

SECTION 4
SITE SELECTION AND ALTERNATIVES

SUPERIOR AIRPORT MASTER PLAN - 2001



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INTRODUCTION

This section contains a detailed objective comparative evaluation of several alternate airport development sites, including a comparison of the relative merits of continued improvement of the existing airport versus relocating the airport to the most desirable of the alternate sites.

The comparative evaluation was approached from a purely analytical point of view, comparing several areas of potential safety, environmental, economic and developmental impact among the various alternates to reach an objective baseline for selection. The methodology employed assumes that the best alternative action is the one which exhibits the least potential for adverse impact with the most frequency when compared to the other alternates.

Final site selection may actually be dependent upon impacts in one or two specific areas, such as relative cost of initial development, unavailability of land (or, conversely, availability of land), the potential for expensive and time-consuming litigation, or simply a consensus of the local populace.

INITIAL SITE IDENTIFICATION

The process of selecting initial potential development sites was undertaken as follows:

- Using U.S.G.S. 7.5 minute topographic quadrangle maps (in digital raster format), a search area was delineated. The search area includes an area within approximately 15 miles west of the Town of Superior, along the U.S. Highway 60/70 and 80/89 corridor.
- Restricted airspace (R-2310B and R-2310BC) and the Outlaw Military Operations Area (MOA) were delineated on the map. The area within the Restricted areas was excluded from the search area.
- For the initial site selection, a utility airport with an ultimate runway length of 5,100' with nonprecision instrument capabilities was assumed. This is in

conformance with the recommendations for an ultimate ARC B-II airfield with unconstrained development (see Section 3). Runways were aligned with reference to each site's topographic constraints and drainage features.

Figure 4-1, at the end of this section, illustrates the location and approximate layout of each of the potential candidate sites.

In this analysis, two site development options are presented for the Existing Site:

- Site 1 (Existing Site option 1) This is the existing site's Maximum Recommended Development alternate, as presented in Figure 1-2, with the "Constrained Development" model implemented, as presented in Figure 3-1. The layout assumes that all development will occur within the present airport property, except for the acquisition of aviation easements for Runway Protection Zone (RPZ) land use protection. The Constrained model is limited to a 3,500' long VFR runway that is roughly aligned with the present landing strip's Runway 4-22 (see also Figure 4-2 at the end of this section)
- Site 2 (Existing Site option 1) This option represents an attempt to provide additional runway length at the existing site. The "Unconstrained Development" model is assumed to be constructed over the present property, with additional land acquisition as required. Runway alignment is approximately 4-22 (see also Figure 4-3 at the end of this section).

Thirteen additional potential relocation sites (Sites 3 through 15) were also identified within the search area. These are described as follows:

- Site 3 This site is the result of an attempt to locate another site that is near the Town. It is located about 4 ½ miles west of Superior, on the north side of Highway 60. The runway is aligned in a NW-SE direction (Runway 11/29) and is bisected by an underground telephone trunk line. The site is located between Queen Creek, to the southwest, and the Magma Arizona Railroad and existing overhead power transmission lines to the northeast. Site 3 is on Tonto National Forest land.
- Site 4 This site is located on State land, about 11 miles west of Superior on the south side of Highway 60, and about 2 miles west of Dromedary Peak. Alignment is NE-SW (Runway 5-23).
- Site 5 This site is also on State land, located about 12 miles from Superior and about 2 miles east of Florence Junction on the north side of Highway 60 near

a rest area. The site is constrained by a major drainage way to the north and by the Magma Arizona Railroad and Hewitt Road to the east. Runway alignment is roughly East/West (Runway 7-25).

- Site 6 This site is on State land, along the north side of the Magma Arizona Railroad and about ½ mile south of Highway 60 and Site 5. The runway parallels the railroad (Runway 4-22).
- Site 7 This site is the location of an abandoned airstrip, at Florence Junction. The extreme north end of the site and the north Runway Protection Zone (RPZ) is in a pocket of private land. The balance of the site is State land. Runway alignment maintains the 3-21 alignment of the original airstrip.
- Site 8 This site is located 15 miles west of Superior, and about 2 ½ miles northwest of Florence Junction. A portion of the site is private land. The balance is State land. Runway direction is NE/SW (Runway 1/19).
- Site 9 Site 9 is also 15 miles west of Superior. It is located on State land about 2 miles south of Florence Junction on the east side of U.S. Highway 80/89. Runway alignment is NE/SW (Runway 2-20).
- Site 10 This site is about 15 ½ miles from Superior, across Highway 80/89 from Site 9, and on State land. Site 10 is just south of the Magma Arizona Railroad. Alignment is roughly East/West, or Runway 6-24 (see also Figure 4-4).
- Site 11 Site 11 is about ½ mile north of Site 10, on the north side of the railroad, on State land. The runway parallels the railroad with an alignment of 4-22 (see also Figure 4-5).
- Site 12 This site is located ½ mile south of Site 5 and across the railroad from Site 6. Runway alignment parallels the railroad (Runway 4-22). The site is on State land.
- Site 13 This site is about ½ mile directly north of Site 11, 1 ½ miles south of Florence Junction on the west side of Highway 80/89. It is on State land. Runway alignment is 6-24.
- Site 14 Site 14 is 15 miles west of Superior and 1 ½ miles northwest of Florence Junction on the south side of Highway 60. The north end of the site and the north Runway Protection Zone (RPZ) is in a pocket of private land. The balance of the site is State land. Alignment is NE/SW (Runway 5-23).

- Site 15 The final site in the initial series is less than a mile southeast of Site 8. The layout of this site avoids a pocket of private land. The site is on State land with a runway alignment of 4-22.

INITIAL CANDIDATE SITE EVALUATION

The initial tier of sites were compared with reference to a set of initial evaluation criteria. Penalty points were assessed each site for each of the evaluation criteria with the assumption that the sites with the lowest number of points assessed are the best candidates for further evaluation as potential development locations.

The initial evaluation criteria consisted of the following:

1. Highway Distance From Superior - Each site was rated according to its driving distance from the Town's business district. One point was assessed for each highway mile measured from the Town Hall to the site's terminal area. The distance was rounded to the nearest mile and excluded any required new access road.
2. Proximity to Potential Obstructions to Air Navigation - Federal Air Regulations, Part 77 defines a set of "imaginary surfaces" that surround an airport. An object that penetrates any of these surfaces is defined as an "obstruction to air navigation". The existence of these obstructions constitutes a potential hazard to arriving and departing aircraft, depending upon which surface is penetrated. Three Part 77 surfaces were considered in this preliminary analysis; the Approach Surface, the Horizontal Surface, and the 20:1 Transitional Surface. The geometry of these Part 77 airspace is illustrated on page 4-7. The criteria for a Utility airport with a non-precision instrument approach were used in the analysis.

Each site was assessed penalty points based on distance to high terrain, power transmission lines, or other manmade objects that penetrate the Part 77 surfaces. If a potential obstruction existed within the Part 77 Approach Surface, a penalty of 10 points was assigned to the site. If a potential obstruction occurred within the Horizontal Surface, a penalty of 5 points was assessed. If a potential obstruction occurred within the 20:1 Transitional Surface, 2 points were assessed. If no potential obstructions to Part 77 airspace were noted, a rating of 0 was assigned. The most critical obstruction determined the number of points assessed.

3. Proximity to Restricted Airspace - Each site was assessed points based on distance to the R-2310B Restricted Area. The method used was to assess a number of points equal to 10 minus the straight-line distance in miles from the runway midpoint to

the nearest point on the boundary of the Restricted Area, with a rating of 0 being the lowest allowable. All sites are located beneath the Outlaw MOA, and were considered to be equal in that regard. Distances were rounded to the nearest mile.

4. Land Availability - The majority of the land in the search area is owned by the State of Arizona. The Tonto National Forest extends to nearly ten miles to the west of Superior, but most of this land will not support airport development because of topographic constraints. It was assumed that the State land will be the most easily acquired, followed by privately owned land and National Forest land. The method of evaluation used to compare the land availability issue was to assess 10 points if the site is wholly or partially located on National Forest land, 5 points if partially on private land, and 0 points for State Land locations (and for the existing site's Option 1, which is already owned by the Town).

5. Adjacent Multi-Modal Access - Since all of the sites are reasonably close to U.S. Highways, they were considered equal in terms of access to major automobile and truck routes. However, because of the existing Magma Arizona Railroad right-of-way that traverses the search area, some of the sites may have additional future multi-modal capabilities. In order to quantify this in the comparative analysis, sites which are immediately adjacent to the railroad were assigned a rating of 0. Those that are not immediately adjacent were assigned a rating of 5.

The initial comparison matrix, based on the above criteria, is presented on the following page. The total points assessed each site range from 13 (Sites 1 and 2), to 41 (Site 7), with a mean of 28. Distribution of points is as follows:

<= 15	2	(Sites 1 & 2)
>15 and <= 20	0	
>20 and <= 25	2	(Sites 10 & 11)
>25 and <= 30	6	(Sites 4, 5, 6, 9, 12 & 13)
>30 and <= 35	3	(Sites 3, 14 & 15)
>35 and <= 40	1	(Site 8)
> 40	1	(Site 7)

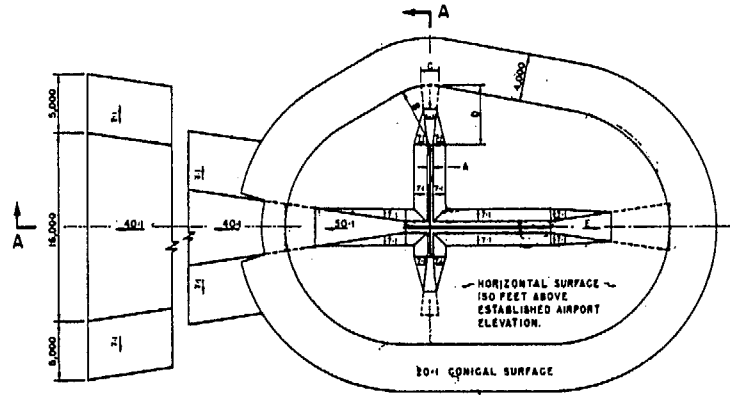
Reference to the distribution of penalty points assessed indicates that the two development options at the Existing Site (termed Sites 1 and 2) and Sites 10 and 11 were assessed 25 points or less. The remaining majority of the sites were assessed penalties of over 25 points. The assumption was made that the four alternates above this logical dividing line are the initial candidate sites with the best potential for development. Accordingly, Sites 1, 2, 10 and 11 were selected for additional analysis.

COMPARATIVE EVALUATION MATRIX
15 INITIAL CANDIDATE DEVELOPMENT SITES
Superior Airport

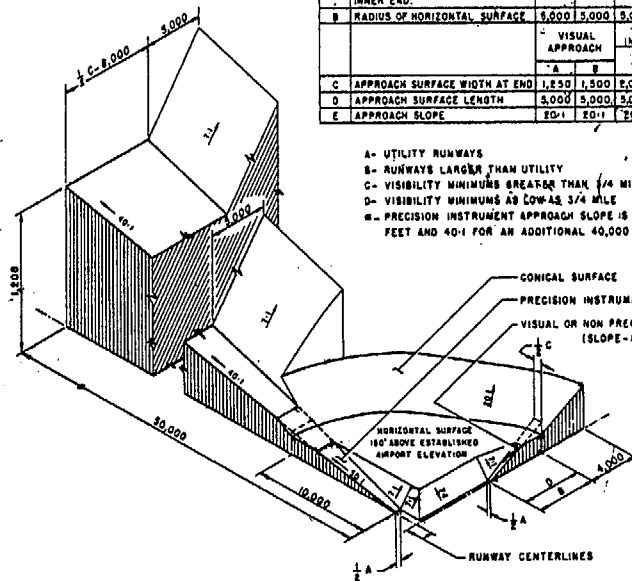
SITE	Highway Distance From Superior	Proximity to Potential Obstructions to Air Navigation	Proximity to Restricted Airspace	Land Availability	Adjacent Multi-Modal Access	Total
1	2	5	1	0	5	13
2	2	5	1	0	5	13
3	4	10	4	10	5	33
4	11	5	9	0	5	30
5	12	5	8	0	5	30
6	13	5	9	0	0	27
7	14	10	7	5	5	41
8	17	5	5	5	5	37
9	16	0	9	0	5	30
10	17	0	8	0	0	25
11	16	0	8	0	0	24
12	12	5	9	0	0	26
13	16	0	8	0	5	29
14	15	2	7	5	5	34
15	16	5	6	0	5	32
Mean:						28

PART 77

OBJECTS AFFECTING NAVIGABLE AIRSPACE



DIM	ITEM	DIMENSIONAL STANDARDS (FEET)					
		VISUAL RUNWAY		NON-PRECISION INSTRUMENT RUNWAY		PRECISION INSTRUMENT RUNWAY	
		A	B	A	B	A	B
A	WIDTH OF PRIMARY SURFACE AND APPROACH SURFACE WIDTH AT INNER END	650	500	500	500	1,000	1,000
B	RADIUS OF HORIZONTAL SURFACE	5,000	5,000	5,000	10,000	10,000	10,000
C	APPROACH SURFACE WIDTH AT END	1,250	1,500	2,000	3,500	4,000	16,000
D	APPROACH SURFACE LENGTH	5,000	5,000	5,000	10,000	10,000	8
E	APPROACH SLOPE	20:1	20:1	20:1	34:1	34:1	8



- A- UTILITY RUNWAYS
- B- RUNWAYS LARGER THAN UTILITY
- C- VISIBILITY MINIMUMS GREATER THAN 1/4 MILE
- D- VISIBILITY MINIMUMS AS LOW AS 3/4 MILE
- E- PRECISION INSTRUMENT APPROACH SLOPE IS 30:1 FOR INNER 10,000 FEET AND 40:1 FOR AN ADDITIONAL 40,000 FEET

ISOMETRIC VIEW OF SECTION A-A

§ 77.25 CIVIL AIRPORT IMAGINARY SURFACES

FAR Part 77 Airspace

(source: FAR Part 77.25 - Civil Airport Imaginary Surfaces)

SECOND TIER CANDIDATE SITE EVALUATION

The four second tier sites selected for additional analysis are illustrated in the drawings at the end of this section (see Figures 4-2 through 4-5).

The four alternatives were compared with reference to the following criteria. Each of the comparison criteria were considered, and in each case the sites have been assigned an ordinal ranking from 1 to 4, the lowest ranking representing the best option in terms of the criteria being evaluated.

Three elements of the initial evaluation were carried over to this more detailed analysis, as follows:

1. Highway Distance From Superior - The Existing Site development options (Sites 1 and 2) were assessed 2 points each in the initial matrix. This represents a highway distance of less than two miles from the Superior business district (Town Hall). Site 10 was assessed 17 points and Site 11 was assessed 16 points, representing the approximate mileage from Superior to these locations.

In terms of distance from Superior, the sponsoring agency of this study, the two options at the Existing Site are clearly more advantageous. This assessment assumes that the development potential of this site location will be consistent with the Town's goals. It has already been determined that expansion of the existing airfield would be difficult in terms of land availability and topographic constraints.

Superior Airport - Second Tier Site Matrix Analysis
Highway Distance From Superior

OPTION	Criteria: Highway Miles From Superior Town Hall	Initial Matrix Assessment	Ordinal Ranking
Site 1	1.5	2	1
Site 2	1.5	2	1
Site 10	17	17	4
Site 11	16	16	3

2. Proximity to Restricted Airspace - The Existing Site is located about 9 miles from the R-2310B Restricted Area. Each of the Existing Site development options were assessed 1 point to represent this. Site 1's nearest runway end is further away than Site 2 because the latter assumes development of a longer runway.

Both Site 10 and Site 11 were assessed 8 penalty points in the initial matrix evaluation. Site 10's nearest runway end is less than 1 ½ miles from R-2310B, and its FAR Part 77 20:1 Transitional Surface would extend into Restricted airspace, making it the least favorable of the four. Site 11 is only about 1 ¾ miles from the Restricted airspace (R-2310B), but its Part 77 surfaces would be clear of the Restricted Area.

The Existing Site options are clearly more favorable in terms of proximity to Restricted Airspace. However, Site 11 is also considered to be a viable site.

**Superior Airport - Second Tier Site Matrix Analysis
Proximity to Restricted Airspace**

OPTION	Criteria: Distance to Restricted Airspace Boundary	Initial Matrix Assessment	Ordinal Ranking
Site 1	8.1 miles	1	2
Site 2	8.4 miles	1	1
Site 10	1.3 miles	8	4
Site 11	1.7 miles	8	3

3. Adjacent Multi-Modal Access - Because of their location adjacent to the Magma Arizona Railroad right-of-way, Sites 10 and 11 were not penalized in the initial analysis, and are clearly more favorable as sites for future multi-modal access. The preliminary layout of Site 11 would lend itself better to development of a railroad spur facility. Therefore it is considered as the best of the two sites with future multi-modal properties.

The Existing Sites were each penalized 5 points and this assessment has been carried over to this second tier analysis.

Superior Airport - Second Tier Site Matrix Analysis
Adjacent Multi-Modal Access

OPTION	Criteria: Adjacent to Railroad Right-of-Way ?	Initial Matrix Assessment	Ordinal Ranking
Site 1	No	5	4
Site 2	No	5	4
Site 10	Yes	0	2
Site 11	Yes	0	1

The following additional elements of analysis were applied to the second tier candidates. These elements relate to the relative constructability and development costs between the four options, the relative safety of operations, and to general potential for environmental impacts as a direct result of airport development or as a result of increased aircraft activity associated with the development.

4. Relative Construction Costs and Utility (Amount of Earthwork and Effective Gradient) - The approximate development costs for the major airport improvements as presented in Section 3 (page 3-23) indicate that development at a new site may cost over four times as much as improving the Existing Site within the present property limitations (Site 1 option). Development of a full 5,100' long runway at the Existing Site (Site 2 option) would most likely be even more expensive than the same development at a new site (Sites 10 and 11) because of the requirement for significant earthwork and drainage structure construction.

The most significant difference in the constructability between the four alternates is the amount and type of earthwork required. For this reason, the estimated quantity of excavation for construction of the ultimate runway, taxiway and apron was used as the comparison surrogate to represent construction costs. The U.S.G.S. topographic maps were used to represent existing grades, and a rough estimate of excavation was made by assuming a runway gradient for each site to derive an approximate average depth of excavation.

A secondary factor in selecting the best candidate site in the area of constructability is the effective gradient of the runway. According to FAA design criteria, the maximum allowable longitudinal gradient for a runway is 2% for Approach Category

B airports. Any gradient in excess of this is considered by many to be a "one-way" runway, since aircraft takeoff performance in the uphill direction may be severely diminished, and the ability to make a safe stop in the downhill direction is compromised. The Existing Site's (Sites 1 and 2) topography dictates a natural gradient of about 2.5%. In order to correct this, an exorbitant amount of fill would be required (in the range of roughly 1.6 million cubic yards for a 5,100' long runway, or 1.1 million cubic yards for a 3,500' runway). For the purposes of this analysis, it was assumed that the 2.5% gradient would be accepted and design would be accomplished to minimize earthwork. The resulting runway would function with most departures to the east (downhill, over Town), and most landings to the west (uphill). Site 2 is considered to be slightly superior to Site 1 because of the longer takeoff and stopping distance made available by the longer runway.

A flatter gradient would be available at the two relocation sites. This would allow balanced performance and use between the two runway directions. The existing ground at Site 10 will allow a slightly flatter gradient than Site 11.

**Superior Airport - Second Tier Site Matrix Analysis
Relative Construction Costs and Utility**

OPTION	Criteria: Rough Estimate of Excavation Required	Ordinal Ranking
Site 1	172,000 CY	3
Site 2	250,000 CY	4
Site 10	125,000 CY	1
Site 11	125,000 CY	1

OPTION	Criteria: New Runway Gradient	Ordinal Ranking
Site 1	2.5%	4
Site 2	2.5%	3
Site 10	0.7%	1
Site 11	0.9%	2

5. Land Acquisition (Area of Fee Acquisitions) - The comparison of costs and difficulty of acquisition of land for airport development was measured by approximating the number of acres of land area that would be required to construct the ultimate airport improvements.

For the Existing Site's option 1 (Site 1), it was assumed that no new fee acquisition would be sought, and that aviation easements would be acquired for the Runway Protection Zone (RPZ) trapezoids. These easements would be acquired from the Tonto National Forest for the Runway 4 approach, to the west of the airport, and from private individuals for the Runway 22 approach, east of the airport.

For Sites 2, 10 and 11, it was assumed that the fee acquisitions would extend over the RPZ's. Logical parcels were approximated to establish the new property lines.

Expansion of the Existing Site (Site 2) would require about 101 acres of new fee acquisition to the west of the current airport property. Since this is Tonto National Forest land acquisition may be difficult, with the potential for protracted environmental issues. Site 10 would require roughly 325 acres of new land acquisition, and Site 11 would require about 316 acres.

**Superior Airport - Second Tier Site Matrix Analysis
Land Acquisition**

OPTION	Criteria: Area of New Fee Acquisition	Ordinal Ranking
Site 1	---	1
Site 2	101 acres	2
Site 10	352 acres	4
Site 11	316 acres	3

6. Obstructions to Air Navigation (Part 77 Surface Penetrations) - FAR Part 77 imaginary surfaces were developed for each of the four sites on Figures 4-2 through 4-5 (see page 4-7 for a description of the Part 77 surfaces). Reference was made to U.S.G.S. topographic maps to delineate approximate areas of penetration of these surfaces by terrain, and these areas were outlined on the Figures.

The assumption was made that a measure of comparison of the relative safety impacts between the alternates is the area of terrain that penetrates the Part 77 surfaces. Arriving and departing aircraft would have to negotiate more inhospitable terrain when operating to and from some sites, as compared to others.

It was found that development at the Existing Site (Sites 1 and 2) would result in significant penetrations of the Part 77 surfaces by terrain. The existing facility is now subject to this situation. The existence of significant penetrations would not in itself exclude the airport as viable, but would relegate the airfield to a Visual Flight Rules (VFR) only role, since adequate terrain clearance could probably not be assured to aircraft operating on instrument approaches.

It was determined that Sites 10 and 11 would not have penetrations of the Part 77 surfaces.

The results of the analysis and rankings are as follows:

**Superior Airport - Second Tier Site Matrix Analysis
Potential Obstructions to Air Navigation**

OPTION	Criteria: Area of Terrain Penetrations of Part 77 Surfaces	Ordinal Ranking
Site 1	1,215 acres	3
Site 2	1,288 acres	4
Site 10	---	1
Site 11	---	1

7. Compatible Land Use - Some land uses that are considered incompatible with airport development include residential areas within runway approaches and RPZ's or within noise impact zones, public recreation areas and other areas with environmentally sensitive wildlife habitat, and tall buildings, objects or towers that constitute obstructions to air navigation.

Another significant land use that may be considered incompatible is the existence of a solid waste disposal facility, wastewater lagoon, or a sanitary landfill located within 5,000 feet of any runway planned to be used by piston powered aircraft, or

within 10,000 feet of any runway planned to be used by jet aircraft. The FAA considers these uses incompatible because they may attract bird populations, causing potential conflicts between low flying aircraft and birds. Reference to this potential hazard is contained in paragraph 5 of FAA Order 5200.5, FAA Guidance Concerning Sanitary Landfills On or Near Airports, as well as 40 CFR Part 257, Criteria for Classification of Solid Waste Disposal Facilities, Section 257.3-8.

The Existing Site is located immediately adjacent to the Town of Superior's wastewater treatment plant and Queen Creek, a potential riparian habitat. The Boyce Thompson Arboretum is located about a mile west of the current airport property line. The Existing Site development options (Sites 1 and 2) would have some level of impact to the Arboretum and to the Queen Creek habitat. The proximity of the wastewater plant may impact the safety of operations at the airport because of the potential for bird strikes. Site 2 would be more likely to have significant impacts in this area because its longer runway would allow operations by larger aircraft, and the proposed layout would move the approach/departure path over the Arboretum.

Sites 10 and 11 were found to have no apparent existing incompatible land uses. However, if either of these sites were to be selected adequate airport area land use zoning would need to be implemented.

The results of the analysis and rankings are as follows:

**Superior Airport - Second Tier Site Matrix Analysis
Compatible Land Use**

OPTION	Criteria: Number of Existing Potentially Incompatible Uses	Ordinal Ranking
Site 1	3	3
Site 2	3	4
Site 10	0	1
Site 11	0	1

8. Aircraft Noise - The Existing Site is located such that overflights by departing and arriving aircraft will occur over populated areas (the Town), and over potentially sensitive recreation areas and wildlife habitat (Queen Creek and the Boyce Thompson Arboretum). The forecasts presented in Section 2 indicate that aircraft activity will increase if improvements are made to the airport, and it will follow that noise impacts will also increase. Since the Site 2 option would allow operations by larger aircraft (perhaps including jets), noise impacts would probably be more significant than with the limited development proposed with the Site 1 option.

Sites 10 and 11 are located in an area with no apparent noise sensitive land uses. However, if either of these sites were to be selected adequate airport area land use zoning would need to be implemented.

The results of the analysis and rankings are as follows:

Superior Airport - Second Tier Site Matrix Analysis
Aircraft Noise

OPTION	Criteria: Proximity to Noise Sensitive Areas	Ordinal Ranking
Site 1	Yes	3
Site 2	Yes	4
Site 10	No	1
Site 11	No	1

9. Potential for Expansion to Accommodate Future Demand - Sites 2 (the Existing Site expansion option), Site 10 and Site 11 are designed to allow full development to the recommended maximum, including an ultimate 5,100' long runway. However, it has been determined that the Site 2 option would not allow development of a viable instrument approach (see "Obstructions to Air Navigation" analysis above). The Site 1 alternate is by design limited to development of a 3,500' long visual runway.

The sites have been rated accordingly below:

Superior Airport - Second Tier Site Matrix Analysis
Potential for Expansion to Accommodate Future Demand

OPTION	Criteria: Will Site Allow Expansion to Accommodate Future Demand?	Ordinal Ranking
Site 1	No	4
Site 2	Yes (limited to VFR)	3
Site 10	Yes	1
Site 11	Yes	1

The matrix on the following page is a summary of the results of the second tier candidate site analysis.

FAA planning guidelines for airport siting indicate that an airport should be located no more than 30 minutes driving time from service area users. (Regular users of rural general aviation airports, however, typically indicate that a drive of 30 minutes' duration is excessive.) None of the airports listed above are located within a reasonable distance from Superior.

The recommendation of this study is to eliminate this alternative from consideration as a reasonable option.

RECOMMENDATION AND ACTION

According to the results of the analysis, Site 11 appears to be the most viable candidate for airport development. Accordingly, development of Site 11 and abandonment of the Existing Site was the consultant's recommended action for the Town of Superior.

On February 15, 2001, the Superior Town Council directed the consultant team to continue the planning study based upon development of a new airport at Site 11.

It was further recommended that the Town begin discussions with Pinal County and the communities of Florence, Gold Canyon and Apache Junction regarding their participation in development of the new airport facility.

AIRPORT OWNERSHIP AND MANAGEMENT

The decision by the Town of Superior to consider construction of a new airport at Site #11 can have far reaching consequences. Because the selected site is remote from the Town, it is important to give careful consideration to the potential impacts to neighboring communities. Development of a major airport in proximity to other municipalities will result in impacts to those communities. These impacts may be positive or negative, will vary in degree of significance, and may be economic, political or environmental in nature.

The new airport may be managed in several different ways. These are described and explored in the following narrative. Selection of the most effective means of management and ownership is an important step in the planning process.

1) Full Ownership/Sponsorship by the Town of Superior

The Town of Superior may choose to acquire the airport land and sponsor development of the new facility as a municipal airport, fully belonging to and supported by the Town.

The positive impacts associated with this approach include the fact that Superior would be in a position to direct the future role of the airport and to make decisions regarding that role with primary consideration of its own interests. Another positive is that all revenues generated by the airport from leases and other commercial activity would be retained by Superior.

While this may be the simplest management approach with some important positive impacts to Superior, there are also some potentially significant negative aspects.

The most obvious drawback is that Superior would be fully responsible for funding of the new improvements (above and beyond FAA and ADOT grants), and for maintaining and funding operation of the facilities after construction.

Another major drawback to this approach is that, as the area in the vicinity of the airport grows, Superior would find itself the owner of a major airport facility in a location very near to other communities, yet remote from its own boundaries. Superior might find that the airport enterprise competes with these other municipalities interests as they grow up around the airport. The new airport may ultimately be in conflict with the plans of these communities. Future difficulties in land use zoning around the airport, law enforcement, coordination of utilities and road access, and difficulty in maintaining positive public relations with airport neighbors may result.

Because of these political pressures, future decisions regarding the airport may ultimately be made with more weight given the interests of adjoining communities rather than the specific interests of the Town of Superior. If this were the case, it would be very difficult to maintain local support for the airport, any positive impacts notwithstanding.

2) Airport Authority (Management and Ownership by Corporate Entity)

Another option for ownership and management of an airport when two or more communities will be affected is to establish a Joint Powers Airport Authority. The Airport Authority functions as a separate corporate entity. It is governed by a Board of Directors composed of persons appointed by the governing bodies of the communities with an interest in the airport. The Airport Authority owns and operates the airport, and has the power to act as sponsor when securing federal and state grants, prescribe user fees and charges, construct and maintain the facilities, engage employees and consultants, enter into contracts and leases, prepare operating budgets, borrow money, and issue revenue bonds.

The Airport Authority is funded by the member communities on a pro rata allocation basis.

Current Arizona Law allows establishment of a Joint Powers Airport Authority only in cases where an existing military air facility is being closed. The governing law pertaining to Airport Authorities is contained in A.R.S. Chapter 25, Aviation, Article 8, paragraphs 28-8521 through 28-8536. Since the situation currently under study does not involve the closure of a military facility, the current law would have to be revised or a new law constructed.

The establishment of an Airport Authority would alleviate the negative aspects of airport development and ownership associated with the selected site's location.

Associated positive impacts would include the greatly enhanced financial resources afforded by the coalition of several communities, and the ability to effectively govern the airport with full consideration of the interests of the entire region.

3) Intergovernmental Agreement (Joint Ownership and Management)

A.R.S. Chapter 25, Aviation, Article 6 sets forth the powers and authorities granted to Arizona single municipalities with regard to ownership and operation of public use airports.

Article 6, paragraph 28-8421, Joint exercise of powers, allows two or more cities, towns or counties to enter into an Intergovernmental Agreement to own and operate an airport, granting the same authority to a coalition of communities as is granted single municipalities.

Joint ownership and operation of an airport under an Intergovernmental Agreement is similar to the Airport Authority concept, except that the powers and authorities would remain with each individual municipality. A political mechanism within each member community would have to be implemented to administrate that members responsibilities and to coordinate with the other member communities. Effective management of the airport would be dependent upon continued coordinated and mutual cooperation between the various Town and City Councils and/or County Boards. Local legislation by each member's governing authority would have to be coordinated for each major decision. Annual budgets, acceptance of grants, and long range Capital Improvement Plans would require ratification by multiple governing bodies, and would require unanimous approval by all of them.

The concept of airport operation and ownership by Intergovernmental Agreement may prove to be unwieldy in this case. This is particularly true if the number of participating communities are greater than two, and could be further complicated if the participants are a mix of Towns, Cities, unincorporated communities, and the County.

Recommended Management Approach

The recommended approach to ownership and operation of the new airport is the Joint Powers Airport Authority. It has been recommended that the Town of Superior solicit the participation of Pinal County, the City of Florence, Queen Creek, Gold Canyon, and Apache Junction in the planning process.

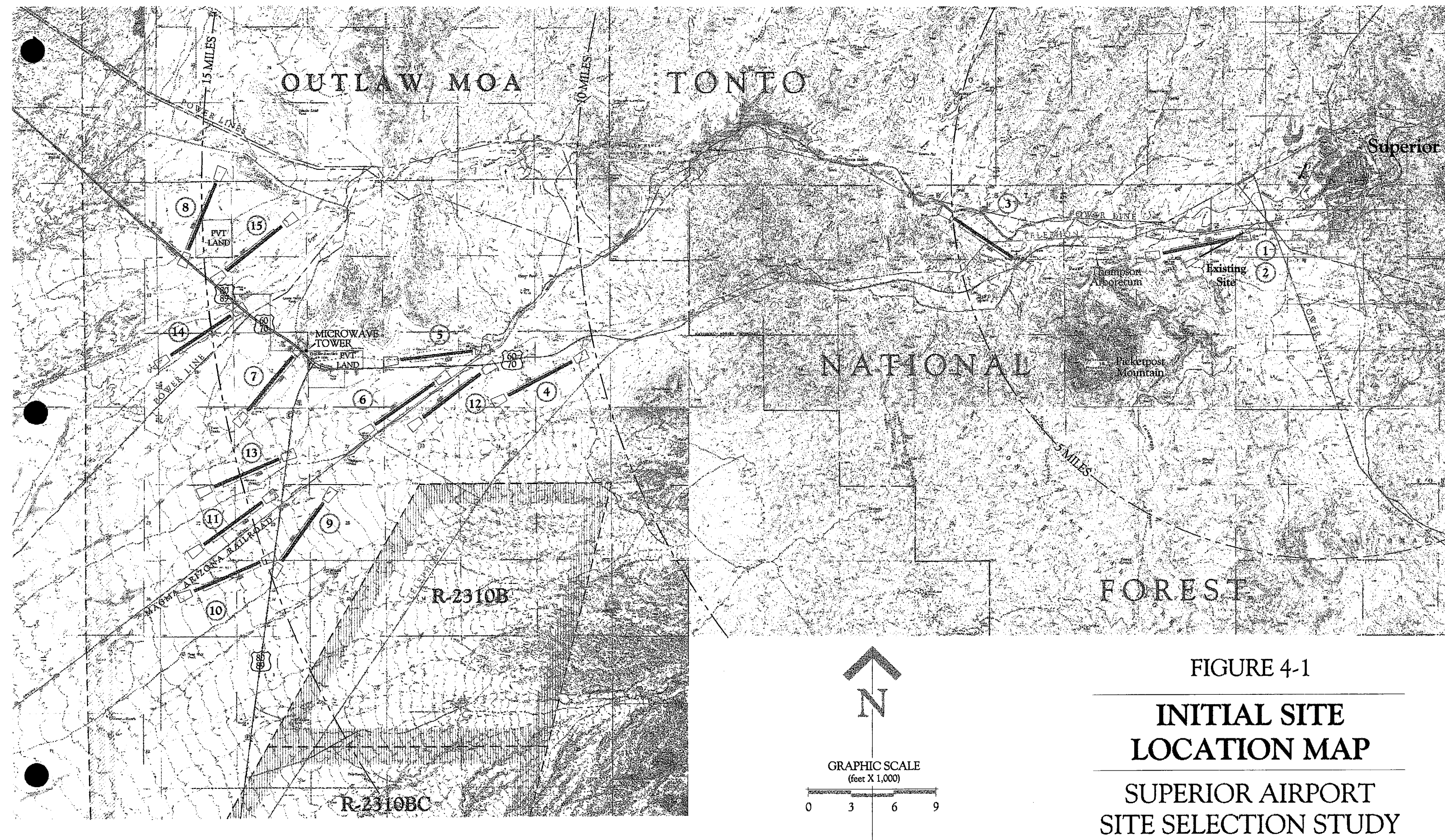
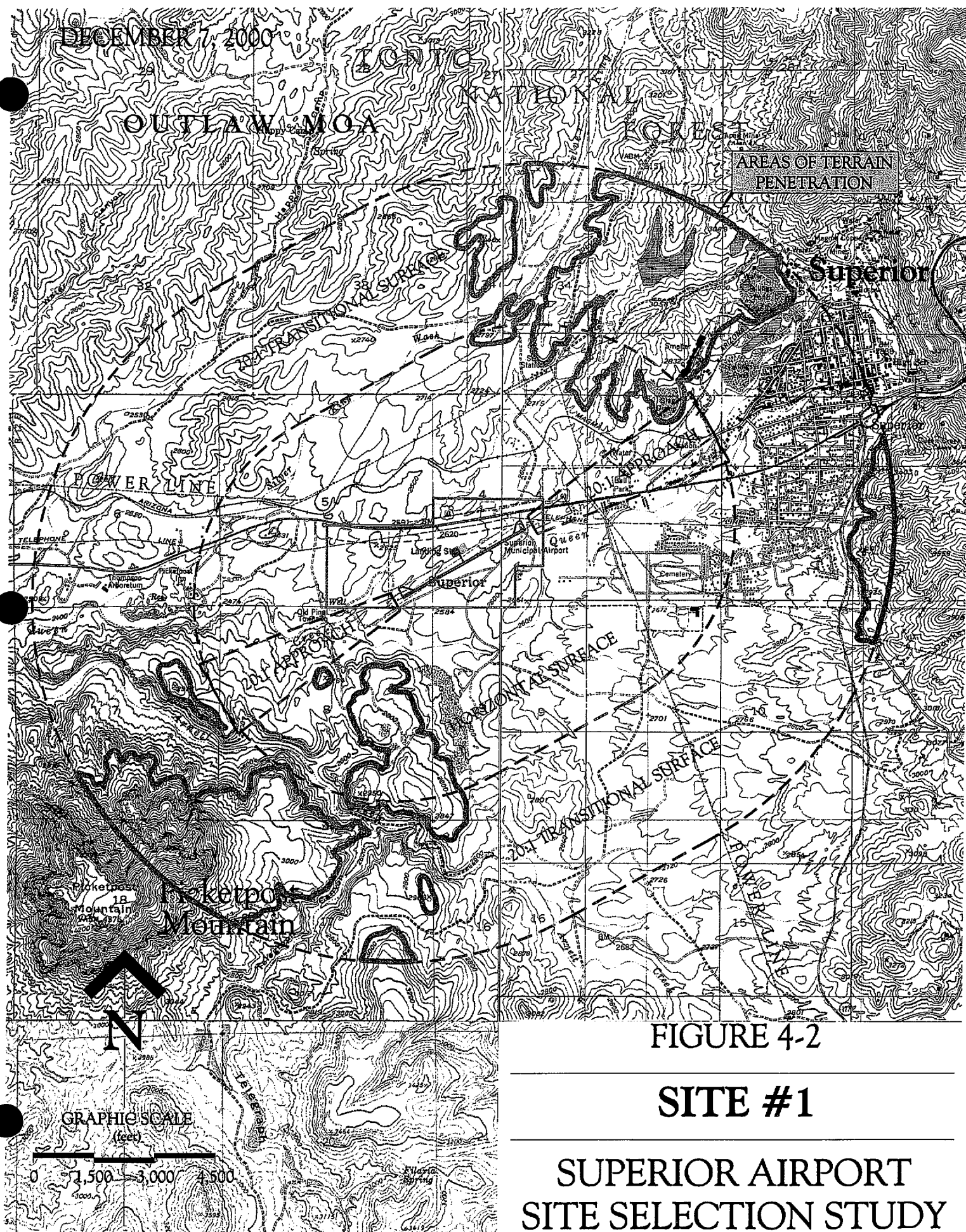


FIGURE 4-1

INITIAL SITE LOCATION MAP

SUPERIOR AIRPORT
SITE SELECTION STUDY



DECEMBER 7, 2000

OUTLAW MOA

LOC

NATIONAL FOREST

AREAS OF TERRAIN
PENETRATION

Superior

TRANSITIONAL SURFACE

HORIZONTAL SURFACE

POWER LINE

TELEPHONE

LINE

ARIZONA

5M

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GRAPHIC SCALE

(feet)

0 1,500 3,000 4,500

FIGURE 4-3

SITE #2

SUPERIOR AIRPORT
SITE SELECTION STUDY

DECEMBER 7, 2000

OUTLAW MOA

POWER LINE

20:1 TRANSITIONAL SURFACE

HORIZONTAL SURFACE

MAGMA ARIZONA RAILROAD

20:1 APPROACH

AREA OF TRANSITIONAL SURFACE WITHIN RESTRICTED AIRSPACE

R-2310B

352 Acres

Desert Well No. 1

Desert Well No. 2

Deep Well Tank

Gravel Pit

Mr. Molino Tank

Ellsworth Ranch

Landing Strip

Loch 1871

BR 1871

BR 1790

BR 1811

BR 1841

BR 1840

BR 1820

BR 1800

BR 1780

BR 1760

BR 1740

BR 1720

BR 1700

BR 1680

BR 1660

BR 1640

BR 1620

BR 1600

BR 1580

BR 1560

BR 1540

BR 1520

BR 1500

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BR 1180

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BR 420

BR 400

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BR 220

BR 200

BR 180

BR 160

BR 140

BR 120

BR 100

BR 80

BR 60

BR 40

BR 20

BR 0

GRAPHIC SCALE (feet)

0 1,500 3,000 4,500

FIGURE 4-4

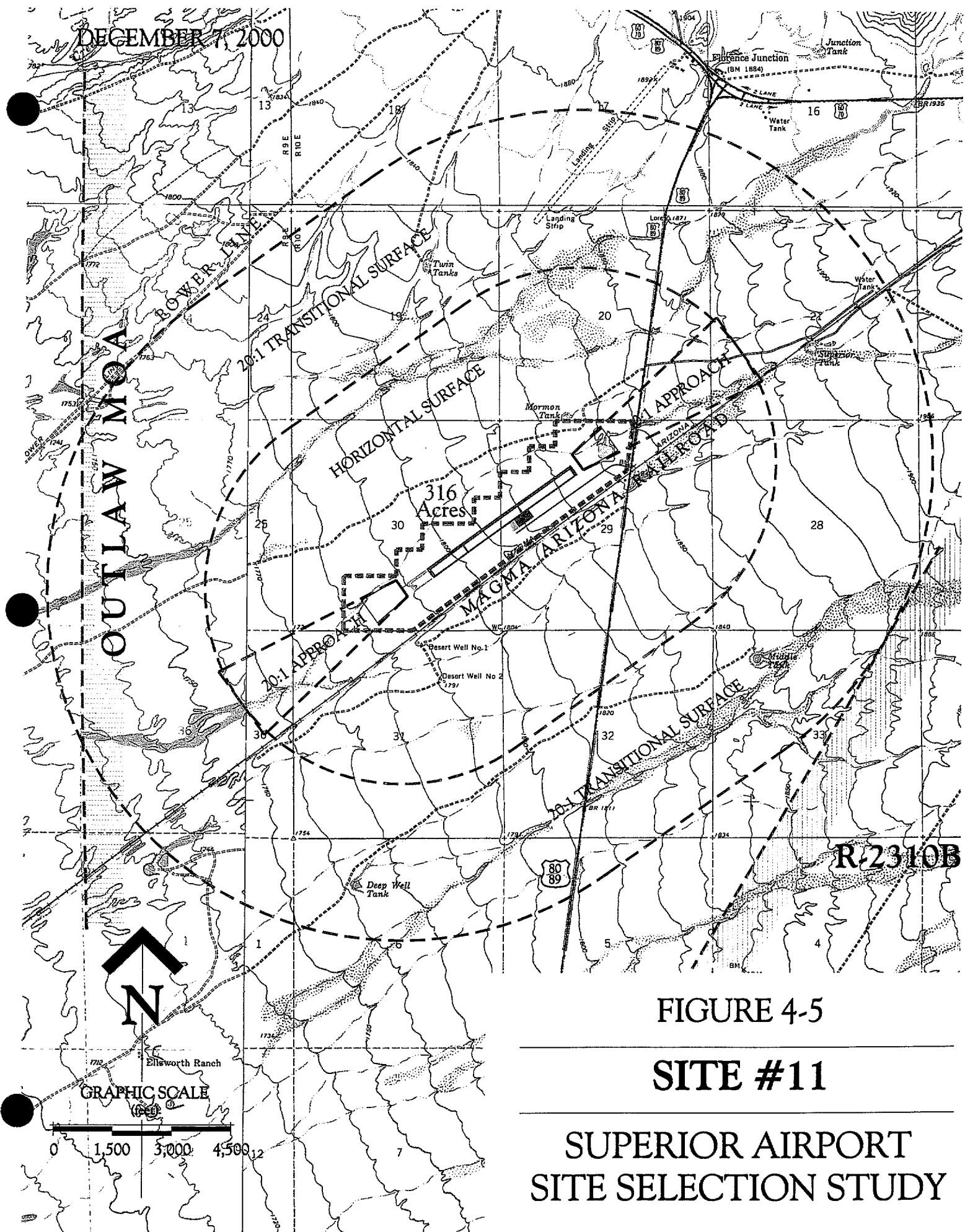
SITE #10

SUPERIOR AIRPORT

SITE SELECTION STUDY

SITE #10

SUPERIOR AIRPORT SITE SELECTION STUDY



MEETING NOTES

SUPERIOR AIRPORT MASTER PLAN - 2001



PAC MEETING #3 - NOVEMBER 21, 2000

<u>Participants:</u>	Nicholas J. Pela	Gannett Fleming, Inc.
	R.C. Chavez	Town Manager - Superior, Arizona
	Kenneth J. Cook	PAC Member
	J. Howard Downs	PAC Member
	Michael O. Hing	Superior Council Member (PAC Member)
	Yolanda Najera Ewing	Superior Council Member (PAC Member)
	James Timm	Arizona Pilots Association

1. Mr. Hing convened the meeting and introductions of participants were made.
2. The PAC approved the Minutes of PAC Meeting #2 with no objections or corrections noted.
3. Mr. Pela summarized the revisions and additions that have been made to the PAC Workbook. The contents of Revision Package #4, as distributed November 7, 2000 included the following:
 - a) Section 1: An updated aerial photo of the existing site and revised layout of the "Maximum Potential Development" of the existing site were added. These drawings were referenced as Figures 1-1 and 1-2.

A discussion of airspace and an airspace map were added. The only significant airspace feature that might affect airport development is the R-2310A,B & C Restricted Area.

A discussion of area land use zoning and a copy of the Town's zoning map were also added.
 - b) Section 2: A breakdown of the number and type of aircraft that are based at neighboring airports was added.
 - c) Section 3: This is the "Facility Requirements" section. It was a new section added with this revision package.
 - d) Appendix 1: The Meeting Notes from PAC Meeting #2 were added.

4. Mr. Pela asked the PAC to consider officially approving the Preface and Sections 1 and 2. Motion was made by Ms. Ewing, and seconded by Mr. Downs to do so. These sections were unanimously approved.
5. Mr. Pela presented the results of the Facility Requirements analysis, as contained in Section 3.
6. Mr. Pela presented his recommendation to the PAC to continue into the Site Selection phase of the study (see attached recommendation letter dated November 7, 2000). After discussion by the PAC, a motion to proceed with the Site Selection phase was made by Ms. Ewing, seconded by Mr. Hing, and approved unanimously by the PAC.

Mr. Pela presented a summary description of the Site Selection study process.

Action Item: *Consultant staff will proceed with the Site Selection phase of the study.*

7. A recent article in America's Flyways (the Arizona Pilot's Association's publication) entitled "Let's Save the Superior, Arizona Airport" stated that "...activity may be progressing to eliminate the (Superior) airport presence forever". This was seen as an inaccurate statement because of the stated purpose of the Town in embarking on the current planning project. Mr. Pela indicated that he had responded to this article in order to set the record straight (see attached article and E-mail), and asked the PAC to consider the possibility of preparing press releases as a method of disseminating accurate information to the public during the study process. After discussion, it was decided to prepare a single summary of the project findings to date, as well as background information and a summary of the upcoming work. This will be distributed to media contacts as appropriate.

Mr. Timm indicated that the next issue of America's Flyway will include another article on the Superior Airport, and he requested information.

Action Item: *Mr. Pela will prepare summary information and provide Mr. Timm with a copy prior to the January issue deadline of December 2nd.*

8. Comments from the public were solicited, but none were offered.
9. The next PAC Meeting was scheduled for Tuesday, January 16, 2001.

*** END ***



Gannett Fleming

GANNETT FLEMING, INC.
Airport Development Group
3001 East Camelback Road, Suite 130
Phoenix, AZ 85016-4498
Telephone: (602) 553-8817
FAX: (602) 553-8816

November 7, 2000

Mr. R. C. Chavez, Town Manager
Town of Superior
734 Main Street
Superior, AZ 85273

RE: Superior Airport Master Plan
GF #37776

Dear Mr. Chavez:

To date, we have completed the Background and Inventory of the existing airfield, as well as the Aviation Demand Forecasts. The Facilities Requirements (Section 3) is also now completed and is included with the enclosed PAC Workbook update package. Section 3 contains a 20-year program of improvements for two development options, including development of the existing site (constrained to a 3,500' long runway by site topography and property limits), and development of an "unconstrained" airport at a new site.

We concluded Section 3 with a comparison of approximate development costs for the major features associated with each option. The results of this initial estimate indicate that development at a new site may cost five times as much as development at the existing site.

The Town must decide whether this level of investment aligns with the community's vision for the future. The decision at this point is between development of a small community airport with primarily a local tourism/recreational role and a minor local business development role, or development of a new general aviation airfield with a more regional commercial/business development role.

Either of these options appear to be feasible, depending on the ability and willingness of the Town, ADOT and the FAA to provide adequate funding. We believe that ADOT and FAA funding will be made available when the project is justified by the completed Airport Master Plan. The combined state and federal grant participation could cover about 95% of the development costs.

Our recommendation is to continue the planning process into the Site Selection phase of the study. In this phase, several potential airport development sites will be identified and comparison will be made considering several areas of potential environmental, economic and developmental impact, as well as the relative usefulness of the airport in terms of achieving the Town's goals. The existing airport will be included in the analysis, to be compared side by side with the potential new candidate sites. We already know that developing the existing site will be much less expensive than a new airport, that demand at the existing site will be less than at a site closer to the Phoenix/Mesa metro area, and that development at the existing site will be constrained.



Mr. R. C. Chavez, Town Manager
Town of Superior
November 7, 2000
Page 2

We believe that the Site Selection study process will provide the Planning Advisory Committee (PAC) with enough information to make an informed decision and subsequent recommendation to the Town Council.

After presentation and discussion at the next meeting, the PAC may decide to follow our recommendation to proceed with the Site Selection phase, or may choose to limit the scope of the work to planning for improvement of the existing airport site.

I am looking forward to the next PAC meeting. If you have any questions or require additional information, please call.

Sincerely,
GANNETT FLEMING, INC.
Airport Development Group

A handwritten signature in black ink, appearing to read 'Nicholas J. Pela', written over the typed name.

Nicholas J. Pela
Senior Airport Planner

cc: Ray Boucher, ADOT-Aeronautics Division
Michael O. Hing, PAC Chairman
J. Howard Downs, PAC Member
Manny Ruiz, PAC Member
Kenneth J. Cook, PAC Member
Doris Warcola, PAC Member
Yolanda Najera Ewing, PAC Member

(APA Newsletter continued from PG. 33)

Aviation issues in Eastern Arizona are handled by APA Board member Paul Pitkin. Contact Paul at (520) 474-3663.

LETS SAVE THE SUPERIOR, ARIZONA AIRPORT

You probably haven't been to the Superior, Ariz. airport lately unless you drove your 4x4 or dune buggy. As inactive as it may be, the airport at Superior does and should have a future. The 265 acres on which the airport is located were deeded first from the U.S. Government to Pinal County, then later to the City of Superior. Each transfer retained the covenant that edicted that the presence of the airport would be retained.

APA has learned, however, that activity may be progressing to eliminate the airport presence forever. While the current dirt runway is in dire need of refurbishment, the airport is an important key to the future growth and vitality of Superior. If this airport is lost, chances of

another one being established are probably very remote at best. With the continuing growth toward the east metro-Phoenix area, Gold Canyon and beyond, it seems reasonable that an operational airport at Superior is a key positive ingredient in Superior's future. The well documented economic benefit an airport brings to a community is merely the cornerstone of many other possibilities. An airport is also the key element to ensure that its citizens are afforded ready access to all of the emergency, priority, and specialized services that are available when we have access to an airport.

Check out our new website for tips and topics which will be of value to pilots. See us at www.arizonapilots.org

LETS HEAR FROM YOU

The deadline for the December newsletter is November 5th. Please forward items to Jim Morrison, Editor, APA Newsletter, 7417 E. Cortez, Scottsdale, Arizona 85260 or call (480) 948-7930.

P. O. Box 44721 Phoenix, AZ 85064

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City _____

State _____

Zip _____



AMERICA'S FLYWAYS

SUBSCRIPTION FORM

Nicholas J. Pela

From: Nicholas J. Pela <npela@gfnet.com>
To: <jtimmm@amug.org>
Cc: <rboucher@dot.state.az.us>
Sent: Thursday, November 02, 2000 4:01 PM
Subject: Superior Airport

Dear Mr. Timm:

This is in reference to your article in America's Flyways regarding the Superior Airport, wherein you state that "APA has learned... that activity may be progressing to eliminate the airport presence forever."

In fact, the only official activity that is going on is a Feasibility Study/Master Plan commissioned by the Town and funded by ADOT that is focused on identifying the best approach to providing an improved Superior Airport. A part of this study will be an attempt to identify a potential relocation site for the airport that will allow unconstrained development to meet projected demand. The current site would be limited to a 3,500' long runway, and approaches are somewhat compromised by rising terrain. However, there is absolutely NO plan to close the existing airport, unless relocation and development at a new site is determined to be feasible AND the best course of action. If it is found that a new site is not feasible, the Town will improve the existing site.

We are working closely with the Superior Airport Planning Advisory Committee and Town staff to find the best approach to provide the Superior area with the best airport facility possible.

The next scheduled PAC meeting will be on November 21, 2000 at 7:00pm at the Superior Senior Center. It is a public meeting and you and your staff are more than welcome to attend.

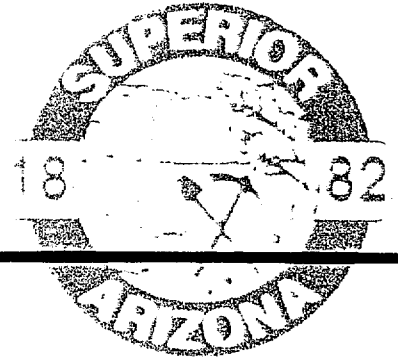
I have been a pilot, aircraft owner and Arizona airport consultant for over 25 years. I believe strongly in maintaining and improving our airport and airspace system. If you have any questions, please feel free to contact me.

Nicholas J. Pela
Project Manager / Senior Airport Planner
Gannett Fleming, Inc.
3001 East Camelback Road, Suite 130
Phoenix, AZ 85016-4498
Phone: (602) 553-8817
FAX: (602) 553-8816

11/02/2000

CONTACT LIST

SUPERIOR AIRPORT MASTER PLAN - 2001



PAC MEMBERS AND RELATED CONTACTS

TOWN AND ADOT STAFF:

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Roy Chavez	Town of Superior 734 Main Street Superior, AZ 85273	(520) 689-5752	689-5822	
Ray Boucher	ADOT-Aeronautics 255 E. Osborn Road, Suite 101 PO Box 13588 Phoenix, AZ 85012	(602) 294-9144	294-9141	

CONSULTANT TEAM:

<u>Name</u>	<u>Representing</u>	<u>Phone</u>	<u>FAX</u>	<u>E-Mail</u>
Nicholas J. Pela	Gannett Fleming, Inc. 3001 E. Camelback Road Suite 130 Phoenix, AZ 85016-4498	(602) 553-8817	553-8816	npela@gfnet.com
Ronald D. Schreier	Gannett Fleming, Inc. 3001 E. Camelback Road Suite 130 Phoenix, AZ 85016-4498	(602) 553-8817	553-8816	rschreier@gfnet.com

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J. Howard Downs	Resident 10499 Valley View Gold Canyon, AZ 85219-4644	(480) 982-2062	982-2062	doc_downs@hotmail.com
Manny Ruiz	Superior Town Council Box BC Superior, AZ 85273	(520) 689-5430		
Kenneth J. Cook	Resident 332 Marion Drive Superior, AZ 85273	(520) 689-5955	356-2809	
Doris Warcola	Superstition Foothills, Inc. PO Box 1246 Apache Junction, AZ 85217-1246	(480) 982-0227		
Yolanda Najera Ewing	Superior Town Council 208 Neary Superior, AZ 85273	(520) 689-2652	868-6945	yolanda.ewing@co.pinal.az.us

OTHERS:

<u>Name</u>	<u>Representing</u>	<u>Phone</u>	<u>FAX</u>	<u>E-Mail</u>
Peter C. Loan	Superstition Foothills, Inc. 1720 S. Rogers Circle Mesa, AZ 85202-5736	(602) 228-3098		
James Timm	Arizona Pilots Association 220 East Ellis Drive Tempe, AZ 85282-6806	(480) 839-9187	755-4128	jtimmm@amug.org