

**Solano County**

**Airport Land Use Commission**

**AIRPORT/LAND USE COMPATIBILITY PLAN**

**NUT TREE AIRPORT**

**VACAVILLE GLIDERPORT**

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**May 1988**



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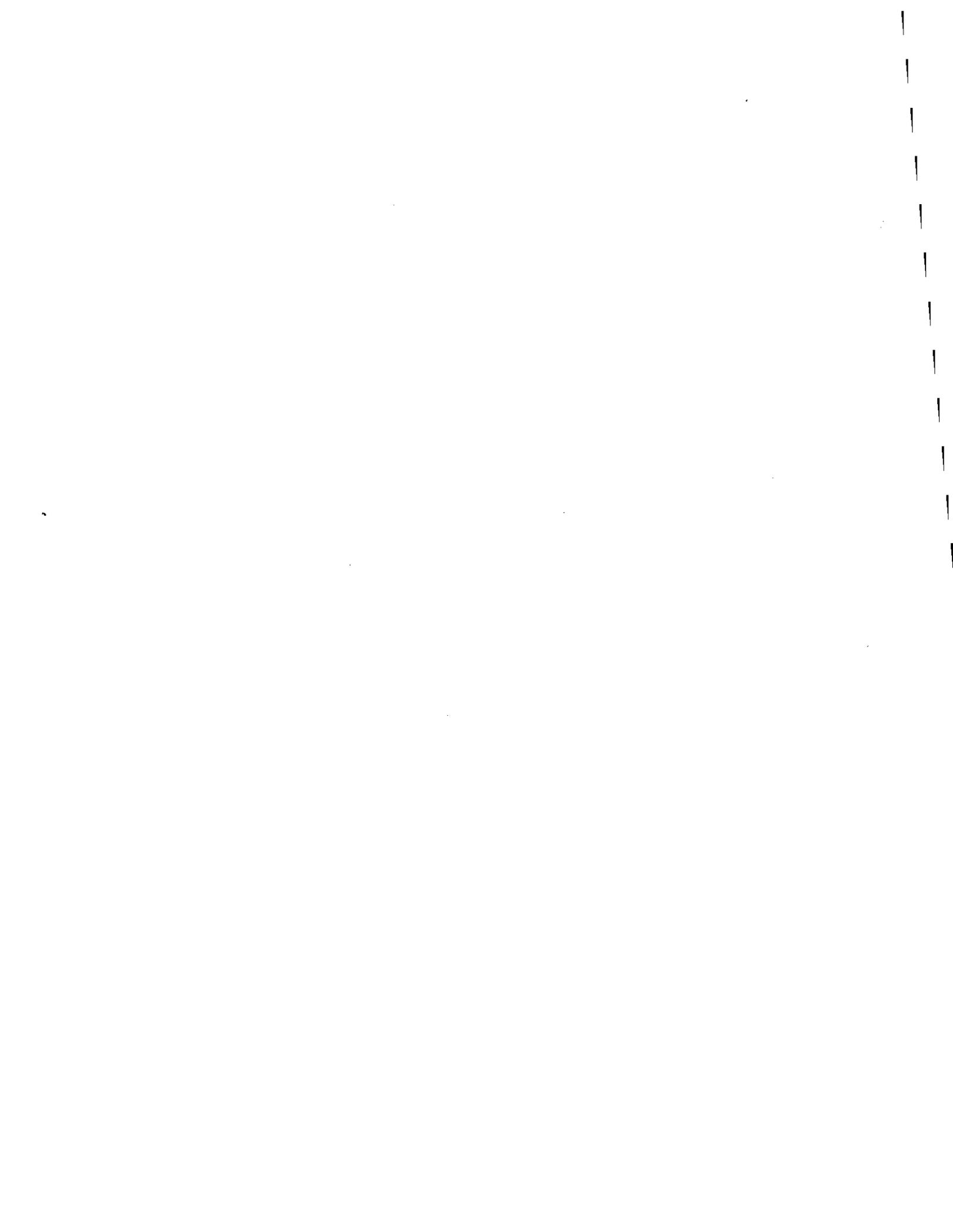
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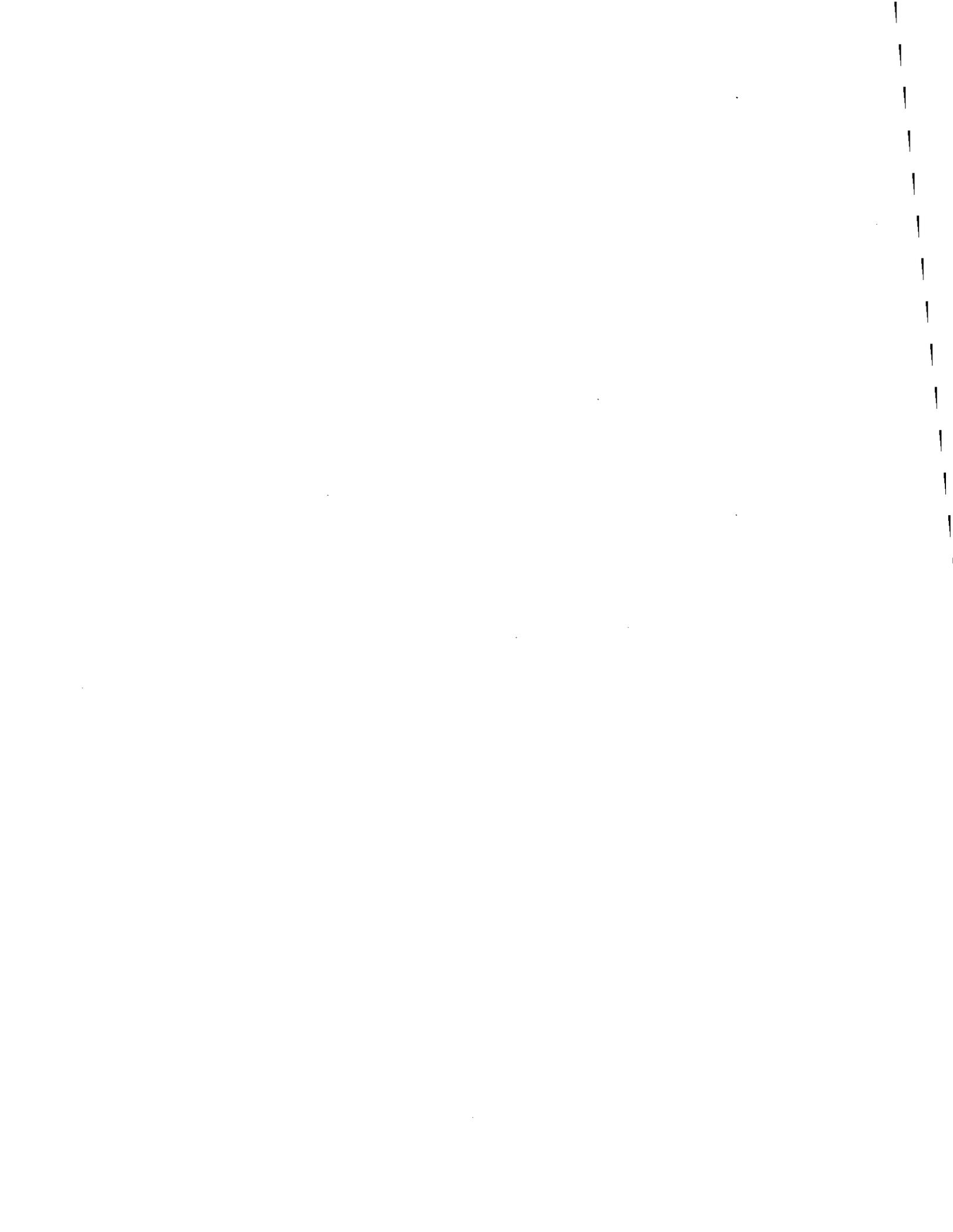
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~~Nut Tree Airport~~  
~~Vacaville Gliderport~~



# INTRODUCTION



## FUNCTION OF THE PLAN

This document sets forth the criteria which the Solano County Airport Land Use Commission will use in evaluating land use plans and proposed development in the vicinity of the two public-use airports located in Vacaville:

Nut Tree Airport

Vacaville Gliderport

A separate document contains similar criteria applicable to the existing and proposed airports located in Rio Vista.

It is the purpose of the Commission's review to assure that future actions involving land uses in the environs of these airports take into account the need for compatibility with airport activities. The Commission has no authority over existing land uses even if such uses are considered incompatible with airport activity. Also, the Commission has no authority over the operation of any airport.

## AUTHORITY AND REQUIREMENTS

The statutory authority for the establishment of airport land use commissions is provided in the California Public Utilities Code, Sections 21670 et seq. (Chapter 4, Article 3.5 of the State Aeronautics Act). Every county in which there is located an airport "operated for the general benefit of the public" is required (with limited exceptions) to have an airport land use commission.

The purpose of the article and the reason for the creation of the commissions is expressly stated as being:

... to protect public health, safety, and welfare by ensuring the orderly expansion of airports and the adoption of land use measures that minimize the public's exposure to excessive noise and safety hazards within areas around public airports to the extent that these areas are not already devoted to incompatible uses.

Among the required duties of each commission is to formulate a comprehensive land use plan intended to achieve the above purpose. The plan must address each public airport within the commission's jurisdiction and its time frame must be long range. It may include height restrictions, specify land uses, and determine building standards.

Under provisions of the law added in 1982, either local general plans and specific plans must be made consistent with the airport land use commission plan or the governing body of the local jurisdiction must take specific steps to override the commission. In order to override, a city council or Board of Supervisors must

make specific findings that the proposed action is consistent with the purposes of the article and must approve the override by a two-thirds vote. Once consistency has been achieved or an override has been approved, individual land use development projects need no longer be reviewed by the commission unless the commission and the local jurisdiction agree that such review be continued.

The complete text of Article 3.5 is included in Appendix A.

### SOLANO COUNTY AIRPORT LAND USE COMMISSION

The Solano County Airport Land Use Commission was established in 1971 by Solano County Board of Supervisors Ordinance No. 781 under provisions of the state aeronautics law which at the time allowed, but did not require, a commission in counties served by public airports not having scheduled service. The members of the commission also serve as the Solano County Aviation Advisory Committee.

Historically, the concern of the Solano County ALUC has primarily been the Nut Tree Airport, although land use issues regarding the existing and proposed Rio Vista airports have occasionally been addressed. The Nut Tree Airport Master Plan was utilized by the commission as the airport land use compatibility plan. That compatibility plan is superseded by the present document. No other comprehensive plans or policies have previously been adopted by the commission.

### SCOPE OF THE PLAN

The scope of the land use actions which are subject to Solano County Airport Land Use Commission review can be defined in terms of:

- o The extent of the geographic area around each airport which is of concern to the commission;
- o The types of airport impacts which are critical to airport/land use compatibility; and
- o The types of actions to be reviewed.

Policies addressing each of these topics are contained in Chapter 2 of this document together with the set of compatibility criteria used by the commission when reviewing projects.

Chapter 3 presents background information regarding the Nut Tree Airport and the Vacaville Gliderport and the land uses which surround them.

Chapter 4 examines the extent to which local general plans are consistent or inconsistent with the policies set forth in this compatibility plan.

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POLICIES

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## GENERAL APPROACH

The approach to airport/land use compatibility planning taken by this plan is somewhat unconventional compared to that adopted by most other airport land use commissions in the state. This different approach stems from a combination of four factors which is perhaps unique to Solano County:

- o Recent changes in California law governing airport land use commissions which now emphasize compatibility planning on a broad, general plan scale rather than at the individual project level.
- o The lack of a countywide compatibility plan prepared prior to the changes in the state law.
- o The historically close working relationship between the Solano County Airport Land Use Commission and the jurisdictions which surround the county's airports: the County itself, the City of Vacaville, and the City of Rio Vista.
- o The largely compatible land uses surrounding the airports at the present time.

Perhaps the most unconventional aspect of this compatibility plan is that a composite set of Compatibility Criteria has been assembled which includes all of the traditional airport/land use compatibility concerns -- noise, safety, nuisance, and airspace protection. A Compatibility Map relating these criteria to the airport environs has been prepared for each airport. The intent is to simplify the review process by eliminating the need to consider several different compatibility tables and associated maps except in unusual cases. For those cases in which further understanding of the Compatibility Criteria may be necessary, supporting policies are provided.

Another difference is that the compatibility policies herein are designed primarily for review of relatively broad scale land use actions such as general plans, specific plans, policy plans, and large development projects. Because so much of the surrounding land uses are still compatible with the airports, much importance is attached to maintaining this compatibility. Recognition is given to the fact that there are pressures for development near the airports and that the ideal of nothing but open space cannot be preserved. It is believed, however, that extensive future land use development can occur with a high degree of airport compatibility especially when dealing with large scale blocks of land.

Despite the innovative nature of this plan, the compatibility policies presented are directly derived from well-established criteria. Among the specific sources utilized are:

- o Federal Aviation Regulations and Federal Aviation Administration Advisory Circulars.
- o California State Aeronautics Law.
- o California Division of Aeronautics Noise Regulations.
- o California Division of Aeronautics Airport Land Use Planning Handbook.
- o Previously adopted local plans and policies.

## POLICIES REGARDING SCOPE OF REVIEW

### Geographic Area of Concern

The Airport Land Use Commission's geographic area of concern encompasses all lands on which the uses could be negatively affected by current or future aircraft operations associated with one of the public-use airports in the county -- Nut Tree Airport, Vacaville Gliderport, Rio Vista Municipal Airport (existing), and New Rio Vista Airport (proposed) -- as well as those lands on which the uses could adversely affect the safety of aircraft flight around these airports.

The specific limits of the area of concern for each airport are depicted on the respective Compatibility Map for that airport. The Compatibility Maps accompanying this plan each consist of a series of Compatibility Zones overlaid on a local street and parcel map. The specific Compatibility Criteria applicable to each zone are defined in the Compatibility Criteria Table on pages 10 and 11.

- Also, with respect to the following two types of projects, the Commission's geographic area of concern encompasses all of Solano County:
- Any proposal for a new airport \*
- Any proposal for construction or alteration of an object having a height which would require that notice be given to the Federal Aviation Administration in accordance with Part 77, Subpart B, of the Federal Aviation Regulations.

\* "Airport" is defined as airport, heliport, seaplane base or any area designated as a take-off or landing area for any aircraft including airplanes, rotorcraft, gliders, airships, free balloons, or ultralight aircraft public or private.

### Types of Airport Impacts

The commission is concerned only with the safety and overflight impacts and airspace protection requirements of each airport.

Other impacts sometimes created by airports (e.g. air pollutants, automobile traffic, etc.) are not topics of concern.

### Project Review Requirements

- o The affected local jurisdictions shall refer the following types of projects involving land use within the Airport Land Use Commission's geographic area of concern to the Commission for review and action. Certain types of projects need be referred for review only if they lie within the more critical Compatibility zones.
  - Any proposed general plan addition or amendment.
  - Any proposed specific plan.
  - Any proposed zoning change involving a parcel larger than 1.0 acre.
  - Any proposed residential subdivision or planned unit development consisting of 5 or more dwelling units within Compatibility Zones A, B, and C or consisting of 10 or more units within Zones D and E and under the flight tracks within Zone F.
  - Any proposed policy plan or other comparable plan for a nonresidential development or for a substantial modification to such a plan which has previously been approved.
  - As determined by the planning director of the local jurisdiction, any other proposed land use action (e.g. a proposed school site) involving a question of compatibility with airport activities.
  - As required by state aeronautics law, any proposal for a new airport or any modification to an airport master plan which would affect the location or magnitude of the airport's noise, safety, or overflight impacts or air-space protection requirements.
  - Any proposal for a new airport as defined on page 8.
  - Any proposal requiring notification to the FAA under Federal Aviation Regulations Part 77, Subpart B, regardless of the location in the County. (See excerpts in Appendix C.)
  - Any proposed school within 10,000 feet of any point on any airport runway within the County.
- o Projects shall be referred to the Commission at the earliest reasonable time so that the Commission's review can be duly considered by the local jurisdiction prior to formalizing its actions.

Solano County Airport Land Use Commission  
 AIRPORT/LAND USE COMPATIBILITY PLAN  
 Compatibility Criteria Table  
 (Revised May 1983)

ZONE	LOCATION	IMPACT ELEMENTS	MAXIMUM DENSITIES			REQUIRED OPEN LAND
			RESIDENTIAL (du/ac) <sup>1</sup>	OTHER USES	Total In and Out of Structures (people/ac) <sup>2</sup>	
A	o Clear Zone or Primary Surface	o High Risk o High noise	0	10	15	65%
B	o Inner Approach/Departure Zone	o Substantial risk -- Low overflights along extended runway centerline o High noise	0.3	20	40	50%
C	o Outer Approach/Departure Zone - or - o Adjacent to Runway	o Substantial noise o Moderate risk - either: (1) Routine overflight on instrument approach or below 400' AGL or (2) Few overflights, but close to runway edge	1	50	75	15%
D	o Extended Approach/Departure Zone	o Moderate risk - common traffic pattern overflight below 800' AGL o Frequent noise intrusion	4	100	150	10%
E	o Adjacent to Runway or Final Approach	o Minor to significant sideline noise o Limited risk	6	-	-	-
F	o Other Airport Environs	o Overflights, limited risk under flight paths	-	9	-	-

NOTES: See page 12

Solano County Airport Land Use Commission  
 AIRPORT/LAND USE COMPATIBILITY PLAN  
 Compatibility Criteria Table  
 (Revised May 1988)

ADDITIONAL CRITERIA		EXAMPLES	
PROHIBITED USES	OTHER DEVELOPMENT CONDITIONS <sup>4</sup>	NORMALLY ACCEPTABLE USES <sup>5</sup>	NORMALLY NOT ACCEPTABLE USES <sup>6</sup>
<ul style="list-style-type: none"> <li>o Any assemblage of people</li> <li>o Any new structure which exceeds FAR 77 height limits</li> <li>o Any noise sensitive uses</li> </ul>	<ul style="list-style-type: none"> <li>o No uses hazardous to flight<sup>7</sup></li> <li>o Avigation easement</li> <li>o 50ft. setback from extended runway centerline for all structures</li> </ul>	<ul style="list-style-type: none"> <li>o Pastures, open space</li> <li>o Parks with very low intensity uses</li> <li>o Aircraft tiedowns</li> <li>o Auto parking</li> <li>o Nurseries</li> <li>o Outside storage</li> </ul>	<ul style="list-style-type: none"> <li>o Heavy poles, signs, large trees, etc.</li> </ul>
<ul style="list-style-type: none"> <li>o Any noise sensitive uses</li> <li>o Schools, libraries, hospitals, nursing homes</li> <li>o Uses involving substantial amount of highly flammable or explosive materials</li> </ul>	<ul style="list-style-type: none"> <li>o Structures to be as far as possible from extended runway centerline</li> <li>o Minimum NLR<sup>8</sup> of 25 dBA in residential and office buildings</li> <li>o No uses hazardous to flight<sup>7</sup></li> <li>o Avigation easement</li> </ul>	<ul style="list-style-type: none"> <li>o All uses from Zone A</li> <li>o Parks with low intensity uses</li> <li>o Warehouses</li> <li>o Light Industrial uses (one story maximum)</li> <li>o Heavy Industrial uses</li> </ul>	<ul style="list-style-type: none"> <li>o Residential densities greater than 0.3 du/acre</li> <li>o Retail stores</li> </ul>
<ul style="list-style-type: none"> <li>o Schools, libraries, hospitals, nursing homes</li> <li>o Noise sensitive outdoor activities</li> </ul>	<ul style="list-style-type: none"> <li>o Residential structures, especially mobile homes, to have a minimum NLR of 20 dBA</li> <li>o Clustering of development is encouraged</li> <li>o No uses hazardous to flight<sup>7</sup></li> <li>o Avigation easement</li> </ul>	<ul style="list-style-type: none"> <li>o All uses from Zone B</li> <li>o Retail uses (one story maximum)</li> <li>o Office and Financial uses (one story maximum)</li> <li>o Auto Dealerships</li> </ul>	<ul style="list-style-type: none"> <li>o Residential densities greater than 1 du/acre</li> <li>o Multi-story retail buildings</li> <li>o Motels</li> </ul>
<ul style="list-style-type: none"> <li>o Noise sensitive outdoor activities</li> </ul>	<ul style="list-style-type: none"> <li>o Clustering of development is encouraged</li> <li>o Residential structures, especially mobile homes, to have a minimum NLR of 20 dBA</li> <li>o No uses hazardous to flight<sup>7</sup></li> <li>o Overflight easement</li> </ul>	<ul style="list-style-type: none"> <li>o All uses from Zone C</li> <li>o Restaurants (one story maximum)</li> <li>o Retail uses (two story maximum)</li> <li>o Office and Financial uses (two story maximum)</li> <li>o Motels (two story maximum)</li> </ul>	<ul style="list-style-type: none"> <li>o Schools, libraries, hospitals, nursing homes</li> <li>o Residential densities greater than 4 du/acre</li> <li>o Large shopping malls</li> </ul>
<ul style="list-style-type: none"> <li>o Highly noise sensitive outdoor activities; e.g. amphitheaters</li> </ul>	<ul style="list-style-type: none"> <li>o Residential uses should have limited outdoor living area and should be oriented away from noise source; clustering is encouraged</li> <li>o No uses hazardous to flight<sup>7</sup></li> <li>o Overflight easement</li> </ul>	<ul style="list-style-type: none"> <li>o Most non-residential uses</li> </ul>	<ul style="list-style-type: none"> <li>o Residential densities greater than 6 du/acre</li> </ul>
	<ul style="list-style-type: none"> <li>o None except overflight easement dedication requirement</li> </ul>	<ul style="list-style-type: none"> <li>o Most uses</li> </ul>	<ul style="list-style-type: none"> <li>o Large assemblages (e.g. auditoriums) and captive groups (e.g. schools, nursing homes) under flight tracks</li> </ul>

Notes for Compatibility Criteria Table

- 1 The residential development should not contain more than the indicated number of dwelling units per gross acre. Units can be clustered to meet open land criteria. Maximum net density in any area should not exceed three times the acceptable gross density.
- 2 The use should generally not attract more than the indicated number of persons per net acre. These densities are intended as general planning guidelines to aid in determining the acceptability of proposed land uses. Jurisdictions may satisfy density standards through adoption of an implementing plan or ordinance which is determined by the Airport Land Use Commission to meet the standards. An example of such a proposal is shown in Appendix D.
- 3 The indicated percentage of gross area (total area in zone, including airport property except in zone A) should remain free of structures and other major obstacles. To be considered open land the area must be sufficiently large and unobstructed to enable an aircraft to make an emergency landing with a high probability of no serious injuries to the occupants of the aircraft or major damage to structures on the ground. Substantial damage to the aircraft may occur. Spaces as small as approximately 100 feet by 300 feet or 75 feet by 400 feet are considered adequate, although larger areas are desirable. Roads and adjacent landscaping qualify if they are wide enough and not obstructed by large trees, signs, or poles. These areas should be oriented as closely as practical to the common direction of aircraft flight over the area. Jurisdictions may satisfy open space requirements through adoption of an open space plan, which is determined by the Airport Land Use Commission to meet the standards. Such plans must include a statement that no median trees will be planted within 150 feet of intersections on streets qualifying as open space and that trees between 150 and 200 feet of the intersections will be shorter varieties.
- 4 Dedication of an overflight easement is required as a condition for all new development within all zones. See Overflight policies for details. Also, height limit restrictions from FAR Part 77 Airspace Plans in Chapter 3 are applicable to structures and trees in all zones around each airport, except that in transitional zones the sloping height restriction shall be 4:1 instead of 7:1. Structures planned to exceed the 7:1 limitation, however, must be reviewed by the FAA. Refer to Appendix C for excerpts of FAR Part 77 height regulations.
- 5 These uses typically can be designed to meet the density requirements and other development conditions listed.
- 6 These uses typically do not meet the density requirements and other development conditions listed. They should be allowed only if a major community objective is served by their location in this zone and no feasible alternative location exists.
- 7 See Supporting Policies on Airspace Protection for details.
- 8 NLR = Noise Level Reduction; i.e. the attenuation of sound level from outside to inside provided by the structure.
- 9 Under flight tracks captive groups should not exceed 100 persons/structure; large assemblages should not exceed 300 persons where grouped in close proximity, i.e., theaters, auditoriums, conference facilities, etc."

- o It is not required that a project be referred for review at more than one stage of the planning process (e.g. for a general plan amendment and again for a zoning change pursuant to the general plan amendment) provided that sufficient information is included with the first referral to assure that all applicable Compatibility Criteria will be satisfied. Within Zones A, B, and C, particular attention shall be paid to site layout.
- o The Commission may find a proposal consistent with the Airport/Land Use Compatibility Plan, find it consistent with conditions or find the proposal inconsistent with the Plan. The local jurisdiction must follow the procedures established in the state aeronautics law if it is to override the Commission's conditions or its determination of inconsistency."
- o The compatibility of land uses proposed for development in the vicinity of a public-use airport in the county shall be evaluated in terms of the Compatibility Criteria table and the individual airport Compatibility Maps which are part of this plan.
- o When evaluating a specific land use, the principal criteria are the maximum densities, required open land, and other development conditions listed. The indicated examples of normally acceptable and normally not acceptable uses are not complete lists; they are intended only for guidance.
- o Additional information regarding the criteria is indicated in the Supporting Policies which follow. The Commission may refer to these additional policies to clarify or supplement its review.
- o The Commission may interpret the boundaries of the Compatibility Zones, other than Zones A, B, and C, with a degree of flexibility. Adjustments may be appropriate based upon geographic features and parcel lines not reflected in the base maps. In adjusting the boundaries and thus modifying the Compatibility Criteria applied to a given project, the Commission shall endeavor to assure that an equivalent degree of compatibility will be maintained.
- o Where substantial development already exists, additional in-fill development of similar land uses should be allowed to occur on parcels of 3.0 acres or less even if such land uses are to be prohibited elsewhere in the zone. This exception does not apply within Compatibility Zones A, B, and C.
- o Where an existing incompatible development on a parcel of 3.0 acres or less has been partially or fully destroyed, it should be allowed to be rebuilt to a density not exceeding that of the original construction. This exception does not apply within Compatibility Zones A & B.

## LAND USE COMPATIBILITY POLICIES

### Supporting Policies

#### NOISE

- o The evaluation of airport/land use noise compatibility shall consider the future Community Noise Equivalent Level (CNEL) contours of each airport. These contours have been calculated based upon aircraft activity forecasts which are set forth in adopted airport master plans or which are considered by the Commission to be within the realm of possibility regardless of how far in the future.
- o The general locations of the CNEL contours calculated for each airport have been taken into account in preparation of the Compatibility Criteria and Compatibility Maps. Because of the inherent imprecision in the calculation of noise contours (the variability of flight track positions being a major factor), it is not intended that the depicted locations be absolute determinants of the compatibility or incompatibility of a given land use.
- o The maximum CNEL which shall be considered normally acceptable for residential areas in the vicinity of the the Nut Tree Airport, the Rio Vista Municipal Airport (existing), and the New Rio Vista Airport (proposed) is 60 dBA. This criterion is set at 55 CNEL for the Vacaville Gliderport consistent with lower activity levels at that airport.
- o Compatible noise levels for other types of land uses shall be consistent with the above residential area noise level criteria. Examples of such levels applicable to other land uses in the vicinity of any of the airports are presented in Appendix B.
- o The extent of outdoor activity associated with a particular land use is an important factor to be considered in evaluating its compatibility with airport noise.
- o Single-event noise levels shall also be considered in the evaluation of airport/land use noise compatibility. This is particularly important in areas which are often overflowed by business jets or other noisy aircraft but which do not have high Community Noise Equivalent Levels (e.g., because prevailing winds cause most aircraft departures to go in a different direction). The primary concern would be the location of residential and other noise-sensitive uses under the straight-in approach/departure flight tracks.

#### SAFETY

- o The intent of the airport/land use safety compatibility criteria is to minimize the risks associated with the operation of aircraft to and from an airport. The greater the

predicted risk, the greater the control on land use development is required to be.

- o Risks both to people on the ground and to people on board the aircraft shall be considered.
- o Risks to people on the ground shall be minimized by limiting the number of people permitted to occupy a given area. Greater restrictions shall be placed upon the number of people permitted in a building than upon the number within an open area because of the greater difficulty of evacuating a building in the event of its involvement in an aircraft accident. Buildings in which the occupants have reduced effective mobility are of particular concern (schools, hospitals, and nursing homes, for example).
- o Risks to people on board aircraft shall be minimized by providing as much open land as possible within the vicinity of an airport to provide for emergency landings. This concept is based upon the fact that the large majority of aircraft accidents occurring away from an airport runway are controlled emergency landings in which the pilot has reasonable opportunity to select the landing site. Clustering of development is encouraged as a means of increasing the amount of open space.

#### AIRSPACE PROTECTION

- o The criteria for protecting the airspace in the vicinity of airports in Solano County shall be set in accordance with Part 77, Subpart C, of the Federal Aviation Regulations (See Appendix C) and with the United States Standard for Terminal Instrument Procedures (TERPS). These federal standards determine the acceptable height of structures, trees, and other objects within the vicinity of airports. The Far Part 77 Airspace Plans for specific airports are depicted on pages 31 and 41. The TERPS height limitations will become applicable at an airport when an instrument approach has been designed for that airport. The precise configuration of the TERPS surfaces cannot be determined until that time, but Part 77 surfaces are expected to be the controlling restrictions in most areas.
- o Structures, trees and other objects in Zones A, B or C shall meet airport height limits. Structures, trees and other objects in other areas shall meet airport height limits unless it can be conclusively shown that the property cannot be reasonably utilized without violating the standards and that a lesser degree of violation cannot be reasonably achieved.
- o As a condition of approval for any development within Compatibility Zones A, B, or C, a height limit easement which

(1) restricts the height of structures, trees, and other objects and (2) permits access to the property for their removal or aeronautical marking shall be dedicated to the jurisdiction owning the airport (or, in the case of a private airport, to the jurisdiction controlling the land use). These easement rights are in addition to those noted with regard to Overflight.

- o Land uses which may produce hazards to aircraft in flight shall not be permitted in any zone. Specific characteristics to be avoided include: glare or distracting lights which could be mistaken for airport lights; sources of smoke; sources of electrical interference with aircraft communications or navigation; and bird attractors, especially landfills and certain agricultural uses. Restrictions on these characteristics shall be included as part of the aviation and overflight easements to be dedicated as a condition for approval of development. An aviation easement includes the height limit and flight hazard rights noted above plus the overflight rights listed below. An example of an aviation easement is included in Appendix E.

#### OVERFLIGHT

- o As a condition for approval of a proposed development within the vicinity of an airport, an overflight easement shall be dedicated to the jurisdiction owning the airport (or, in the case of a private airport, to the jurisdiction controlling the land use). Such easements shall permit the right of flight in the airspace above the property including the generation of noise associated with aircraft flight. These rights shall be in addition to any height limit easement required for airspace protection.
- o The overflight impact associated with airport activity results from a combination of often minor noise impacts coupled with an individual's concern that an aircraft accident could occur on his/her property. Overflight impacts primarily affect residential property and can be expected to occur randomly anywhere within the area frequently overflown by aircraft using an airport. Because of the extent of the area affected by overflight impacts, stringent land use controls are not practical. The most achievable control is to assure that prospective inhabitants of dwellings in the airport vicinity are informed in advance that the potential for overflight exists.
- o The Commission encourages local governments to establish a "buyer notification statement" as a requirement for the transfer of title of any property located within the Commission's geographic area of concern. This statement should indicate that the buyer is aware of the proximity of an airport, the characteristics of the airport's current and projected activity, and the likelihood of aircraft overflights of the affected property.

- o The Commission has no authority over existing residences or other existing land uses, therefore it cannot enforce a buyer notification program. It can, however, sponsor a mailing to local real estate agents requesting their cooperation in informing prospective buyers of homes near the airports and it can encourage local jurisdictions to establish a more comprehensive program.

### Policies for Specific Airports

#### NUT TREE AIRPORT

- o The Compatibility Map for the Nut Tree Airport shall assume a future extension of the runway by 900 feet toward the northeast and the establishment of a precision instrument approach to Runway 19.
- o The Compatibility Map also shall assume that the Nut Tree traffic pattern will remain exclusively on the west side of the airport with only limited base leg approaches from the east.
- o The C zone extending from the Callen Street residential area at the south along East Monte Vista Avenue to the Putah South Canal at the north is considered to be predominately devoted to uses consistent with D zone standards. Therefore, new uses may be approved in this area if they meet D zone standards.
- o A zone lands within the Monte Vista Business Park may be developed with "low-lying building, lockers or compartments to be used for storage purposes only" as provided in the existing easement granted to Solano County by Monte Vista Business Park. The easement provides that such structures shall not penetrate FAR Part 77 surfaces.

#### VACAVILLE GLIDERPORT

- o The Compatibility Map for the Gliderport is predicated upon continuation of the present, predominantly glider, activity at the airport. Any change to this pattern of use shall require review by the Commission.
- o The Compatibility Criteria for the Gliderport shall remain in effect as long as the airport remains in operation. Projects having land uses not compatible with the airport may be approved by the Commission with the condition that construction shall not begin until the airport is officially closed and its state airport permit terminated.



AIRPORT AND LAND USE DATA

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## NUT TREE AIRPORT

### Overview

#### SETTING

Occupying some 227 acres in the northeastern section of the City of Vacaville, the county-owned Nut Tree Airport is currently the major general aviation airport in Solano County. The airport was established in 1955 as a privately owned, dirt strip serving the Nut Tree Ranch and Restaurant. The original 1,900-foot runway was subsequently relocated and the runway lengthened to 2,500 feet. The current configuration of the airport, including the 3,800-foot runway, took shape in the years immediately following donation of the property to the county in 1970.

Today the Nut Tree Airport is home for more than 120 based aircraft and handles an estimated 82,000 annual aircraft operations. As with most general aviation airports, the current activity level is significantly below the historical peak -- estimated at nearly 130,000 operations -- which was reached in the early 1980's.

The land uses in the vicinity of the airport have changed dramatically in the period since the facility was established. In 1960, Vacaville was a city of less than 11,000 people located a mile southwest of the airstrip. As of January 1986, the population had grown to more than 53,000 and the city boundaries had extended to encompass the airport and most of the surrounding land. Commercial and residential areas now reach to the airport boundaries on the west and southwest and a major retirement community, Leisure Town, exists a mile to the southeast. To northwest, north, and northeast, much of the land remains vacant, but development is beginning to occur at a rapid pace.

An Airport Master Plan completed in 1982 is the county's guide for recent and planned airport facility improvements. The master plan also was adopted by the County Airport Land Use Commission and has served as the basis for the Commission's review of proposed land use actions involving the airport vicinity. Two of the anticipated facility improvements -- extension of the runway and establishment of a precision instrument approach -- directly affect potential future land uses in the airport vicinity.

#### ISSUES

The major land use issue confronting the Nut Tree Airport is the need to maintain an acceptable degree of compatibility in the face of urbanization which is rapidly surrounding the facility. Clearly, development in the airport vicinity is important and will continue. Also clear is the importance of the airport to the community. The key question has been and will continue to be one of what conditions it is reasonable to require of new local development in order to preserve the viability of the airport.

Noteworthy steps have been taken by the City of Vacaville in this regard by virtue of its requirement that any new development within nearly two miles of the airport must dedicate an avigation easement to the county. The city has also adopted a height limit zoning ordinance based upon Federal Aviation Regulations Part 77 standards which requires that significant projects near the airport be referred to the Airport Land Use Commission for review. The Commission, for its part, has adhered not only to the height limit standards, but also to the safety zone and noise impact area criteria set forth in the Airport Master Plan. The difficulty occasionally posed by these requirements and standards is that exceptions are sometimes requested and little guidance is given as to how much of an exception, if any, may be appropriate.

Several other issues, more limited in scope than those above, also are significant to the preparation of a land use compatibility plan for the Nut Tree Airport.

- o Can it be assumed that the current westside traffic pattern will continue to be the only one at the airport? If an Air Traffic Control Tower is some day established, it is possible that some use would be made of an eastside pattern even if not for touch-and-go activity.
- o Should any special compatibility measures be required for residential development in the hills west of the airport? Because of the higher terrain, aircraft entering the traffic pattern overfly the area at a relatively low height above the ground, thus increasing the noise impacts. Also, because the ground level exceeds FAR Part 77 height limits, any construction is technically an obstruction.
- o Details regarding proposed airfield improvements which could affect surrounding land uses are not certain. Although the Airport Master Plan proposes a 900-foot runway extension, it is possible that a somewhat different length could ultimately be constructed. Also, details regarding the proposed precision instrument approach to Runway 19 have not been determined. Until the approach has been designed, it is difficult to establish appropriate height limits for those locations where tall objects could affect the approach minimums or the siting of on-airport navigational aids.

### Airport Environs

#### AIRPORT LOCATION AND ACCESS

- Located on W edge of county approximately 2 miles NE of central Vacaville.
- Access via Monte Vista Avenue on E side of airport; I-80 and I-505 access within 1 mile of airport.

- Airport property mostly within Vacaville city limits.
- Both runway approaches are within city limits.

#### EXISTING AIRPORT AREA LAND USES

##### General Character

- Undeveloped/grazing land adjoining on W, N, and NE.
- Orchard and commercial uses to SE.
- Urban area of city adjoins S side of airport.
- Retirement community 1 mile to E.

##### Runway Approaches (distance from runway end)

- Runway 19 - undeveloped/grazing land.
- Runway 1 - Putah South Canal (600'); Browns Valley Parkway (1700'); commercial (2200').

##### Traffic Pattern

- Runway 1 (left traffic) and Runway 19 (right traffic) -- pattern only on W side of runway.
- Agricultural and open space uses except residential and commercial S of airport; new residential (Ridgeview) under construction to W.

#### LOCAL LAND USE PLANS AND ZONING

##### City

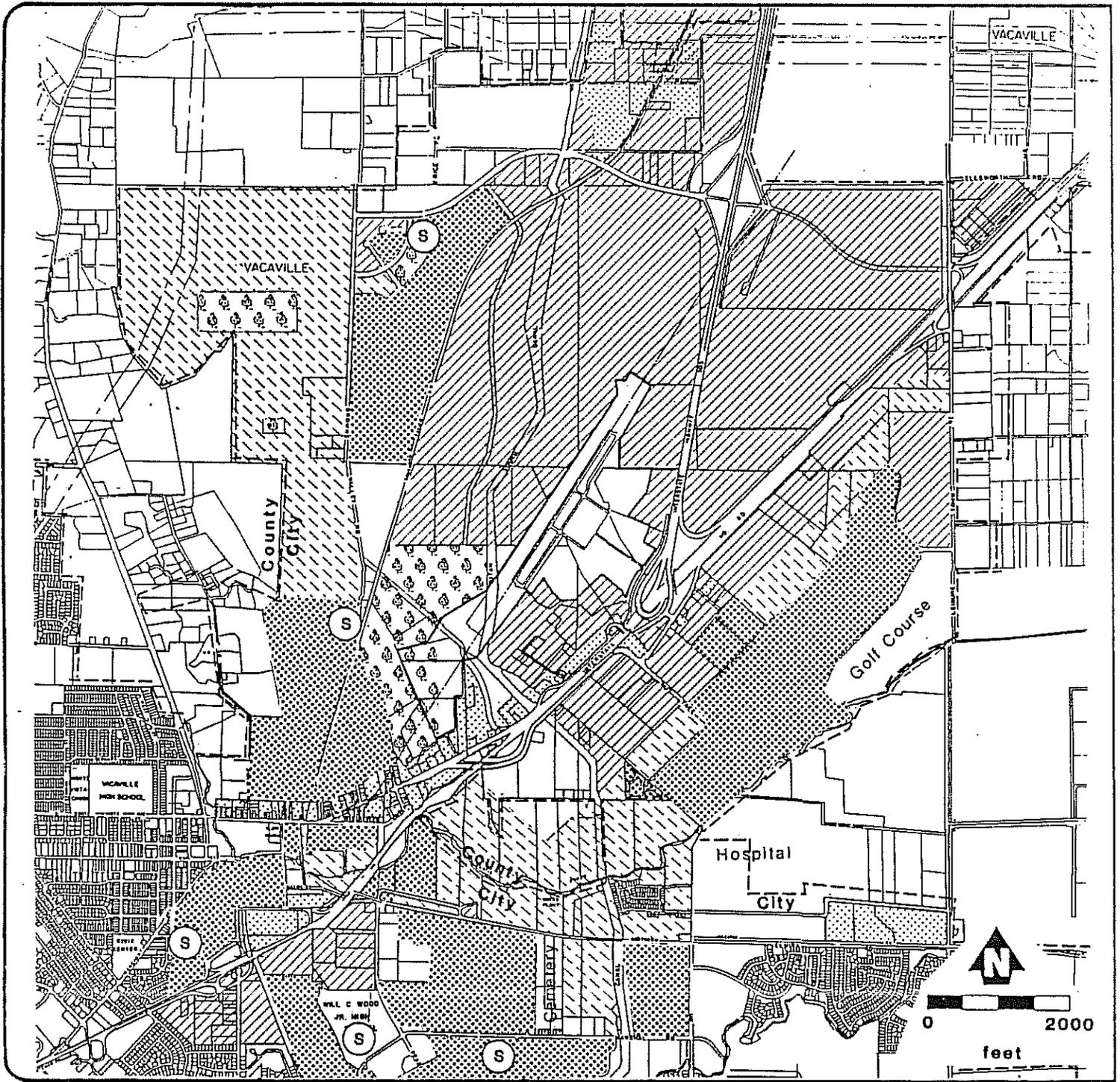
- General Plan adopted in 1980.
- Adopted policy plans specify detailed site development requirements for portions of airport environs: Kirkpatrick/Powers (1981); Southern Pacific (1982); Masson (1985); Orange Tree (1982); Nut Tree Ranch; Vaca Valley Business Park (1979); Vaca Valley Industrial Park (1977); Allison Business Area (1980); Monte Vista Business Center (1979).

##### County

- Land Use and Circulation Element (1980) of General Plan covers unincorporated lands in airport vicinity.

#### PLANNED LAND USE DEVELOPMENT IN AIRPORT VICINITY

- Industrial uses planned for lands adjoining airport to W, N and NE.



**LEGEND**

<u>PROPOSED</u>		<u>EXISTING</u>	
	Commercial/Industrial		Residential
	Park/Recreation		Commercial/Industrial
	Residential	(S)	Schools
	Residential Reserve	(P)	Park
		-----	1986 City Limits
		-----	City Sphere of Influence

**NUT TREE  
AIRPORT  
Land Use**

- In addition to Ridgeview, other land to the W and SW is designated for residential uses. Development ultimately planned to contain some 2500-3500 residences.
- Motel proposed for property adjoining to E.
- Commercial uses planned for adjoining property to S and E.

#### APPROACH PROTECTION MEASURES

- Nut Tree Airport Compatibility Standards - Chapter 17.64 Vacaville Municipal Code: Requires aviation easements, establishes FAR Part 77 height limitations and some density restrictions in airport environs.
- Aviation easements currently exist for adjacent properties on the NE and SE.

#### Airport Physical Features

##### RUNWAY SYSTEM

##### Airport Classification

General Utility

##### Runway 1-19

Length: 3,818 feet  
 Width: 75 feet  
 Asphalt Surface; Good Condition  
 Medium-Intensity Lighting

##### Taxiway Access

Full parallel on east side of runway

##### Nav aids

None

#### CLEAR ZONES & APPROACHES

##### Runway 1

Existing Approach Type: Visual  
 Required Approach Slope: 20:1  
 Clear Approach Slope: 25:1  
 Clear Zone: On airport property



## Runway 19

Existing Approach Type: Visual  
Required Approach Slope: 20:1  
Clear Approach Slope: 50+:1  
Clear Zone: 95% on airport property

## AIRPORT PROPERTY

Ownership County of Solano  
Acreage 227±  
Elevation 113 feet MSL  
Property Notes

Nut Tree Restaurant has access rights to airfield from private apron located at south end of airport. Monte Vista Business Center has access rights from proposed industrial area at north end of airport.

## BUILDING AREA

### Location

East side of runway

### Existing Aircraft Parking Capacity

Tiedowns/uncovered spaces: 121  
Hangar/covered spaces: 45  
Transient parking spaces: 16 (County)  
35± (Private)

### Services

Fuel  
Flight instruction, aircraft rental & charter  
Major repairs

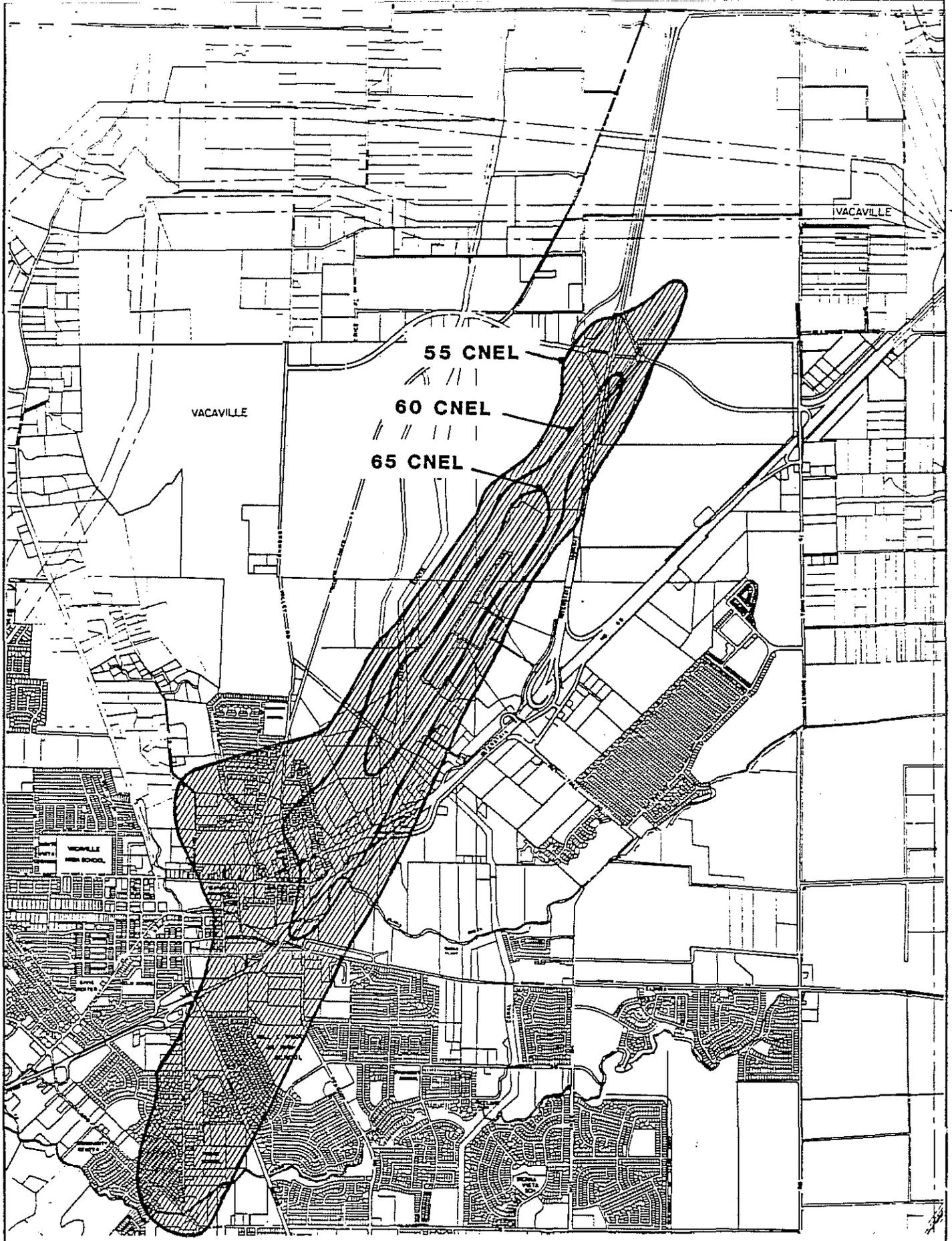
## PLANNED IMPROVEMENTS

### Adopted Plans

Airport Master Plan (1982)

### Projects

Runway extension, 900 feet to northeast.  
Precision Instrument Approach, Runway 19.  
Property acquisition for above projects.



**NUT TREE AIRPORT Noise Impact 2000**



## Airport Activity

### BASED AIRCRAFT

	<u>1986</u>	<u>2000</u>
Total	126	285

### AIRCRAFT OPERATIONS

Annual	82,000 <sup>a</sup>	242,500 <sup>b</sup>
Average day	225	665

### FLEET ACTIVITY MIX

Single-engine	93.5%	87.8%
Twin-engine	6.6%	11.3%
Business jets	0.0%	0.9%

### TIME OF DAY DISTRIBUTION

Propeller aircraft		
day (0700-1900)	91.0%	no
evening (1900-2200)	7.0%	change
night (2200-0700)	2.0%	
Jet aircraft		
day	98.0%	no
evening	2.0%	change
night	0.0%	

### RUNWAY USE DISTRIBUTION

All aircraft types takeoffs & landings		
Runway 1	20.0%	no
Runway 19	80.0%	change

### FLIGHT TRACK DATA

- Left traffic Runway 1; right traffic Runway 19.
- Traffic pattern altitude 1,117' MSL (1000' AGL).
- Runway 19 departures directed to climb straight ahead to 800' MSL before right turn or to make 10° left turn at airport boundary at night or if S or E bound.
- Runway 1 departures directed to climb straight ahead to 800' MSL before turning.

### SOURCES

<sup>a</sup> Airport Manager's estimate.

<sup>b</sup> Airport Master Plan (1982).

NUT TREE AIRPORT

Aircraft Accident Summary (1979-1985)

Date	1# 4/8/79	2# 4/28/84	3# 7/14/84	4# 7/7/85	5# 10/13/85	6# 10/15/85
Type of Aircraft	Piper Aztec	Maule M-4	Grumman AA-54	Cessna Skyhawk II	Cessna 172H	Cessna 172
<b>Phase of Operation</b>						
stationary/taxling	-	-	-	-	-	-
takeoff - run	-	-	-	-	-	-
takeoff - initial climb	-	-	-	x	-	-
landing - in traffic pattern	-	-	-	-	-	-
landing - final approach	-	-	-	-	-	-
landing - touchdown/roll out	x	x	x	-	x	x
other	-	-	-	-	-	-
<b>Nature of Impact</b>						
hard landing/gear up/ground loop/etc.	x	x	x	-	x <sup>a</sup>	-
undershoot/overshoot	-	-	-	-	-	-
collision with objects	-	-	-	-	-	-
forced landing	-	-	-	-	-	-
uncontrolled descent/impact	-	-	x	x	-	-
collision between aircraft in flight	-	-	-	-	-	x <sup>a</sup>
other	-	-	-	-	-	-
<b>Location of Impact</b>						
on/adjacent to runway	x	x	x	x	x	x
in clear zone	-	-	-	-	-	-
in approach zone	-	-	-	-	-	-
on airport property	x	x	x	x	x	x
off airport	-	-	-	-	-	-
<b>Causes/Factors</b>						
pilot - improper operation of controls	x <sup>a</sup>	x	x	-	x	-
pilot - failure to see/avoid objects	-	-	-	-	-	-
pilot - inadequate preflight procedures	-	-	-	-	-	-
fuel exhaustion	-	-	-	-	-	-
mechanical failure	-	-	-	x <sup>a</sup>	-	-
adverse wind/weather	-	-	-	-	x <sup>b</sup>	x
other	-	x <sup>a</sup>	x <sup>a</sup>	-	-	-
<b>Miscellaneous Conditions</b>						
time	Day	Day	Day	Day	Day	Day
weather	-	-	-	-	-	-
student pilot	-	-	-	-	-	-
injuries	No	No	No	Yes	No	Yes
fatalities	-	-	-	No	-	No
other	-	-	-	-	-	-

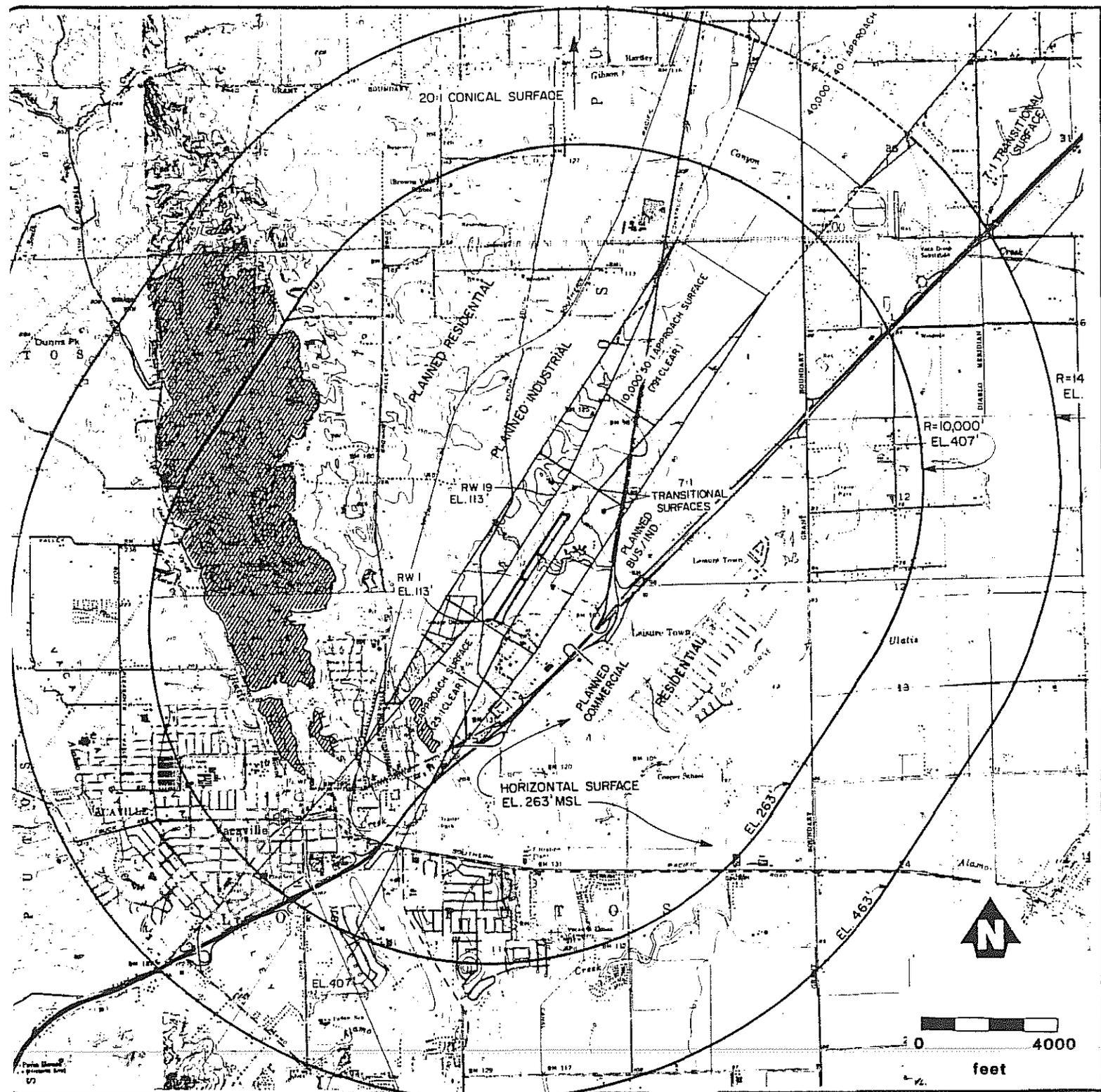
Sources

- \* National Transportation Safety Board Accident Briefs.
- # Vacaville Reporter newspaper.

Notes

- 1a. Pilot apparently hit brakes after only one wheel hit runway, causing plane to spin and veer off runway.
- 2a. Went into ditch after veering off runway and ground looping.
- 3a. Landed long and fast; went into ditch at end of Runway 19.

- 4a. During attempted bank to the right, the aircraft apparently stalled and crashed into the runway.
- 5a. Stalled aircraft while attempting to land with crosswind.
- 5b. Winds 330 at 16 knots, gusting to 21 knots.
- 6a. Aircraft hit by gust of wind during landing, causing it to cartwheel and crash 50 feet E of runway.



Source:  
1982 Airport Master Plan

## NUT TREE AIRPORT

FAR Part 77  
Airspace Plan

## VACAVILLE GLIDERPORT

### Overview

#### SETTING

The Vacaville Gliderport, also at times known as the Vacaville Airport and the Lagoon Valley Airstrip, is located in unincorporated territory approximately 2.5 miles southwest of central Vacaville and three miles northeast of Fairfield. Although the Vacaville city limits border the eastern edge of the airport and the city's adopted sphere of influence encompasses the airport property, little development exists in the immediate vicinity. Lagoon Valley County Park forms the property's eastern edge and Interstate 80 the western side. Historic Pena Adobe and a "water slide" recreational facility are located about a half mile north of the airport.

Established in the late 1950's as a small private airstrip, the facility has changed little over time. It currently occupies some 69 acres of land, has a paved, 2,100-foot runway with nearly another 600 feet of unpaved overrun on the north end. An adjacent turf area is frequently used for sailplane landings. Other facilities are minimal. An old T-hangar building houses several tow planes and antique aircraft. Sailplanes are tied down on a turf area adjacent to the runway or are stored in their trailers.

The emphasis on sailplane operations is a relatively recent development. Previously, use of the airport was limited primarily to the few propeller aircraft based there. The current operator of the airport, who leases the property from a landowner not involved with the operations, took control in the early 1980's and has since greatly increased the usage of the field. Some three dozen sailplanes are presently located at the airport. Over 23,000 departures were conducted in 1986, most consisting of sailplanes under tow.

Use of the airport by aircraft not associated with the sailplane activity is discouraged. Even though the airfield is effectively limited to sailplane activity, it is classified as a privately-owned, public use airport because it is open to use by all glider pilots and powered aircraft are not prohibited.

#### ISSUES

The future of the gliderport as an airport is at best uncertain. As of early 1987, the property is for sale and, if sold, probably would be converted to another use. The operator's lease runs until 1993, but has an 18-month termination clause if the property is sold. If suitable arrangements could be made, the gliderport operator would continue and even upgrade the present activity.

Another factor is the continued expansion of the nearby urban areas. Although the Vacaville General Plan depicts most of the surrounding land as remaining in open space, new residential and commercial development must eventually be anticipated, particularly to the north. Large lot residential subdivisions have occurred to the west. A huge museum and entertainment complex has been suggested for a 185-acre tract less than two miles to the southwest.

The existing circumstances complicate any efforts to preserve land use compatibility around the gliderport. Two particular issues must be considered. One is how strenuously to restrict potential nearby incompatible development in light of the airport's uncertain future. The other is whether it is appropriate to restrict use of some private property in order to preserve the use of another private property. In both regards, the responsibility of the Airport Land Use Commission should be to assure compatibility as long as the facility is in operation.

### Airport Environs

#### AIRPORT LOCATION AND ACCESS

- Located on W edge of city approximately 2.5 miles SW of central Vacaville.
- Access via Rivera Road on W side of airport; I-80 access within 0.3 mile of airport.
- Airport property adjacent to Vacaville city limits.
- Approaches to both runways within city sphere of influence.

#### EXISTING AIRPORT AREA LAND USES

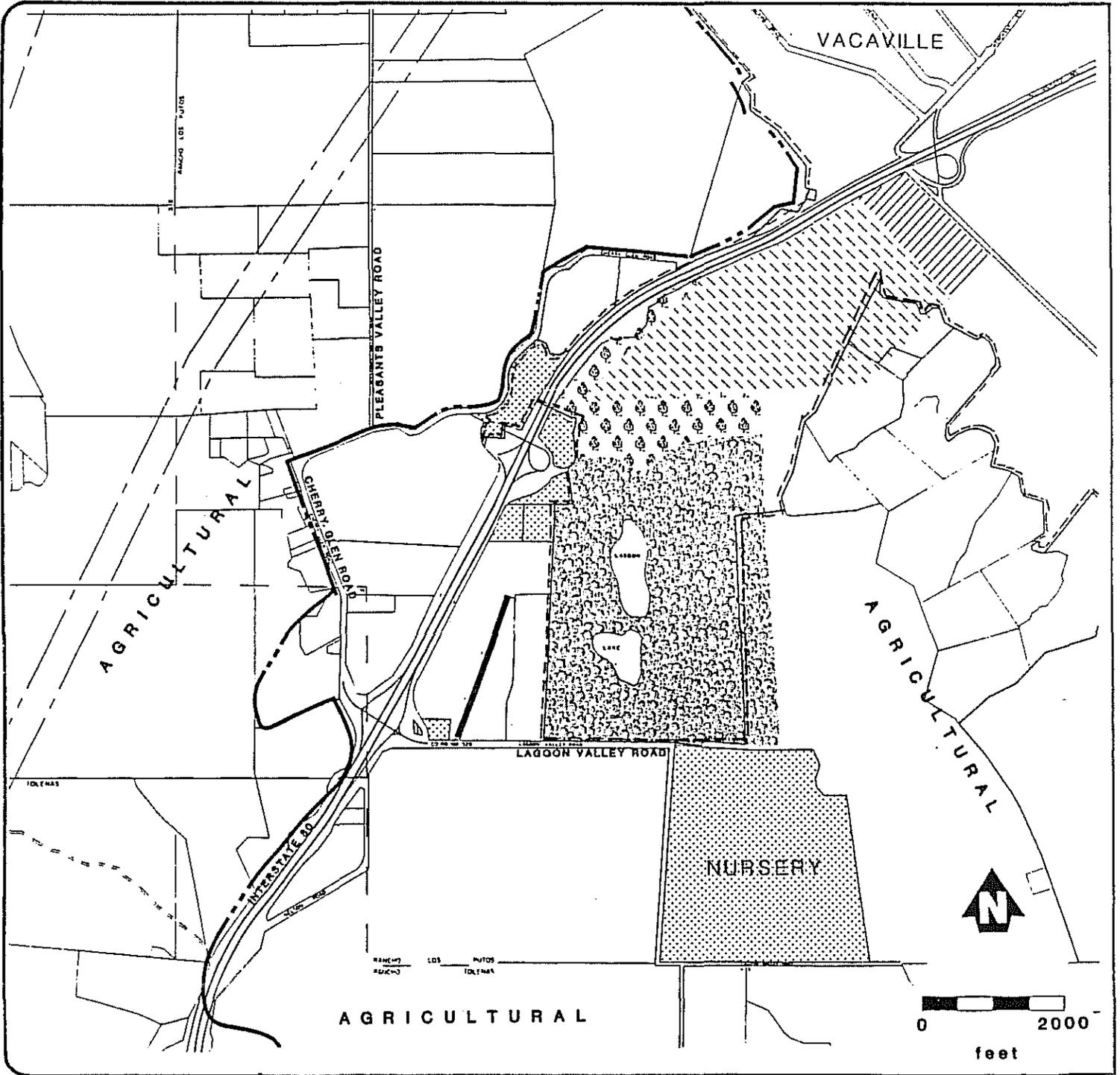
##### General Character

- Lagoon Valley County Park immediately E of airport.
- Motel and other commercial uses N of site.
- Agricultural/open space uses W, S, and SE.

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##### Runway Approaches (distance from runway end)

- Runway 18 - riding stable (900'), motel (1000'), water slide (2200')
- Runway 36 - miscellaneous, nonintensive commercial uses W of runway end (300'); agricultural/open space uses.



**LEGEND**

<u>EXISTING</u>		<u>PROPOSED</u>	
	Commercial		Commercial
	Parks & Recreation		Residential
	1986 City Limits		Designated Park
	City Sphere of Influence		

**VACAVILLE  
GLIDERPORT  
Land Use**

### Traffic Pattern

- Standard left hand pattern both runways -- agricultural and open space uses except N of airport.

### LOCAL LAND USE PLANS AND ZONING

#### City

- General Plan adopted in 1980.
- Sphere of influence boundary amended in 1986.

#### County

- Land Use and Circulation Element (1980) of General Plan covers unincorporated lands in airport vicinity.

### PLANNED LAND USE DEVELOPMENT IN AIRPORT VICINITY

- Adjoining properties along Rivera Road are zoned for commercial uses by the County.
- Agricultural and commercial to N.
- Agricultural zoning to W.
- Existing regional park to E.
- Museum/entertainment complex proposed 2 miles SW.
- Agricultural zoning to S.

### APPROACH PROTECTION MEASURES

- Height limit zoning - Section 28-33 of County Zoning Regulations; based on superseded FAA obstruction standards.

### Airport Physical Features

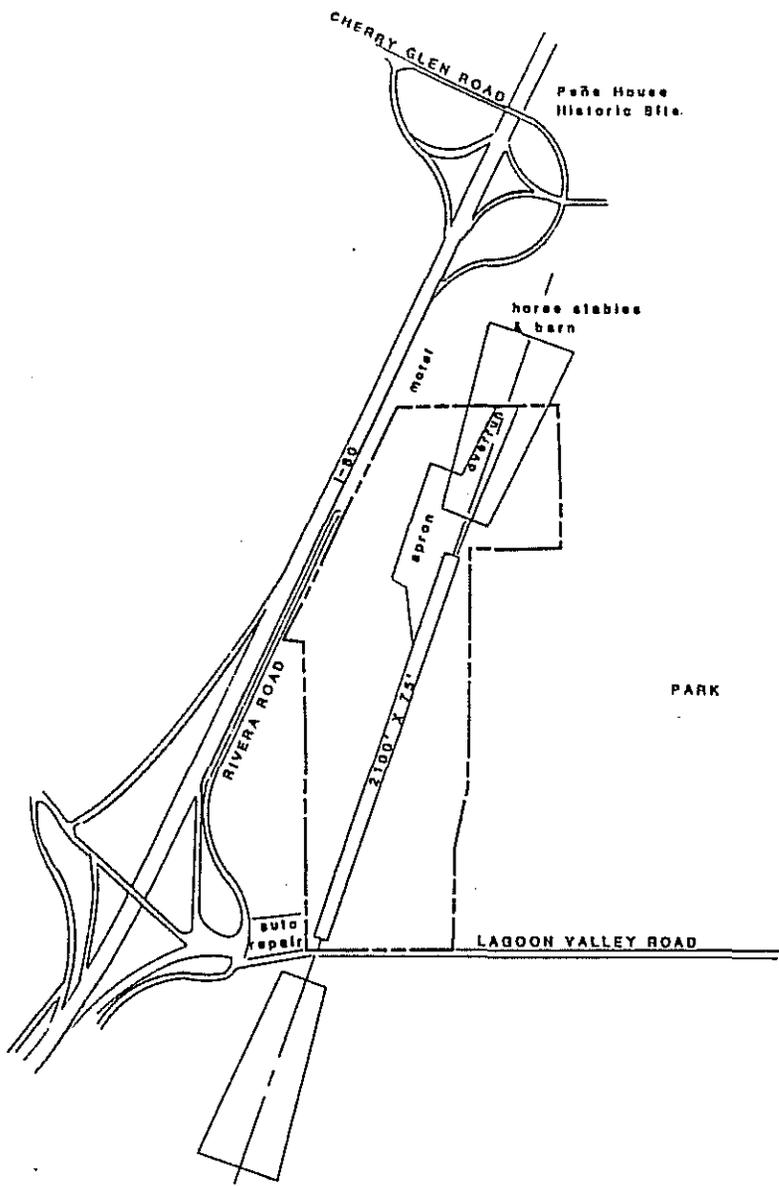
#### RUNWAY SYSTEM

#### Airport Classification

Basic Utility Stage I

#### Runway 18-36

Length: 2,100 feet  
Width: 65 feet  
Asphalt Surface; Fair Condition



VACAVILLE  
GLIDERPORT

Airport Layout

Overrun: 600 feet at north end, unpaved  
No lighting

**Taxiway Access**

None

**Nav aids**

None

**CLEAR ZONES & APPROACHES**

**Runway 18**

Existing Approach Type: Visual  
Required Approach Slope: 20:1  
Clear Approach Slope: 11:1  
Clear Zone: 50% on airport property.

**Runway 36**

Existing Approach Type: Visual  
Required Approach Slope: 20:1  
Clear Approach Slope: 9:1  
Clear Zone: None on airport property.

**AIRPORT PROPERTY**

Ownership	Private
Acreage	69+ acres
Elevation	220 feet MSL
Property Notes	

Airport operator has short-term lease from owner of land.  
Property is for sale as of early 1987 and could be sold for  
conversion to other uses.

**BUILDING AREA**

**Location**

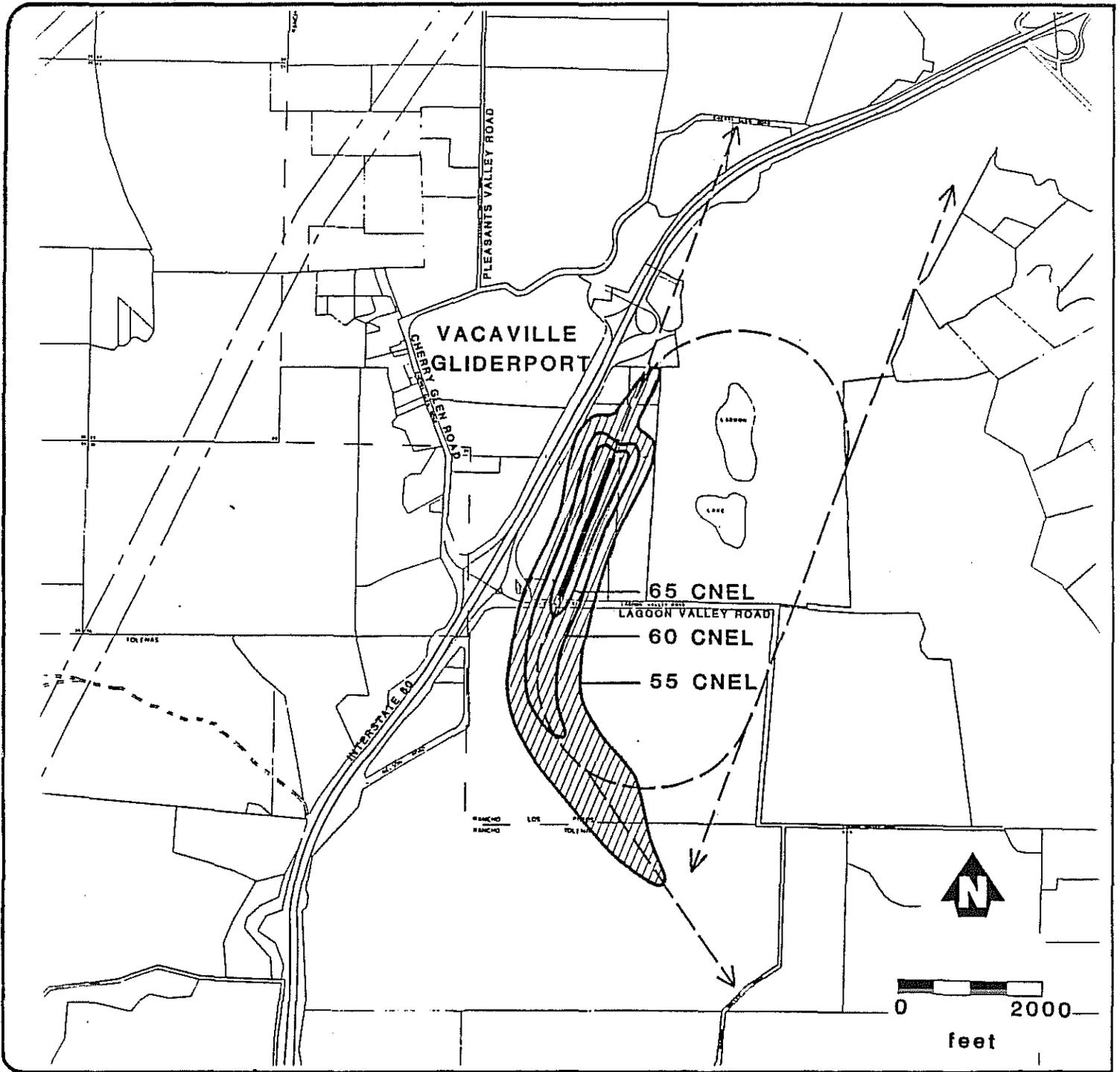
West side of runway

**Existing Aircraft Parking Capacity**

Tiedowns/uncovered spaces:	30
Hangar/covered spaces:	6
Transient parking spaces:	30+

**Services**

Sailplane instruction, rental, and rides.



Source:  
 Contour locations  
 calculated by  
 Hodges & Shutt  
 (1987)

VACAVILLE  
 GLIDERPORT

Noise Impact  
 (Ultimate)

PLANNED IMPROVEMENTS

Adopted Plans

None

Projects

Airport operator has indefinite plans for upgrading of facility, contingent upon long-term assurance that it would remain an airport.

Airport Activity

BASED AIRCRAFT

	<u>1986</u>	<u>Ultimate</u>
Total	21	30

AIRCRAFT OPERATIONS

Annual	45,000 <sup>a</sup>	65,000 <sup>a</sup>
Average day	123	178

FLEET ACTIVITY MIX

Single-engine	99%	no
Twin-engine	1%	change

TIME OF DAY DISTRIBUTION

All aircraft		
day (0700-1900)	50%	no
evening (1900-2200)	50%	change
night (2200-0700)	0.0%	

RUNWAY USE DISTRIBUTION

All aircraft types		
Takeoffs		
Runway 18	90%	no
Runway 36	10%	change
Landings		
Runway 18	90%	no
Runway 36	10%	change

VACAVILLE GLIDERPORT

Aircraft Accident Summary (1980-1985)

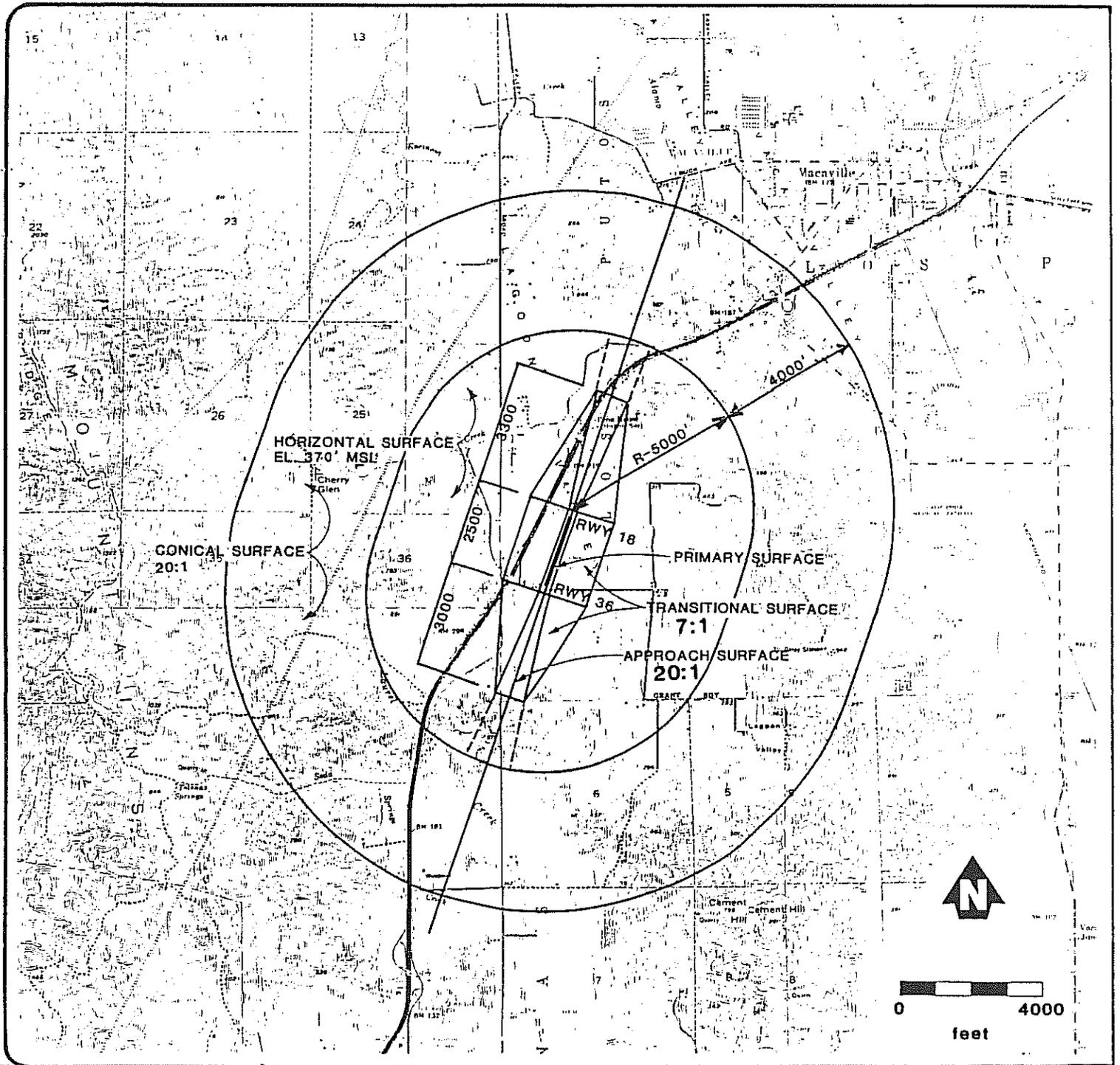
Date	1/ 5/26/82 Schweizer Sailplane	2	3	4	5	6
<b>Phase of Operation</b>						
stationary/taxing	-	x	-	-	-	-
takeoff - run	-	-	-	-	-	-
takeoff - initial climb	-	-	-	-	-	-
landing - in traffic pattern	-	-	-	-	-	-
landing - final approach	-	-	-	-	-	-
landing - touchdown/roll out	-	-	-	-	-	-
other	-	-	-	-	-	-
<b>Nature of Impact</b>						
hard landing/gear up/ground loop/etc.	-	-	-	-	-	-
undershoot/overshoot	-	-	-	-	-	-
collision with objects	-	x <sup>A</sup>	-	-	-	-
forced landing	-	-	-	-	-	-
uncontrolled descent/impact	-	-	-	-	-	-
collision between aircraft in flight	-	-	-	-	-	-
other	-	-	-	-	-	-
<b>Location of Impact</b>						
on/adjacent to runway	-	-	-	-	-	-
in clear zone	-	-	-	-	-	-
in approach zone	-	-	-	-	-	-
on airport property	-	x	-	-	-	-
off airport	-	-	-	-	-	-
<b>Causes/Factors</b>						
pilot - improper operation of controls	-	-	-	-	-	-
pilot - failure to see/avoid objects	-	-	-	-	-	-
pilot - inadequate preflight procedures	-	-	-	-	-	-
fuel exhaustion	-	-	-	-	-	-
mechanical failure	-	-	-	-	-	-
adverse wind/weather	-	x	-	-	-	-
other	-	-	-	-	-	-
<b>Miscellaneous Conditions</b>						
time	-	Night	-	-	-	-
weather	-	-	-	-	-	-
student pilot	-	-	-	-	-	-
injuries	-	No	-	-	-	-
fatalities	-	-	-	-	-	-
other	-	-	-	-	-	-

Sources

- National Transportation Safety Board Accident Briefs.
- # Vacaville Reporter newspaper.

Notes

- 1a. Aircraft broke away from tiedown ropes during high winds and struck parked tow plane 200 feet away.



**VACAVILLE  
GLIDERPORT**

**FAR Part 77  
Airspace Plan**

FLIGHT TRACK DATA

- Left traffic both runways for departures by powered aircraft and gliders under tow.
- Sailplanes and powered aircraft generally enter pattern E of field before landing either to N or S.
- Traffic pattern altitude 1,020' MSL (800' AGL).

*SOURCES*

<sup>a</sup> Airport Manager's estimate.

## CONSISTENCY WITH LOCAL PLANS



## NUT TREE AIRPORT

### City of Vacaville Plans and Policies

- o Land use indicated in the 1980 Vacaville General Plan, as amended, are for the most part consistent with the Compatibility Plan. The differences are primarily with regard to the acceptable densities of new development. A comparison between the two plans reveals the following specific points:
  - North of the airport, the General Plan calls for industrial development, a type of land use which is encouraged by the Compatibility Plan. The Compatibility Plan, however, sets requirements for certain amounts of open space and also limits the density of use, particularly along the primary flight corridors. These standards are not fully reflected in the General Plan or associated policy plans for the area. Overall, it is the intent of the Compatibility Plan to allow an average intensity of industrial development in the area, but to encourage clustering of the development so as to preserve open space in the most critical locations.
  - To the south of the airport, most of the land within the airport impact area is already developed. The Compatibility Plan recognizes that it would not be practical to restrict infill development which is similar to the surrounding land uses and exempts such new construction in all but the most critical areas. For remaining parcels larger than 3.0 acre, however, the density limits contained in the Compatibility Plan may be somewhat more restrictive than allowed by the General Plan even though the proposed types of uses are acceptable.
- o The structural noise level reduction (NLR) requirement which the Compatibility Plan sets for certain zones is not reflected in the General Plan.
- o The policy plans prepared for specific large developments planned for the airport vicinity are generally consistent with the Compatibility Plan, but lack density limits and open space requirements. Some commercial development planned under the approach to Runway 19 is incompatible due to density concerns.
- o City regulations require dedication of an avigation (over-flight) easement on any new construction within 1.5 miles of the airport plus to the southwest along the Runway 19 departure corridor. The Compatibility Plan eliminates the easement requirement beyond the 1.5 mile limit and adds height limit easement requirements within Compatibility Zones A, B, and C.

## County of Solano Plans and Policies

- o Except for northeast of the Interstate 505-Vaca Valley Parkway interchange, west of the airport on the hill around Vine Street, and a few smaller areas, the airport environs are within the incorporated limits of the City of Vacaville. Land uses indicated for these areas in the county's 1981 Land Use and Circulation Element are consistent with the Compatibility Plan. Dedication of easements as called for in the Compatibility Plan should be added as a county policy, however.
- o The 1982 Nut Tree Airport Master Plan establishes two 1,500-foot wide safety zones at each end of the runway. Within the inner zone extending 1/4 mile from the runway end, no buildings are permitted. Within the outer zone extending to a distance of 1.0 mile, development is limited to low-occupancy uses and residential uses are discouraged. The Compatibility Plan adopts similar restrictions, although the boundaries differ to some extent and specific density limits are indicated.

### VACAVILLE GLIDERPORT

## City of Vacaville Plans and Policies

- o Although within the city sphere of influence, Vacaville has done little land use planning for the vicinity of the Gliderport. When prepared, the city plans for the area should reflect the density limits and other compatibility criteria contained in the Compatibility Plan.
- o Height limit zoning for the airport environs is required.
- o City policies do not currently require dedication of aviation easements as a condition for approval of development in the airport vicinity.

## County of Solano Plans and Policies

- o The agricultural and open space uses designated in the county Land Use and Circulation Element for the Gliderport area are consistent with the Compatibility Plan. No specific reference to the need for compatibility with the airport is included, however.
- o Height limit zoning for the airport environs is required.
- o County policies do not currently require dedication of aviation easements as a condition for approval of development in the airport vicinity.

APPENDIX A

Excerpt From

PUBLIC UTILITIES CODE

**ARTICLE 3.5. - AIRPORT LAND USE COMMISSION**

**Section**

21670. Legislative findings and declaration; creation; membership; selection.

21670.1. Action by designated body instead of commission; member expertise in aviation.

21670.2. Applicability to counties having over 4 million population.

21671. Airport owned by city, district or county; appointment of certain members by cities and counties.

2167L. Airport owned by city, district or county; appointment of certain members by cities and counties; operative date of section.

Underline indicates changes or additions by amendment

- Section** . . . . .
- 21671.5. Term of office; removal of members; vacancies; compensation; staff assistance; meetings.
21672. Rules and regulations.
21673. Initiation of proceedings for creation by owner of airport.
21674. Powers and duties.
21675. Land use plan.
21676. Consistency with airport land use commission plan; local agency general plan; specific plan zoning ordinances, building regulations; determination procedure.
- 21676.5. Local agency plan revisions; overruling of commission by local agency; further review.
21677. County of Marin; overrule of county airport land use commission.
21678. Public agency decision to override airport land use commission action or recommendation; airport operator immunity from damages.
21679. Counties without a land use commission or designated body; proceedings to postpone actions affecting zoning or land use near public airport; airport operator immunity from liability. [New]

*Article 3.5 added by Stats.1967, c. 852, p. 2288, § 1.*

**§ 21670. Legislative findings and declaration; creation; membership; selection**

(a) The Legislature hereby finds and declares that:

(1) It is in the public interest to provide for the orderly development of each public use airport in this state and the area surrounding these airports so as to promote the overall goals and objectives of the California airport noise standards adopted pursuant to Section 21669 \* \* \* and to prevent the creation of new noise and safety problems.

(2) It is the purpose of this article to protect public health, safety, and welfare by ensuring the orderly expansion of airports and the adoption of land use measures that minimize the public's exposure to excessive noise and safety hazards within areas around public airports to the extent that these areas are not already devoted to incompatible uses.

(b) In order to achieve the purposes of this article, every county in which there is located an airport which is served by a scheduled airline shall establish an airport land use commission. Every county, in which there is located an airport which is not served by a scheduled airline, but is operated for the benefit of the general public, shall establish an airport land use commission, except that the board of supervisors of the county may, after consultation with the appropriate airport operators and affected local entities and after a public hearing, adopt a resolution finding that there are no noise, public safety, or land use issues affecting any airport in the county which require the creation of a commission and declaring the county exempt from that requirement. The board shall, in this event, transmit a copy of the resolution to the Director of Transportation. For purposes of this section, "commission" means an airport land use commission. Each commission shall consist of seven members to be selected as follows:

(1) Two representing the cities in the county, appointed by a city selection committee comprised of the mayors of all the cities within that county, except that if there are any cities contiguous or adjacent to the qualifying airport, at least one representative shall be appointed therefrom. If there are no cities within a county, the number of representatives provided for by paragraphs (2) and (3) shall each be increased by one.

(2) Two representing the county, appointed by the board of supervisors.

(3) Two having expertise in aviation, appointed by a selection committee comprised of the managers of all of the public airports within that county \* \* \* .

(4) One representing the general public, appointed by the other six members of the commission.

(c) Public officers, whether elected or appointed, may be appointed and serve as members of the commission during their terms of public office.

(d) Each member shall promptly appoint a single proxy to represent him or her in commission affairs and to vote on all matters when the member is not in attendance. The proxy shall be designated in a signed written instrument which shall be kept on file at the commission offices, and the proxy shall serve at the pleasure of the appointing member. A vacancy in the office of proxy shall be filled promptly by appointment of a new proxy.

\* \* \*

**Asterisks \* \* \* indicate deletions by amendment**

(e) A person having an "expertise in aviation" means a person who, by way of education, training, business, experience, vocation, or avocation has acquired and possesses particular knowledge of, and familiarity with, the function, operation, and role of airports, or is an elected official of a local agency which owns or operates an airport. The commission shall be constituted pursuant to this section on and after March 1, 1988.

(Added by Stats.1967, c. 852, p. 2288, § 1. Amended by Stats.1970, c. 1182, p. 2089, § 1; Stats.1971, c. 687, p. 1345, § 1, urgency, eff. Aug. 23, 1971; Stats.1980, c. 725, p. 2164, § 9; Stats.1982, c. 1041, p. 3794, § 3; Stats.1984, c. 1117, § 2; Stats.1987, c. 1018, § 2.)

**1987 Legislation**

Another § 21670, added by Stats.1982, c. 1041, § 4, amended by Stats.1984, c. 1117, § 3, relating to the same subject matter and to have become operative Jan. 1, 1989, was repealed by Stats.1987, c. 1018, § 3.

**Library References**

Aviation ← 217, 222.  
C.J.S. Aerial Navigation § 35 et seq.

**§ 21670.1. Action by designated body instead of commission; member expertise in aviation**

(a) Notwithstanding any other provision of this article, if the board of supervisors and the city selection committee of mayors in the county each makes a determination by a majority vote that proper land use planning can be accomplished through the actions of an appropriately designated body, then the body so designated shall assume the planning responsibilities of an airport land use commission as provided for in this article, and a commission need not be formed in that county.

(b) A body designated pursuant to subdivision (a) which does not include among its membership at least two members having an expertise in aviation, as defined in subdivision (e) of Section 21670, shall, when acting in the capacity of an airport land use commission, be augmented so that that body, as augmented, will have at least two members having that expertise. The commission shall be constituted pursuant to this section on and after March 1, 1988.

(Added by Stats.1970, c. 1182, p. 2089, § 2. Amended by Stats.1980, c. 725, p. 2164, § 10; Stats.1987, c. 1018, § 4.)

**§ 21670.2. Applicability to counties having over 4 million population**

Sections 21670 and 21670.1 do not apply to counties of more than 4 million population. In such counties, the county regional planning commission has the responsibility for coordinating the airport planning of public agencies within the county. In instances where impasses result relative to this planning, an appeal may be made to the county regional planning commission by any public agency involved. The action taken by the county regional planning commission on such an appeal may be overruled by a four-fifths vote of the governing body of a public agency whose planning led to the appeal.

(Added by Stats.1970, c. 1182, p. 2089, § 3.)

**§ 21671. Airport owned by city, district or county; appointment of certain members by cities and counties**

In any county where there is an airport operated for the general public which is owned by a city or district in another county or by another county, one of the representatives provided by paragraph (1) of subdivision (b) of Section 21670 shall be appointed by the city selection committee of mayors of the cities of the county in which the owner of that airport is located, and one of the representatives provided by paragraph (2) of subdivision (b) of Section 21670 shall be appointed by the board of supervisors of the county in which the owner of that airport is located.

(Added by Stats.1967, c. 852, p. 2288, § 1. Amended by Stats.1982, c. 1041, p. 3795, § 5; Stats.1984, c. 1117, § 4; Stats.1987, c. 1018, § 5.)

**1987 Legislation**

Another § 21671, added by Stats.1982, c. 1041, § 6, amended by Stats.1984, c. 1117, § 5, relating to the same subject matter and to have become operative on Jan. 1, 1989, was repealed by Stats.1987, c. 1018, § 6.

**Library References**

Aviation ← 223.  
C.J.S. Aerial Navigation § 35 et seq.

Underline indicates changes or additions by amendment

**§ 21671.5. Term of office; removal of members; vacancies; compensation; staff assistance; meetings**

Except for the terms of office of the members of the first commission, the term of office of each member shall be four years and until the appointment and qualification of his successor. The members of the first commission shall classify themselves by lot so that the term of office of one member is one year, of two members is two years, of two members is three years, and of two members is four years. The body which originally appointed a member whose term has expired shall appoint his successor for a full term of four years. Any member may be removed at any time and without cause by the body appointing him. The expiration date of the term of office of each member shall be the first Monday in May in the year in which his term is to expire. Any vacancy in the membership of the commission shall be filled for the unexpired term by appointment by the body which originally appointed the member whose office has become vacant. The chairman of the commission shall be selected by the members thereof.

Compensation, if any, shall be determined by the board of supervisors.

Staff assistance, including the mailing of notices and the keeping of minutes, and necessary quarters, equipment, and supplies shall be provided by the county. The usual and necessary operating expenses of the commission shall be a county charge.

Notwithstanding any other provisions of this article, the commission shall not employ any personnel either as employees or independent contractors without the prior approval of the board of supervisors.

The commission shall meet at the call of the commission chairman or at the request of the majority of the commission members.

(Added by Stats.1967, c. 852, p. 2288, § 1. Amended by Stats.1972, c. 419, p. 744, § 1.)

**§ 21672. Rules and regulations**

Each commission shall adopt rules and regulations with respect to the temporary disqualification of its members from participating in the review or adoption of a proposal because of conflict of interest and with respect to appointment of substitute members in such cases.

(Added by Stats.1967, c. 852, p. 2288, § 1.)

**§ 21673. Initiation of proceedings for creation by owner of airport**

In any county not having a commission or a body designated to carry out the responsibilities of a commission, any owner of a public airport may initiate proceedings for the creation of a commission by presenting a request to the board of supervisors that a commission be created and showing the need therefor to the satisfaction of the board of supervisors.

(Added by Stats.1967, c. 852, p. 2288, § 1. Amended by Stats.1987, c. 1018, § 8.)

**§ 21674. Powers and duties**

The commission has the following powers and duties, subject to the limitations upon its jurisdiction set forth in Section 21676:

(a) To assist local agencies in ensuring compatible land uses in the vicinity of all new airports and in the vicinity of existing airports to the extent that the land in the vicinity of those airports is not already devoted to incompatible uses.

(b) To coordinate planning at the state, regional, and local levels so as to provide for the orderly development of air transportation, while at the same time protecting the public health, safety, and welfare.

(c) To prepare and adopt an airport land use plan pursuant to Section 21675.

(d) To review the plans, regulations, and other actions of local agencies and airport operators pursuant to Section 21676.

(e) The powers of the commission shall in no way be construed to give the commission jurisdiction over the operation of any airport.

Asterisks \* \* \* indicate deletions by amendment

(f) In order to carry out its responsibilities, the commission may adopt rules and regulations consistent with this article.

(Added by Stats.1967, c. 852, p. 2288, § 1. Amended by Stats.1970, c. 1182, p. 2089, § 4; Stats.1975, c. 1052, p. 2492, § 19; Stats.1982, c. 1041, p. 3796, § 7; Stats.1987, c. 1018, § 9.)

#### 1987 Legislation

Another § 21674, added by Stats.1982, c. 1041, § 8, relating to the same subject matter and to have become operative Jan. 1, 1989, was repealed by Stats.1987, c. 1018, § 10.

#### Library References

Aviation ←223.

C.J.S. Aeronautics and Aerospace §§ 19, 63.

### § 21675. Land use plan

(a) Each commission shall formulate a comprehensive land use plan that will provide for the orderly growth of each public airport and the area surrounding the airport within the jurisdiction of the commission, and will safeguard the general welfare of the inhabitants within the vicinity of the airport and the public in general. The commission plan shall include a long-range master plan that reflects the anticipated growth of the airport during at least the next 20 years. In formulating a land use plan, the commission may develop height restrictions on buildings, may specify use of land, and may determine building standards, including soundproofing adjacent to airports, within the planning area. The comprehensive land use plan shall be reviewed as often as necessary in order to accomplish its purposes, but shall not be amended more than once in any calendar year.

(b) The commission may include, within its plan formulated pursuant to subdivision (a), the area within the jurisdiction of the commission surrounding any federal military airport for all the purposes specified in subdivision (a). This subdivision does not give the commission any jurisdiction or authority over the territory or operations of any military airport.

(c) The planning boundaries shall be established by the commission after hearing and consultation with the involved agencies.

(Added by Stats.1970, c. 1182, p. 2090, § 5. Amended by Stats.1973, c. 844, p. 1510, § 1, urgency, eff. Sept. 25, 1973; Stats.1980, c. 725, p. 2164, § 11; Stats.1981, c. 714, p. 2761, § 389; Stats.1984, c. 1117, § 5.5; Stats.1987, c. 1018, § 11.)

#### Notes of Decisions

##### 1. In general

The planning authority of an airport land-use commission under this section comprehends the areas surrounding airports operated for the benefit of the public, irrespective of

whether such airports are publicly or privately owned. 57 Ops.Atty.Gen. 567, 11-15-74.

An airport land use commission does not have authority under § 21670 et seq. to formulate comprehensive land use plans for the area surrounding a federal military airport. 55 Ops.Atty.Gen. 284, 7-5-72.

### § 21676. Consistency with airport land use commission plan; local agency general plan; specific plan zoning ordinances, building regulations; determination procedure

(a) Each local agency whose general plan includes areas covered by an airport land use commission plan \* \* \* shall, by July 1, 1983, submit a copy of its plan or specific plans to the airport land use commission. The commission shall determine by August 31, 1983, whether the plan or plans are consistent or inconsistent with the commission's plan. If the plan or plans are inconsistent with the commission's plan, the local agency shall be notified and that local agency shall have another hearing to reconsider its plans. The local agency may overrule the commission after such hearing by a two-thirds vote of its governing body if it makes specific findings that the proposed action is consistent with the purposes of this article stated in Section 21670.

(b) Prior to the amendment of a general plan or specific plan, or the adoption or approval of a zoning ordinance or building regulation within the planning boundary established by the airport land use commission pursuant to Section 21675, the local agency shall first refer the proposed action to the commission. If the commission determines that the proposed action is inconsistent with the commission's plan, the referring agency shall be notified. The local agency may, after a public hearing, overrule the commission by a two-thirds vote of its governing body if it makes specific findings that the proposed action is consistent with the purposes of this article stated in Section 21670.

(c) Each public agency owning any airport within the boundaries of an airport land use commission plan \* \* \* shall, prior to modification of its airport master plan, refer such proposed change to the airport land use commission. If the commission determines that the proposed action is inconsistent

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with the commission's plan, the referring agency shall be notified. The public agency may, after a public hearing, overrule the commission by a two-thirds vote of its governing body if it makes specific findings that the proposed action is consistent with the purposes of this article stated in Section 21670.

(d) Each commission determination pursuant to subdivision (b) or (c) shall be made within 60 days from the date of referral of the proposed action. If a commission fails to make the determination within that period, the proposed action shall be deemed consistent with the commission's plan.

(Added by Stats.1970, c. 1182, p. 2090, § 6. Amended by Stats.1982, c. 1041, p. 3797, § 9; Stats.1987, c. 1018, § 12.)

1987 Legislation Library References  
Another § 21676, added by Stats.1982, c. 1041, § 10, relating to the same subject matter and to have become operative on Jan. 1, 1989, was repealed by Stats.1987, c. 1018, § 13.  
C.J.S. Aeronautics and Aerospace §§ 19, 63.  
Aviation ⇐223.

§ 21676.5. Local agency plan revisions; overruling of commission by local agency; further review

(a) If the commission finds that a local agency has not revised its general plan or specific plan or overruled the commission by a two-thirds vote of its governing body after making specific findings that the proposed action is consistent with the purposes of this article as stated in Section 21670, the commission may require that the local agency submit all subsequent actions, regulations, and permits to the commission for review until its general plan or specific plan is revised or the specific findings are made. If, in the determination of the commission, an action, regulation, or permit of the local agency is inconsistent with the commission plan, the local agency shall be notified and that local agency shall hold a hearing to reconsider its plan. The local agency may overrule the commission after the hearing by a two-thirds vote of its governing body if it makes specific findings that the proposed action is consistent with the purposes of this article as stated in Section 21670.

(b) Whenever the local agency has revised its general plan or specific plan or has overruled the commission pursuant to subdivision (a), the proposed action of the local agency shall not be subject to further commission review, unless the commission and the local agency agree that individual projects shall be reviewed by the commission.

(Added by Stats.1984, c. 1117, § 6.)

Library References  
C.J.S. Aeronautics and Aerospace §§ 19, 64, 70, 119.  
Aviation ⇐216, 224.  
C.J.S. Health and Environment §§ 61, 129, 137.  
Health and Environment ⇐25.8.

§ 21677. County of Marin; overrule of county airport land use commission

Notwithstanding \* \* \* Section 21676 \* \* \*, any public agency in the County of Marin may overrule the Marin County Airport Land Use Commission by a majority vote of its governing body.

(Added by Stats.1975, c. 934, p. 2063, § 1. Amended by Stats.1984, c. 144, § 173.)

1975 Legislation.  
Section 2 of Stats.1975, c. 934, p. 2063, provided:  
"The Legislature finds and declares that this bill is necessary since special facts and circumstances applicable to the County of Marin, and not generally applicable make the accomplishment of this purpose impossible by any general law. Such facts and circumstances include the relatively few airports within the County of Marin and the relatively few public agencies affected by such airports. The Legislature further finds and declares that the County of Marin is the only county involved, that the purpose of this act is impossible to accomplish by any general law, and that special legislation applicable only to the County of Marin is therefore necessary."

§ 21678. Public agency decision to override airport land use commission action or recommendation; airport operator immunity from damages

\* \* \* With respect to a publicly owned airport that a public agency does not operate, if the public agency pursuant to Section 21676 or 21676.5 overrides a commission's action or recommendation, the operator of the airport shall be immune from liability for damages to property or personal injury

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caused by or resulting directly or indirectly from the public agency's decision to override the commission's action or recommendation.

(Added by Stats.1982, c. 1041, p. 3798, § 11. Amended by Stats.1984, c. 1117, § 7; Stats.1987, c. 1018, § 14.)

**§ 21679. Counties without a land use commission or designated body; proceedings to postpone actions affecting zoning or land use near public airport; airport operator immunity from liability**

(a) In any county in which there is no airport land use commission or other body designated to assume the responsibilities of an airport land use commission, or in which the commission or other designated body has not adopted an airport land use plan, an interested party may initiate proceedings in a court of competent jurisdiction to postpone the effective date of a zoning change, a zoning variance, the issuance of a permit, or the adoption of a regulation by a local agency, which directly affects the use of land within one mile of the boundary of a public airport within the county.

(b) The court may issue an injunction which postpones the effective date of the zoning change, zoning variance, permit, or regulation until the governing body of the local agency which took the action does one of the following:

(1) In the case of an action which is a legislative act, adopts a resolution declaring that the proposed action is consistent with the purposes of this article stated in Section 21670.

(2) In the case of an action which is not a legislative act, adopts a resolution making findings based on substantial evidence in the record that the proposed action is consistent with the purposes of this article stated in Section 21670.

(3) Rescinds the action.

(4) Amends its action to make it consistent with the purposes of this article stated in Section 21670, and complies with either paragraph (1) or (2) of this subdivision, whichever is applicable.

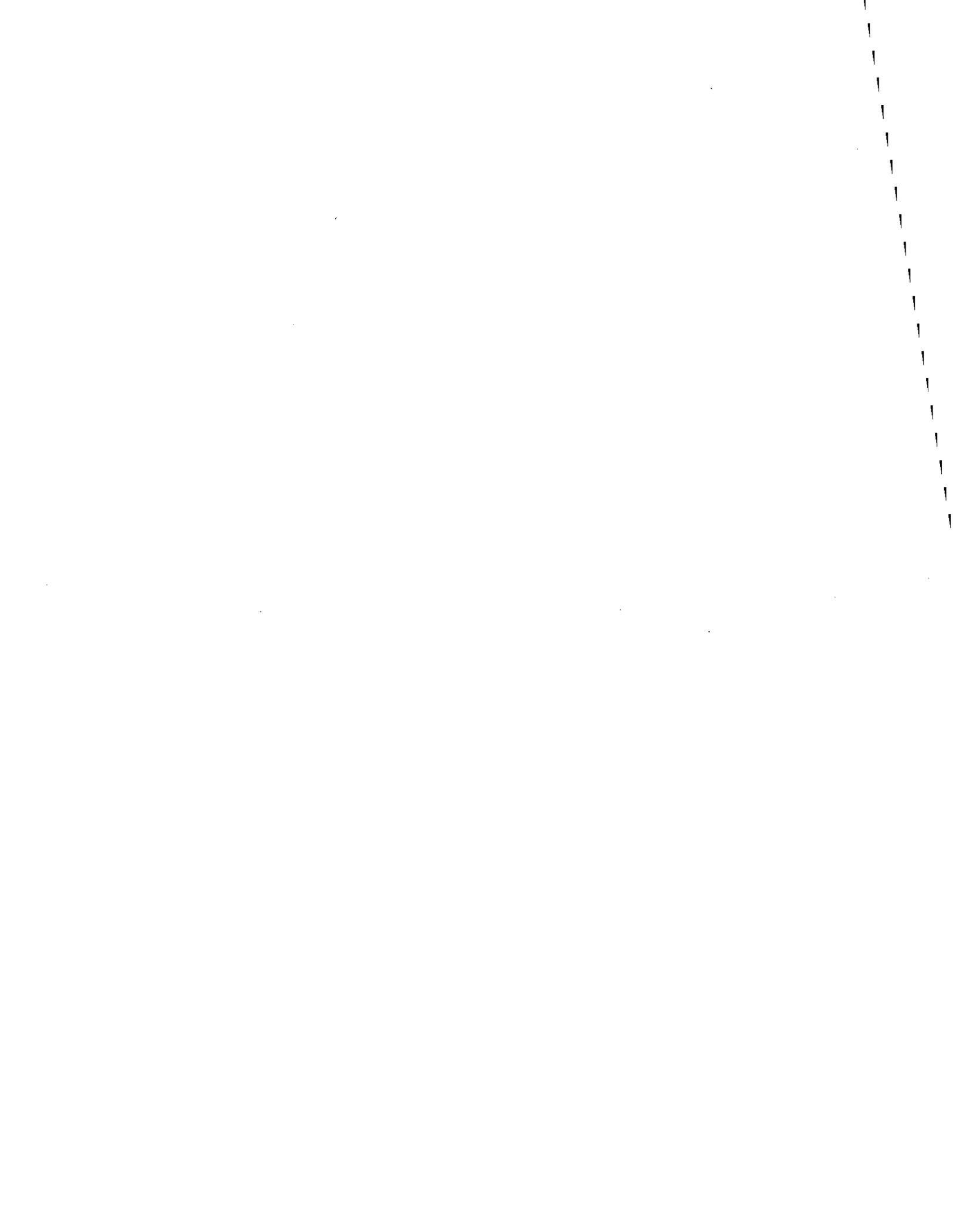
(c) The court shall not issue an injunction pursuant to subdivision (b) if the local agency which took the action demonstrates that the general plan and any applicable specific plan of the agency accomplishes the purposes of an airport land use plan as provided in Section 21675.

(d) An action brought pursuant to subdivision (a) shall be commenced within 30 days of the decision or within the appropriate time periods set by Section 21167 of the Public Resources Code, whichever is longer.

(e) If the governing body of the local agency adopts a resolution pursuant to subdivision (b) with respect to a publicly owned airport that the local agency does not operate, the operator of the airport shall be immune from liability for damages to property or personal injury from the local agency's decision to proceed with the zoning change, zoning variance, permit, or regulation.

(f) As used in this section, "interested party" means any owner of land within two miles of the boundary of the airport or any organization with a demonstrated interest in airport safety and efficiency.

(Added by Stats.1987, c. 1018, § 15.)



Appendix B

AIRPORT/LAND USE NOISE COMPATIBILITY CRITERIA					
LAND USE CATEGORY	CNEL or Ldn, dBA $\downarrow$				
	50-55	55-60	60-65	65-70	70-75
<u>Public</u>					
schools, libraries, hospitals, nursing homes	+	o	-	-	--
churches, auditoriums, concert halls	+	o	o	-	--
transportation, parking, cemeteries	++	++	++	+	o
<u>Commercial and Industrial</u>					
offices, retail trade	++	+	o	o	-
service commercial, wholesale trade, warehousing, light industrial	++	++	+	o	o
general manufacturing, utilities, extractive industry	++	++	++	+	+
<u>Agricultural and Recreational</u>					
cropland	++	++	++	++	+
livestock breeding	++	+	o	o	-
parks, playgrounds, zoos	++	+	+	o	-
golf courses, riding stables, water recreation	++	++	+	o	o
outdoor spectator sports	++	+	+	o	-
amphitheaters	+	o	-	--	--
<b>LAND USE ACCEPTABILITY</b>					
<b>INTERPRETATION/CONDITIONS</b>					
++ Clearly Acceptable	The activities associated with the specified land use can be carried out with essentially no interference from the noise exposure.				
o Normally Acceptable	Noise is a factor to be considered in that slight interference with outdoor activities may occur. Conventional construction methods will eliminate most noise intrusions upon indoor activities.				
o Marginally Acceptable	The indicated noise exposure will cause moderate interference with outdoor activities and with indoor activities when windows are open. The land use is acceptable on the conditions that outdoor activities are minimal and construction features which provide sufficient noise attenuation are used (e.g., installation of air conditioning so that windows can be kept closed). Under other circumstances, the land use should be discouraged.				
- Normally Unacceptable	Noise will create substantial interference with both outdoor and indoor activities. Noise intrusion upon indoor activities can be mitigated by requiring special noise insulation construction. Land uses which have conventionally constructed structures and/or involve outdoor activities which would be disrupted by noise should generally be avoided.				
-- Clearly Unacceptable	Unacceptable noise intrusion upon land use activities will occur. Adequate structural noise insulation is not practical under most circumstances. The indicated land use should be avoided unless strong overriding factors prevail and it should be prohibited if outdoor activities are involved.				



Excerpts from Federal Aviation Regulations

**Part 77—Objects Affecting Navigable Airspace**

**Subpart A—General**

**§ 77.1 Scope.**

This Part—

- (a) Establishes standards for determining obstructions in navigable airspace;
- (b) Sets forth the requirements for notice to the Administrator of certain proposed construction or alteration;
- (c) Provides for aeronautical studies of obstructions to air navigation, to determine their effect on the safe and efficient use of airspace;
- (d) Provides for public hearings on the hazardous effect of proposed construction or alteration on air navigation; and
- (e) Provides for establishing antenna farm areas.

**§ 77.2 Definition of terms.**

For the purpose of this Part:

“Airport available for public use” means an airport that is open to the general public with or without a prior request to use the airport.

“A seaplane base” is considered to be an airport only if its sea lanes are outlined by visual markers.

“Nonprecision instrument runway” means a runway having an existing instrument approach procedure utilizing air navigation facilities with only horizontal guidance, or area type navigation equipment, for which a straight-in nonprecision instrument approach procedure has been approved, or planned, and for which no precision approach facilities are planned, or indicated on an FAA planning document or military service military airport planning document.

“Precision instrument runway” means a runway having an existing instrument approach procedure utilizing an Instrument Landing System (ILS), or a Precision Approach Radar (PAR). It also means a runway for which a precision approach system

is planned and is so indicated by an FAA approved airport layout plan; a military service approved military airport layout plan; any other FAA planning document, or military service military airport planning document.

“Utility runway” means a runway that is constructed for and intended to be used by propeller driven aircraft of 12,500 pounds maximum gross weight and less.

“Visual runway” means a runway intended solely for the operation of aircraft using visual approach procedures, with no straight-in instrument approach procedure and no instrument designation indicated on an FAA approved airport layout plan, a military service approved military airport layout plan, or by any planning document submitted to the FAA by competent authority.

**§ 77.3 Standards.**

(a) The standards established in this Part for determining obstructions to air navigation are used by the Administrator in—

(1) Administering the Federal-aid Airport Program and the Surplus Airport Program;

(2) Transferring property of the United States under Section 16 of the Federal Airport Act;

(3) Developing technical standards and guidance in the design and construction of airports; and

(4) Imposing requirements for public notice of the construction or alteration of any structure where notice will promote air safety.

(b) The standards used by the Administrator in the establishment of flight procedures and aircraft operational limitations are not set forth in this Part but are contained in other publications of the Administrator.

### § 77.5 Kinds of objects affected.

This Part applies to—

(a) Any object of natural growth, terrain, or permanent or temporary construction or alteration, including equipment or materials used therein, and apparatus of a permanent or temporary character; and

(b) Alteration of any permanent or temporary existing structure by a change in its height (including appurtenances), or lateral dimensions, including equipment or materials used therein.

### Subpart B—Notice of Construction or Alteration

#### § 77.11 Scope.

(a) This subpart requires each person proposing any kind of construction or alteration described in § 77.13(a) of this chapter to give adequate notice to the Administrator. It specifies the locations and dimensions of the construction or alteration for which notice is required and prescribes the form and manner of the notice. It also requires supplemental notices 48 hours before the start and upon the completion of certain construction or alteration that was the subject of a notice under § 77.13(a).

(b) Notices received under this subpart provide a basis for—

(1) Evaluating the effect of the construction or alteration on operational procedures and proposed operational procedures;

(2) Determinations of the possible hazardous effect of the proposed construction or alteration on air navigation;

(3) Recommendations for identifying the construction or alteration in accordance with the current Federal Aviation Administration Advisory Circular AC 70/7460-1 entitled "Obstruction Marking and Lighting," which is available without charge from the Department of Transportation, Distribution Unit, TAD 484.3, Washington, D.C. 20590;

(4) Determining other appropriate measures to be applied for continued safety of air navigation; and

(5) Charting and other notification to airmen of the construction or alteration.

### § 77.13 Construction or alteration requiring notice.

(a) Except as provided in § 77.15, each sponsor who proposes any of the following construction or alteration shall notify the Administrator in the form and manner prescribed in § 77.17:

(1) Any construction or alteration of more than 200 feet in height above the ground level at its site.

(2) Any construction or alteration of greater height than an imaginary surface extending outward and upward at one of the following slopes:

(i) 100 to 1 for a horizontal distance of 20,000 feet from the nearest point of the nearest runway of each airport specified in subparagraph (5) of this paragraph with at least one runway more than 3,200 feet in actual length, excluding heliports.

(ii) 50 to 1 for a horizontal distance of 10,000 feet from the nearest point of the nearest runway of each airport specified in subparagraph (5) of this paragraph with its longest runway no more than 3,200 feet in actual length, excluding heliports.

(iii) 25 to 1 for a horizontal distance of 5,000 feet from the nearest point of the nearest landing and takeoff area of each heliport specified in subparagraph (5) of this paragraph.

(3) Any highway, railroad, or other traverse way for mobile objects, of a height which, if adjusted upward 17 feet for an Interstate Highway that is part of the National System of Military and Interstate Highways where overcrossings are designed for a minimum of 17 feet vertical distance, 15 feet for any other public roadway, 10 feet or the height of the highest mobile object that would normally traverse the road, whichever is greater, for a private road, 23 feet for a railroad, and for a waterway or any other traverse way not previously mentioned, an amount equal to the height of the highest mobile object that would normally

traverse it, would exceed a standard of subparagraph (1) or (2) of this paragraph.

(4) When requested by the FAA, any construction or alteration that would be in an instrument approach area (defined in the FAA standards governing instrument approach procedures) and available information indicates it might exceed a standard of Subpart C of this part.

(5) Any construction or alteration on any of the following airports (including heliports):

(i) An airport that is available for public use and is listed in the Airport Directory of the current Airman's Information Manual or in either the Alaska or Pacific Airman's Guide and Chart Supplement.

(ii) An airport under construction, that is the subject of a notice or proposal on file with the Federal Aviation Administration, and except for military airports, it is clearly indicated that that airport will be available for public use.

(iii) An airport that is operated by an armed force of the United States.

(b) Each sponsor who proposes construction or alteration that is the subject of a notice under paragraph (a) of this section and is advised by an FAA regional office that a supplemental notice is required shall submit that notice on a prescribed form to be received by the FAA regional office at least 48 hours before the start of the construction or alteration.

(c) Each sponsor who undertakes construction or alteration that is the subject of a notice under paragraph (a) of this section shall, within 5 days after that construction or alteration reaches its greatest height, submit a supplemental notice on a prescribed form to the FAA regional office having jurisdiction over the area involved, if—

(1) The construction or alteration is more than 200 feet above the surface level of its site; or

(2) An FAA regional office advises him that submission of the form is required.

§ 77.15 Construction or alteration not requiring notice.

No person is required to notify the Administrator for any of the following construction or alteration:

(a) Any object that would be shielded by existing structures of a permanent and substantial character or by natural terrain or topographic features of equal or greater height, and would be located in the congested area of a city, town, or settlement where it is evident beyond all reasonable doubt that the structure so shielded will not adversely affect safety in air navigation.

(b) Any antenna structure of 20 feet or less in height except one that would increase the height of another antenna structure.

(c) Any air navigation facility, airport visual approach or landing aid, aircraft arresting device, or meteorological device, of a type approved by the Administrator, or an appropriate military service on military airports, the location and height of which is fixed by its functional purpose.

(d) Any construction or alteration for which notice is required by any other FAA regulation.

§ 77.17 Form and time of notice.

(a) Each person who is required to notify the Administrator under § 77.13(a) shall send one executed form set (four copies) of FAA Form 7460-1, Notice of Proposed Construction or Alteration, to the Chief, Air Traffic Division, FAA Regional Office having jurisdiction over the area within which the construction or alteration will be located. Copies of FAA Form 7460-1 may be obtained from the headquarters of the Federal Aviation Administration and the regional offices.

(b) The notice required under § 77.13(a)(1) through (4) must be submitted at least 30 days before the earlier of the following dates—

(1) The date the proposed construction or alteration is to begin.

(2) The date an application for a construction permit is to be filed.

However, a notice relating to proposed construction or alteration that is subject to the licensing requirements of the Federal Communications Act may be sent to the FAA at the same time the application for construction is filed with the Federal Communications Commission, or at any time before that filing.

(c) A proposed structure or an alteration to an existing structure that exceeds 2,000 feet in height above the ground will be presumed to be a hazard to air navigation and to result in an inefficient utilization of airspace and the applicant has the burden of overcoming that presumption. Each notice submitted under the pertinent provisions of Part 77 proposing a structure in excess of 2,000 feet aboveground, or an alteration that will make an existing structure exceed that height, must contain a detailed showing, directed to meeting this burden. Only in exceptional cases, where the FAA concludes that a clear and compelling showing has been made that it would not result in an inefficient utilization of the airspace and would not result in a hazard to air navigation, will a determination of no hazard be issued.

(d) In the case of an emergency involving essential public services, public health, or public safety, that requires immediate construction or alteration, the 30-day requirement in paragraph (b) of this section does not apply and the notice may be sent by telephone, telegraph, or other expeditious means, with an executed FAA Form 7460-1 submitted within five days thereafter. Outside normal business hours, emergency notices by telephone or telegraph may be submitted to the nearest FAA Flight Service Station.

(e) Each person who is required to notify the Administrator by paragraph (b) or (c) of § 77.13, or both, shall send an executed copy of FAA Form 117-1, Notice of Progress of Construction or Alteration, to the Chief, Air Traffic Division, FAA Regional Office having jurisdiction over the area involved.

#### § 77.19 Acknowledgment of notice.

(a) The FAA acknowledges in writing the receipt of each notice submitted under § 77.13 (a).

(b) If the construction or alteration proposed in a notice is one for which lighting or marking standards are prescribed in the FAA Advisory Circular AC 70/7460-1 entitled "Obstruction Marking and Lighting," the acknowledgment contains a statement to that effect and information on how the structure should be marked and lighted in accordance with the Advisory Circular.

(c) The acknowledgment states that an aeronautical study of the proposed construction or alteration has resulted in a determination that the construction or alteration—

(1) Would not exceed any standard of Subpart C and would not be a hazard to air navigation;

(2) Would exceed a standard of Subpart C but would not be a hazard to air navigation; or

(3) Would exceed a standard of Subpart C and further aeronautical study is necessary to determine whether it would be a hazard to air navigation, that the sponsor may request within 30 days that further study, and that, pending completion of any further study, it is presumed the construction or alteration would be a hazard to air navigation.

#### Subpart C—Obstruction Standards

##### § 77.21 Scope.

(a) This subpart establishes standards for determining obstructions to air navigation. It applies to existing and proposed manmade objects, objects of natural growth, and terrain. The standards apply to the use of navigable airspace by aircraft and to existing air navigation facilities, such as an air navigation aid, airport, Federal airway, instrument approach or departure procedure, or approved off-airway route. Additionally, they apply to a planned facility or use, or a change in an existing facility or use, if a proposal therefor is on file with the Federal Aviation Administration or an appropriate military service on the date the notice required by § 77.13(a) is filed.

(b) At those airports having defined runways with specially prepared hard surfaces, the primary surface for each such runway extends 200 feet beyond each end of the runway. At those airports having defined strips or pathways that are used regularly for the taking off and landing of aircraft and have been designated by appropriate authority as runways, but do not have specially prepared hard surfaces, each end of the primary surface for each such runway shall coincide with the corresponding end of the runway. At those airports, excluding seaplane bases, having a defined landing and takeoff area with no defined pathways for the landing and taking off of aircraft, a determination shall be made as to which portions of the landing and takeoff area are regularly used as landing and takeoff pathways. Those pathways so determined shall be considered runways and an appropriate primary surface as defined in § 77.25(c) will be considered as being longitudinally centered on each runway so determined, and each end of that primary surface shall coincide with the corresponding end of that runway.

(c) The standards in this subpart apply to the effect of construction or alteration proposals upon an airport if, at the time of filing of the notice required by § 77.13(a), that airport is—

(1) Available for public use and is listed in the Airport Directory of the current Airman's Information Manual or in either the Alaska or Pacific Airman's Guide and Chart Supplement; or,

(2) A planned or proposed airport or an airport under construction, that is the subject of a notice or proposal on file with the Federal Aviation Administration, and, except for military airports, it is clearly indicated that that airport will be available for public use; or,

(3) An airport that is operated by an armed force of the United States.

(d) [Deleted]

**§ 77.23 Standards for determining obstructions.**

(a) An existing object, including a mobile object, is, and a future object would be, an

obstruction to air navigation if it is of greater height than any of the following heights or surfaces:

(1) A height of 500 feet above ground level at the site of the object.

(2) A height that is 200 feet above ground level or above the established airport elevation, whichever is higher, within 3 nautical miles of the established reference point of an airport, excluding heliports, with its longest runway more than 3,200 feet in actual length, and that height increases in the proportion of 100 feet for each additional nautical mile of distance from the airport up to a maximum of 500 feet.

(3) A height within a terminal obstacle clearance area, including an initial approach segment, a departure area, and a circling approach area, which would result in the vertical distance between any point on the object and an established minimum instrument flight altitude within that area or segment to be less than the required obstacle clearance.

(4) A height within an en route obstacle clearance area, including turn and termination areas, of a Federal airway or approved off-airway route, that would increase the minimum obstacle clearance altitude.

(5) The surface of a takeoff and landing area of an airport or any imaginary surface established under §§ 77.25, 77.28, or 77.29. However, no part of the takeoff or landing area itself will be considered an obstruction.

(b) Except for traverse ways on or near an airport with an operative ground traffic control service, furnished by an air traffic control tower or by the airport management and coordinated with the air traffic control service, the standards of paragraph (a) of this section apply to traverse ways used or to be used for the passage of mobile objects only after the heights of these traverse ways are increased by:

(1) Seventeen feet for an Interstate Highway that is part of the National System of Military and Interstate Highways where overcrossings are designed for a minimum of 17 feet vertical distance.

(2) Fifteen feet for any other public roadway.

(3) Ten feet or the height of the highest mobile object that would normally traverse the road, whichever is greater, for a private road.

(4) Twenty-three feet for a railroad.

(5) For a waterway or any other traverse way not previously mentioned, an amount equal to the height of the highest mobile object that would normally traverse it.

#### § 77.25 Civil airport imaginary surfaces.

The following civil airport imaginary surfaces are established with relation to the airport and to each runway. The size of each such imaginary surface is based on the category of each runway according to the type of approach available or planned for that runway. The slope and dimensions of the approach surface applied to each end of a runway are determined by the most precise approach existing or planned for that runway end.

(a) Horizontal surface—a horizontal plane 150 feet above the established airport elevation, the perimeter of which is constructed by swinging arcs of specified radii from the center of each end of the primary surface of each runway of each airport and connecting the adjacent arcs by lines tangent to those arcs. The radius of each arc is:

(1) 5,000 feet for all runways designated as utility or visual;

(2) 10,000 feet for all other runways.

The radius of the arc specified for each end of a runway will have the same arithmetical value. That value will be the highest determined for either end of the runway. When a 5,000-foot arc is encompassed by tangents connecting two adjacent 10,000-foot arcs, the 5,000-foot arc shall be disregarded on the construction of the perimeter of the horizontal surface.

(b) Conical surface—a surface extending outward and upward from the periphery of the horizontal surface at a slope of 20 to 1 for a horizontal distance of 4,000 feet.

(c) Primary surface—a surface longitudinally centered on a runway. When the runway has a specially prepared hard surface,

the primary surface extends 200 feet beyond each end of that runway: but when the runway has no specially prepared hard surface, or planned hard surface, the primary surface ends at each end of that runway. The elevation of any point on the primary surface is the same as the elevation of the nearest point on the runway centerline. The width of a primary surface is:

(1) 250 feet for utility runways having only visual approaches.

(2) 500 feet for utility runways having nonprecision instrument approaches.

(3) For other than utility runways the width is:

(i) 500 feet for visual runways having only visual approaches.

(ii) 500 feet for nonprecision instrument runways having visibility minimums greater than three-fourths statute mile.

(iii) 1,000 feet for a nonprecision instrument runway having a nonprecision instrument approach with visibility minimums as low as three-fourths of a statute mile, and for precision instrument runways.

The width of the primary surface of a runway will be that width prescribed in this section for the most precise approach existing or planned for either end of that runway.

(d) Approach surface—a surface longitudinally centered on the extended runway centerline and extending outward and upward from each end of the primary surface. An approach surface is applied to each end of each runway based upon the type of approach available or planned for that runway end.

(1) The inner edge of the approach surface is the same width as the primary surface and it expands uniformly to a width of:

(i) 1,250 feet for that end of a utility runway with only visual approaches;

(ii) 1,500 feet for that end of a runway other than a utility runway with only visual approaches;

(iii) 2,000 feet for that end of a utility runway with a nonprecision instrument approach;

(iv) 3,500 feet for that end of a non-precision instrument runway other than utility, having visibility minimums greater than three-fourths of a statute mile;

(v) 4,000 feet for that end of a non-precision instrument runway, other than utility, having a nonprecision instrument approach with visibility minimums as low as three-fourths statute mile; and

(vi) 16,000 feet for precision instrument runways.

(2) The approach surface extends for a horizontal distance of:

(i) 5,000 feet at a slope of 20 to 1 for all utility and visual runways;

(ii) 10,000 feet at a slope of 3½ to 1 for all nonprecision instrument runways other than utility; and,

(iii) 10,000 feet at a slope of 50 to 1 with an additional 40,000 feet at a slope of 40 to 1 for all precision instrument runways.

(3) The outer width of an approach surface to an end of a runway will be that width prescribed in this subsection for the most precise approach existing or planned for that runway end.

(e) *Transitional surface*—these surfaces extend outward and upward at right angles to the runway centerline and the runway centerline extended at a slope of 7 to 1 from the sides of the primary surface and from the sides of the approach surfaces. Transitional surfaces for those portions of the precision approach surface which project through and beyond the limits of the conical surface, extend a distance of 5,000 feet measured horizontally from the edge of the approach surface and at right angles to the runway centerline.

§ 77.27 [Revoked]

§ 77.28 *Military airport imaginary surfaces.*

(a) *Related to airport reference points.* These surfaces apply to all military airports. For the purposes of this section a military airport is any airport operated by an armed force of the United States.

(1) *Inner horizontal surface*—a plane is oval in shape at a height of 150 feet above the established airfield elevation. The plane

is constructed by scribing an arc with a radius of 7,500 feet about the centerline at the end of each runway and interconnecting these arcs with tangents.

(2) *Conical surface*—a surface extending from the periphery of the inner horizontal surface outward and upward at a slope of 20 to 1 for a horizontal distance of 7,000 feet to a height of 500 feet above the established airfield elevation.

(3) *Outer horizontal surface*—a plane, located 500 feet above the established airfield elevation, extending outward from the outer periphery of the conical surface for a horizontal distance of 30,000 feet.

(b) *Related to runways.* These surfaces apply to all military airports.

(1) *Primary surface*—a surface located on the ground or water longitudinally centered on each runway with the same length as the runway. The width of the primary surface for runways is 2,000 feet. However, at established bases where substantial construction has taken place in accordance with a previous lateral clearance criteria, the 2,000-foot width may be reduced to the former criteria.

(2) *Clear zone surface*—a surface located on the ground or water at each end of the primary surface, with a length of 1,000 feet and the same width as the primary surface.

(3) *Approach clearance surface*—an inclined plane, symmetrical about the runway centerline extended, beginning 200 feet beyond each end of the primary surface at the centerline elevation of the runway end and extending for 50,000 feet. The slope of the approach clearance surface is 50 to 1 along the runway centerline extended until it reaches an elevation of 500 feet above the established airport elevation. It then continues horizontally at this elevation to a point 50,000 feet from the point of beginning. The width of this surface at the runway end is the same as the primary surface, it flares uniformly, and the width at 50,000 is 16,000 feet.

(4) *Transitional surfaces*—these surfaces connect the primary surfaces, the first 200 feet of the clear zone surfaces, and the ap-

approach clearance surfaces to the inner horizontal surface, conical surface, outer horizontal surface or other transitional surfaces. The slope of the transitional surface is 7 to 1 outward and upward at right angles to the runway centerline.

§ 77.29 Airport imaginary surfaces for heliports.

(a) *Helicopter primary surface.* The area of the primary surface coincides in size and shape with the designated takeoff and landing area of a heliport. This surface is a horizontal plane at the elevation of the established heliport elevation.

(b) *Helicopter approach surface.* The approach surface begins at each end of the heliport primary surface with the same width as the primary surface, and extends outward and upward for a horizontal distance of 4,000 feet where its width is 500 feet. The slope of the approach surface is 8 to 1 for civil heliports and 10 to 1 for military heliports.

(c) *Helicopter transitional surfaces.* These surfaces extend outward and upward from the lateral boundaries of the heliport primary surface and from the approach surfaces at a slope of 2 to 1 for a distance of 250 feet measured horizontally from the centerline of the primary and approach surfaces.

## APPENDIX D

### SAMPLE PROPOSAL IMPLEMENTING DENSITY STANDARDS

Following is a preliminary proposal by the City of Vacaville for requirements to be added to the City's zoning code to implement the density standards in the Airport/Land Use Compatibility Plan. This proposal, with the following changes, is consistent with Plan density criteria:

1. Delete hotels and motels from "Normally Not Acceptable Uses" in the B zone.
2. Prohibit large assemblages (more than 300 persons where grouped in close proximity, i.e. theaters, auditoriums, conference facilities, etc.) and captive groups (more than 100 persons in structures, e.g. jails, nursing homes) under flight tracks in the F zone.

## A ZONE

(Density Standard 10 persons/acre in buildings. 15 persons/acre outside buildings)

### ACCEPTABLE USES

- Pastures and open space
- Parks with very low intensity uses
- Aircraft tiedowns
- Auto parking
- Nurseries
- Outside storage
- Any other uses which are conclusively determined by the Planning Director to have an anticipated density of less than 10 persons per acre in buildings and less than 15 persons per acre outside of buildings on the basis of specific floor plans and other related information.
- Any other uses which are determined by the Planning Director and the Airport Land Use Commission to generally not have an anticipated maximum density of more than 10 persons per acre in buildings, and not more than 15 persons per acre outside of buildings on the basis of specific floor plans and other related information.

### NORMALLY NOT ACCEPTABLE USES

- Warehouses
- ML Zoning District uses
- MH Zoning District uses

### PROHIBITED USES

- Any substantial assemblage of people
- Any structure that exceeds the height limits established herein
- Any noise sensitive uses
- Any residential uses

## B ZONE

(Density Standard 20 persons/acre in buildings. 40 persons/acre outside buildings).

### ACCEPTABLE USES

- Acceptable Uses from the A Zone
- Parks with low intensity uses
- Nurseries
- Warehouses
- Manufacturing uses permitted in the ML Zoning District
- Manufacturing uses permitted in the MH Zoning District

- Any other uses which are conclusively determined by the Planning Director to have an anticipated density of less than 20 persons per acre in buildings and less than 40 persons per acre outside of buildings on the basis of specific floor plans and other related information.
- Any other uses which are determined by the Planning Director and the Airport Land Use Commission to generally not have an anticipated maximum density of more than 20 persons per acre in buildings, and not more than 40 persons per acre outside of buildings on the basis of specific floor plans and other related information.

NORMALLY NOT ACCEPTABLE USES

- Retail uses
- Office uses (except as accessory to Acceptable Uses)
- Hotels and motels

PROHIBITED USES

- Any substantial assembly of people
- Any structure that exceeds the height limits established herein
- Any noise sensitive uses
- Any residential uses

**C ZONE**

(Density Standards 50 persons/acre in buildings. 75 persons/acre outside buildings)

ACCEPTABLE USES

- Acceptable Uses from the B Zone
- Retail uses (one story maximum, except storage)
- Office and financial uses (one story maximum, except storage)
- Auto dealerships
- Motels (one story maximum)
- Any other uses which are conclusively determined by the Planning Director to have an anticipated density of less than 50 persons per acre in buildings and less than 75 persons per acre outside of buildings on the basis of specific floor plans and other related information.
- Any other uses which are determined by the Planning Director and the Airport Land Use Commission to generally not have an anticipated maximum density of more than 50 persons per acre in buildings, and not more than 75 persons per acre outside of buildings on the basis of specific floor plans and other related information.

#### NORMALLY NOT ACCEPTABLE USES

- Multiple story retail, office and financial uses
- Theaters, auditoriums, assembly halls and churches
- Amusement and indoor recreation uses
- Restaurants and bars

#### PROHIBITED USES

- Schools, libraries, hospitals and nursing homes
- Noise sensitive outdoor uses
- New residential uses

#### D ZONE

(Density Standard 100 persons/acre in buildings. 150 persons/acre outside buildings.)

#### ACCEPTABLE USES

- Acceptable Uses from the C Zone
- Restaurants and bars (one story maximum, except storage)
- Office and financial uses (two story maximum)
- Retail uses (two story maximum)
- Motels (two story maximum)
- Any other uses which are conclusively determined by the Planning Director to have an anticipated density of less than 100 persons per acre in buildings and less than 150 persons per acre outside of buildings on the basis of specific floor plans and other related information.
- Any other uses which are determined by the Planning Director and the Airport Land Use Commission to generally not have an anticipated maximum density of more than 100 persons per acre in buildings, and not more than 150 persons per acre outside of buildings on the basis of specific floor plans and other related information.

#### NORMALLY NOT ACCEPTABLE USES

- New single family residential uses
- Large shopping Malls (exceeding 500,000 square feet in area)
- Theaters, auditoriums, assembly halls and churches
- Schools, libraries, hospitals and nursing homes

#### PROHIBITED USES

- Noise sensitive outdoor uses

E ZONE

No Density Standards

ACCEPTABLE USES

- All nonresidential uses

NORMALLY NOT ACCEPTABLE USES

- Schools, hospitals and nursing homes

PROHIBITED USES

- Any residential uses

F ZONE

No density Standards

ACCEPTABLE USES

- All uses

NORMALLY NOT ACCEPTABLE USES

- All uses

PROHIBITED USES

- All uses

pkappenx



## APPENDIX E

### SAMPLE OVERFLIGHT AND AVIGATION EASEMENTS

The Solano County Airport/Land Use Compatibility Plan requires that overflight easements be granted to the owners of airports in the County as a condition of development for projects within the jurisdiction of the Airport Land Use Commission. Projects within A, B and C zones, as depicted on the Plan maps, are also required to provide height limit easements to airport owners (or to the jurisdiction with land use authority in the case of private airports).

Exhibit A, although titled "Standard Avigation Easement", is an overflight easement currently required by Solano County as a condition of development near airports.

Exhibit B, also titled "Standard Avigation Easement", is an overflight easement currently required by the City of Vacaville for projects in the vicinity of the Nut Tree Airport.

Exhibit C is a typical avigation easement which combines the provisions of overflight and height limit easements.

RECORDING REQUESTED BY:

APN # \_\_\_\_\_

WHEN RECORDED MAIL TO:

Solano County  
Department of Environmental  
Management  
601 Texas St.  
Fairfield, CA 94533

SPACE ABOVE THIS LINE FOR  
RECORDER'S USE

STANDARD AVIGATION EASEMENT

GRANTOR hereby grants to the COUNTY OF SOLANO, its successors or assigns, as owner of the Nut Tree Airport, Vacaville, California, an avigation easement for the following purposes and granting the following rights:

1. For the use and benefit of the public, and to the extent and in the manner consistent with safe operating procedures as provided under applicable governmental regulations, the right to make flights, and the noise inherent thereto, in airspace over the property described in Exhibit A (attached) in connection with landings, takeoffs and general operation of the Nut Tree Airport.
2. The right to regulate or prohibit the release into the air of any substance which would impair the visibility or otherwise interfere with the operations of aircraft such as, but not limited to, steam, dust, and smoke.
3. The right to regulate or prohibit light emissions, either direct or indirect (reflective), which might interfere with pilot vision.
4. The right to prohibit electrical emissions which would interfere with aircraft communications systems or aircraft navigational equipment.

This easement shall be effective from this date and run with the land until such time as the Nut Tree Airport is no longer used as an airport.

The real property subject to this avigation easement is described as follows:

See Attachment "A"

DATED: \_\_\_\_\_

GRANTOR: \_\_\_\_\_

ppavigat

By \_\_\_\_\_

Attach Notary Certificate

APN# \_\_\_\_\_

RECORDING REQUESTED BY:

WHEN RECORDED MAIL TO:

COUNTY OF SOLANO  
 Dept. of Environ. Mgmt.  
 601 Texas Street  
 Fairfield, CA 94533

For Recorder's Use Only

AVIGATION EASEMENT

(Property Developers, Vicinity of Nut Tree Airport)

GRANTOR hereby grants to the COUNTY OF SOLANO, as owner of the Nut Tree Airport, Vacaville, California, subject to termination as hereinafter provided and under the terms, conditions and provisions hereinafter contained, an avigation easement for the following purposes and granting the following rights:

(a) For the use and benefit of the public, and to the extent and in the manner consistent with safe operating procedures as provided under applicable governmental regulations, the right to make flights, and the noise inherent thereto, in airspace over the following described property ("Property") in connection with landings, take-offs and general operation of the Nut Tree Airport: (description: Exhibit "A", attached).

(b) The right to regulate or prohibit electrical radiations or emissions within the following frequency bands which would interfere with aircraft operation, aircraft communications systems, or aircraft navigational equipment:

9	-	14	KHz	Omega
90	-	110	KHz	Loran C
190	-	535	KHz	Non-Directional Beacons
2000	-	22000	KHz	Air/Ground Communications & Point to Point Communications
21850	-	21924	KHz	Point to Point Communications
21924	-	22000	KHz	Air/Ground Communications
74.8	-	75.2	MHz	Marker Beacons
108	-	118	MHz	VOR, ILS Localizer
118	-	137	MHz	Air/Ground Communications
162	-	174	MHz	Maintenance & Security Net
225.0	-	328.6	MHz	Air/Ground Communications
328.6	-	335.4	MHz	ILS Glideslope
335.4	-	399.9	MHz	Air/Grounds Communications
406.0	-	406.1	MHz	Satellite Emergency Position Indicating Radio Beacon

406.1	-	420.0	MHz	Maintenance, Security, & Point to Point Communication
960	-	1215	MHz	TACAN/DME, ATCRBS, MODE S, TCAS, MLS/DME-P
1215	-	1240	MHz	Global Positioning Satellite
1240	-	1370	MHz	Air Route Surveillance Radar
1435	-	1535	MHz	Telemetry
1535.0	-	1660.5	MHz	Distress & Safety Satellite, Aeronautical Mobile Satellite, Global Positioning Satellite, Altimeters
1710	-	1850	MHz	Point to Point Communications
2310	-	2390	MHz	Telemetry
2700	-	2900	MHz	Airport Surveillance Radar
3500	-	3700	MHz	Airport Surveillance Radar Expansion Band (Planned)
4200	-	4400	MHz	Radio Altimeter
5000	-	5250	MHz	Microwave Landing System
5350	-	5470	MHz	Airborne Weather Radar
7125	-	8400	MHz	Radar Microwave Link
8750	-	8850	MHz	Airborne Doppler Radar
9000	-	9200	MHz	Precision Approach Radar
9300	-	9320	MHz	Ground-Based Radar Beacon
9300	-	9500	MHz	Airborne Weather Radar
13.25	-	13.4	GHZ	Airborne Doppler Radar
14.0	-	14.2	GHZ	Airborne Doppler Radar
14.4	-	15.35	GHZ	Television Microwave Link
15.4	-	15.7	GHZ	Airborne Weather Radar
15.7	-	16.2	GHZ	Airport Surface Detection Equipment
24.25	-	25.25	GHZ	Airport Surface Detection Equipment

The rights herein granted shall terminate upon the occurrence of the following:

- (a) If the Nut Tree Airport ceases to be used as a public airport by the County of Solano or any other statutorially recognized governmental entities.
- (b) If the noise level generated by aircraft operations exceeds 70 dBA on the CNEL scale on the Property.

In granting this easement Grantor does not intend, and nothing contained herein shall be deemed or construed, to waive Grantor's rights to compensation for damages and/or losses suffered by reason of the use of such airspace in a manner, or the occurrence of an event, not contemplated herein.

This easement is subject to all matters appearing of record in the office of the Recorder of Solano County as of \_\_\_\_\_, 19\_\_.

By acceptance of this easement, the County of Solano recognizes Grantor's title and interest in and to the Property over which this easement is granted and agrees never to assail or resist Grantor's title or interest therein by reason of the grant of such easement.

Dated: \_\_\_\_\_

GRANTOR:

\_\_\_\_\_

By \_\_\_\_\_

pkhavig

ATTACH NOTARY CERTIFICATE

TYPICAL AVIGATION EASEMENT

This indenture made this \_\_\_\_\_ day of \_\_\_\_\_, 19 \_\_, between

\_\_\_\_\_ hereinafter referred to as Grantor, and the [Insert County or City name], a political subdivision in the State of California, herein after referred to as Grantee.

The Grantor, for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, does hereby grant to the Grantee, its successors and assigns, a perpetual and assignable easement over the following described parcel of land in which the Grantor holds a fee simple estate. The property which is subject to this easement is depicted as \_\_\_\_\_ on "Exhibit A" attached and is more particularly described as follows:

[Insert legal description of real property]

The easement applies to the Airspace above an imaginary plane over the real property. The plane is described as follows:

The imaginary plane above the herein before described real property, as such plane is defined by Part 77 of the Federal Aviation Regulations, and consists of a plane [describe approach, transition, or horizontal surface]; the elevation of said plane being based upon the \_\_\_\_\_ Airport official runway end elevation of \_\_\_\_\_ feet Above Mean Sea Level (AMSL), as determined by [Insert name and Date of Survey or Airport Layout Plan that determines the elevation] the approximate dimensions of which said plane are described and shown on Exhibit A attached hereto and incorporated herein by reference.

The aforesaid easement and right-of-way includes, but is not limited to:

- (1) For the use and benefit of the public, the easement and continuing right to fly, or cause or permit the flight by any and all persons, or any aircraft, of any and all kinds now or hereafter known, in, through, across or about any portion of the Airspace hereinabove described; and
- (2) The easement and right to cause or create, or permit or allow to be caused or created within all space above the existing surface of the hereinabove described real property and any and all Airspace laterally adjacent to said real property, such noise, vibration, currents and other effects of air, illumination and fuel consumption as may be inherent in, or may arise or occur from or during the operation of aircraft of any and all kinds, now or hereafter known or used, for navigation of or flight in air; and
- (3) A continuing right to clear and keep clear from the Airspace any portions of buildings, structures, or improvements of any kinds, and of trees or other objects, including the right to remove or demolish those portions of such buildings, structures, improvements, trees or other things which extend into or above said Airspace, and the right to cut to the ground level and remove, any trees which extend into or above the Airspace; and
- (4) The right to mark and light, or cause or require to be marked or lighted, as obstructions to air navigation, any and all buildings, structures, or other improvements, and trees or other objects, which extend into or above the Airspace; and
- (5) The right of ingress to, passage within, and egress from the hereinabove described real property, for the purposes described in subparagraphs (3) and (4) above at reasonable times and after reasonable notice.

For and on behalf of itself, its successors and assigns, the Grantor hereby covenants with the [Insert County or City name], for the direct benefit of the

real property constituting the \_\_\_\_\_ Airport hereinafter described, that neither the Grantor, nor its successors in interest or assigns will construct, install, erect, place or grow in or upon the hereinabove described real property, nor will they permit to allow, any building structure, improvement, tree or other object which extends into or above the Airspace, or which constitutes an obstruction to air navigation, or which obstructs or interferes with the use of the easement and rights-of-way herein granted.

The easements and rights-of-way herein granted shall be deemed both appurtenant to and for the direct benefit of that real property which constitutes the \_\_\_\_\_ Airport, in the [Insert County or City name], State of California; and shall further be deemed in gross, being conveyed to the Grantee for the benefit of the Grantee and any and all members of the general public who may use said easement or right-of-way, in landing at, taking off from or operating such aircraft in or about the \_\_\_\_\_ Airport, or in otherwise flying through said Airspace.

This grant of easement shall not operate to deprive the Grantor, its successors or assigns, of any rights which it may from time to time have against any air carrier or private operator for negligent or unlawful operation of aircraft.

These covenants and agreements run with the land and are binding upon the heirs, administrators, executors, successors and assigns of the Grantor, and, for the purpose of this instrument, the real property firstly hereinabove described is the servient tenement and said \_\_\_\_\_ Airport is the dominant tenement.

DATED: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

STATE OF ) ss  
COUNTY OF )

On \_\_\_\_\_, before me, the undersigned, a Notary Public in and for said County and State, personally appeared \_\_\_\_\_, and \_\_\_\_\_ known to me to be the persons whose names are subscribed to the within instrument and acknowledged that they executed the same.

WITNESS my hand and official seal.

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Notary Public

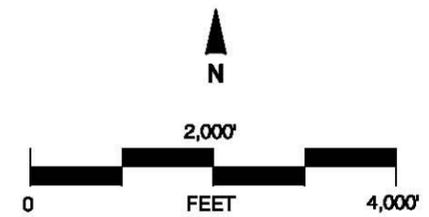


FIGURE #

**Compatibility Zones**  
Nut Tree Airport