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**COMPREHENSIVE  
LAND USE PLAN**

**HESPERIA AIRPORT**

**January 1991  
San Bernardino County  
Airport Land Use Commission**

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## INTRODUCTION AND BACKGROUND

This Comprehensive Land Use Plan (CLUP) was prepared pursuant to Chapter 4, Article 3.5 of the California Public Utilities Code\*\*. The plan was prepared by airport planning consultant, Ray A. Vidal, in conjunction with, and assistance from, staff of the San Bernardino County Airport Land Use Commission (ALUC), the City of Hesperia Planning Department and the Hesperia Airport owner, Mojave Aviation, Inc.

The unique elements associated with aviation and airports, dictates that special considerations be given to planning the peaceful and safe coexistence of airports and their surrounding communities. Consequently, the California State Legislature enacted airport land use planning laws which are intended to:

- provide for the orderly development of each public use airport in the 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.
- 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.

The general mechanism that the statutes provided for compliance with the airport planning laws, is for counties to establish an ALUC. In turn, the commission shall adopt a CLUP that will provide for the orderly growth of each public airport and the area surrounding the airport within the jurisdiction of the commission.

The initial object of this CLUP is to effectively identify areas, located outside of the airport proper, that would be influenced by the future operations of the airport. Planning boundaries are established on the perimeters of these areas, which are plotted, by applying the specific operational criteria of the airport, to various planning models that have been primarily developed by the FAA.

\*\*Appendix "A", Section 21670 et seq. State Aeronautics Act,  
(Chapter 4, Article 3.5)

Public Utilities Code

In comparison to other airports, Hesperia Airport generates only minimal impacts and a limited safety threat to the surrounding community. Irrespective of this position, every measure necessary, to ensure a safe and harmonious compatibility between the airport and the surrounding environs, needs to be taken.

The uniqueness of Hesperia Airport's functions as an Air Park - Lodge, also need to be recognized. Many existing and future residents in the area, choose to locate their houses within impact areas that would, by their very nature, be objectionable to most citizens in other areas.

**WARNING:** Land use compatibility is determined by comparing proposed land uses against height, noise and safety guidelines. Any proposed land use must be compatible with all.

The planning boundaries and some specific calculations etc. found within this plan have been compiled from a variety of Federal, State and local guidelines for the specific operations of Hesperia Airport. They are not necessarily applicable to, nor compatible with, any other airport.

The text of this manual, in many cases may contain only a brief description of a particular action or regulation. It is necessary, when using this plan, to treat it as a basic guide only. The appendix and other reference material should be thoroughly reviewed before making any planning decisions.

Once this CLUP has been adopted by the City of Hesperia and the San Bernardino County ALUC, development applications that fall within the criteria of this plan, need not be referred to the ALUC for approval unless it is the specific desire of the City or a developer to do so. Any zoning changes (apart from those recommended, and thus adopted, within this CLUP) contemplated by the City, that lie within the referral areas defined within this plan, must be referred to the ALUC.

## ABBREVIATIONS and GLOSSARY

ALUC: Airport Land Use Commission: A California State authorized body, existing in each county, and having the responsibility to develop plans for achieving land use compatibility between airports and their environs.

APZ: Accident Potential Zone: A designated area of higher likelihood of accidents.

BU: Basic Utility: An FAA classification of airport type.

CFR: Code of Federal Regulations: A codification of the general and permanent rules published in the Federal Register by the executive department and agencies of the Federal Government.

CLUP: Comprehensive Land Use Plan: A specific plan, formulated by the ALUC, that will provide for the orderly growth of each public airport and the area surrounding the airport within the jurisdiction of the commission.

CNEL: Community Noise Equivalent Level: An average daily noise level, averaged for each of the 24 hours, and weighted more heavily during evening and nighttime hours to account for the lower tolerance of persons to noise during those hours.

dB: Decibel: A unit for describing the intensity or level of sound, equal to 20 times the logarithm to the base 10 of the ratio of the pressure of the sound measured to a standard reference pressure.

Displaced Threshold: A runway threshold that is located at a point other than the designated beginning of the runway.

DOA: Division of Aeronautics: A Division of the California, Department of Transportation with responsibility for all public use airports located within the State.

FAA: Federal Aviation Administration: A Federal agency charged with regulating air commerce to promote its safety and development, encouraging and developing civil aviation, air traffic control, and air navigation and promoting the development of a national system of airports.

FAR: Federal Aviation Regulation: Regulations issued by the FAA to regulate air commerce; issued as separate "Parts".

FSS: Flight Service Station: FAA facilities which provide pilot briefings on weather, airports, altitudes, routes, and other flight planning information.

GA: General Aviation: All types of aviation other than that performed by air carriers and the military.

IFR: Instrument Flight Rules: Rules governing the procedures for conducting flight under instrument meteorological conditions.

Ldn: Average day-night sound level.

NAVAID: Navigational Aid: Any visual or electronic device (airborne or on the surface) which provides point to point guidance.

NTSB: National Transportation Safety Board: Federal Government agency that investigates and records all aviation accidents.

OFA: Object Free Area: A two dimensional ground area surrounding runways, taxiways, and taxilanes which is clear of objects except for objects whose location is fixed by function.

OFZ: Obstacle Free Zone: The airspace defined by the runway OFZ and as appropriate, the inner-approach OFZ and the inner-transitional OFZ, which is clear of object penetrations other than frangible NAVAID's.

Runway: A defined rectangular surface on an airport prepared or suitable for landing or takeoff of airplanes.

RPZ: Runway Protection Zone: An area (formerly the clear zone) used to enhance the safety of aircraft operations. It is at ground level beyond the runway end.

Safety Zone: An area located in the vicinity of an airport in which land use restrictions are established to protect the safety of the public.

## REFERENCES

### Federal Government:

- FAA – Advisory Circular 150/5020-1. Noise Control and Compatibility Planning for Airports.
- FAA – Advisory Circular 150/5300-13. Airport Design.
- FAR Part 77 – Objects Affecting Navigable Airspace.
- FAR Part 150 – Airport Noise Compatibility Planning.

### California State Government:

- DOA – Airport Land Use Planning Handbook.
- OPR – Guidelines for the Preparation and Control of the Noise Elements of the General Plan.

Note: while not specifically incorporated as references in this plan, overriding guidelines and more detailed information may be found in the OPR - General Plan Guidelines.

### San Bernardino County:

- General Plan – Noise Element
  - Man-Made Hazards
    - i. Airport Safety Issue
    - ii. Noise Issue

ALUC - Interim Plan.



## ALUC PLAN CONSISTENCY

Section 65302.3 of the California Government Code - Planning and Zoning Law (Table I-1), requires that City and County General Plans be consistent with ALUC plans. Once adopted by the ALUC, the City of Hesperia and the County of San Bernardino have 180 days to accomplish this consistency, with this CLUP.

In the event that the city council or board of supervisors does not agree with any provision of the plan, it can satisfy the consistency requirement for that provision by overruling the ALUC by a two-thirds vote. The overruling must, however, be made after a public hearing and must be based on specific findings that the proposed action is consistent with the purposes of the Airport Land Use Commission Law.

If the ALUC finds that a city or county has not revised its general plan, or overruled the ALUC, the ALUC may require that city or county to submit all subsequent actions, regulations, or permits in the affected area to the ALUC for consistency determination. If the ALUC finds the proposed action inconsistent, the city or county must hold a public hearing to reconsider its proposal. If, after the public hearing, the city or county still wishes to pursue the action, it may overrule the ALUC, once again, on a two-third vote based on specific findings.

Table I-1

Section: 65302.3      General and applicable specific plans; consistency with airport land use plans; amendment; nonconcurrency findings.

- (a) The general plan, and any applicable specific plan prepared pursuant to Article 8 (commencing with Section 65450), shall be consistent with the plan adopted or amended pursuant to Section 21675 of the Public Utilities Code.
- (b) The general plan, and any applicable specific plan, shall be amended, as necessary, within 180 days of any amendment to the plan required under Section 21675 of the Public Utilities Code.
- (c) If the legislative body does not concur with any provision of the plan required under Section 21675 of the Public Utilities Code, it may satisfy the provisions of this section by adopting findings pursuant to Section 21676 of the Public Utilities Code.

(Amended by Stats. 1984, c. 1009, § 5.4; Stats.1987, c. 1018, § 1.)

## AIRPORT OPERATIONS AND FACILITIES: Existing

Hesperia Airport is located approximately three miles south of the City of Hesperia (Figure I-2), and it is a privately owned, public use airport. Classified in the National Plan of Integrated Airport System as a General Aviation, basic utility airport, Hesperia Airport has 47, primarily single engine, based aircraft plus one helicopter. The nearest Flight Service Station (FSS) is located at Riverside.

The airport owner and Fixed Based Operator (FBO), Mojave Aviation Inc., operates a flight school and on-airport motel. A small restaurant that attracts many fly-in diners, is located adjacent to the aircraft parking apron (Figure I-3).

Light industrial and manufacturing facilities are located on the western side of the field. Some aircraft are parked in these facilities and access to the runway is gained by using portions of Santa Fe East Road as a taxi-way. Numerous residences are located on the eastern perimeter of the field. Many aircraft are parked in the backyards of these properties , and direct access to the airport taxi-way is available.

Figure I-2

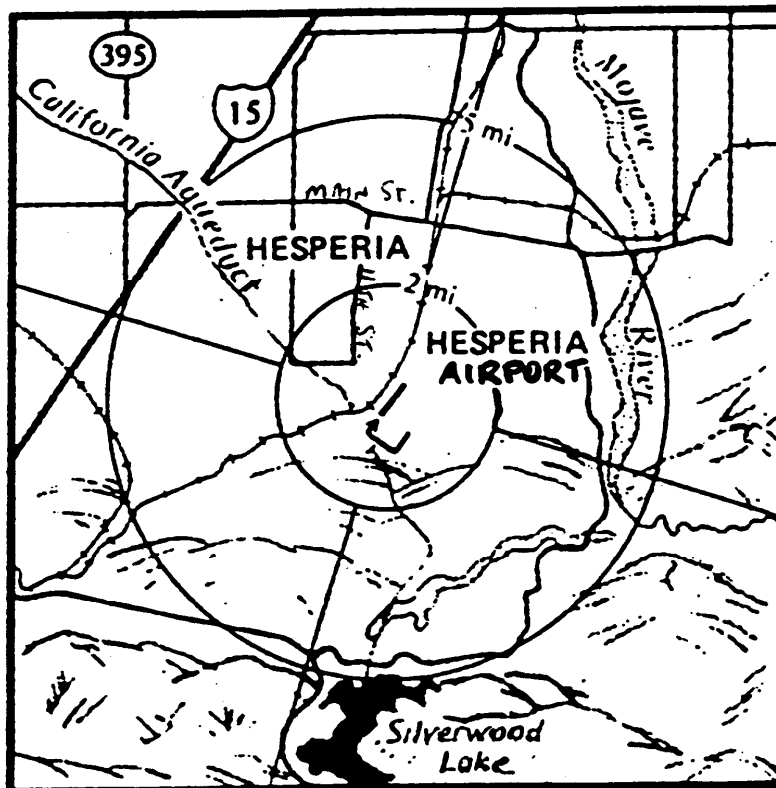
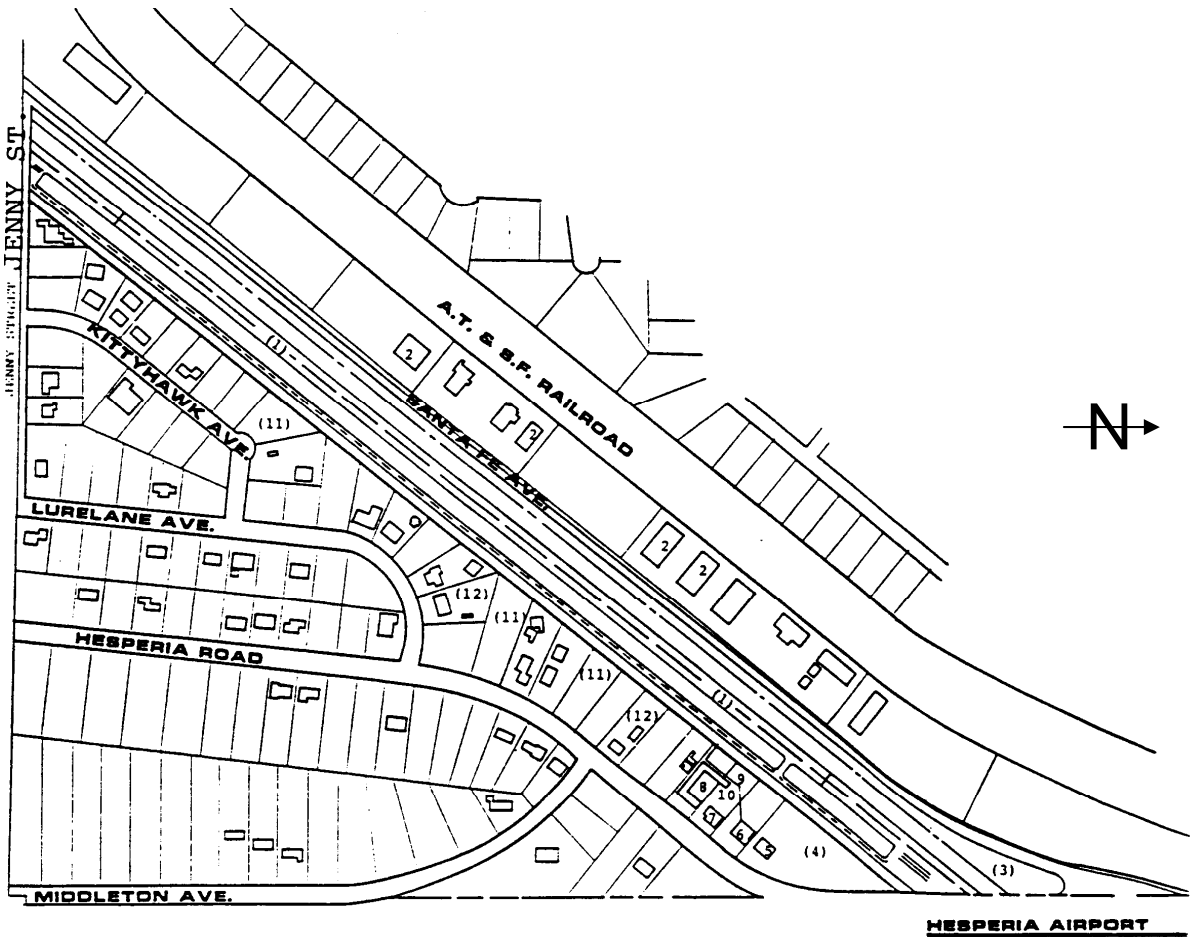


Figure I-3  
Existing Airport Layout



Facilities Code:

1. Runway
2. Light Industrial Buildings
3. Hangars
4. Tie-down - Aircraft parking
5. Hanger
6. Restaurant
7. Administration Office & Flight training school
8. Motel
9. Underground fuel storage
10. Fuel & scheduling office
11. Vacant land (zoned residential)
12. Residences

## AIRPORT OPERATIONS AND FACILITIES: Ultimate

The initial criteria of a CLUP, is to have it based on a 20 year, operational and facilities projection of the airport. Even with some changes in the airport boundary, the residential and industrial encroachment that now borders the airport, essentially ensures that the present uses of the airport, could not be more than marginally expanded.

Working within the pre-described limitations, an attempt has been made to assess all feasible possibilities for future expansion. These options, shown on Figure I-4, and more fully described herein, are referred to as ultimate possibilities, however they may, or may not, necessarily occur.

At the present time, plans exist to widen the airport's single runway from 50 to 65 feet. This action is in response to a Division of Aeronautics (DOA) recommendation, made as a result of an airport permit compliance inspection.

The hangers located near the northwestern corner of the airfield, and portion of the aircraft tie-down area, running parallel to the runway near the north eastern corner of the airport, are located within an area determined by the FAA to be an Object Free Area (OFA). Under these circumstances, it would be prudent to abandon these uses at their present locations; however, no alternative sites exist within the present airport boundary. Depending upon final determinations made regarding the airport boundary, the airport owner may consider purchasing any of a number of presently located, off-airport sites. These could include an area adjacent to the northwestern corner or the southeastern corner of the airport. If this occurs, then the most easterly portion of the existing tie-down area could be used for transient aircraft parking for the restaurant. Portion of this area could also be isolated and used as a helicopter landing area.

A number of uses of the airfield could be increased without effecting the character of the airport or the impact areas of this plan. Flight school and training could be expanded to incorporate helicopters with additional facilities for class rooms and flight simulators located on or near the field.

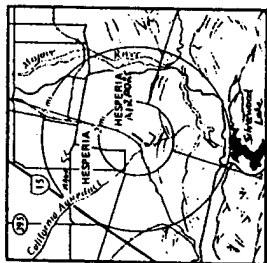
Businesses such as air taxi and aircraft repair could be located within an expanded airport boundary. The existing hanger located adjacent to the restaurant, could be enlarged to make an ideal maintenance facility.

Figure I-4

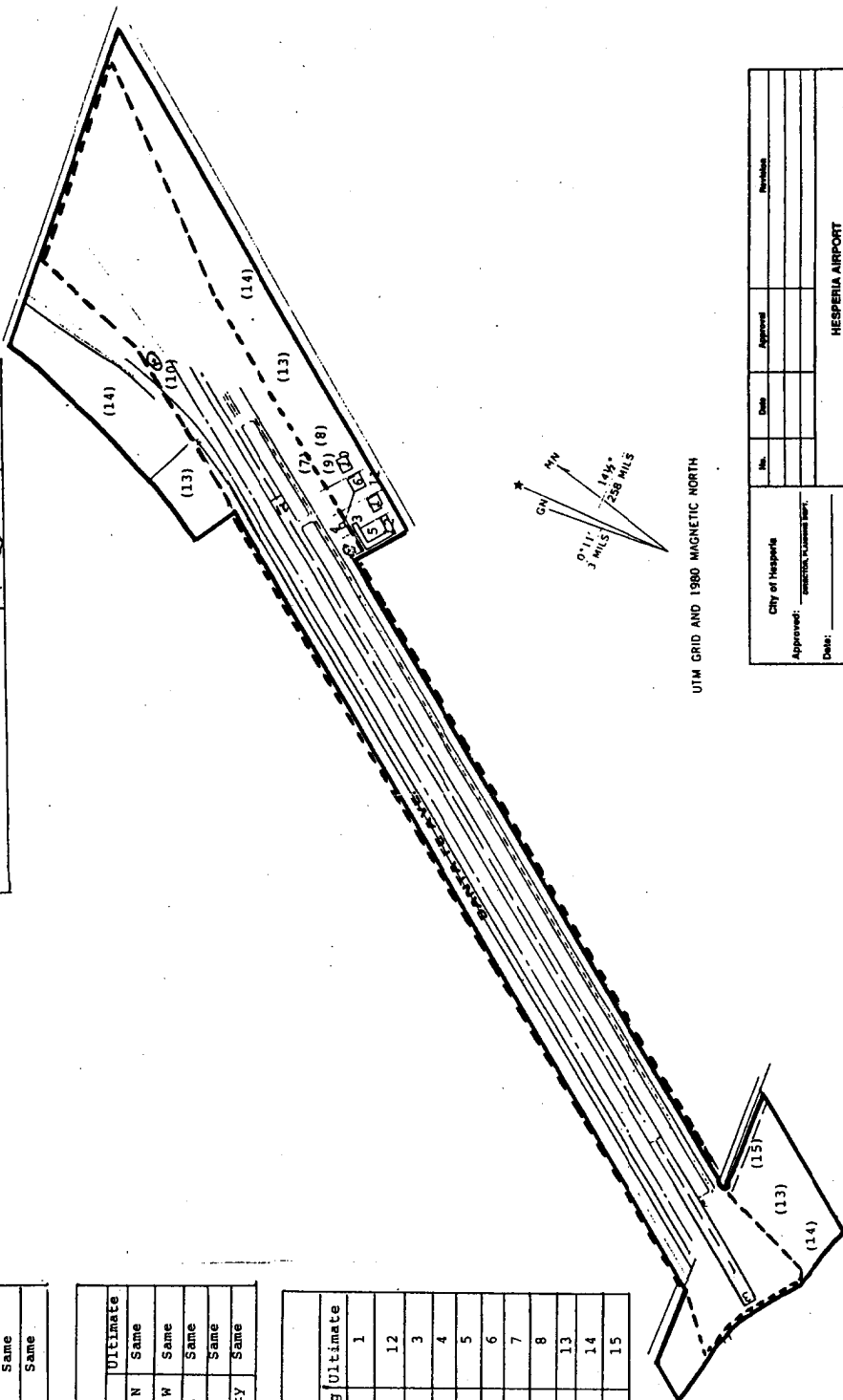
Runway Data Table			
Item	Runway 3 - 21		
	Existing	Ultimate	Ultimate
Physical Length & Width	3910' x 50'	4210' x 65'	Same
Pavement Strength	12,000 lbs	Same	Same
Approach Type	Visual	Same	Same
Approach Slope - Clear Zone	20:1	Same	Same
Visual Approach Aids	3 21	None None	Same Same
Critical Limitations	Light Twin	Same	Same
Lighting	MIRL	Same	Same
Runway Marking	Basic	Same	Same

Airport Data			
Item	Runway 3 - 21		
	Existing	Ultimate	Ultimate
Airport Reference Point	Lat 34°22'38" N	Same	Same
	Long 117°18'54" W	Same	Same
Airport Elevation	3390 ft.	Same	Same
Mean Max. Temp. Hottest Month	99° F	Same	Same
Airport Role	Basic Utility	Same	Same

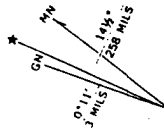
Buildings & Facilities Legend		
	Existing	Ultimate
Airport Administration Office	1	1
Flight Training Room	1	12
Fuel & Scheduling Office	3	3
Fuel Storage (Underground)	4	4
Hotel	5	5
Restaurant	6	6
Transient Parking (Aircraft)	7	7
Transient Parking (Helicopters)	7	8
Tiedown	9	13
Hangers	10	14
Auto Parking	11	15



Drawing Legend		
	Existing	Ultimate
Airfield Pavement	[Symbol]	[Symbol]
Buildings	[Symbol]	[Symbol]
Property Line	[Symbol]	[Symbol]
Building Restriction Line	[Symbol]	[Symbol]
Fence	[Symbol]	[Symbol]
Wind Cone	[Symbol]	[Symbol]
Ground Contours (MSL)	[Symbol]	[Symbol]
Trees	[Symbol]	[Symbol]



UTM GRID AND 1980 MAGNETIC NORTH



No.	Date	Approval	Remarks
City of Hesperia		HESPERIA AIRPORT	
Approved: _____		Hesperia, California	
Date: _____		AIRPORT LAYOUT PLAN	
U.S. Department of Transportation			
Federal Aviation Administration			
Approved: _____		Prepared By: Ray A. Vidal	
Date: _____		Drawn By: Linda W. Ahee	
		Airport Consultant	
		Date: October, 1980	

## AIRPORT BOUNDARY

At the present time, City streets form the boundaries on three sides of the airfield. The location of each of these streets should raise significant concern to both the City of Hesperia and the airport operator from a safety and liability standpoint. Consideration should be given to abandoning and/or relocating each of the streets, and to the definite restriction of all public access to the area. Also any action should be consistent with FAA recommendation AC 150/5300-13 Section 212b. quote “The airport owner should acquire or control the Runway Protection Zone (RPZ) to meet the clearing and land use standards and recommendations” end quote.

1. Jenny Street: It is now possible for vehicular traffic to drive directly off Jenny Street onto the live runway. Further, portions of Jenny Street lie within the airport’s primary surface and/or RPZ. It is recommended that Jenny Street be barricaded at a point adjacent to the southeastern corner of the airport. Should this action occur, and the airport owner purchase the balance of the land located within the primary surface and RPZ, the operational features of the airport would be enhanced by extending the runway, an approximate 300 feet to the edge of the 3,400 feet elevation contour.
2. Summit Valley Road: Vehicular traffic has been hit by aircraft landing on Runway 21. Portion of Summit Valley Road lies within the airport’s primary surface and/or RPZ. A six foot high, airport perimeter fence lies between Summit Valley Road and the end of the runway. It is recommended that that portion of Summit Valley Road that runs adjacent to the airport perimeter be diverted in a northeasterly direction (from the northeastern corner of the airport) to intersect the planned, new Rancho Road, at the closest, most engineeringly feasible point. The airport owner could purchase that land lying within the primary surface and RPZ, and relocate the fence from its present position. The length of the runway should not be increased at this end.
3. East Santa Fe Avenue: Aircraft owned by tenants or property owners located on the western side of E. Santa Fe Avenue are forced to use the street to access the runway. No restrictions to public access lie between East Santa Fe Avenue and the runway. FAA height/safety restrictions within the primary surface, prohibit the erection of a fence between the street and the airport. It is recommended that at least public access to East Santa Fe Avenue be restricted by a security gate located adjacent to the northwestern corner of the airport , and that all other potential access points to the airport be secured. Consideration should be given to abandoning and/or relocating the street.

## SUMMARY OF FINDINGS AND RECOMMENDATIONS

This section provides a consolidation of all Hesperia Airport generated impacts. These impacts have been grouped into three primary referral areas. Note that a more detailed description of each impact is provided elsewhere in this plan. The boundaries of these referral areas are shown on an extract of the City of Hesperia: Draft Land Use Plan - Alt. #3 (Figure I-5).

### Referral Area “A”

This is the most critical safety impact area associated with any airport. The area is made up of the FAA classified primary surface of the airport, the Runway Protection Zone (RPZ) and a portion of the approach and departure surface. The majority of this area is designated as an Object Free Area (OFA) with this status also applying to moving objects i.e. vehicles.

The RPZ was formerly known as the “Clear Zone”. The intent is to ensure that this zone remains clear of all obstacles that could create a potential hazard to aviation. The FAA has recommended that the airport owner acquire all land that lies within this zone.

Land uses within Referral Area “A” are extremely restricted. Under normal circumstances, no structures whatsoever are permitted. Few people (no people is preferred, or if necessary only up to 10 persons per acre at any one time) should be allowed within the outer area of the RPZ. Some agricultural land use (provided it doesn’t attract birds) would be acceptable. Should the airport owner acquire the RPZ land, then portions of the lots surrounding this area could be used for airport related uses such as light aircraft tiedown.

At Hesperia Airport, the total noise level (determined by the State of California to be of an annoyance level [65 CNEL]) falls within the primary surface, located within the existing boundary of the airport. As the level and location of this noise is consistent with the operations of the airport, no recommendations pertaining to noise are made within this referral area.

Three city streets are located within Referral Area “A”. A more detailed analysis of the consequences of public streets in this location is discussed on the previous page (airport boundary).

### Referral Area “B”

This area is made up of “Safety Zone II” plus the balance of the approach and departure zones not falling within the RPZ. Traditionally, this area experiences a high percentage of aircraft accidents. As such, residential and industrial development should be greatly curtailed.

Recommendations  
Referral Area "A"

The land area located within the RPZ at the northern end of the runway should be rezoned from Low Density Residential to Open Space.

The land area located within the RPZ at the southern end of the runway should be rezoned from Industrial to Agricultural or Open Space.

Consideration should be given to the recommendations on page 10 regarding the airport boundary and the City streets.

A limited number of detached, Single Family dwellings are acceptable within Referral Area "B". All public buildings are prohibited in this area, along with any other facility or outdoor usage that could result in a congregation of fifty (50) persons or more per acre.

Limited light industrial or manufacturing land uses would be acceptable within this area provided that population density restrictions are adhered to. No use what-so-ever of any hazardous nature is permitted.

The aircraft noise level in this area is below the level, determined by the State of California, to be of concern. In some cases, noise from aircraft taking-off over this area could be of annoyance to some people at outdoor activities.

Recommendations  
Referral Area "B"

Low Density Residential zoning should be changed to Very Low Density Residential zoning at the northern end of the airport.

At the southern end of the airport, the Special Development zoning should be maintained with use not exceeding the equivalent of the City's Very Low Density zoning.

All development should be subject to obtaining a standard form of Avigation easement.



### Referral Area “C”

This referral area is made up of Safety Zone III plus the Conical, Horizontal and Transitional Surfaces. The threat of aircraft accidents in this area is below that of the other referral areas; however, some do occur, and it is necessary to ensure that some restrictions are imposed when planning or developing in this area.

Any large public assembly in this area is a safety concern. Large movie theaters, stadiums and arenas are not compatible land uses in this area. Smaller theaters (single or double) along with neighborhood and community shopping centers are acceptable. Regional shopping centers are not.

Light industrial and manufacturing facilities are acceptable within this area, provided that they do not generate any visual, electronic or physical hazards to aircraft. No above ground hazardous materials are allowed; however, underground fuel tanks used at service stations etc. are acceptable. General business facilities, office buildings, motels, banks and eating and drinking facilities are permitted. In all cases, consideration should be given to some form of shielding, such as the use of trees etc.

Should the airport owner purchase the RPZ land at the northern end of the airport, existing zoning along side the airport (industrial on the western and commercial on the eastern) could be extended along the perimeter of the RPZ. Uses consistent with aviation are preferred in all industrial areas adjacent to the airport.

Minimal noise from the airport is apparent in most of this area. The exception is those residences and industrial facilities located along the perimeter of the airport.

Height restrictions apply in this area. It is necessary to notify the FAA of all planned construction in referral area “C” that would exceed a height of an imaginary surface extending outward and upward at a slope of 100 to 1 from the nearest point of the runway.

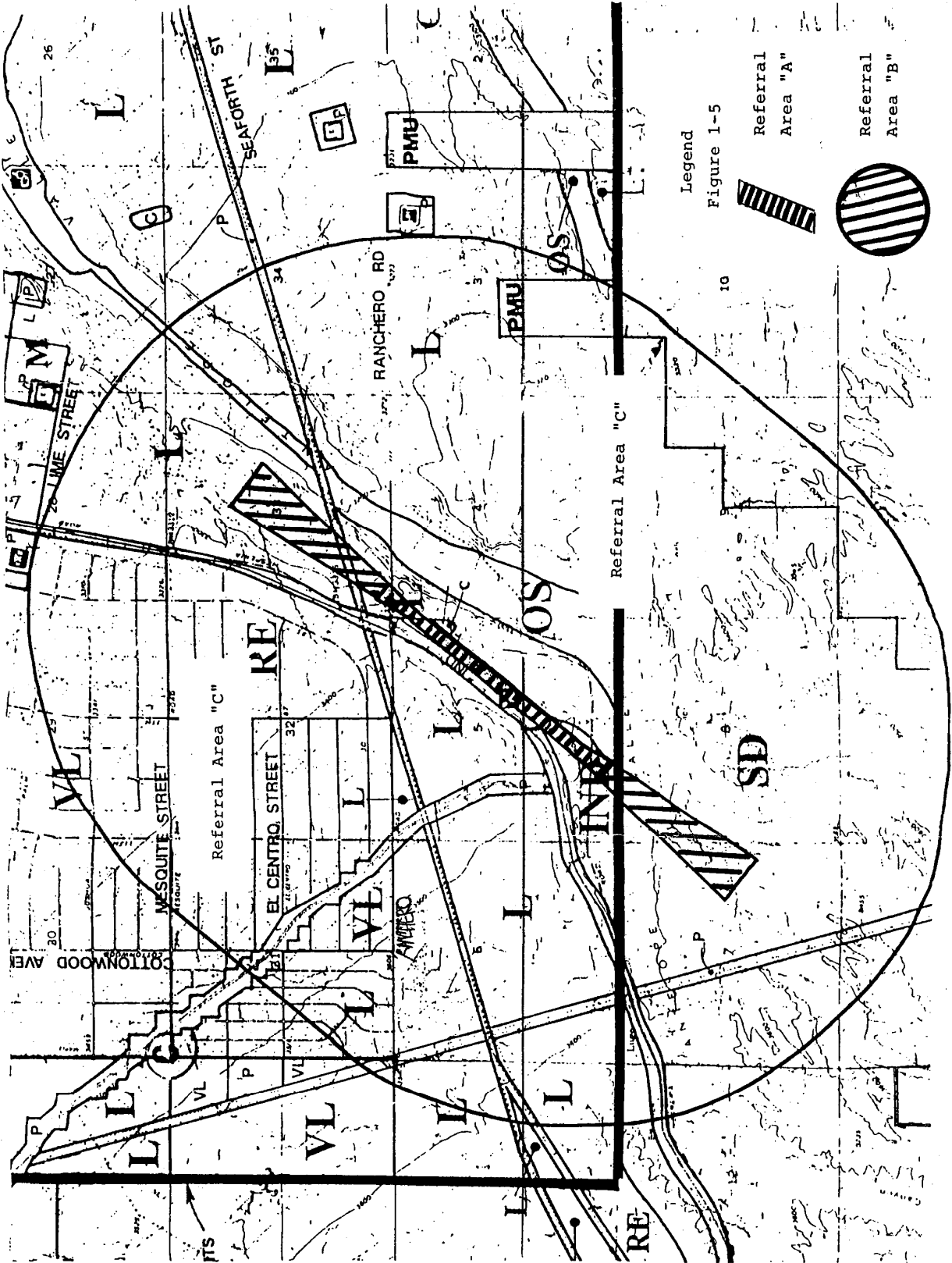
#### Recommendations Referral Area “C”

No changes to the existing residential zoning should be made. Some density limitations could be considered within the “Special Development” zoned region.

Existing Industrial, Commercial and Planned Mixed Use zoning should be maintained with use limitations, consistent with this report, initiated.

All development should be subject to obtaining a standard form of Avigation Easement.

Figure 1-5

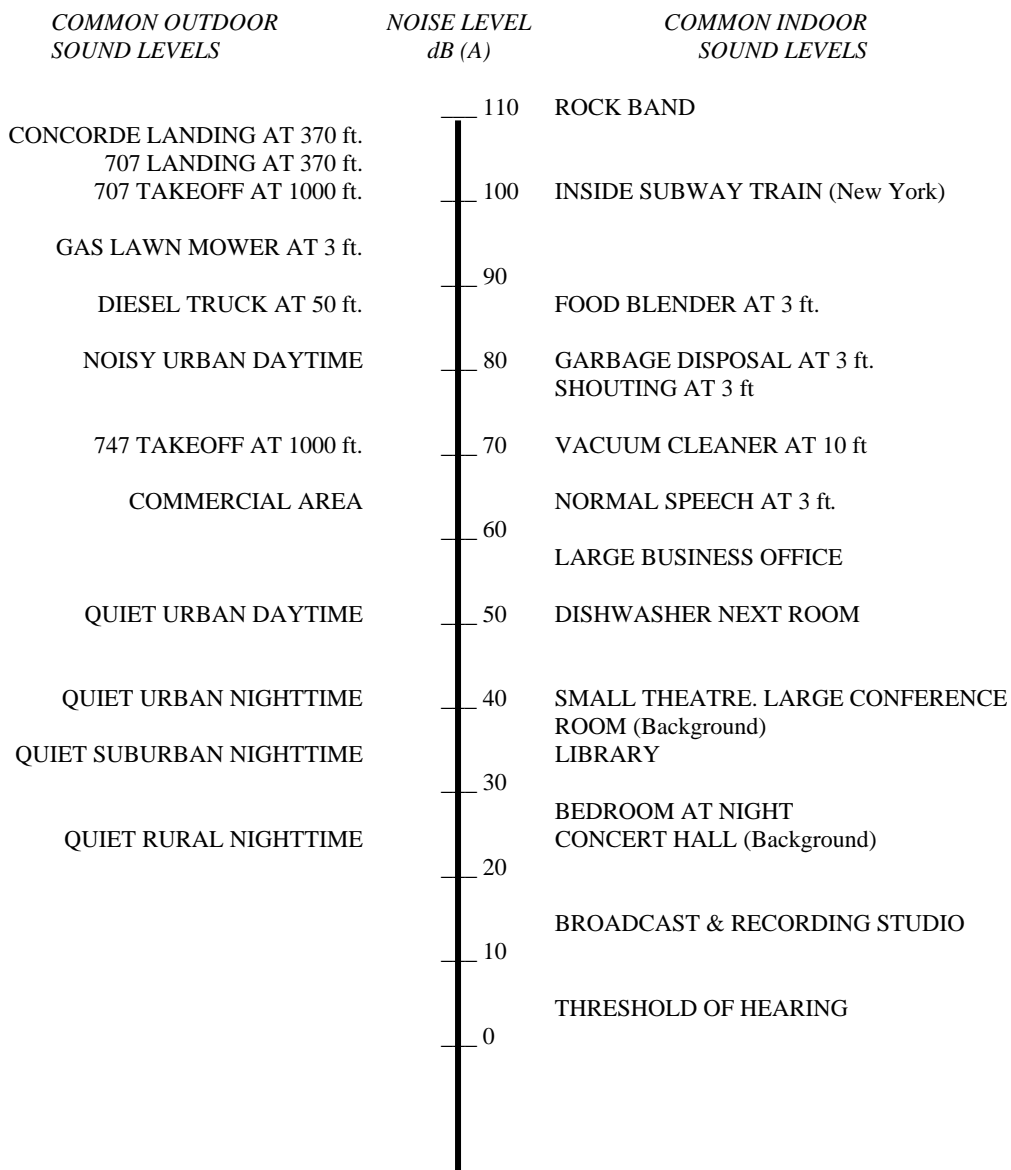


NOISE IMPACT  
and  
REFERRAL AREAS

## NOISE

The intensity of aircraft noise varies, depending upon the type of aircraft and the proximity of the listener. The ear shattering sound of a large jet aircraft at close range is a far cry from the sound of a small, single engine, general aviation aircraft at a distance of a couple of hundred yards. Examples of common indoor and out door sound levels are provided in Figure II-1.

Figure II-1



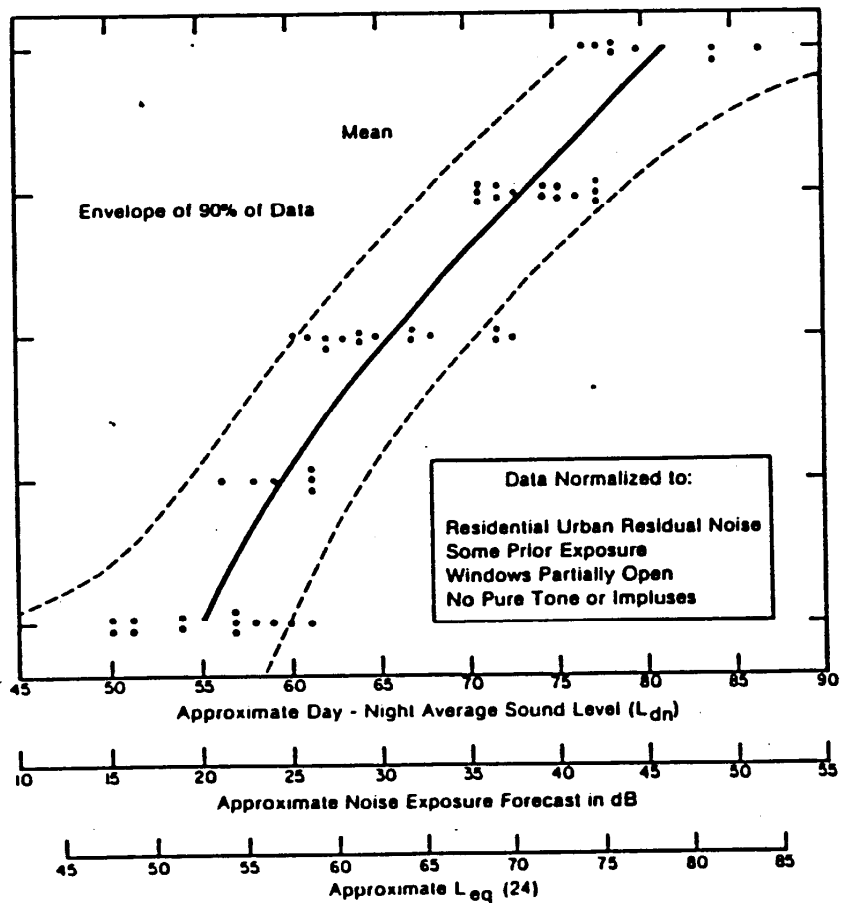
The dB scale measures single event noise incidents on an occurrence by occurrence basis. With aircraft noise the sound level increases as the aircraft approaches and it diminishes as the aircraft flies away. The sound measurements of the events itemized in Figure II-1 were taken at the peak of the occurrence.

Aircraft noise has a varying effect on individuals. Jet noise in the middle of the day on a busy street, may hardly even be noticed. The same level of noise at night, when relaxing or awakened from sleep, could be extremely annoying. For land use planning purposes, it is important to know when annoyance results in community action and just how much action. The way community response relates to noise exposure level is illustrated in Figure II-2. (Note that the day-night average sound level [Ldn] shown in that figure is essentially equivalent to the Community Noise Equivalent Level [CNEL] scale.)

Figure II-2

**COMMUNITY REACTION**

- Vigorous community action
- Several threats of legal action, or strong appeals to local officials to stop noise
- Widespread complaints or single threat of legal action
- Sporadic complaints
- No reaction, although noise is generally noticeable



**COMMUNITY REACTION TO INTRUSIVE NOISES**

Guidelines for airport noise planning have been established by various Federal, State and Local Government agencies. (See listing under “references” on page 7.) The California Division of Aeronautics, Noise standards are included in Appendix “B”\*\*.

The State of California developed a noise rating method (CNEL) that is used to calculate community noise exposure around airports. Note that the Federal Government modeled its equivalent (Ldn), from California’s CNEL, and only a marginal difference (less than 1 db at 65 CNEL) exists between the two scales. CNEL is calculated in decibels and represents the average daytime noise level during a 24 hour day, adjusted to an equivalent level to account for the lower tolerance of people to noise during evening and night time periods relative to the day time period.

California has adopted a standard (PUC Section 21669) for the acceptable level of aircraft noise for persons living in the vicinity of airports. This standard is 65 CNEL. This plan identifies the 65 CNEL contour at Hesperia Airport as remaining within the existing airport boundary (Figure II-3).

To help more closely gauge the level of Hesperia Airport’s noise in relationship to the surrounding environment, the following is a comparison with the noise levels generated by the Union Pacific & AT & SF Railway line. Note that the airport runway parallels the railroad at a distance of 500 feet.

At a level of 65 CNEL (or Ldn), the airport impact area extends less than 100 feet from the runway. For trains the distance is 350 feet from the railroad line. At a level of 60 CNEL/Ldn, the distance is less than 250 feet from the runway and over 600 feet from the railroad. The 60 CNEL/Ldn contour for the railway extends past the runway by up to 100 feet; however, the same contour for the airport extends only half of the distance from the runway to the railroad. (Railway noise levels were derived from the San Bernardino General Plan, Noise Element - Appendix D.)

Due to the unique nature of Hesperia Airport as an Air-Park, plus the fact that the provision to build and occupy structures within an unusually close proximity to the runway exists, a 60 CNEL contour has been plotted on Figure III-3. Note that this contour extends off the airport property and into the surrounding area on those lots that adjoin the airport perimeter.

A matrix showing land use compatibility for community noise environments is included (Figure II-4).

\*\* Appendix “B” - California Administrative Code Title 21, Subchapter 6. Noise standards.

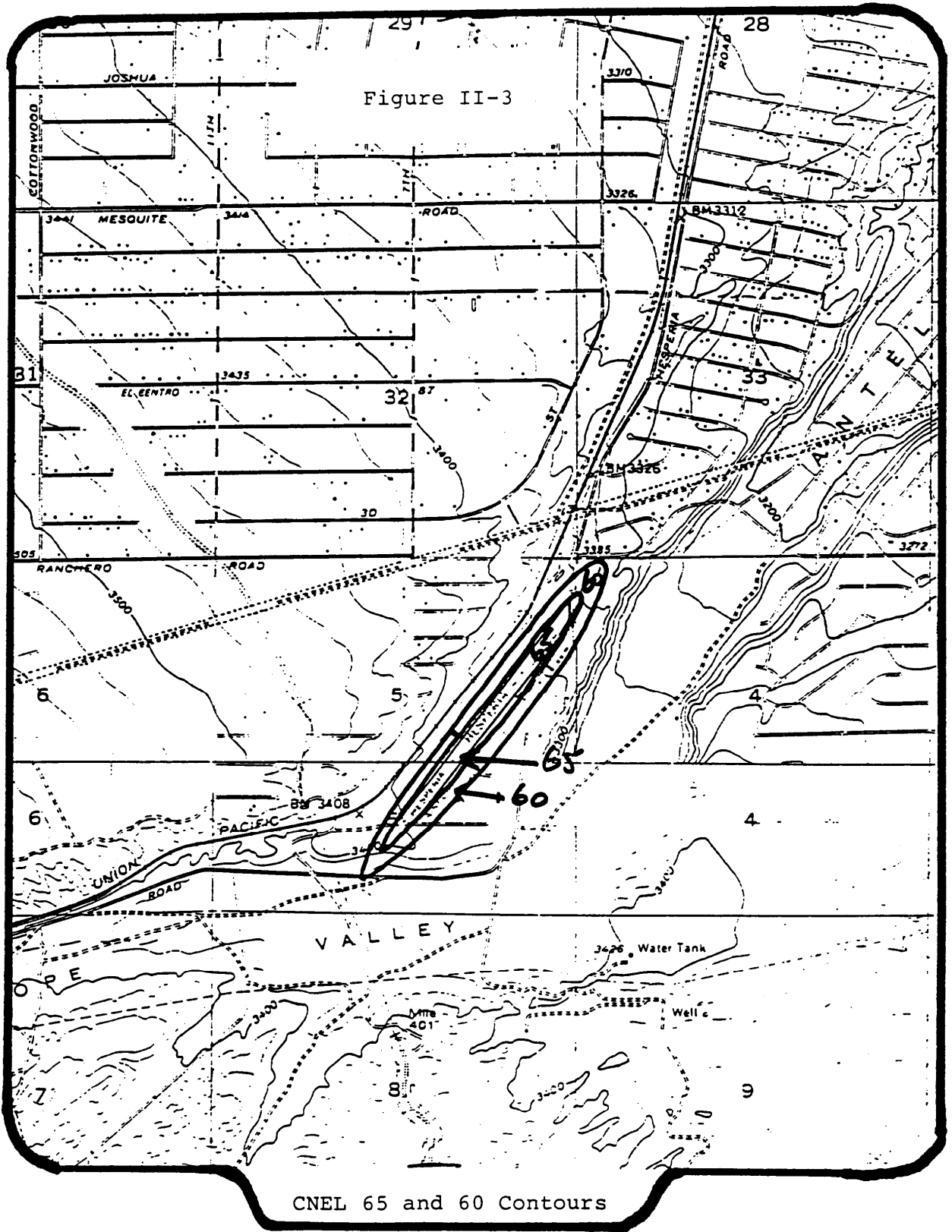
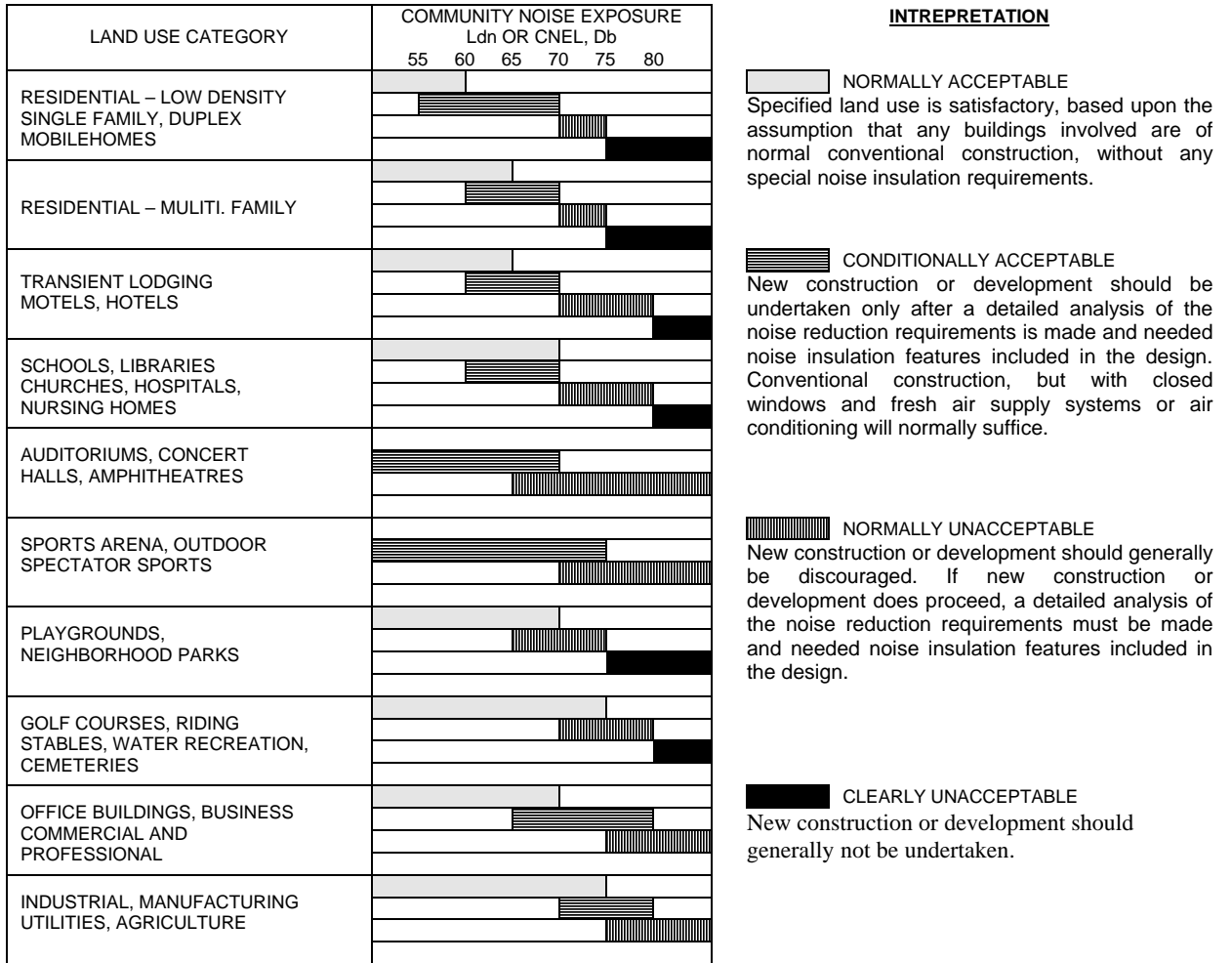


Figure II-4

LAND USE COMPATIBILITY FOR COMMUNITY NOISE ENVIRONMENTS



Source:  
Appendix A  
Guidelines for the preparation  
and content of the  
Noise Element of the General Plan  
The Governor's Office of Planning and Research



In the State Airport Land Use Planning Handbook, an analysis of ALUC plans of a number of general aviation airports, showed that residential development was discouraged in the 60-65 CNEL noise impact area. Also, as Hesperia Airport caters only to VFR operations, the potential for annoyance (and thus complaints) exists anywhere within the airport traffic pattern and anywhere aircraft are flying below 500 feet. This is traditionally within the 55 CNEL contour which generally extends for up to a mile from the runway, at a width of between ¼ to a ½ a mile as flown by pilots.

Land use restrictions within the 60 CNEL and in some cases the 55 CNEL impact areas, may include prohibiting residential development underneath the traffic pattern or limiting development to low density uses. Other measures that have been recommended where aircraft are below 500 feet and in the general overflight area include requirements for noise easements and notification of prospective property owners.

Note that all existing structures located on the perimeter of the 60 CNEL contour at Hesperia Airport, are used for light industrial uses or in the case of residences, the specific appeal of the closeness of the airport is the reason for their location.

San Bernardino County - General Plan, Noise Element, contains the following policy:

- Exterior: Residential construction shall not be permitted in areas where the aircraft noise exposure exceeds an Ldn of 65 dB within the exterior living spaces.
- Interior: Building construction shall mitigate the aircraft noise exposure to an Ldn of 45 dB or less within the interior living space of all new residential units.

In terms of building construction, all residences within the 60 to 65 dB Ldn range will require forced air ventilation with openable windows in a closed position.

In addition, San Bernardino County shall enforce the State Noise Insulation Standards (California Administrative Code, Title 24) and Chapter 35 of the Uniform Building Code (UBC). Title 24 requires that an acoustical analysis be prepared for all new developments of multi-family dwellings, condominiums, hotels and motels proposed for areas within the 60 dB Ldn (or CNEL) contour of a major noise source for the purpose of documenting that an acceptable interior noise level of 45 dB Ldn (or CNEL) or below will be achieved with the windows and doors closed. UBC Chapter 35 requires that common wall and floor/ceiling assemblies within multi-family dwellings comply with minimum standards for the transmission of airborne sound and structure-borne impact noise.

The building uses identified in the previous paragraph are the subject of both State and San Bernardino County standards. Note that these standards clearly do not apply to single family dwellings. Figure II-5 provides an example of the criteria adopted in several ALUC plans. Figure II-6 was taken from the San Bernardino County General Plan - Noise Element.

Figure II-5

**Recommended Maximum Interior Noise Level  
Criteria for Intermittent Noise**

<u>Generalized Land Use (Occupancy)</u>	<u>Maximum Int. Intermittent Noise - dBA</u>	<u>Basis for Criteria*</u>
<b>A. RESIDENTIAL - SINGLE AND TWO FAMILY DWELLINGS</b>		
1. Living Areas		
a. Daytime	60	Conversation - 5 ft. - normal voice
b. Nighttime	55	Conversation - 10 ft. - normal voice
2. Sleeping Areas	40*	Sleeping
<b>B. RESIDENTIAL</b>		
Multiple Family Apartments	Same as A.	Same as A.
<b>C. EDUCATIONAL FACILITIES. ETC.</b>		
1. Concert Hall	25	Intrusion of noise may spoil artistic effect
2. Legitimate Theater	30	Intrusion of noise may spoil artistic effect
3. School Auditorium	35	Minimize intrusion into artistic performance
4. School Classroom	55	Speech communication - 20 ft. - raised voice
5. School Laboratory	60	Speech communication - 6 ft. - normal voice
6. Church Sanctuaries	45	Speech communication - 50 ft. - raised voice
7. Library	65	Speech communication - 3 ft. - normal voice
<b>D. RECREATIONAL FACILITIES</b>		
1. Motion Picture Theater	45	Minimize intrusion into artistic performance
2. Sports Arena	75	Conversation - 2 ft. - raised voice
3. Bowling Alley	75	Conversation - 2 ft. - raised voice
<b>E. COMMERCIAL, MISCELLANEOUS</b>		
1. Hotel, Motel Sleeping	40	Sleeping
2. Hospital Sleeping	40	Sleeping
3. Executive Offices, Conf. Rooms	55	Speech communication - 12 ft. - normal voice
4. Staff Offices	60	Speech communication - 6 ft. - normal voice
5. Sales, Secretarial	65	Satisfactory telephone use
6. Restaurants	65	Conversation - 4 ft. - normal voice
7. Markets, Retail Stores	65	Conversation - 4 ft. - normal voice
<b>F. LIGHT INDUSTRIAL</b>		
1. Office Areas	See E-3, 4, 5	See E-3, 4, 5
2. Laboratory	60	Speech Communication - 6 ft. - normal voice
3. Machine Shop	75	Speech Communication - 3 ft. - raised voice
4. Assembly, Construction	75	Speech Communication - 2 ft. - raised voice
<b>G. HEAVY INDUSTRIAL</b>		
1. Office Areas	See E-3, 4, 5	See E-3, 4, 5
2. Machine Shop	75	Speech Communication - 3 ft. - raised voice
3. Assembly Construction	75	Speech Communication - 2 ft. - raised voice

\* Some ALUCs have used 50 dBA for sleeping areas

Figure II-6

Interior/Exterior Noise Level Standards  
Mobile Noise Sources

Categories	Land Uses Uses	Ldn (or CNEL), dB	
		Interior <sup>1</sup>	Exterior <sup>2</sup>
Residential	Single & multi-family, duplex	45	60 <sup>3</sup>
	Mobile Home	45	60 <sup>3</sup>
Commercial	Hotel, motel, transient lodging	45	60 <sup>3</sup>
	Commercial retail, bank, restaurant	50	—
	Office building, research & development, professional offices	45	65
	Amphitheater, concert ball, auditorium, movie theater	45	—
Institutional/ Public	Hospital, nursing home, school, classroom, church, library	45	65
Open Space	Park	—	65

1. Interior living environment excluding bathroom, kitchens, toilets, closets corridors.
2. Outdoor environment limited to:
  - Private yard of single family dwellings
  - Multi-family private patios or balconies
  - Mobile home parks
  - Hospital/office building patios
  - Park picnic areas
  - School playgrounds
  - Hotel and motel recreation areas
3. An exterior noise level of up to 65 dB Ldn (or CNEL) will be allowed provided exterior noise levels have been substantially mitigated through a reasonable application of the best available noise reduction technology, and interior noise exposure does not exceed 45 dB Ldn (or CNEL) with windows and doors closed. Requiring that windows and doors remain closed to achieve an acceptable interior noise level will necessitate the use of air conditioning or mechanical ventilation.

SAFETY IMPACT  
and  
REFERRAL AREAS

## SAFETY

The overriding objective of California's airport land use planning law is to protect the public's health, safety and welfare. Two critical elements must be addressed when assessing safety issues and attempting to determine measures that would effectively minimize potential injury and/or loss of life that could result from any incident related to an aircraft. These are safety elements on the ground and safety elements in the air. One effective mitigation measure is to initiate height restrictions on structures that impose into the nation's airspace. This measure is more fully explained elsewhere in this plan under "airspace restrictions".

In proportion to overall air operations, the actual incidence of aviation accidents is extremely minute. Additionally it is impossible to plan in advance (at a local government level), measures that would minimize loss of life on the ground, should an accident, such as a 747 crash into a heavily populated urban area, occur. As such, the potential for such a disaster is not explored within this plan.

By its very nature, Hesperia Airport, with its minimal number of aircraft operations and its location within a sparsely populated area, possess only a limited safety threat, in comparison to other airports in the country. Notwithstanding this position, it is still essential that every effort be made to minimize any potential impact, should an aircraft crash of any type occur, within the City of Hesperia or within the surrounding region.

No clear cut guidelines exist in respect to appropriate land use and/or population densities around airports verses the potential for injury or property damage should an accident occur. An assessment of National Transportation Safety Board (NTSB) statistic (Figure III-1) reveals that while an overwhelming majority of general aviation accidents occur on the airport, the potential for an accident to take place near the airport is still substantial, and in the majority of cases, more serious in nature. Further that accidents near airports tend to be evenly divided between takeoff and landing.

The obvious solution to minimizing injury or loss of life on the ground, should an aircraft accident occur near the airport, is to ensure that, no structures are, or, no activities involving the public take place, in areas extending outwards from the runway centerline. This area is referred to as a safety zone, and under normal circumstances could encompass an area identical to the approach zone, more fully described on page 39.

Figure III-1

Major General Aviation Accidents (1974-1979)

<u>Landing or Takeoff</u>	<u>Location</u>	<u>Detailed Phase of Operation</u>	<u>Number of Accidents</u>	<u>%</u>
Takeoff	On-Airport	Run	1,251	
		Aborted Takeoff	384	
	Near Airport	Initial Climb	3,182	100%
	Other		<u>236</u>	
	Total		5,053	
Landing	On-Airport	Level Off-Touchdown	3,909	
		Roll	3,336	
	Near Airport	Traffic Pattern- Circling	542	16.7%
		Final Approach - VFR	1,706	52.6
		Initial Approach	61	1.9
		Final Approach - IFR	228	7.0
		Go Around - VFR	653	20.2
		Missed Approach - IFR	<u>51</u>	<u>1.6</u>
	Near Airport Sub-Total		3,241	100.0%
	Other		497	
Total		10,983		

Note: Major accidents are accidents in which the aircraft was destroyed or substantially damaged.

Note: Due to a revision of NTSB formats, the most recent statistics showing the location of GA accidents in relationship to airports, were published for the period 1974-1979 (Figure III-1).

Figure III-3 shows more recent statistics; however, on-airport accidents during landing and take-off were not broken out of the broader classifications. Irrespective of these considerations, little difference in the percentages between the categories is apparent with the more recent figures, and thus the percentages of accident locations derived from the 1974-1979 statistics remains constant.

Figure III-2

MOST PREVALENT FIRST OCCURRENCES  
ALL ACCIDENTS  
1987 AND 1982 - 1986

Type of Occurrence	1987		1982 - 1986	
	No.	Percent	Mean	Percent
Loss of control - in flight	326	13.1	369.6	12.5
Loss of engine power (total) non-mechanical	259	10.4	335.0	11.3
Loss of control - on ground	322	13.0	317.6	10.7
In flight collision with object	186	7.5	236.2	8.0
In flight encounter with weather	150	6.0	203.2	6.9
In flight collision with terrain/water	109	4.4	192.8	6.5
Loss of engine power	171	6.9	184.8	6.2
Hard landing	132	5.3	155.2	5.2
Airframe/component/system failure/malfunction	132	5.3	147.2	5.0
Loss of engine power (total) - mech failure/malf	113	4.5	132.4	4.5
Overrun	77	3.1	98.2	3.3
On ground collision with object	65	2.6	84.8	2.9
Loss of engine power (partial) - mech failure/malf	51	2.1	71.4	2.4
Undershoot	41	1.6	56.0	1.9
Loss of engine power(partial) - non-mechanical	53	2.1	49.6	1.7
On ground collision with terrain/water	39	1.6	46.6	1.6
Midair collision	41	1.6	44.0	1.5
Nose over	25	1.0	38.6	1.3
(All other types)	194	7.8	198.2	6.7
Number of Aircraft	2486	100.0	2961.4	100.0

Figure III-3

MOST PREVALENT FIRST PHASES OF OPERATION  
ALL ACCIDENTS  
1987 AND 1982 - 1986

Phase of Operation	1987		1982 - 1986	
	No.	Percent	Mean	Percent
Landing	639	25.7	756.0	25.5
Takeoff	505	20.3	612.2	20.7
Cruise	379	15.2	494.4	16.7
Maneuvering	344	13.8	403.4	13.6
Approach	298	12.0	378.6	12.8
Climb	80	3.2	81.4	2.7
Taxi	67	2.7	79.6	2.7
Descent	77	3.1	79.6	2.7
Other	23	.9	44.0	1.5
Standing	40	1.6	31.6	1.1
No reported	9	.4	.6	.0
Number of Aircraft	2486	100.0	2961.4	100.0

Located within this safety zone, is an area known as the Runway Protection Zone (RPZ). This area was formally known as the runway clear zone. FAA Advisory Circular 150/5300-13 defines the RPZ as trapezoidal in shape and centered about the extended runway centerline. It begins 200 feet beyond the end of the area usable for takeoff or landing. Displacing the threshold does not change the beginning point of the RPZ. The RPZ dimensions are functions of the design aircraft, type of operation, and visibility minimums (Figure III-4). The RPZ at Hesperia Airport extends for a distance of 1,000 feet from an initial width of 250 feet to an outer width of 450 feet. These dimensions encompass a land mass of 8.035 acres. The remaining area of the approach zone makes up "Safety Zone II" (Figure III-5).

Figure III-4

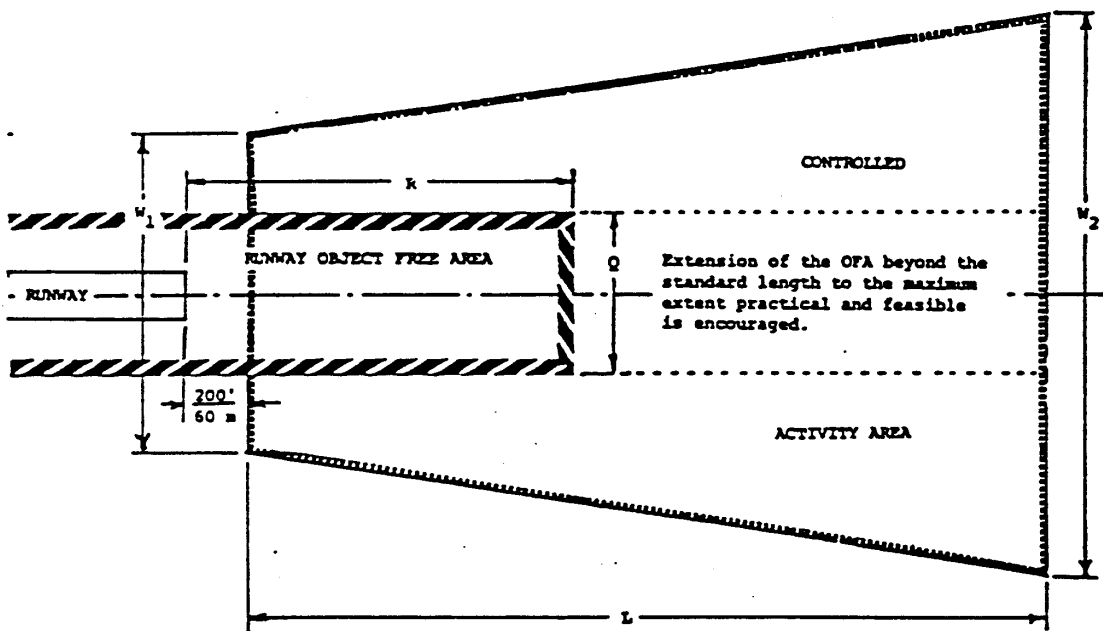
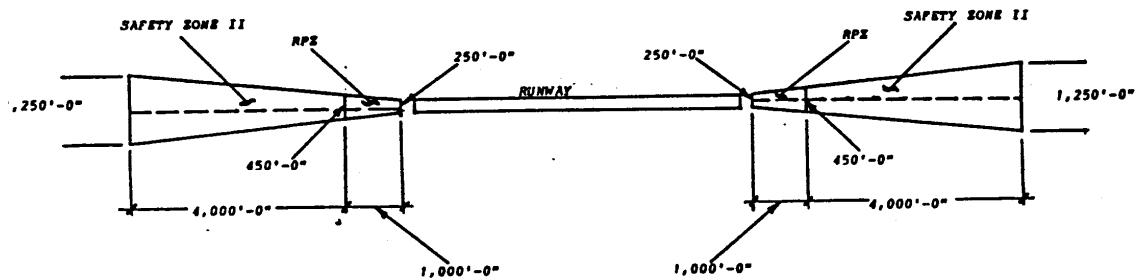


Figure III-5





Also located within the RPZ is a two dimensional ground area known as the runway Object Free Area (OFA). The runway OFA (Figure III-4) clearing standards preclude parked airplanes and objects, except objects whose location is fixed by function. The OFA extends for a distance of 300 feet from the end of the runway and surrounds the runway at a width of 250 feet.

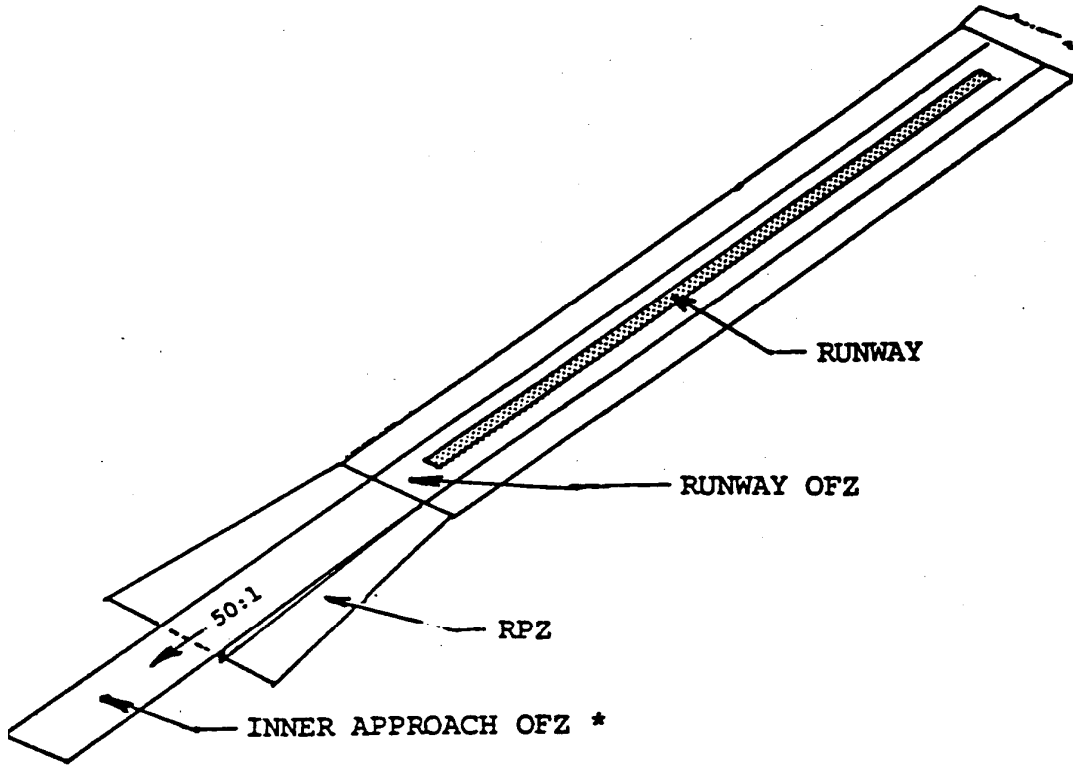
Supplementing the RPZ is an Obstacle Free Zone (OFZ). The OFZ (Figure III-6) is a three dimensional volume of airspace which supports the transition of ground to airborne aircraft operations (and vice versa). The OFZ clearing standard precludes taxiing and parked airplanes and object penetrations, except for frangible NAVAIDs whose location is fixed by function. The runway OFZ is a defined volume of airspace above a surface whose elevation at any point is the same as the elevation of the nearest point on the runway centerline. The runway OFZ extends 200 feet beyond each end of the runway in a rectangular shape with a width of 250 feet.

Safety Zone III is an outer approach zone with its principal imaginary center line(s) paralleling the normal flight approach and departure (traffic pattern) paths pilots use to and from the airport. The zone also encompasses all of the potential overfly area surrounding the airport in a similar area to the horizontal surface defined in figure IV-2. This zone has a measurable accident potential, especially with a high risk of midair collisions.

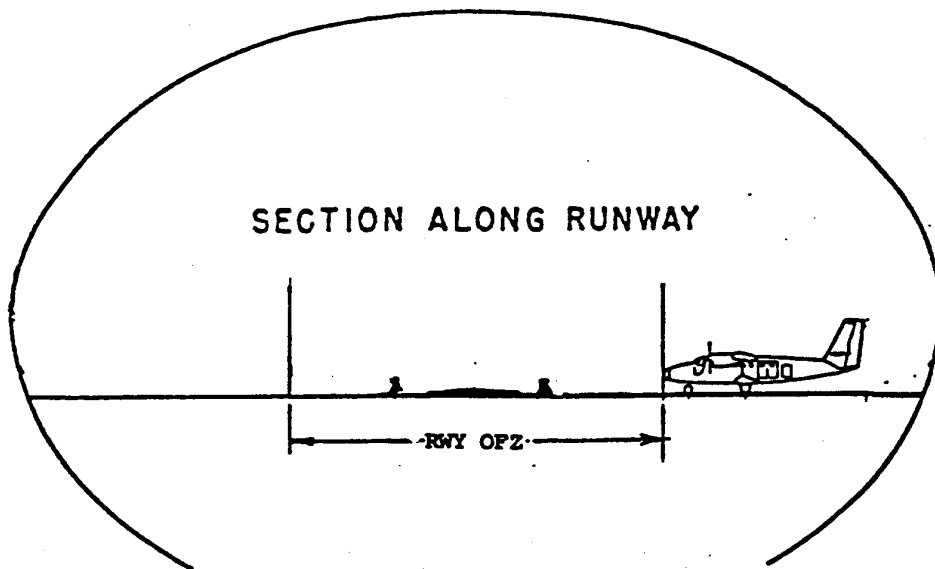
Some ALUCs will also incorporate a fourth safety zone into their CLUP's. In this case, Safety Zone III would be primarily identified as a climbout zone and Safety Zone IV as an overfly zone. This further breakdown of safety areas is normally associated with larger airports with precision instrument approach systems and heavier, more frequent traffic. A consolidation of these zones for general aviation at Hesperia is more realistic.

Figure III-7 identifies each of the Safety Zones as they relate to Hesperia Airport and the surrounding area.

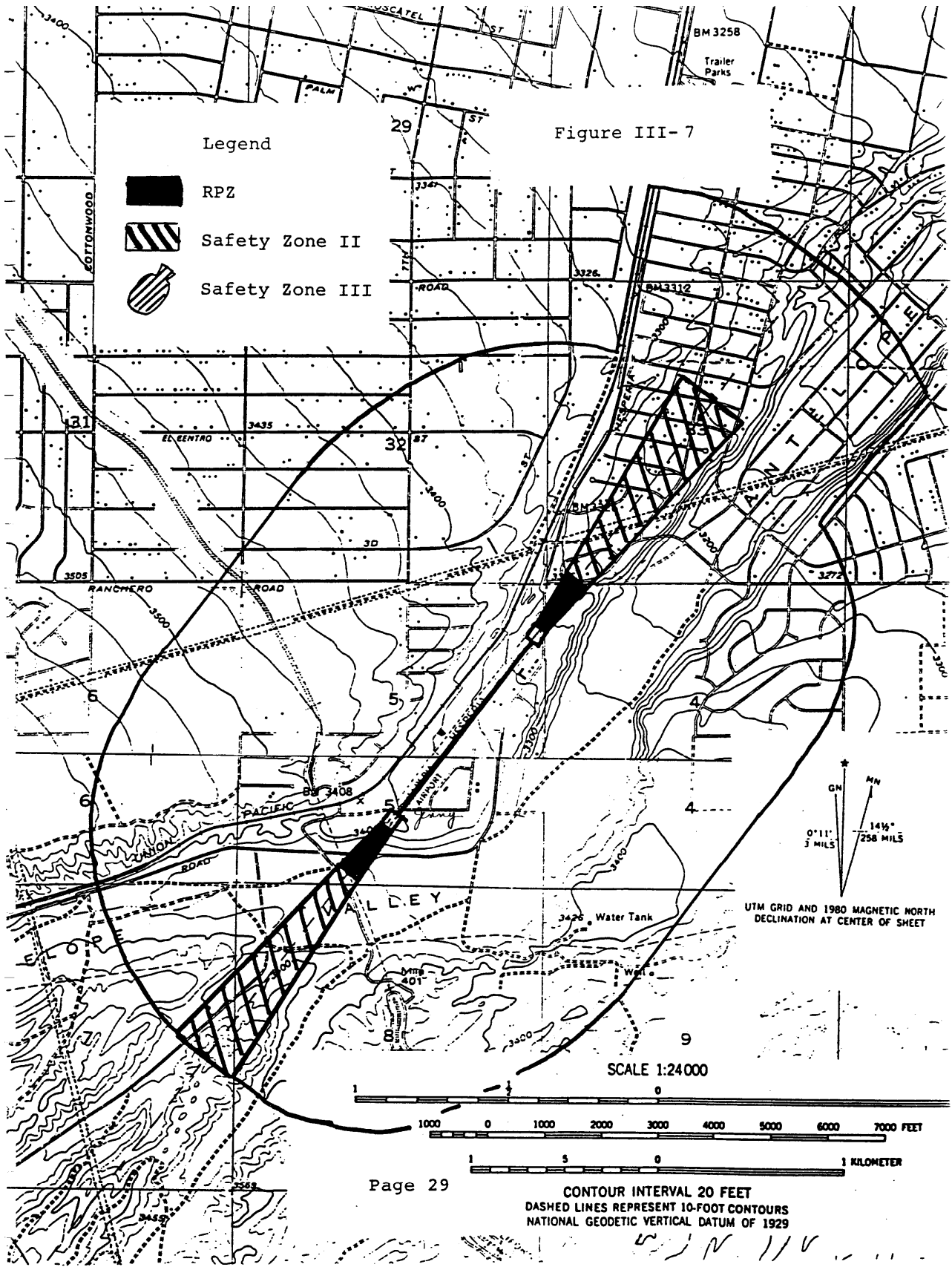
Figure III-6



\* ONLY WITH AN  
APPROACH LIGHT  
SYSTEM



Obstacle free zone (OFZ) for nonprecision instrument and visual



## Proposed Safety Zone Land Uses and Population Densities

### a) Runway Protection Zone:

FAA AC150/5300-13 identifies a controlled activity area (Figure III-4) as the portion of the RPZ beyond the sides of the OFA. Within the area under the control of the airport authority, the following recommendations are standards.

#### Recommendations:

The airport owner should acquire or control the RPZ to meet the clearing and land use standards.

- i. Land use should be prohibited which might create glare and misleading lights or lead to the construction of residences, fuel handling and storage facilities, smoke generating activities, and places of assembly. Churches, schools, office buildings, shopping centers, and stadiums typify places of public assembly.
- ii. While it is desirable to clear all objects from the RPZ, uses such as agricultural operations, provided they do not attract birds, and golf courses are normally acceptable outside of the OFA. Automobile parking, although discouraged, may be permitted provided it is located outside of the runway, OFA extended and below the approach surface.

Note: The FAA studies existing and proposed objects and activities, both off and on airports, with respect to their effect upon the safe and efficient use of the airports and the safety of persons and property on the ground. These objects need not be obstructions to air navigation, as defined in FAR Part 77. As the result of a study, the FAA may issue an advisory recommendation in opposition to the presence of any off-airport object or activity in the vicinity of the airport that conflicts with an airport planning or design standard or recommendation. (AC150/5300-13 paragraph 212)

### b) Safety Zone II:

Residential land use should be strongly discouraged and other land uses restricted. Density restrictions are needed to ensure that large concentrations of people are not located within this safety zone. Recommended density limits are as follows:

- uses in structures: no more than 25 persons per acre at any one time; no more than 15 people in any one building.
- uses not in structures: no more than 50 persons per acre at any one time.

The State planning handbook, contains a table (Figure III-8) of land use guidelines for safety zones, that were compiled from a variety of ALUC plans.

Examples of Land Use Guidelines for Safety Zones. (Source: Various ALUC Plans)

	DENSITY	COVERAGE	LAND USE
Runway Protection Zone	No people No more than 10 persons per acre - "at any one time" - "on a regular basis" - "over long periods" No more than 25 persons per acre at any time	No structures	No residential No petroleum or explosives No above grade power lines
Safety Zone II	No more than 10 people "on an annual average" "per acre" No more than 25 persons "per acre" - "at any time" - "over long periods" - "over 24 hours" No more than 50 persons per acre - "for 2 hours" - "at any time" Residential: no more than - 1 du per 5 acres - 1 du per acre - 1 du per 3 acres - 2 s.f. du per acre - 4 du per gross acre - 2 1/2 acre lots, minimum No more than 100-150 people in a single building (AICUZ)	Maximum structural coverage must be less than: - 20% - 25% - 30% - 50% (AICUZ)	Low density residential No multi-family No hotels or motels No restaurants or bars No schools, hospitals or government services No concert halls or auditoriums No industries involved in flammable materials or processes Commercial and industrial generally OK if density and lot coverage restrictions applied
Safety Zone III	No more than 50 persons over long periods No more than 4 du per acre No more than 200-300 people in a single building (AICUZ)*  No more than 3 du per acre (under Traffic Pattern)	Maximum structural coverage must be less than: - 30% - 50% - 75% (AICUZ)  Maximum structural coverage must be less than - 20% (Traffic Pattern)	Generally same as above.  No schools, sports arenas, auditoriums, or outdoor amphitheaters No industries involved with flammable materials or processes

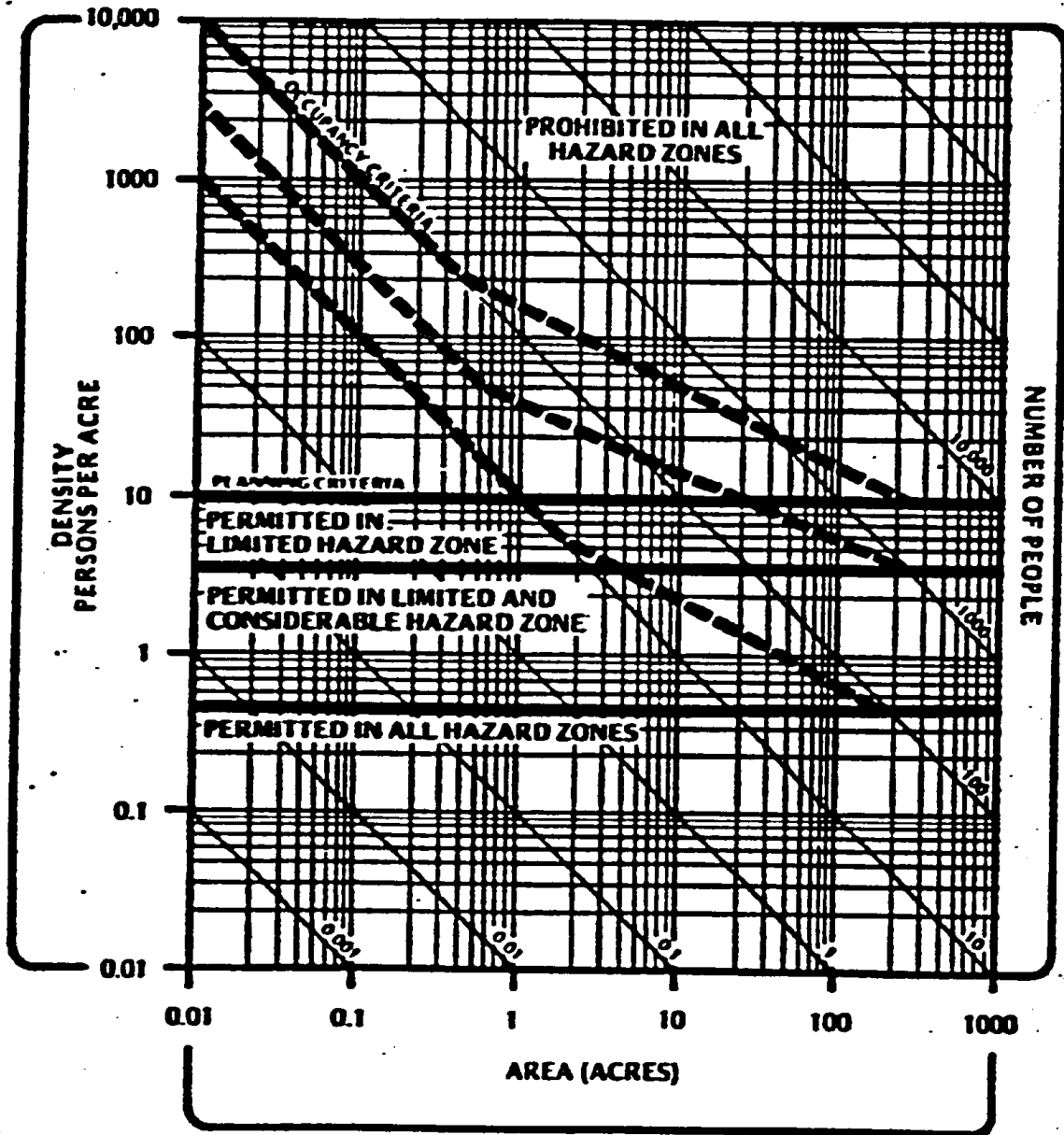
Legend:

du-dwelling unit(s)

\*most recent guidelines do not specify numbers of persons per building; however, intent is to avoid large concentrations of persons in a single structure

# Suggested Density Criteria

Figure III-9



SOURCE: Wiley & Ham

Figure III-8 shows that other ALUCs have criteria ranging from one dwelling per acre up to one dwelling per five acres. The specific type and number of operations at each airport, plays an important part when establishing limitations in Safety Zone II.

The San Bernardino County General Plan, Man-Made Hazards, contains suggested density criteria (Figure III-9) and air safety zone and land use suitability matrixes, along with other recommendations and standards. A departmental review of all residential development that exceeds a density of two dwelling units per gross acre is also required.

c) Safety Zone III:

Generally, ALUCs place few restrictions on residential uses within this area. Strong emphasis is still placed on limiting large assemblies of people in uses such as:

- Hospitals
- Stadiums and arenas
- Auditoriums and concert halls
- Outdoor amphitheaters and music shells
- Regional shopping centers
- Jails and detention centers

Additionally, land use activities which may present visual, electronic, or physical hazards to aircraft in flight should be avoided in this and all other safety zones. Visual hazards include distracting lights (particularly lights which can be confused with airfield lights), glare, and sources of smoke. Electronic hazards include any uses which interfere with aircraft radio communications. The principal physical hazards, other than the height of structures, are bird strikes. Any land uses which can attract birds should be avoided. Particularly inappropriate uses are artificial attractors and sanitary landfills.

The Sacramento Area Council of Governments (SACOG) has studied density criteria and land use compatibility in safety zones at length. SACOG's guidelines provide a frequently used model for ALUCs and these guidelines are included as Figure III-11.

Shielding

One effective method which could be considered to minimize the crash hazard result to people on the ground, is to shield them, and structures from the potential direct impact of aircraft. This can be achieved by planting trees in front of structures or by locating new buildings behind trees, other natural or man made barriers or other existing buildings. Additionally, buildings could be constructed of brick or concrete in order to prevent light aircraft from penetrating through the structure.

Figure III-10

*Land Use Compatibility in Aviation Safety Areas*

LAND USE	SAFETY AREA			
	1	2	3	4
Residential single-family, duplex, multi-family, mobile homes	Clearly Unacceptable	Clearly Unacceptable	Normally Acceptable*	Normally Acceptable*
Hotels, motels, transient lodging	Clearly Unacceptable	Clearly Unacceptable	Normally Acceptable	Clearly Unacceptable
Schools, nursing homes, libraries, churches, hospitals	Clearly Unacceptable	Clearly Unacceptable	Normally Acceptable	Clearly Unacceptable
Auditoriums, concert halls, amphitheaters	Clearly Unacceptable	Clearly Unacceptable	Normally Acceptable	Clearly Unacceptable
Sports arenas, outdoor spectator sports	Clearly Unacceptable	Clearly Unacceptable*	Normally Acceptable*	Clearly Unacceptable*
Playgrounds, neighborhood parks	Clearly Unacceptable	Normally Unacceptable	Normally Acceptable	Normally Acceptable
Golf courses, riding stables, water recreation, cemeteries	Normally Unacceptable	Normally Acceptable	Clearly Acceptable	Clearly Acceptable
Office buildings, personal, professional	Clearly Unacceptable*	Clearly Unacceptable*	Normally Acceptable*	Clearly Unacceptable*
Commercial – retail, movie theaters, restaurants	Clearly Unacceptable*	Clearly Unacceptable	Normally Acceptable	Clearly Unacceptable
Commercial – wholesale, some retail, industry, manufacturing, utilities	Clearly Unacceptable	Normally Acceptable	Normally Acceptable	Normally Acceptable
Livestock, farming, animal breeding	Normally Unacceptable*	Normally Acceptable*	Clearly Acceptable*	Clearly Acceptable*
Agriculture (except livestock), mining and fishing	Normally Acceptable	Clearly Acceptable	Clearly Acceptable	Clearly Acceptable
Extensive natural recreation	Normally Acceptable	Clearly Acceptable	Clearly Acceptable	Clearly Acceptable
Maximum gross density recommended (persons per acre)	.5	25	No Limit	10**
Maximum assembly recommended (persons)	10	100	No Limit	100**
<p>Safety Review Area 1 – Area at either end of a runway inside and outside of the airport boundaries, and labeled clear zone as defined by FAA or Military AICUZ studies.</p> <p>Safety Review Area 2 – Area outside the airport boundaries but within the 65 Ldn noise contour.</p> <p>Safety Review Area 3 – Varies with the airport but generally: a) For airports with a 65 Ldn noise contour, area outside the 65 Ldn noise contour; b) For airports without the 65 Ldn noise contour, area within one mile of the outer boundaries of the airport ownership.</p> <p>Safety Review Area 4 – Varies with the facility: China Lake and George – one mile outside the 65 Ldn contour. Norton – within a 5-mile radius of the base. Low Altitude Corridors – entire area beneath the corridors.</p> <p>Clearly Acceptable – No restrictions.</p> <p>Normally Acceptable – Restricted development undertaken only after detailed analysis and satisfactory mitigation measures are initiated.</p> <p>Normally Unacceptable – No new development.</p> <p>Clearly Unacceptable – New construction or development should generally not be undertaken. Existing uses should be relocated.</p> <p>* Some specific uses in this group may meet density criteria and be more acceptable.</p> <p>** Applies for low altitude flight corridor only. Unlimited occupancy in other Safety Area 4 locations.</p>				



Figure III-11

LAND USE COMPATIBILITY GUIDELINES FOR SAFETY<sup>1</sup>

LAND USE CATEGORY	COMPATIBILITY WITH		
	RUNWAY PROTECTION ZONE	SAFETY ZONE II	SAFETY ZONE III
<u>RESIDENTIAL</u>			
Single-family detached	No	Yes <sup>2</sup>	Yes
Two-family dwelling	No	No	Yes
Multi-family dwelling	No	No	Yes
Group quarters	No	No	Yes
Mobile home parks or courts	No	No	Yes
<u>MANUFACTURING</u>			
Food and kindred products	No	Yes <sup>3</sup>	Yes
Textiles and apparel	No	Yes <sup>3</sup>	Yes
Transportation equipment	No	Yes <sup>3</sup>	Yes
Lumber and wood products	No	Yes <sup>3</sup>	Yes
Furniture and fixtures	No	Yes <sup>3</sup>	Yes
Paper and allied products	No	Yes <sup>3</sup>	Yes
Printing and publishing	No	Yes <sup>3</sup>	Yes
Chemicals and allied products	No	No	No
Petroleum refining	No	No	No
Rubber and plastic	No	No	No
Stone, clay and glass	No	Yes <sup>3</sup>	Yes
Primary and fabricated metal	No	Yes <sup>3</sup>	Yes
Electrical and electronics	No	Yes <sup>3</sup>	Yes
Miscellaneous manufacturing	No	Yes <sup>3</sup>	Yes
<u>TRANSPORTATION, COMMUNICATIONS, AND UTILITIES</u>			
Passenger terminals	No	No	Yes
Streets, roads, highways and rail lines	Yes <sup>4</sup>	Yes <sup>3</sup>	Yes
Parking lots	No	Yes <sup>3</sup>	Yes
Radio & TV stations, telephone service	No	Yes <sup>3</sup>	Yes
Electric, gas, water, & sewer plants	No	No	Yes
Trucking and rail freight terminals	No	Yes <sup>3</sup>	Yes
Landfills	No	No	Yes <sup>5</sup>
Hazardous waste facilities	No	No	No
<u>TRADE, BUSINESS, AND OFFICE SERVICES</u>			
Wholesale trade and distribution	No	Yes <sup>3</sup>	Yes
Warehousing and storage	No	Yes <sup>3</sup>	Yes
Retail trade- general	No	Yes <sup>3</sup>	Yes
Service stations	No	No	Yes
Eating and drinking	No	Yes <sup>3</sup>	Yes
Hotels, motels, and campgrounds	No	No	Yes
Repair services	No	Yes <sup>3</sup>	Yes
Personal services	No	Yes <sup>3</sup>	Yes
Business services	No	Yes <sup>3</sup>	Yes
Banks and financial services	No	Yes <sup>3</sup>	Yes
Business parks	No	Yes <sup>3</sup>	Yes
Office buildings	No	Yes <sup>3</sup>	Yes
<u>PUBLIC AND QUASI-PUBLIC SERVICES</u>			
Government services	No	Yes <sup>3</sup>	Yes
Schools	No	No	Yes <sup>6</sup>
Hospitals	No	No	No
Medical clinics	No	No	Yes
Libraries, museums, and art galleries	No	No	Yes
Churches	No	No	Yes
Cemeteries	No	Yes <sup>3</sup>	Yes
Jails and detention centers	No	No	No
Child care centers (6 or more children)	No	No	Yes

## LAND USE COMPATIBILITY GUIDELINES FOR SAFETY<sup>1</sup>

LAND USE CATEGORY	COMPATIBILITY WITH		
	RUNWAY PROTECTION ZONE	SAFETY ZONE II	SAFETY ZONE III
<u>SHOPPING DISTRICTS</u>			
Neighborhood shopping center	No	No	Yes
Community shopping center	No	No	Yes
Regional shopping center	No	No	No
<u>RECREATION</u>			
Neighborhood parks	No	No	Yes
Community-wide regional park	No	No	Yes
Riding stables	No	Yes <sup>3,7</sup>	Yes
Golf courses	No	Yes <sup>3,7</sup>	Yes
Open space and natural areas	Yes <sup>4,5</sup>	Yes <sup>5,7</sup>	Yes
Water areas	Yes <sup>4,5</sup>	Yes <sup>5,7</sup>	Yes
Indoor recreation and amusements	No	No	Yes
<u>PUBLIC ASSEMBLY</u>			
Motion picture theater-single or double	No	No	Yes
Motion picture theater complex, 3 or more	No	No	No
Stadiums and arenas	No	No	No
Auditoriums, concert halls, amphitheatres	No	No	No
Fairgrounds	No	No	No
<u>AGRICULTURE AND MINING</u>			
Agriculture - row crops	Yes <sup>4,5</sup>	Yes <sup>5</sup>	Yes
Agriculture - tree crops	No	Yes <sup>5</sup>	Yes
Agriculture - intensive livestock	No	Yes <sup>5</sup>	Yes
Pasture and grazing	Yes <sup>4,5</sup>	Yes	Yes
Agricultural services	No	Yes <sup>3</sup>	Yes
Mining and quarrying	No	Yes <sup>3,5</sup>	Yes

### FOOTNOTES:

1. These guidelines define only those land uses which are compatible within safety areas. Where proposed land uses fall within the established noise contours or may penetrate any of the height imaginary surfaces, additional restrictions apply as contained in the height and noise policy sections of this plan.
2. Single-family detached residential is a compatible land use only if the density is five acres or more per single family residence.
3. Uses compatible only if they do not result in a large concentration of people. A large concentration of people is defined as a gathering of individuals in an area that would result in an average density of greater than 25 people per acre per hour during a 24 hour period, or a single event that would result in a gathering of greater than 50 people per acre at any time. (See Appendix A).
4. No building, structures, aboveground transmission lines, or aboveground storage of flammable or explosive material, and no uses resulting in a gathering of more than 10 people per acre at any time.
5. Uses compatible only if they do not result in a possibility that a water area may cause ground fog or result in a bird hazard.
6. Uses compatible only if the requirements of California Education code, Sections 39005-7, 81036, and 81038 are fulfilled.
7. No high-intensity use or facilities, such as structured playgrounds, ballfields, or picnic pavilions.

HEIGHT IMPACT  
and  
REFERRAL AREAS

## AIRSPACE RESTRICTIONS

Federal rule (14 CFR Part 77)\* clearly establishes criteria for height restrictions in the vicinity of airports. In addition, it notices requirements for construction that could impact airspace anywhere within the nation. All ALUCs base height limitations on FAR Part 77 and San Bernardino County has adopted Part 77 standards into its General Plan\*\*.

Height restrictions are necessary to protect navigable airspace required for safe air operations. California's airport land use planning laws further attempt to effectively mitigate the potential threat to the public's safety and welfare that could be caused by incidents in conflict with structures that impose into the states airspace.

Specifically impacting all decisions on airspace located above the City of Hesperia, other areas located above the City of Hesperia Sphere of Influence and the unincorporated county area in the vicinity, is the fact that no Instrument Flight Rule (IFR) capacity exists at Hesperia Airport, and subsequently, all operations are conducted on a Visual Flight Rule (VFR) basis. It is common for pilots flying VFR to navigate by using visual references. In this respect the Union Pacific & AT&SF Railroad is a perfect locator as it leads directly to the airport from both the northern and southwesterly directions. The combination of the railroad, other visual reference points and in some cases electronic navigational aids forms a network of VFR "flyways". The safety of aircraft operations along these flyways is most effected by tall structures when weather is marginal. It is during these conditions that pilots must fly at low altitudes to remain in visual contact with the ground.

It is important to note that Part 77 obstruction standards, which are used by ALUCs as height limits, are used by the FAA in quite a different manner. These standards identify elevations above which air safety may be a problem subject to further review on a case by case basis. If a determination is made indicating a hazard to air navigation, the FAA's authority ceases at this point. It is then up to local zoning agencies to enforce the FAA recommendations and relieve the safety problem. The standards attempt to provide a reasonable and defensible balance between the needs of the airspace users and the rights of the property owners beneath the flight patterns.

\* Appendix "C" - FAR Part 77.

\*\* San Bernardino County - General Plan Update Background report, Man-made hazards - Airport Safety Issue.

The standards applicable, in FAR Part 77, as they relate to Hesperia Airport and the surrounding region, are divided into two principal elements, notice requirements and obstruction standards.

1) Notice requirements: FAR Part 77.11 through 77.19.

This section requires that each person proposing any kind of construction or alteration, as described below, within the City of Hesperia limits or within other areas within the vicinity, notify the FAA administrator of their intentions. This section also specifies the procedure for notification and details some exceptions.

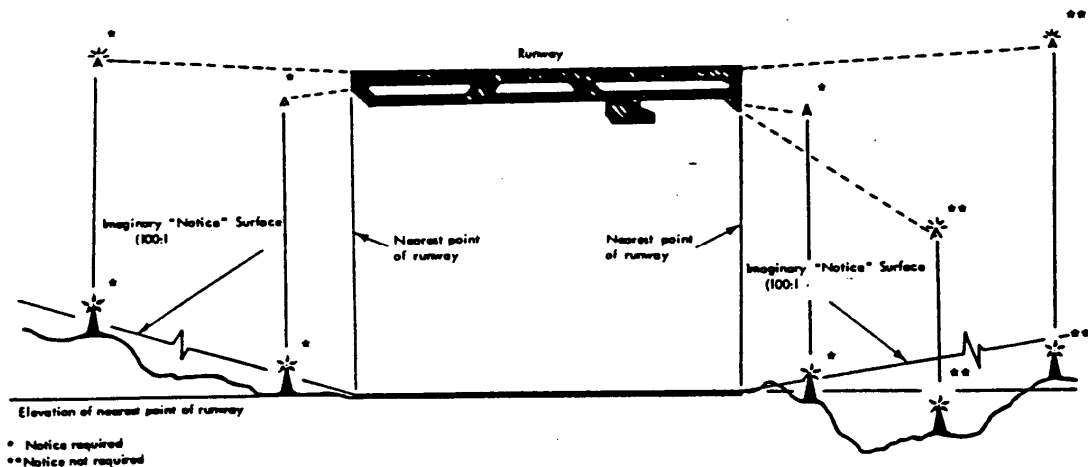
Minimum notice requirements:

Any construction or alteration of:

- more than 200 feet in height above the ground level at its site, and/or
- a greater height than an imaginary surface extending outward and upward at a slope of 100 to 1 for a horizontal distance of 20,000 feet from the nearest point of the nearest runway (see Figure IV-1)

Figure IV-1

§ 77.13(a)(2) – NOTICE REQUIREMENT RELATED TO AIRPORTS



SUBPART 8 – NOTICE OF CONSTRUCTION OR ALTERATION

Note: Each airport must be available for public use and 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; under construction and the subject of a notice or proposal on file with FAA, and except for Military airports, it is clearly indicated that that airport will be available for public use, or operated by an armed force of the United States. (Heliports

and seaplane bases without specified boundaries are excluded.)  
 §77.13(a)(2) – A notice is required for any proposed construction or alteration that would be 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 with at least one runway more than 3,200 feet in actual length.

(Note: §77.13(a)(5) requires notice of any proposed construction or alteration on each airport, including heliports.)

2) Obstruction standards: FAR Part 77.21 through 77.25.

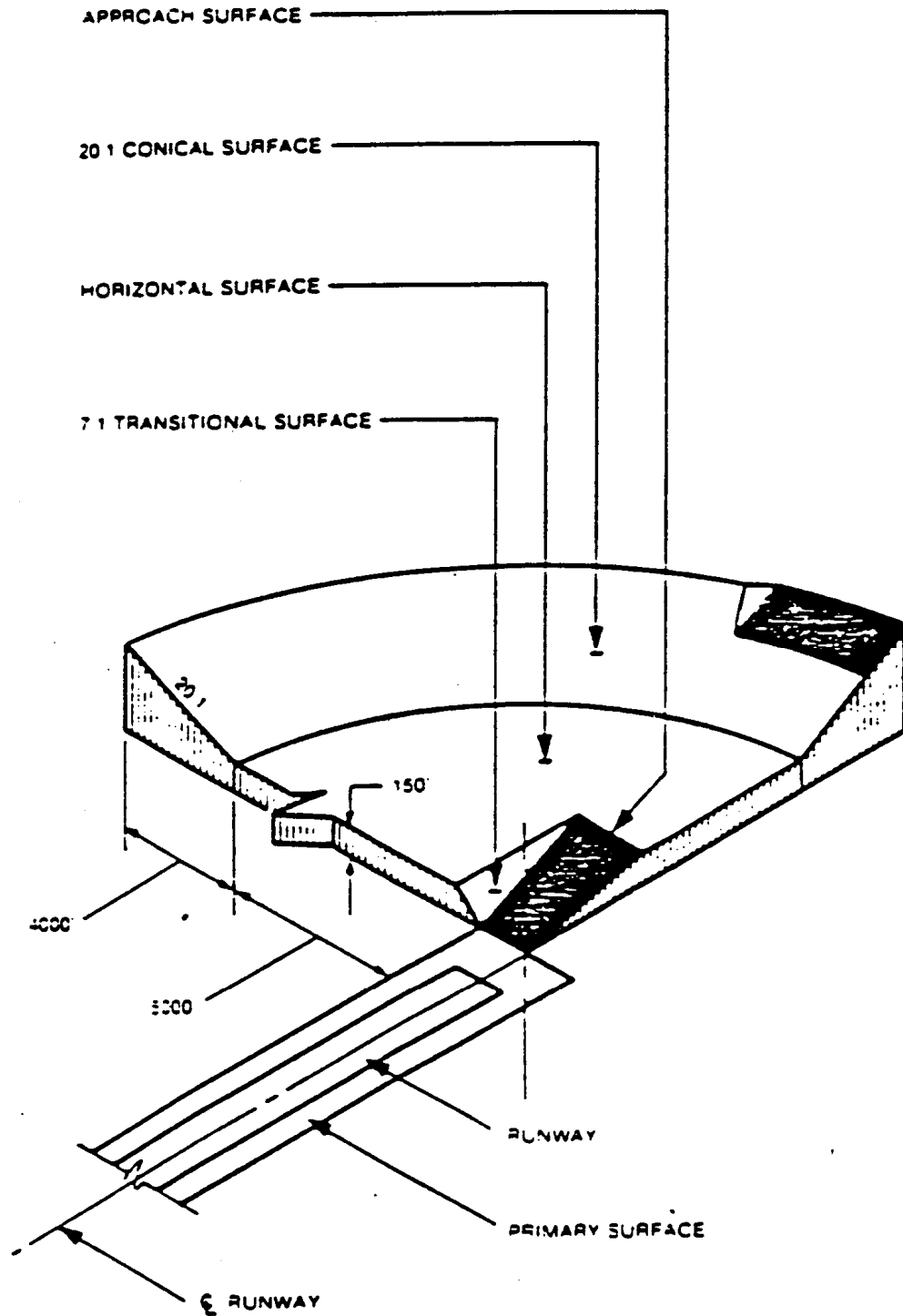
This section establishes standards for determining obstructions to air navigation. It applies to existing and proposed manmade objects, objects of natural growth, and terrain. The standards apply to the use of navigable airspace by aircraft and to existing air navigation facilities, such as an air navigation 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.

Obstruction planning criteria is established by the use of imaginary surfaces, formulated to conform with the size and use of any particular airport. The imaginary surfaces determined by FAR Part 77.25 and applicable to Hesperia Airport are as follows:

- a) **Primary Surface:** A surface longitudinally centered along the runway, extending 200 feet beyond each end of the paved runway and having a total width of 250 feet. Note that the elevation of any point on the primary surface is the same as the elevation of the nearest point on the runway centerline.
- b) **Horizontal Surface:** A horizontal plane 150 feet above the established airport elevation, the perimeter of which is constructed by swinging an arc 5,000 feet out from the center of each end of the primary surface and connecting the adjacent arcs of lines tangent to these arcs.
- c) **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.
- d) **Approach Surface:** A surface longitudinally centered on the extended runway centerline and extending outward and upward from each end of the primary surface. The approach surface is applied to both runways 3 and 21. The inner edge of the approach surface is 250 feet in width, extending uniformly to a width of 1,250 feet at a horizontal distance of 5,000 feet at a slope of 20 to 1.
- 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 surface. Transitional surfaces for those portions of the precision approach surface which project through and beyond the limits of the conical surface, extended a distance of 5,000 feet measured horizontally from the edge of the approach surface and at right angles to the runway centerline.

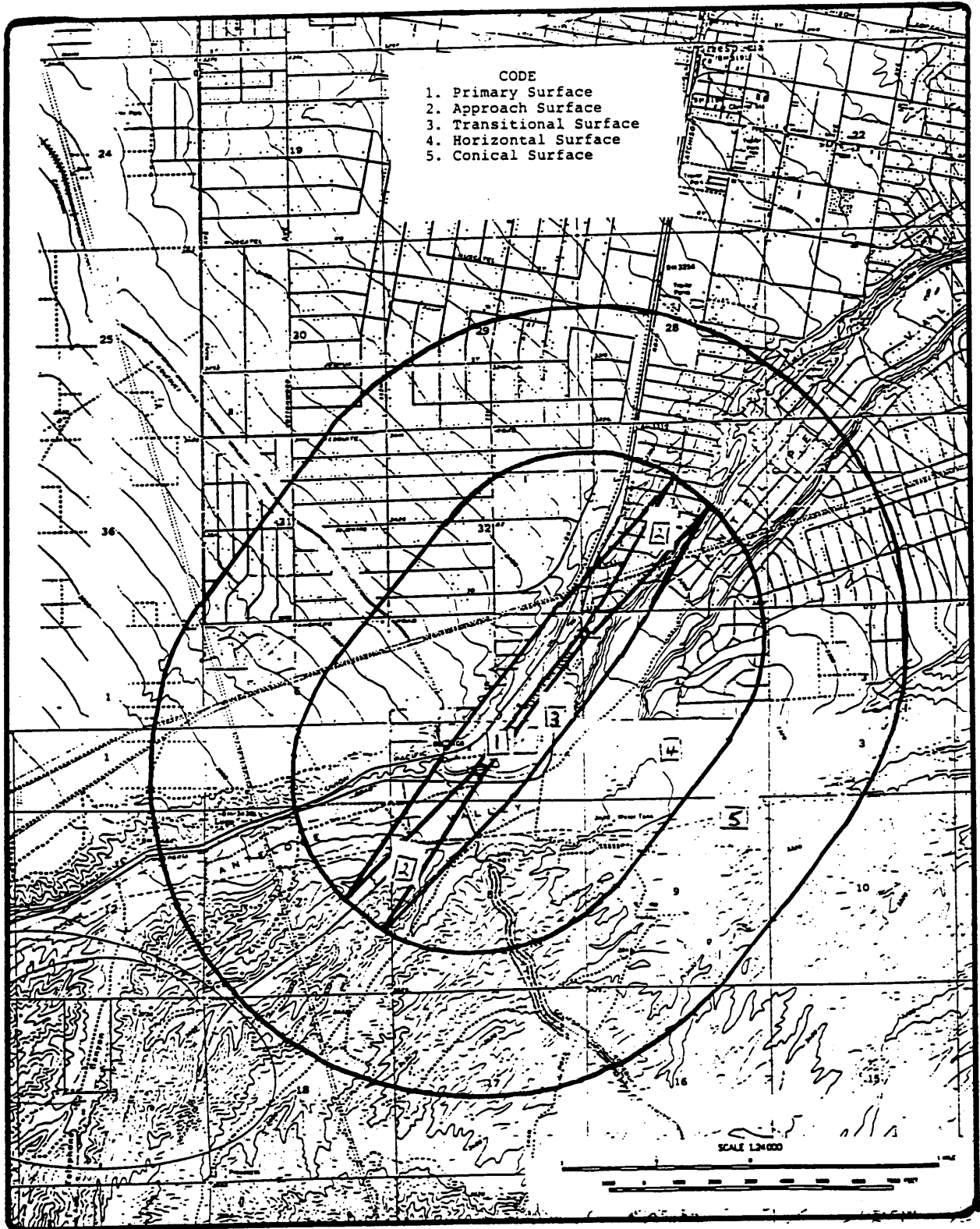
Figure IV-2 provides an Isometric View of the imaginary surfaces determined by Part 77.25. Figure IV-3 shows the actual height restriction planning boundaries located within the area surrounding Hesperia Airport.

Figure IV-2



PART 77 CIVIL AIRPORT IMAGINARY SURFACES

Figure IV-3





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OTHER IMPACTS

And

ENVIRONMENTAL REVIEW

### OTHER IMPACTS

- No elements, apart from those previously identified in this plan, were found to impact the areas surrounding Hesperia airport.
- No ground access problems could be anticipated.
- Existing encroachment on the perimeter of the airport ensures that a Precision Landing System will never be used, and thus no additional NAVAIDs are contemplated within the region.

### ENVIRONMENTAL REPORT

Due to the limitations described within this plan, the maximum potential aircraft operations, airport boundary changes, and facility expansion, remains insignificant.

No specific environmental review should be required for this plan, except that, a review should be undertaken at such time, as consistency between this plan and the City of Hesperia's General Plan, is undertaken.

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Appendix A

(Reserved)

## Appendix B

### SUBCHAPTER 6. NOISE STANDARDS

#### Article 1. General

##### 5000. Preamble.

The following rules and regulations are promulgated in accordance with Article 3, Chapter 4, Part 1, Division 9, Public Utilities Code (Regulation of Airports) to provide noise standards governing the operation of aircraft and aircraft engines for all airports operating under a valid permit issued by the Department of Transportation. These standards are based upon two separate legal grounds: (1) the power of airport proprietors to impose noise ceilings and other limitations on the use of the airport, and 2) the power of the state to act to an extent not prohibited by federal law. The regulations are designed to cause the airport proprietor, aircraft operator, local governments, pilots, and the department to work cooperatively to diminish noise problems. The regulations accomplish these ends by controlling and reducing the noise impact area in communities in the vicinity of airports.

NOTE: Authority cited: Section 21669, Public Utilities Code. Reference: Sections 21669, 21669.4, Public Utilities Code.

##### HISTORY:

1. Amendment filed 2-20-90; operative 3-22-90. (Register 90, No. 10).

##### 5001. Definitions.

The definitions in the following subsections apply to this subchapter.

(a) Air Carrier: Air carrier is any aircraft operating pursuant to a federal certificate of public convenience and necessity, \*including), any certificate issued pursuant to 49 U.S.C. Section 1371 and any permit issued pursuant to 49 U.S.C. Section 1371.

(b) Aircraft Operator: Aircraft operator means the legal or beneficial owner of the aircraft with authority to control the aircraft utilization except where the aircraft is leased, the lessee is the operator.

(c) Airport Proprietor: Airport proprietor means the holder of an airport permit issued by the department pursuant to Article 3, Chapter 4, Part 1, Division 9, Public Utilities Code.

(d) Annual CNEL: The annual CNEL, in decibels, is the average (on an energy basis) of the daily CNEL over a 12-month period. The annual CNEL is calculated in accordance with the following:

$$\text{Annual CNEL} = 10 \log_{10} [ (1 / 365) \Sigma \text{Antilog} (\text{CNEL} (i) / 10)$$

where CNEL(i) = the daily CNEL for each day in a continuous 12-month period, and Y. means summation.

When the annual CNEL is approximated by measurements on a statistical basis, as specified in Section 5034, the number 365 is replaced by the number of days for which measurements are obtained.

(e) County: County, as used herein, shall mean the county board of supervisors or its designee authorized to exercise the powers and duties herein specified.

(f) Daily Community Noise Equivalent Level (CNEL): Community noise equivalent level, in decibels, represents the average daytime noise level during a 24-hour day, adjusted to an equivalent level to account for the lower tolerance of people to noise during evening and night time periods relative to the day-time period. Community noise equivalent level is calculated from the hourly noise levels by the following:

$$\text{CNEL} = 10 \log (1/24) [\Sigma \text{ antilog (HNLD/10)} + 3 \Sigma \text{ antilog (HNLE/10)} + 10 \Sigma \text{ antilog (HNLN/10)}]$$

Where

HNLD are the hourly noise levels for the period 0700-1900 hours;

HNLE are the hourly noise levels for the period 1900-2200 hours;

HNLN are the hourly noise levels for the period 2200-0700 hours; and  $\Sigma$  means summation.

(g) Department: Department means the Department of Transportation of the State of California.

(h) General Aviation: General aviation aircraft are an aircraft other than air carrier aircraft and military aircraft.

(i) Hourly Noise Level (HNL): The hourly noise level, in decibels, is the average (on an energy basis) noise level during a particular hour. Hourly noise level is determined by subtracting 35.6 decibels (equal to  $10 \log_{10} 3600$ ) from the noise exposure level measured during the particular hour, integrating for those periods during which the noise level exceeds a threshold noise level.

For implementation in this subchapter of these regulations, the threshold noise level shall be a noise level which is 10 decibels below the numerical value of the appropriate Community Noise Equivalent Level (CNEL) standard specified in Section 5012. At some microphone locations, sources of noise other than aircraft may contribute to the CNEL. Where the airport proprietor can demonstrate that the accuracy of the CNEL measurement will remain within the required tolerance specified in Section 5070, the department may grant a waiver to increase the threshold noise level.

(j) Noise Exposure Level (NEL): The noise exposure level is the level of noise accumulated during a given event, with reference to a duration of one second. More specifically, noise exposure level, in decibels, is the level of the time-integrated A-weighted squared sound pressure for a stated time interval or event, based on the reference pressure of 20 micronewtons per square meter and reference duration of one second.

(k) Noise Impact Area: Noise impact area is the area within the noise impact boundary that is composed of incompatible land use.

(l) Noise Impact Boundary: Noise impact boundary is the locus of points around an airport for which the annual CNEL is equal to the airport noise standard established in Section 5012. The concepts of noise impact boundary and noise impact area are illustrated in Figure 1.

(m) Noise Level (NL): Noise level is the measure in decibels of an A-weighted sound pressure level as measured using the slow dynamic characteristic for sound level meters specified in American National Standard Specification for Sound Level Meters, (ANSI S1.4-1983 as revised by ANSI S1AA-1985) which is hereby incorporated by reference. The A-weighting characteristic modifies the frequency response of the measuring instrument to account approximately for the frequency characteristics of the human ear. The reference pressure is 20 micronewtons /square meter ( $2 \times 10^{-4}$  microbar).

(n) Noise Problem Airport: "Noise problem airport" is an airport that the county in which the airport is located has declared to have a noise problem under section 5020.

(o) Single Event Noise Exposure Level (SENEL): The single event noise exposure level, in decibels, is the noise exposure level of a single event, such as an aircraft flyby, measured over the time interval between the initial and final times for which the noise level of a single event exceeds a predetermined threshold noise level.

(p) Sound Pressure Level (SPL): The sound pressure level, in decibels (dB), of a sound is 20 times the logarithm to the base 10 of the ratio of the pressure of that sound to the reference pressure 20 micronewtons/square meter ( $2 \times 10^{-4}$  microbar).

NOTE: Authority cited: Section 21669, Public Utilities Code. Reference: Sections 2166921669.4, Public Utilities Code.

HISTORY:

1. Renumbering and amendment of former Section 5001 to Section 5002, and renumbering and amendment of former Section 5006 to Section 5001 filed 2-20-90; operative 3-22-90 (Register 90, No. 10). For prior history, see Register 79, No. 21.

### **5002. Liberal Construction.**

This subchapter shall be liberally construed and applied to promote its under-lying purposes which are to protect the resolve incompatibilities between airports and their surrounding neighbors.

NOTE: Authority cited: Section 21669, Public Utilities Code. Reference: Sections 2166921669.4, Public Utilities Code.

HISTORY:

1. Renumbering of former Section 5002 to Section 5003, and renumbering of Section 5W1 to Section 5002 filed 2-20-90; operative 3-22-90 (Register 90, No. 10). For prior history, see Register 79, No. 21.

### **5003. Constitutionality.**

If any provision of this subchapter or the application thereof to any person or circumstance is held to be unconstitutional, the remainder of the Su and the application of such provision to other persons or circumstances be affected thereby.

NOTE: Authority cited: Section 21669, Public Utilities Code. Reference: Sections 2166921669.4, Public Utilities Code.

HISTORY:

1. Renumbering of former Section 5003 to Section 5W4, and renumbering of former Section 5M2 to Section 5003 filed 2-2 0-90; operative 3-22-90 (Register 90, No. 10). For prior history, see Register 79, No. 21.



#### **5004. Provisions Not Exclusive.**

The provisions of this subchapter are not exclusive, and the remedies provided for in this subchapter shall be in addition to any other remedies provided for in any other law or available under common law. It is not the intent of these regulations to preempt the field of aircraft noise limitation in the state. The noise limits specified herein are not intended to prevent any local government to the extent not prohibited by federal law or any airport proprietor from setting more stringent standard.

NOTE: Authority cited: Section 21669, Public Utilities Code. Reference: Sections 21669, 21669.4, Public Utilities Code.

HISTORY:

1. Renumbering and amendment of former Section 5004 to Section 5005, and renumbering of former Section 5003 to Section 5004 filed 2-20-90; operative 3-22-90 (Register 90, No. 10). For prior history, see Register 79, No. 21.

#### **5005. Applicability.**

These regulations establish to the extent not prohibited by Federal law a mandatory procedure which is applicable to all airports in California that are required to operate under a valid permit issued by the department. These regulations are applicable (to the extent not prohibited by Federal law) to all operations of aircraft and aircraft engines which produce noise.

The regulations established by this subchapter are not intended to set noise levels applicable in litigation arising out of claims for damages occasioned by noise. Nothing herein contained in these regulations shall be construed to be a duty of care in favor of, or to create any evidentiary presumption by, any person or entity other than the State of California, counties and airport proprietors in the enforcement of these regulations.

NOTE: Authority cited: Section 21669, Public Utilities Code. Reference: Sections 21669, 21669.4, Public Utilities Code.

HISTORY:

1. Renumbering and amendment of former Section 5005 to Section 5006, and renumbering and amendment of former Section 5004 to Section 5005 filed 2-20-90; operative 3-22-90 (Register 90, No. 10). For prior history, see Register 79, No. 21.

#### **5006. Findings.**

Citizens residing in the vicinity of airports are exposed to the noise of aircraft operations. There have been numerous instances wherein individual citizens or organized citizen groups have complained about airport noise to various authorities. The severity of these complaints has ranged from a few telephone calls to organized legal action. Many of these cases have been studied by acoustics research workers under sponsorship of governmental and private organizations. These studies have generally shown that the severity of the complaint is principally associated with a combination of the following factors:

- (a) Magnitude and duration of the noise from aircraft operations;
- (b) Number of aircraft operations; and
- (c) Time of occurrence during the day (daytime, evening or night).

There are many reasons given by residents for their complaints; however, those most often cited are interference with speech communication, TV, and sleep. Numerous studies have been made related to speech interference and hearing damage, and some studies have been made related to sleep disturbance and other physiological effects. These studies provide substantial evidence for the relationship between noise level and its interference with speech communication and its effect relative to hearing loss. Significantly less information is available from the results of sleep and physiological studies.

In order to provide a systematic method for evaluating and eventually reducing noise incompatibilities in the vicinity of airports, it is necessary to quantify the noise problem. For this purpose, these regulations establish a procedure for defining a noise impact area surrounding an individual airport. The criteria and noise levels utilized to define the boundaries of the noise impact area have been based on existing evidence from studies of community noise reaction, noise interference with speech and sleep, and noise induced hearing loss.

One of the fundamental philosophies underlying the procedures in these regulations is that any noise quantity specified by these regulations be measurable by relatively simple means. Therefore, these regulations utilize as their basic measure the A-weighted noise level, which is the most commonly accepted simple measure. To insure consistency between criteria and measurement, the units for the criteria are also based on the A-weighted sound level rather than one of the several more complex perceived noise levels.

The level of noise acceptable to a reasonable person residing in the vicinity of an airport is established as a community noise equivalent level (CNEL) value of 65 dB for purposes of these regulations- This criterion level has been chosen for reasonable persons residing in urban residential areas where houses are of typical California construction and may have windows partially open. It has been selected with reference to speech, sleep and community reaction.

It is recognized that there is a considerable individual variability in the reaction to noise. Further, there are several factors that undoubtedly influence this variability and which are not thoroughly understood. Therefore, this criterion level does not have a degree of precision which is often associated with engineering criteria for a physical phenomenon (e.g., the strength of a bridge, building, et cetera). For this reason, the state will review the criterion periodically, taking into account any new information that might become available.

NOTE: Authority cited: Sections 21243 and 21669, Public Utilities Code. Reference: Air Transport Association of America v. Crotti (N.D.Cal. 1975) 389 F.Supp. 58.

HISTORY:

1. Renumbering and amendment of former Section M to Section 5001, and renumbering and amendment of former Section 5005 to Section 5006 filed 2-20-90; operative 3-22-90 (Register 90, No. 10). For prior history, see Register 79, No. 21.

**5010. Purpose.**

The purpose of these regulations is to provide a positive basis to accomplish resolution of existing noise problems in communities surrounding airports and to prevent the development of new noise problems. To accomplish this purpose, these regulations establish a quantitative framework which the various interested parties (i.e., airport proprietors, aircraft operators, local communities, counties and the state) can work together cooperatively to reduce and prevent airport noise problems.

NOTE: Authority cited: Section 21669, Public Utilities Code. Reference: Sections 21669, 21669.4, Public Utilities Code.

HISTORY:

1. Amendment filed 2-20-90; operative 3-22-90 (Register 90, No. 10).

**5011. Methodology for Controlling and Reducing Noise Problems.**

HISTORY:

1. Renumbering and amendment of former Section 5011 to Section 5037 filed 2-20-90, operative 3-22-90 (Register 90, No. 10). For prior history, see Register 79, No. 21.

### **5012. Airport Noise Standard.**

The standard for the acceptable level of aircraft noise for persons living in the vicinity of airports is hereby established to be a community noise equivalent level of 65 decibels. This standard forms the basis for the following limitation.

No airport proprietor of a noise problem shall rate an airport with a noise impact area based on the standard 65 dB CN unless the operator has applied for or received a variance as prescribed in Article 5 of this subchapter.

NOTE: Authority cited: Section 21669, Public Utilities Code. Reference: Sections 21669, 21669.4, Public Utilities Code.

#### **HISTORY:**

1. Repealer of former Section 5012, and renumbering and amendment of former Section 5062 to Section 5012 filed 2-20-90; operative 3-22-90 (Register 90, No. 10). For prior history, see Register 79, No. 21.

### **5013. Noise Impact Boundary.**

#### **HISTORY:**

1. Repealer filed 2-22-90; operative 3-22-90 (Register 90, No. 10).

### **5014. Incompatible Land Uses Within the Noise Impact Boundary.**

For the purpose of determining the size of the noise impact area, the following land uses are in title:

(a) Residences, not limited to, detached single-family dwelling, multi-family high-rise apartments or condominiums, and mobile homes, unless:

(1) an aviation easement for aircraft noise has been acquired by the airport proprietor, or

(2) the dwelling was in existence at the same location prior to January 1, 1989, and has adequate acoustic insulation to ensure an interior CNEL due to aircraft noise of 45 dB or less in all habitable rooms. However, acoustic treatment alone does not convert residences having an exterior CNEL of 75 dB or greater due to aircraft noise to a compatible land use if the residence has an exterior normally occupiable private livable area such as a backyard, patio, or balcony. Or,

(3) the residence is a high rise apartment or condominium having an interior CNEL of 45 dB or less in all habitable rooms due to aircraft noise, and an air circulation or air conditioning system as appropriate, or

(4) the airport proprietor has made a genuine effort as determined by the department in accordance with adopted land use compatibility plans and appropriate laws and regulations to acoustically treat residences exposed to an exterior CNEL less than 80 dB (75 dB if the residence has an exterior normally occupiable private habitable area such as a backyard, patio, or balcony) or acquire aviation easements, or both, for the residences involved, but the property owners have refused to take part in the program, or

(5) the residence is owned by the airport proprietor.

(b) Public and private schools of stand construction for which an aviation easement for noise has not been acquired by the airport proprietor, or that include mobile dwellings, do not have adequate acoustic performance to ensure an interior CNEL of 45 dB or less in all classrooms due to aircraft noise;

(c) hospitals and convalescent homes for which an aviation easement for noise has not been acquired by the airport proprietor, or that do not have adequate acoustic performance to provide an interior CNEL of 45 dB or less due to aircraft noise in all rooms used for patient care;

(d) churches, synagogues, temples, and other places of worship for which an aviation easement for noise has not been acquired by the airport proprietor, or that do not have adequate acoustic performance to ensure an interior CNEL of 45 dB or less due to aircraft noise.

NOTE: Authority cited: Sections 21243 and 21669, Public Utilities Code. Reference: Air Transport Association of America v. Crotti (N.D.Cal 1975) 389 F. Supp. 58.

HISTORY:

1. Amendment filed 2-20-90; operative 3-22-90 (Register 90, No. 10). For prior history, see Registers 79, No. 21 and 78, No. 38.

**5015. Changes in Airport Ownership or Control.**

NOTE: Authority cited: Section 21243, Public Utilities Code. Reference: Sections 21669L21669.5, Public Utilities Code.

HISTORY:

1. New section filed 5-30-78 as an emergency, effective upon filing (Register 78, No. 22).

2. Certificate of Compliance filed 9-22-78 (Register 78, No. 38).

3. Renumbering and amendment of former Section 5015 to Section 5090 filed 2-20-90; operative 3-22-90 (Register 90, No. 10).

**Article 2. Implementation by Counties**

**5020. Designating Noise Problem Airport.**

Any county may, at any time, in accordance with the procedure herein, declare any airport within its boundaries to have a noise problem, by adopting a resolution to this effect and forwarding it to this department. In making the determination, the county shall:

(a) Review relevant information, including but not limited to, the record of complaints made, and litigation filed, by residents of the area regarding airport related aircraft noise.

(b) Investigate the possible existence of a noise impact area.

(c) Coordinate with and give due consideration to the recommendations of the applicable airport land use commission established under section 21670 of the Public Utilities Code.

(d) For an airport with joint use by both military and civilian aircraft operations, base its finding only on civilian operations.

NOTE: Authority cited: Section 21669, Public Utilities Code. Reference: Sections 21669L21669.4, Public Utilities Code.

HISTORY:

1. Renumbering and amendment of former Section 5020 to Section 5032, and new Section 5020 filed 2-20-90; operative 3-22-90 (Register 90, No. 10). For prior history, see Register 78, No. 22.

**5021. Review of Finding.**

Any person or government agency shown, by the results of an investigation conducted under section 5W(b) or by independent competent evidence, to own, reside in, or have jurisdiction over any area within the 65 dB CNEL boundary of any airport may seek review of the finding of the county under section 5020 solely on the issue of substantial evidence by filing a petition to this effect with the department within 10 days of adoption of the finding.

NOTE: Authority cited: Section 21669, Public Utilities Code. Reference: Sections 21669-21669.4, Public Utilities Code.

HISTORY:

1. Repealer and new section filed 2-20-90; operative 3-22-90 (Register 90, No. 10). For prior history, see Register 78, No. 22.

### **5022. County Enforcement.**

The county wherein a noise problem airport is situated shall enforce this subchapter.

NOTE: Authority cited: Section 21669, Public Utilities Code. Reference: Sections 2166921669.4, Public Utilities Code.

**HISTORY:**

1. Renumbering and amendment of former Section 5022 to Section 5034, and new Section 5022 filed 2-20-90; operative 3-22-90 (Register 90, No. 10). For prior history, see Register 78, No. 22.

### **5023. Noise Monitoring.**

The county shall require the airport proprietor for each airport within its jurisdiction to have a noise problem, for which the estimated location of the noise impact boundary extends into incompatible land uses, to establish a program of noise monitoring to validate the location of the noise impact boundary in accordance with a monitoring plan approved by the department.

NOTE: Authority cited: Section 21669, Public Utilities Code. Reference: Sections 2166921669.4, Public Utilities Code.

**HISTORY:**

1. Repealer and new section filed 2-2D-90; operative 3-22-90 (Register 90, No. 10). For prior history, see Register 78, No. 22.

### **5024. Audit.**

For each noise problem airport, the county shall review and audit noise monitoring data supplied by the airport proprietor for the purpose of ensuring that the data were produced in accordance with the monitoring system plan approved by the department and that the information supplied by the airport proprietor is certified as being true and correct by the person in charge of operating the noise monitoring system. Duplicate certification by the county is not required.

NOTE: Authority cited: Section 21669, Public Utilities Code. Reference: Sections 2166921669.4, Public Utilities Code.

**HISTORY:**

1. Renumbering of former Section 5024 to Section 5047, and new Section 5024 filed 2-2D-90; operative 3-22-90 (Register 90, No. 10). For prior history, see Register 78, No. 22.

### **5025. County Report.**

The county shall submit quarterly to the department for each noise problem airport within 75 days after the end of each calendar quarter, a report containing at least the following information:

(a) A map illustrating the location of the noise impact boundary, as validated by measurement, and the location of measurement points, in the four preceding calendar quarters;

(b) The annual noise impact area as obtained from the preceding four calendar quarterly reports, an estimate of the number of dwelling units, and the number of people residing therein;

(c) The daily CNEL measurement, together with identification of the date on which each measurement was made, number of total aircraft operations presented by the person monitoring by the calendar quarter, estimated number of operations of the highest noise level aircraft type (as defined in the 14th Code of Federal Regulations, Part 1, for the certification of airmen), in the calendar quarter, and all other data pertinent to the activity. The Hourly Noise Level (HNL) data shall be retained for at least 3 years, and made available to the department upon request.

(d) The quarterly report shall include use of a standard information format provided by the department (form DOA 617, dated 10/89). The standard form provides a listing for certain summary information including size of noise impact area and the aircraft operational data specified in paragraph (c) above.

NOTE: Authority cited: Sections 21669, Public Utilities Code. Reference: Sections 21669-21669.4, Public Utilities Code.

HISTORY:

1. Renumbering and amendment of former Section 5025 to Section 5049, and new Section 5025 filed 2-20-90; operative 2-20-90 (Register 90, No. 10). For prior history, see Register 78, No. 22.

### **Article 3. Implementation by Airport Proprietors**

#### **5030. Cooperation with County.**

(a) Each airport proprietors shall cooperate with the county in the county's investigations to determine the existence of a noise problem and shall finnish data it may have concerning the location of the 65 and 70 dB CNEL contours upon request by the county.

NOTE: Authority cited: Section 21669, Public Utilities Code. Reference: Sections 21669-21669.4, Public Utilities Code.

HISTORY:

1. Renumbering and amendment of former Section 5060 (a) to Section 5030 filed 2-2D90; operative 3-22-90 (Register 90, No. 10). For history of former Section 5030, see Register 79, No. 21.

#### **5031. Establishment of the Noise Impact Boundary.**

Each noise problem airport shall measure, establish and validate noise impact boundaries by noise monitoring as required by this subchapter and shall fiumish such information to the county.

NOTE: Authority cited. Section 21669, Public Utilities Code. Reference: Sections 2166921669.4, Public Utilities Code.

HISTORY:

1. Renumbering and amendment of former Section 5060 (b) to Section 5031 filed 2-2D90; operative 3-22-90 (Register 90, No. 10). For history of former Section 5031, see Register 79, No. 21.

#### **5032. Validation of the Noise Impact Boundary.**

The noise impact boundary shall be validated by measurements made at locations approved for this purpose by the department. The noise problem airport proprietor shall ascertain the noise impact boundary within a tolerance of plus or minus 1.5 decibels annual CNEL by measurements made in accordance with, and at locations designated in, a noise monitoring plan approved by the department. The noise impact boundary may be ascertitnect directly from information gathered from monitors or. from the combined use of an approved computer model and the data reported by the noise monitoring system. Monitoring shall. be accomplished at locations in the approved monitoring system I yout a plan. The locations shall be selected to facifitate locatin the maximurn extent (closure points) of the noise impact boundary when Ve contour extremities encompass incompatible land uses.

NOTE. Authority cited: Section 21669, Public Utilities Code. Reference: Sections 2166921669.4, Public Utilities Code.

HISTORY:

1. Renumbering and amendment of former Section 5020 to Section 5032 filed 2-20-90, operative 3-22-90 (Register,90, No. 10). For history of former Section 5032, see Register 79, No. 21.

### **5033. Submittal of Monitoring Plan.**

Each proprietor of a noise problem airport shall submit a description of the proposed monitoring plan to the department for approval containing at least the following information:

- (a) the general monitoring system plan, including at least locations and the type of instrumentation to be employed;
- (b) justification for any proposed deviations from the measurement system locations specified in these regulations;
- (c) Statistical sampling plan proposed for intermittent monitoring at community locations;
- (d) Additional information as pertinent or as requested by the department.

NOTE: Authority cited: Sections 21243 and 21669, Public Utilities Code. Reference: Air Transport Association of America v. Crotti (N.D.Cal. 1975) 389 F.Supp. 58.

#### **HISTORY:**

1. Renumbering and amendment of former Section 5063 to Section 5033 filed 2-20-90; operative 3-22-90 (Register 90, No. 10). For prior history, see Register 79, No. 21.

### **5034. Frequency of Measurement.**

(a) For airports with 1,000 or more homes within the noise impact boundary based on CNEL of 70 dB, continuous monitoring is required at those monitoring positions which fall within residential areas. Measurement for at least 48 weeks in a year shall be considered as continuous monitoring.

(b) For all other noise problem airports, an intermittent monitoring schedule is allowed. The intermittent monitoring schedule shall be designed so as to obtain the resultant CNEL as computed from measurements at each location which correspond to the value that would be measured by a monitor operated continuously throughout the year at that location, within an accuracy of plus or minus 1.5 dB.

Thus, it is required that the intermittent monitoring schedule be designed to obtain a realistic statistical sample of the noise at each location. As a minimum, this requires that measurements be taken continuously for 24-hour periods and 7-day samples throughout the year, chosen so that for each sample, each hour of the week is represented, the four seasons of the year are represented, and the results account for the effect of annual proportion of runway utilization. At most airports, these intermittent measurements can be accomplished by a single portable monitoring instrument.

NOTE: Authority cited: Section 21669, Public Utilities Code. Reference: Sections 21669, 21669.4, Public Utilities Code.

#### **HISTORY:**

1. Renumbering and amendment of former Section 5022 to Section 5034 filed 2-20-90; operative 3-22-90 (Register 90, No. 10). For prior history, see Register 79, No. 21.

### **5035. Schedule of Implementation.**

Within 90 days following the declaration by a county that an airport has a noise problem, and current estimates indicate that a noise impact area exists, the airport proprietor shall forward a schedule of major actions and events involved in the initiation of noise monitoring to the county and to the department. The schedule shall include an estimate of the number of dwelling units inside the 70 dB CNEL contour based upon current airport operations, and the forecast dates for budget amendments, contract award, system design, system

construction, system installation, and the system becoming operational in cases where continuous monitoring is required.

NOTE: Authority cited: Section 21669, Public Utilities Code. Reference: Sections 2166921669.4, Public Utilities Code.

HISTORY:

1. New section filed 2-20-90; operative 3-22-90 (Register 90, No. 9). For history of former

**ection 5035, see Register 79, No. 21.**

W. Suggested Methodology for Controlling and Reducing Noise Problems. The methods whereby the impact of airport noise may be controlled and reduced include, but are not limited to, the followig:

(a) Encouragin use of the airport by aircraft classes with lower noise level characteristics anTdiscouragm\*g use by higher noise level aircraft classes;

(b) Encouraging approach and departure flight paths and procedures to minimize the noise in residential areas;

(c) Planning runway utilization schedules to take into account adjacent residential areas, noise characteristics of aircraft and noise sensitive time periods;

(d) Reduction of the flight frequency, particularly in the most noise sensitive time periods and b the noWier aircraft;

\*(e) Employing Melding for advantage, using natural terrain, buildings, and other obstructions to noise; and

(f) Development of compatible land uses within the noise impact boundary through rezoning, acquisition of avigation easements for noise (voluntarily in exchange for acoustical insulation, an agreed fee, or by eminent domain), application of acoustical insulation, or acquisition of property as examples.

Preference shall be given to actions which reduce the impact.of airport noise on existing communities. Land use conversion mivolvig existing residential communities shall normally be considered the least desirable action for achieving compliance with these regulations.

NOTE: Authority cited: Section 21669, Public Utilities Code. Reference: Sections 2166921669.4, Public Utilities Code.

HISTORY:

1. Renumbering and amendment of former Section 5011 to Section 5037 filed 2,2D-90; operative 3-22-90 (Register 90, No. 10). For prior history, see Register 79, No. 21).

**5039. Grounds for Approval.**

Failure of the airport pro rietor to comply with the provisions of this subchapter constitutes a ground for revocation of its airport permit.

NOTE: Authority cited: Section 21668, Public Utilities Code. Reference: Section 21668, Public Utilities Code.

HISTORY:

1. Renumbering and amendment of former Section 5064 to Section 5039 filed 2-20-90; operative 3-22-90 (Register 90, No. 10). For prior history, see Register 79, No. 21.

**Article 4. Implementation by the Department**

**5040. Departmental Review.**

Upon receipt of a petition for review under section 5021, the department shall conduct an investigation on, and make a determination as to, whether the county's finding is based on substantial evidence. If the deRartment determines the county's finding to be not based on substantial evidence, it may either remand the matter to the county for reconsideration or decide the issue on the merits, either classifying the airport as having a noise problem or not. Notice of the determination and of classification as to whether a noise problem exists,



together with the record of the investigation, shall be served by mail on the County, the airport proprietor, and the petitioner. The determination shall, unless a request for hearing is filed, become final on the day after the time for demanding a hearing hasapsed.

NOTE: Authority cited: Section 21669, Public Utilities Code. Reference: Sections 2166921669.4, Public Utilities Code.

HISTORY:

1. Renumbering and amendment of former Section 5040 to Section 5048, and new Section 5040 filed 2-20-90; operative 3-22-90 (Register 90, No. 10.) For prior history, see Register 79, No. 21.

**5041. Hearing on Determination.**

Upon services of a determination, the county, airport proprietor petitioner under section 5021, may demand a hearing by notice to the department, airport proprietor, petitioner, and any additional interested parties in writing within 10 days. The department shall then arrange the hearing in accordance with the Administrative Procedure Act (Government Code, section 11,500 et seq.) and will give appropriate consideration to the findings and recommendations of the administrative law judge before issuing its final determination.

NOTE: Authority cited: Section 21669, Public Utilities Code. Reference: Sections 2166921669.4 and 21669.6, Public Utilities Code.

HISTORY:

1. New section filed 2-20-90; operative 3-22-90 (Register 90, No. 10).

**5042. Effective Date of Determination.**

Upon a final determination that the county's finding is not based on substantial evidence, the department shall issue a decision regarding whether the airport shall be deemed a noise problem airport.

NOTE: Authority cited: Section 21669, Public Utilities Code. Reference: Sections 2166921669.4, Public Utilities Code.

HISTORY:

1. New section filed 2-20-90; operative 3-22-90 (Register 90, No. 10).

**5043. Approval of Noise Monitoring Plans.**

The department will consider monitoring system plans filed by airport proprietors for approval in accordance with the requirements of these regulations. NOTE: Authority cited: Section 21669, Public Utilities Code. Reference: Sections 2166921669.4, Public Utilities Code.

HISTORY:

1. New section filed 2-20-90; operative 3-22-90 (Register 90, No. 10).

**5044. Review of Quarterly Reports.**

The department will review the data submitted quarterly by the counties for the purpose of assessing progress toward reducing the noise impact area. The department's review will include, but not be limited to, observation of any changes in noise monitor positions, and numerical values of CNEL.

airport proprietor, or any other interested parties of the department for the benefit of the community.

NOTE: Authority cited: Section 21669, Public Utilities Code. Reference: Sections 2166921669.4, Public Utilities Code.

HISTORY:

1. Renumbering and amendment of former Section 5065 to Section **5044**, and new Section 5M filed 2-20-90; operative 3-22-90 (Register 90, No. 10). For prior history, see Register 79, No. 21.

### SM. Retention of Monitoring Data.

The department will *maintain the* quarterly reports of noise monitoring forwarded by the counties pursuant to these regulations for three years in accordance with the provisions of the California Public Records Act (Government Code, Chapter 3.5, Division 7, Title 1, Section 6M et seq.).

NOTE: Authority cited: Section 21669, Public Utilities Code. Reference: Sections 21669, 21669.4, Public Utilities Code.

#### HISTORY:

1. Renumbering and amendment of former Section 5045 to Section 5070, and new Section 5045 filed 2-2D-90; operative 3-22-90 (Register 90, No. 10). For prior history, see Register 79, No. 21.

### 5046. Detailed Specifications.

#### HISTORY:

1. Renumbering and amendment of former Section 5046 to Section NY71 Filed 2-20-90; operative 3-22-90 (Register 90, No. 10). For prior history, see Register 79, No. 21.

### 5047. Deviations from Specified Measurement Locations.

Recognizing the unique geographic and land use features surrounding airports, the department considers measurement plans tailored to individual airports for which the specified CNEL *monitoring locations* are impractical. For example, monitors should not be located on bodies of water or at points where other noise sources might interfere with aircraft CNEL measurements, nor are measurements required in regions where land use will clearly remain compatible.

NOTE: Authority cited: Section 21669, Public Utilities Code. Reference: Sections 21669, 21669.4, Public Utilities Code.

#### HISTORY:

1. Renumbering and amendment of former Section 5047 to Section 5072, and renumbering of former Section 5024 to Section 5047 filed 2-20-90; operative 3-22-90 (Register 90, No. 10). For prior history, see Register 79, No. 21.

### 5048. Additional Monitoring Locations.

Nothing in this subchapter precludes any airport proprietor from establishing monitors in addition to those required herein.

NOTE: Authority cited: Section 21669, Public Utilities Code. Reference: Sections 21669, 21669.4, Public Utilities Code.

#### HISTORY:

1. Renumbering and amendment of former Section 5048 to Section W73, and renumbering and amendment of former Section 5040 to Section 5048 filed 2-2D-90; operative 3-22-90 (Register 90, No. 10). For prior history, see Register 79, No. 21.

### 5049. Alternative Measurement Systems.

The use of noise measurement systems that are more extensive or technically unproved over those specified herein is encouraged, particularly at airports where a major noise problem requires comprehensive noise monitoring, requires, for example, to monitor noise abatement flight procedures. Airports concerning the acquisition of such monitoring systems may apply to the department or exemptions from specific *monitoring requirements* set forth in this subchapter.

NOTE: Authority cited: Section 21669, Public Utilities Code. Reference: Sections 21669, 21669.4, Public Utilities Code.

#### HISTORY:

1. Renumbering and amendment of former Section 5025 to Section 5049 filed 2-20-90, operative 3-22-90 (Register 90, No. 10). For prior history, see Register 79, No. 21.

## Article 5. Variances

### 5050. Variances.

In granting variances, the department shall be guided by the underlying policy that the proprietor of each existing airport having a noise impact area required to develop and implement programs to reduce the noise impact area of the airport to an acceptable degree in an orderly manner over a reasonable period of time

NOTE: Authority cited: Section 21669, Public Utilities Code. Reference: Sections 21669  
21669.4, Public Utilities Code.

#### HISTORY:

1. Repealer of former Section 5050, and renumbering and amendment of former Section 5075 (a) to Section 5050 filed 2-20-90; operative 3-22-90 (Register 90, No. 10). For prior history, see Registers 85, No. 51 and 79, No. 21.

### 5051. Variance Request.

A proprietor of a noise problem airport may request variances from the requirement of Section 5012 for periods of not exceeding three years as set forth hereinafter.

NOTE: Authority cited: Section 21669, Public Utilities Code. Reference: Sections 21669, 21669.4, Public Utilities Code.

#### HISTORY:

1. Renumbering and amendment of former Section W75 (b) to Section 5M1 filed 2-20-90; operative 3-22-90 (Register 90, No. 10). For prior history, see Register 85, No. 51.

### 5052. Procedure.

(a) The airport proprietor shall apply to the department for a variance.

(b) An application for a variance shall be made upon a form which the department shall make available (DOA Form 618, dated 11-21-89).

(c) Such application shall set forth the reasons why the airport proprietor believes a variance is necessary. The application shall state the date by which the airport proprietor expects to achieve compliance with the requirement that there not be a noise impact area based upon the airport noise identified in Section 5012. The application shall set forth an incremental schedule of noise impact area reductions for the intervening time.

NOTE: Authority cited: Section 21669, Public Utilities Code. Reference: Sections 21669, 21669.4, Public Utilities Code.

#### HISTORY:

1. Renumbering and amendment of former Section W75 (b) (1) - (b) (3) to Section 5052 filed 2-20-90; operative 3-22-90 (Register 90, No. 10). For prior history, see Register 85, No. 51.

### 5053. Conditions of Variance.

The department shall grant a variance if to do so would be in the public interest, the department's considerations in interest. In weighing factors include but are not limited to the following:

(a) The economic and technological feasibility of complying with the noise standards set by these regulations;

(b) The noise impact should the variance be granted;

(c) The value to the public of the services for which the variance is sought;

(d) Whether the airport proprietor is taking good faith measures to the best of its ability to achieve the airport noise standards.

NOTE: Authority cited: Section 21669, Public Utilities Code. Reference: Sections 2166921669.4, Public Utilities Code.

HISTORY:

1. Renumbering and amendment of former Section 5075 (b) (4) - (b) (5) to Section 5053 filed 2-20-90; operative 3-22-90 (Register 90, No. 10). For prior history, see Register 85, No. -51.

**5054. Reasonable Conditions.**

The department in granting a variance may impose reasonable conditions to achieve the purposes of this subchapter of these regulations.

NOTE: Authority cited: Section 21669, Public Utilities Code. Reference: Sections 2166921669.4, Public Utilities Code.

HISTORY:

1. Renumbering and amendment of former Section 5075(b) (7) to Section 5054 filed 2-20-90; operative 3-22-90 (Register 90, No. 10). For prior history, see Register 85, No. 51.

**5055. Hearing.**

On its own motion, or upon the request of any person or governmental agency residing, owning property within, or having jurisdiction over, the noise area, the department shall hold a public hearing under the provisions of A&A, Procedure Act on the application for variance. Any person may obtain from the department information on pending requests for variances at any time.

NOTE: Authority cited: Section 21669, Public Utilities Code. Reference: Sections 2166921669.4, Public Utilities Code.

HISTORY:

1. Renumbering and amendment of former Section 5075(b) (6) to Section 5055 filed 2-20-90; operative 3-22-90 (Register 90, No. 10). For prior history, see Registers 85, No. 51 and 79, No. 21.

**5056. Burden of Proof.**

The burden of proof shall be upon the applicant for the variance.

NOTE: Authority cited: Section 21669, Public Utilities Code. Reference: Sections 2166921669.4, Public Utilities Code.

HISTORY:

1. New section filed 2-20-90; operative 3-22-90 (Register 90, No. 10).

**5057. Additional Variances.**

In the event a variance has been granted and it reasonably appears that the airport proprietor cannot within the term of the variance achieve compliance with the requirement that there be no noise impact area based upon the airport noise standard identified in Section 5012, an application for a further variance from such requirement must be made not less than thirty days before the termination date of the prior variance. In the event timely application is made under the provisions of this section, the prior variance shall continue in effect until the department acts on the application.

NOTE: Authority cited: Sections 21243 and 21669, Public Utilities Code. Reference: Section 21669, Public Utilities Code.

HISTORY:

1. - Renumbering and amendment of former Section MY75 (b) (8) to Section 5057 filed 2-20-90; operative 3-22-90 (Register 90, No. 10). For prior history, see Register 85, No. 51.

**Article 6. (Reserved) 5060. Monitoring Requirements.**

**HISTORY:**

1. Renumbering and amendment of former Section 5060(a) to Section 5030 and Tenumbering and amendment of Section SW(b) to Section 5031 filed 2-20-90; operative 3-22-90 (Register 90, No. 10). For prior history, see Register 79, No. 21.

**5W1. Single Event Noise Limit Violations.**

NOTE: Authority cited: Sections 21243 and 21669, Public Utilities Code. Reference: *Air Transport Association of America v. Crotti* (N.D.Cal. 1975) 389 F.Supp. 58.

**HISTORY:**

1. Repealer filed 5-23-79; effective thirtieth day thereafter (Register 79, No. 21). For history of former section, see Register 77, No. 10.

**062. Noise Impact Area Violations. HISTORY:**

1. Renumbering and amendment of former Section 5062 to Section 5012 filed 2-20-90; operative 3-22-90 (Register 90, No. 10). For prior history, see Register 79, No. 21.

**5063. Submittal of Monitoring Plan.**

NOTE: Authority cited: Sections 21243 and 21669, Public Utilities Code. Reference: *Air Transport Association of America v. Crotti* (N.D.Cal. 1975) 389 F.Supp. 58.

**HISTORY:**

1. Amendment filed 5-23-79; effective thirtieth day thereafter (Register 79, No. 21).  
2. Renumbering and amendment of former Section 5063 to Section 5033 filed 2-20-90; operative 3-22-90 (Register 90, No. 10). For prior history, see Register 79, No. 21.

**5064. Grounds for Approval.**

**HISTORY:**

1. Renumbering and amendment of former Section 5064 to Section 5039 filed 2-2D-90; operative 3-22-90 (Register 90, No. 10). For prior history, see Register 79, No. 21.

**Article 11. Implementation by the Department 5M. Implementation by the Department.**

**HISTORY:**

1. Renumbering and amendment of former Section 5M to Section 5044 filed 2-20-90; operative 3-22-90 (Register 90, No. 10). For prior history, see Register 79, No. 21.

**Article 7. Noise Monitoring System Requirements**

**5070. General Specifications.**

(a) The noise monitoring system shall measure with an accuracy within plus or minus 1.5 dB on the CNTEL scale and record the hourly noise level for each hour of the day, together with identification of the hour, and the CNEL for each day.

NOTE: Authority cited: Section 21669, Public Utilities Code. Reference: Sections 2166921669.4, Public Utilities Code.

**HISTORY:**

1. Repealer of former Section 5070, and renumbering and amendment of former Section 5045 to Section 5070 filed 2-2D-90; operative 3-22-W (Register 90, No. 10). For prior history, see Register 79, No. 21.

### 5071. Detailed Specifications.

Noise monitoring systems shall comply with the specifications given in Sections 5W through 5W.5 of these regulations.

NOTE: Authority cited: Section 21669, Public Utilities Code. Reference: Sections 21669, 21669.4, Public Utilities Code.

HISTORY:

1. Renumbering and amendment of former Section 5046 to Section NY71 filed 2-20-90; operative 3-22-90 (Register 90, No. 10). For prior history, see Register 79, No. 21.

### 5072. Field Measurement Requirements.

Specific locations of the monitoring system shall be chosen whenever possible, such that the CNEL from sources other than aircraft in flight is equal to or less than MO. This objective may be satisfied by selecting locations in a residential area not immediately adjacent to a noisy industry, freeway, railroad, or microphone shall be placed 20 feet or more above the ground level, or at least 10 feet above nearest building roof tops, whichever is higher and has a clear line of sight to the path of aircraft in flight. No obstructions which significantly influence the sound field from the aircraft at the measurement position, the 4 cone shall exist within a - - a being defined by a vertical axis and by a half angle of 75 degrees from that axis.

NOTE: Authority cited: Sections 21243 and 21669, Public Utilities Code. Reference: Air

Transport Association of America v. Crotti (N.D.Cal. 1975) 389 F.Supp. 58.

HISTORY:

1. Renumbering and amendment of former Section 5047 to Section 5072 filed 2-20-90; operative 3-22-90 (Register 90, No. 10). For prior history, see Register 79, No. 21.

### 5073. Number of Measurement Systems.

The frequency of measurement specified in Section 5034 has been designed to limit the number of monitoring systems required. The minimum number of systems required per airport is one for intermittent measurements of the noise impact boundary.

For continuous monitoring systems the number of monitoring locations will increase where necessary to provide ample information to ensure the accuracy tolerance of plus or minus 1.5 dB CNEL for location of the noise impact boundary in areas where land use is incompatible. The minimum number of continuous monitoring system stations will be determined by the monitoring system layout plan for each individual airport.

NOTE: Authority cited: Sections 21243 and 21669, Public Utilities Code. Reference: Air Transport Association of America v. Crotti (N.D.Cal. 1975) 389 F.Supp. 58.

HISTORY:

1. Renumbering and amendment of former Section 5048 to Section NY73 filed 2-20-90; operative 3-22-90 (Register 90, No. 10). For prior history, see Register 79, No. 21.

### 5075. Variances.

NOTE: Authority cited: Sections 21243 and 21669, Public Utilities Code. Reference: Section 21669, Public Utilities Code.

HISTORY:

1. New subsection (b) (8) filed 5-23-79; effective thirtieth day thereafter (Register 79, No. 21). Okay on

2. Amendment of subsection (b) filed 12-16-85; effective thirtieth day thereafter (Register 85, No. 51).

3. Renumbering and amendment of former Section 5075 (a) to Section 5050 and renumbering and amendment of former Section 5075 (b) to Sections 5051-M and 5W filed 2-20-90; operative 3-22-90 (Register 90, No. 10). For prior history, see Registers 85, No. 51 and 79, No. 21.

## Article 8. Specification: Noise Monitoring System

### 5080. Purpose and Scope.

(a) Purpose. This specification establishes the minimum requirements for instrumentation to be utilized by airport proprietors required to monitor aircraft noise in accordance with this subchapter.

(b) Scope. The measurement systems defined herein shall be used to monitor noise levels at specifically designated locations in a community surrounding an airport.

(c) Design Goals. The design goals for the noise monitoring system are accuracy, reliability, and ease of maintenance. The measurement techniques set forth herein are sufficiently uncomplicated so that current state-of-the-art instrumentation equipment may be used. The monitor system specifications are not intended to be unduly restrictive in specifying individual system components. The specifications allow the utilization of equipment ranging from analog systems to automated computer systems. The exact configuration will depend upon the specific monitoring requirement and the nature of existing user instrumentation.

This is a total systems specification. It is the prerogative of the user to configure the system with components that will be most compatible with his existing equipment and personnel.

NOTE: Authority cited: Sections 21243 and 21669, Public Utilities Code. Reference: Air Transport Association of America v. Crotti (N.D.Cal. 19175) 389 F.Supp. 58.

#### HISTORY:

1. Amendment of subsection (b) filed 5-23-79; effective thirtieth day thereafter (Register 79, No. 21).
2. Amendment filed 2-20-90; operative 3-22-90 (Register 90, No. 10).

### 5080.1. Additional Definitions Applicable to Article 8.

(a) Field Instrumentation. Field instrumentation are those elements or components of a noise monitoring system that are exposed to the outdoor environment in the vicinity of the measurement microphone. This equipment functions within specification during exposure to a year-around environment adjacent to any public use airport in the state of California.

(b) Centralized Instrumentation. Centralized Instrumentation are those elements of a noise monitoring system that are contained in an environmentally-controlled room.

(c) HNL Monitoring System. The HNL monitoring system is one which measures the hourly noise level and provides identification of the hour. This system is de oyed as a community monitoring system. An HNL system consists of two subsystems: a noise level Subsystem ani an integrator/ logger subsystem.

(d) Noise Level Subsystem. Noise level subsystem is a subsystem composed of a microphone, an A-weighted filter, a squaring circuit and a lag network. This subsystem is used to derive a signal representing the mean square, A-weighted value of acoustic pressure.

(e) Integrator/ Logger Subsystem. Integrator/ logger subsystem is a subsystem composed of a threshold comparator, an integrator, a clock, an accumulator, a logger or printer and a logarithmic converter. This subsystem is used to transform the output from a noise level subsystem in excess of a pre-set threshold into HNL.

NOTE: Authority cited: Sections 21243 and 21669, Public Utilities Code. Reference: *Air Transport Association of America v. Crotti* (N.D.Cal. 1975) 389 F.Supp. 58.

HISTORY:

1. Amendment filed 5-23-79; effective thirtieth day thereafter (Register 79, No. 21).
2. Amendment filed 2-20-90; operative 3-22-90 (Register 90, No. 10).

**5080.1 Examples of Possible System Configurations.**

NOTE: Authority cited: Sections 21243 and 21669, Public Utilities Code. Reference: *Air Transport Association of America v. Grotti* (N.D.Cal. 1975) 389 F.Supp. 58.

HISTORY:

1. Amendment filed 5-23-79; effective thirtieth day thereafter (Register 79, No. 21).
2. Repealer filed 2-20-90; operative 3-22-90 (Register 90, No. 10).

**5080.3. Performance Specifications.**

(a) Overall Accuracy. The overall accuracy of the HNL Monitoring System shall be plus or minus 1.5 dB when measuring noise from aircraft in flight. It is the intent of the following specifications to verify this accuracy with laboratory simulation.

(b) Noise Level Subsystem.

(1) Frequency Response and Microphone Characteristics. The frequency response, and associated tolerance of the subsystem, shall be in accordance with American National Standard Specification For Sound Level Meters (ANSI S1.41983, as amended by ANSI S1AA-1985) for Type I precision sound level meters for the A-weighting network, which is hereby incorporated by reference.

(2) Dynamic Range. The system output shall be proportional to the antilog of the noise level over a noise level range of at least 60 dB to 120 dB. For the noise level subsystem, the internal electrical noise shall not exceed an equivalent input noise level of 50 dB, and the full scale range of 120 dB shall apply to signals with a crest factor as great as 3:1.

(3) Linearity. The electrical amplitude response to sine waves in the frequency range of 22.4 Hz to 11,200 Hz shall be linear within one decibel from 30 dB below each full scale range up to 7dB above the full scale range on any given range of the instrument.

(c) Integrator/ Logger Subsystem.

(1) Threshold Comparator. For HNL, the threshold level shall be adjustable over a noise level range of at least 55 to 70 dB. Threshold triggering shall be repeatable within plus or minus 0.5 dB.

(2) Clock. The clock shall be capable of being set to the time of day within an accuracy of 10 seconds and shall not drift more than 20 seconds in a 24-hour period.

(3) End-to-End Accuracy. The end-to-end accuracy of the integrator/logger subsystem is defined in terms of a positive-going square wave input. The logged, integrated output of the system shall fall within plus or minus 1.9 dB of the true value predicted for the wave of a given duration at an amplitude exceeding the measurement threshold by at least 10 dB, and at all 9 g gler amplitudes within the range. The square wave shall be applied at the input to the integrator and level comparator.



(A) HNL Integrator/ Logger Subsystem.

1. For each hour during which no noise event exceeds the HNL system noise level threshold, the subsystem shall output the time on the hour, and indicate that the antilo of the HNL for the preceding hour is zero.

2. The overs accuracy of a noise monitoring system pursuant to these regulations shall be determined over a range of HNL from 45 dB to 95 dB for each combination of the following conditions which gives a value in this range:

a. Square waves, as defined above, shall have repetitions of 1, 3, 10, 30 and 100 cycles.

b. Square waves shall have durations of 40, 20, 10, and 5 seconds.

c. Square waves shall have amplitudes equivalent to sound pressure levels of 70, 80, 90, 100 and 110 dB.

d. Overall System Accuracy Demonstration. The overall system accuracy shall be demonstrated for several conditions within each of the above ranges' utilizing a 1000 Hz sinusoidal acoustic plane wave oriented preferred plane wave axis of the microphone, or an equivalent sine in an acoustic coupler:

NOTE: Authority cited: Sections 21243 and 21669, Public Utilities Code. Reference: Air Transport Association of America v. Crotti (N.D.Cal. 1975) 389 F.Supp. 58.

HISTORY:

1. Repealer of subsection (d) (1) filed 5-23-79; effective thirtieth day thereafter (Register 79, No. 21).

2. Amendment filed 2-20-90; operative 3-22-90 (Register 90, No. 10).

**5080.4. Field Calibration.**

The monitoring system shall include an internal electrical means to electrically check and maintain calibration without resort to additional equipment. Provision shall also be made to enable calibration with an external acoustic coupler.

NOTE: Authority cited: Section 21669, Public Utilities Code. Reference: Sections 21669, 21669.4, Public Utilities Code.

HISTORY:

1. New NOTE filed 2-20-90; operative 3-22-90 (Register 90, No. 10).

**5080.5. Environmental Precautions and Requirements.**

(a) The field instrumentation shall be provided with suitable protection such that the system performance specified will not be degraded while the system is operating within the range of weather conditions encountered at airports within the State of California.

(b) Humidity. The effect of changes in relative humidity on sensitivity of field instrumentation shall be less than 0.5 decibel at any frequency between 22.4 and 11,200 Hz in the range of 5 to 100 percent relative humidity.

(c) Vibration. The field instrumentation shall be designed and constructed to minimize the effects of vibration resulting from mechanical excitation. Shock mounting of the field instrumentation shall be provided as required to preclude undue specified degradation of system performance.

(d) Acoustic Noise. The field instrumentation shall be designed and constructed so as to minimize effects of vibration resulting from airborne noise, and shall operate in an environment of 125 dB SPL-broadband noise over a frequency range of 22.4 to 11,200 Hz-without degradation of system performance.

(e) Magnetic, Electrostatic and Radio Frequency Interference. The effects of magnetic, electrostatic and radio frequency interference shall be reduced to minimum. The magnitude of such fields which would degrade the performance of the system in accordance with the specifications in Section 5080.3 shall be determined and stated.

(f) Windscreen. A windscreen suitable for use with the microphone shall be used at all times. The windscreen shall be designed so that for windspeeds of 20 miles per hour or less, the overall accuracy of the measurement system specified in Section 5080.3 (a) is not compromised.

NOTE: Authority cited: Section 21669, Public Utilities Code. Reference: Sections 2166921669A, Public Utilities Code.

HISTORY:

1. Amendment of subsections (c) and (e) filed 2-20-90; operative 3-22-90 (Register 90, No. 10).

## Article 9. Changes in Airport Ownership

### 5090. Changes in Airport Ownership or Control.

In the case of a change in airport ownership or control, the new airport proprietor shall be deemed to be in full compliance with these regulations until such time as the department takes final action on the new proprietor's application for a variance in accordance with Article 5, provided, however, that the new proprietor complies with the following:

(a) The new proprietor must file an application to the department for a variance within twenty (20) days after assuming ownership or control, and

(b) The new proprietor, in operating the airport, shall not permit or authorize any activity in conjunction with the airport that results in an increase of the size of the noise impact area.

NOTE: Authority cited: Section 21669, Public Utilities Code. Reference: Sections 2166921669.4, Public Utilities Code.

HISTORY:

1. Renumbering and amendment of former Section 5015 to Section 5090 filed 2-20-90, operative 3-22-90 (Register 90, No. 10). For prior history, see Register 79, No. 21.

### FIGURE 4. TYPICAL HOURLY NOISE LEVEL (HNL) SYSTEM

NOTE: Authority cited: Sections 21243 and 21669, Public Utilities Code. Reference: Air Transport Association of America v. Crotti (N.D.Cal. 19175) 389 F.Supp. 58.

HISTORY:

1. Repealer of Figure 4, and renumbering of Figure 5 to Figure 4 filed 5-23-79; effective thirtieth day thereafter (Register 79, No. 21).

2. Repealer filed 2-20-90; operative 3-22-90 (Register 90, No. 10).

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## PART 77-OBJECTS AFFECTING NAVIGABLE AIRSPACE

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AUTHORITY: Secs. 104, 307, 313, 1001, and 1101, 72 Stat. 740; 49 U.S.C. 1304, 1348, 1354, 1431, 1501.  
Source: Docket No. 1882. 30 FR 1839. Feb. 10, 1965, unless otherwise noted.

### 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 in-

strument 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 air craft 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.

[Amdt. 77-5. 33 FR 5256, Apr. 2, 1968. as amended by Amdt. 77-9. 36 FR 5969, Apr. 1, 1971]

### § 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.

[Doc. No. 1882. 30 FR 1839. Feb. 10, 1965, as amended by Amdt. 77-9, 36 FR 5970, Apr. 1. 1971]

### 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) 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.

(Sec. 6, 80 Stat. 937, 49 U.S.C. 1655)

(Doc. No. 1882, 30 FR 1839, Feb. 10. 1965. as amended by Amdt. 77-8, 33 PR 18614, Dec. 17, 1968; Amdt. 77-10. 37 PR 4705, Mar. 4. 19721

### §77.13 Construction or alteration requiring notice.

(a) Except as provided in 177.15. each sponsor who proposes any of the following construction or alteration shall notify the Administrator in the form and manner prescribed in 177.17:

(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 paragraph (a)(5) of this section 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 paragraph (a)(5) of this section 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 paragraph (a)(5) of this section.

(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 paragraph (a) (1) or (2) of this section.

(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 region 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.

[Amdt. 77-5. 33 PR 5256, Apr. 2. 1968, as amended by Amdt. 77-9. 36 PR 5970. Apr. 1. 1971; Amdt. 77-10, 37 PR 4705, Mar. 4. 19721

**§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.

[Doc. No. 1882, 30 PR 1839, Feb. 10, 1965, as amended by Amdt. 77-5, 33 PR 5257, Apr. 2, 1968; Amdt. 77-9, 36 FR 5970, Apr. 1, 1971]

**§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 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 this Part 77 proposing a structure in excess of 2,000 feet above ground, 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 5 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.

(Sec. 6. 80 Stat. 937, 49 U.S.C. 1655)

[Doc. No. 1882, 30 PR 1839, Feb. 10, 1965, as amended by Amdt. 77-2, 31 FR 9449, July

12, 1966; Amdt. 77-8, 33 PR 18614, Dec. 17, 1968; Amdt. 77-10, 37 PR 4705. Mar. 4, 1972]

### §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 manual.

(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.

[Doc. No. 1882. 30 FR 1839, Feb. 10, 1965, as amended by Amdt. 77-4. 32 PR 12997, Sept. 13, 1967; Amdt. 77-5. 33 PR 5257, Apr. 2, 1968]

## 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 j 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 air. craft, 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.

(Doc. No. 1882, 30 FR 1839, Feb. 10, 1965, as amended by Amdt. 77-5. 33 PR 5257. Apr. 2. 1968, Amdt. 77-9. 36 FR 5970, Apr. 1, 1971)

### §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 177.29. However, no part of the take-off 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, and,

(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.

(Amdt. 77-9. 36 FR 5970, Apr. 1, 197 11

### §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 nonprecision 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 nonprecision 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 34 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.

[Amdt. 77-9, 36 PR 5970, Apr. 1, 1971; 36 PR 6741, Apr. S. 1971]

## §77.27 [Reserved]

## §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 7,600 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 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.

[Doc. No. 1882, 30 FR 1839, Feb. 10, 1965, as amended by Amdt. 77-1, 30 PR 6713, May 18, 1965; Amdt. 77-9, 36 FR 5971, Apr. 1, 1971]

## §77.29 Airport imaginary surfaces for heliports.

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

(b) *Heliport 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) *Heliport 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.

[Doc. No. 1882, 30 PR 1839, Feb. 10, 1965, as amended by Amdt. 77-9, 36 PR 5971, Apr. 1, 1971; 36 FR 6141, Apr. 8, 1971]

### Subpart D-Aeronautical Studies, of Effect of Proposed Construction on Navigable Airspace

#### §77.31 Scope.

(a) This subpart applies to the 'conduct \* of aeronautical studies of the effect of proposed construction or alteration on the use-of air navigation facilities or navigable airspace by aircraft. In the aeronautical studies, -present and future IFR and VFR aeronautical operations and procedures are reviewed - and any possible changes in those operations and procedures and in the construction proposal that would eliminate or alleviate the conflicting demands are ascertained.

(b) The conclusion of a study made under this subpart is normally a determination as to whether the specific proposal studied would be a hazard to air navigation.

[Doc. No. 18820 30 PR 1839, Feb. 10. 1965, as amended by Amdt. 77-6, 33 PR 10843, July 31.1968]

#### §77.33 Initiation of studies.

(a) An aeronautical study is conducted by the FAA:

(1) Upon the request of the sponsor or any construction or alteration for which a notice is submitted under Subpart B of this part, unless - that construction or alteration would be located within an antenna farm area established under Subpart F of this part; or

(2) Whenever the FAA determines it appropriate.

[Doc. No. 1882.30 FR 1839, Feb. 10. 1965, as amended by Amdt. 77-4, 32 PR 12997, Sept. 13,1967]

#### §77.35 Aeronautical studies.

(a) The Regional Director of the region in which the proposed construction or alteration would be located, or his designee. conducts the aeronautical study of the effect of the proposal upon the operation of air navigation facilities and the safe and efficient utilization of the navigable airspace. This study may include the physical and electromagnetic radiation effect the proposal may have on the operation of an air navigation facility.

(b) To the extent considered necessary, the Regional Director or his designee:

(1) Solicits comments from all interested persons;  
 (2) Explores objections to the proposal and attempts to develop recommendations for adjustment of aviation requirements that would accommodate the proposed construction or alteration:

(3) Examines possible revisions of the proposal that would eliminate the exceeding of the standards in Subpart C of this part; and

(4) Convenes a meeting with all interested persons for the purpose of gathering all facts relevant to the effect of the proposed construction or alteration on the safe and efficient utilization of the navigable airspace.

(c) The Regional Director or his designee issues a determination as to whether the proposed construction or alteration would be a hazard to air navigation . and sends copies to all *known interested* persons. This determination is final unless a petition for review is granted under 177,37.

(d) If the sponsor revises his proposal to eliminate exceeding of the standards of Subpart C of this part, or withdraws it, the Regional Director. or his designee, terminates the study and notifies all known interested persons.

[Doc. -No. 1882, 30 FR 1839, Feb. 10. 1965, as amended by Amdt. 77-6. 33 PR 10843, July 31,1968]

#### §77.37 Discretionary review.

(a) The sponsor of any proposed construction or alteration or any person who stated a substantial aeronautical objection to it in an aeronautical study, or any person who has a substantial aeronautical objection to it but was not given an opportunity to state it. may petition the Administrator, within 30 days after issuance of the determination under §77.19 or §77.35 or revision or, extension of the determination under §77.39(c), for a review of the determination, revision, or extension. This paragraph does not apply to any acknowledgment issued under §77.19(c)(1).

(b) The petition must be in triplicate and contain a full statement of the basis upon which it is made.

(c) The Administrator examines each petition and. decides whether a review will be made and, if so, whether it will be:

(1) A review on the basis of written materials, including study of a report by the Regional Director of the aeronautical study, briefs, and related submissions by any interested party, and other relevant facts, with the Administrator affirming, revising, or reversing the determination issued under §77.19, §77.35 or §77.39(c); or

(2) A review on the basis of a public hearing, conducted in accordance with the procedures, prescribed in Subpart E of this part.

[Doc. No. 1882, 30 PR 1839, Feb. 10. 1965, as amended by Amdt. 77-3, 32- PR 6970. May,6. 1967]

### **§77.39 Effective period of determination of no hazard.**

(a) Unless it is otherwise extended, revised, or terminated, each final determination of no hazard made under this subpart or Subpart B or E of this part expires 18 months after its effective date, regardless of whether the proposed construction or alteration has been started, or on the date the proposed construction or alteration is abandoned, whichever is earlier.

(b) In any case, including a determination to which paragraph (d) of this section applies, where the proposed construction or alteration has not been started during the applicable period by actual structural work, such as the laying of a foundation, but not including excavation, any interested person may, at least 15 days before the date the final determination expires, petition the FAA official who issued the determination to:

(1) Revise the determination based on new facts that change the basis on which it was made; or

(2) Extend its effective period.

(c) The FAA official who issued the determination reviews each petition presented under paragraph (b) of this section, and revises, extends, or affirms the determination as indicated by his findings.

(d) In any case in which a final determination made under this subpart or Subpart B or E of this part relates to proposed construction or alteration that may not be started unless the Federal Communications Commission issues an appropriate construction permit, the effective period of each final determination includes—

(1) The time required to apply to the Commission for a construction permit, but not more than 6 months after the effective date of the determination; and

(2) The time necessary for the Commission to process the application except in a case where the Administrator determines a shorter effective period is required by the circumstances.

(e) If the Commission issues a construction permit, the final determination is effective until the date prescribed for completion of the construction. If the Commission refuses to issue a construction permit, the final determination expires on the date of its refusal.

[Doc. No. 1882, 30 PR 1839, Feb. 10. 1965, as amended by Amdt. 77-5, 33 PR 5257, Apr. 2. 1968]

## **Subpart E-Rules of Practice for Hearings Under Subpart D**

### **§77.41 Scope.**

This subpart applies to hearings held by the FAA under Titles 1, III, and X of the Federal Aviation Act of 1958 (49 U.S.C. Subchapters I, III, and X), on proposed construction or alteration that affects the use of navigable airspace.

### **§ 77.43 Nature of hearing.**

Sections 4, 5, 7, and 8 of the Administrative Procedure Act (5 U.S.C. 1003, 1004, 1006, and 1007) do not apply to hearings held on proposed construction or alteration to determine its effect on the safety of aircraft and the efficient use of navigable airspace because those hearings are fact-finding in nature. As a fact-finding procedure each hearing is non-adversary and there are no formal pleadings or adverse parties.

### **§77.45 Presiding officer.**

(a) If, under §79.37, the Administrator grants a public hearing on any proposed construction or alteration covered by this part, the Director of the Air Traffic Service designates an FAA employee to be the presiding officer at the hearing.

(b) The presiding officer may:

(1) Give notice of the date and location of the hearing and any prehearing conference that may be held;

(2) Administer oaths, and affirmations;

(3) Examine witnesses;

(4) Issue subpoenas and take depositions or have them taken;

(5) Obtain, in the form of a public record, all pertinent and relevant facts relating to the subject matter of the hearing;

(6) Rule, with the assistance of the legal officer, upon the admissibility of evidence;

(7) Regulate the course and conduct of the hearing; and

(8) Designate parties to the hearing and revoke those designations.

#### §77.47 Legal officer.

The Chief Counsel designates a member of his staff to serve as legal officer at each hearing under this subpart. The legal officer may examine witnesses and assist and advise the presiding officer on questions of evidence or other legal questions arising during the hearing.

[Doc. No. 1882, 30 FIR 1839, Feb. 10, 1965, as amended at 38 FR 26444, Sept. 17, 1973]

#### 77.49 Notice of hearing.

In designating a time and place for a hearing under this subpart the presiding officer considers the needs of the FAA and the convenience of the parties and witnesses. The time and place of each hearing is published in the "Notices" section of the *FEDERAL REGISTER* before the date of the hearing, unless the notice is impractical or unnecessary.

#### §77.51 Parties to the hearing.

The presiding officer designates the following as parties to the hearing-

(a) The proponent of the proposed construction or alteration.

(b) Those persons whose activities would be substantially affected by the proposed construction or alteration.

#### §77.53 Prehearing conference.

(a) The presiding officer may, in his discretion, hold a prehearing conference with the parties to the hearing and the legal officer before the hearing.

(b) At the direction of the presiding officer.. each party to a prehearing conference shall submit a brief written statement of the evidence he intends to provide through his witnesses and by questioning other witnesses at the hearing, and shall provide enough copies of the statement so that the presiding officer may 'keep three for the FAA and give one to each other party.

(c) At the prehearing conference, the presiding officer reduces and simplifies the subject- matter of the hearing so far as possible and advises the parties of the probable order of presenting the evidence.

#### §77.55 Examination of witnesses.

(a) Each witness at a hearing under -this subpart shall, after being sworn by the presiding officer, give his testimony under oath.

(b) The party for whom a witness other than an employee of the FAA is testifying shall examine that witness. After that examination, other parties to the hearing may examine the witness. in the order fixed by the presiding officer. The presiding officer and the legal' officer may then examine the witness. The presiding officer may grant any party an additional opportunity to examine any witness, if that party adequately justifies the additional examination.

(c) The legal officer examines each .FAA employee who is a witness, before the other parties examine him. After that examination, the order prescribed in paragraph (b) of this section applies. An- FAA employee may testify only as to facts within his, -personal knowledge and the application of PAA regulations, standards, and policies.

#### §77.57 Evidence.

(a) The presiding officer receives all testimony and exhibits that are relevant to the issues of the hearing. So far as possible, each party shall submit enough copies of his exhibits that the presiding officer may keep three copies. for the FAA and give one to each other party.

(b) The presiding officer excludes any testimony that is irrelevant. unduly repetitious, or consists of statements made -during an aeronautical study in an effort to reconcile or compromise aviation or construction or alteration requirements. A party to the

hearing may object to the admission of evidence only on the ground that it is irrelevant.

#### **§77.59 Subpoenas of witnesses and exhibits.**

(a) The presiding officer of a hearing may issue subpoenas for any witness or exhibit that he determines may be material and relevant to the issues of the hearing. So far as possible, each party to the hearing shall provide the witnesses and exhibits that he intends to present at the hearing.

(b) If any party to the hearing is unable to provide his necessary witnesses and exhibits, he shall advise the presiding officer far enough in advance that the presiding officer can determine whether he should issue subpoenas for the desired witnesses or exhibits.

#### **§77.61 Revision of construction or alteration proposal.**

(a) The sponsor of any proposed construction or alteration covered by this part may revise his proposal at any time before or during the hearing. If he revises it, the presiding officer decides whether the revision affects the proposal to the extent that he should send it to the Administrator for a re-determination of the need for a hearing.

(b) If the presiding officer decides that it does not need to be resubmitted to the Administrator, he advises the parties of the revised proposal and takes the action necessary to allow all parties to effectively participate in the hearing on the revised proposal. With

out limiting his discretion, the presiding officer may recess and reconvene the hearing, or hold another prehearing conference.

#### **§77.63 Record of hearing.**

(a) Each hearing is recorded verbatim by an official reporter under an FAA contract. The transcript, and all exhibits, become a part of the record of the hearing.

(b) Any person may buy a copy of the transcript of the hearing from the reporter at the price fixed for it.

(c) The presiding officer may allow any party to withdraw an original document if he submits authenticated copies of it.

(d) Any person may buy, from, the FAA, photostatic copies of any exhibit by paying the copying costs.

(e) A change in the official transcript of a hearing may be made only if it involves 'an error of substance.. Any 'recommendation to correct the transcript must be filed with the presiding officer within 5 days after the hearing closes. The presiding officer reviews each request for a correction to the extent -he considers appropriate and shall make any revisions that he finds appropriate as a result of that review.

#### **§77.65 Recommendations by parties.**

Within 20 days after the mailing of the record of hearing by the official reporter, or as otherwise directed by the presiding officer. each party may submit to the presiding officer five copies of his recommendations for a final decision to be made by the Administrator.

#### **§77.67 Final decision of the Administrator.**

After reviewing the evidence relevant to the questions of fact in a hearing, including the official transcript and the exhibits, The Administrator resolves all these questions, based on the weight of evidence, and makes his determination, stating the basis and reasons for it. He then issues an appropriate order to be served on each of the parties.

#### **§77.69 Limitations on appearance and representation.**

(a) A former officer or employee of the FAA may not appear on behalf of, or represent, any party before the FAA in connection with any matter to which this part applies, if he considered or passed on that matter while he was an officer or employee of the FAA.

(b) A person appealing before the FAA on any matter to which this part applies may not, in connection with that appearance, knowingly accept assistance from, or share fees with, any person who is prohibited by paragraph (a) of this section. from appearing himself on that matter.

(c) A former official or employee of the FAA may not, within 6 months after he ceases to be such an officer or employee, appear before the FAA on behalf of, or represent, any party in connection with any proceeding that was pending under this part while he was an officer or employee of the FAA, unless he obtains written consent from an appropriate officer of the FAA. Based on a verified showing that he did not personally consider the matter concerned or gain particular knowledge of it while he was an officer or employee of the FAA.

### Subpart F-Establishment of Antenna Farm Areas

#### §77.71 Scope-

(a) This subpart establishes antenna farm areas in which antenna structures may be grouped to localize their effect on the use of navigable airspace.

(b) It is the policy of the FAA to encourage the use of antenna farms and the single structure-multiple antenna concept for radio and television towers whenever possible. In considering proposals for establishing antenna farm areas, it considers as far as possible the revision of aeronautical procedures and operations to accommodate

antenna structures that will fulfill broadcasting requirements.

#### §77.73 General provisions.

(a) An antenna farm area consists of a specified geographical location with established dimensions of area and height, where antenna towers with a common impact on aviation may be grouped. Each such area is established by appropriate rule making action.

(b) Each proposal for an antenna farm area is evaluated on the basis of its effect on the use of navigable airspace. The views of the Federal Communications Commission are requested on the effect that each establishment of an antenna farm area would have on its statutory responsibilities. Any views submitted by it are fully considered before the

antenna farm concerned is established. If the Commission advises that the establishment of any proposed antenna farm area would interfere with its statutory responsibility, the proposed area is not established.

(c) The establishment of an antenna farm area is considered whenever it is proposed by:

- (1) The FAA;
- (2) The Federal Communications Commission;
- (3) The sponsor of a proposed antenna tower; or
- (4) Any other person having a substantial interest in a proposed *antenna* tower.

[Doc. No. 1882, 30 FIR 1839, Feb. 10, 1965, as amended by Amdt, 77-10, 37 PR 4705. Mar. 4, 1972]

#### §77.75 Establishment of antenna farm areas.

The airspace areas described in the following sections of this subpart are established as antenna farm areas.

NOTE: Sections 77.77 through 77.1100 reserved for, descriptions of antenna farm areas.