - CSBF Base and Palestine Airport

FORT SUMNER, NEW MEXICO FACILITY

Remote site operations include a launch facility in Fort Sumner, New Mexico (see Figure 2). NASA purchased 8.15 acres of land from the City of Fort Sumner, New Mexico for use as a remote launch site at the Fort Sumner, New Mexico Municipal Airport. In 1991, an 80 x 80-ft building was erected on this acreage to serve as the staging facility for balloon missions launched from Fort Sumner. There is currently no permanent staff at the Fort Sumner location.

Two leases are in place in connection with the Fort Sumner facility. A hangar is leased from the Village of Fort Sumner, and a parcel of land used as a down-range facility at the Winslow-Lindbergh Regional Airport is leased from the City of Winslow, AZ. Starting in 2019 NASA is handling all procurement functions on all leases.

Figure 2 - Fort Sumner Launch Facility at the Fort Sumner Municipal Airport

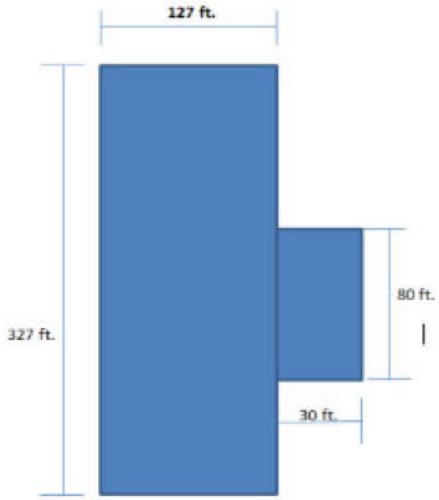

Figure 3 - Leased hangar at Fort Sumner Airport

Figure 4 - Leased parcel of land at Winslow Airport

ADDITIONAL INFORMATION

CURRENT OUT-GRANTS

NOAA WIND PROFILER

Atmospheric profilers operated by NOAA's Office of Atmospheric Research (OAR) measure the wind and temperature variations with height over a large area of the central United States and Alaska. The National Weather Service terminated and defunded the project in 2015, and the NOAA Wind Profiler was removed from the CSBF facility.

U.S. CLIMATE REFERENCE NETWORK

NOAA has set up a U.S. Climate Reference Network (USCRN) data collection center at the CSBF. Its purpose is to provide future long-term high-quality observations of surface air temperature and precipitation that can be coupled to past long-term observations for the detection and attribution of present and future climate change. USCRN measures the following:

- Air temperature
- Ground surface temperature
- Precipitation
- Relative humidity
- Soil moisture and temperature
- Solar radiation
- Wind speed

VERIZON CELLULAR SITE

To improve the quality of CSBF cellular signals, Alltel has placed an antenna on the NASA water tower. A small fenced building was erected at the base of the water tower to house the receiver and transmitters.

FLOODPLAINS OR WETLANDS

According to a survey dated September 18, 1972, which is available for review, the property is not in a floodplain or wetland area.

HISTORIC OR CULTURAL SIGNIFICANCE

None of the real property at the CSBF is listed in the National Register of Historic Places.

MINERAL ACTIVITY

CSBF does not have records or information regarding the mineral rights or deposits of the NASA owned acreage.

UTILITIES

Table 1 lists companies currently providing utility services to CSBF.

Table 1 - Utility Providers

SERVICE	COMPANY
Electricity	TXU Energy
Telephone	CenturyLink
Water	City of Palestine

CONTENTS

Preface i
Background i
Services i
Palestine, Texas Facility ii
Fort Sumner, New Mexico Facility ii
Additional Information iv
Current Out-Grants iv
Floodplains or Wetlands iv
Historic or Cultural Significance iv
Mineral Activity iv
Utilities iv

Contents v

List of Tables vii

List of Figures vii

1 Introduction 1
1.1 Origin of Real Property Data 1
1.2 Chronological Listing of NSF Real Property 2
1.3 Chronological Listing of NASA Real Property 3
1.4 Summary of Real Property 4

2 Land: Owned and Leased 5
2.1 Palestine, TX 5
2.1.1 Summary 5
2.1.2 Chronological Listing 5
2.2 Ft. Sumner, NM and Winslow, AZ 7
2.2.1 Summary 7
2.2.2 Chronological Listing 7

3 Buildings and Structures 8
3.1 Administration – Building 1 8
3.2 Facilities/Battery Storage – Building 2 11
3.3 Facility Services/Equipment Maintenance –Building 3 13
3.4 Flight Operations – Building 4 15
3.5 Stratoport I – Building 5 17
3.6 Administration Storage – Building 6 19
3.7 Vehicle Storage I (Old Tim Shed) – Building 7 21
3.8 Monuments – Structure 8 23
3.9 Facilities Storage - Building 9 24
3.10 Visitor Center – Building 10 26
3.11 Staging – Building 11 28
3.12 Operations Control Center (OCC) – Building 12 30
3.13 Vehicle Storage II (New Tim Shed) – Building 13 33
3.14 Balloon Storage – Building 14 35

3.15 Warehouse I – Building 15 ... 37
3.16 Verizon Cellular Site – Structure 16 ... 39
3.17 Tractor Shed – Building 17 ... 41
3.18 Warehouse II – Building 18 ... 42
3.19 Nonmagnetic A-Frame – Structure 19 ... 43
3.20 NOAA Wind Profiling Site – Structure 20 ... 44
3.21 Base Sign – Structure 22 ... 45
3.22 Engineering Support – Building 23 ... 46
3.23 Water Tower – Structure 24 ... 48
3.24 Test and Evaluation (T&E) – Building 25 ... 51
3.25 Loading Dock – Structure 26 ... 54
3.26 Econo Vault Fuel Storage – Structure 27 ... 55
3.27 Balloon Support – Building 28 ... 56
3.28 East Pavilion – Structure 29 ... 58
3.29 West Pavilion – Structure 30 ... 59
3.30 NOAA Climate Reference Network– Structure 31 ... 60
3.31 Engineering Support Storage – Building 32 ... 61

4 OTHER INFRASTRUCTURE ... 62
4.1 East Launch Pad ... 62
4.2 West Launch Pad ... 64
4.3 Roads, Walks, and Parking Lots ... 66
4.4 Fire Protection Sprinkler System ... 66

5 Fort Sumner Flight Facility ... 68
5.1 Staging – Remote Building R1 ... 68
5.2 Lithium Battery Storage – Remote Building R3 ... 71
5.3 Kitchen – Remote Building R4 ... 72

6 Alice Springs, Australia ... 73
6.1 Demountable Building – Remote Building R2 ... 73

7 McMurdo Station, Antarctica ... 74
7.1 Payload Building 1 ... 74
7.2 Payload Building 2 ... 76
7.3 Rigging Shop ... 78
7.4 Electronics Shop (Telemetry) ... 80
7.5 Mechanical Building ... 82

Appendix A – CSBF Organization ... 84

Appendix B – CSBF Facility Map ... 85

Appendix C –Palestine, TX Vicinity Map ... 86

Appendix D – Map of Fort Sumner, NM ... 87

Appendix E – Fort Sumner, NM Vicinity Map ... 88

Appendix F – CSBF Site Diagram ... 89

LIST OF TABLES

Table 1 - Utility Providers iv
Table 2 - NCAR Financial Statement of NSF Real Property Transferred on September 27, 1985 1
Table 3 - Chronological Listing of NSF Real Property Transferred to NASA 2016 2
Table 4 - Chronological Listing of NASA Real Property 3
Table 5 - Total NSF and NASA Real Property 4
Table 6 - NASA Owned and Leased Land 5
Table 7 - CSBF Acreage and Land Values 6
Table 8 - GSA Real Property Survey Results 6
Table 9 - NASA Owned and Leased Land 7

LIST OF FIGURES

Figure 1 - CSBF Base and Palestine Airport ii
Figure 2 - Fort Sumner Launch Facility at the Fort Sumner Municipal Airport iii
Figure 3 - Leased hangar at Fort Sumner Airport iii
Figure 4 - Leased parcel of land at Winslow Airport iii
Figure 5 - Administration (Building 1) 9
Figure 6 - Administration (Building 1) Floor Plan 10
Figure 7 - Facilities/Battery Storage (Building 2) 11
Figure 8 - Facilities/Battery Storage (Building 2) Floor Plan 12
Figure 9 - Facility Services/Equipment Maintenance (Building 3) 14
Figure 10 - Facility Services/Equipment Maintenance (Building 3) Floor Plan 14
Figure 11 - Flight Operations (Building 4) 16
Figure 12 - Flight Operations (Building 4) Floor Plan 16
Figure 13 - Stratoport I (Building 5) 18
Figure 14 - Stratoport I (Building 5) Floor Plan 18
Figure 15 - Facilities Storage (Building 6) 20
Figure 16 - Facilities Storage (Building 6) Floor Plan 20
Figure 17 - Vehicle Storage I (Building 7) 21
Figure 18 - Vehicle Storage I (Building 7) Floor Plan 22
Figure 19 - Monument (Structure 8) 23
Figure 20 - Facilities Storage (Building 9) 24
Figure 21 - Facilities Storage (Building 9) Floor Plan 25
Figure 22 - Visitor Center (Building 10) 26
Figure 23 - Visitor Center (Building 10) Floor Plan 27
Figure 24 - Staging (Building 11) 29
Figure 25 - Staging (Building 11) Floor Plan 30
Figure 26 - Operations Control Center (Building 12) 31
Figure 27 - Operations Control Center (Building 12) Floor Plan 32
Figure 28 - Vehicle Storage II (Building 13) 33
Figure 29 - Vehicle Storage II (Building 13) Floor Plan 34

Figure 30 - Balloon Storage (Building 14) 35
Figure 31 - Balloon Storage (Building 14) Floor Plan 36
Figure 32 - Warehouse I (Building 15) 37
Figure 33 - Warehouse I (Building 15) Floor Plan 38
Figure 34 - Verizon Antenna (Structure 16) 39
Figure 35 - Verizon Cellular Site (Structure 16) 40
Figure 36 - Tractor Shed (Building 17) 41
Figure 37 - Tractor Shed (Building 17) Floor Plan 41
Figure 38 - Warehouse II (Building 18) 42
Figure 39 - Warehouse II (Building 18) Floor Plan 42
Figure 40 - Nonmagnetic A-Frame (Structure 19) 43
Figure 41 - Former location of NOAA Wind Profiler (Structure 20) 44
Figure 42 - Base Sign (Structure 22) 45
Figure 43 - Engineering Support (Building 23) 46
Figure 44 - Engineering Support (Building 23) Floor Plan 47
Figure 45 - Water Tower (Structure 24) 49
Figure 46 - Water Tower (Structure 24) Drawing 50
Figure 47 - Test and Evaluation (Building 25) 52
Figure 48 - Test and Evaluation (Building 25) Floor Plan 53
Figure 49 - Loading Dock (Structure 26) 54
Figure 50 - Econo Vault Fuel Storage (Structure 27) 55
Figure 51 - Balloon Support (Building 28) 56
Figure 52 - Balloon Support (Building 28) Floor Plan 57
Figure 53 - East Pavilion (Building 29) 58
Figure 54 - West Pavilion (Building 30) 59
Figure 55 - NOAA Climate Network (Structure 31) 60
Figure 56 - Engineering Support Storage (Building 32) 61
Figure 57 - East Launch Pad 63
Figure 58 - West Launch Pad 65
Figure 59 – Resurfaced Parking Area in Front of Building 11 66
Figure 60 - Fort Sumner Staging (Building R1) 69
Figure 61 - Fort Sumner Staging (Building R1) Floor Plan 70
Figure 62 - Fort Sumner Lithium Battery Storage (Building R3) 71
Figure 63 - Fort Sumner Lithium Battery Storage (Building R3) Floor Plan 72
Figure 64 – Ft. Sumner Kitchen (Building R4) 72
Figure 65 - Alice Springs Demountable Building (Building R2) Floor Plan 73
Figure 66 - Antarctica Payload Building 1 floor plan 74
Figure 67 - Antarctica Payload Building 1 photograph 75
Figure 68 - Antarctica Payload Building 2 floor plan 76
Figure 69 - Antarctica Payload Building 2 photograph 77
Figure 70 - Antarctica Rigging Shop floor plan 78
Figure 71 - Antarctica Rigging Building photo 79
Figure 72 - Antarctica Electronics Shop (Telemetry) floor/roof plans 80
Figure 73 - Antarctica Telemetry Building photo 81
Figure 74 - Antarctica Mechanical Building floor and roof plan 82
Figure 75 - Antarctica Mechanical Building photo 83
Figure 76 - CSBF Organization Chart 84

Figure 77 - CSBF Facility Map 85
Figure 78 - Palestine, Texas Vicinity Map..... 86
Figure 79 - Map of Fort Sumner, NM..... 87
Figure 80 - Fort Sumner, NM Vicinity Map 88
Figure 81 - CSBF Site Diagram..... 89

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1 INTRODUCTION

1.1 ORIGIN OF REAL PROPERTY DATA

An Indefinite Use Permit, effective October 1, 1982, was issued by the NSF to NASA for all land and other real property at the Columbia Scientific Balloon Facility (CSBF) in Anderson County, Palestine, Texas.

The information compiled for the CSBF Real Property Manual resulted from extensive research. Information and assistance were received from the following sources:

- National Science Foundation (NSF)
- University Corporation for Atmospheric Research (UCAR)
- National Center for Atmospheric Research (NCAR)
- Deloitte, Haskins, Sells – NCAR Accounting Firm
- The *July 1972 Master Plan Study for NCAR Scientific Balloon Facility* compiled by Bernard Johnson Inc., Architects, Planners, Engineers
- NCAR Financial Statement totals obtained September 27, 1985 (see Table 2)
- General Services Administration (GSA) Real Property Survey, June 1990
- Anderson County Appraisal District
- Drawings and plats
- Existing property records
- Purchase orders/vendor files
- Building measurements
- CSBF personnel
- Local building contractors
- Real estate agents

The values were determined by measuring the buildings; using drawings and plats along with a process of elimination using known values; comparing buildings of similar design, composition, and construction dates; and using historical information.

Table 2 - NCAR Financial Statement of NSF Real Property Transferred on September 27, 1985

PROPERTY	COST	TOTAL
Land		$35,141.44
Buildings	$152,472.34 555,820.24 37,413.44 10,202.54 8,914.74	764,823.30
Other Structures	1,809.81 999,762.79 4,565.14	1,006,137.74
New Launch Pad		30,000.00
Other Costs on NCAR General Ledger (New Pad)		245,991.22
TOTAL VALUE OF NSF REAL PROPERTY TRANSFERRED TO NASA 27 SEPTEMBER 1985		**$2,082,092.70**

1.2 CHRONOLOGICAL LISTING OF NSF REAL PROPERTY

Table 3 - Chronological Listing of NSF Real Property Transferred to NASA 2016

YEAR ACQUIRED	DESCRIPTION	BUILDING NUMBER	COST/VALUE
1962	Land – 307.88 acres		$ 35,141.44
	Administration Transferred to NASA 1998	1	152,472.34 (152,472.34)
1963	Launch Pad – East (Leased)		n/a
	Facilities and Battery Storage	2	37,413.44
	Stratoport I	5	52,779.90
	Facilities Storage	6	4,564.14
1963 *1978* *1989*	Flight Operations Front Shop $24,500.00 Parachute Pull Tunnel $10,202.54 New Addition $114,832.00	4	149,534.54
1965	Coronaport Disposition April 2000	8	41,469.92 (41,469.92)
1966/68/94	Facility Services/Equipment Maintenance	3	31,405.00
1966	Communications System		10,000.00
1968	Vehicle Storage I (Old Tim Shed)	7	25,000.00
1971	Portable Offices Disposition April 2000	1A, 1B	8,914.74 (8,914.74)
1974/78	Launch Pad – West		1,103,252.73
1974/94	Roads, Walkways, and Parking Lots		169,000.00
1975	Stratoport II Disposition 2002	13	20,132.80 (20,132.80)
1977	Guard House Disposition 1991	10	1,809.81 (1,809.81)
	Staging	11	459,302.00
1979	Balloon Storage	14	42,070.00
	Tractor Shed	17	7,257.00
1980	Office Trailer Disposition 2003	12	4,025.20 (4,025.20)
1982	Warehouse I	15	25,385.00
	Security Disposition 2013	9	1,200.00 (1,200.00)
TOTAL NSF REAL PROPERTY			**$2,152,105.19**

1.3 Chronological Listing of NASA Real Property

Table 4 - Chronological Listing of NASA Real Property

Year Acquired	Property	Building Number	NASA Contract	Cost/Value
1978	Scientist Workshop Disposition 2010	33	n/a	$ 3,900.00 (3,900.00)
1985	Warehouse II	18	Original: NAS5-28218 Added: NAS5-31125	151,363.17
1988	Demountable Building – Alice Springs, Australia	R2	NAS5-29800	11,210.94
1989	Office Trailer Disposition 2001	1C	NAS5-29800	4,455.00 (4,455.00)
1990	Engineering Support	23	NAS5-29800	259,463.00
1991	Visitor Center – Winslow, AZ	10W	NAS5-29800	12,241.11
1991/94	Staging– Fort Sumner, New Mexico	R1	Phase I: NAS5-29800 Phase II: NAS5-31125	1,232,338.83
1992	Water Tower and Distribution System	24	NAS5-29800	432,995.00
	Econo Vault Fuel Storage	27	NAS5-29800	34,662.00
1993	Test and Evaluation	25	NAS5-31125	459,061.00
	Fire Protection Sprinkler System		NAS5-31125	521,473.33
1995	Loading Dock	26	NAS5-31125	20,200.00
1997	Engineering Support	28	NAS5-31125	698,999.00
1998	Administration	1	NAS5-31125 NAS5-98005	623,885.93
	West Side Sign-In No longer used as building. Moved to Fort Sumner in 2001.		NAS5-98009	595.00 (595.00)
2003	East Pavilion	29	NAS5-98008	5,400.00
	West Pavilion	30	NAS5-98008	5,400.00
	Engineering Support Storage	32	NAS5-03003	5,217.51
	Sign	22	NAS5-03003	3,900.00
2004	Operations Control Center	12	NAS5-03003	48,687.00
	Vehicle Storage II (New Tim Shed)	13	NAS5-03003	334,025.00
	Lithium Battery Storage (Fort Sumner, New Mexico)	R3	NAS5-03003	7,606.66
2009	Visitor Center	10	NAS5-03003	63,580.00
Total NASA Real Property				**$4,931,709.48**

1.4 SUMMARY OF REAL PROPERTY

Table 5 - Total NSF and NASA Real Property

DESCRIPTION	COST/VALUE
NSF Real Property Transferred to NASA 2016	$2,152,105.19
NASA Real Property	4,931,709.48
TOTAL NASA	**$7,083,814.67**

2 LAND: OWNED AND LEASED

2.1 PALESTINE, TX

2.1.1 SUMMARY

NASA has been transferred ownership of the land February 2016. Table 6 summarizes NASA owned and leased land.

Table 6 - NASA Owned and Leased Land

OWNED/LEASED	DESCRIPTION	DETAILS
Owned	Transferred	2016
	Acreage	307.88
	Value	$35,141.44
Leased	Lease (25 years)	2012 to 2037
	Acreage	165.97

2.1.2 CHRONOLOGICAL LISTING

The following is a chronology of NSF owned and leased land.

1962	NSF Leased 183.17 Acres (two parcels) from the City of Palestine	The first lease of 165.97 acres from the City of Palestine was for five years from April 26, 1962 through April 25, 1967 with a 20-year option. The second lease of 17.2 acres was also for five years with an option to purchase.
1963	NSF Purchased 307.88 Acres	NSF purchased 307.88 acres in nine parcels of land. The $35,141.44 value of this land was provided by NCAR on September 27, 1985.
1967	NSF Exercised 20-Year Option	On March 15, 1967 NSF exercised the option to lease the 165.97 acres from the City of Palestine for a period of 20 years, expiring March 15, 1987.
1973	NSF Conveyed 7.23 Acres to the State of Texas	NSF conveyed 4.52 acres and 2.71 acres (approximately 7.23 acres) to the State of Texas for a right-of-way easement for Farm-to-Market Road 3224.

1985 CSBF Acreage and Land Value as provided by the Anderson County Appraisal District

Table 7 - CSBF Acreage and Land Values

ACRES	VALUE
46.70	$ 46,230
14.00	13,860
16.42	14,780
35.00	31,500
60.00	54,000
40.00	36,000
0.78	700
17.20	15,480
1.24	1,120
55.53	49,980
29.76	26,780
316.63	**$290,430**

1987 Renewed Lease Agreement for 25 Years

Renewed the lease agreement with the City of Palestine for 25 years commencing on April 27, 1987 to end on April 27, 2012 for the sum of $1.00 per year.

1990 Real Property Survey by GSA Representative

The results of the Real Property Survey conducted by GSA revealed the following out-grants:

Table 8 - GSA Real Property Survey Results

ACRES	DESCRIPTION
7.096	Conveyed an easement to the State of Texas for Farm-to-Market Road 3224.
.230	Conveyed to the State of Texas for highway use.
7.326	**Total conveyed to the State of Texas.**

Upon the GSA Representative's recommendation, GSA Form 1166 Report of Real Property Owned by or Leased to the United States was updated to reflect the land grants shown in Table 8.

2012 NASA Renewed Lease Agreement for 25 Years

The lease of two parcels, one 165.97 acres and one 17.2 acres from the City of Palestine was extended for twenty-five years, beginning June 30, 2012 through June 29, 2037 at a cost of $5,000 per year.

2016 NSF Transfer to NASA

February 16, 2016 NSF transferred 10 buildings and 307.88 acres of land to NASA at no cost. The facility is now owned entirely by NASA with the exception of the leased parcels.

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2.2 FT. SUMNER, NM AND WINSLOW, AZ

2.2.1 SUMMARY

Table 9 summarizes NASA owned (see Section 5 on page 68) and leased land in Fort Sumner, New Mexico. For additional information contact NASA Wallops Flight Facility Property Office.

Table 9 - NASA Owned and Leased Land

OWNED/LEASED	DESCRIPTION	DETAILS
Owned	Purchased	1992
	Acreage	8.1499
	Value	$8,150.00
Leased	n/a	n/a

2.2.2 CHRONOLOGICAL LISTING

The following is a chronology of NASA owned and leased land.

1992	NASA Purchase from the City of Fort Sumner, New Mexico	A certified Corrected Warranty Deed for 8.1499 acres of land was signed by NASA's Donald Satz on June 11, 1992. The tract is located within Section 16, Township 3 North, Range 26 East, New Mexico Prime Meridian (N.M.P.M.), DeBaca County, New Mexico. A check in the amount of $8,150.00 was transmitted by letter dated June 30, 1992. The deed was recorded in the DeBaca County, New Mexico Courthouse on June 17, 1992.
2009	NASA Leased Land at Winslow-Lindbergh Regional Airport	A 5-year lease agreement was signed with the City of Winslow for a parcel of land at Winslow Airport used as a down-range station for Ft. Sumner launches, commencing on March 5, 2009 and ending on February 28, 2015 for $6,000 annually.
2016	NASA Leased Land at Winslow-Lindbergh Regional Airport	A new lease agreement was signed commencing June 1, 2016 to May 31, 2017 for $6,567 annually.
2017	NASA Leased Hangar at Ft. Sumner Municipal Airport	A one-year lease agreement was renewed with the Village of Ft. Sumner for use of the hangar at the Ft. Sumner Municipal Airport. The lease ends September 30, 2018 at an annual cost of $36,000.00.
2018	NASA Leased Land at Winslow-Lindbergh Regional Airport	A new lease agreement was signed commencing June 1, 2017 to May 31, 2019 for $6,852 annually.
2019	NASA leased land at Winslow and Fort Sumner	In 2019 NASA began handling all leases from GSFC.

3 BUILDINGS AND STRUCTURES

3.1 ADMINISTRATION – BUILDING 1

CONSTRUCTED:	1962
SQUARE FEET:	9,660
VALUE:	$623,885.93
OWNERSHIP:	NASA
NASA CONTRACT:	NAS5-31125 NAS5-98005
PROPERTY ID:	3648

1962 Original Construction

The value of Administration (building 1) as provided by NCAR on September 27, 1985 was $152,472.34. This value was part of the total value of $764,823.30 for all six buildings. By process of elimination this appears to be the original cost of the building.

1965 Expansion

The building was enlarged by adding four offices and a briefing room.

1975 Expansion

The upstairs control tower and the high bay expansion areas were completed.

1976 Expansion

A loading ramp was constructed.

LOCATION	DIMENSIONS (FT)	SQUARE FOOTAGE (FT^2)
Downstairs	180 x 40	7,200
Loading Ramp	10 x 20	200
Total Downstairs		7,400
Upstairs Expansion	20 x 113	2,260
Total		**9,660**

A value of $15.78/ft² ($152,472.34 divided by 9,660-ft²) appears to be a fair value considering the dates of construction range from 1962 to 1976 (a period of fourteen years), and the square footage cost of other buildings and construction during these years.

1997-98 Major Rehabilitation

The building underwent a major rehabilitation. The scope of work for the project included the following: demolition of miscellaneous architectural items such as existing metal siding panels, windows, personnel doors, overhead coiling doors, roof mounted structural platforms, and associated metal stairs gutters and down spouts, gypsum wallboard and plywood partitions, suspended ceiling system, resilient flooring, and associated mechanical and electrical equipment, the installation of new metal siding panels, gutters and down spouts, installation of new personnel doors, insulated aluminum windows, an overhead coiling door, repair of roof due to demolition of various items, installation of new metal studs and gypsum wallboard plywood partitions, installation of new suspended acoustical tile ceiling system, vinyl composition tile flooring, resilient stair treads, installation of a new exterior metal staircase, architectural painting, structural framing, new electrical lighting and power distribution, new mechanical systems, and the construction of new handicap accessible restroom facilities. The work included the extension of the existing sewage

		drain field and the construction of a new retaining wall. Also included in the rehab was the installation of a new circuit panel, breakers, circuits, duplex receptacles, wire molds, uninterruptible power system, and accessories. This work was accomplished by contractor Jacobe Brothers Construction of Tyler, Texas under NASA contract NAS5-31125. This resulted in the building being deleted from the NSF Real Property Records and added to NASA Real Property Records.
1999	Awnings	Striped aluminum awnings were added above five doorways. The work was done by Glenwood Blind and Awning of Tyler, Texas under NASA contract NAS5-98005.
2017	Roof	The roof of the building was replaced in July 2017. The work was performed by Sawyer Building Systems of Tyler, Texas, under NASA contract NNG15WA53C.

Figure 5 - Administration (Building 1)

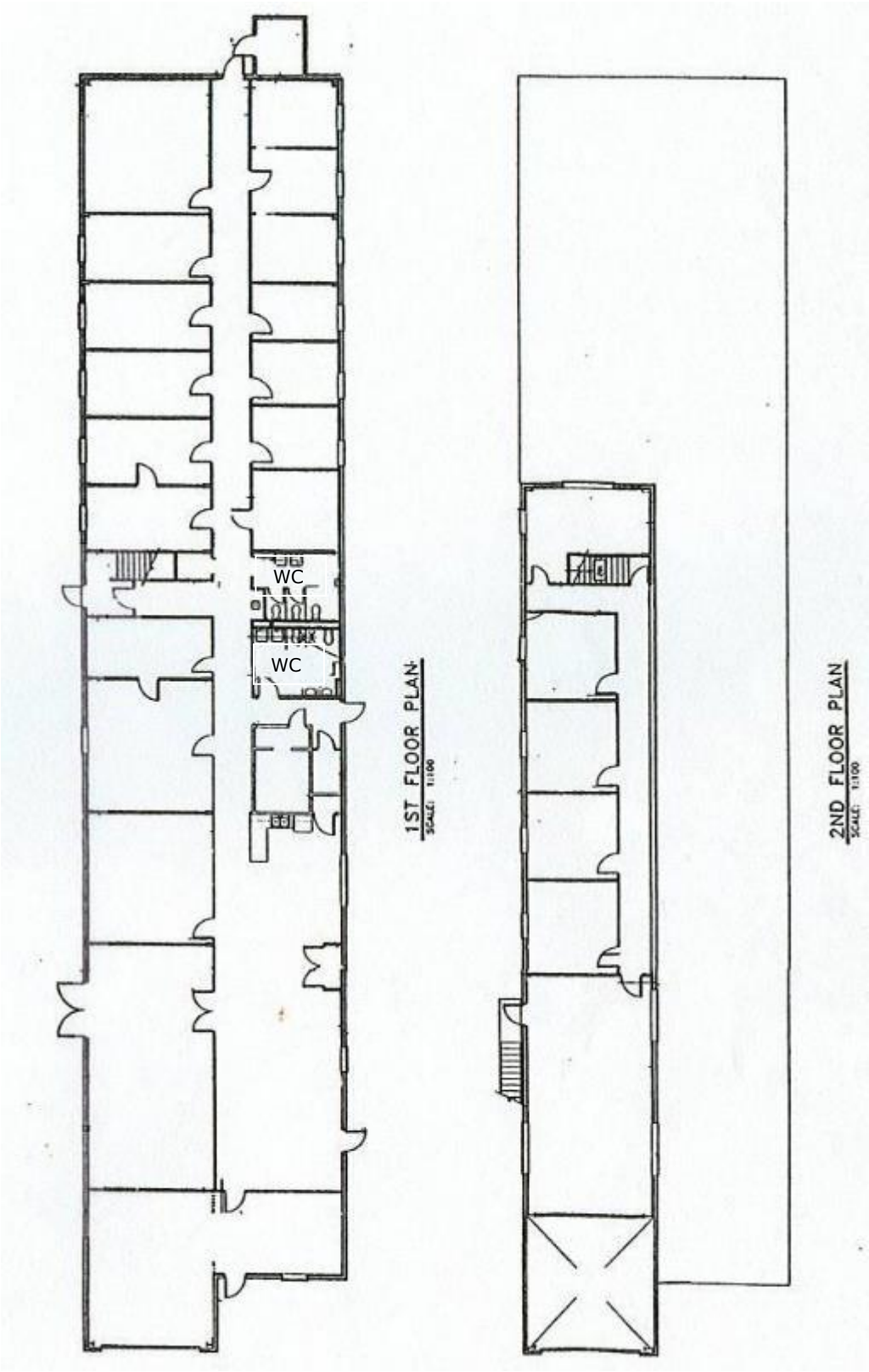


Figure 6 - *Administration (Building 1) Floor Plan*

3.2 FACILITIES/BATTERY STORAGE – BUILDING 2

CONSTRUCTED:	1963
SQUARE FEET:	5,600
VALUE:	$37,413.44
OWNERSHIP:	NASA
PROPERTY ID:	N/A

1963	Original Construction	This single-story 140 x 40–ft building was originally constructed for balloon storage and later converted to the Electronics Shop (building 2), Facility Services (building 2A), and the Machine Shop (building 2B). As advised by NCAR on September 27, 1985, their records revealed the $37,413.44 as part of the total value given for six buildings. A value of $6.68/ft^2 ($37,413.44 divided by 5,600-ft^2) appears to be a fair value.
1989	Mezzanines and Office Space	A mezzanine was built in the Machine Shop (building 2B) by CSBF personnel. Two offices and a storage room with mezzanine above were also built in Facility Services (building 2A). This work was performed under NASA contract NAS5-29800.
1991	Electronics Shop Expansion	The Electronics Shop was expanded to include building 2A after Facility Services moved to building 3.
1993	HVAC	An HVAC unit including ductwork was installed in building 2A by Palestine Air and Refrigeration of Palestine, Texas.
1994	HVAC	An HVAC unit was installed in building 2 and a thermostat to control heat strips was installed in building 2B by Palestine Air and Refrigeration of Palestine, Texas.
1998	Electronics and Machine Shop relocated	The Electronics section and Machine Shop were moved to the newly constructed Engineering Support (building 28). The building is now being used as the Facility shop/storage and for climate-controlled battery storage.
2000	AC Unit	A 3-ton AC unit was installed in the bay area where the lithium batteries are stored.
2012	Building Enclosed and AC	The building was enclosed and a 4-ton AC unit was installed at a cost of $3,800.

Figure 7 - Facilities/Battery Storage (Building 2)

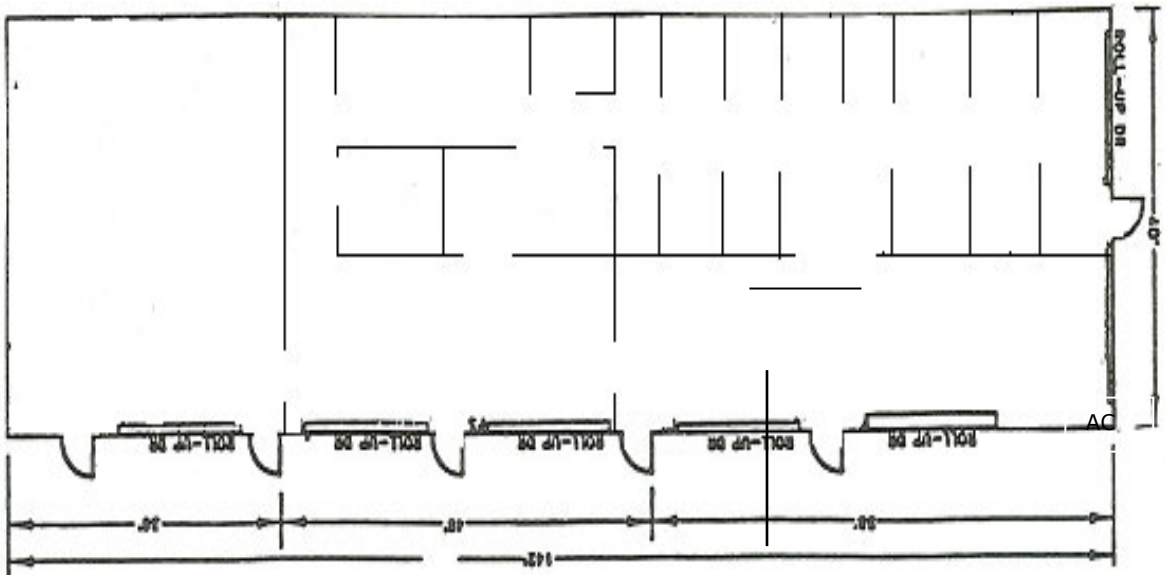


Figure 8 - Facilities/Battery Storage (Building 2) Floor Plan

3.3 FACILITY SERVICES/EQUIPMENT MAINTENANCE – BUILDING 3

CONSTRUCTED:	1966
SQUARE FEET:	3,600
VALUE:	$31,405.00
OWNERSHIP:	NASA
PROPERTY ID:	N/A

1966	Original construction	An open 60 x 60-ft shelter was added to the shop buildings referred to in Section 3.2 on page 11. A 40 x 20-ft area of this space was enclosed in 1968 to be used as the welding shop. The remaining space was used as a helium shed. The cost of the original shop buildings (2, 2A, and 2B) in 1963 was $6.68/ft^2. Therefore, it is reasonable to use $7.00/ft^2 for the 3,600-ft^2 addition constructed in 1966 and 1968.
1984	Enclosure	The 20 x 20-ft area behind the helium shed area was enclosed and converted to equipment maintenance under NASA contract NAS5-28218.
1990	Dirt Floor Covered with Concrete Slab	A 40 x 20-ft concrete slab was poured to cover the dirt floor of the equipment maintenance area. The work was performed under NASA contract NAS5-29800.
1991	New Facility Services Work Area	A 19 x 60-ft area was enclosed by CSBF personnel for a new facility services work area. A work area, three small offices, a mezzanine, and a storage area were added. One of CSBF's heating and air conditioning units and ductwork were installed and the system connected by Palestine Air and Refrigeration of Palestine, Texas. A new overhead door was installed by Athens Steel Building Corporation of Athens, Texas. The work was performed under NASA contract NAS5-29800.
1994	Equipment Maintenance Bay Enclosure/HVAC/ Insulation	The bay was enclosed, an overhead door was added, and the ceiling was insulated. Tiles and grid work were installed in the shop area. CSBF furnished the tiles and insulation and CSBF personnel furnished labor, tools, and grid work. Cost of the work was $4,140.00. This construction was done under NASA contract NAS5-31125. An HVAC unit including ductwork was installed in the middle bay by Palestine Air and Refrigeration of Palestine, Texas. The middle bay was insulated with 6-in vinyl-faced R19 insulation and an overhead door was installed by RPR Construction of Tyler, Texas.
2003	Air Conditioning	The air conditioning (AC) unit was replaced in the welding shop on 7 July 2003 by Palestine Air and Refrigeration of Palestine, Texas at a cost of $7,130.00.

Figure 9 - Facility Services/Equipment Maintenance (Building 3)

Figure 10 - Facility Services/Equipment Maintenance (Building 3) Floor Plan

3.4 FLIGHT OPERATIONS – BUILDING 4

CONSTRUCTED:	1963
SQUARE FEET:	5,584.5
VALUE:	$149,534.54
OWNERSHIP:	NASA
PROPERTY ID:	N/A

1963	Original Construction	This single-story 70 x 35-ft building was donated to the CSBF by Princeton University. The $10/ft^2 cost of construction was estimated by considering fair market value and labor costs at the time of construction: 70 x 35-ft = 2,450-ft^2 x $10 = $24,500 The dimensions of 70 x 35-ft were taken from the Floor Plan Rigging Building, page 69 of the Master Plan NCAR Scientific Balloon Facility, Palestine, Texas, dated July 1972.
1978	Parachute Pull Tunnel	A 74 x 15-ft covered concrete pad was added to the back of the building by CSBF personnel to facilitate stretching and rigging of parachutes. The material cost was estimated at $5,000. Labor costs were estimated for approximately 400 hours at $12.50/hr or $5,000.00. Therefore, the value of $10,203.00 appears reasonable and is one of the six values provided by NCAR on 27 September 1985.
1989	Parachute Pull Tunnel Removal	An addition to the mechanical rigging shop required the removal of the existing parachute pull tunnel and its foundation. The metal from this building was removed, stacked, and saved with plans to reconstruct the 74 x 15-ft building as an extension to this new addition.
1989	Addition to Flight Operations	A firm fixed-price subcontract for $114,832.00 was awarded to Athens Steel Building Corporation of Athens, Texas on 25 July 1988 for construction of a 40 x 80-ft building addition under NASA contract NAS5-29800. The new dimensions of the building are 153 x 36.5-ft (5,584.5-ft^2). The building has a monorail hoist and is air conditioned and heated. The new addition is connected to the existing building by an overhead door and a walk door. NASA improvements to the building owned by NSF were an improvement to NSF Real Property. The increase in value of this building was reported to NSF on their Annual Report GSA Form 1166.
1994	Roof	A new roof of urethane foam with white reflective coating was installed on the front portion of the building and existing roof box vents were removed by Pal-Tex Urethane of Palestine, Texas. A Lennox 7.5-ton heat pump was installed by Palestine Air and Refrigeration of Palestine, Texas.
1998	Overhead Door	The south overhead door was replaced with an insulated door by Overhead Door Company of Tyler, Texas.
2008	Bathroom Update	The small restroom was removed and replaced with a modern style Bathroom with a shower stall, a urinal and two toilets. The work was handled by David Harden Construction. The cost was $34,907.00.
2009	42’ x 42’ slab	One 42’ x 42’ slab was added to the back of this building to extend the area that was usable to ready parachutes for flight. Morris Construction was used for the project at a cost of $8,138.
2010	Cubical	Cubical space was built by CSBF Facilities to allow separate computer work space estimated cost $400.
2012	Break/Training Room	Break/training room was added. Construction was done by CSBF Facilities.

Figure 11 - Flight Operations (Building 4)

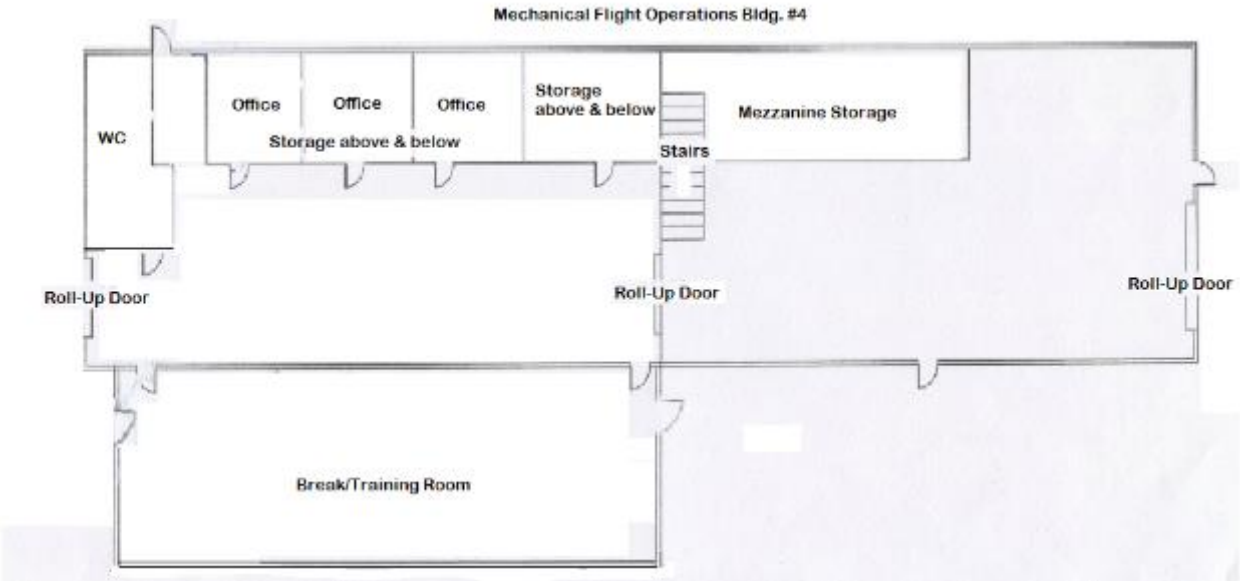


Figure 12 - Flight Operations (Building 4) Floor Plan

3.5 STRATOPORT I – BUILDING 5

CONSTRUCTED:	1963
SQUARE FEET:	1,540
VALUE:	$52,779.90
OWNERSHIP:	NASA
PROPERTY ID:	N/A

1963	Original Construction	The main section of this building is hexagonal in shape, having an area of 1,020-ft^2. Two storage areas, each 13 x 20-ft, were connected adding 520-ft^2. Stratoport I was constructed by Princeton University and later donated to CSBF. NCAR identified all real property except for the cost of Stratoport I and the Coronaport. The two buildings are very similar in design and composition and were built relatively close to the same time (1963 and 1965); therefore, the cost allocation was based on square footage.
1989	Asbestos Removal	Stratoport I was completely stripped of all asbestos cement sandwich panels which included all walls and the roof. A new girt system was connected onto the existing structural members. New sandwich panels consisting of urethane core insulation and a light-gage metal liner were connected to the new girt system. The building also received a new roof system. The work was performed by Red Eagle Construction Company of Manvel, Texas under NASA contract NAS5-29800.
1990	AC Installation	A Sears 25,000-BTU window AC unit was installed by Palestine Air and Refrigeration of Palestine, Texas.
2013	Asbestos Testing/ Removal	Testing and assessment for the presence of asbestos was completed. Floor tiles were removed from the west and north rooms.

Figure 13 - Stratoport I (Building 5)

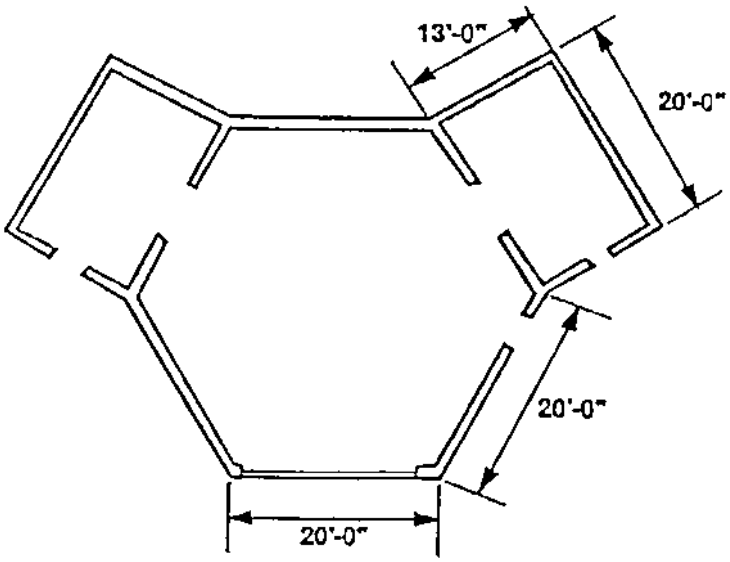


Figure 14 - Stratoport I (Building 5) Floor Plan

3.6 ADMINISTRATION STORAGE – BUILDING 6

CONSTRUCTED:	1963
SQUARE FEET:	1,500
VALUE:	$4,564.14
OWNERSHIP:	NASA
PROPERTY ID:	N/A

1963	Original Construction	The 30 x 50-ft building was constructed by Princeton University and later donated to the CSBF. Originally used as storage space, the building was converted to a test laboratory in 1979.
1985	Valve	A valve valued at $4,564.14 was provided to CSBF by NCAR on 27 September 1985.
1988	Safety Exit Door	A safety exit door was installed in the building and a 10 x 10-ft office area was enclosed for the Quality Assurance (QA)/Lab Supervisor. The work was performed by CSBF personnel under NASA contract NAS5-29800.
1995	Roof	A 1-in urethane foam roof with white coating application was installed by Pal-Tex Urethane of Palestine, Texas.
1998	QA Lab Relocated	The QA Laboratory was relocated to Balloon Support (building 28) upon its completion. This building is now being used for administration and purchasing storage.
2015	Roof	New roof installed by Reliable Roofing in Palestine, Tx for $15,500.00.
2016	HVAC	Leagueville Air replaced a 3-ton HVAC unit $4950.00
2018	New Doors	CSBF Facilities installed one walk-up door and one roll up door as well as refurbished half of the inside in preparation for a Flight Operations Inventory stockroom.

Figure 15 - Facilities Storage (Building 6)

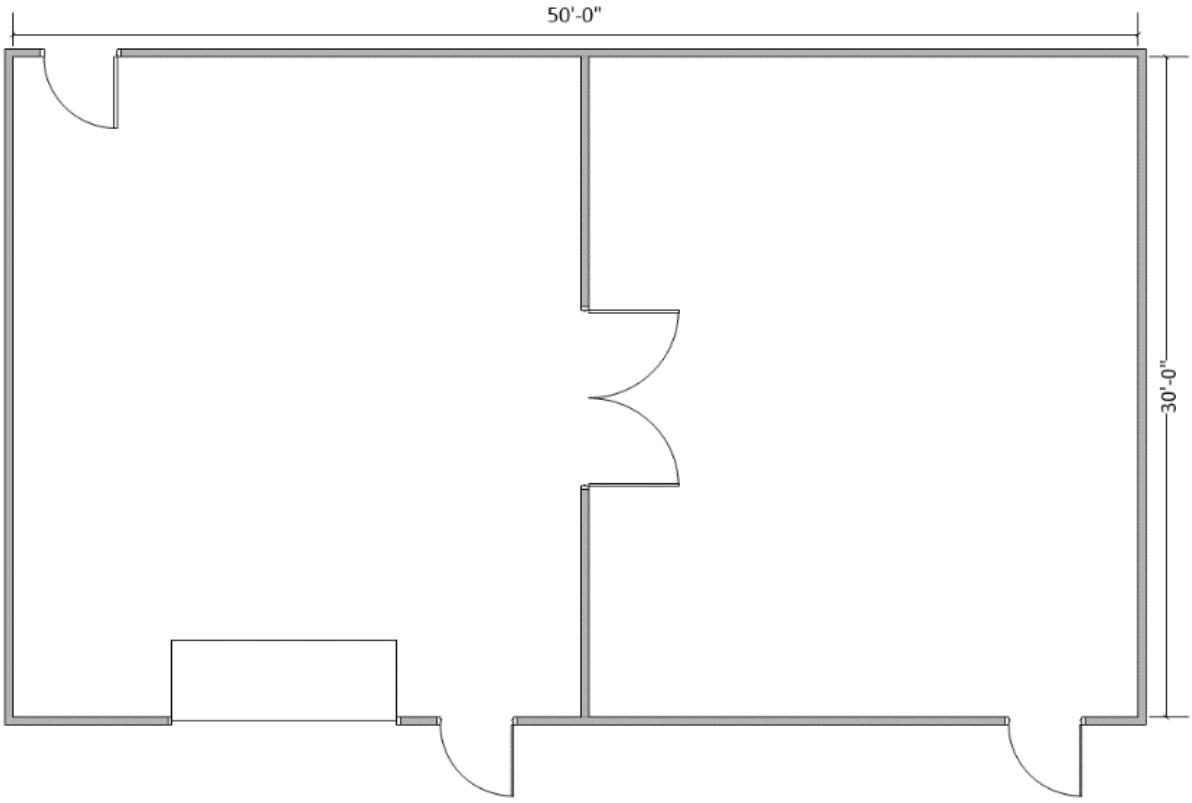


Figure 16 - Facilities Storage (Building 6) Floor Plan

3.7 VEHICLE STORAGE I (OLD TIM SHED) – BUILDING 7

CONSTRUCTED:	1968
SQUARE FEET:	4,200
VALUE:	$25,000
OWNERSHIP:	NASA
PROPERTY ID:	N/A

1968	Original Construction	This 60 x 70-ft building is an open storage shelter for launch vehicles. The value of this building has been estimated to be $25,000.00. This is based upon a cost of $5.95/ft^2. Since both the Electronic Shop and Vehicle Storage buildings were constructed at approximately the same time (1968), the cost for the 4,200-ft^2 open shed appears reasonable.
1990	Floor Paving	The dirt floor of the shed was paved with asphalt by L & L Asphalt of Tyler, Texas under NASA contract NAS5-29800.

Figure 17 - Vehicle Storage I (Building 7)

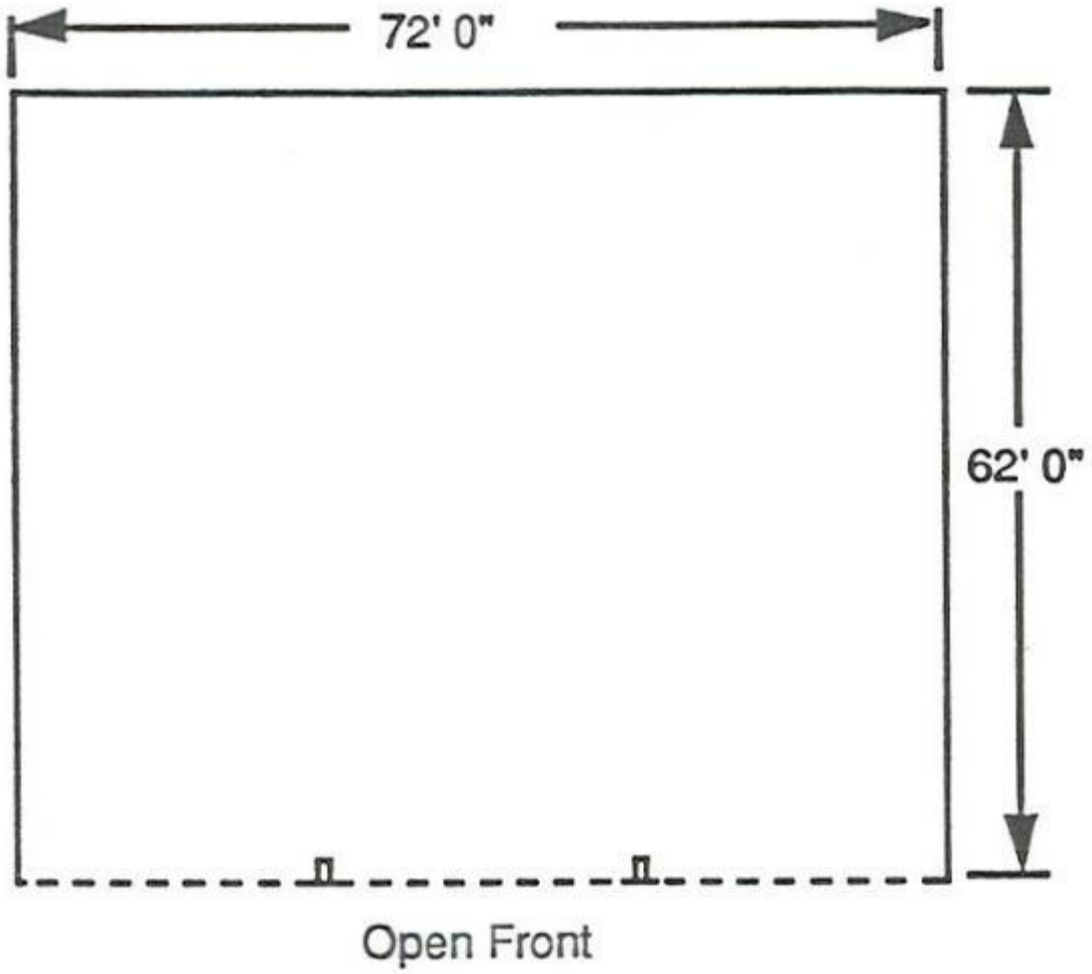


Figure 18 - Vehicle Storage I (Building 7) Floor Plan

3.8 MONUMENTS – STRUCTURE 8

CONSTRUCTED:	2004
SQUARE FEET:	N/A
VALUE:	N/A
OWNERSHIP:	NASA
PROPERTY ID:	N/A

1995 Three monuments (boundary/position markers) were placed on the facility during a mapping survey. The first is between building 1 and the fuel storage tank (structure 27). The second is between the old Coronaport site and the fence. The third is between the tractor shed (building 17) and the A-frame (structure 19).

Figure 19 - Monument (Structure 8)

3.9 FACILITIES STORAGE - BUILDING 9

CONSTRUCTED:	1982
SQUARE FEET:	144
VALUE:	$1,200.00
OWNERSHIP:	NASA
PROPERTY ID:	N/A

1982	Original Construction	This 12 x 12-ft building was built by CSBF personnel. The cost, estimated by the head of the Facility Services Department, is approximately $8.33/ft^2. The building is currently used for lawn equipment storage.

Figure 20 - Facilities Storage (Building 9)

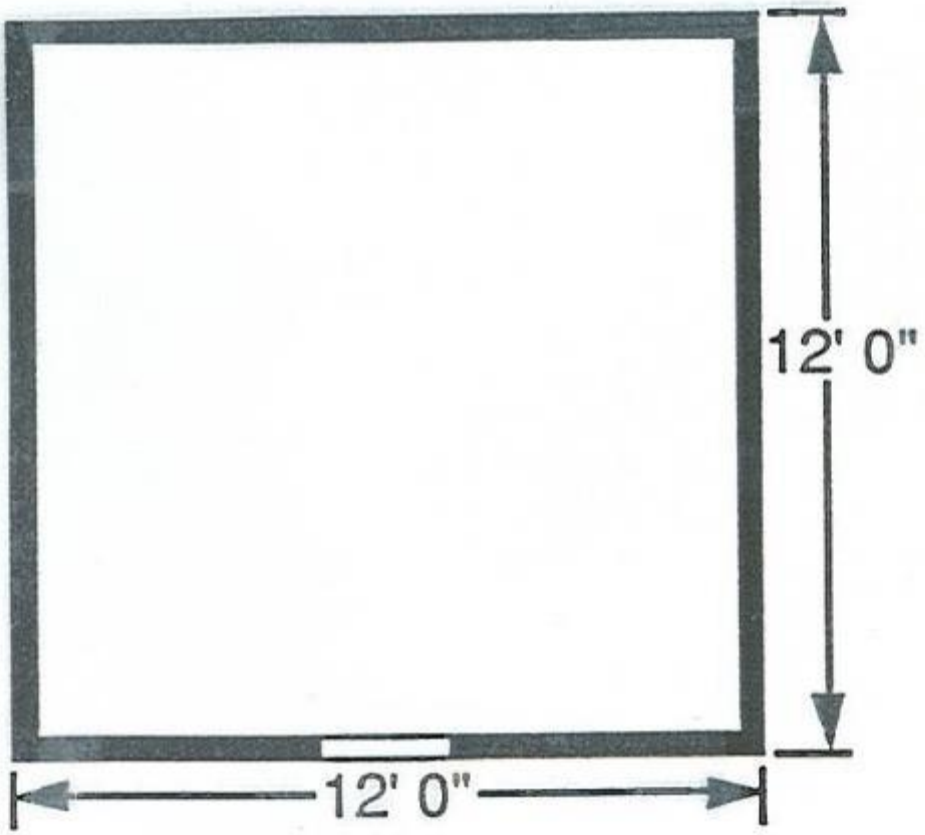


Figure 21 - Facilities Storage (Building 9) Floor Plan

3.10 VISITOR CENTER – BUILDING 10

CONSTRUCTED:	2009
SQUARE FEET:	1,200
VALUE:	$63,580
OWNERSHIP:	NASA
NASA CONTRACT:	NAS5-03003
PROPERTY ID:	3065

1991	Original Construction	The new modular Visitor Center replaced the old prefabricated Guard House at the CSBF entrance. This 14 x 20-ft standard modular office unit was purchased from Atlantic Trailer of Baltimore, Maryland and delivered to the CSBF in May 1991. CSBF personnel provided the electrical and water services. Palestine Air and Refrigeration of Palestine, Texas installed a heater, one of CSBF's air conditioning units (NASA Tag 2758), provided the ductwork, and connected the system. In order to comply with government regulations, a new septic system was installed for the building by Septic King Co. of Palestine, Texas.
1995	Carpet	Carpet was replaced by Sherwin Williams of Palestine, Texas.
2003	AC Replacement	The heating and AC unit were replaced by Palestine Air and Refrigeration of Palestine, Texas.
2004	Canopy	An aluminum canopy was installed over the entrance by Glenwood Blind and Awning of Tyler, Texas.
2009	Building Replaced	This building was replaced again by a 30 x 40 Metal structure. This larger building was required to accommodate conference facilities conduct lager meeting and facility tours. The building was purchased from Athens Steal Buildings with all interior work being accomplished by CSBF personnel. The cost of the building was $63,580. The old 14 x 20 building was then moved to Winslow AZ in 2010 for CSBF and Science use as a downrange facility.

Figure 22 - Visitor Center (Building 10)

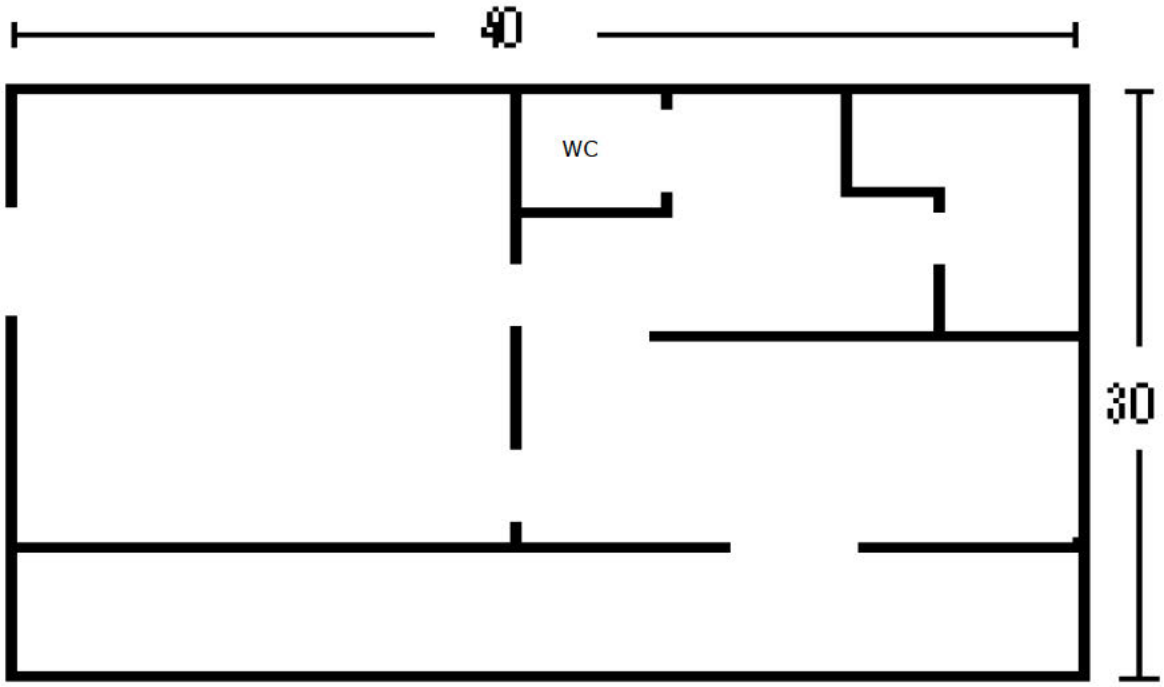


Figure 23 - Visitor Center (Building 10) Floor Plan

3.11 STAGING – BUILDING 11

CONSTRUCTED:	1977
SQUARE FEET:	7,080
VALUE:	$459,302.00
OWNERSHIP:	NASA
PROPERTY ID:	N/A

1977 Original Construction

This building was constructed by Howard U. Freeman Inc., contractor. A firm fixed price of $459,302.00 was quoted in a copy of a letter dated 10 June 1985 to Dr. Georgio Tessi, Project Officer for NCAR, Division of Atmospheric Sciences, NSF.

Square footage, as stated by the head of the Facility Services Department in 1985, is as follows:

LOCATION	DIMENSIONS (FT)	SQUARE FOOTAGE (FT^2)
Entrance	30 x 20	600
East Bay	60 x 30	1,800
West Bay	60 x 30	1,800
2nd Floor	30 x 32	960
3rd Floor	30 x 32	960
4th Floor	30 x 32	960
TOTAL		**7,080**

1989 Windows

Two windows, one on the second floor and one on the third floor, were installed by CSBF personnel under NASA contract NAS5-29800.

1990 Pavement Resurfacing

The parking lot and access road were resurfaced by L & L Asphalt of Tyler, Texas under NASA contract NAS5-29800.

1993 Building Rehabilitation

An access road was constructed on the north side of the building. A wall was installed on the west side of the first floor room. Exterior stairs and metal walls were cleaned and painted. Interior concrete masonry walls were re-grouted and painted. Wooden walkways were removed and new roof overlay, gutters, and down spouts were installed on bay area roofs. Staging bay personnel doors were replaced. The existing auxiliary power generator was enclosed and roof mounted air conditioning units from the high bay roofs were removed and new air conditioning units were placed on the ground, north of the building. New air handling units and modified air supply ducts were installed. The existing uninterruptible power supply was replaced and flood lights were provided for the high bay areas. Rehabilitation of the building was completed at a cost of $275,000.00 by RPR Construction of Tyler, Texas under NASA contract NAS5-29800 and awarded under NAS5-31125.

1996 Air Conditioning

An air conditioner was added to the UPS battery room by CSBF personnel.

2011 Break room

A break room/kitchen was built in existing space in the foyer area.

2014 Door Expansion

Each of the two front bay doors were widened by 5 feet to match the door widths of the Antarctica payload buildings. The new openings are 20 feet wide.

2016	Maintenance	Replaced Overhead cranes to handle larger payloads work performed by OMI cranes $103,149.00 Leagueville Air Installed 10 Ton HVAC unit for the fourth floor $11,200.00 Leagueville Air Installed 10 Ton HVAC unit for the third floor $11,200.00 Leagueville Air Installed 2 20 ton HVAC units for the high bays $38,380.00
2017	Elevator	Thyssenkrupp Elevator Upgraded the elevator $50,586.00
2019	Elevator	Thyssenkrupp elevator installed a battery backup system $861.00

Figure 24 - Staging (Building 11)

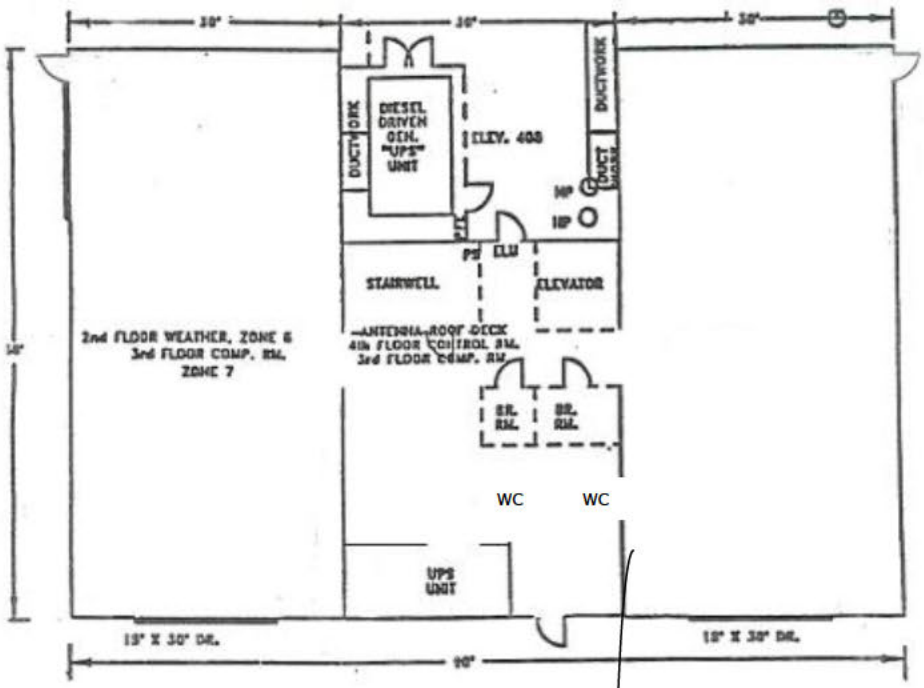


Figure 25 - Staging (Building 11) Floor Plan

3.12 OPERATIONS CONTROL CENTER (OCC) – BUILDING 12

CONSTRUCTED:	2004
SQUARE FEET:	2,000
VALUE:	$48,687.00
OWNERSHIP:	NASA
NASA CONTRACT:	NAS5-03003
PROPERTY ID:	4341

2004	Original Construction	This single-story 40 x 50-ft steel building with a total of 2,000-ft² was constructed by Athens Steel Building Corporation of Athens, Texas and the interior finish-out was completed by CSBF personnel. This building houses the operations control center (OCC) for long-duration ballooning (LDB) and ultra-long-duration ballooning (ULDB) flights launched from Sweden, Antarctica, Australia, New Zealand, and other locations around the world.

Figure 26 - Operations Control Center (Building 12)

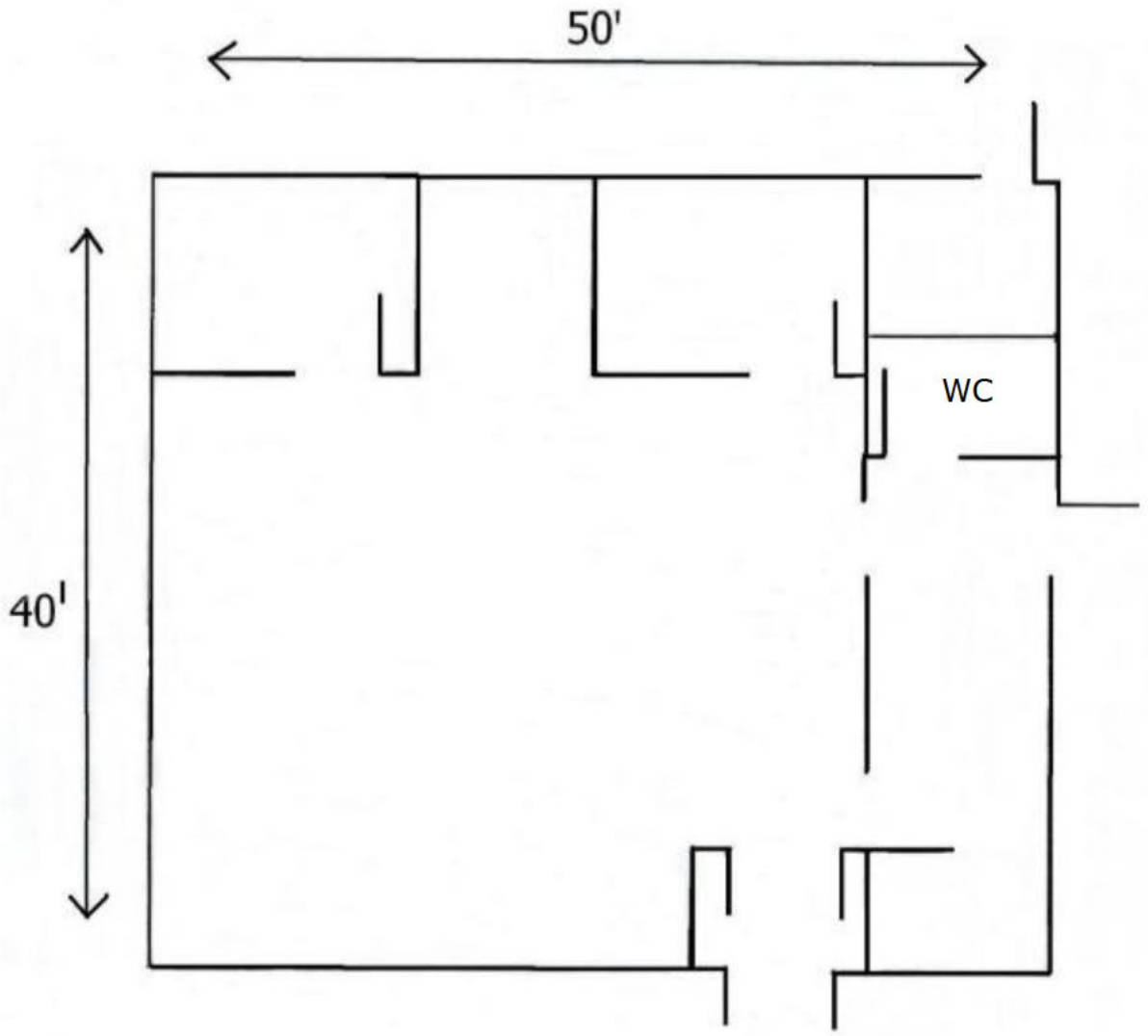


Figure 27 - Operations Control Center (Building 12) Floor Plan

3.13 VEHICLE STORAGE II (NEW TIM SHED) – BUILDING 13

CONSTRUCTED:	2004
SQUARE FEET:	4,800
VALUE:	$334,025.00
OWNERSHIP:	NASA
NASA CONTRACT:	NAS5-03003
PROPERTY ID:	4387

2004	Original Construction	This building replaced an NSF building that was deleted from NSF Real Property Records due to its size restraints and age. The replacement was due to a need for more storage for the large equipment used at CSBF. The value of this equipment precluded storing these items exposed to weather. The new Tim Shed was constructed by Hughes Building Services of Dallas, Texas. The new building's close proximity to Science personnel and Electronics staff provides additional advantages.

Figure 28 - Vehicle Storage II (Building 13)

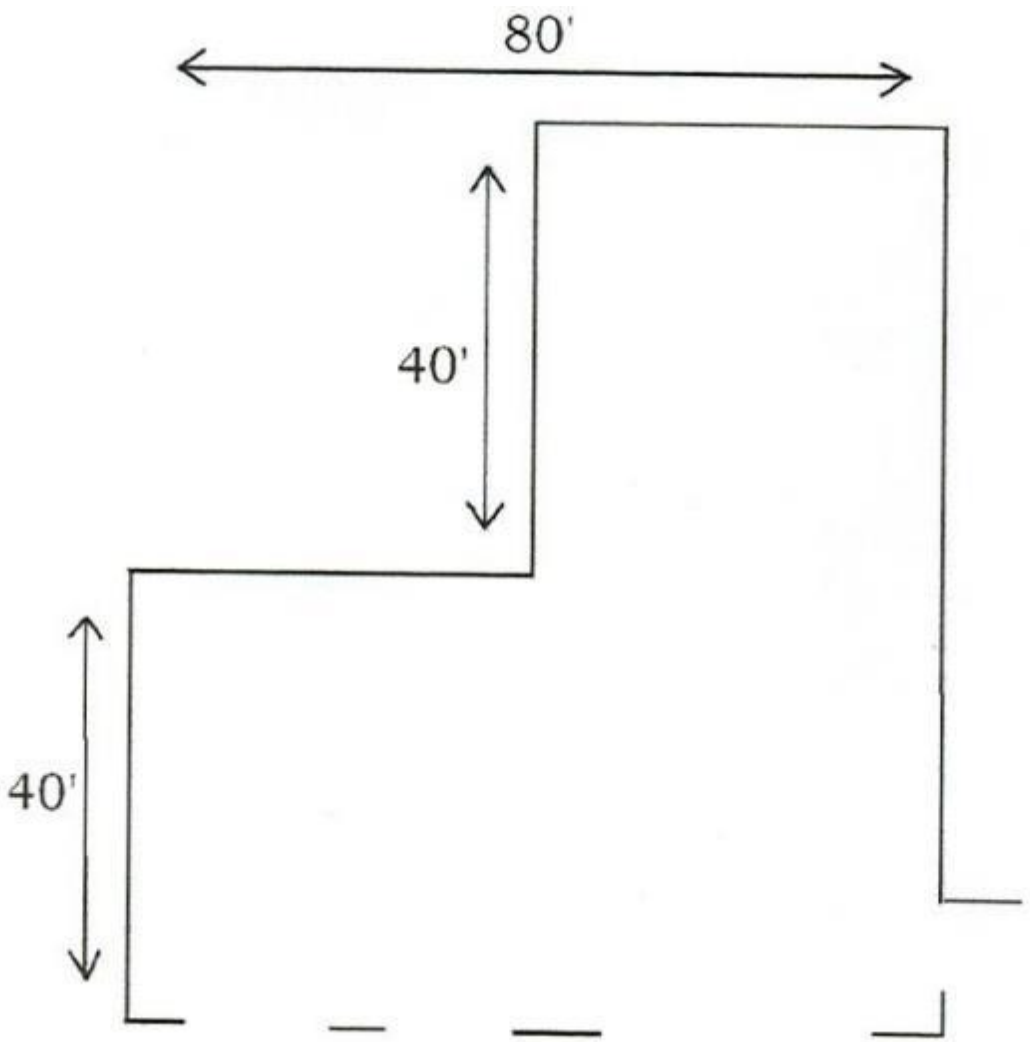


Figure 29 - Vehicle Storage II (Building 13) Floor Plan

3.14 BALLOON STORAGE – BUILDING 14

CONSTRUCTED:	1979
SQUARE FEET:	4,000
VALUE:	$42,070.00
OWNERSHIP:	NASA
PROPERTY ID:	N/A

1979	Original Construction	This single-story 100 x 40-ft building was constructed at an approximate cost of $9.64/ft^2. This is an air conditioned storage building. The asphalt paving, approximately 1,400-ft^2 around the building, was completed in 1979.
1990	Asphalt resurfacing	The asphalt paving was resurfaced by L & L Asphalt of Tyler, Texas.
1991	Overhead Door Replacement	The overhead door was replaced with a larger door by Overhead Door Company of Tyler, Texas under NASA contract NAS5-29800.

Figure 30 - Balloon Storage (Building 14)

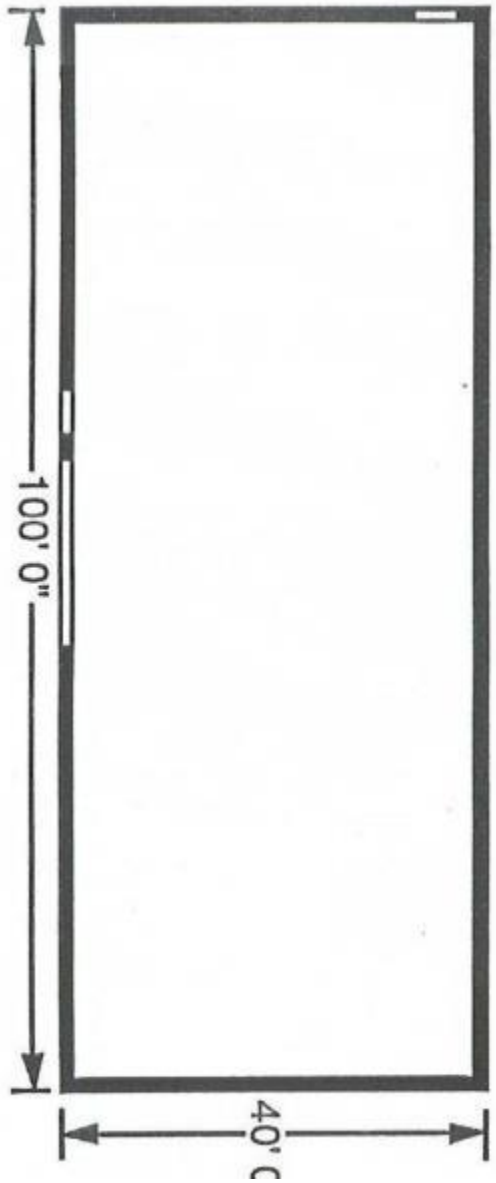


Figure 31 - Balloon Storage (Building 14) Floor Plan

3.15 WAREHOUSE I – BUILDING 15

CONSTRUCTED:	1982
SQUARE FEET:	3,200
VALUE:	$25,385.00
OWNERSHIP:	NASA
PROPERTY ID:	N/A

1982	Original Construction	This single-story 40 x 80-ft building was constructed at an approximate cost of $6.67/ft^2. Located behind Balloon Storage (building 14), this is an unloaded building used for storage. The warehouse was built on an existing concrete slab previously furnished by NASA at a cost of $4,046.00.
2003	Air Conditioning	An AC unit was added to the building by Palestine Air and Refrigeration of Palestine, Texas.

Figure 32 - Warehouse I (Building 15)

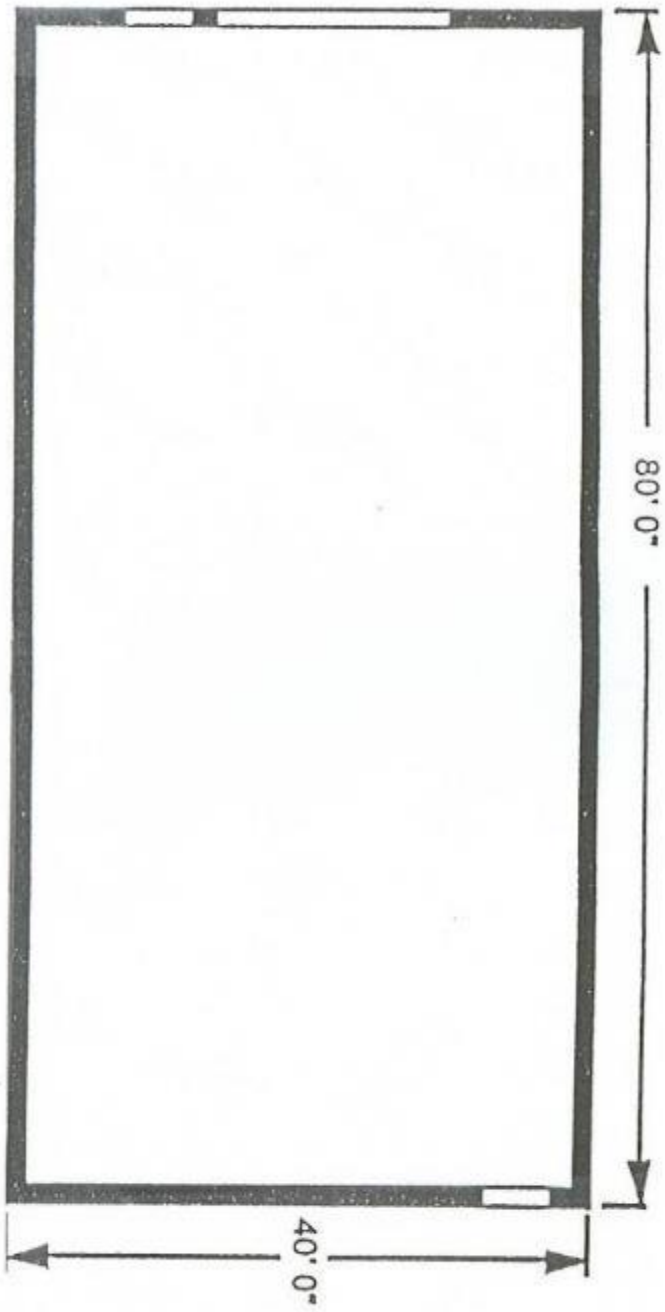


Figure 33 - Warehouse I (Building 15) Floor Plan

3.16 VERIZON CELLULAR SITE – STRUCTURE 16

CONSTRUCTED:	2004
SQUARE FEET:	N/A
VALUE:	N/A
OWNERSHIP:	VERIZON
PROPERTY ID:	N/A

2004	Original Construction	In an effort to improve the quality of CSBF cellular services, Alltel agreed to place an antenna on the NASA water tower. In conjunction with the antenna, Alltel was given permission to place a small building enclosed by fence at the base of the water tower to house the transmitter and receiver. January 9, 2009 Verizon wireless purchased Alltel and took possession of these sites.

Figure 34 - Verizon Antenna (Structure 16)

Figure 35 - Verizon Cellular Site (Structure 16)

3.17 TRACTOR SHED – BUILDING 17

CONSTRUCTED:	1979
SQUARE FEET:	1,200
VALUE:	$7,257.00
OWNERSHIP:	NASA
PROPERTY ID:	N/A

1979	Original Construction	This building is a 20 x 60-ft open shed with a storage room on one end. Used lithium batteries are placed in the storage room prior to being shipped for disposal. The shed was built by CSBF personnel in approximately 48 hours.

Figure 36 - Tractor Shed (Building 17)

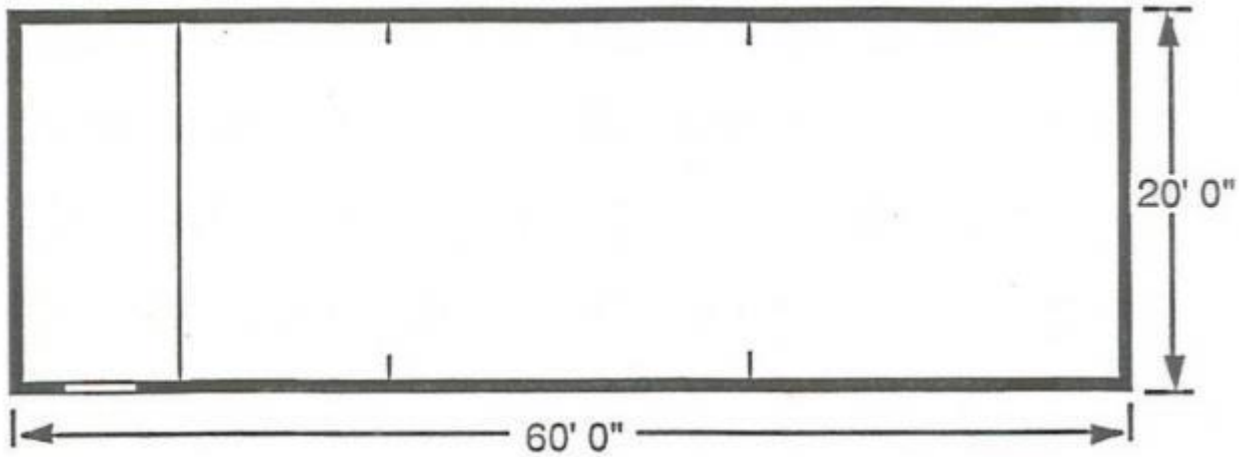


Figure 37 - Tractor Shed (Building 17) Floor Plan

3.18 WAREHOUSE II – BUILDING 18

CONSTRUCTED:	1985
SQUARE FEET:	6,000
VALUE:	$151,363.17
OWNERSHIP:	NASA
NASA CONTRACT:	Original: NAS5-28218 Added: NAS5-31125
PROPERTY ID:	2579

1985	Original Construction	This single-story 150 x 40-ft air conditioned building was originally constructed at a cost of $129,840.60. Additional finishing work was completed by CSBF personnel. As of 30 September 1985 the CSBF Project Status Report listed $14,032.60 in finishing costs. Additional costs of construction in 1985 increased the value of the building to $144,860.61.
1994	Mezzanine Addition	A 392-ft^2 mezzanine with a 4-ft wide stairway was added to the building by CSBF personnel. Capacity is 125 lbs. per square foot.

Figure 38 - Warehouse II (Building 18)

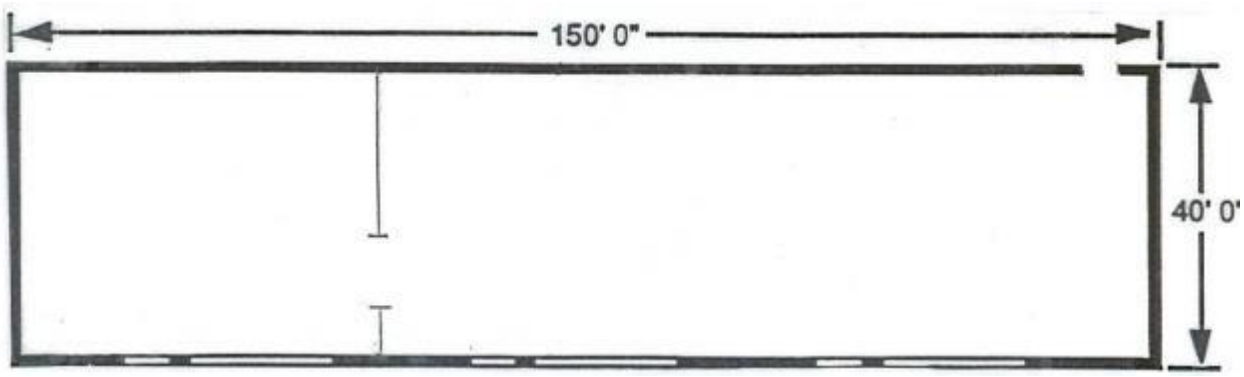


Figure 39 - Warehouse II (Building 18) Floor Plan

3.19 NONMAGNETIC A-FRAME – STRUCTURE 19

CONSTRUCTED:	1991
SQUARE FEET:	N/A
VALUE:	UNKNOWN
OWNERSHIP:	N/A
PROPERTY ID:	N/A

1991	Original Construction	The A-Frame was erected to enable scientific groups to suspend their gondolas in a nonmagnetic environment. The concrete slab was poured without steel reinforcement, the poles are wood, and the I-beam is aluminum. The structure is behind Staging (building 11).
2017	Out of service	The aluminum I-beam was removed due to no longer being able to pass inspection by Sierra Lobo (NASA Contractor)

Figure 40 - Nonmagnetic A-Frame (Structure 19)

3.20 NOAA WIND PROFILING SITE – STRUCTURE 20

CONSTRUCTED:	1989-1991
SQUARE FEET:	N/A
VALUE:	N/A
OWNERSHIP:	NOAA
PROPERTY ID:	N/A

1989 to 1991	Original Construction	Through an agreement between NOAA and NASA, NOAA installed a 404-MHz wind profiler behind Warehouse I. Wind profilers are specifically designed to measure vertical profiles of horizontal wind speed and direction from near the surface to above the tropopause. The NOAA Profiler Network (NPN), consisting of 35 unmanned Doppler Radar sites located in 18 central US states and Alaska, provides hourly vertical wind profile data. The data produced by this network are distributed to the National Weather Service (NWS), environmental research groups, and Universities. The equipment shelter houses the radar's transmitter, receiver, data processing, and antenna beam control electronics. The antenna subsystem is formed from two coaxial colinear arrays arranged orthogonal to each other to form a Vertical, a North, and an East beam. The North and Vertical beams share the same physical antenna array. The two arrays occupy an area 40 x 40-ft. Each array is formed from 20 rows of coaxial colinear array subassemblies fed by series of radio frequency (RF) power dividers.
2015	Removal	The profiler station was completely removed from CSBF property.

Figure 41 - Former location of NOAA Wind Profiler (Structure 20)

3.21 BASE SIGN – STRUCTURE 22

CONSTRUCTED:	2003
SQUARE FEET:	N/A
VALUE:	$3,900.00
OWNERSHIP:	NASA
NASA CONTRACT:	NAS5-03003
PROPERTY ID:	N/A

Original Construction	This concrete and metal sign was erected at the entrance to the CSBF. Signage design and landscaping were done by CSBF employees. The concrete was placed by Doug Manis Construction of Palestine, Texas.
Sign Update	The CSBF and NASA logos were repositioned so that the NASA logo was placed above the CSBF logo in accordance with NASA's logo use policy.

Figure 42 - Base Sign (Structure 22)

3.22 ENGINEERING SUPPORT – BUILDING 23

CONSTRUCTED:	1990
SQUARE FEET:	4,000
VALUE:	$259,463.00
OWNERSHIP:	NASA
NASA CONTRACT:	NAS5-29800
PROPERTY ID:	2974

1990	Original Construction	This single-story 40 x 100-ft pre-engineered metal building has a 12-ft eave height. The building currently houses the Site Manager's office, the managers of the Engineering and Operations departments, and other engineering and support personnel. The building has a 28 x 20-ft conference room capable of comfortably seating 30 people. The building was constructed by Athens Steel Building Corporation of Athens, Texas.
2005	HVAC Replacements	The south-end heat pump and air handler and the north-end compressor were replaced by Palestine Air and Refrigeration of Palestine, Texas.
2007	Enlarge Offices	Two small offices were enlarged by adding a 15’ extension.
2010	Addition	A 15’ x 20’ room was added to be used as a kitchen area. Construction was done by LEC Homes Inc. at a cost of $19,977.00.
2016	HVAC	Warren AC and Heating replaced two 10-ton HVAC units $21,036
2019	Sidewalk/Stair repair	The stairs on the NE side were reworked to meet OSHA requirements. Sunken portions of the sidewalks around the building were lifted. $4,900

Figure 43 - Engineering Support (Building 23)

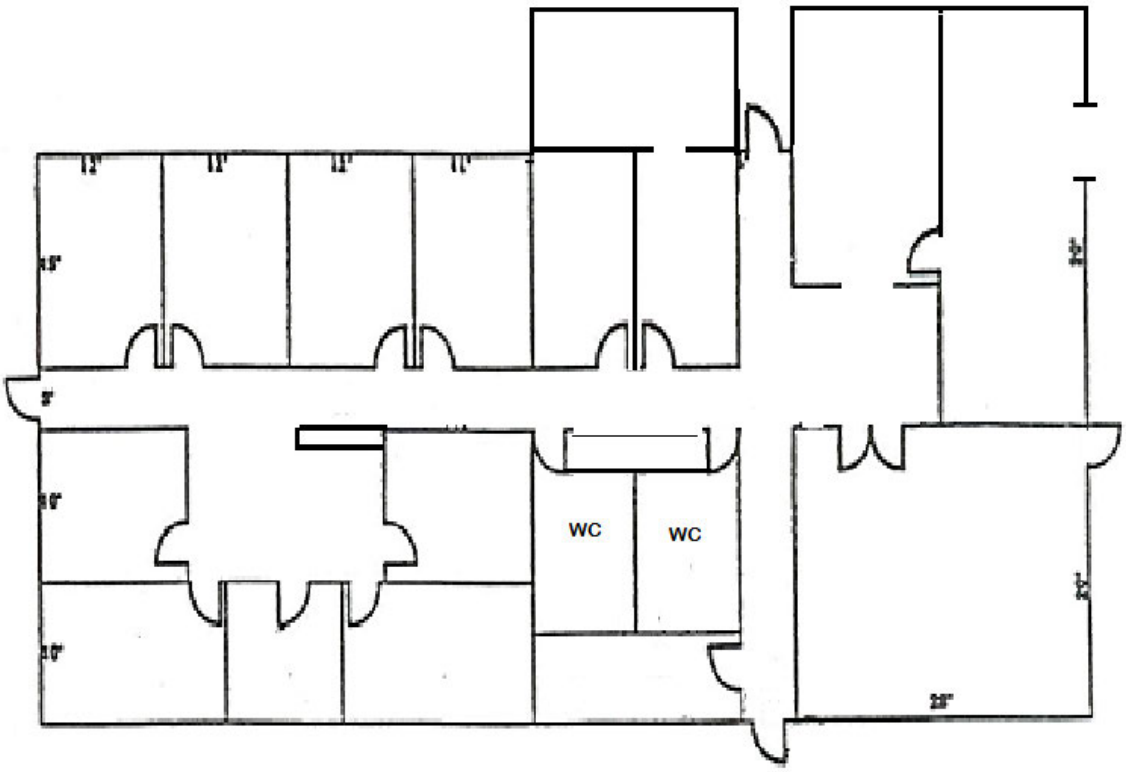


Figure 44 - Engineering Support (Building 23) Floor Plan

3.23 WATER TOWER – STRUCTURE 24

CONSTRUCTED:	1992
SQUARE FEET:	N/A
GALLONS:	75,000
HEIGHT:	135.5 FT
VALUE:	$432,995.00
OWNERSHIP:	NASA
NASA CONTRACT:	NAS5-29800
PROPERTY ID:	3051

1992	Original Construction	This structure is a 75,000-gal spheroidal single-pedestal elevated tank including foundation and control system. The project included modification of the water distribution system at the CSBF which involved installing ~5,388-lin ft of 6-, 8-, and 12-in water mains including valves, fire hydrants, service connections, boring and jacking, pavement repairs, and a water supply control pit. Contracted to A. E. Shull and Company of Tyler, Texas, the original contract amount was $425,000.00; change order 1 added $6,995.00 for additional water lines; change order 4 added $1,000.00 to install 2-in PVC pipe for a total of $432,995.00.
1996	Inspection, Washout, and Disinfection	A tank inspection was conducted and included field evaluation, coating evaluation, and washout and disinfection. The inspection was performed by Tank Industry Consultants of Indianapolis, Indiana.
2002	Rehabilitation	A rehabilitation was performed on the water tower including sandblasting and repainting, welding of anchor bolts, ladder upgrade, and posting of confined space and fall protection signs. The work was performed by TMI Coatings, Inc. of St. Paul, Minnesota at a cost of $72,300.00.
2016	Repair	Utility Service Group performed repairs of the ladder, fixed a leak, and cleaned the water tower $13,812.00.
2018	Maintenance	An annual inspection was performed, the inside was cleaned, and a new 12” valve was installed.

Figure 45 - Water Tower (Structure 24)

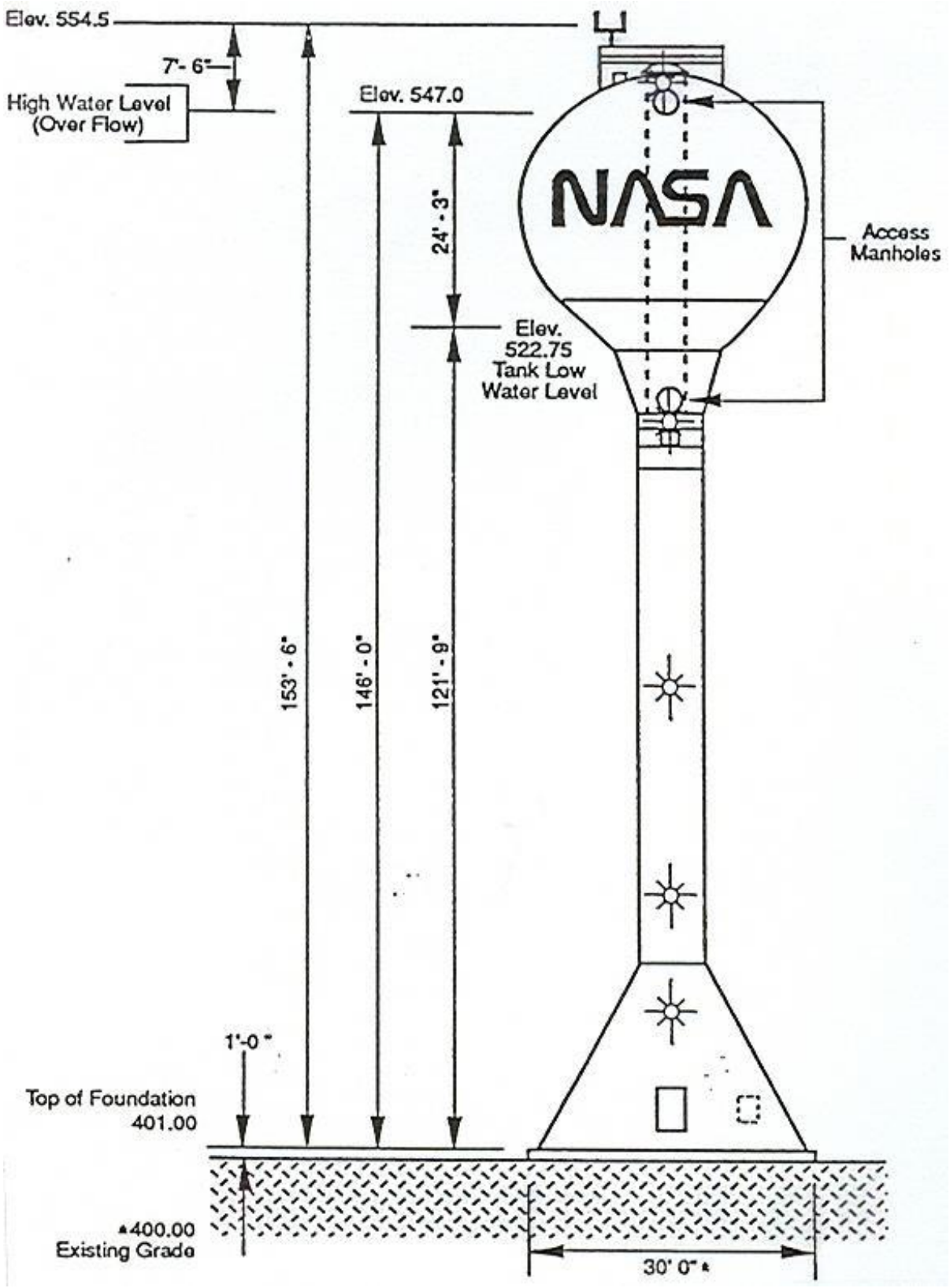


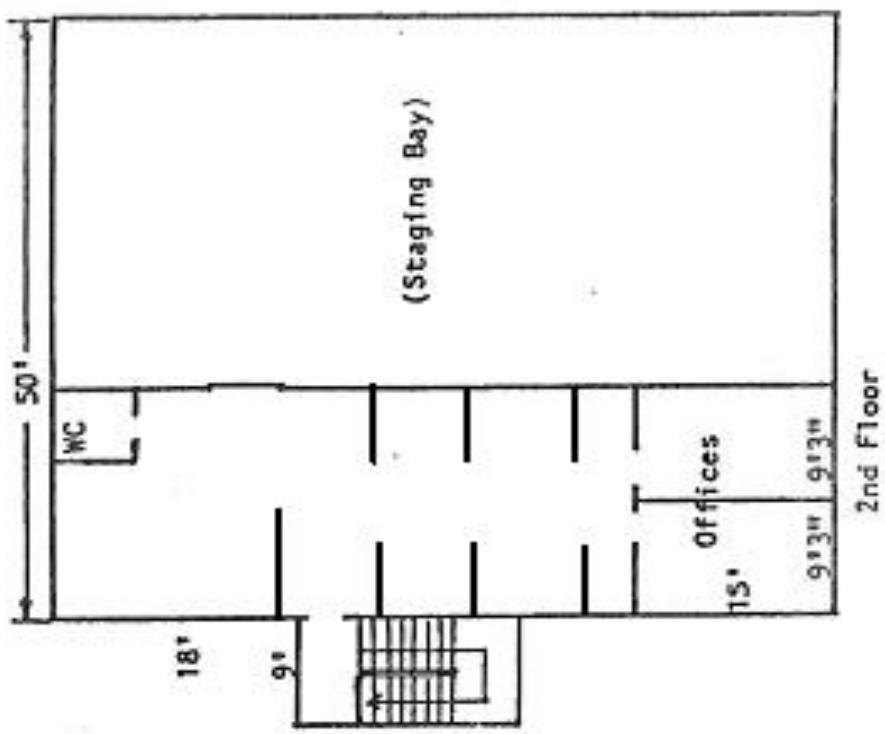
Figure 46 - Water Tower (Structure 24) Drawing

3.24 TEST AND EVALUATION (T&E) – BUILDING 25

CONSTRUCTED:	1993
SQUARE FEET:	4,200
VALUE:	$459,061.00
OWNERSHIP:	NASA
NASA CONTRACT:	Initiated: NAS5-2980 Awarded: NAS5-31125
PROPERTY ID:	3319

1993	Original Construction	This two-story 50 x 60 x 32-ft pre-engineered building contains a staging bay, testing laboratory, control center, offices, antenna deck, and enclosed exterior stairway. It houses payload integration, test, and evaluation services for the long-duration ballooning (LDB) program. At least two large scientific gondolas can undergo simultaneous integration and testing in this building. The contractor for construction was Watkins Development Corporation of Corsicana, Texas.
1996	Bemco Chamber Added	The Bemco environmental chamber was relocated to Test and Evaluation (building 25).
2004	HVAC	The second-floor heat pump and first-floor AC unit were replaced by Palestine Air and Refrigeration of Palestine, Texas.
2009	Cubical	Second floor was remodeled to add five work areas to allow space for computer work and personal storage. Estimated cost was $1,000. Work was completed by CSBF Facilities.
2016	HVAC	Leagueville Air replaced a 5-ton HVAC unit for the second floor for $5,100.00.
2018	ESD Flooring	ESD Flooring was installed in the electronic work area.

Figure 47 - Test and Evaluation (Building 25)



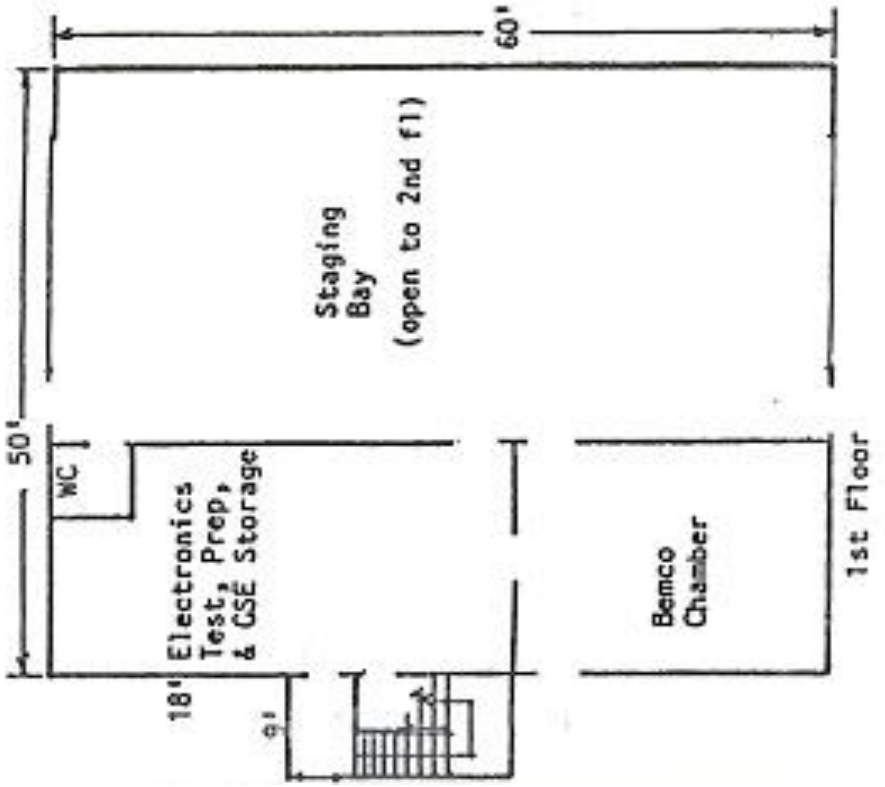


Figure 48 - Test and Evaluation (Building 25) Floor Plan

3.25 LOADING DOCK – STRUCTURE 26

CONSTRUCTED:	1995
SQUARE FEET:	900
VALUE:	$20,200.00
OWNERSHIP:	NASA
NASA CONTRACT:	NAS5-31125
PROPERTY ID:	3494

1995	Original Construction	A 30 x 30-ft loading dock was built to conform to NASA safety standards. A 15 x 30-ft slab was poured in front of the loading dock and the asphalt was cut out and the ground leveled to allow trucks to back up to the dock and remain level. The contractor was Benco Builders of Kennard, Texas.

Figure 49 - Loading Dock (Structure 26)

3.26 ECONO VAULT FUEL STORAGE – STRUCTURE 27

CONSTRUCTED:	1992
SQUARE FEET:	N/A
VALUE:	$34,662.00
OWNERSHIP:	NASA
NASA CONTRACT:	NAS5-29800
PROPERTY ID:	3133

1992	Original Construction	Two underground fuel storage tanks were excavated and removed to meet requirements of the Texas Clean Water Act. The removal was performed by Eagle Construction and Environmental Inc. of Eastland, Texas. A concrete foundation and retaining wall were built to accommodate new concrete vaulted fuel tanks. Two 500-gal above-ground tanks encased in concrete were installed. The work was performed by Lacon Construction of Houston, Texas.
2016	Secondary containment	A secondary containment was constructed around the fuel tank to comply with EPA regulations. It was completed in November 2016 by Terry Vaughn Construction of Palestine, Texas.

Figure 50 - Econo Vault Fuel Storage (Structure 27)

3.27 BALLOON SUPPORT – BUILDING 28

CONSTRUCTED:	1998
SQUARE FEET:	8,640
VALUE:	$698,999.00
OWNERSHIP:	NASA
NASA CONTRACT:	NAS5-31125
PROPERTY ID:	3649

1998	Original Construction	This building houses the Electronics, QA Laboratory, and Machine Shops. It was built by Timberline Constructors of Lufkin, Texas. After construction a lean-to was added to store metal materials.
1999	AC Installed	A 3-ton Lennox air conditioner was installed in the Weber Chamber room by Palestine Air and Refrigeration of Palestine, Texas.
2008	Office Space	Additional office space and work area was created for Electronics by taking in about half of the original space that was being use by the QA Lab. One wall and one door were added to create the work area. Estimated cost is $300.
2018	ESD Flooring	ESD Flooring was installed in the electronic work area.

Figure 51 - Balloon Support (Building 28)

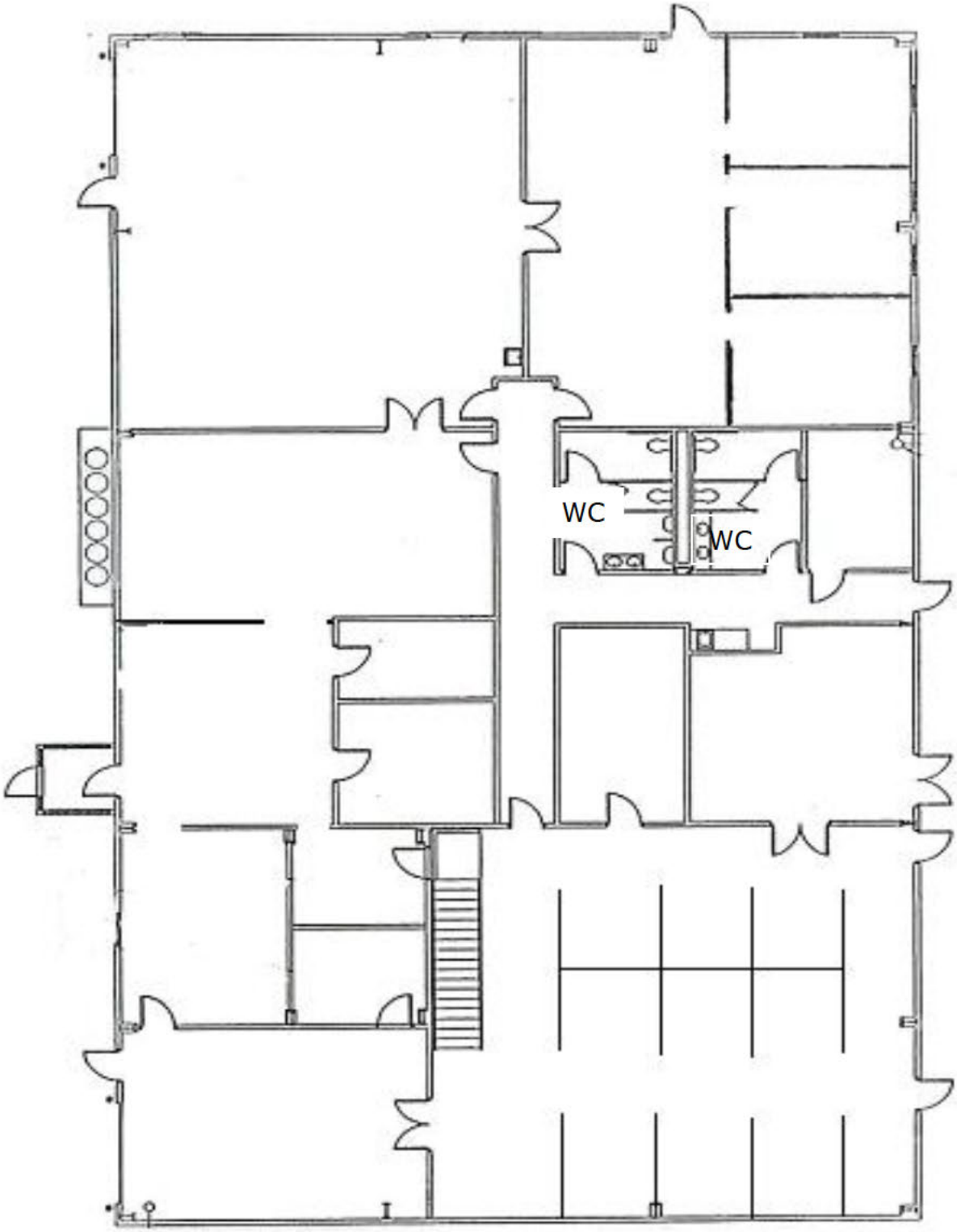


Figure 52 - Balloon Support (Building 28) Floor Plan

3.28 EAST PAVILION – STRUCTURE 29

CONSTRUCTED:	2002
SQUARE FEET:	540
VALUE:	$5,400.00
OWNERSHIP:	NASA
NASA CONTRACT:	NAS5-98008
PROPERTY ID:	N/A

2002	Original Construction	This 18 x 30-ft pavilion was erected alongside Engineering Support (building 23) by CSBF personnel.

Figure 53 - East Pavilion (Building 29)

3.29 WEST PAVILION – STRUCTURE 30

CONSTRUCTED:	2002
SQUARE FEET:	540
VALUE:	$5,400.00
OWNERSHIP:	NASA
NASA CONTRACT:	NAS5-98008
PROPERTY ID:	N/A

2002	Original Construction	This 18′ x 30′ pavilion was erected adjacent to the Operations Control Center (building 12) by CSBF personnel.
2011	Upgraded	The Pavilion cover was upgraded to steel with hip roof and enlarged to 20′ x 30′. Upgrade was performed by CSBF Facilities at a cost of $4,000.

Figure 54 - West Pavilion (Building 30)

3.30 NOAA CLIMATE REFERENCE NETWORK– STRUCTURE 31

CONSTRUCTED:	2003
SQUARE FEET:	N/A
VALUE:	N/A
OWNERSHIP:	NOAA
PROPERTY ID:	N/A

2003	Original Construction	A U.S. Climate Reference Network (USCRN) data collection center was installed by NOAA. Its purpose is to provide future long-term high-quality observations of surface air temperature and precipitation that can be coupled to past long-term observations for the detection and attribution of present and future climate change. USCRN measures the following: ▪ Air temperature ▪ Ground surface temperature ▪ Precipitation ▪ Relative humidity ▪ Soil moisture and temperature ▪ Solar radiation ▪ Wind speed

Figure 55 - NOAA Climate Network (Structure 31)

3.31 ENGINEERING SUPPORT STORAGE – BUILDING 32

CONSTRUCTED:	2003
SQUARE FEET:	288
VALUE:	$5,217.51
OWNERSHIP:	NASA
NASA CONTRACT:	NAS5-03003
PROPERTY ID:	4298

2003	Original Construction	A 12 x 20-ft storage building was purchased and placed at the south end of the parking lot between Engineering Support (building 23) and Administration (building 1) to expand available storage space for Engineering Support. The structure was built off-site and delivered to CSBF by Apollo Building Systems of Bullard, Texas. A wall heating and air conditioning unit was placed in the building.

Figure 56 - Engineering Support Storage (Building 32)

4 OTHER INFRASTRUCTURE

4.1 EAST LAUNCH PAD

CONSTRUCTED:	1963
SURFACE:	500,000 FT^2
SIX RADIALS	96,000 FT^2
VALUE:	N/A
OWNERSHIP:	LEASED
PROPERTY ID:	N/A

1963	Original Construction	The original east launch pad is part of the 165.97 acres leased from the City of Palestine. This launch pad was used for all flight operations until 1974. It is currently used for special flight operations requiring minimal launch area.

Figure 57 - East Launch Pad

4.2 WEST LAUNCH PAD

CONSTRUCTED:	1974
SURFACE:	785,000 FT^2
TWELVE RADIALS:	48,000 FT^2
PERIMETER ROAD:	125,000 FT^2
DIAMETER:	1,000 FT
RADIUS:	500 FT
VALUE:	$1,103,252.73
OWNERSHIP:	NASA
PROPERTY ID:	N/A

1974	Original Construction	The 19-acre, 1,000-ft diameter launch pad is surrounded by a 500-ft grass apron and encircled by a paved 20-ft wide perimeter road. Ten paved radials, used for flight train layout and maneuvering the spool vehicle, extend from the perimeter road toward the launch pad. The radials are spaced approximately 22.5° apart around the perimeter road. Construction costs included the access road from Farm to Market Road 3224 to the launch pad. The pad was constructed under NSF contract by E. W. Hable and Sons, Contractors.
	Seal Coat	A coating was put on the new launch pad to seal the surface from water penetration and reduce the surface temperature.
1978	Resurfacing	The pad was resurfaced under an NSF contract at a cost of $73,490.00.
1985	New Radial	An eleventh paved radial extending from the perimeter road towards the launch pad was constructed under NASA contract NAS5-28218.
1989	Subsurface Drain System and Repairs	A subsurface drainage system was installed. Repairs to specified deteriorated pavement areas were made and the entire launch pad was slurry sealed by U.S. Seal Coating of Houston, Texas under NASA contract NAS5-29800.
1990	New Radial and Resurfacing	A twelfth paved radial was constructed and the pad resurfaced by Wagner and Sons Paving Company of San Antonio, Texas under NASA contract NAS5-29800.
1991	Survey Completed and Guy Anchor Installed, Pad Striped	A survey of the launch pad area was completed by Ives Technical Services of Palestine, Texas. The guy anchor and protective cover was installed in the center of the launch pad by Duane G. Smith Engineering of Bakersfield, California under NASA contract NAS5-29800. Electric Lights Company of Fort Worth, Texas striped the launch pad with a 4-in solid white stripe and applied glass beads.

Figure 58 - West Launch Pad

4.3 ROADS, WALKS, AND PARKING LOTS

CONSTRUCTED:	1974
SQUARE FEET:	N/A
VALUE:	$169,000.00
OWNERSHIP:	NASA
PROPERTY ID:	N/A

1974	Original Construction	Facility roads, walks, and parking lots were built.
1990	Improvements	Improvements included resurfacing all original roads and parking lots with asphalt by L & L Asphalt of Tyler, Texas.
2017	Improvements	The parking lot in front of Building 11 was resurfaced by Freedom Construction and Paving of Tyler, Texas on May 10, 2017.

Figure 59 – Resurfaced Parking Area in Front of Building 11

4.4 FIRE PROTECTION SPRINKLER SYSTEM

CONSTRUCTED:	1993
SYSTEM TYPE:	WET AND DRY PIPE
VALUE:	$521,473.33
OWNERSHIP:	NASA
NASA CONTRACT:	NAS5-31125
PROPERTY ID:	3365

1993	Original Construction	This project included the installation of wet- and dry-pipe fire protection systems in twelve buildings; outside fire hose stations (with covers) to protect nine additional facilities; underground water supply lines; risers, equipment, and fire alarm devices including both audiovisual and control communications equipment; and insulation of sprinkler pipe in attics for buildings 2, 3, and 6 including electrical heat taps. The Fire Alarm Reporting Computer System is in the Visitor Center. The contractor was Beckman Construction Co. of Fort Worth, Texas.

2019	Maintenance	Digitize equipment was refurbished by manufacturer $2,512 NASA Fire Protection Engineer and tech reinstalled the digitize system American fire protection replaced 86 sprinkler heads throughout the facility to meet NASA fire protection requirements $3,866

5 FORT SUMNER FLIGHT FACILITY

5.1 STAGING – REMOTE BUILDING R1

CONSTRUCTED:	1991
SQUARE FEET:	8,800
VALUE:	$1,232,338.83
OWNERSHIP:	NASA
NASA CONTRACT:	Phase I: NAS5-29800 Phase II: NAS5-31125
PROPERTY ID:	3048

1991	Original Construction	An 80 x 80-ft pre-engineered metal building was erected at the Municipal Airport in Ft. Sumner, New Mexico by ESA Construction, Inc. of El Paso, Texas. Phase I of construction was completed in 1991. This facility is used as a remote launch site.
1992	NASA Land Purchase	A certified Corrected Warranty Deed for 8.1499 acres of land was signed by NASA's Donald Satz on 11 June 1992. The tract is located within Section 16, Township 3 North, Range 26 East, New Mexico Prime Meridian (N.M.P.M.), DeBaca County, New Mexico. The check in the amount of $8,150.00 was transmitted by letter dated 30 June 1992. The deed was recorded in the DeBaca County, New Mexico Courthouse on 17 June 1992.
1994	Additions and Improvements	The addition included adding second and third stories to the structure and installing a 30-ton heat pump. Concrete pavement was added around the building with an asphalt parking lot. A 20 x 20-ft antenna deck was installed on top of the building. An air compressor room and air compressor was also added. NASA Facilities Engineering accepted the project at $736,104.96 complete from Jim Sena Construction of Santa Rosa, New Mexico under NASA contract NAS5-31125. One A-frame structure was built. Launch pad improvements included removal of all loose debris and concrete foundations. All trees were removed in the launch pad area. This portion of the work was performed by the Village of Fort Sumner. Four inches of base material was spread over the area by K. Barnett and Sons, Inc. of Clovis, New Mexico.
1995	HVAC Repair	Two compressors were replaced and thermostats were installed in the HVAC units by Claiborne Refrigeration Co. of Clovis, New Mexico.
1996	Security System Installation	A security system consisting of a Commander 2000 17-zone CPU, eight door and window sensors, two motion sensors, remote keypad, and siren was installed by ENMR of Clovis, New Mexico.
1997	Remote Controls Installed	The controls of the building were put on remote connection using an ACS US Robotics Sportster Modem by ACS of Albuquerque, New Mexico.
1998	Roof Coating and Air Conditioning Installation	The roof of the building was covered with an Astec ceramic coating by Ceramic Coatings Inc. of Conroe, Texas. A 3-ton air conditioner was installed in the battery storage area to keep batteries in a climate-controlled area year-round by Blakely Electric Co. of Fort Sumner, New Mexico.

1999	AC and Ethernet Installation	An 8-ton air conditioner was installed for the third floor as a backup for the Electronics tower. A fast Ethernet system was installed to replace the old thin-net system. A fiber optic cable was installed from the staging building to the hanger. All work was done by Facilities personnel.
2003	Launch Area Expansion	The size of the launch area was increased by Jactel of Las Cruces, New Mexico.
2004	Telephone System Updated	The outdated telephone system was replaced with an updated system providing more extensions throughout the facility including a facility-wide paging system. The main unit is housed in the first floor of the building. The equipment was manufactured by Telecom with a value of $7,652.16. The work was performed by CSBF personnel under NASA contract NAS5-03003.
2012	Fire Protection	Fire protection alarms were installed.
2018	ESD Flooring	ESD Flooring was installed in the Electronics work areas

Figure 60 - Fort Sumner Staging (Building R1)

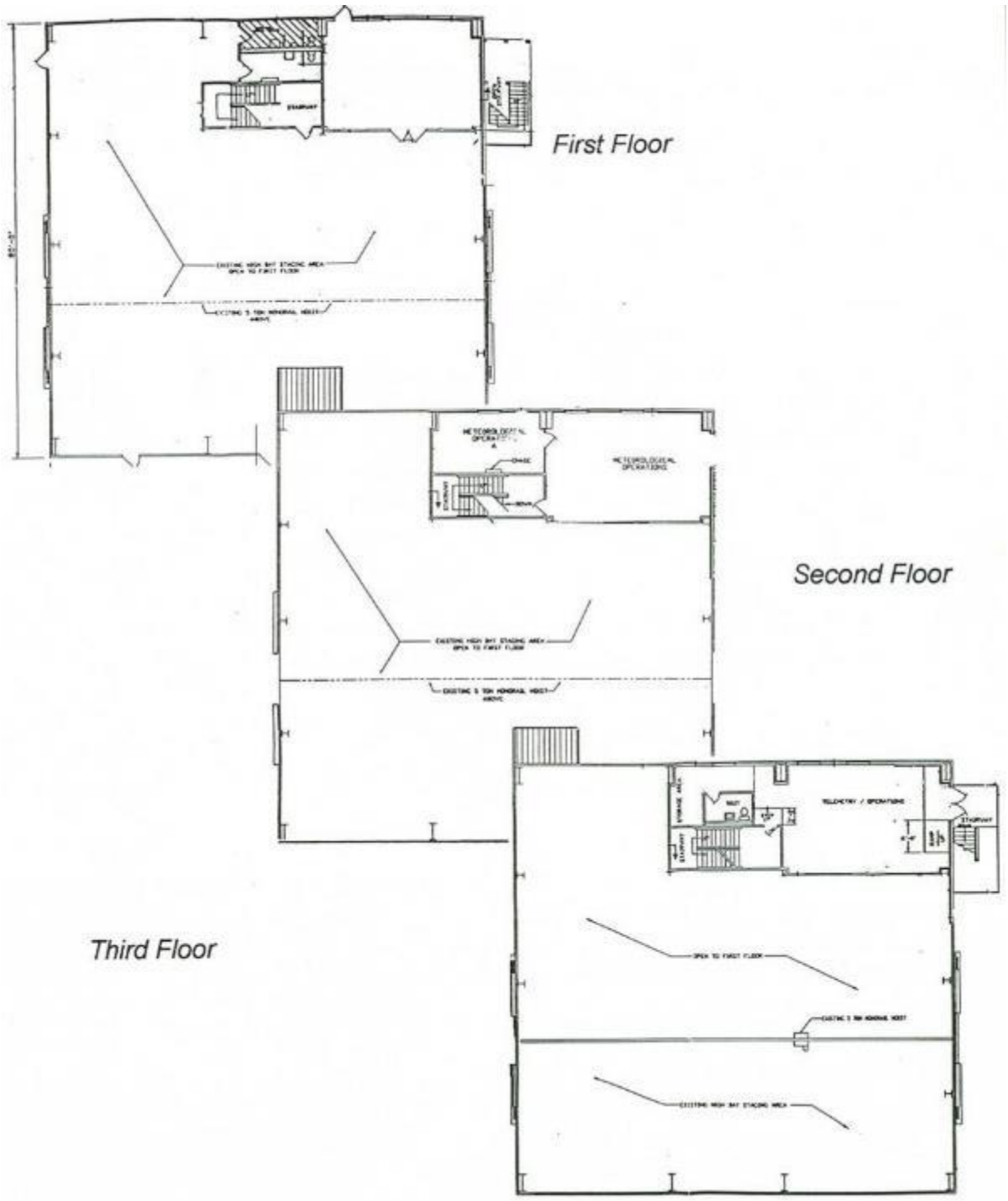


Figure 61 - Fort Sumner Staging (Building R1) Floor Plan

5.2 LITHIUM BATTERY STORAGE – REMOTE BUILDING R3

CONSTRUCTED:	2004
SQUARE FEET:	574
VALUE:	$7,606.66
OWNERSHIP:	NASA
NASA CONTRACT:	NAS5-03003
PROPERTY ID:	4443

2004	Original Construction	This single-story 24 x 24-ft metal building was erected just behind the Electronics section of Staging (building R1) to store lithium batteries. A 3-ton AC is installed. The materials were purchased from Mueller Co. of Moriarty, New Mexico at a cost of $7,606.66, and the work was performed by CSBF personnel. A 3200 BTU is installed.

Figure 62 - Fort Sumner Lithium Battery Storage (Building R3)

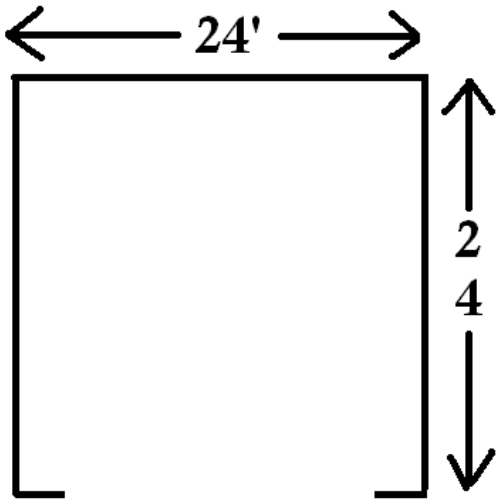


Figure 63 - Fort Sumner Lithium Battery Storage (Building R3) Floor Plan

5.3 KITCHEN – REMOTE BUILDING R4

A kitchen was put in place in 2010. It was purchased with Contractor funds.

CONSTRUCTED:	
SQUARE FEET:	280
SIZE	20 ft. x 14 ft.
VALUE:	
OWNERSHIP:	NASA
NASA CONTRACT:	NAS5-03003

Figure 64 – Ft. Sumner Kitchen (Building R4)

6 ALICE SPRINGS, AUSTRALIA

6.1 DEMOUNTABLE BUILDING – REMOTE BUILDING R2

CONSTRUCTED:	1988
SQUARE FEET:	400
VALUE:	$11,210.94
OWNERSHIP:	NASA
NASA CONTRACT:	NAS5-29800
PROPERTY ID:	2815

1988	Original Construction	This single-story 10 x 40-ft building was purchased used from Central Australian Helicopter at Alice Springs Airport in Alice Springs, Australia and relocated to a site near the CSBF work area. The building houses CSBF electronic telemetry equipment during remote launch campaigns.

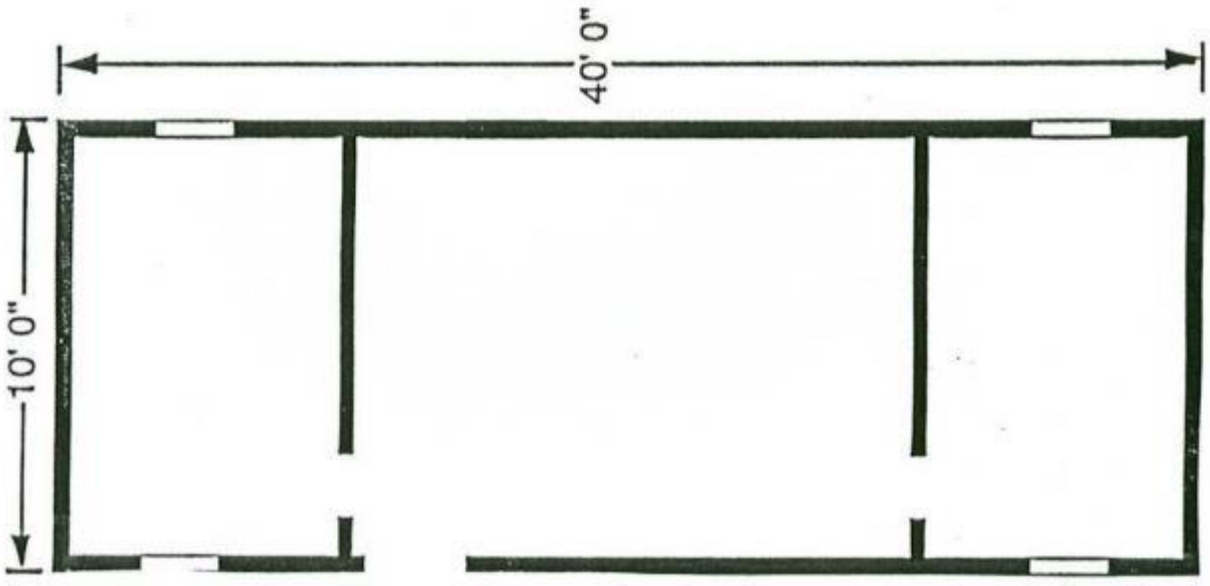


Figure 65 - Alice Springs Demountable Building (Building R2) Floor Plan

7 MCMURDO STATION, ANTARCTICA

7.1 PAYLOAD BUILDING 1

CONSTRUCTED:	2005
SQUARE FEET:	1,800
SIZE	30 ft. x 60 ft.
DOOR WIDTH	18 ft.
VALUE:	$1,094,886
OWNERSHIP:	NASA
NASA CONTRACT:	NAS5-03003

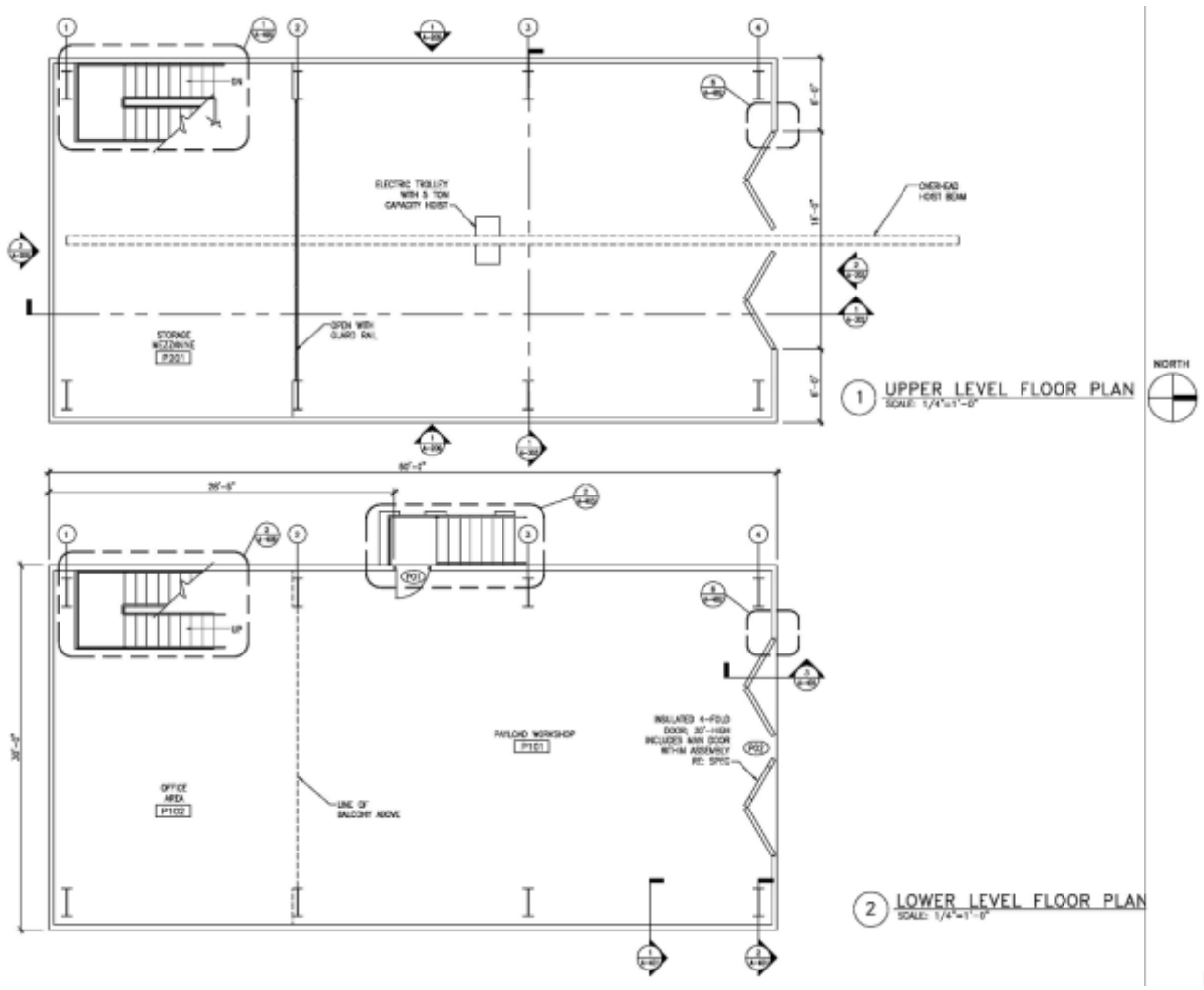


Figure 66 - Antarctica Payload Building 1 floor plan

Figure 67 - Antarctica Payload Building 1 photograph

7.2 PAYLOAD BUILDING 2

CONSTRUCTED:	
SQUARE FEET:	1,800
SIZE	30 ft. x 60 ft.
DOOR WIDTH	20 ft.
VALUE:	1,094,886
OWNERSHIP:	NASA
NASA CONTRACT:	NAS5-03003

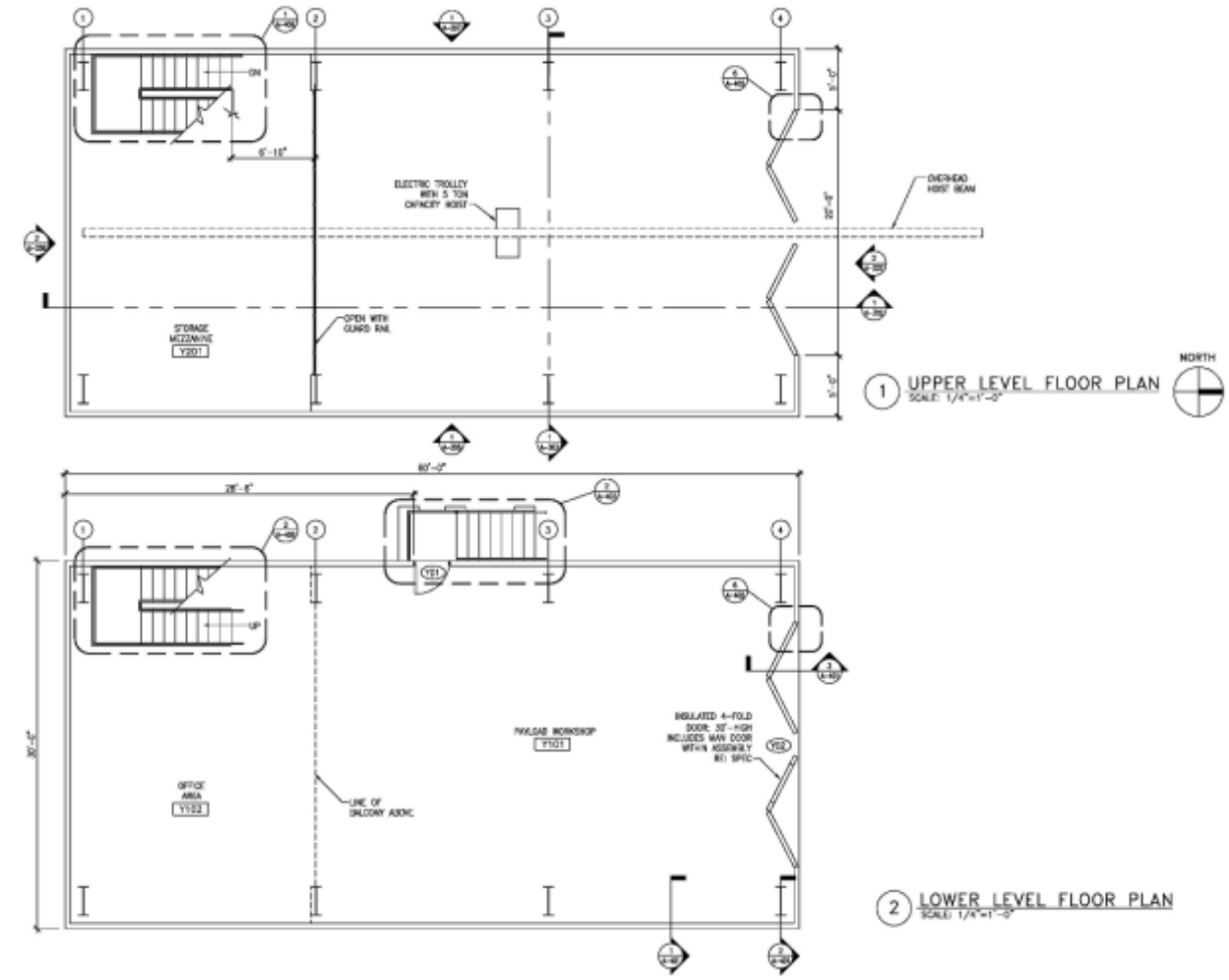


Figure 68 - Antarctica Payload Building 2 floor plan

Figure 69 - Antarctica Payload Building 2 photograph

7.3 RIGGING SHOP

CONSTRUCTED:	2005
SQUARE FEET:	1,200
SIZE	40 ft. x 30 ft.
VALUE:	729,924
OWNERSHIP:	NASA
NASA CONTRACT:	NAS5-03003

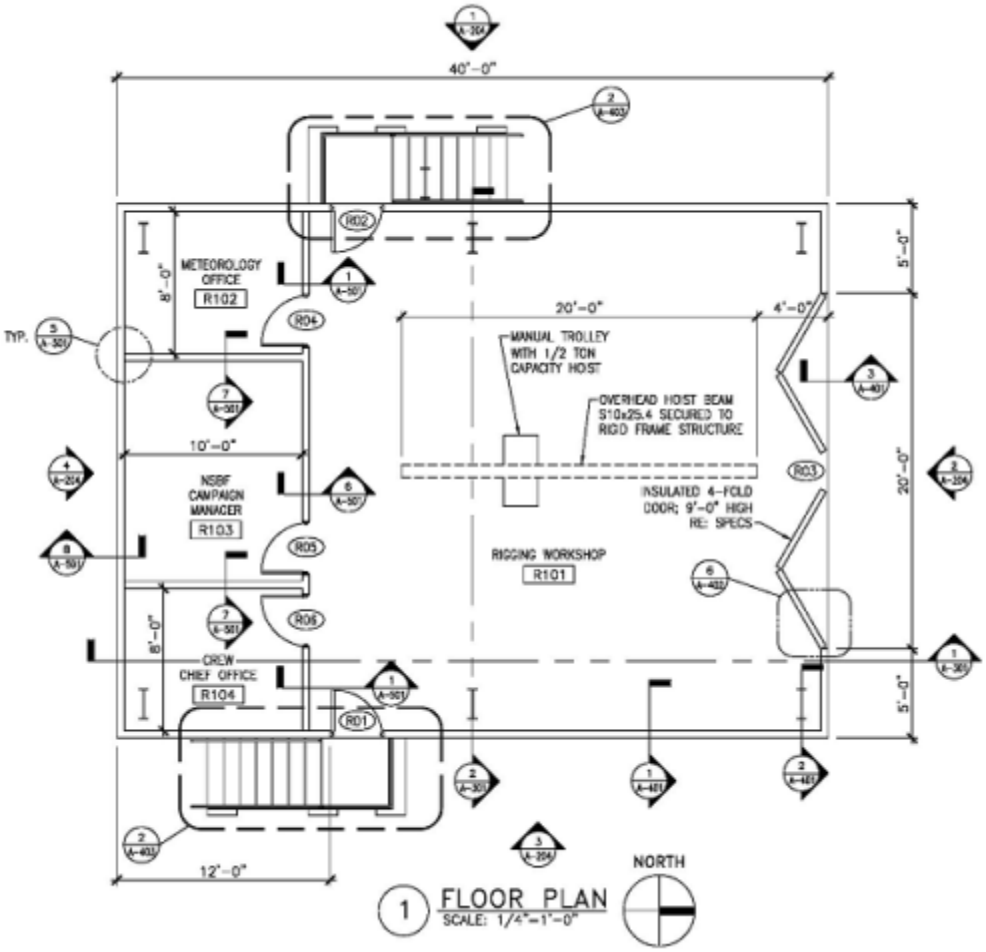


Figure 70 - Antarctica Rigging Shop floor plan

Figure 71 - Antarctica Rigging Building photo

7.4 ELECTRONICS SHOP (TELEMETRY)

CONSTRUCTED:	2005
SQUARE FEET:	1,200
SIZE	40 ft. x 30 ft.
VALUE:	729,924
OWNERSHIP:	NASA
NASA CONTRACT:	NAS5-03003

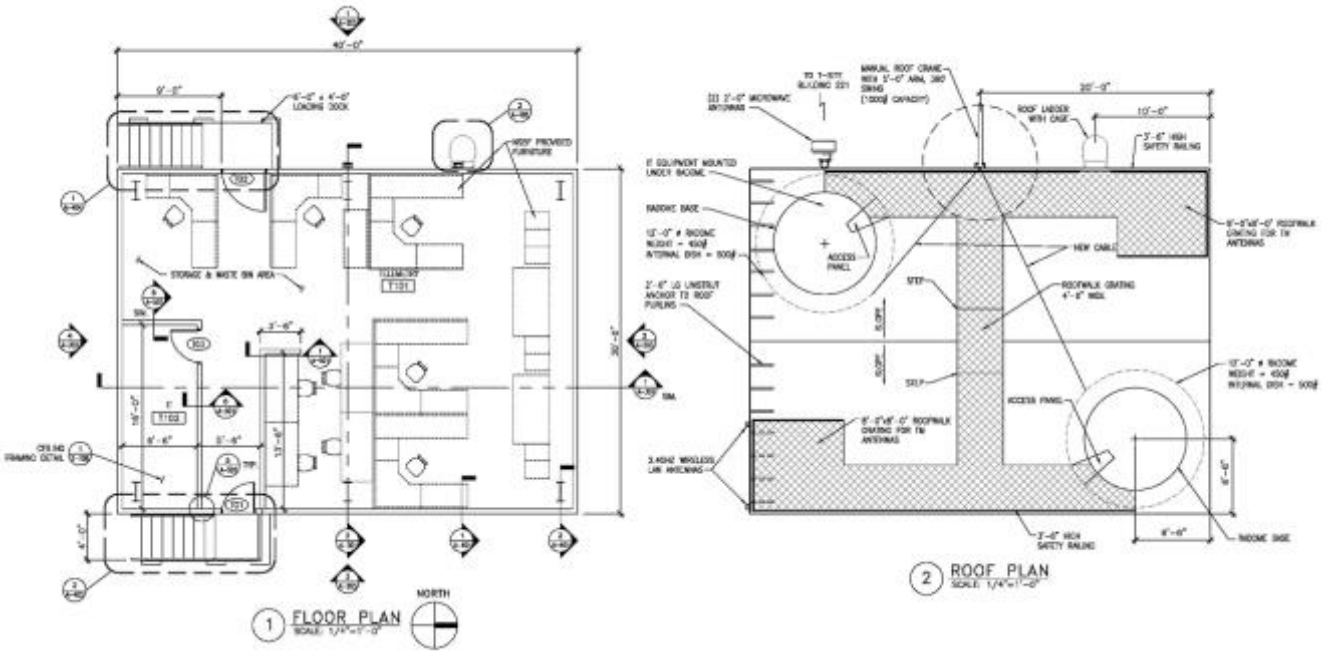


Figure 72 - Antarctica Electronics Shop (Telemetry) floor/roof plans

Figure 73 - Antarctica Telemetry Building photo

7.5 MECHANICAL BUILDING

CONSTRUCTED:	2005
SQUARE FEET:	576
SIZE	36 ft. x 16 ft.
VALUE:	350,364
OWNERSHIP:	NASA
NASA CONTRACT:	NAS5-03003

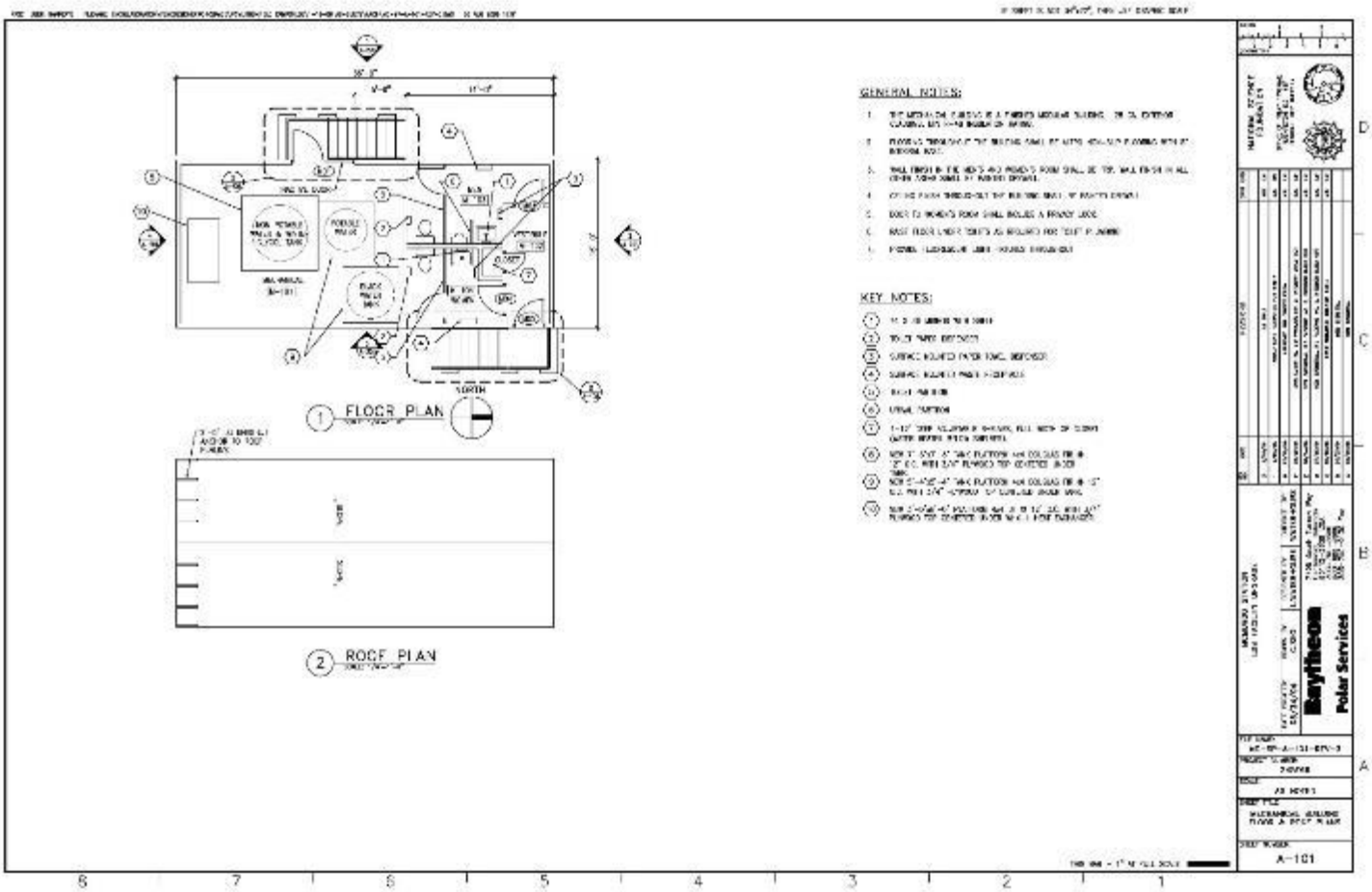


Figure 74 - Antarctica Mechanical Building floor and roof plan

Figure 75 - Antarctica Mechanical Building photo

APPENDIX A – CSBF ORGANIZATION

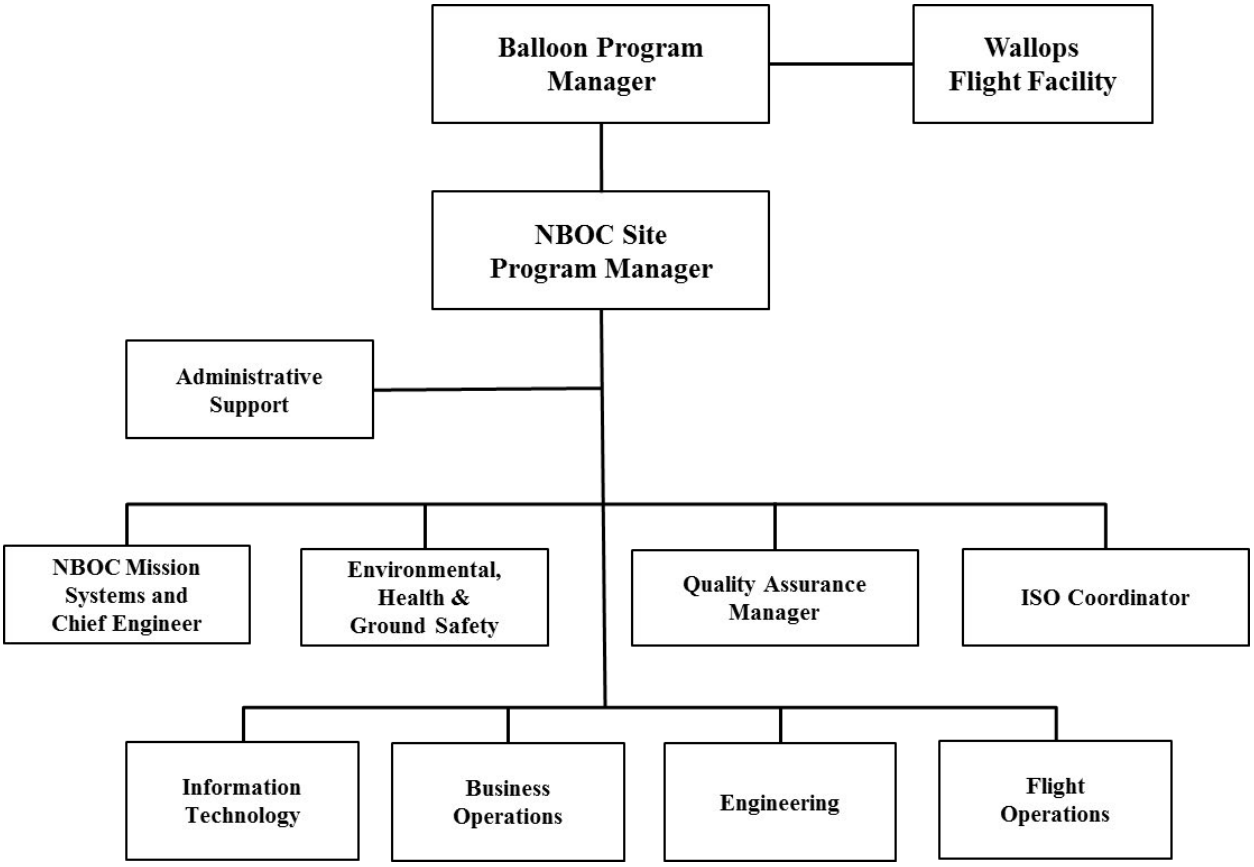


Figure 76 - CSBF Organization Chart

APPENDIX B – CSBF FACILITY MAP

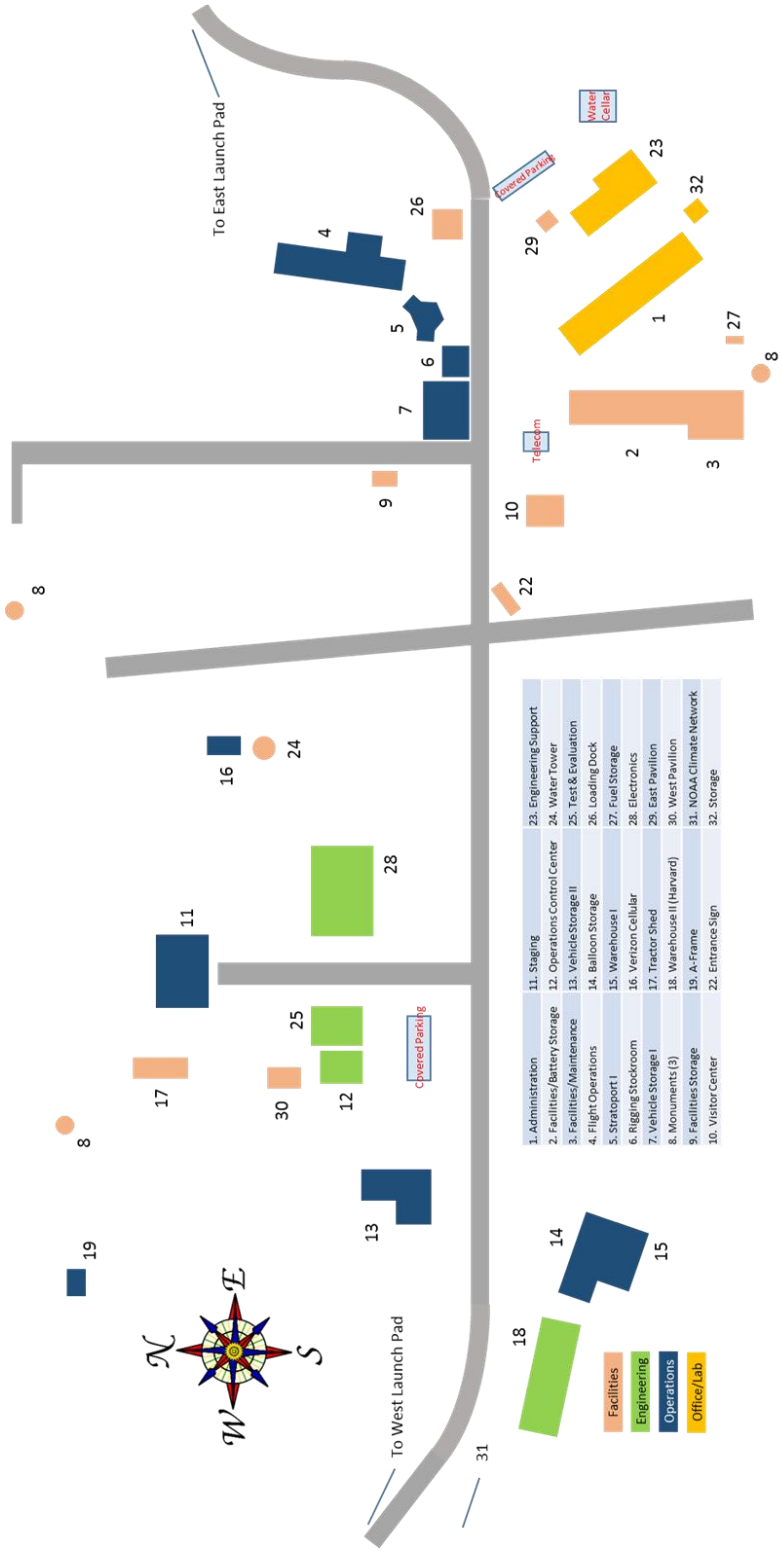


Figure 77 - CSBF Facility Map

APPENDIX C –PALESTINE, TX VICINITY MAP

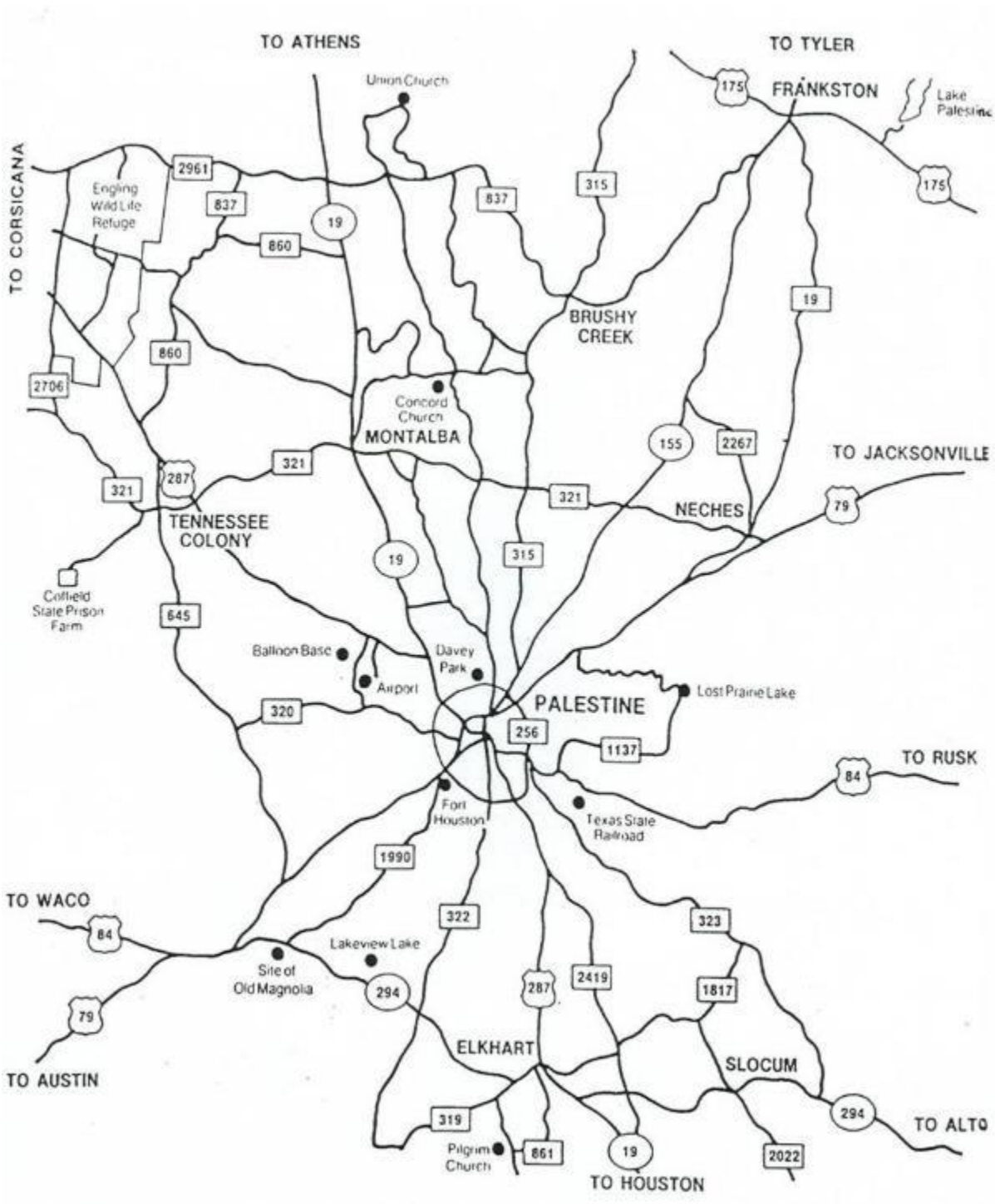


Figure 78 - Palestine, Texas Vicinity Map

APPENDIX D – MAP OF FORT SUMNER, NM

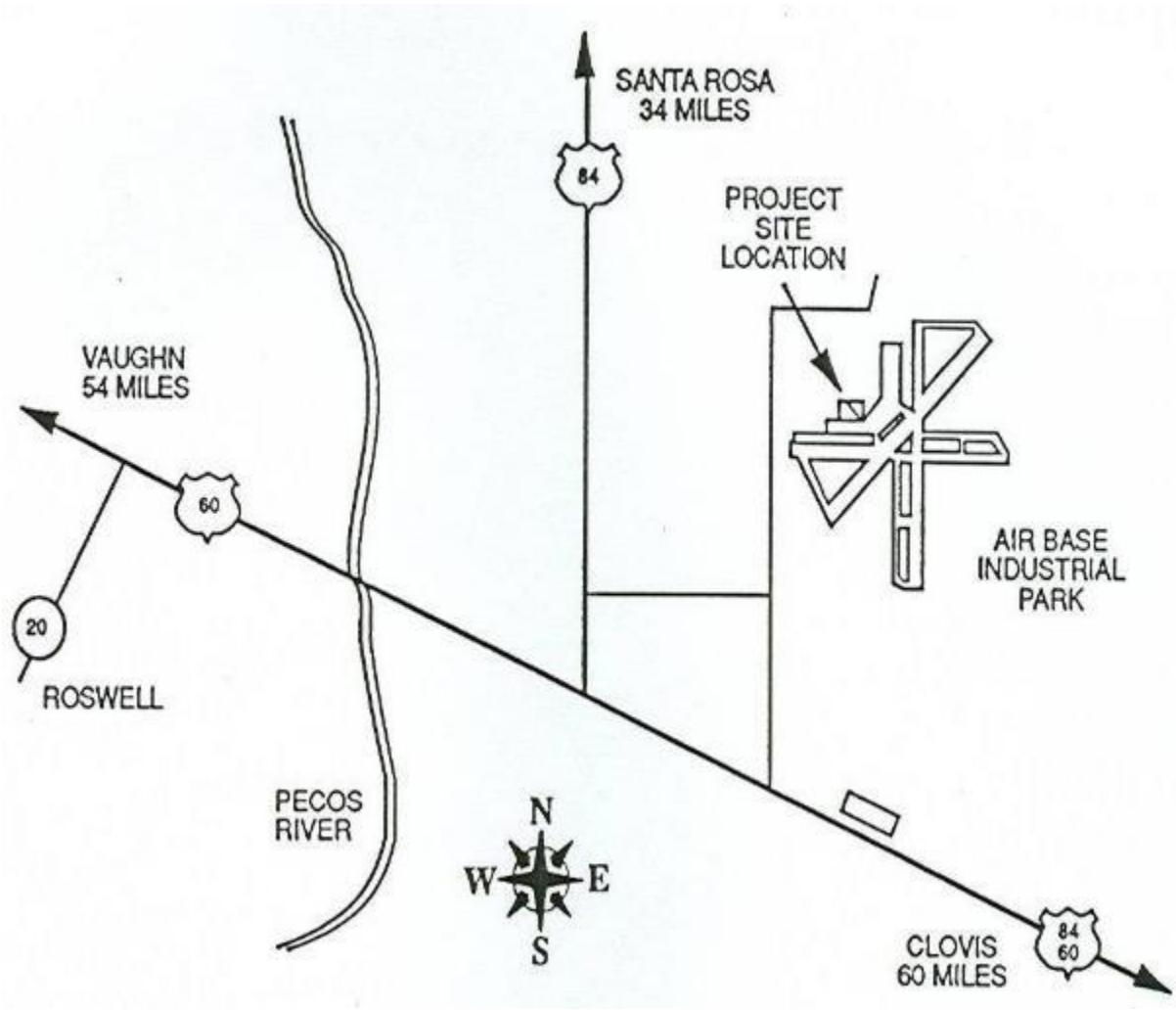


Figure 79 - Map of Fort Sumner, NM

APPENDIX E – FORT SUMNER, NM VICINITY MAP

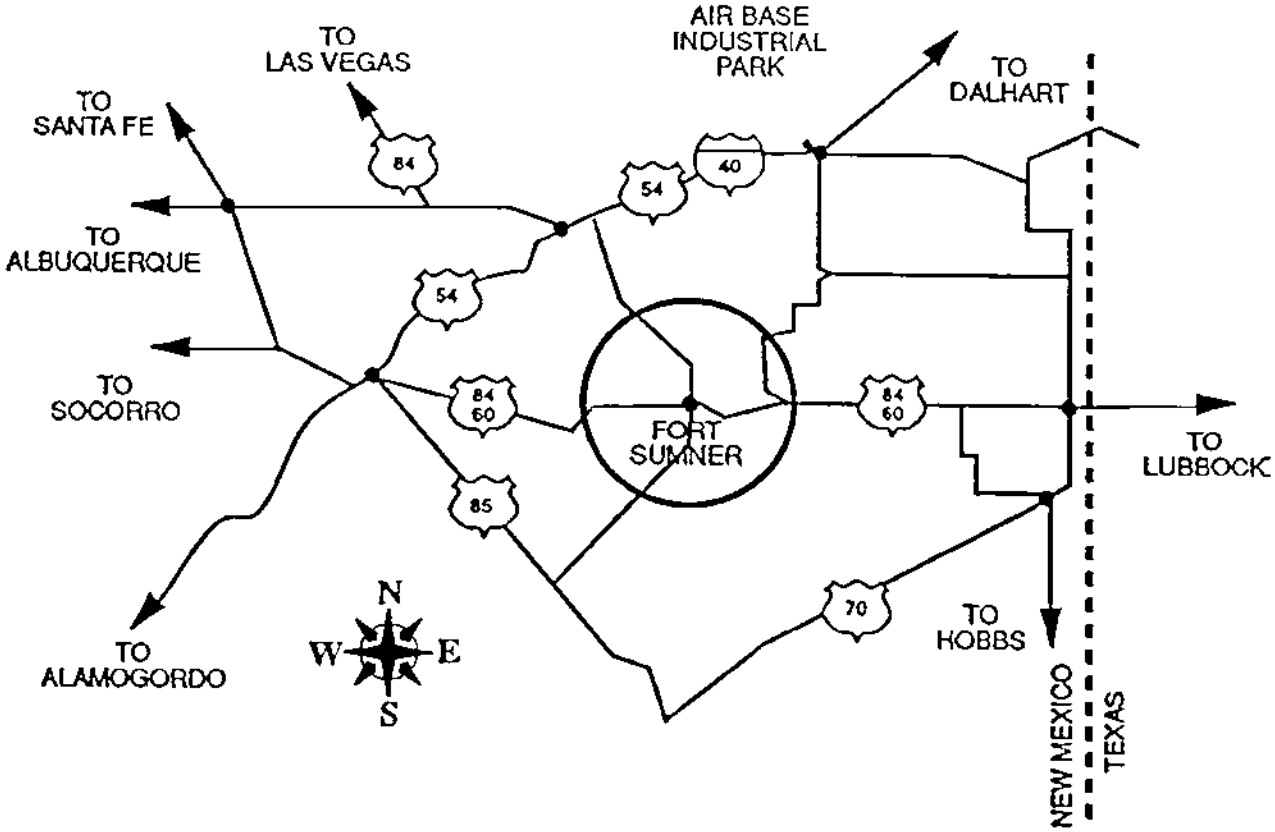


Figure 80 - Fort Sumner, NM Vicinity Map

Appendix F – CSBF Site Diagram

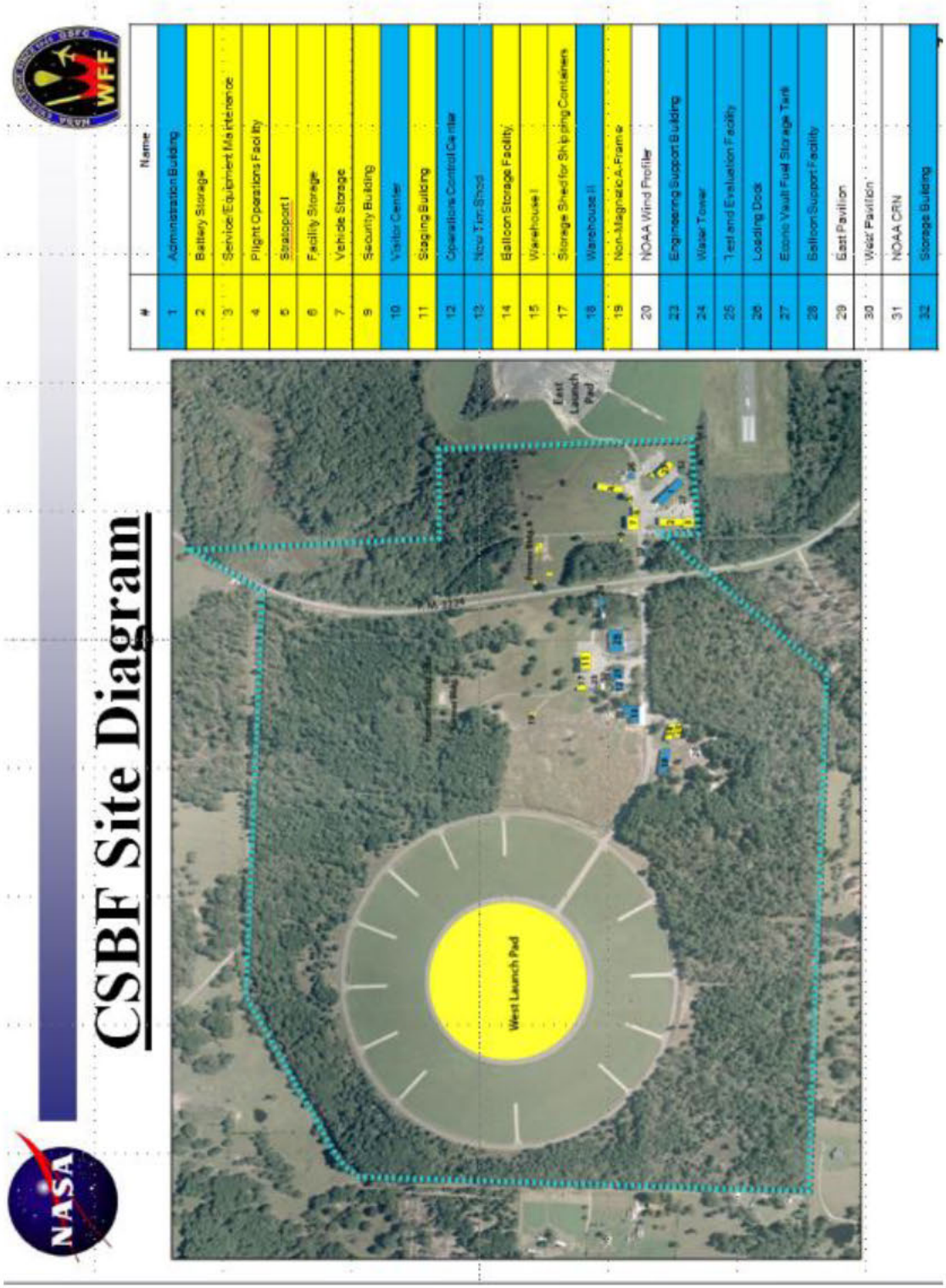


Figure 81 - CSBF Site Diagram

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