

## CHAPTER XIII. ARIZONA AIR NATIONAL GUARD FACILITIES

### 1. INTRODUCTION

The proposed construction of a parallel Runway 8-26 on the south side of the airport, a critically important element in the development plan for the airport, will require relocation of part of the Air National Guard (ANG) facilities. The realignment will be necessary to maintain FAA-mandated clearances relative to the proposed runway.

The schedule for construction of the third runway is in the 1995 time frame. Given the lead-time for reaching an agreement with the ANG and the planning, design and construction of a new facility, early availability of the site becomes a key factor.

In this chapter, the general feasibility of different alternatives for relocating the ANG are examined. The location, terms and conditions for the relocation will be determined in detailed negotiations between the City of Phoenix and the Air National Guard.

The material presented in this chapter has been coordinated with the ANG base personnel, and much of the data was, in fact, provided by the ANG. This does not imply approval or acceptance by the ANG of the proposed solution either whole or in part. The assistance of the Guard was generously provided throughout the evaluation, and this was essential to development of the working assumption for use in development of the airport plan.

### 2. THE NEED TO RELOCATE

The existing base facilities are shown in Figure XIII-1. The most significant of these buildings are:

- the hangar, Building No. 2, built in 1952 with subsequent additions;
- the nose dock, Building No. 25, which includes paint shop and other aircraft maintenance facilities built in 1965;
- the "hush-house" for out-of-frame engine tests, a new concrete structure at the east end of the site built in 1977; and
- the Computer Building.

On the base plan are shown the recommended third parallel runway alignment, the parallel taxiway alignment, and the building restriction line relative to the proposed runway. The building line for a two-story structure would eliminate most of the structures on the site, including the four key buildings identified above. Only the Operations and Training Building (18) and the Club

and Pool (19) would not be eliminated. The conclusion is that the ANG facility would have to be relocated from this site or its boundaries would have to be substantially realigned to accommodate the proposed new runway.

### **3. RELOCATION ALTERNATIVES**

Alternatives for relocation exist at other sites in the Phoenix area and at other sites on or adjacent to the airport.

Available alternative sites off-airport are:

**Site A - Luke Air Force Base** - Luke AFB is situated in the northwest valley about 21 miles from the center of Phoenix.

**Site B - Williams Air Force Base** - Williams AFB is located in the southeast valley about 25 miles from central Phoenix.

**Site C - Proposed Regional Jetport** - Sites under considerations are located at Coolidge and Casa Grande between Phoenix and Tucson, about 50 miles from the Phoenix Central Business District (CBD). The feasibility of constructing an airport in this general area has been the subject of study but to date no justification for construction on this site has been developed.

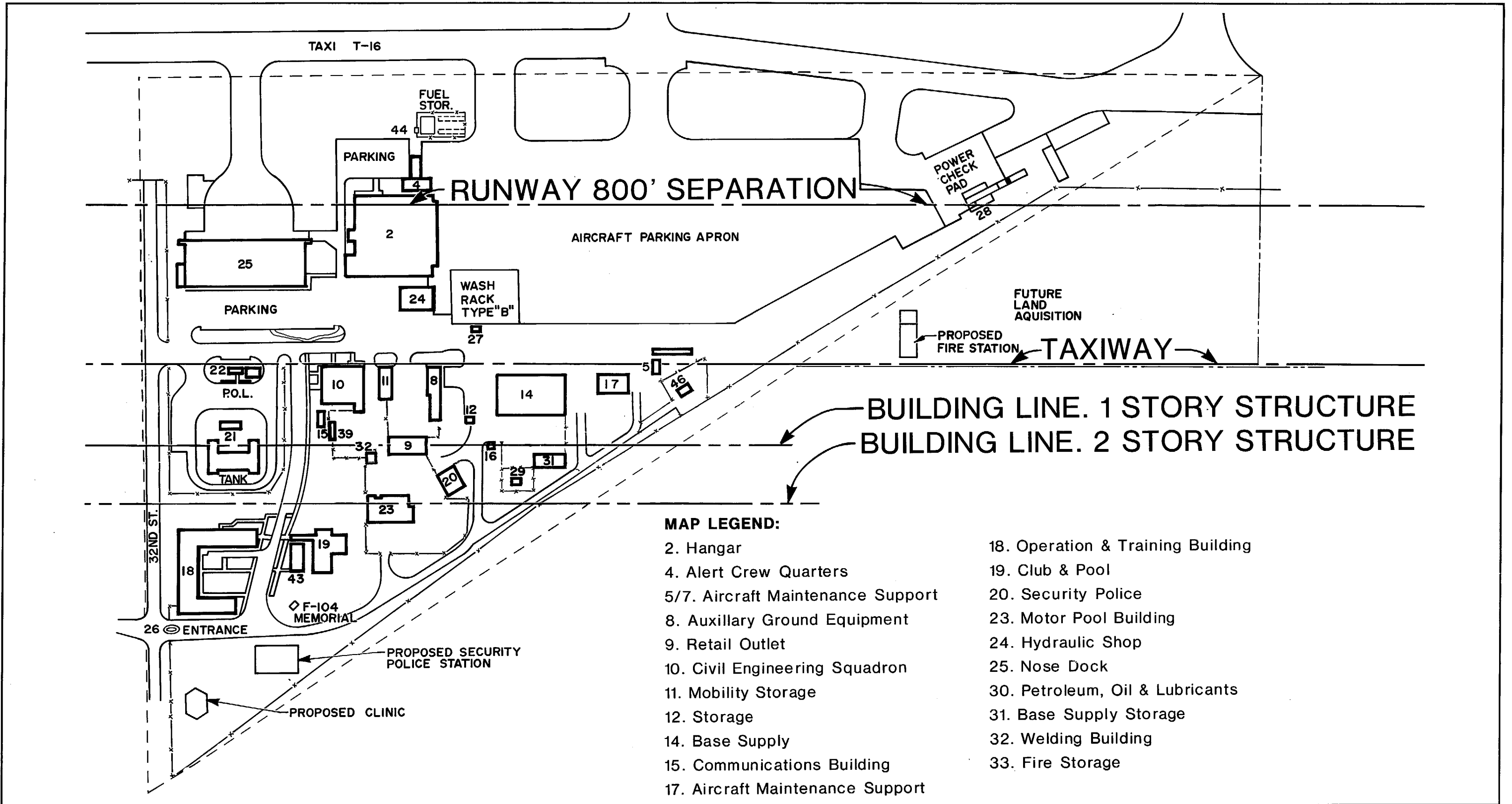
**Site D - Proposed Third Reliever Airport** - The city is actively exploring alternative sites for a third reliever airport. The search is focusing on areas to the north of the city. A prime candidate site is the Long property, located in Maricopa County about 35 miles from downtown. This site could be developed to standards to meet the requirements of the Guard.

Alternative on-airport sites are:

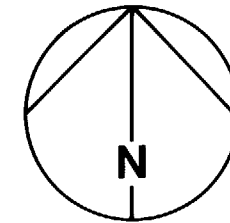
**Site E - Partial Relocation on the Southwest boundary of the Airport** - The site would include the triangular section of the current site which would not be affected by the runway construction, and would extend into the area to the west of the existing site currently occupied by the city jail facility.

**Site F - Total Relocation on the Southwest boundary of the Area** - This site is located immediately to the west of the existing site, an area currently occupied by the LARC and jail. It would not include the small remaining section of the existing site. Both Sites E and F could include a section of the landfill area south of Watkins Road.

**Site G - Adjacent to 24th Street Realigned and Between the Runways** - This site lies immediately east of 24th Street realigned.



PHOENIX SKY HARBOR INTERNATIONAL AIRPORT MASTER PLAN UPDATE



**Air National Guard Facility & Proposed Runway Alignment**

Figure XIII-1

**Site H - North of Runway 8L-26R** - This site includes a section of airport property south of the railroad tracks together with the dog track to the north of Air Lane.

#### **4. EVALUATION OF ALTERNATIVE SITES**

##### **A. Evaluation Criteria**

The criteria used in the comparative evaluation of these sites are:

##### **1. Site Factors.**

- a) **Size/Configuration of Site:** The Guard has stated that a site of approximately 50 acres would be required to accommodate their operation and provide for possible expansion.
- b) **Runway Length and Specifications:** A length of 11,300 feet and a load-bearing capability adequate for the current KC-135E equipment are required.
- c) **Runway Access:** This factor relates to ease of access of ANG aircraft to runways with adequate length and strength.
- d) **Availability of Utilities/Services at the Site.**
- e) **Immediate Availability of Site:** The demand for additional runway capacity at PHX will occur in the short- to mid-term. This will require programming of the ANG relocation to commence in the 1989-1991 time frame. Facilities which are not available in this time frame will not be viable sites for the relocation.
- f) **Long-term Availability of Site:** The ANG would prefer to relocate to a site which will be available for an extended period of time.
- g) **Land Use and Noise Compatibility.**

##### **2. Cost Factors.**

- a) **Cost of Replacement Facilities.**
- b) **Cost of Relocation.**

##### **3. Labor Force Factors.**

- a) **Proximity to Centroid of Metropolitan Population:** The ANG base is an employment center for approximately 900 full- and part-time employees and is a training facility for reservists. This func-

tion can be served effectively only if the site is located convenient to a large part of the metropolitan population. Highway distance from downtown Phoenix was used as a measure of proximity.

#### **4. Operational Impacts.**

- a) **Impact on ANG Operations:** This identifies the extent to which ANG operations would be constrained by the activities of other users of the airport or airfield.
- b) **Impact of ANG Operations on Activities of the Host Facility:** The interaction of large aircraft, even though limited in number with smaller, faster aircraft, may have safety or capacity implications.
- c) **Willingness of Potential Host Facility to Accommodate the Guard:** Even though relocating at a specific facility appears as a reasonable and feasible solution, if the host facility has major concerns and is opposed to the move, this may eliminate the alternative.

A preliminary analysis of each of the sites with respect to these factors is presented in the matrix (Table XIII.1).

#### **B. Site Evaluations**

Luke Air Force Base (proposed Site A) and Williams Air Force Base (proposed Site B) share some of the same characteristics with respect to relocation of the ANG.

Both bases are located on the edge of the metropolitan area - Luke northwest of Phoenix and Williams in the southeast. Luke is seven square miles in extent, while Williams is over five square miles. The primary mission of both facilities is the training of Air Force pilots. Williams provides initial training in small aircraft. Luke houses units conducting advanced training of jet fighter pilots.

Williams has reached capacity but Luke has increased air traffic by 17 percent with additional night training. Operations at Luke exceed 200,000 individual takeoffs and landings per year. Williams' operations exceed 300,000. Both installations are equipped to serve jet aircraft.

Luke has two runways (21R-3L and 21L-3R) 10,000 and 9,910 feet long, respectively. Both have 1,000-foot overrun areas. The weight-bearing strengths of the runways range from 95,000 pounds single-wheel loading to 265,000 pounds twin tandem-wheel loading. The apron area can accommodate about 200 aircraft.

Williams has three concrete runways (12R-30L, 12C-30C, and 12L-30R) 10,400, 10,200, and 9,300 feet in length, respectively. The weight-bearing strengths of

## General Evaluation - Alternative Sites For Relocation of ANG Facility

FACTORS	Other Airport Alternatives				Sky Harbor Alternatives			
	A. Luke AFB	B. William AFB	C. Proposed Jetpoint	D. Third Reliever	E. Partial Re-location SW	F. Relocation SW Side	G. 24th Street	H. NE Site
<b>Site Factors</b>								
Size and Configuration	Potentially adequate	Potentially adequate	Adequate	Adequate	Adequate w/ reclamation	Adequate w/ reclamation	Adequate w/ acquisition	Adequate w/ acquisition
Runway Length/ Specifications	10,000 ft.	10,400 ft.	Undetermined	Undetermined	10,300 ft.	10,300 ft.	10,300 ft.	10,300 ft.
Runway Access	Undetermined	Undetermined	Potentially Good	Potentially Good	Must cross 3rd r/w	Must cross 3rd r/w	Good to both r/ways	Good to r/w 8L-26R
Utilities and Services	Probably available	Probably available	Available	Available	In-place	In-place	In-place	In-place
Immediate Availability	Not available	Not available	Doubtful; 20 yrs minimum	Land + 5 yrs Fac. +10 yrs	Available 3-5 yrs	Available 3-5 yrs	Available short-mid term	Part of site available, delays for acquisition
Long-term Availability	Not available	Not available	Good if Facility constructed	Good	To be negotiated with city	To be negotiated with city	To be negotiated with city	To be negotiated with city
Land use/ Noise	Potential minor problem	Potential minor problem	Minimal - none	Minimal - none	Minimal	Minimal	Minor	Minor
<b>Cost Factors</b>								
Replacement Costs	\$33 million	\$33 million	\$33 million	\$33 million	\$33 m <sup>(1)</sup>	\$33 million	\$33 million	\$33 million plus cost of private land
Relocation Costs	High due to distance	High due to distance	High due to distance	High due to distance	Probably less	Probably less	Probably moderate	Probably moderate
<b>Labor Force Factors</b>								
Proximity to Population	More removed (21 miles)	More removed (25 miles)	More removed ( 50 miles)	More removed ( 35 miles)	Same location	Same location	No signif. change	No signif. change
<b>Operational Impacts</b>								
Impact on ANG Operations concern by USAF	Probably minor, concern by USAF	Probably minor,	Probably minor	Probably minor	Potential interaction with civil traffic	Potential interaction with civil traffic	Potential interaction with civil traffic	Potential interaction with civil traffic
Impact on other Operations	Not known, concern by USAF	Not known, concern by USAF	Probably minimal	Probably minimal	Minor effect on 3rd Parallel r/w	Minor effect on 3rd Parallel r/w	Minimal	Minimal
Attitude of Host Facility	Unfavorable (USAF)	Unfavorable (USAF)	Probably favorable (City)	Probably favorable (City)	Can accommodate (City)	Can accommodate (City)	Unfavorable (City)	Unfavorable (City)

(1) Possibly less by \$2.6 million, the replacement cost of structures on the existing site which could be incorporated into the new site.

the runways range from 55,000 pounds single-wheel loading to 120,000 pounds twin tandem-wheel loading.

These physical facilities, the availability of sites, and utilities appear adequate to meet AANG needs provided that additional runway length can be obtained. The successful relocation on either of the two AFBs hinges on whether their mission can be successfully accomplished with the addition of the ANG and whether the host unit believes that they can be accommodated safely and efficiently. Both of the AFBs are located at significant distances from the center of the metropolitan area where the Guard must draw its staff and reservists. This makes the sites less than optimum from the perspective of the Guard. Additionally, senior staff at both Luke and Williams have serious reservations regarding their ability to satisfactorily accommodate the unit and have indicated that they are unwilling to do so.

Site C is the proposed regional jetport (for which a site has yet to be chosen). The feasibility of this concept has not been established, and it is not a viable option for ANG relocation.

The third Phoenix reliever airport is the proposed Site D. Studies of this facility are underway at the time of preparation of this report.

The most likely conclusion of this study is that a site about 35 miles to the north of the city in a major planned urban development is the preferred location for the airport. As a site for relocation of the ANG, this site has advantages and disadvantages similar to those for the proposed regional jetport. Being a proposed, yet-to-be-designed facility, it could most likely meet all of the physical requirements of the Guard. But its ability to attract personnel would be diminished by reason of its distance from Phoenix, and, equally critical, it will not be constructed within the time frame required for re-use of the Guard's current leased property on Sky Harbor.

Potential Sites E and F were examined together. Site E consists of a partial relocation southwest of the existing ANG. Site F involves total relocation southwest to Site E and includes the area currently housing LARC and the county jail annex.

A move to either potential site would have relatively small impact to the community, ANG or Sky Harbor operations because of proximity to the existing base. Relocation to Site E would allow retention of some of the facilities and, therefore, a savings in terms of facility replacement costs. A negative effect would be the ANG's loss of direct access to a runway adequate for its KC-135 aircraft. The proposed adjacent third runway would be approximately 7,800 feet long and would separate the Guard from Runway 8R-26L, which meets specifications.

A partial move to Site E or total relocation to Site F presumably could occur more quickly than moving to any other site. Utilities and distribution systems for fuel and water currently exist. The Maricopa County Sheriff's

Department has been notified of its lease expiration date, and LARC is on a month-to-month lease. Remaining at Sky Harbor provides the ANG with excellent transportation access and a large, skilled labor force within close proximity. Additionally, the site is available and the city has indicated a willingness to negotiate with the Guard in an attempt to identify a mutually acceptable arrangement for the relocation.

Site G is located east of the planned Phoenix Sky Harbor Center Business Park and west of the existing 24th Street alignment. Relocation would be limited to areas north and south of the airport spine (Sky Harbor Boulevard alignment) to avoid ANG displacement at a later date.

This location would provide ANG aircraft with direct access to both Runway 8L-26R and 8R-26L. Utilities and related services are in place. Because the move would enable the Guard to remain on-airport, impact on the community, airport operations, and the ANG mission would be minimal.

Timing and facility of the move would depend on site preparation and the reconstruction of 24th Street onto its western realignment.

While the site has the physical qualities sought by the Guard, location at this site would potentially conflict with long-term development of the civilian facilities on the airport, being located on the critical central spine of the airport. This land should be retained for longer-term uses relating to development of the civilian airport.

A minimum of 50 acres on the northeast side of the airport, including a portion of the dog track property, was examined as a potential Site H.

In order to provide the ANG with a 50-acre site on the north side of the airport, additional land north of Air Lane and the Southern Pacific Railroad right-of-way would be needed. Acquisition of property north of Air Lane, including the dog track, would take time and result in a parcel of land split by a public street and railroad tracks. Aircraft would have direct access to the northern-most taxiway and to Runway 8L-26R but would be physically separated from administrative and support services.

In addition to having to acquire the property and plan around several barriers, existing tenants and land users would be displaced. However, the benefits include staying on at Sky Harbor with easy access to fuel and utilities, accessibility to a large labor force and major transportation routes, and minimal impact to airport operations, airspace, or the ANG mission.

Due to the site problems, this site is considered to be inferior to the sites on the southwest side of the airport.



## 5. COST OF REPLACEMENT FACILITIES

The replacement costs presented in this paper must be considered preliminary and approximate. The estimate does not include land costs, relocation (moving) expenses, or demolition and re-installation costs. The procedures used to develop the estimates were:

- preparation of an inventory of all facilities at the current site, including utilities and pavement. The assistance of ANG personnel in development of this listing was critical.
- applying to these facilities the USAF unit construction costs for Fiscal Year 1989, from the Air Force Pricing Guide, and the "Area Cost Factor" for Phoenix, namely 0.99.
- calculating the current cost of construction of the facilities in place today. In fact, if the ANG facilities are rebuilt, the layout, construction types, and nature of the facilities themselves are likely to differ from those of the existing plant.

The total estimated replacement costs were calculated at \$33 million. The largest individual items are:

Building 2	-	Hangar	-	\$8.7 million
Building 25	-	Maintenance Dock	-	\$4.4 million
Buildings 91/92	-	Jet Fuel Facility	-	\$3.5 million
Apron				\$3.0 million

A review of this estimate was made by the ANG. The Guard estimate of replacement costs is \$38,691,000, 17 percent higher than that for the items included on this estimate.

## 6. CONCLUSION

The above analysis indicates that Site E, the partial relocation on the southwestern section of airport property is the most feasible and advantageous. For the purposes of development of the airport master plan, the assumption will be made that the AANG is relocated on this site.