FINAL ENVIRONMENTAL IMPACT STATEMENT

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RELOCATION OF THE 146th TACTICAL AIRLIFT WING OF THE CALIFORNIA AIR NATIONAL GUARD

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COVER SHEET

(a) Responsible Agency: National Guard Bureau Department of the Air Force

(b) Proposed Action: Relocation of the 146th Tactical Airlift Wing (TAW) of the California Air National Guard (ANG) from Van Nuys Airport. The preferred alternative is to relocate the unit to a site adjacent to the Naval Air Station (NAS) at Point Mugu.

(c) Contact:

MSGT Riley Black, Department of the Air Force
146th Tactical Airlift Wing
8030 Balboa Boulevard
Van Nuys, CA 91409

(d) Designation: Final Environmental Impact Statement (FEIS)

(e) Abstract: The 146th TAW is currently located on a 62-acre site at Van Nuys Airport in the City of Los Angeles, California. The preferred alternative is to relocate the unit to a newly constructed base immediately adjacent to the northern boundary of the NAS Point Mugu, just south of the City of Oxnard, California. Acquisition of 239 acres of privately owned land would be required for the construction of offices, maintenance facilities, hangars, aircraft parking aprons and taxiways. The new facility would use existing runways at NAS Point Mugu. Four other alternatives were reviewed. These were (1) the No Action option of remaining at Van Nuys Airport, (2) relocation to a site within the boundaries of Norton Air Force (AF) Base in San Bernardino, California, (3) relocation to a site adjacent to AF Plant #42 at Palmdale, California or (4) relocation to a site within the limits of AF Plant #42. The fourth site was added during the public review period and is addressed in the responses to comments and in Appendix VIII. The environmental impacts are summarized on the following pages

Air Force
Environmental Planning Division
(HQ USAF/CEVP)

Room 5B269
1260 Air Force Pentagon
Washington, DC 20330-1260

16 JUL 93

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(ATTN: Matt Mauby)

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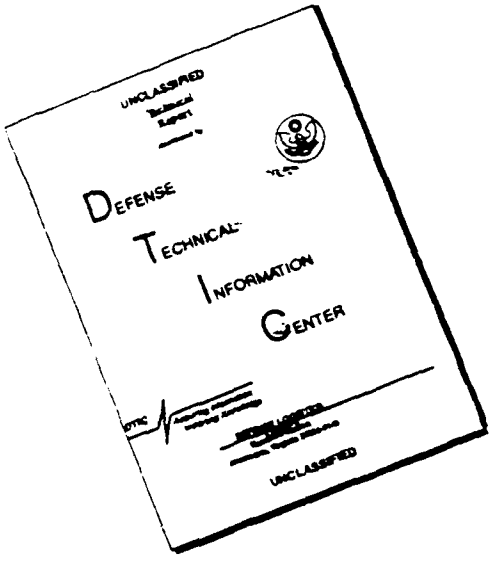

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SUMMARY

DRAFT ( ) FINAL (X) ENVIRONMENTAL IMPACT STATEMENT

1. Type of Action: Administrative (X) Legislative ( )

2. Brief Description of Proposed Action:

The proposed action is the relocation of 146 Tactical Airlift Wing (TAW) of the California Air National Guard from the Van Nuys Airport to a 239-acre site which abuts the northern boundary of the Naval Air Station (NAS) at Point Mugu, located in Ventura County, California. The relocation would involve deactivation of facilities at the existing 62-acre base at Van Nuys Airport, termination of the current land lease with the City of Los Angeles Department of Airports (DOA), and construction of new facilities.

The existing location, leased from the DOA, is immediately abutted by dense industrial, commercial and residential uses. Its size is insufficient to support adequate facilities and the configuration of the site makes it difficult to protect ANG aircraft and facilities. Van Nuys, a general aviation airport, is the fourth busiest airport in the Nation having surpassed 575,000 operations in 1984.

The immediate presence of residential uses and the high volume of general aviation traffic have resulted in limitations upon the existing operations of the 146th TAW. Only full stop landings and take-offs are permitted at Van Nuys Airport; no touch-and-go or low-approach training activities are allowed.

Relocation would eliminate the constraints placed upon the unit and would allow for future modernization.

3. Public Review of the Draft EIS:

The public review and comment period for the Draft Environmental Impact Statement (DEIS) ran from March 1, 1985 to April 15, 1985. Written comments were submitted to the 146th TAW, Van Nuys; verbal comments were received at the four public hearings held in Camarillo, Van Nuys, San Bernardino, and Palmdale during the week of March 18, 1985.

The comments associated with the proposed action expressed concern with aircraft overflights and related noise, loss of prime agricultural land, airspace congestion, access road over load, potential loss of a wetland area, and generation of additional air pollutant emissions.

Most of the response was by a large number of citizens from the Leisure Village retirement community in Camarillo that were concerned about the potential for increased noise and frequency of overflights. Leisure Village is located beneath the approach flight path of Runway 21 at NAS Point Mugu, approximately 8 miles from the end of the runway. The intervening land between NAS Point Mugu and Camarillo is in agricultural use.

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As a direct result of comments raised during the environmental impact analysis process, the Air National Guard also evaluated an additional site, Air Force owned within the limits of AF Plant #42. This site is not a new location alternative, but it does offer an alternative for facilities construction. The environmental impacts associated with this site are similar to the other AF Plant #42 site except for its biological and cultural resource significance.

To address these concerns, the Air National Guard conducted an additional SEL analysis of flights near Leisure Village. Significant noise impacts are still not anticipated.

4. Summary of Impacts

The impacts associated with the proposed action are a result of the development and operation of a new ANG base and the discontinuation of operations at the existing base.

A noise screening analysis was conducted using the computerized Area Equivalent Method (AEM) developed by the Federal Aviation Administration (FAA). The analysis was designed to determine if the anticipated maximum of 12 new approaches by C-130's would significantly increase cumulative noise exposure. Because the C-130 is so much quieter than the dominant aircraft using NAS Point Mugu, the analysis demonstrated that no significant cumulative noise impact would occur. In addition, day-night average noise levels (L_{dn}) were modeled for the Leisure Village location, indicating that the added Air National Guard operations would increase L_{dn} values from 53.2 to 53.3, or only 0.1. Given that the L_{dn} values at this location are already well below the generally accepted residential standard of 65 L_{dn}, and the increase is marginal, no significant noise increase would occur. A third procedure, single event analysis was also undertaken to determine the effects of individual landings over Leisure Village. Again the C-130 aircraft was determined to be significantly quieter than the dominant aircraft at NAS Point Mugu.

The agricultural displacement of 210 productive acres and 239 acres of prime agricultural soils at the site is contrary to the intent of the Ventura County General Plan to preserve agricultural uses in the Oxnard Plain. Although the displacement cannot be mitigated, the acreage is but a small portion of the productive land in the County.

The loss of 44 agricultural related jobs would be offset by the 460 direct short term construction jobs and 300-500 long term secondary jobs generated by ANG local expenditures and in personnel relocation.

Loss of any wetland habitat disturbed by construction (contingent upon the configuration of final design) will be offset by creation or enhancement of suitable habitat at a ratio to be negotiated with the U.S. Fish and Wildlife Service.

Relocation to NAS Point Mugu would generate 33.3 tons/yr of RHC and 15 tons/yr of NO_x emissions not included in Ventura County's Air Quality Management Plan (AQMP). The Oxnard Air Basin, which includes the project site, is a non-attainment area for ozone. This impact will be mitigated to an acceptable level by provision of funds for one year to the Commuter Computer program.

Relocation to NAS Point Mugu would congest peak hour traffic at Hueneme Road and Las Posas Road during the one weekend per month that the ANG is in full operation. This impact is not considered to be significant due to its infrequent nature.

The NAS Point Mugu site has few airspace conflicts and poses no security problems since the airfield is surrounded by open space, ocean waters, and agricultural-related uses.

No significant flood hazards are present at the NAS Point Mugu site. Potential impacts due to increased runoff, erosion, and sedimentation will be minimized through the implementation of mitigation measures and design of ANG facilities to maintain existing runoff rates.

Although seismic hazards are present at the Point Mugu site, as they are throughout Southern California, geotechnical studies indicate that the application of appropriate seismic design standards will mitigate general risks to an acceptable level.

The proposed action would alter the visual elements of the Point Mugu site from agricultural characteristics to those associated with airfield use.

There are no known cultural resources present on the site, therefore, no significant adverse impacts are projected from construction of base facilities.

The availability of water supplies and wastewater treatment capacity are not expected to be significant constraints at NAS Point Mugu. City officials have indicated that the Oxnard Wastewater Treatment Plant has adequate capacity to accommodate the base. The water supply for the site will be provided through an extension of the mains from NAS Point Mugu.

There are no Federal or State listed endangered species of concern at the Point Mugu site.

No significant impacts are anticipated with respect to hazardous materials since proper storage and handling procedures will be followed. The hazardous materials generated by the 146th TAW are predominantly in the form of petroleum contaminated water, considered hazardous by the State of California.

The ANG's production of 3.1 tons per day of solid waste is not anticipated to create a significant impact upon local landfill facilities.

The expected annual consumption of 1,500,000 kWh of electricity and 56,000 thermal units of natural gas by the ANG will not create a significant adverse impact on the local supplies for NAS Point Mugu.

Short-term construction-related impacts such as noise, dust emissions, and traffic disruptions will occur as the result of the construction of a new ANG Base. Standard construction mitigation measures will be used to mitigate these effects.

In conclusion, the Air National Guard does not foresee significant impacts on noise, water quality, flood hazards, loss of prime farmland, loss of related

agricultural jobs, or traffic. Potential impacts on wetlands and air quality should be minor, but the Air National Guard has made commitments to work with the appropriate agencies to ensure that both the initial and long-term impacts are minimal.

5. Alternatives Considered

Taking no action would not alleviate the problems of high lease cost, constraints on flight operations, and inadequate space for future modernization.

In addition to the no action alternative, the action considered relocation, which would resolve the problems presently encountered at Van Nuys Airport.

The relocation sites included:

a. Norton AFB - Although Norton AFB has a compatible mission, the crowded airspace and recruitment/retention problems could seriously affect unit operations and integrity. Minor adverse impacts would occur with respect to traffic generation and roadway capacity, air quality, and utilities.

b. AF Plant #42 - Private land - Although ideal flying conditions prevail and recruitment appears adequate, retention would have an adverse impact on unit integrity. Additional primary adverse impacts associated with relocation to this site would be a moderate impact to peak hour automobile traffic, and the displacement of biological resources. Minor adverse impacts would occur with respect to air quality, groundwater resources, increased runoff flows, and utilities. Adverse noise impacts would be negligible.

AF Plant #42 - Government land - Similar to the other AF Plant #42 site, with respect to flying conditions and recruitment/retention. The primary adverse impact associated with this site is the presence of historic sites on certain locations within the 550 acre tract. Minor adverse impacts would occur with respect to air quality, groundwater resources, increased runoff flows, and utilities. Adverse noise impacts would be negligible. There will be no significant impact upon traffic generation, roadway capacity, and prime agricultural soils.

6. Agencies Contacted Concerning Inputs to Environmental Impact Statement

146th TAW, Van Nuys
Norton AFB
AF Plant #42 at Palmdale
NAS Point Mugu
Naval Reserve Public Affairs
March AFB, 163rd TFG
Port Hueneme DPDO
Federal Aviation Administration Civil Aeronautics Board
U.S. Fish and Wildlife Service

Bureau of Land Management, Palmdale and Riverside
California Department of Transportation, District 8 and District 7
California Highway Patrol
California Regional Water Quality Control Board, Region 4 and Region 6
University of California, Agricultural Extension Office
California Department of Fish and Game
Los Angeles County Flood Control District
Los Angeles County Road Department
Los Angeles County Water Works
City of Los Angeles Department of Airports
City of Los Angeles Department of Water and Power
San Bernardino Airport Land Use Commission
San Bernardino County Flood Control District
San Bernardino County Public Works Department
San Bernardino County Solid Waste Management District
City of San Bernardino
City of Redlands
City of Colton
City of Rialto
Antelope Valley East Water Agency
City of Lancaster
City of Palmdale
Ventura County Assessor's Office
Ventura County Flood Control and Water Resources Department
Ventura County Office of the Agricultural Commission
Ventura County Planning Department
Ventura County Public Works Department
Ventura County Sheriff's Department
Ventura Local Agency Formation Commission
United Water Conservation District
City of Camarillo
City of Oxnard
City of Port Hueneme
Southern California Edison Company
Southern California Gas Company
General Telephone Company
Camarillo and Oxnard Airport Authority
Interested Organizations and Individuals

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LIST OF ABBREVIATIONS

AAQS	Ambient Air Quality Standards
AEM	Area Equivalent Method
AFB	Air Force Base
AF	Air Force
AICUZ	Air Installation Compatible Use Zone
ANG	Air National Guard
APZ	Accident Potential Zone
APCD	Air Pollution Control District
AQMD	Air Quality Management District
AQMP	Air Quality Management Plan
ARTCC	Air Route Traffic Control Center
ASR	Airport Surveillance Radar
BOAC	Board of Airport Commissioners
CAAA	Clean Air Act Amendments
CAB	Civil Aeronautics Board
CEQ	Council on Environmental Quality
CEQA	California Environmental Quality Act
CMWD	Calleguas Municipal Water District
CNEL	Community Noise Equivalent Level
CNR	Corporate Noise Rating
CZ	Clear Zone
DAVA	Defense Audio Visual Agency
dB(A)	Decibel (A-weighted)
DOA	(Los Angeles) Department of Airports

LIST OF ABBREVIATIONS
(Continued)

DPDO	Defense Property Disposal Office
EIR	Environmental Impact Report
EIS	Environmental Impact Statement
EPA	Environmental Protection Agency
FAA	Federal Aviation Administration
FAR	Federal Aviation Regulations
FEMA	Federal Emergency Management Agency
IFR	Instrument Flight Rules
ILS	Instrument Landing System
INM	Integrated Noise Model
LACWW	Los Angeles County Water Works
Ldn	Day-Night Average Sound Level
LOS	Level of Service
LTO	Landing and Takeoff Cycle
MAC	Military Air Command
MOA	Military Operations Area
NAS	Naval Air Station
NEF	Noise Exposure Forecast
NEPA	National Environmental Quality Act
NM	Nautical Miles
NOI	Notice of Intent
NOP	Notice of Preparation
NPDES	National Pollution Discharge Elimination System
PAR	Precision Approach Radar

I.

PURPOSE OF AND NEED FOR THE PROJECT

The continued operation of the 146th TAW at Van Nuys Airport is in question due to several increasing and uncontrollable problems. As discussed below, the problems related to safety, land constraints, and lease of the existing site have required the National Guard Bureau to consider relocating the 146th TAW.

SAFETY

Aircraft activity, both in the air and on the ground, is a concern to the 146th TAW. Van Nuys Airport is the fourth busiest general aviation airport in the United States. The FAA has indicated that in 1984 there were more than 575,000 aircraft operations at Van Nuys. Over 1,500 aircraft, mostly light general aviation, are based there. General aviation activity, in itself, creates problems for the California Air National Guard. Mixing of light aircraft with the ANG's much larger C-130 aircraft at Van Nuys adds to the complexity of flight operations. In addition, although the 146th TAW flies on all days of the week, they have increased activity during monthly weekend training. General aviation activity is also heavier on weekends. The following are issues that adversely affect the unit's training activities:

- o Potential for midair collisions
- o Prohibitions on training activities
- o Prohibition on formation flight
- o Delays in departures

In the last five years, there have been midair collisions in the San Fernando Valley which resulted in numerous fatalities. One collision involved a light civilian aircraft with a civilian air carrier. Both aircraft were destroyed, killing all passengers. In 1983 there were at least three near midair collisions in the area. The potential for such events involving a C-130 is increased because of the size and airspeed differences between it and the other types of aircraft. Airspeed differences are especially troublesome in the approach patterns.

Current ANG activities at Van Nuys are limited to full stop landings and take-offs. Due to the heavy traffic load at Van Nuys Airport, all other flight crew proficiency training is conducted at other airfields. These activities include assault strip landings and take-offs, low approach procedures, and touch-and-go's.

The extensive general aviation activity at Van Nuys also prohibits tactical formation takeoffs and landings. Presently unit aircraft take off singly and are routinely flown to AF Plant #42 at Palmdale, for the required formation training activities.

Normally, the Air National Guard aircraft are delayed when attempting to gain the active runway for variable periods of time. This waiting period is normally five to

ten minutes, depending on the time of day and the day of the week. These delays result in wasted time and greater fuel consumption.

Once in the air, ANG aircraft are often routed in a direction opposite to their ultimate destination. This is due to the high density of air traffic in the San Fernando Valley, particularly commercial traffic into and out of nearby Burbank-Glendale-Pasadena Airport. Again, increased flying time and fuel expenditure occur as a result.

LAND CONSTRAINTS

The Van Nuys ANG Base has insufficient land area to adequately provide space for all requirements. This site is further limited by the flood control channel which bisects it. These constraints result in the following:

- Insufficient vehicle parking
- Inadequate development space
- Difficulty in providing resource security
- Changed operations due to industrial encroachment
- Split aircraft parking and maintenance

About 80 percent of the 1,365 individuals on a drill weekend drive their automobiles to the base. With every available free section of pavement on the base marked for parking, there are currently only 799 authorized parking spaces at Van Nuys. This has resulted in an overflow each drill weekend of approximately 320 vehicles that must park on city streets, the fire lanes on base or both.

The Van Nuys facilities were constructed prior to 1960 and are inadequate for the present mission. A major construction program was delayed/deleted before new facilities could be constructed. The preferred method of construction is to build on an unoccupied portion of land, move into the new structure and then demolish the old, existing structure. Due to the lack of unoccupied land at Van Nuys, this is not possible.

The base configuration is such that resources (aircraft) are difficult to protect. To the north of the outer parking apron civilian aircraft are parked within 100 to 125 feet of ANG C-130 aircraft. The aviation public has unlimited access to this area. To further compound the problem, the County of Los Angeles has a flood control channel (Bull Creek) which bisects the base North to South. This channel provides potential surruptitious access to ANG property and is immediately adjacent to the two parking aprons.

To the south and east, industries have constructed facilities to their property lines which have resulted in commercial structures being located around and immediately adjacent to the parking aprons. Aircraft parking locations have been adjusted so that propeller wash does not interfere with industrial operations.

The bisection of the base by Bull Creek has resulted in a split aircraft parking layout with eight aircraft parked on the outer parking apron and eight aircraft parked on the inner apron. Because of the land constraints, no additional aircraft parking spaces are available. When any visiting aircraft are at the Van Nuys ANG base, the wash rack must be used to park the additional aircraft.

SITE LEASE

The Air Force lease for the Air National Guard Base at Van Nuys Airport expired on June 30, 1985. Attempts to renegotiate an acceptable long-term lease were not successful. The Government, City of Los Angeles, and California Military Department have successfully negotiated a two-phase short-term lease extension through December 31, 1988 and December 31, 1989 at a nominal fee. This lease extension will accommodate the relocation of the 146th TAW and satisfy the City's plan for future use of the property.

If the Air Force, due to a self incurred delay, requires possession of either or both of the short-term leasehold interest past the December 31, 1988/89 dates, the 146th TAW monthly rental rate will be $253,235.00. A delay resulting from events beyond Air Force control, will implement a 6-month grace period, at a nominal fee, on a month-to-month basis.

II.

ALTERNATIVES EVALUATION

Chapter I described the reasons why relocation of the 146th TAW is under consideration. The following discussion reviews the evaluation process which was used to identify potential alternative relocation sites, to narrow those alternatives to several prime candidates, and to select a preferred alternative.

SITE EVALUATION CRITERIA

As illustrated in Figure II-1, eleven candidate sites in Southern California were screened by an Air Force study team. The following criteria were applied during these preliminary site evaluations:

- Compatibility with Mission Requirements

  1. ANG mission must be compatible with existing aviation activities at candidate locations.

  2. Candidate locations must have some capability for expansion and future mission modernization.

  3. Co-location with other military units on existing military installations is preferred.

  4. The availability of special use facilities at a candidate location is preferred.

- Cost Considerations

  1. Availability of facilities and land at a candidate location with an existing physical plant vs. what must be acquired, developed and constructed.

  2. Amount of personnel relocation costs which would be incurred for sites beyond 50 nautical miles from Van Nuys.

- Unit Integrity and Recruiting

  1. Unit must remain in Southern California area and should be within 50 NM of LA center to maintain recruiting base **(critical criteria).**

  2. Goal of retaining unit intact; consideration of current residence of majority of unit personnel and impact of relocation upon people with critical skills.

  3. Distance of potential candidates from Van Nuys.

- Safety

  1. The current total air traffic operations of all airports within a 15 mile radius of the candidate location (including the candidate location itself) should be less than 500,000 operations per year; and air traffic operations at the candidate location should be less than 200,000 operations per year **(critical criteria).**

  2. Candidate locations should be in areas of medium to low air traffic density and general aviation activity. Possibility of future development and encroachment should be considered.

- Security

  1. Can resources and equipment at the candidate site be adequately and effectively protected?

  2. What is potential and likelihood of future airfield encroachment?

- Environmental Concerns

  1. Are there any possible environmental conflicts or issues?

REVIEW OF INITIAL CANDIDATE SITES

Eight of the eleven candidate sites were eliminated from further consideration due to safety concerns (e.g., heavy air traffic in the vicinity) and/or unit integrity concerns (e.g., sites beyond 50 nautical miles from Los Angeles). Based upon specific relocation criteria, the study team arrived at the following conclusions in eliminating these eight candidate sites:

- Brown Field (San Diego County) - This site is 180 miles from Van Nuys and is too far from Los Angeles in terms of the unit integrity criteria.

- Camarillo Airport (Ventura County) - While this site is conducive to maintaining unit integrity, problems related to security, as well as commercial, industrial, and residential encroachment, would be similar to those now existing at Van Nuys Airport.

- George Air Force Base (San Bernardino County) - Located 90 miles from Van Nuys, this site does not meet the distance criteria for unit integrity and recruiting concerns.

- Los Alamitos Army Airfield (Orange County) - While this site meets the distance criteria for unit integrity, security and encroachment problems in this heavily urbanized area would be likely. Furthermore, this facility is within a 15-mile radius of five civilian airports (John Wayne, Fullerton, Hawthorne, Long Beach, and Torrance) and serious air traffic safety problems would be likely.

- March Air Force Base (Riverside County) - Although March AFB meets the distance criteria, with this alternative the 146th TAW would be likely to encounter a limited recruiting base since there are several ANG and Air Force Reserve units in the area already competing for personnel. With five other air facilities within a 15-mile radius (Norton AFB, Riverside, Fla-Bob, Rialto, and Redlands), air traffic considerations are not favorable to relocation.

- Marine Corps Air Station, El Toro (Orange County) - While this site meets the distance criteria, it could require extensive relocation of ANG technicians. Its proximity to other air facilities (John Wayne, Corona, MCAS (H) Tustin, and Meadowlark) may present serious air traffic concerns.

- Naval Air Station, Miramar (San Diego County) - This site is 105 miles from Van Nuys; therefore, it does not meet the distance criteria. Problems would be encountered due to a limited recruiting base and uncertainty regarding future commercial air carrier activities at this facility.

- Vandenberg Air Force Base (Santa Barbara County) - The site is more than 140 miles from Los Angeles and does not meet the criteria for unit integrity and recruiting requirements.

Other Southern California sites, such as Edwards AFB and the Naval Weapons Center at China Lake, were not considered due to direct conflicts with their missions and operation and because they failed the distance criteria for unit integrity requirements.

EVALUATION OF FINAL CANDIDATE SITES

As illustrated in Figure II-2, Norton AFB, AF Plant #42, and NAS Point Mugu were selected as the final candidate sites. The Air Force study team selected these sites based upon the following rationale:

- Norton AFB - Although located at the outer limit of the distance criteria where there would be an extensive impact upon unit integrity and although existing air traffic is very heavy in the area, the proposed site warrants further consideration since no land acquisition is necessary and it is on an existing military facility where security is excellent and onsite activities are compatible with the mission of the 146th TAW. There were no anticipated critical environmental problems.

- AF Plant #42 - The proposed site directly adjoins an existing military installation and offers ideal flying conditions. Relocation to this site located some 37 nautical miles from Van Nuys would have a moderate impact upon unit integrity. Safety and security concerns could be met. Minimal environmental concerns exist at this site. A major uncertainty, however, involved the potential development of Palmdale International Airport (PIA), which would create flying problems for the unit. At the time of the earlier study, it was thought that land acquisition would be required. Since the circulation of the Draft EIS, however, the Air Force has made available a site

within the existing AF Plant #42 boundaries. At either AF Plant #42 site, new construction would be necessary.

- NAS Point Mugu - The proposed site is adjacent to an existing U.S. Navy military installation 35 nautical miles from Van Nuys. Relocation to this site would have minimal impact upon unit integrity. The site also meets the criteria of safety and security. The site does require land acquisition and all new construction. It involved some important environmental considerations.

The preferred site for base relocation is NAS Point Mugu, based upon its superiority for maintaining unit integrity and a strong recruiting base. This alternative and the remaining alternatives considered in this document are described below.

ALTERNATIVES

The alternatives addressed in this study include the No Action alternative of remaining at Van Nuys Airport, the preferred alternative of relocating the 146th TAW to a site adjacent to NAS Point Mugu, and the two options of relocation to Norton AFB or AF Plant #42 at Palmdale.

NO ACTION

The No Action alternative requires the continued use of the base at Van Nuys Airport depicted in Figure I-3. Retaining the 146th TAW at Van Nuys Airport would, over the long term, tend to increase the magnitude of the problems discussed in Chapter I (i.e., safety, security, resources, and mission potential). The presence of the large ANG C-130's would continue to be a hazard due to the mix of operations with small general aviation aircraft. Prohibition of certain types of training activities would continue. As general aviation activity at the airport and other aircraft activity in the vicinity increase, delays to ANG air traffic would increase. The proximity of 146th TAW aircraft and facilities to areas of public use (i.e., the remainder of Van Nuys Airport and Balboa Boulevard) would leave the ANG vulnerable to vandalism and sabotage. Lease costs would likely continue to increase as land values rise and surrounding development intensifies. Limitations upon facility improvements would also continue if the 146th TAW were to remain at Van Nuys Airport under short-term lease provisions. With a negotiated long-term lease or land condemnation, a $20 million major capital improvements program would, however, be undertaken. The problem of insufficient parking space for ANG reservists would continue to result in the saturation of on-street parking in the vicinity of Van Nuys Airport. Recruitment should not be affected. Although it would not meet the needs of the ANG, analysis of this alternative is mandated by State and Federal legislation. It has therefore been included in this document.

PROPOSED ACTION

The proposed action is to relocate the 146th TAW from Van Nuys Airport to the preferred site adjacent to NAS Point Mugu. Relocation to the site adjacent to the northern boundary of NAS Point Mugu would require acquisition of 239 acres of privately owned land in agricultural use and construction of all new facilities. A conceptual layout of the new base at the Point Mugu site is shown in Figure II-3. The new base would use the existing runways at NAS Point Mugu. New facilities to be constructed would include offices, hangars, maintenance facilities, aircraft parking aprons and taxiways. Required facilities are summarized in Table II-1.

TABLE II-1. FACILITY REQUIREMENTS OF THE 146TH TAW

Type of Facility	Size (sq ft)
Taxiway(s)	299,988
Aircraft Parking Apron	900,000
Aircraft Washrack	16,803
Composite Squadron Operations Facility	39,558
Aerial Port Training Facility	20,579
Composite Engine and Prop Facility	14,000
Composite Aircraft Maintenance Hangar	87,590
Fuel Systems Maintenance - Corrosion Control Hangar	25,254
Flightline Maintenance Facility	11,600
Base Supply Administration and Warehouse Facility	44,030
Composite Operational Training - Base Support Facility	41,783
Base Engineering Maintenance Facility	11,235
Composite Vehicle Maintenance Shop	10,464
Support Equipment Shop	5,280
Medical Training and Administration Facility	7,600
Dining Hall	11,570
Site Preparation, Access Roads, Parking and Utilities	Various Amounts
Jet Fuel Operating Storage	10,000 barrels

ALTERNATE SITES

Three other site options, one adjacent to and one within the limits of AF Plant #42 and Norton AFB, have also been assessed in this environmental impact statement. The site within the limits of AF Plant #42 became available during the Draft EIS public review period.

The option of relocating to the site adjacent to AF Plant #42 at Palmdale would require acquisition of 250 acres of privately owned vacant desert land and construction of a new base similar to the concept shown for Point Mugu. The new base would use the runways at AF Plant #42.

The option of relocating to the site within AF Plant #42 would involve construction of a new base on 250 acres of government owned land within a general area comprising more than 550 acres. This new base would also use the runways at AF Plant #42. This option which was added during the comment period on the Draft EIS, is discussed in Appendix VIII and in Volume 2 Comments and Responses.

The Norton AFB option also would not require private land acquisition since the site would be within the limits of the existing Air Force facility. Although this proposed relocation site is already developed, major new facilities would be required.

ENVIRONMENTAL IMPACT MATRIX

Figure II-5 depicts a summary of the environmental impacts of the alternative sites, the No Action alternative and the Proposed Action of relocating the 146th TAW to the site adjacent to NAS Point Mugu. This matrix is based upon the information on environmental impacts presented in detail in Chapter IV.

The matrix displays the magnitude of both beneficial and adverse impacts associated with each alternative by means of varying sizes of solid or clear symbols. Where an impact category has elements of both beneficial and adverse impacts, a symbol which is half solid and half clear is displayed. It should be noted that the values shown in Figure II-5 represent those impacts which remain after implementation of the mitigation measures described in this chapter. A note which describes the relative differences between the original and the new AF Plant #42 site appears at the bottom of the matrix.

This simple graphic portrayal of impacts will aid in comparing the alternatives for a given impact category, but the matrix cannot be used to "sum" the columns and thereby determine a preferred alternative. To present the impacts in an easily comprehensible graphic form, each impact category was given a weight equal to all others.

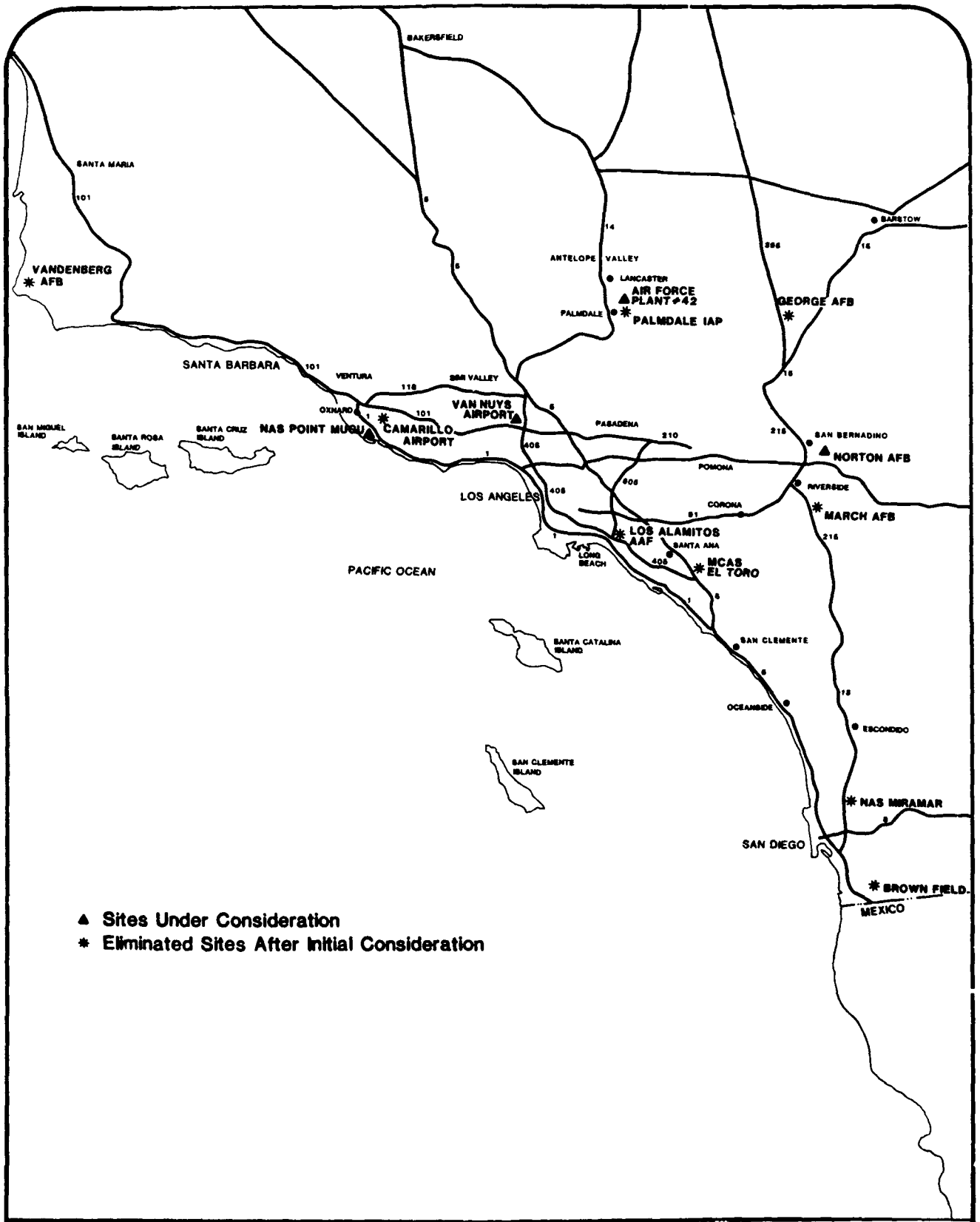

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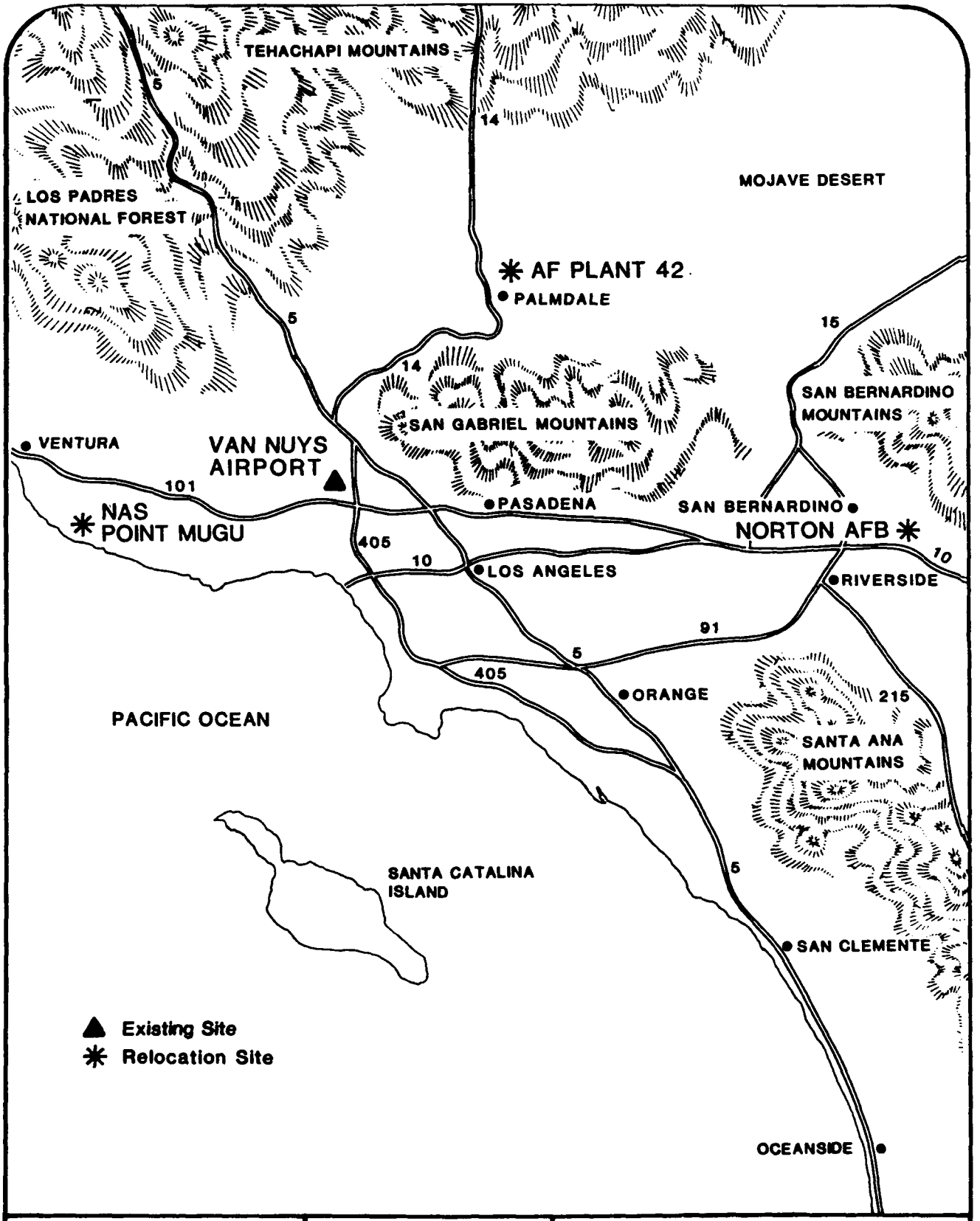
FIGURE II-1
INITIAL SITES CONSIDERED



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MILES 0 7.5 15

FIGURE II-2
CANDIDATE RELOCATION SITES

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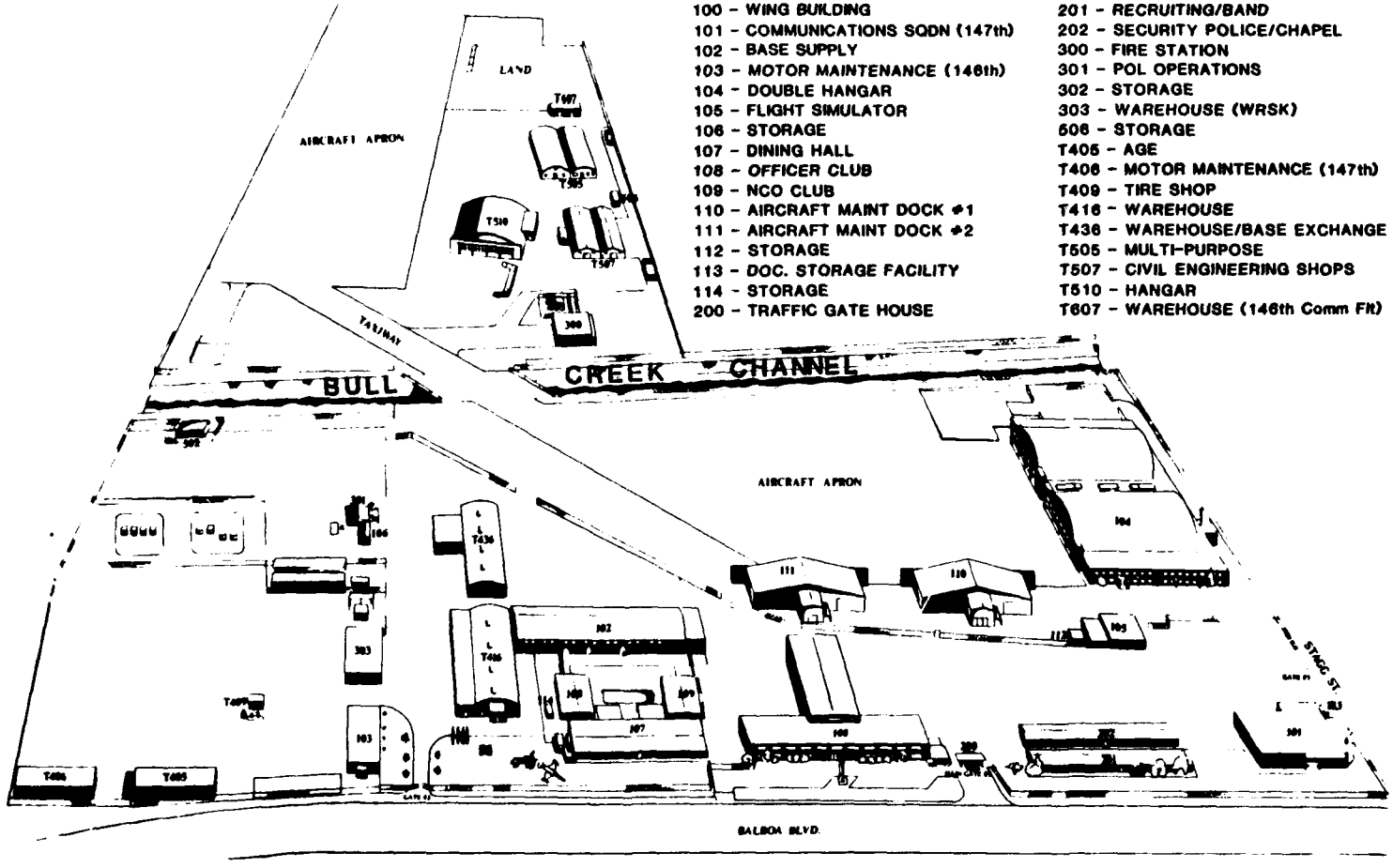

FIGURE II-3
EXISTING 146TH TAW
FACILITY-VAN NUYS

1. COMPOSITE OPERATIONAL TRAINING/MEDICAL TRAINING & ADMINISTRATION/DINING HALL/TELECOMMUNICATIONS/BAND WEAPONS SYSTEMS SECURITY FLIGHT
2. BASE SUPPLY WAREHOUSE
3. SUPPORT EQUIPMENT SHOP
4. AUTOMOTIVE MAINTENANCE SHOP
5. BASE ENGINEERING MAINTENANCE
6. COMPOSITE SQUADRON OPERATIONS FACILITY
7. AERIAL PORT TRAINING FACILITY
8. COMPOSITE AIRCRAFT MAINTENTENANCE HANGAR/AVIONICS/ GENERAL PURPOSE SHOP//NDI/AIRCRAFT ENGINE I&R SHOP/ WEAPONS SYSTEMS MAINTENANCE MANAGEMENT
9. ORGANIZATIONAL MAINTENANCE FACILITY
10. FUEL CELL MAINTENANCE/COVERED AIRCRAFT WASH RACK
11. SEWAGE TREATMENT PLANT
12. AIRCRAFT PARKING APRON
13. ENGINE TEST STAND
14. FUTURE AIRCRAFT PARKING APRON
15. JET FUEL STORAGE
16. TAXIWAYS

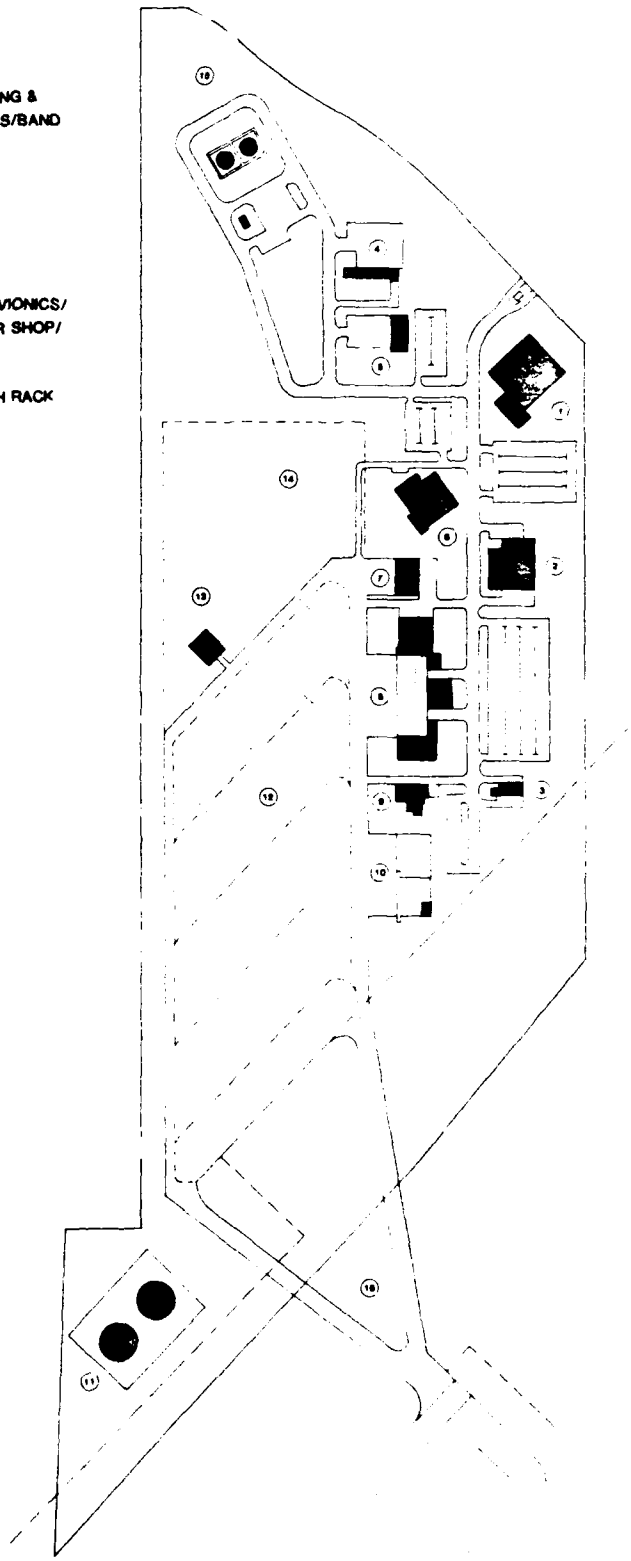

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FIGURE II-4
CONCEPTUAL DESIGN OF PROPOSED ANG FACILITIES AT NAS POINT MUGU

IMPACT CATEGORY		ALTERNATIVES				
		No Action	Van Nuys[1]	Norton AFB	AF Plant #42[2]	NAS Point Mugu[3]
NOISE/LAND USE COMPATIBILITY	Increase in 65 Ldn or CNEL Contour Area		○	●	●	●
LAND USE	Consistency with Adopted Plans and Policies					●
SOCIOECONOMICS	Acquisition/Relocation			●	●	●
	Recruitment Potential	□		○	○	○
	Fiscal Impact		○	○	○	○
	Employment		○	○	○	○
SURFACE TRANSPORTATION	Traffic Generation	●	●	●	●	●
	Roadway Capacity	●	●	●	●	●
SAFETY/SECURITY	Airspace Compatibility (Safety)	■		●	□	○
	Security	●		□	□	□
AIR QUALITY	Increase in Air Emissions			●	●	●
	AQMP Compliance					●
FLOOD CONTROL	Risk from Flooding					
	Change in Stormwater Flow			●	●	●
GROUNDWATER RESOURCES	Aquifer Recharge				●	○
REGIONAL SEISMICITY	Seismic Safety	●	●	●	●	●
BIOLOGICAL RESOURCES	Displacement of Flora/Fauna				●	●
	Rare or Endangered Species				●	
WATER/WASTEWATER	Water Supply		●		●	●
	Wastewater Generation		●			●
CULTURAL RESOURCES	History/Archaeology					
AGRICULTURAL PRODUCTION	Existing Productivity					●
	Prime Soils					●
AESTHETICS	Change in Visual Character	◐	◐	◐	◐	◐
CONSTRUCTION	Localized Impacts	●	●	●	●	●
HAZARDOUS MATERIALS	Adequate Handling Procedures					
UTILITIES	Solid Waste		●	●	●	●
	Energy Consumption		●	●	●	●

◐ MIXED IMPACT
□ ○ ○ BENEFICIAL
NO IMPACT
● ● ● ■ NEGATIVE

1 Assumes redevelopment of existing base.

2 Environmental impacts shown are for the original Palmdale site. The new site within the limits of AF Plant #42 would differ from the original Palmdale site as follows:

1. A small black dot for "Roadway Capacity"
2. A small black dot for "Risk from Flooding"
3. A blank for "Displacement of Flora and Fauna"
4. A blank for "Rare or Endangered Species"
5. A small black dot for "History/Archaeology"
6. A blank for "Prime Soils"

3 Preferred Option

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FIGURE II-5
ENVIRONMENTAL IMPACT MATRIX

III.

AFFECTED ENVIRONMENT

BACKGROUND AND GEOGRAPHIC LOCATION

VAN NUYS AIRPORT

Van Nuys Airport is located in the San Fernando Valley approximately 14 miles northwest of downtown Los Angeles (Figure III-1). To the north of the San Fernando Valley are the Santa Susana Mountains. The San Rafael and Verdugo Hills are to the east, beyond which lie the San Gabriel Mountains. To the south, the Santa Monica Mountains separate the Valley from the Los Angeles Coastal Plain. The Simi Hills rise to the west of the Valley.

Van Nuys is a political district within the City of Los Angeles, and the Van Nuys Airport is operated by the Los Angeles Department of Airports (DOA) under the direction of the Board of Airport Commissioners (BOAC).

The present ANG Base covers a 62-acre area at the northwest portion of the Van Nuys Airport. Industrial and airport-related activities are adjacent to the base on the north, south, and east. A single family residential tract is located to the west across Balboa Boulevard. The base consists primarily of aircraft parking aprons, taxiways, aircraft hangars and maintenance structures, administration and training buildings, and various storage and maintenance facilities.

Van Nuys Airport came into existence in 1928 as a small landing strip built by the short-lived "Los Angeles Metropolitan Airport Corporation." During the 1930's, the Airport was actually a dirt-strip rural airfield which was used as the home base for stunt pilots employed by Hollywood film makers.

The U.S. Army assumed control of the airfield on December 7, 1941 in response to the bombing of Pearl Harbor. The Army Air Corps used the airfield throughout World War II and donated it to the City of Los Angeles in 1949, with the condition that the reserve training force be permitted to remain at Van Nuys. A lease was negotiated effective until 1985. Subsequent to the negotiation of the lease, the National Guard extended the runway. The airport site has been used as a training base since World War II.

The Airport has since become the fourth busiest airport in the United States as general aviation activity has continued to grow since World War II. It now is used as the home base for the ANG's 146th TAW, as well as for general aviation activities and small chartered jet aircraft.

NORTON AFB

Norton AFB is located in the City of San Bernardino within the "Inland Empire" region of Southern California (Figure III-2). This area is bounded by the San Gabriel and San Bernardino Mountains to the north and to the east. To the south lie hilly uplands which separate the San Bernardino Valley from the San Jacinto Basin. The Pomona Valley and Riverside Basin lie to the west and southwest, respectively.

The site proposed for a new ANG Base is located within the northeast portion of Norton AFB. The land adjacent to the site on the east, south, and west is being utilized by Norton AFB. A mixed residential and commercial area is located to the north across Third Street. The proposed site consists of Defense Audio Visual Agency facilities, a kennel, stables, and a hobby shop and park for Norton AFB personnel.

Norton AFB originated as the "San Bernardino Air Depot" in 1942. During the years of World War II, the facility was used as a base for a supply division and for the maintenance of a variety of aircraft. It was renamed as "Norton Air Force Base" in 1950. The name memorialized a San Bernardino "favorite son," Captain Leland Norton, who was killed during World War II. For nearly twenty-five years Norton AFB served primarily as a supply depot. Since 1966, Norton AFB has served as a military airlift command base for the 63rd Military Airlift Wing, which provides airlift support to U.S. activities in the Pacific Theater of Operations.

AF PLANT #42

AF Plant #42 is located within the City of Palmdale (Figure III-3). This area is within the southern portion of the Antelope Valley at an approximate elevation of 2,500 feet above mean sea level. To the north, the Antelope Valley extends to the Sierra Nevada Mountains in Kern County. The Mojave Desert lies to the east and extends approximately 200 miles to the Colorado River. The San Gabriel Mountains rise to the south, and the Tehachapi Mountains lie to the west of Antelope Valley.

The site proposed for a new ANG Base is located adjacent to the northwest portion of AF Plant #42 near Avenue M. The 250-acre site is bounded by AF Plant #42 to the east and south, by undeveloped land to the west, and by several scattered residences to the north across Avenue M. The proposed site is presently undeveloped property in private ownership.

AF Plant #42 originated as a U.S. Army Air Corps Base in 1940 when the Works Progress Administration built the first concrete runways. In 1946, the Army declared the facility surplus property, and it was purchased by the County of Los Angeles for use as a County airport.

In 1952, the Los Angeles Board of Supervisors granted right-of-entry to the U.S. Government to what was then called Palmdale Airport. This action came in response to the perceived need for an area of sparse population with favorable weather conditions in which aircraft testing operations could be conducted.

Since the 1950's, AF Plant #42 has grown to cover an area of nearly 6,000 acres. The basic mission of the facility involves the production engineering, final assembly, and flight testing of high performance jet aircraft. Several Department of Defense contractors carry out their activities at industrial sites located within AF Plant #42.

NAS POINT MUGU

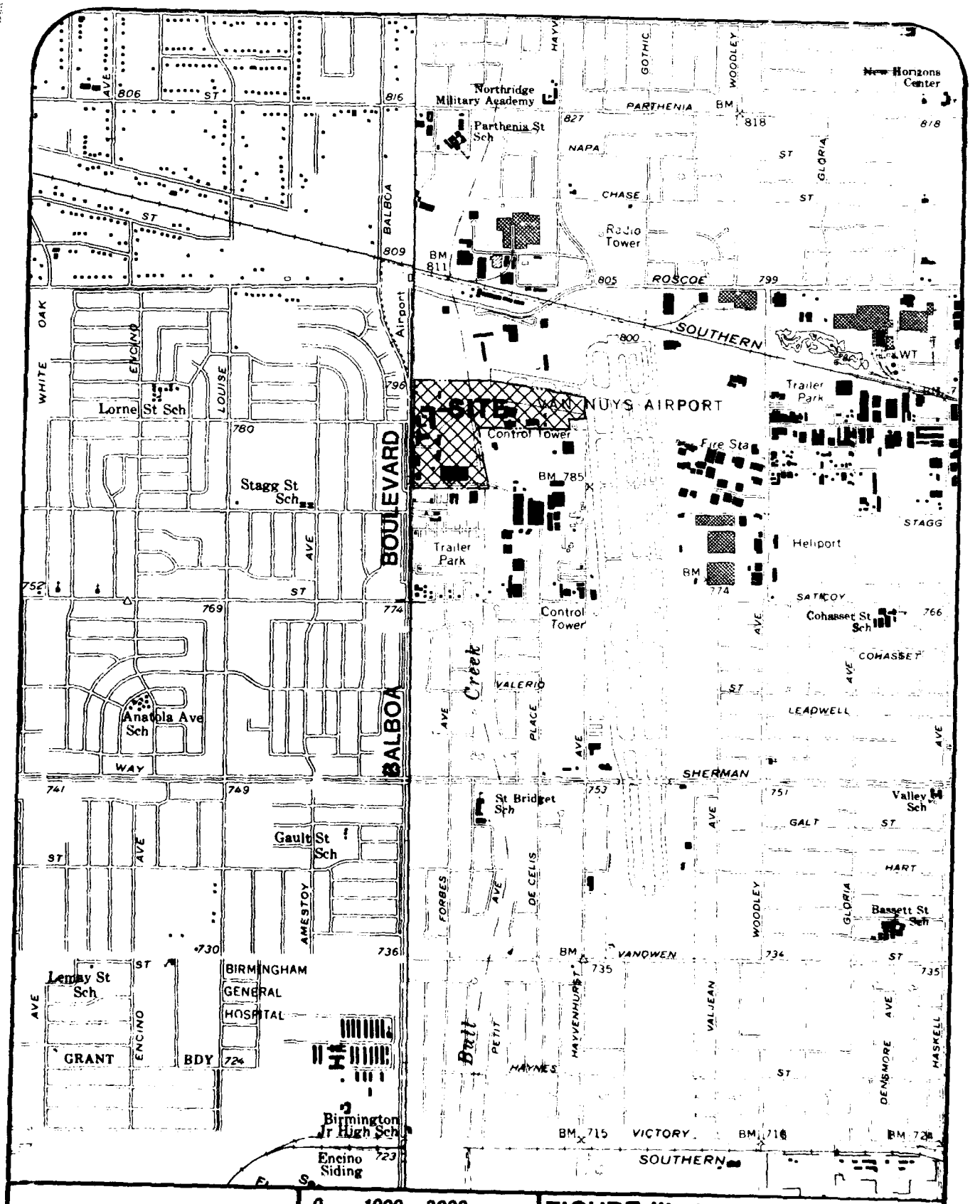
NAS Point Mugu is an organizational unit of the Pacific Missile Test Center (PMTC) which is located in the County of Ventura (Figure III-4). The PMTC is

situated at the southeastern edge of the Oxnard Plain, which is one of California's most productive agricultural areas. The plain stretches north to the community of Camarillo, beyond which lie the Camarillo Hills and South Mountain. The PMTC is flanked to the east by the Santa Monica Mountains, while the Pacific Ocean lies south and west of Point Mugu. The communities of Port Hueneme and Oxnard are northwest of the PMTC, beyond which are the Santa Clara River and the City of Ventura.

The site under consideration for the new ANG Base is located adjacent to the northwest corner of NAS Point Mugu. The site is bounded by agricultural activity to the north and to the west, a produce company and mobile home park to the east, NAS Point Mugu to the south, and a duck hunting club to the southwest. The proposed site covers 239 acres of agricultural property of which 210 acres are currently in production.

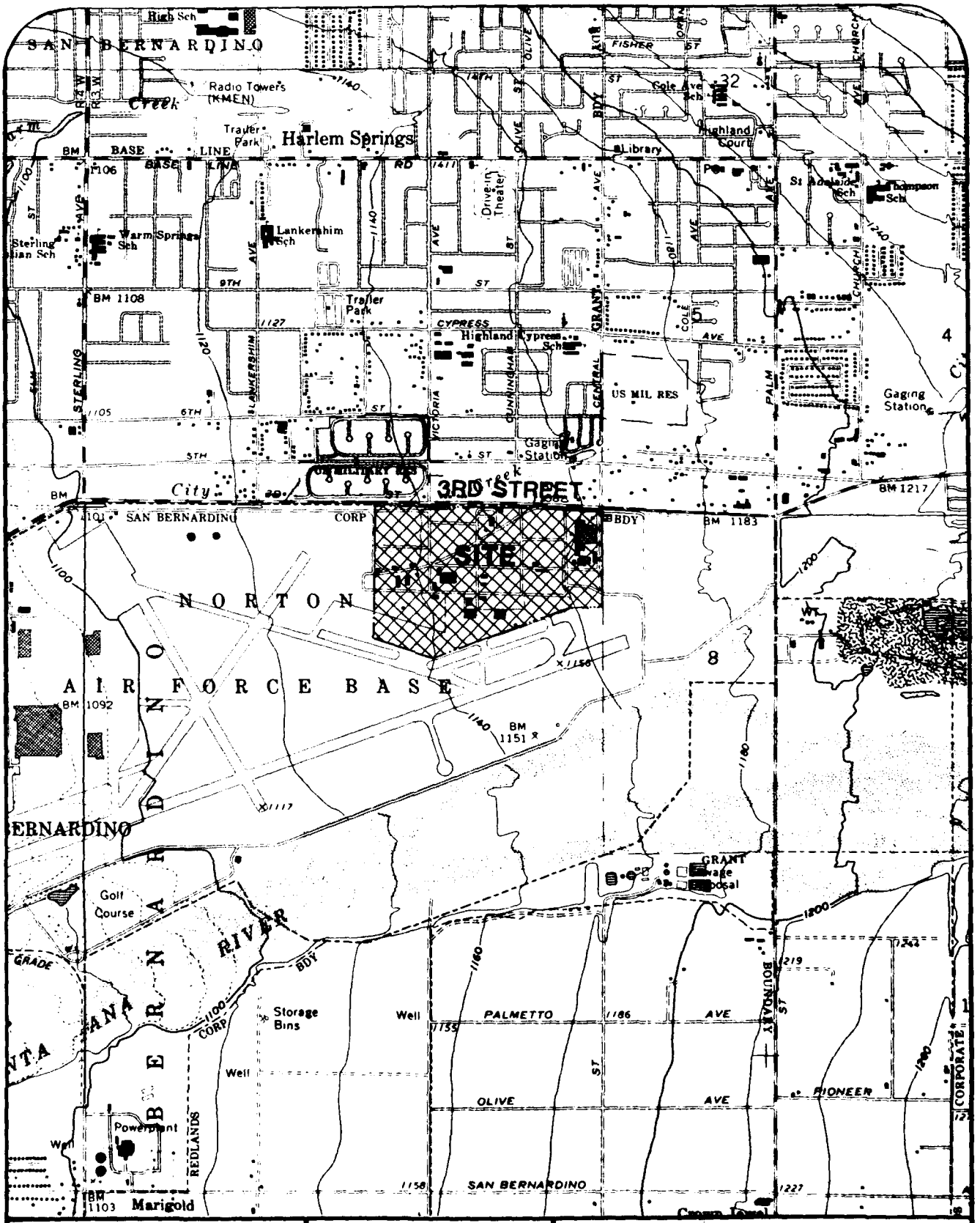
The Point Mugu Naval Complex originated during the 1943-1945 period of World War II. The installation during these years was an extension of the base at Port Hueneme and was used for the training of "Seabee" personnel. The facility continued to expand and improve between the mid-1940's and the late 1950's during which the Naval Air Station was commissioned in 1949.

The primary mission of the PMTC involves missile research and the development and testing of naval weapons-related devices. The primary mission of NAS Point Mugu is to maintain and operate facilities, such as the air terminal and runways, provide services and material in support of PMTC activities, and provide operational, logistic, and administrative support to tenants and units as designated by the Chief of Naval Operations.



PRC Engineering, Inc.

FIGURE III-1
VAN NUYS AIRPORT VICINITY MAP



PRC Engineering, Inc.

FIGURE III-2
NORTON AFB VICINITY MAP

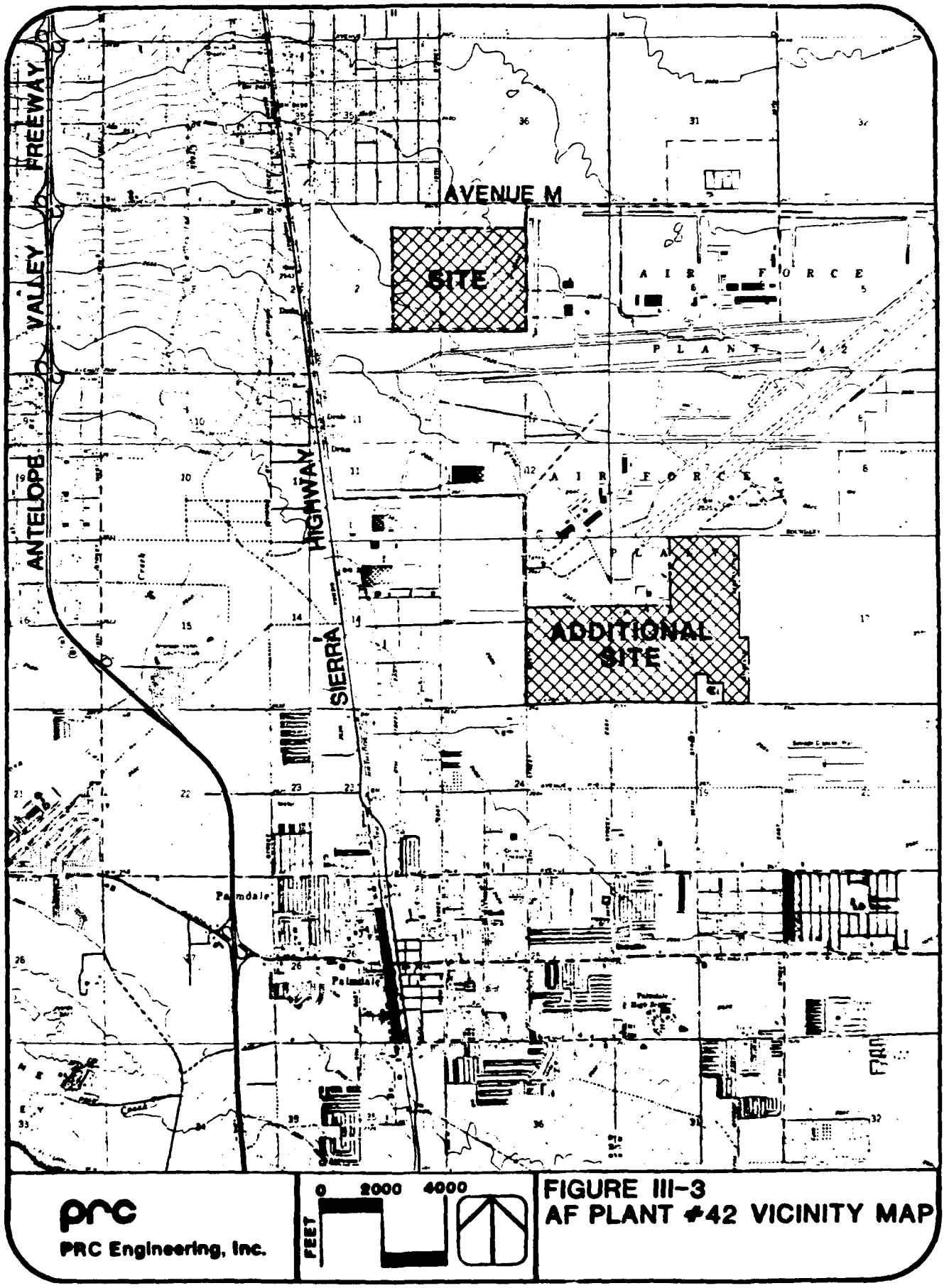
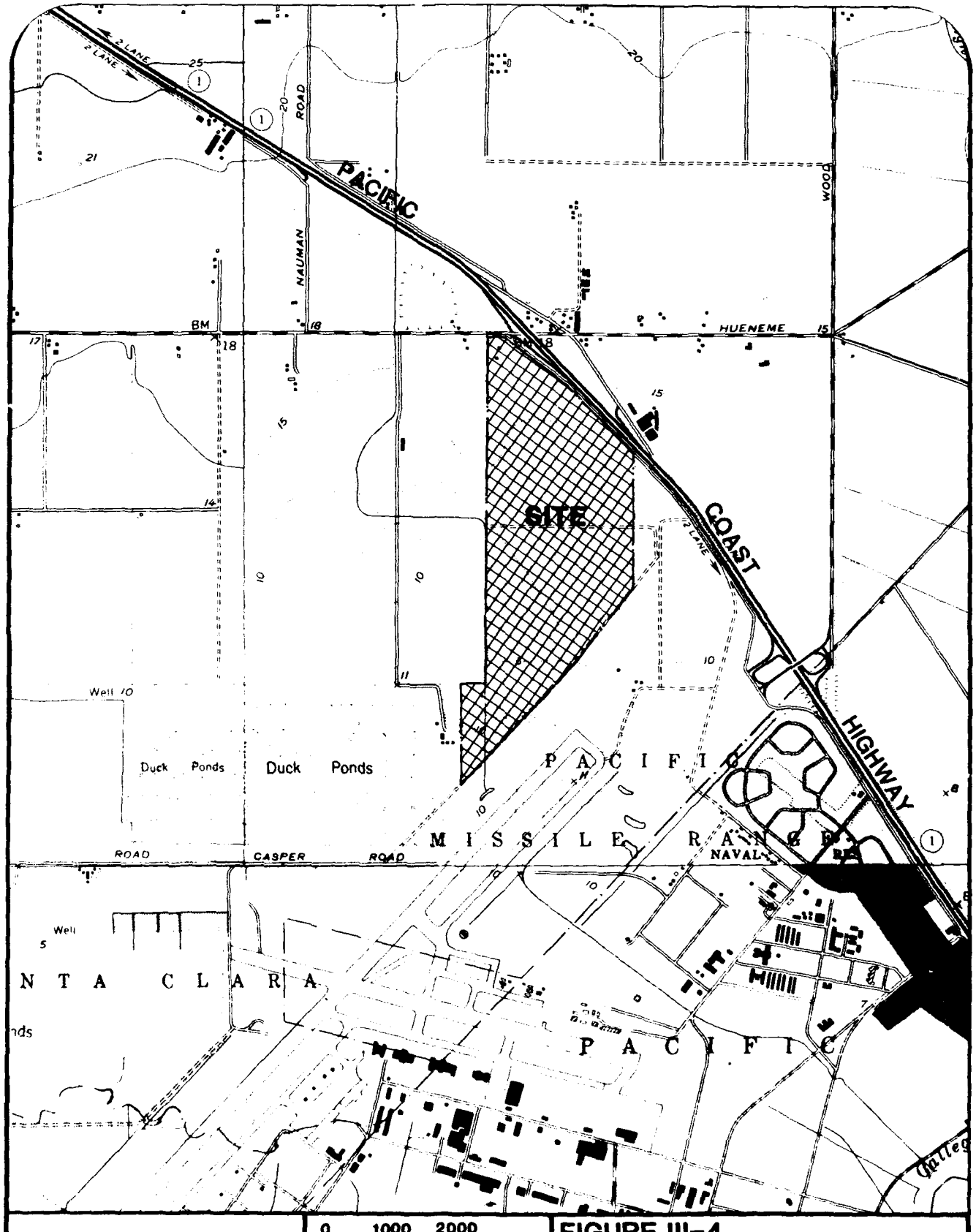


FIGURE III-3
AF PLANT #42 VICINITY MAP



prc
PRC Engineering, Inc.

FIGURE III-4
NAS POINT MUGU
VICINITY MAP

ENVIRONMENTAL SETTING

NOISE

During the Scoping Process, concerns regarding noise in the neighborhoods near the proposed relocation sites were often expressed. This section discusses characteristics of typical aircraft noise, existing operations at Van Nuys Airport and alternative project sites, and historic noise complaints for each location. Additional information regarding the characteristics of noise, various means of measuring noise, general characteristics of aircraft noise, and previous noise studies is presented in Appendix VII.

The Appendix also includes a discussion of the existing Air Installation Compatible Use Zone (AICUZ) studies for NAS Point Mugu, AF Plant #42, and Norton AFB. AICUZ studies are designed to protect military installations from the effects of incompatible land use and to assist government officials in protecting public health, safety, and welfare by providing information on aircraft accident hazards and noise. However since the AICUZ studies for the subject facilities are all six or more years old and aircraft operations are changing, the AICUZ noise contours are not presented in the text but are included in the Appendix for information purposes only. Since the major flight tracks have not changed during this time period, they are included at the end of this section and identified in the text.

Noise Characteristics of Typical Aircraft

Noise characteristics of the C-130 aircraft used by the ANG are compared with other typical aircraft operating at Van Nuys Airport, Norton AFB, AF Plant #42 and NAS Point Mugu. The noise versus distance characteristics for the takeoff and approach operational modes of the F-18, F-4, C-141, 727-200, and C-130 are depicted in Figures III-5 and III-6. As shown in both figures, the C-130 is considerably quieter than either the C-141, 727-200, F-4 or F-18 during takeoff. These differences in relative "noisiness" can be quantified on an individual aircraft basis in terms of human response and operational equivalent of noise contour areas when comparing the C-130 to representative aircraft types.

Existing Operations

Van Nuys Airport

During 1983 there were 494,273 aircraft operations conducted at Van Nuys Airport[1]. The aircraft fleet mix at Van Nuys Airport includes general aviation single and twin engine, piston aircraft, military operations such as the ANG C-130 aircraft, business jet activity and helicopters. The majority of aircraft operations are conducted by general aviation single-engine, piston aircraft. For a complete breakdown of annual operations and fleet mix, refer to Table III-1.

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[1] Los Angeles Department of Airports

TABLE III-1. VAN NUYS AIRPORT 1983 ANNUAL OPERATIONS (a)

Representative Aircraft Type	Operations	Percent Operations
Single Engine Piston Cessna-150 Cessna-170 Cessna-182	386,919	78.3
Twin Engine Piston King Air Queen Air	89,657	18.2
Business Jet L-35 Citation Falcon Fan Jet Gulfstream G-III	6,425	1.3
Military C-130	3,858	0.7
Rotorcraft Bell Ranger	7,414	1.5
Total	494,273	100

(a) Los Angeles Department of Airports and telephone interview with Mr. Jim Norville, Airport Manager at Van Nuys Airport. Updated FAA figures indicated annual operations exceeded 575,000 in 1984.

The 65 CNEL contour for 1983 is not published by the Los Angeles Department of Airports (DOA), since the 70 CNEL contour is the existing standard for airport-related noise. The 1983 (third quarter) 70 CNEL contour is shown in Figure III-7 and the most frequently used flight tracks are shown in Figure III-8. In a recent publication, a 65 CNEL contour is provided based on a projected 614,000 annual operations for 1986. This 1986 noise contour reflects 119,727 more aircraft operations than occurred in 1983 and more than 38,000 operations more than occurred in 1984.

Since this 1986 forecast represents the only published noise contour for Van Nuys Airport, it is shown as Figure III-9 for information purposes. Based upon the 1983 (third quarter) 70 CNEL contour and noise measurements, there is no incompatible land use contained within this contour. The process for computing total acreage within the 65 Ldn contour is described in the Noise section for Chapter IV. The computing process is the Area Equivalent Method (AEM) used by the Federal Aviation Administration. This computing method was used for each alternative site to establish a 1983 65 Ldn contour area. For existing (1983) annual aircraft activity there are a total of 746 acres within the 65 Ldn contour.

Norton AFB

The latest available annual operations data for Norton AFB indicate that 45,562 operations occurred in 1983. The aircraft operations and fleet mix comprising these aircraft movements are shown in Table III-2.

For existing (1983) annual aircraft activity using the AEM, it was calculated that there are a total of 11,168 acres within the 65 Ldn contour. The major flight tracks from the 1976 AICUZ are shown in Figure III-10.

TABLE III-2. NORTON AFB ANNUAL OPERATIONS (a)

Aircraft Type	Operations	Percent Operations
C-141	31,814	69.83
T-39	4,680	10.27
T-38	1,040	2.28
T-37	1,040	2.28
C-130	2,080	4.57
B-747	83	0.18
B-707	83	0.18
DC-10	83	0.18
DC-8	83	0.18
L-100	822	1.80
L-188	114	0.25
BE-200	3,640	8.00
Total	45,562	100.00

(a) Installation Operational Data for Norton AFB, CA, September 30, 1982: Revised August 1984, provided by Lt. Sharon Gann; Norton AFB.

AF Plant #42

The 1983 annual operations for Palmdale AF Plant #42 totals 44,248. The aircraft fleet mix and operational breakdown prepared for 1983 is depicted in Table III-3. For existing (1983) annual aircraft activity there are a total of 7,142 acres within the 65 Ldn contour. Figure III-11 illustrates the flight tracks used at AF Plant #42.

NAS Point Mugu

In 1983, 70,484 aircraft operations were conducted at NAS Point Mugu[1]. The aircraft operations and fleet mix are depicted in Table III-4.

The major flight tracks for NAS Point Mugu are presented in Figure III-12. For existing (1983) annual aircraft activity there are a total of 14,694 acres within the 65 Ldn contour.

Noise Complaints

Van Nuys Airport

The Van Nuys Airport maintains a telephone line and answering machine to receive noise complaints. The information received on tape is transcribed and records maintained. Although the exact number of complaints received was not available, a significant number of complaints are received every year. A staff member follow-up on the complaint is conducted by calling the complainant and asking for additional information and by explaining airport operations. No specific information regarding aircraft type is maintained in the record, since the observer seldom identifies the aircraft.

Norton AFB

The Public Affairs Office of Norton AFB maintains a log of all noise complaints made concerning base operations. There were a total of 375 noise complaints received between January and October of 1984. The majority of the noise complaints were received from the Cities of San Bernardino or Redlands. The Public Affairs Office follows up the complaints to get additional information and explain airfield operations.

AF Plant #42

Most of the noise complaints received by the Air Force emanate from the residents of Lancaster, 5 miles to the north. The base logged a total of 12 complaints in 1982 and 12 complaints in 1983. However, the number of complaints received varies significantly. For instance, 10 complaints were recently received in just one morning as a result of an altered flight pattern necessitated by maintenance operations. The sources of these complaints are generally from the 747, DC-9, DC-10 and C-141 aircraft, with the C-141 generating the most complaints.

---

[1] NAS Point Mugu, Chief Makinson, Air Traffic Control Tower.

TABLE III-3. AF PLANT #42 ANNUAL OPERATIONS (a)

Aircraft Type	Operations	Percent Operations
U-2	722	1.6
SR-71	286	0.6
T-38	3,746	8.5
F-5	388	0.9
KC-135	666	1.5
C-130	8,648	19.6
P-3	4,986	11.3
C-141	6,424	14.5
T-39	1,242	2.8
B-737	3,536	8.0
B-747	362	0.8
B-727	364	0.8
Cessna 150	312	0.7
Cessna 310	2,216	5.0
Baron	2,190	4.9
Queen Air	3,300	7.5
L-1011	372	0.8
DC-10	260	0.7
DC-8	340	0.8
C-9	782	1.8
KC-10	182	0.5
G-16	72	0.2
TR-1	200	0.4
C-12	122	0.2
C-5	94	0.2
F-20	246	0.6
DC-9	1,216	2.7
DC-3	4	-
CL-44	248	0.5
CV580	20	-
Misc.	702	1.6
Total	44,248	100.0

(a) Telephone interview with Major James West. Operations, Palmdale Air Force Plant #42.

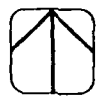


TABLE III-4. NAS POINT MUGU ANNUAL OPERATIONS (a)

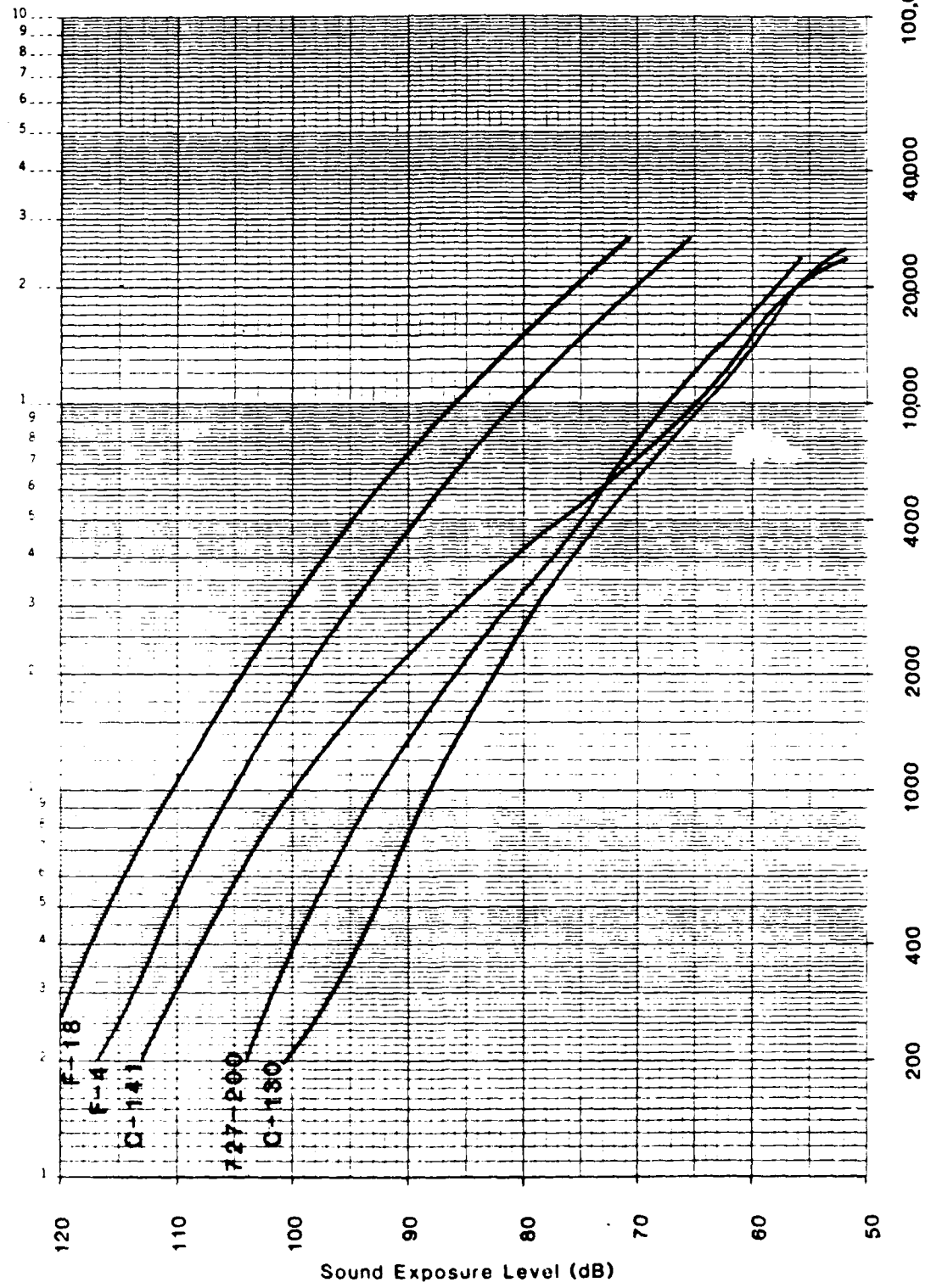
Aircraft Type	Operations	Percent Operations
A-3B	1,541	2.2
TA-4J	600	0.9
AA-5	100	0.1
A6E	1,072	1.5
A-7B	7,904	11.2
UC-12B	1,200	1.7
LC-130R	5,694	8.0
C-130	2,344	3.3
F-4J	7,100	10.1
F-14A	12,258	17.4
QF-4B	1,072	1.5
QF-86F	3,000	4.3
H-46A	4,019	5.7
UH-1	7,970	11.3
OH-6A	201	0.3
O-2A	1,005	1.5
P-3A	6,297	8.9
T-34	350	0.5
T-37	784	1.1
T-38	2 407	3.4
C-141	66	0.1
F/A-18	3,500	5.0
Total	70,484	100.0

(a) Telephone interview with Chief Makinson, Air Traffic Control Tower, NAS Point Mugu.

NAS Point Mugu

The Public Affairs Office handles noise complaints made by community residents and recently began maintaining a log of such calls. This office follows-up noise complaints on a case-by-case basis by contacting the complainant to elicit additional information and explain airfield operations.

Nearly all of the complaints are lodged by residents of the Mission Oaks and Leisure Village areas of Camarillo. The Naval Air Station logged a total of 38 complaints between July 1983 and June 1984.



SOURCE: NOISEMAP 4.1 DATABASE, INM 3.8 DATABASE

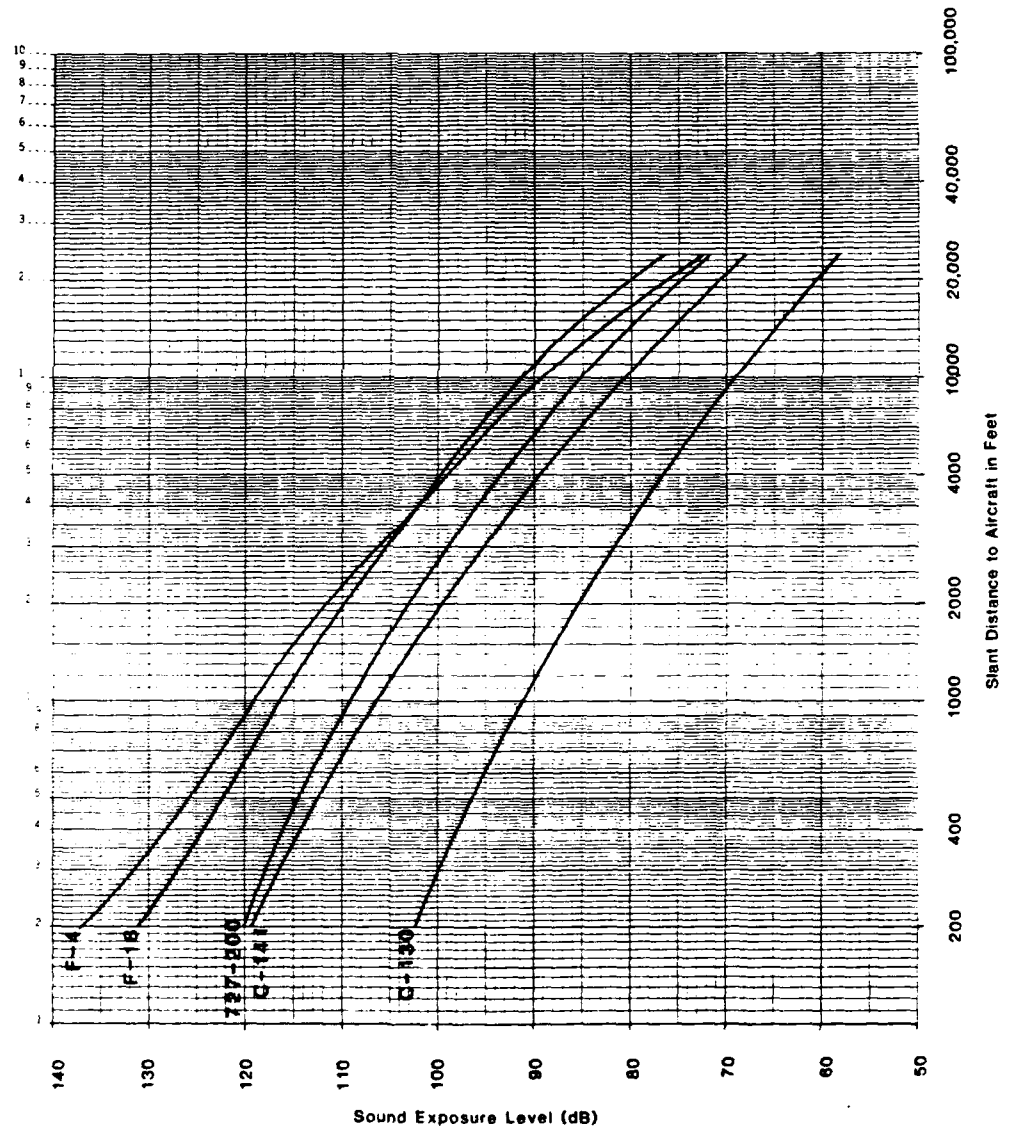
PRC Engineering, Inc.

FIGURE III-5
NOISE VS DISTANCE CHARACTERISTICS-APPROACH

assembly, and flight testing of high performance jet aircraft. Several Department of Defense contractors carry out their activities at industrial sites located within AF Plant #42.

NAS POINT MUGU

NAS Point Mugu is an organizational unit of the Pacific Missile Test Center (PMTC) which is located in the County of Ventura (Figure III-4). The PMTC is

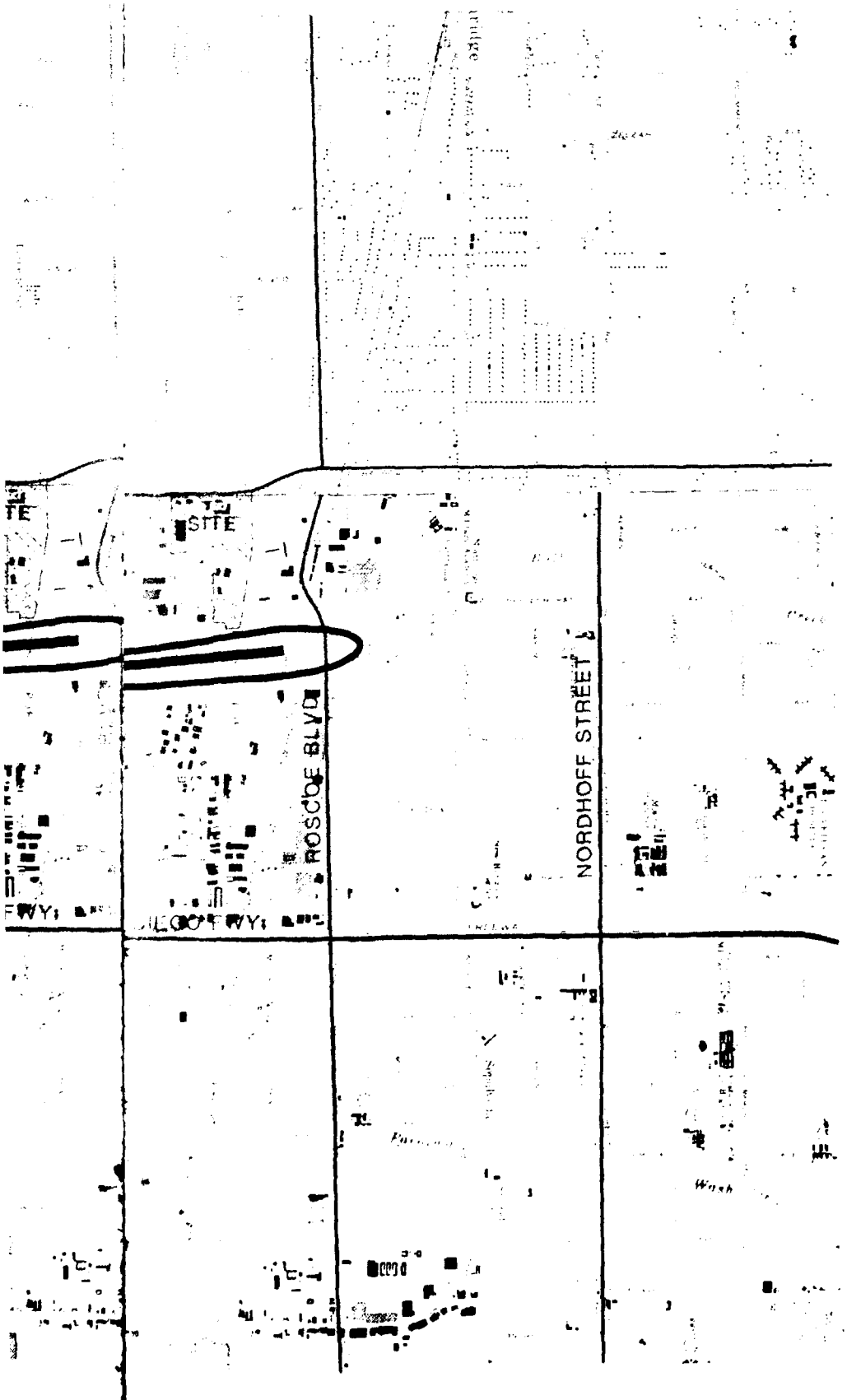


SOURCE : NOISEMAP 4.1 DATABASE, INM 3.8 DATABASE

PRC Engineering, Inc.

FIGURE III-6
NOISE VS DISTANCE
CHARACTERISTICS-TAKEOFF

BALBOA BLVD.
VENTURA FWY.
VICTORY BLVD.
SHERMAN WAY
70 CNEL
SAN DIE

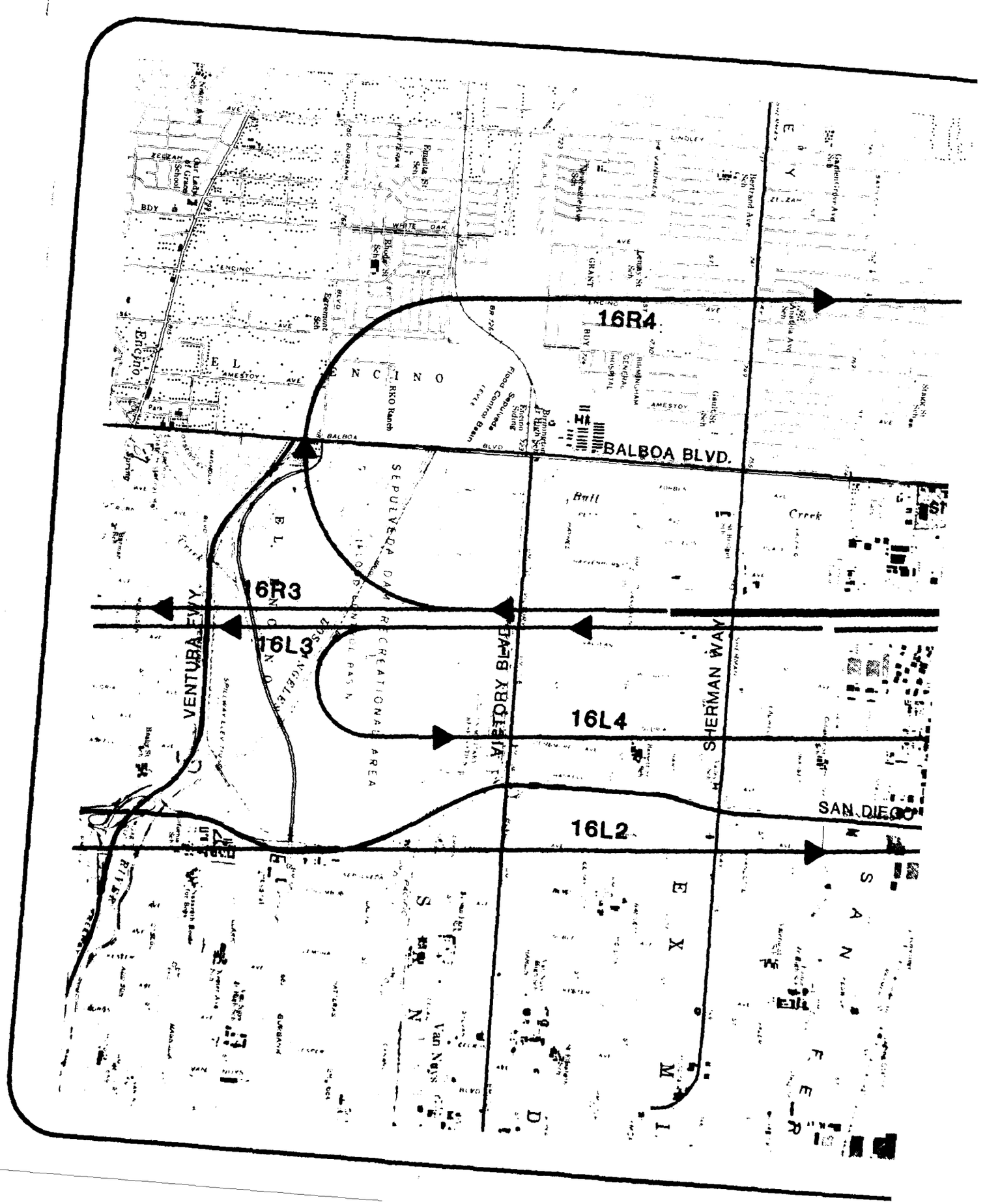


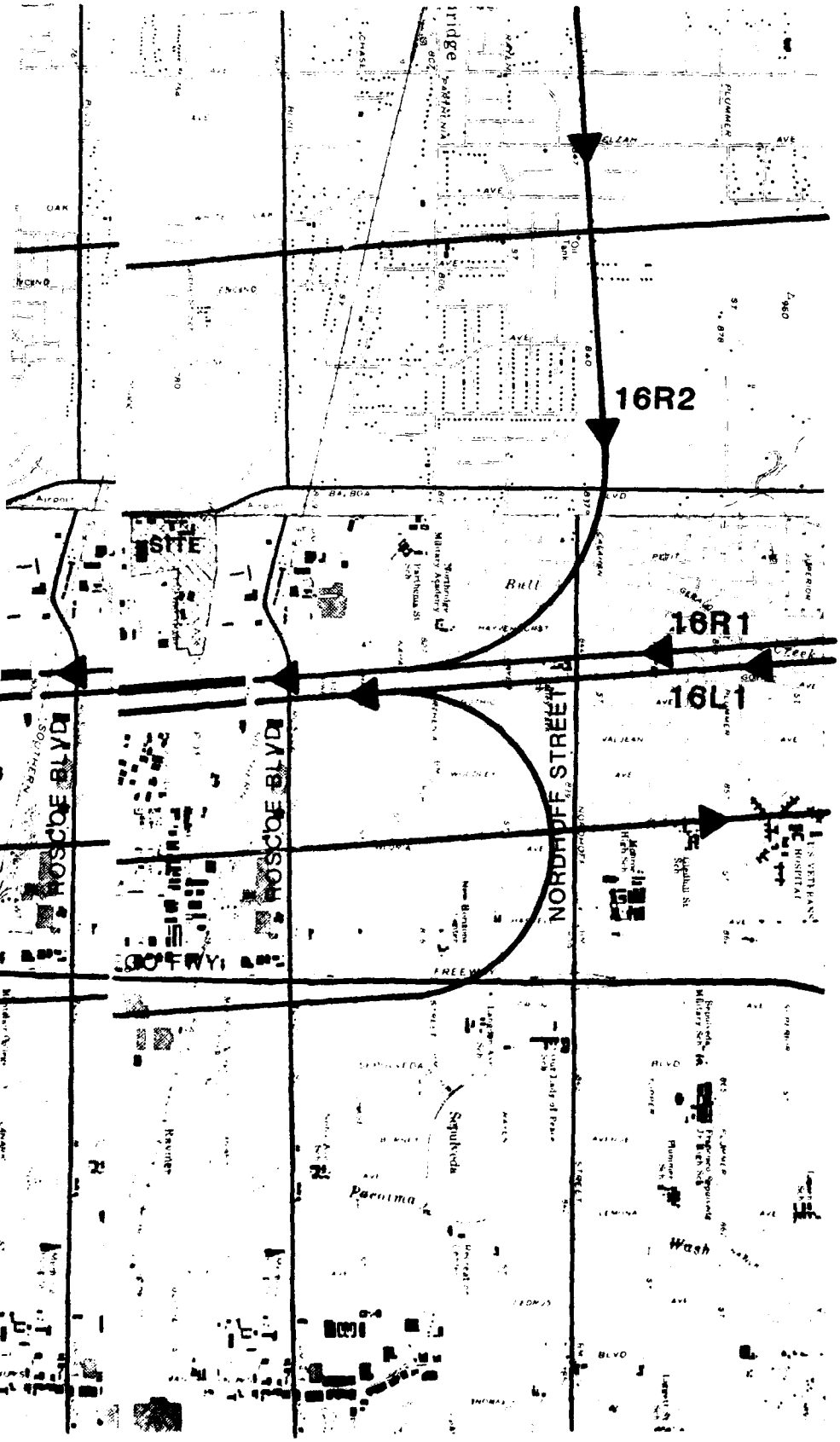
Source: Bureau of Environmental Management Department of Airports
City of Los Angeles, 1984

FEET 0 1000 2000 4000 6000

FIGURE III-7
VAN NUYS AIRPORT 70 CNEL
CONTOUR 1983 (third quarter)

prc
PRC Engineering, Inc.


16R4
16R3
16L3
16L4
16L2
BALBOA BLVD.
VENTURA FWY.
VICTORY BLVD.
SHERMAN WAY
SAN DIEGO
SEPULVEDA DAM RECREATIONAL AREA
Flood Control Basin
Sepulveda
Encino
Spring
Creek
Ball
RKO Ranch
Van Nuys
EL ENCINO
ENCINO
AMESTOY
WHITE OAK
GRANT
LINDLEY
ZELZAH
BDY
BALBOA
BLVD
AVE
ST



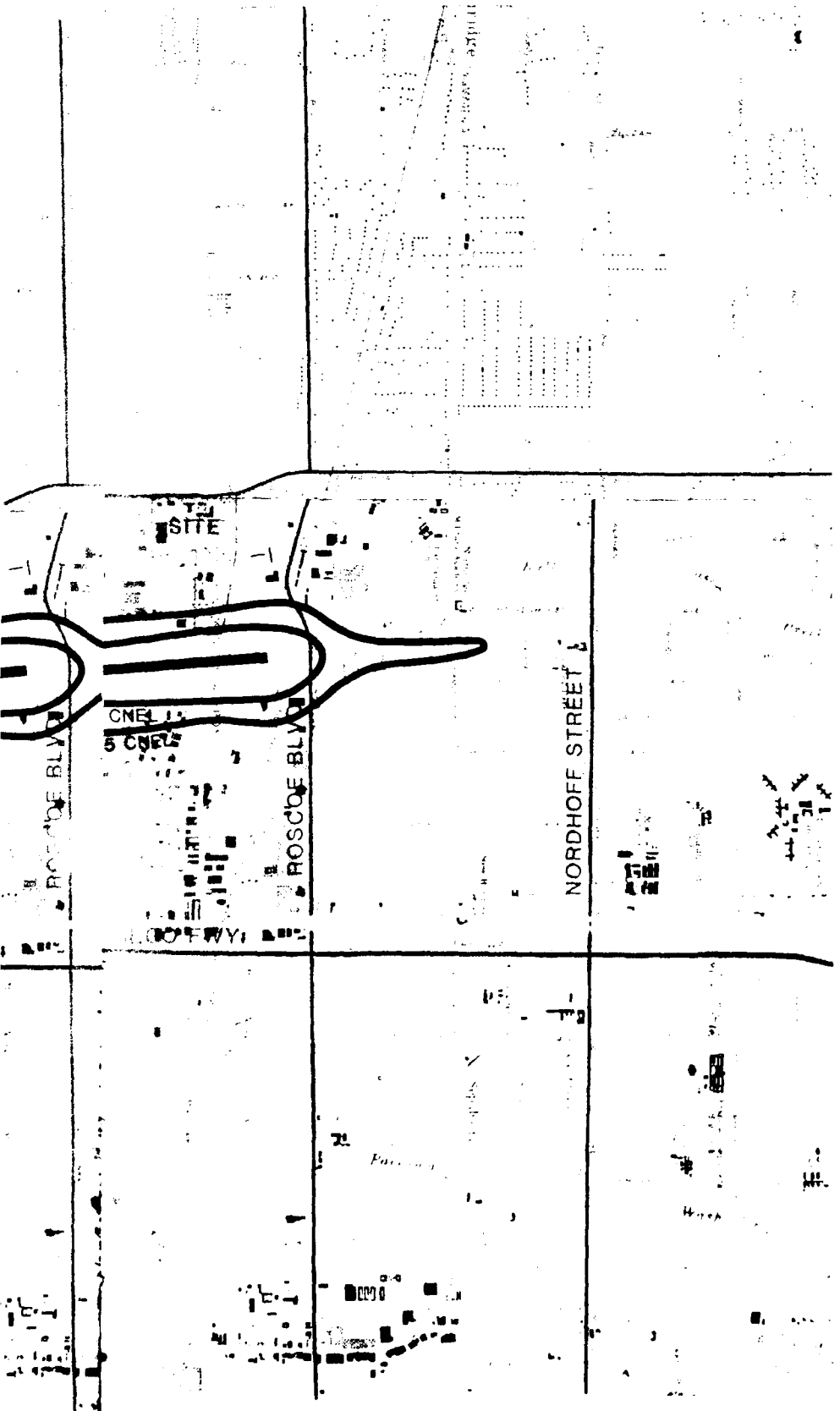
Source: Bureau of Environmental Management Department of Airports, City of Los Angeles, 1984

FEET 0 1000 2000 4000 6000

FIGURE III-8
VAN NUYS AIRPORT FLIGHT TRACKS

PRC Engineering, Inc.

BALBOA BLVD.
65 CNEL
70 CNEL
VENTURA FWY.
VICTORY BLVD.
SHERMAN WAY
SAN DIEGO

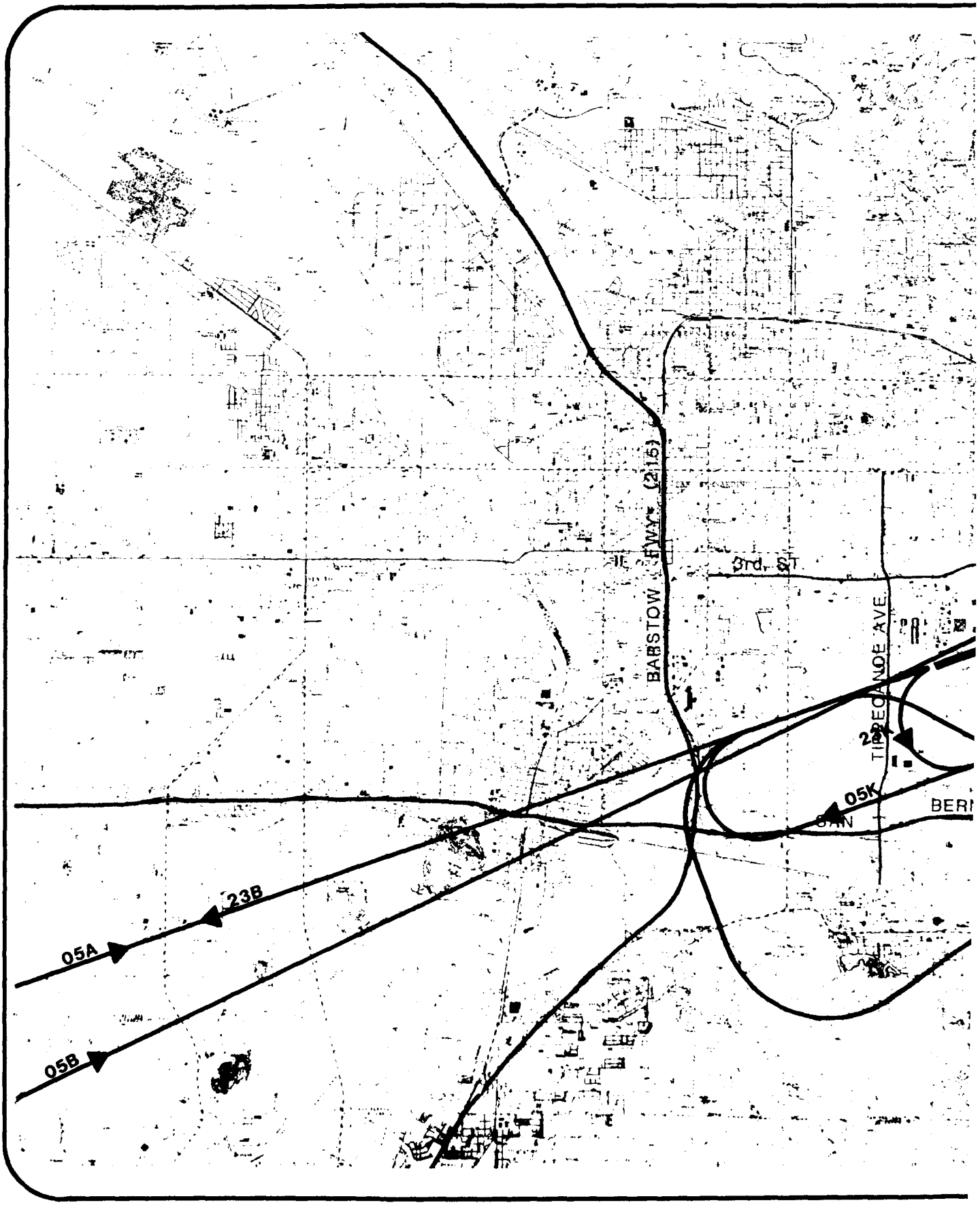


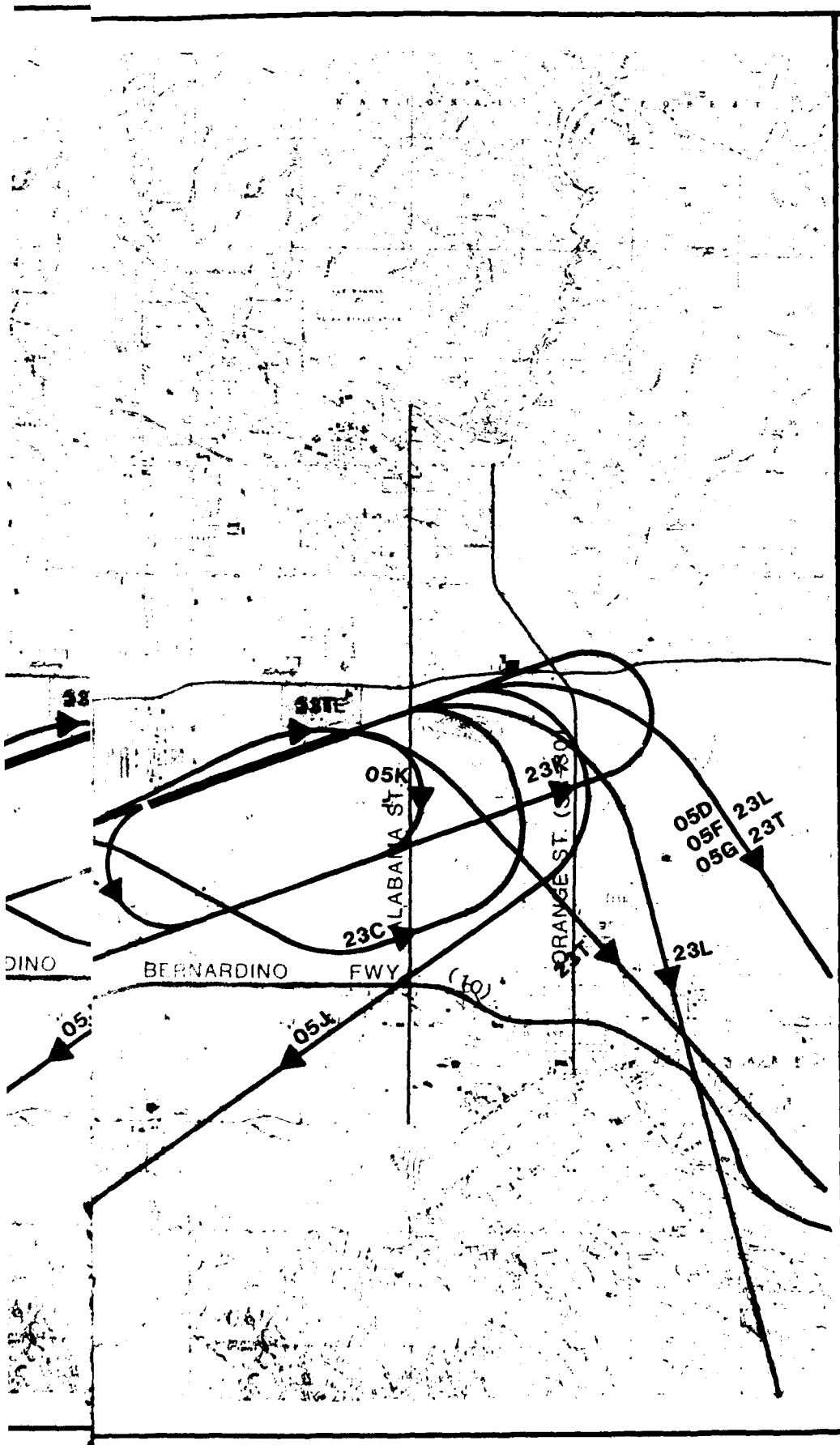
Source: Bureau of Environmental Management Department of Airports, City of Los Angeles 1984

FEET 0 1000 2000 4000 6000

FIGURE III-9
VAN NUYS AIRPORT CNEL CONTOURS PROJECTED 1986

PRC Engineering, Inc.


BABSTOW FWY (215)
3rd. ST
TIPPECANOE AVE
23B
05K
05A
05B



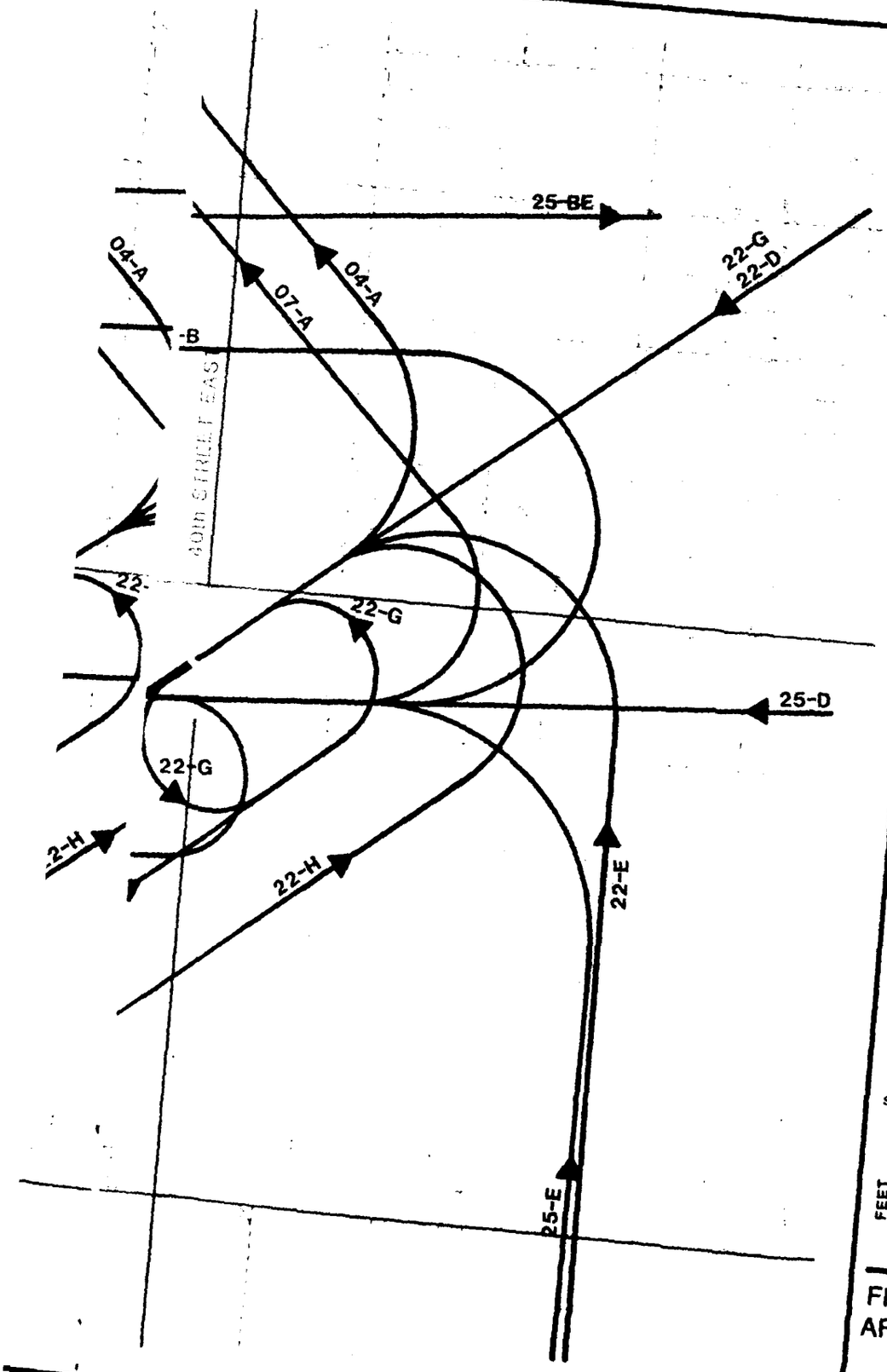
Source: AICUZ Norton Air Force Base, 1976

FEET 0 2500 5000 10000 15000

FIGURE III-10
NORTON AFB FLIGHT TRACKS

PRC Engineering, Inc.

FREEWAY
ANTELOPE VALLEY
SIERRA HIGHWAY
10th STREET
40th STREET EAST
AVENUE M
PALMDALE BLVD
SITE
L-1011
A-4
F5S
F5U
25-C
22-G
07-B
25-B
07-B
25-A
07-C
04-C
25-B
25-B
07-F
04-F
07-D
04-G
22-H
22-G
22-F
25-F
04-G
22-A
07-E
04-G
04-D
04-E

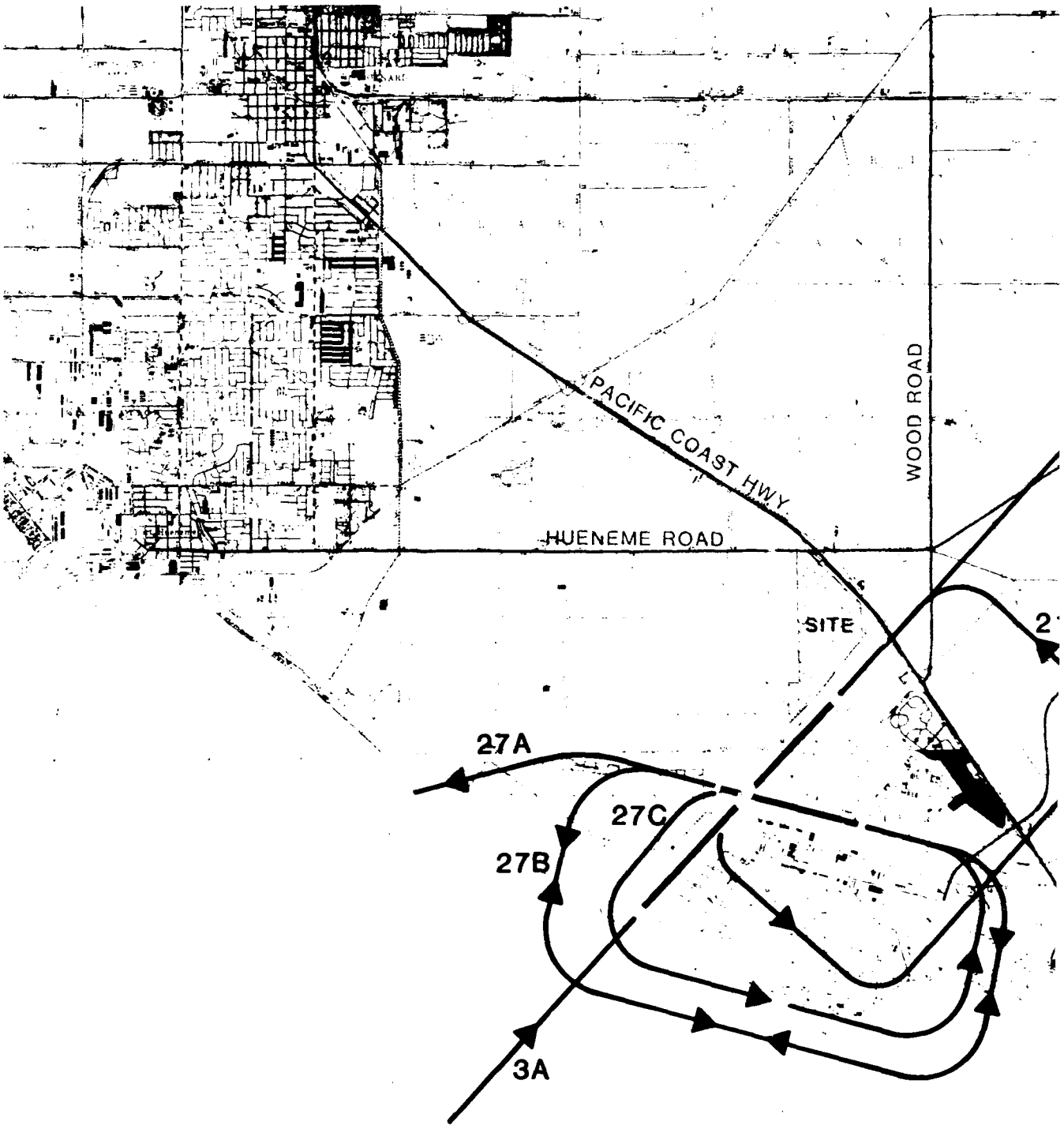


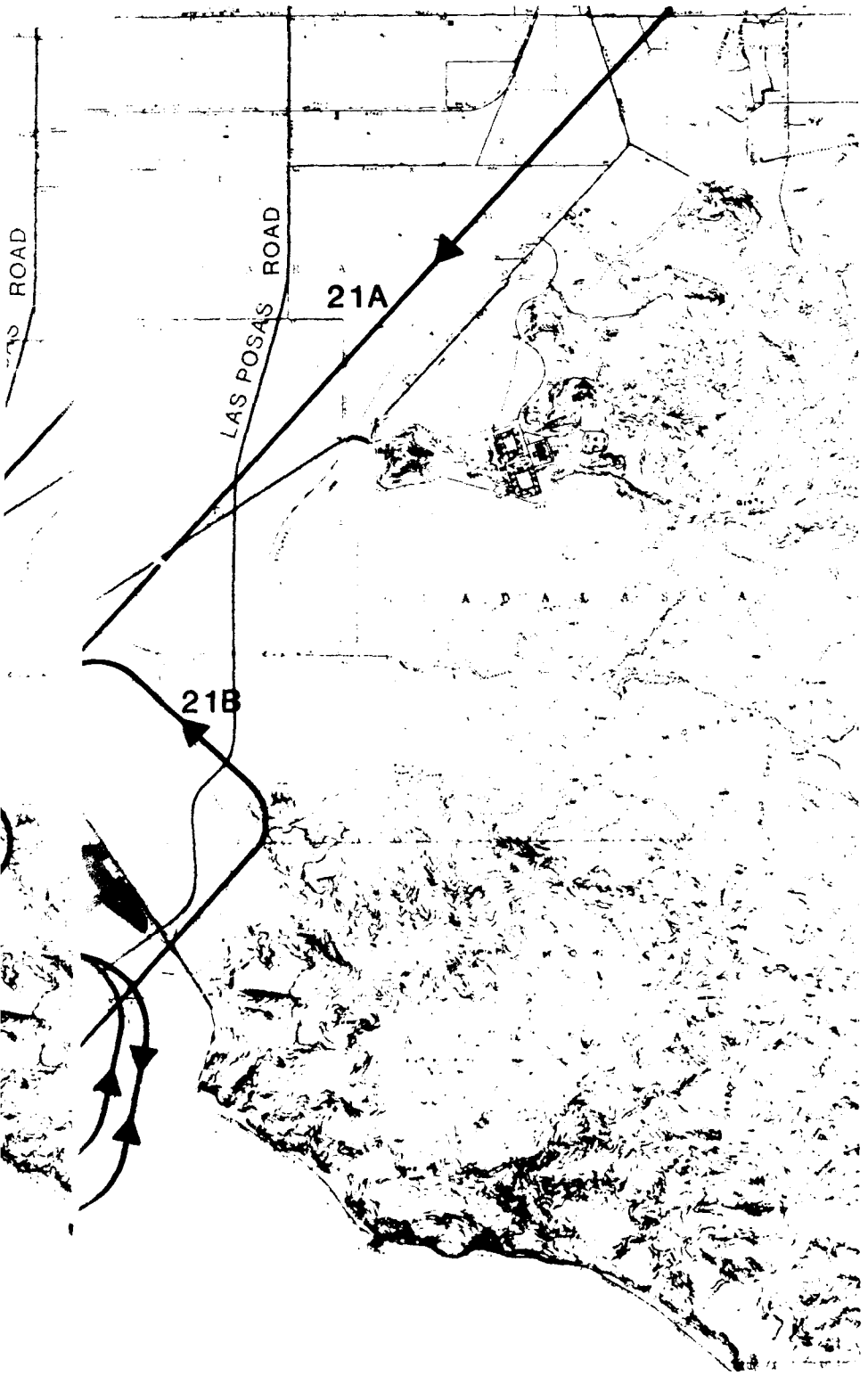
Source: AICUZ Palmdale Air Force Plant # 42, 1978

FEET 0 2000 4000 8000 12000

FIGURE III-11
AF PLANT #42 FLIGHT TRACKS

PRC Engineering, Inc.


PACIFIC COAST HWY
WOOD ROAD
HUENEME ROAD
SITE
27A
27C
27B
3A



Source: AICUZ Naval Air Station Point Mugu, 1977

FEET 0 2000 4000 8000 12000

FIGURE III-12
NAS POINT MUGU FLIGHT TRACKS

PRC Engineering, Inc.

LAND USE CONDITIONS AND PLANNING PROGRAMS

There are two basic dimensions to land use plans and policies in each of the communities in which an alternative Air National Guard base location is proposed. One aspect is the specific site of the base, and the other deals with land uses that may be affected by base aircraft operations.

Usually, General Plans for affected communities recognize the existence of a military/airport facility, and compatible adjacent land uses are designated. In most cases, the plans designate directly adjacent land for agriculture or industrial use. Overall planning policies regarding airport development for each of the specific communities under consideration are discussed below.

In those areas beyond the immediately adjoining land uses, the issue of General Plan consistency with airport operations is more mixed. The relationship between designated flight patterns and land use is also highlighted below on an area-by-area basis.

Van Nuys Airport Area

Existing Land Use

The northwest portion of the Van Nuys Airport is the present home for the 146th TAW. The ANG Base is zoned for light industrial use. The 62-acre site is bounded by industrial and airport-related activities on the north, south, and east. As shown in Figures III-13 and III-14, the ANG Base faces a tract of single family homes to the west across Balboa Boulevard.

City of Los Angeles

The present Air National Guard, 146th TAW base is located at Van Nuys Airport in the City of Los Angeles. The Los Angeles General Plan, Reseda-West Van Nuys District Plan establishes light industrial areas in lands adjacent to the Airport. Residential uses are located beyond the perimeter of the industrial buffer. East of the Airport, the Van Nuys-North Sherman Oaks District Plan designates primarily residential land uses (see Figure III-15).

Van Nuys Airport is divided into a number of separate planning areas, including runways, service areas, accessory commercial uses, airport buffer, approach area and restricted commercial/industrial with buffer. The Air National Guard Base is recognized as a unique land use in the General Plan; however, the Base area is zoned for light industrial use. Under the current General Plan, there is no plan to expand Van Nuys Airport, nevertheless, plans anticipate the future expansion of functions and services at the airport in its development as a corporate and private aviation center.

Currently, the Los Angeles Department of Airports has planned or is considering 11 major development projects at Van Nuys Airport. Specific projects include: a 200-room luxury hotel on Valjean Avenue, a 7.5 acre business park at Sherman Way and Hayvenhurst Avenue, a 3-story office building at Hayvenhurst Avenue and Sherman Way, a 5-story office building on Valjean Avenue, an addition to a jet charter firm facility, proposed aviation-related development on Sophia Avenue

south of Sherman Way, a proposed commercial development on the north side of Roscoe, a proposed 2-acre light industrial park at Roscoe and Balboa Place, and two proposed office buildings on Roscoe Boulevard, as well as the proposed redevelopment of the ANG base.

Established flight patterns at the Airport affect several other general plan areas, including the Mission Hills-Panorama City-Sepulveda District Plan immediately to the north of the Airport and the Encino-Tarzana District Plan located to the south of the Airport. Within the Encino-Tarzana area, the General Plan designates open space use beneath flight tracks. The Mission Hills Plan indicates low intensity use in the area just north of the Airport runway. Beyond these areas, the City of Los Angeles General Plan recognizes residential and related community facility uses.

Norton AFB Area

Existing Land Use

The proposed ANG base site at Norton AFB is located within the boundaries of the Base. The site is currently used by the Defense Audio Visual Agency. In addition, the site houses a kennel and stables, as well as a hobby shop and park for Norton AFB personnel. The recreational facilities may have to be relocated in conjunction with ANG base development. To the north of the proposed site, across Third Street, is additional base housing and a mixed residential, commercial, and industrial area (see Figures III-16 and III-17).

City of San Bernardino

Norton AFB is located within the corporate limits of the City of San Bernardino. The City of San Bernardino's General Plan designates Norton AFB as a "public/quasi-public" use (see Figure III-18). The San Bernardino zoning map designates the Base as M-1, light industrial (Figure III-17). Adjacent lands to the north and west of the Base are included within the East San Bernardino-Highland Community Plan. Planned land uses in these areas adjoining the Base are a mixture of light industrial, commercial and residential. South and west of the Base, adjoining land is planned for industrial and light industrial use. In general, the plan for these areas is focused toward achieving uses, such as business and industry, that are compatible with aircraft operations at Norton AFB.

Land use plans and policies of the City of San Bernardino are oriented toward achieving a phased and diversified growth. One of the major objectives underlying the General Plan is that greater economic diversification will add stability to the local economy, and lessen the dependence on government-supported activities. While the area surrounding Norton AFB has not been targeted as a major priority in this development objective, industrial development is being encouraged in those areas with the highest noise impact from the Base.

In San Bernardino, local and regional planning related to airport development is an important element of the planning process. Coordinated land use and airport planning to avoid land use conflicts is emphasized. Specifically, the General Plan spells out "Airport Impact Development Standards," which overlay zoning controls. In addition, this coordination is promoted on an areawide basis by the City of San Bernardino, San Bernardino County, surrounding jurisdictions, and the State Airport Land Use Commission.

San Bernardino County

With the exception of an area beginning just west of Sterling Avenue and extending to Victoria Avenue, lands adjacent to Norton Air Force Base on the north are within the jurisdiction of San Bernardino County. The East Valley portion of the San Bernardino General Plan indicates that these areas are planned primarily for industrial use. Designated flight tracks to Norton Air Force Base, which extend to the northeast of the Base into San Bernardino County, traverse areas selected for "residential," "rural conservation," and "agricultural" use.

City of Colton

The City of Colton is located immediately to the southwest of Norton AFB. The portion of the community located north of Interstate 10 lies directly beneath the flight tracks to the Norton AFB runways. Land uses in this area are designated residential and commercial, with associated public facilities.

City of Rialto

Norton AFB flight tracks traverse the southernmost portion of the City of Rialto. In this area generally south of Interstate 10, the General Plan designates "light industrial," "manufacturing," and "landfill" uses.

City of Redlands

The City of Redlands adjoins Norton Air Force Base on the south. The Santa Ana River is directly adjacent to the base boundary. The General Plan designates the river basin as open space. South of the river, the Redlands General Plan designates "urban reserve - agriculture," and low density residential, as well as industrial uses. Norton AFB flight tracks affecting Redlands pass over areas planned for low density residential and agricultural uses.

AF Plant #42 Area

Existing Land Use

As shown in Figures III-19 and III-20, the proposed ANG site at AF Plant #42 in Palmdale is presently an undeveloped property in private ownership. The proposed site is bounded by AF Plant #42 on the east and south, by undeveloped land on the west, and by several scattered residences and vacant land on the north across Avenue M.

City of Palmdale

AF Plant #42 is located within the City limits of Palmdale. The General Plan designates AF Plant #42 as a "military reservation" (see Figure III-21). Lands adjacent to the plant are designated "industry," "airport buffer," and "public open space." The public open space areas are located at the approaches to the runways.

The Palmdale zoning map designates areas adjoining the plant as either M-A (manufacturing-aircraft related) or A (agricultural). A major policy thrust of the Palmdale General Plan is the continued development of the Palmdale International

Airport, to be located just east of AF Plant #42 on an 18,500-acre site. Established flight tracks to AF Plant #42 traverse an extensive area in Palmdale, including a number of locations shown as residential in the General Plan.

City of Lancaster

The City of Lancaster abuts AF Plant #42 to the north. Similar to the Palmdale General Plan, the Lancaster General Plan designates this area adjacent to the Plant as either industrial or as airport buffer. To the northwest of AF Plant #42 is an area which has some residential development. However, this area is zoned industrial.

Flight tracks to the Plant also cross over areas developed or planned for low density residential use. With respect to aircraft noise, the Lancaster General Plan explicitly addresses operations at AF Plant #42 and highlights the City's land use incompatibility concerns.

Los Angeles County

In areas east of Palmdale and Lancaster, established AF Plant #42 flight tracks also pass over unincorporated areas of Los Angeles County. The North Los Angeles County General Plan recognizes these areas as predominantly very low density residential, i.e., 0.5 dwelling units per acre. Similar to the Lancaster General Plan, the North Los Angeles County General Plan identifies aircraft noise as a major concern that should be mitigated. The plan also stresses the development of industrial uses in areas directly adjacent to AF Plant #42 and the proposed Palmdale International Airport site.

NAS Point Mugu Area

Existing Land Use

The proposed ANG base site at NAS Point Mugu is presently used for agricultural purposes. The site is bounded by an agricultural use to the north, the Pacific Coast Highway to the east, a produce box company and mobile home park on the southeast, NAS Point Mugu on the south, duck hunting clubs on the southwest and an orchard and farm residence on the west (see Figures III-22 and III-23).

Ventura County

NAS Point Mugu is located within the jurisdictional boundaries of Ventura County. The Ventura County General Plan recognizes the existing Naval facility as an "institutional use." Lands adjacent to NAS Point Mugu are designated in the General Plan as "agriculture" and "open space" (see Figure III-24). Agricultural lands directly adjacent to the base lie outside the Sphere of Influence boundaries of the nearby jurisdictions of Oxnard and Camarillo.

While most of the Naval facility is located within the designated Coastal Zone, it should be noted that the proposed ANG relocation site is located well outside the Coastal Zone as shown in Figure III-24.

The goals and policies of the Coastal Act provide a framework for the protection of coastal lands and the orderly management of development, reflected in the Ventura County Coastal Plan. The Coastal Plan is divided into three subareas: the North Coast, the Central Coast, and the South Coast. NAS Point Mugu is located on the northern border of the South Coast subarea. The only plan policy area referring to NAS Point Mugu vicinity involves the Mugu Lagoon. A major policy objective is to maintain Mugu Lagoon in its natural state, as long as this policy does not conflict with national security needs.

City of Oxnard

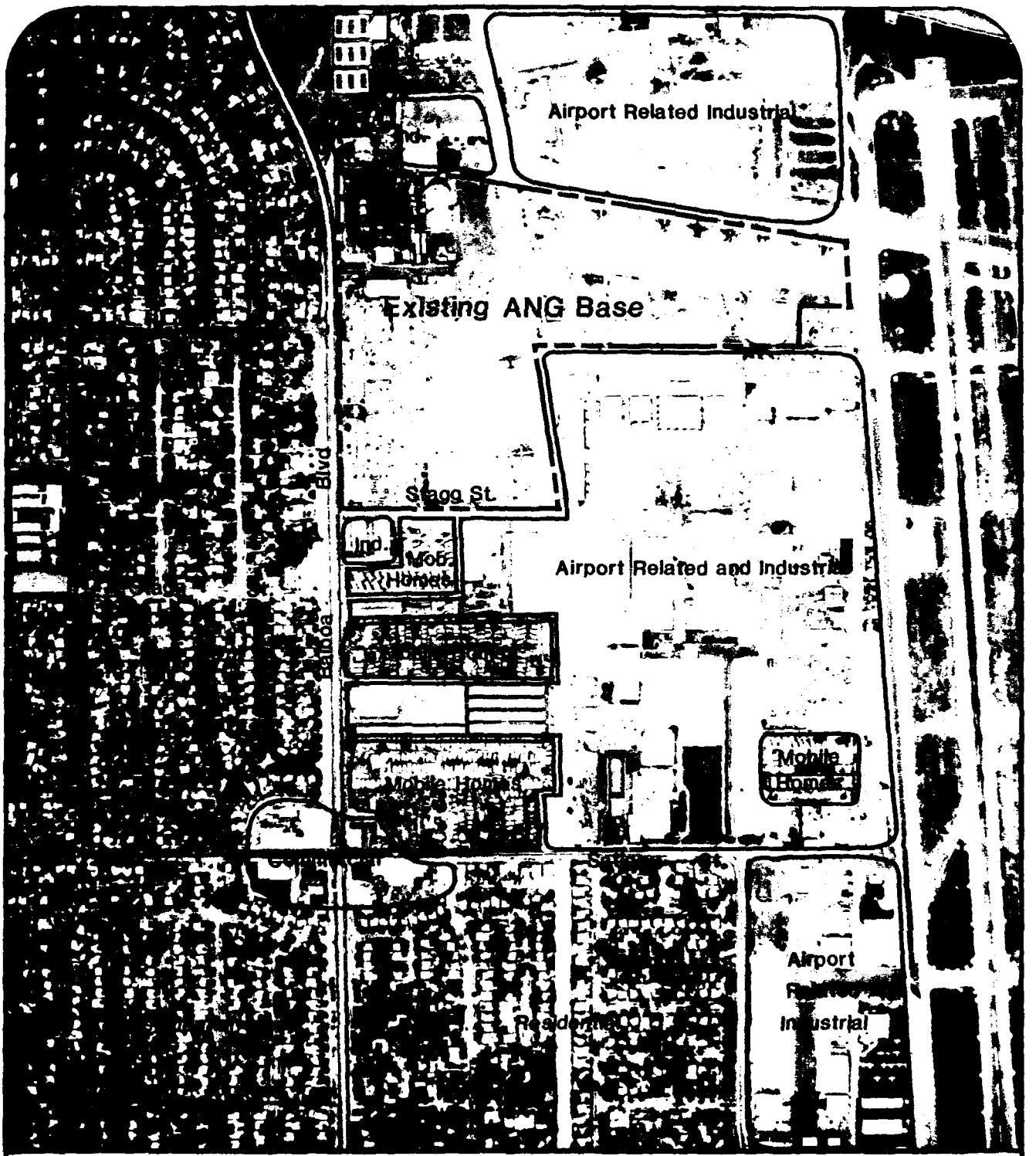
The Point Mugu area lies beyond both the established city limits of Oxnard and the Sphere of Influence boundary. No major established flight patterns pass over the City. However, infrequently used patterns do pass over residential areas of Oxnard.

City of Camarillo

The boundaries of the City of Camarillo do not encompass the Naval Station, nor do they encompass land adjacent to it. However, a flight track to NAS Point Mugu does pass over Camarillo. This flight track generally follows a path parallel to Conejo Creek. Throughout this area of Camarillo, the Camarillo General Plan designates residential uses and associated community facilities. The Camarillo *Zoning Guide* indicates that much of this area is designated "R-P-D" (Residential Planned Development). The City also enforces a growth control ordinance which limits residential construction of 5 units or more to 400 units per year. Low cost housing is excluded from this limitation.

City of Port Hueneme

The boundaries of the City of Port Hueneme do not encompass the Naval Air Station, nor are lands which are directly adjacent to the Station included within Port Hueneme's boundaries. No major flight tracks to NAS Point Mugu pass over Port Hueneme. Similar to Oxnard, no major established flight patterns pass over the City; however, infrequently used patterns do pass over some residential areas in the City.

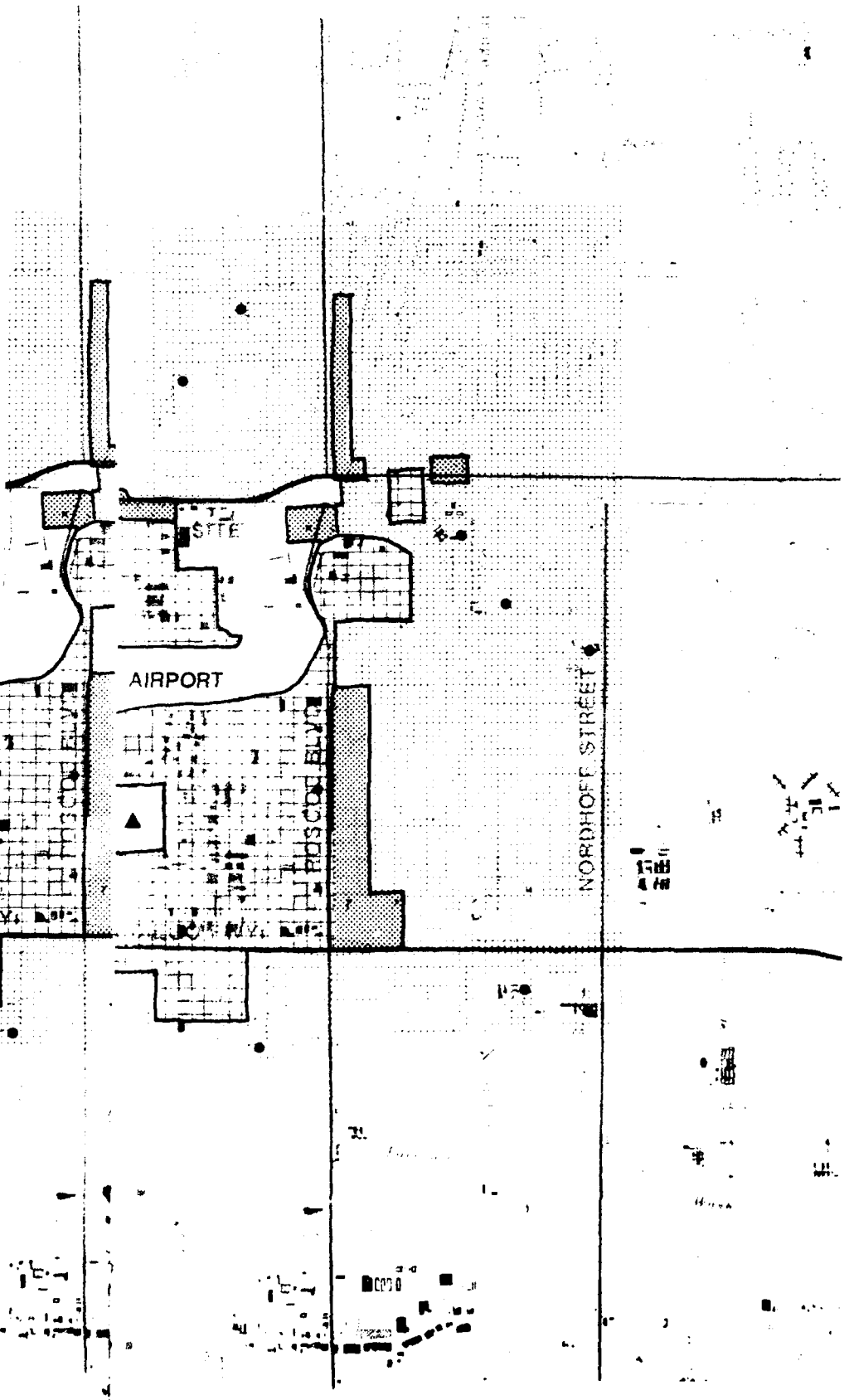


PRC Engineering, Inc.

0 1000 2000
FEET

FIGURE III-13
VAN NUYS AIRPORT
EXISTING LAND USE

BALBOA BLVD.
VAN NUYS AIRPOR
VENTURA FWY
VICTORY
SHERMAN WAY



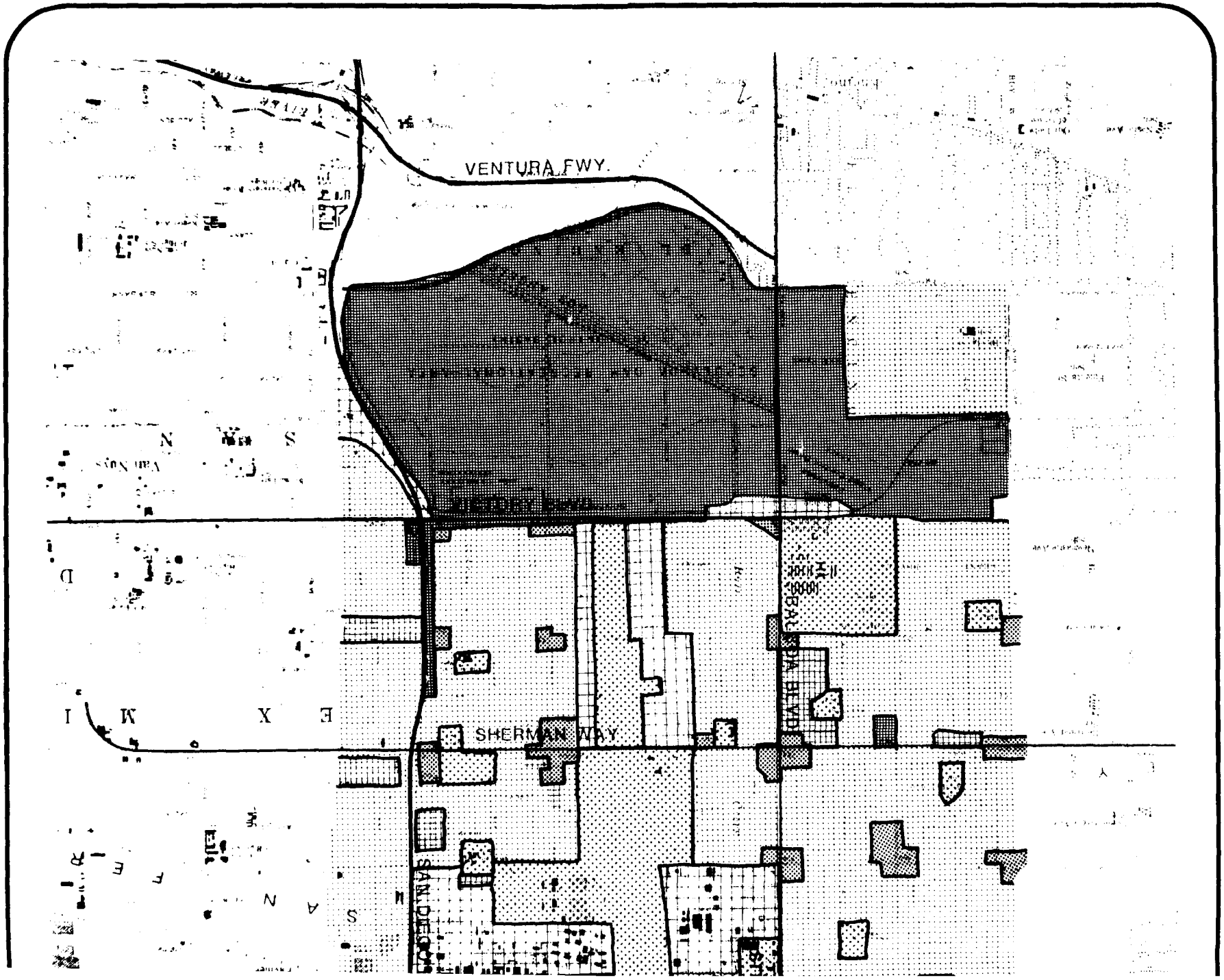
Legend

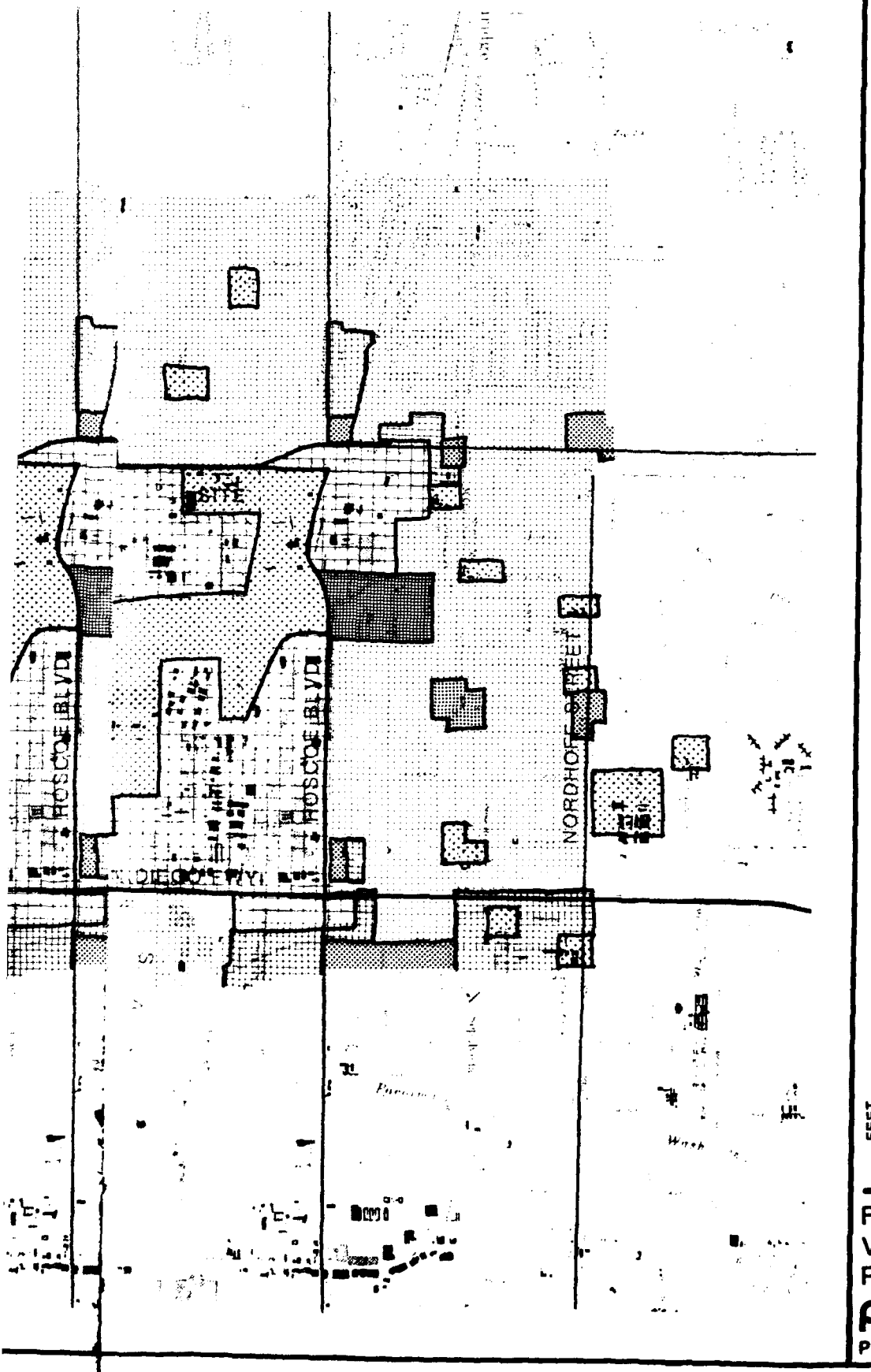
- RESIDENTIAL
- COMMERCIAL
- INDUSTRIAL
- RECREATION
- SCHOOL
- GOLF COURSE
- HELIPORT

FEET 0 1000 2000 4000 6000

FIGURE III-14
VAN NUYS AIRPORT GENERALIZ
SURROUNDING LAND USE

prc
PRC Engineering, Inc.


VENTURA FWY.
SHERMAN WAY



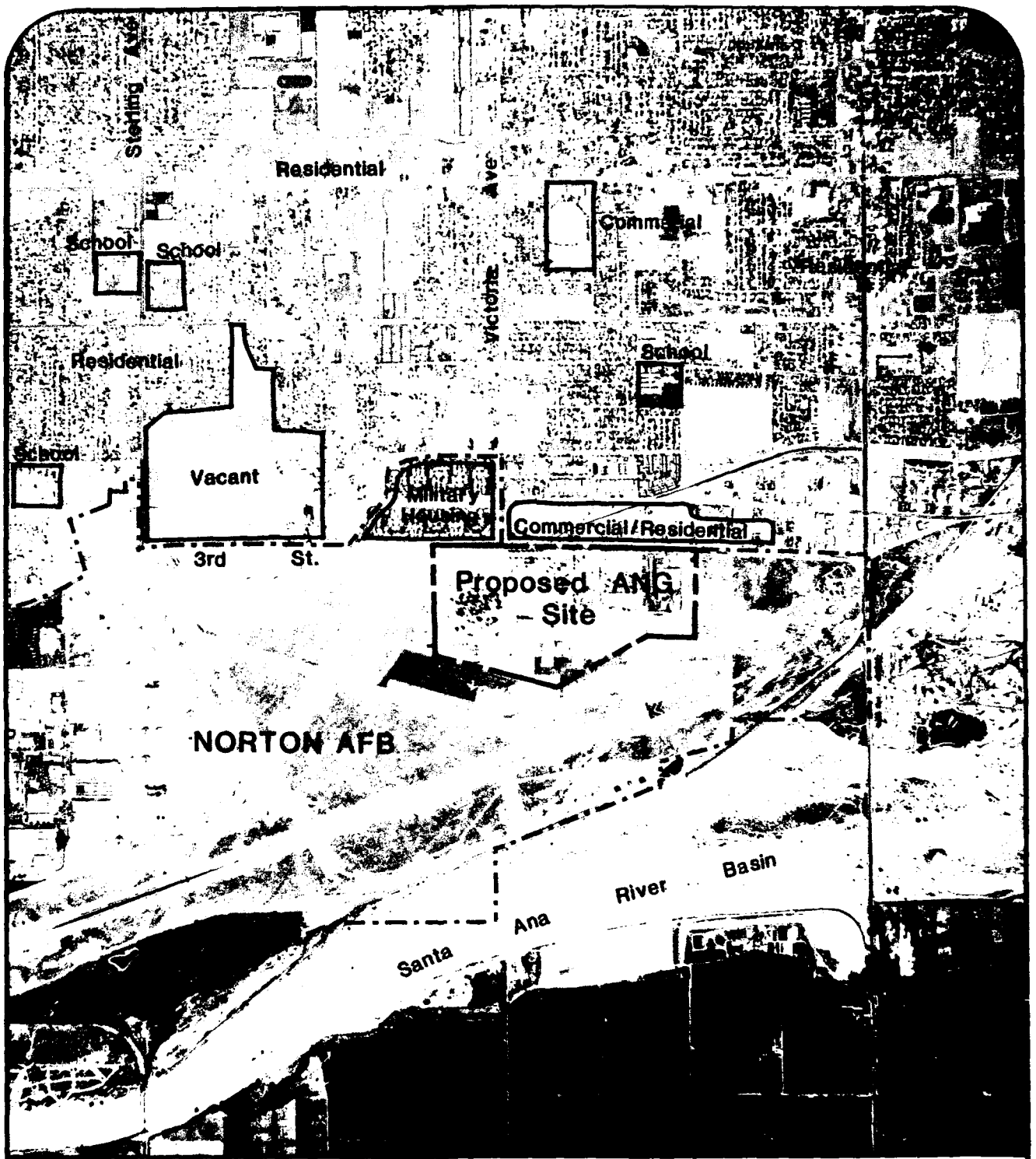
Legend

- SFR
- MFR
- COMMERCIAL
- RECREATIONAL
- INSTITUTIONAL
- INDUSTRIAL

FEET 0 1000 2000 4000 6000

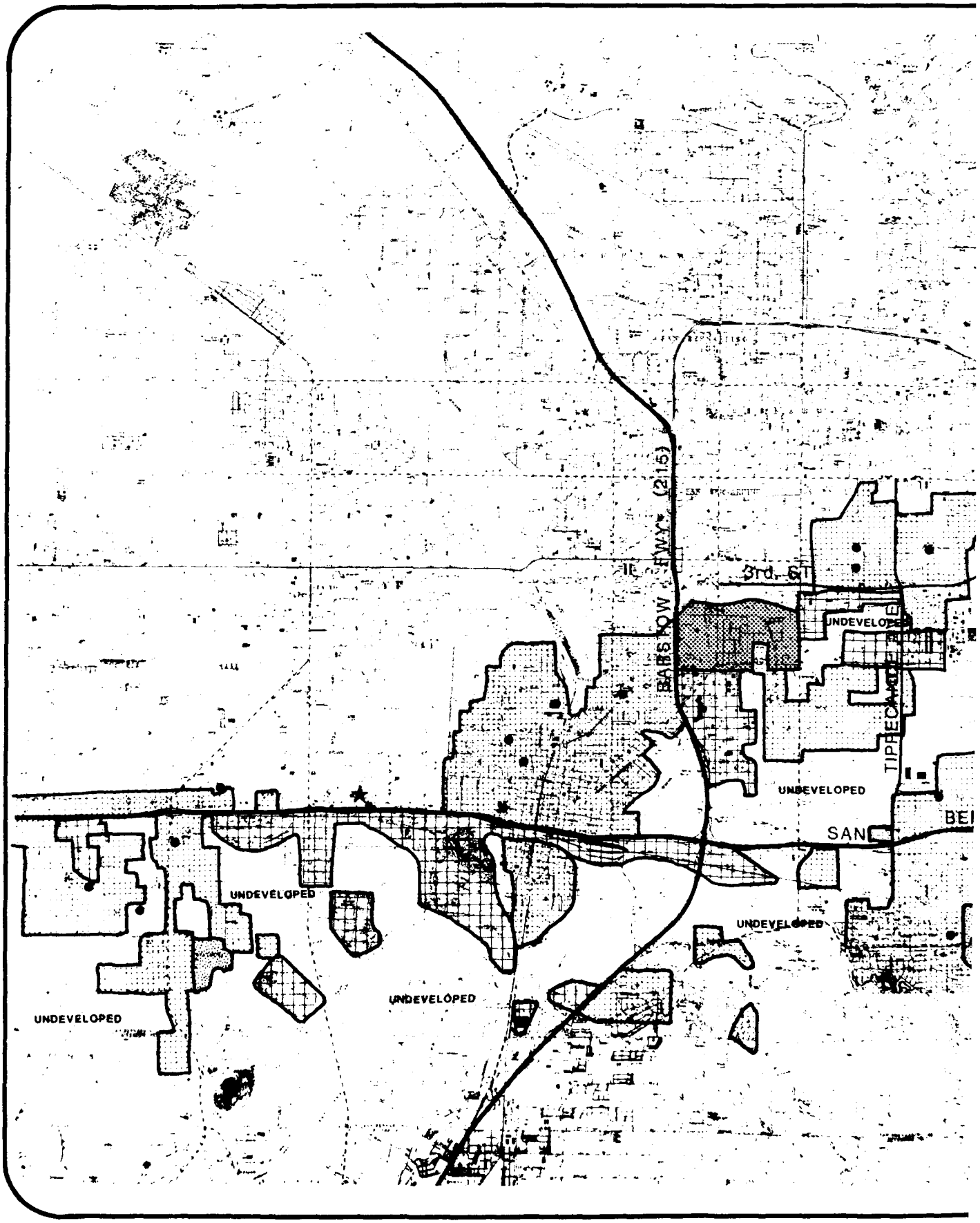
FIGURE III-15
VAN NUYS AIRPORT GENERAL PLAN LAND USE

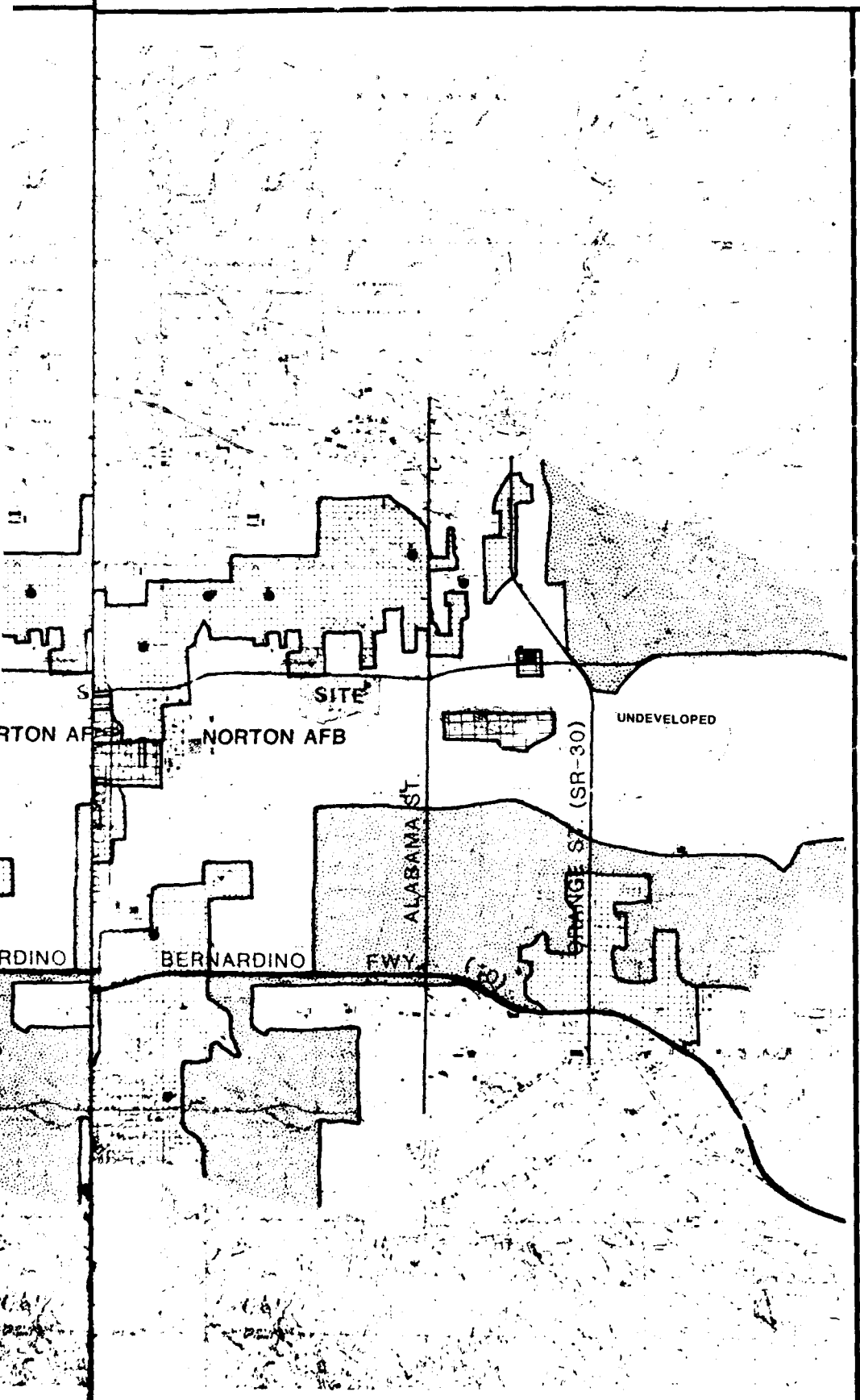
prc
PRC Engineering, Inc.



PRC Engineering, Inc.

FIGURE III-16
NORTON AFB EXISTING LAND USE


3rd. St
UNDEVELOPED
UNDEVELOPED
UNDEVELOPED
UNDEVELOPED
UNDEVELOPED



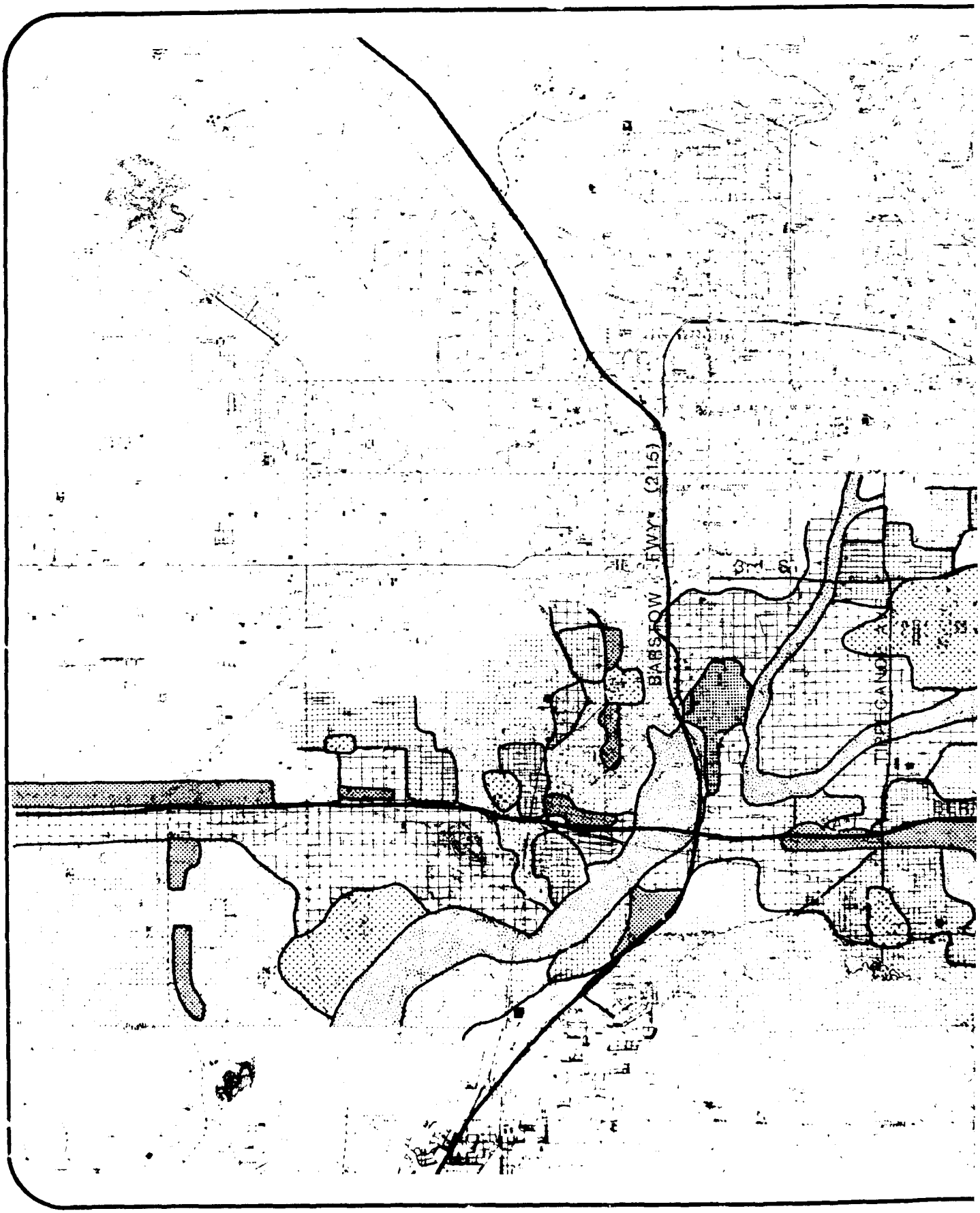
Legend

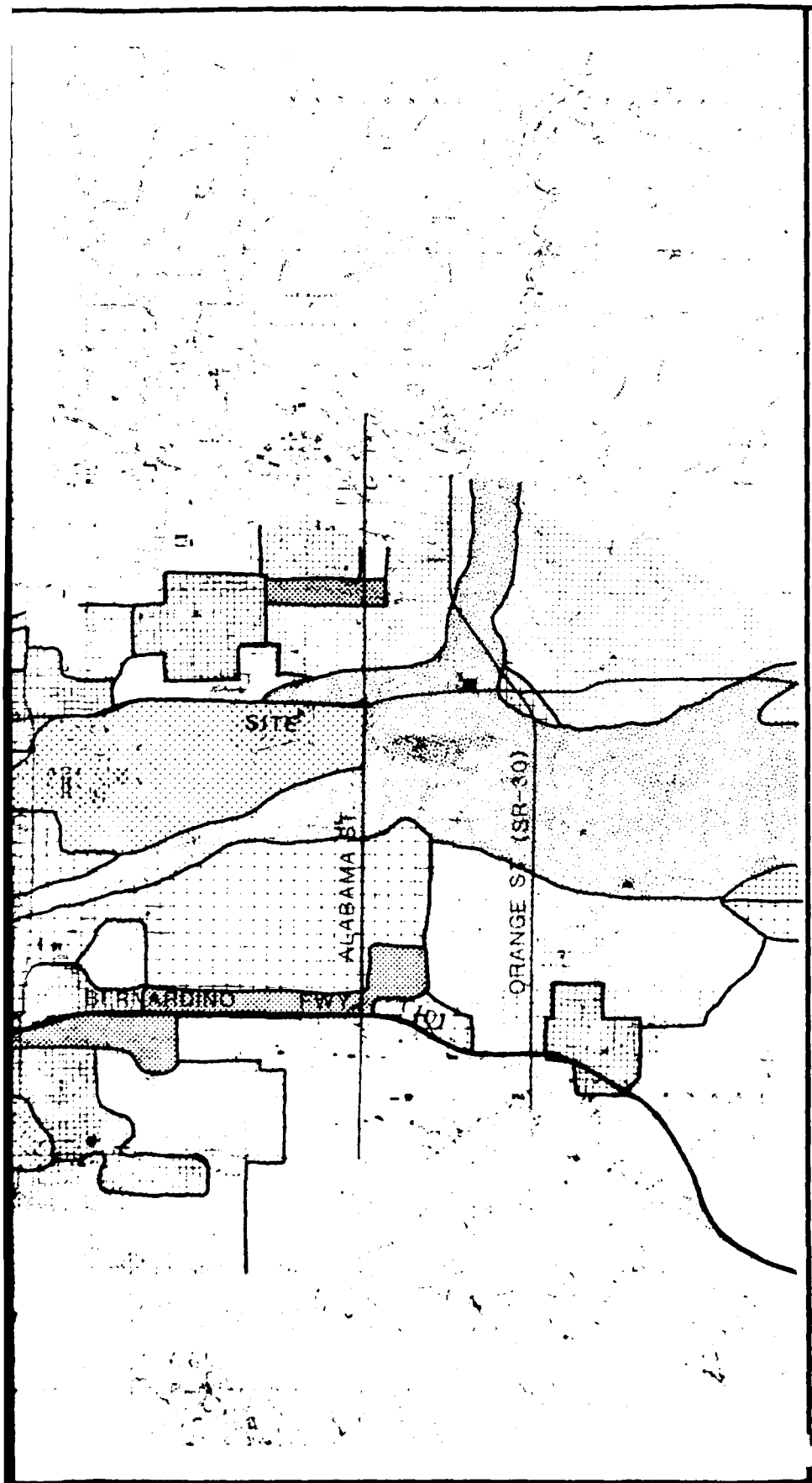
- RESIDENTIAL
- COMMERCIAL
- INDUSTRIAL
- AGRICULTURE
- SCHOOL
- GOLF COURSE

FEET 0 2500 5000 10000 15000

FIGURE III-17
NORTON AFB GENERALIZED SURROUNDING LAND USE

prc
PRC Engineering, Inc.


BARSTOW FWY (215)
3rd St



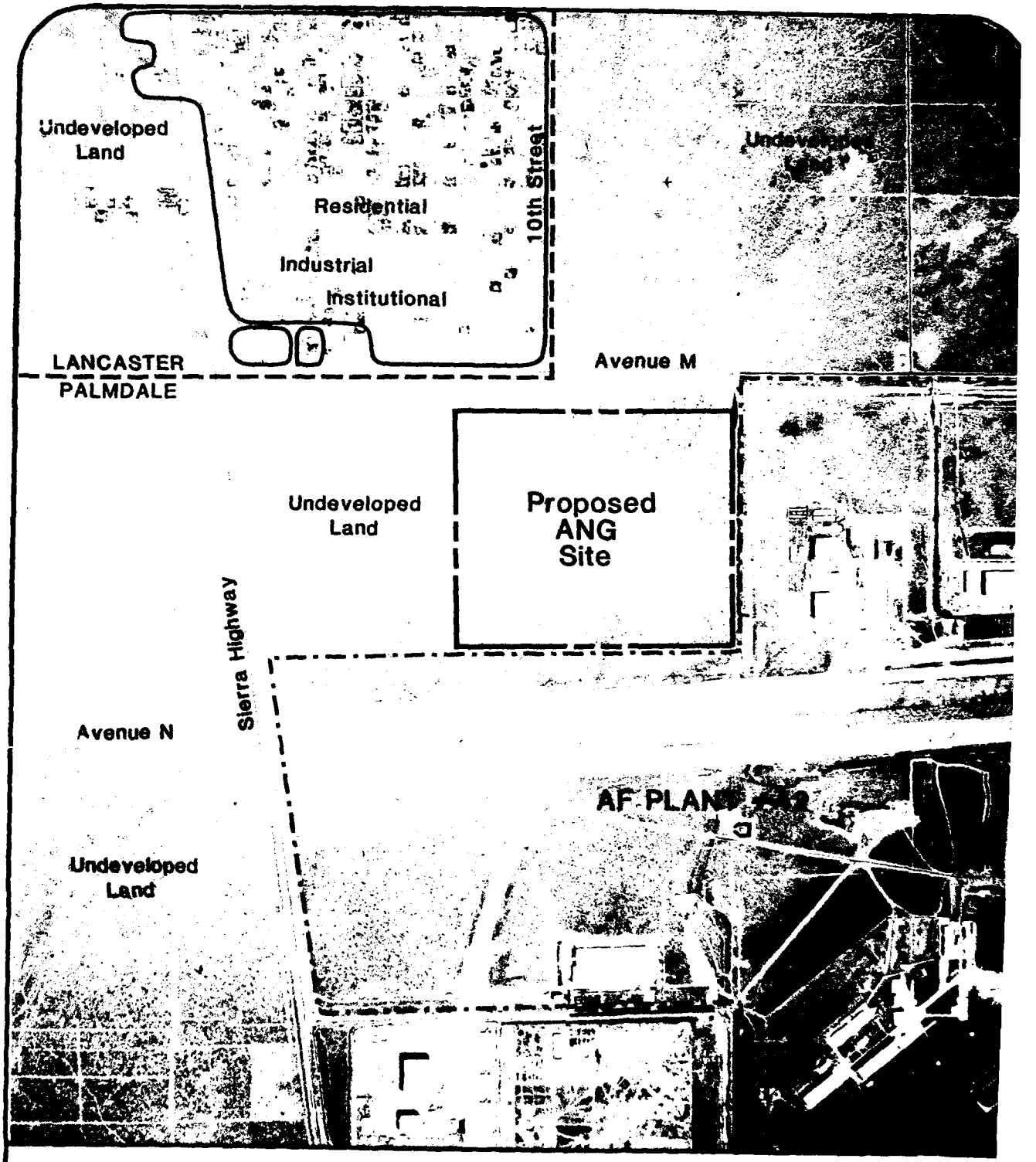
Legend

- SFR
- MFR
- COMMERCIAL
- INSTITUTIONAL
- INDUSTRIAL
- AGRICULTURAL/RURAL CONSERVATION

FEET 0 2500 5000 10000 15000

FIGURE III-18
NORTON AFB GENERAL PLA
LAND USE

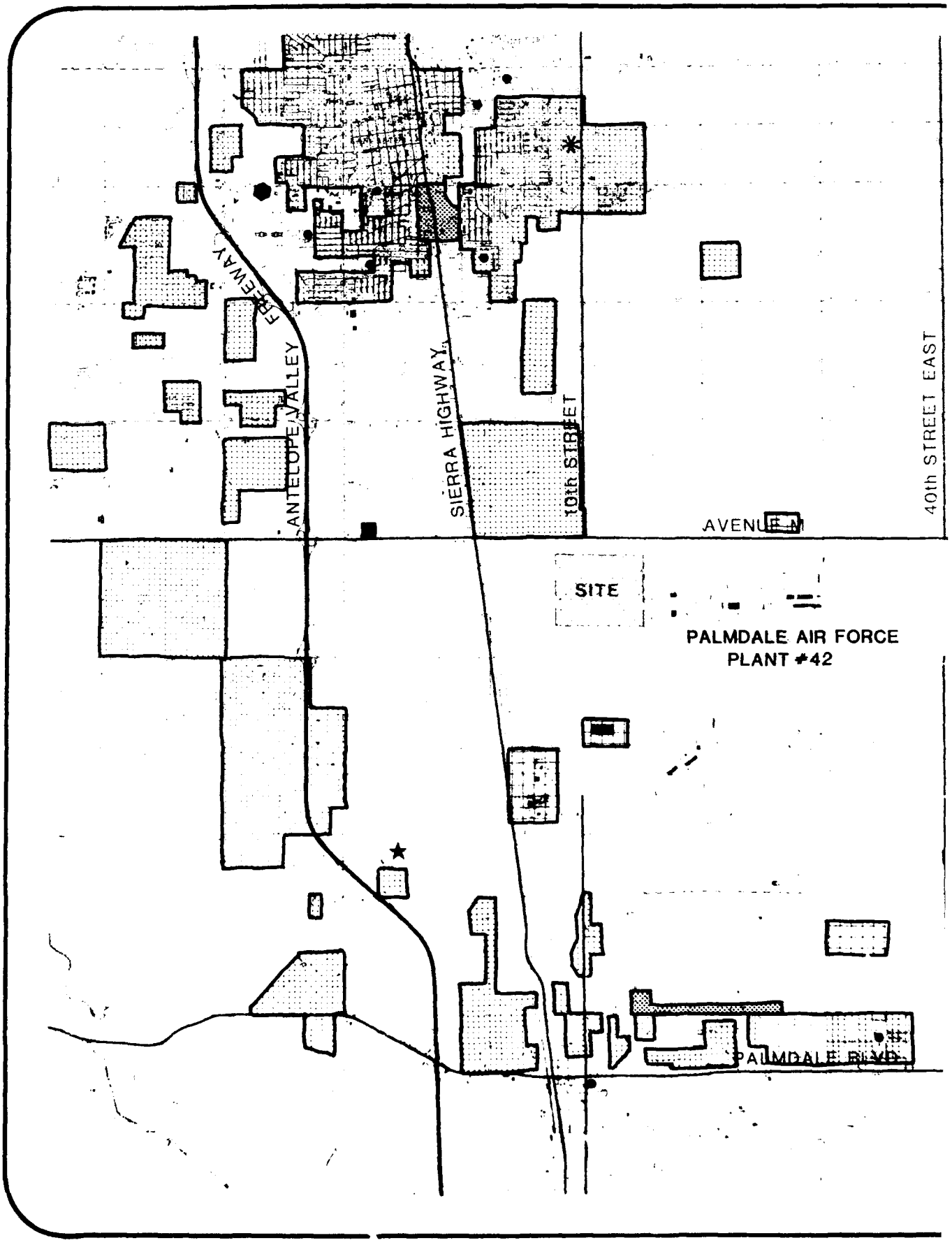
prc
PRC Engineering, Inc.



prc
PRC Engineering, Inc.

0 1000 2000
FEET

FIGURE III-19
AF PLANT #42 -
EXISTING LAND USE


FREEWAY
ANTELOPE VALLEY
SIERRA HIGHWAY
10th STREET
40th STREET EAST
AVENUE M
SITE
PALMDALE AIR FORCE
PLANT #42
PALMDALE BLVD.

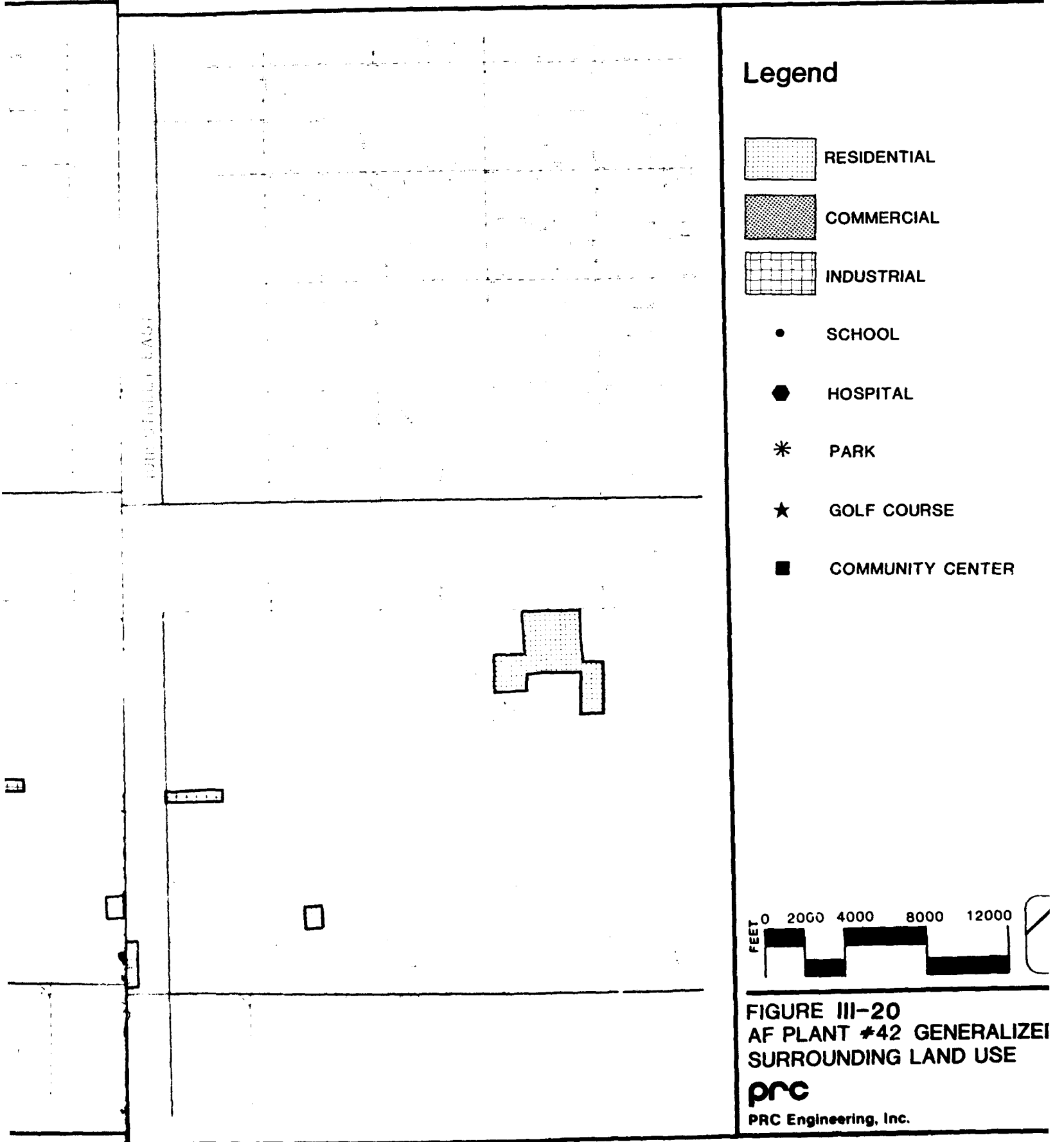
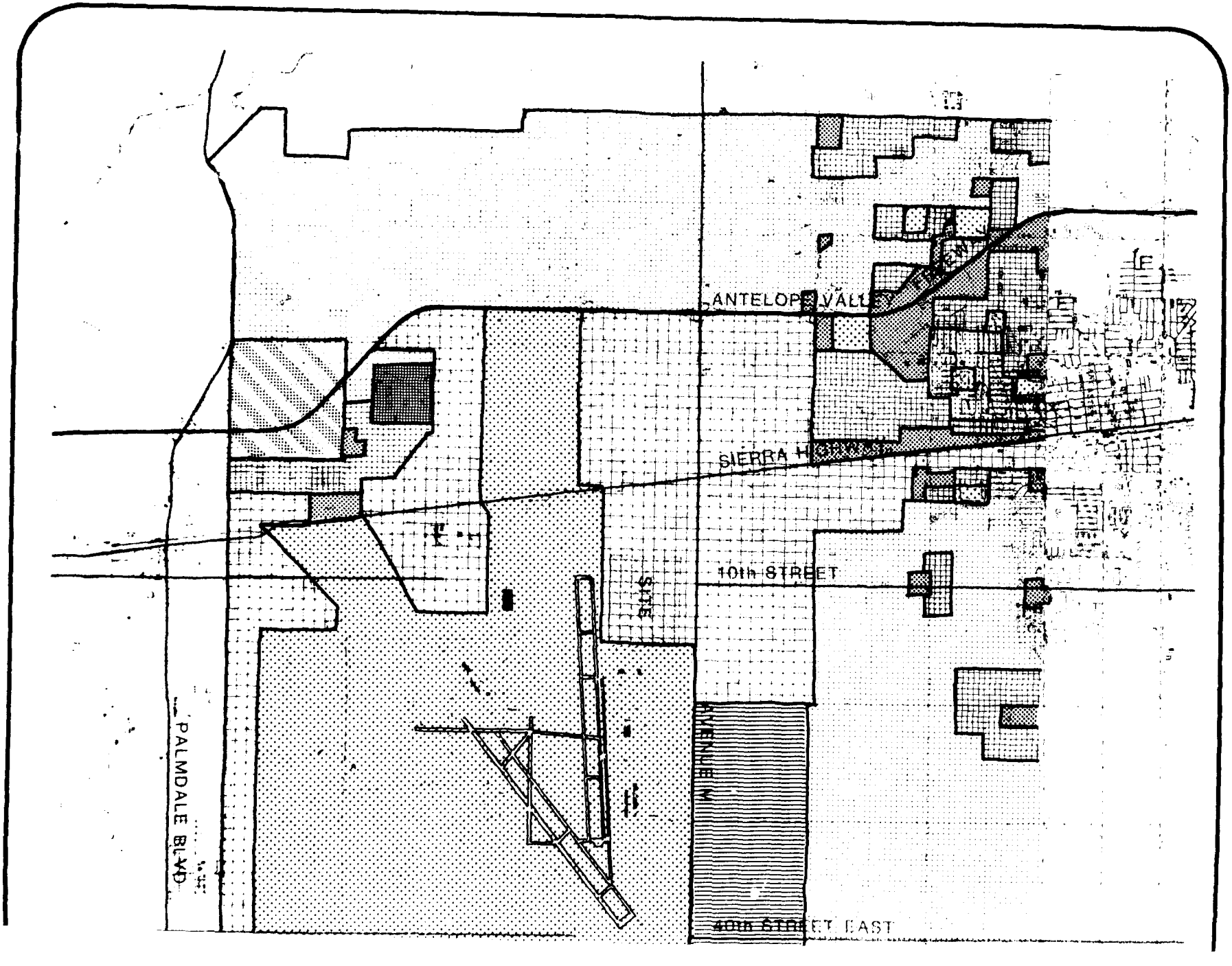
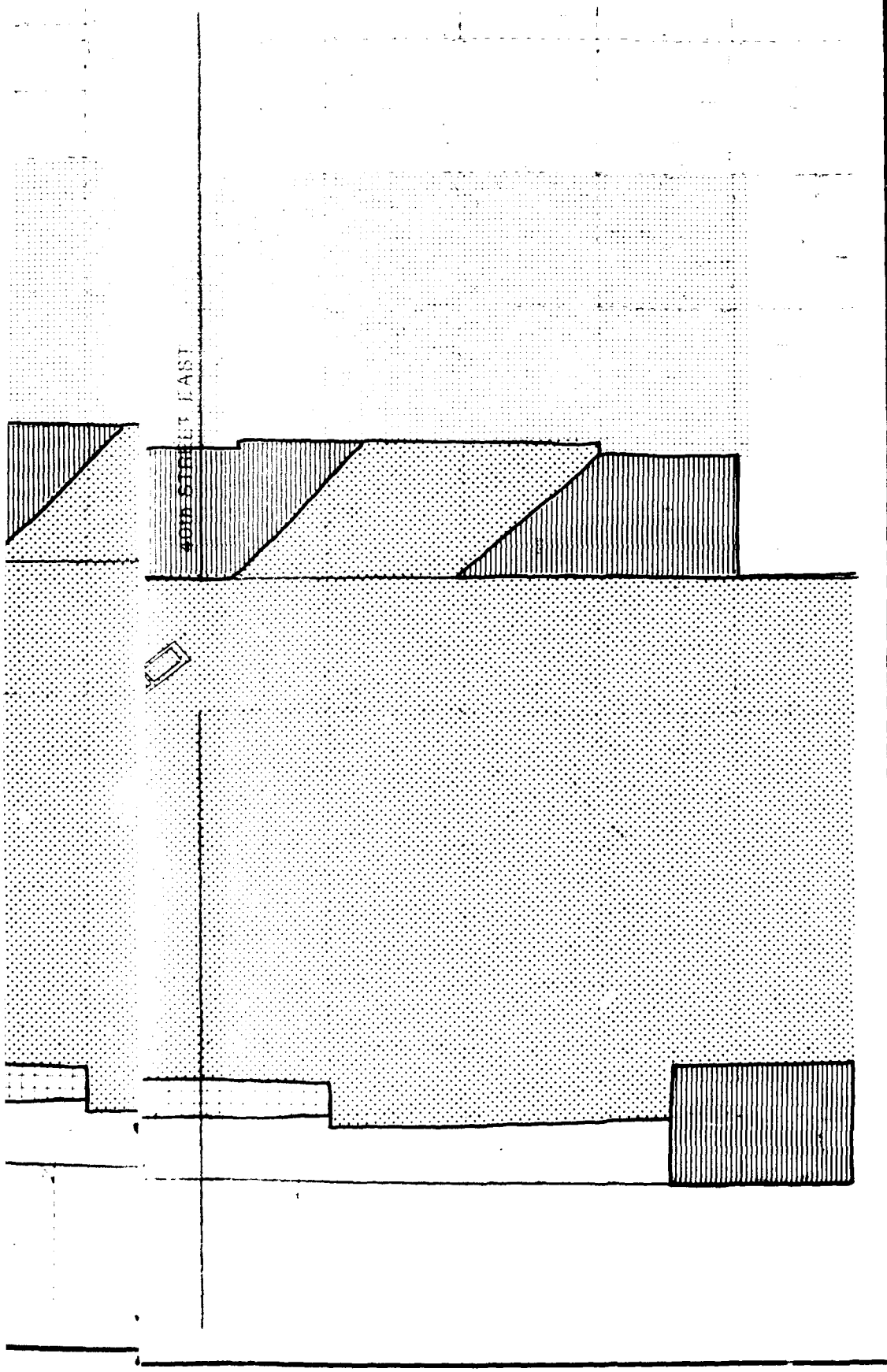


FIGURE III-20
AF PLANT #42 GENERALIZEI
SURROUNDING LAND USE

PRC Engineering, Inc.


ANTELOPE VALLEY
SIERRA H
10th STREET
SITE
PALMDALE BLVD
AVENUE M
40th STREET EAST



Legend

- SFR
- MFR
- COMMERCIAL
- INSTITUTIONAL
- INDUSTRIAL
- AIRPORT BUFFER

FEET 0 2000 4000 8000 12000

FIGURE III-21
AF PLANT #42 GENERAL PL/
LAND USE

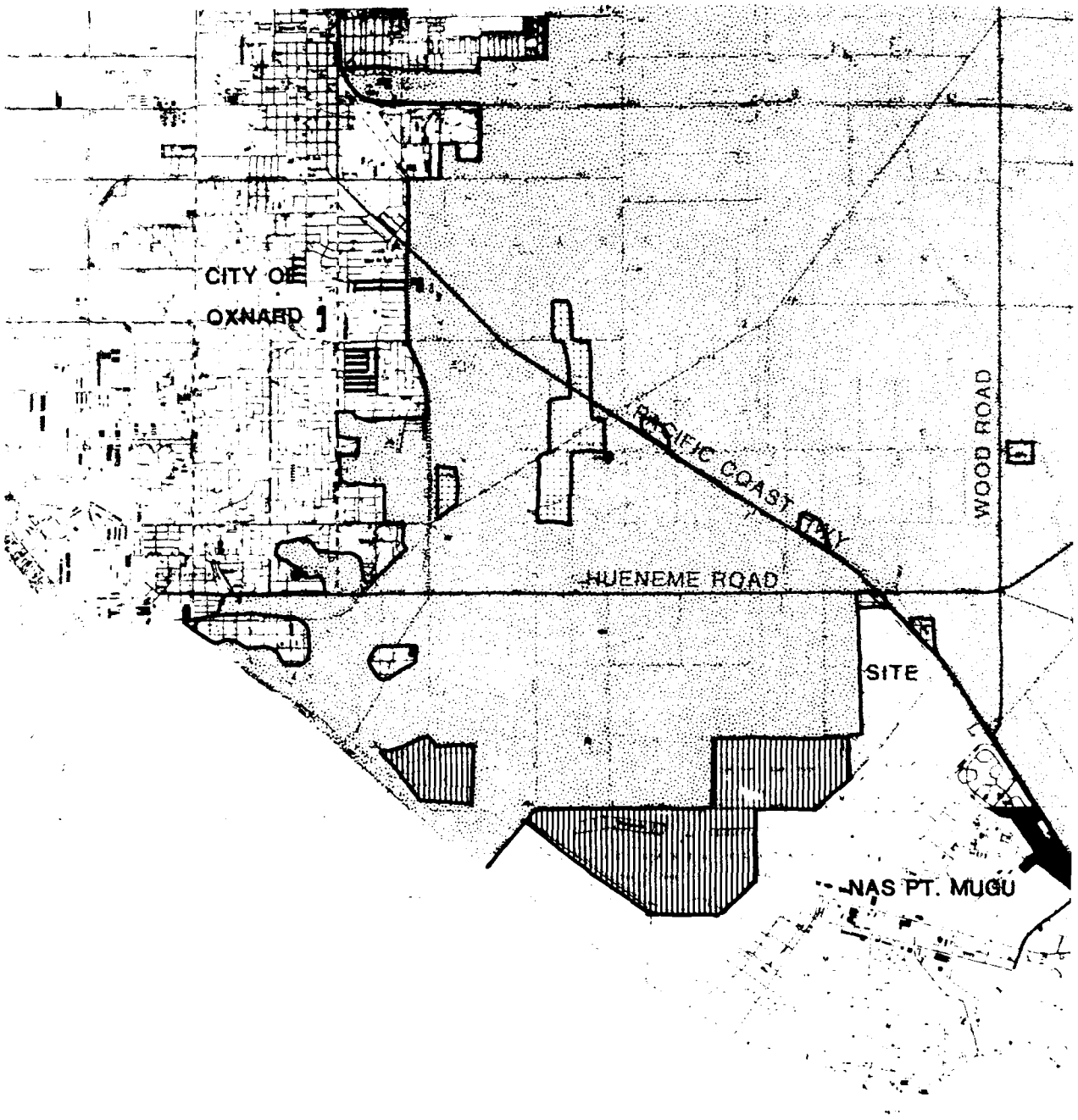
prc
PRC Engineering, Inc.

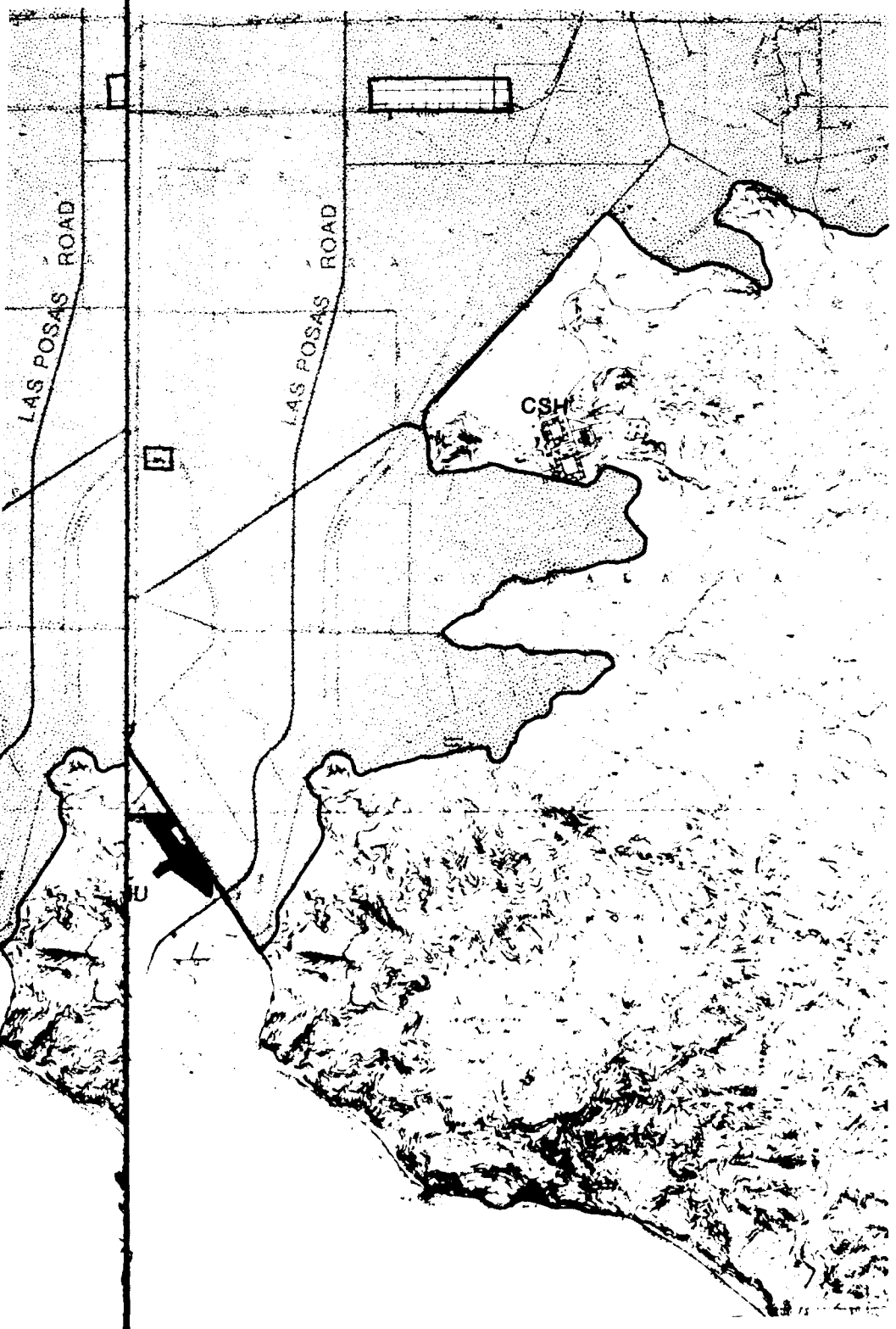
---Naval Air Station Boundary

prc
PRC Engineering, Inc.

0 1000 2000
FEET

FIGURE III-22
NAS POINT MUGU -
EXISTING LAND USE


CITY OF
OXNARD
PACIFIC COAST HWY
WOOD ROAD
HUENEME ROAD
SITE
NAS PT. MUGU



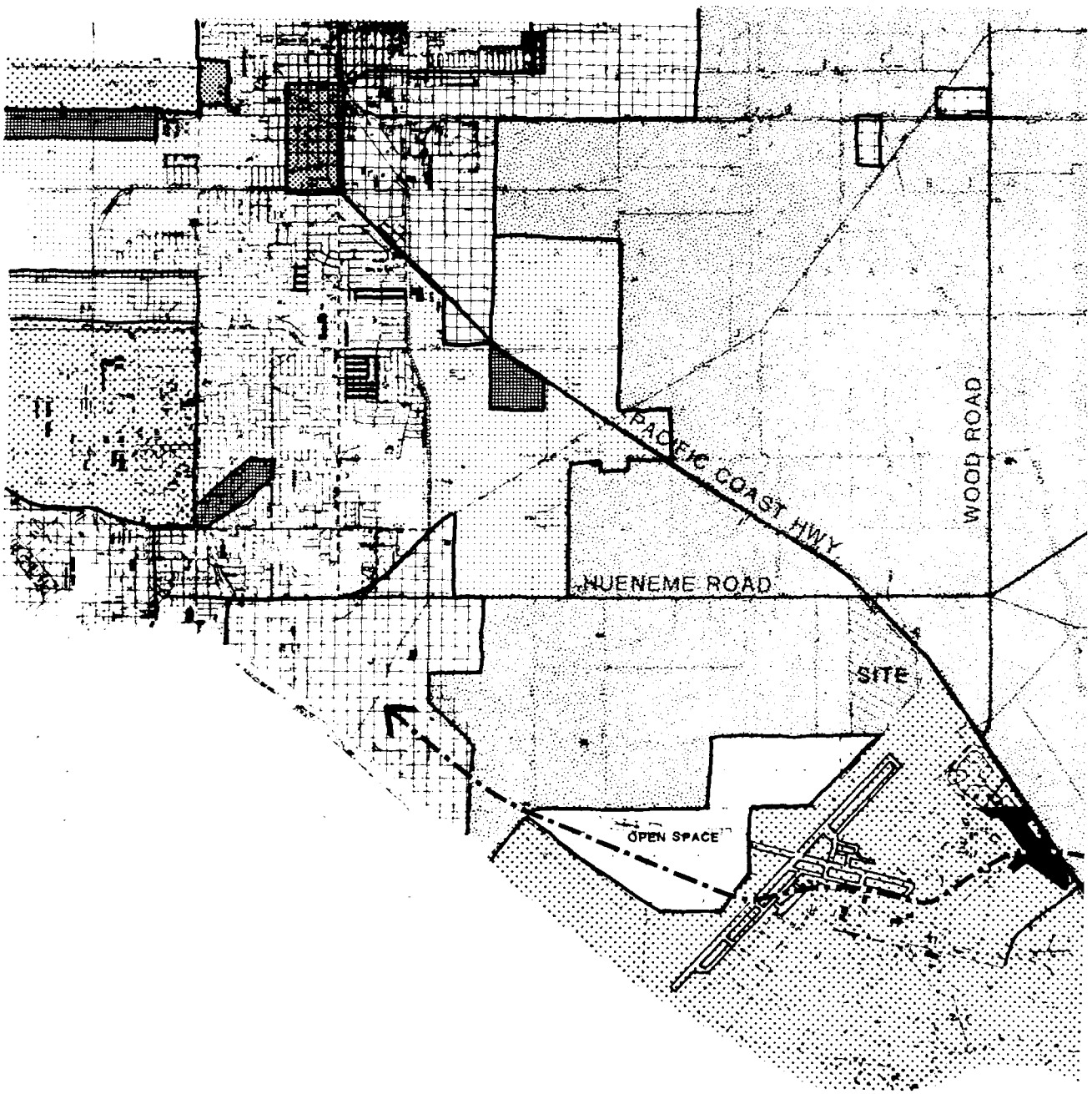
Legend

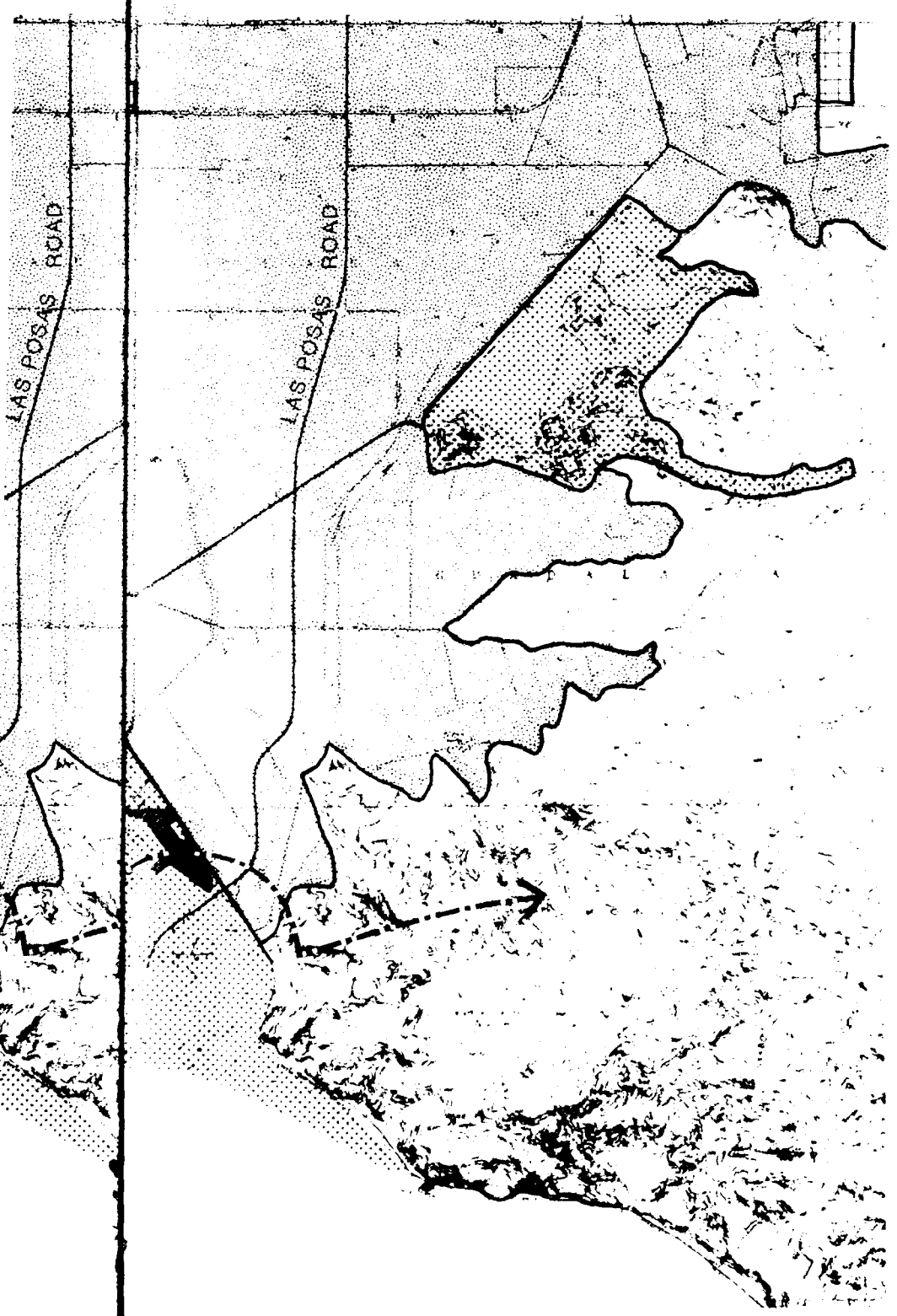
- RESIDENTIAL
- AGRICULTURAL
- INDUSTRIAL
- DUCK POND
- SCHOOL
- CSH CAMARILLO STATE HOSPIT

FEET 0 2000 4000 8000 12000

FIGURE III-23
NAS POINT MUGU GENERALIZE
SURROUNDING LAND USE

PRC Engineering, Inc.


PACIFIC COAST HWY.
WOOD ROAD
HUENEME ROAD
SITE
OPEN SPACE



Legend

- SFR
- MFR
- COMMERCIAL
- INSTITUTIONAL
- INDUSTRIAL
- PARK/RECREATIONAL
- AGRICULTURAL
- COASTAL ZONE BOUNDARY

FEET 0 2000 4000 8000 12000

FIGURE III-24
NAS POINT MUGU GENERAL P
LAND USE

prc
PRC Engineering, Inc.

SOCIOECONOMICS

The paragraphs below describe the various community settings in which the ANG facilities may be located. The factors highlighted include regional population trends, overall community character, as well as demographic and economic profiles and potential recruitment base. This information is presented to provide a basic frame of reference for identifying and assessing base relocation effects (beneficial and adverse) on adjacent communities. Of particular concern is the consideration of whether special segments of the community (elderly, children, minorities) may be disproportionately affected by base activities and operations. Economic considerations are addressed to identify the relationship between added income and expenditures brought about by ANG relocation and its overall effect upon the local economy.

Recruitment and Regional Context

The most important resource to the ANG is the men and women who serve within its ranks. As a reserve unit, these individuals are drawn principally from the surrounding communities. A recent survey of ANG full-time personnel indicates that 45 percent of them live within a 20 minute driving time of the present Van Nuys Base. With respect to geographic location, Table III-5 illustrates that the largest proportion of ANG personnel at Van Nuys come from the adjacent San Fernando Valley area.

The Air National Guard is attractive to many persons who have had military experience. At present, 70 percent of the ANG have had prior military service. Many of those with military experience have come to the TAW after leaving the military and entering civilian life. A recent survey of ANG personnel (779 respondents) indicates that 57 percent of the full-time staff is 35 years of age and older. Almost 20 percent of the full-time staff is 45 years of age and older (see Table III-6).

The Air National Guard relies on recruiting from several sources, including contacts with local high schools to enlist new recruits, word-of-mouth contact in the community, and contacts with active Air Force units.

Recruiting is extremely sensitive to the following factors: size of the community population pool; the types of activity opportunities offered by the 146th TAW; convenient access to the Base and facilities; the number of other reserve units in the area. At present, the ANG at Van Nuys enjoys the recruitment advantages afforded by a central location for the Base within the Los Angeles metropolitan area, a substantial population pool, minimal competition from other reserve units, and the attractiveness of the 146th TAW's overall mission.

Table III-7 presents overall regional growth trends and projections adopted by the Southern California Association of Governments. Regional Statistical Areas (RSAs) shown in the table encompass each of the four areas under consideration for ANG relocation, i.e., Point Mugu (Oxnard-Camarillo Regional Statistical Area), AF Plant #42 (Lancaster and Palmdale Regional Statistical Areas), Norton AFB (E. San Bernardino Regional Statistical Area), and Van Nuys Airport (Van Nuys - Southwest

TABLE III-5. GEOGRAPHIC LOCATION OF 146TH TAW PERSONNEL

Community	Full-Time Personnel	Part-Time Personnel	Total	Percent
San Fernando Valley	172	374	546	40
Ventura County	77	138	215	16
North Los Angeles Co.	27	84	111	8
South Los Angeles Co.	11	77	88	6
Central Los Angeles County	11	69	80	6
Antelope Valley	19	45	64	5
Orange County	3	52	55	4
West Los Angeles Co.	4	49	53	4
East Los Angeles Co.	2	37	39	3
San Gabriel Valley	4	22	26	2
San Bernardino County	1	16	17	1
San Diego County	-	16	16	1
Santa Barbara County	-	11	11	*
Riverside County	-	10	10	*
Kern County	1	9	10	*
San Luis Obispo County	-	6	6	*
Fresno County	-	4	4	*
Out of State	-	4	4	*
Mono County	-	2	2	*
Santa Clara County	-	2	2	*
Alameda County	-	1	1	*
Contra Costa County	-	1	1	*
Monterey County	-	1	1	*
Sacramento County	-	1	1	*
San Joaquin County	-	1	1	*
Solano County	-	1	1	
Total	332	1,033	1,365	

* = Less than one percent

Source: 146th TAW

TABLE III-6. AGE DISTRIBUTION OF ANG PERSONNEL

Age Category	Full-Time Personnel	Part-Time Personnel	Total	Percent
18-24	28	62	90	12
25-34	113	131	244	31
35-44	99	195	294	38
45-54	67	61	128	16
55+	11	12	23	3
Survey Total	318	461	779	100

Source: The Planning Group, September 1984.

San Fernando Valley Regional Statistical Area). These projections indicate that each of the proposed ANG relocation sites would be located in a relatively high growth area (particularly the Lancaster/Palmdale area). Over the long term, this growth would increase the potential for increased community concerns regarding military aircraft operations. This growth would also have a positive influence upon the recruiting potential of each area. The recruiting potential of the alternative relocation sites is primarily determined by the number of persons within the 17-29 age group who reside within a reasonable driving distance from each site. Figure III-25 illustrates the area included within a 50 mile radius around each of the sites.

Prior to preparation of the Final EIS, a comparative analysis was done of the driving distances for existing unit personnel from their current place of residence to the Palmdale and Point Mugu sites. The analysis revealed one-third of the existing full-time personnel would have to drive in excess of 30 additional miles round-trip each day to commute to Palmdale while only 15 percent would have to drive 30 plus more miles each day to commute to Point Mugu. A majority of full-time personnel would have to drive more than 30 additional miles to the Norton AFB site since most of them live north and west of downtown Los Angeles.

Van Nuys Airport Area

The Van Nuys Airport, located in the San Fernando Valley, covers approximately 723 acres and is dedicated to general aviation. In spite of the significant number of aircraft operations at the airport, the facility is surrounded by well established residential neighborhoods both in Reseda and West Van Nuys. These residential areas are composed largely of single family homes. Some mobile home parks are concentrated near the airport and larger apartment buildings and commercial activities are located along major arterials.

Demographic Character

The 1980 Census indicates that the Van Nuys area has a population of almost 190,000. Median income is just over $23,000. This compares with a median income of $20,000 for the census tracts adjacent to Van Nuys Airport. As shown in Table III-8 in general, the area immediately adjacent to the airport is demographically typical of the overall community. However, there appear to be a smaller concentration of elderly persons residing in the tracts adjacent to Van Nuys Airport than in the community at large.

Census statistics on home ownership indicate that renters and owners make up about equal proportions of the adjacent community.

Economic Character

The Greater Van Nuys Chamber of Commerce indicates that the Van Nuys Airport has an estimated value of $50 million, and an impact of more than $200 million on its broad market area (a 20-mile radius). In addition to the ANG base, the airport

TABLE III-8. DEMOGRAPHIC CHARACTERISTICS VAN NUYS AREA AND VAN NUYS AIRPORT VICINITY

	Van Nuys		Project Vicinity	
	1970	1980	1970	1980
Total Population	105,739	188,875	22,439	22,450
Median Income	$11,775	$ 23,018	$11,837	$20,216
Persons/Sq. Mile	NA	NA	2,800	2,800
AGE:				
Less than 5 yrs.	12%	6%	9%	7%
School Age	37%	18%	27%	14%
60+ years	20%	17%	9%	7%
ETHNICITY:				
White	88%	77%	93%	77%
Black	*	2%	*	2%
American Indian	*	1%	NA	1%
Asian	1%	4%	NA	3%
Hispanic	10%	16%	7%	17%

NA = Not available.

* = less than one percent

Source: 1970 and 1980 Census, Van Nuys-North Sherman Oaks Community Plan Background Report, 1975

also generates a total direct employment for approximately 1,800 persons. Economic benefits of the airport include a gross payroll of approximately $41 million, with $540,000 in taxes paid by employers and close to $23 million in visitor expenditures.

Another important feature of the local Reseda-Van Nuys economy is its diversity. This portion of the San Fernando Valley features a mix of commercial, transportation and manufacturing activities. The area includes such major employers as General Motors, RCA, Litton Industries and Busch and Schlitz Breweries.

Recruiting Potential

The ANG presently enjoys the recruitment advantages afforded by a central location within the Los Angeles metropolitan area. This makes available a substantital population pool with minimal competition by other reserve units. The area included within a 50 mile radius around Van Nuys Airport has the largest

recruiting base of the alternatives with 2,556,023 persons in the 17-29 age group (Figure III-25). The area is projected to have 2,715,979 persons in this age group in 1988.

Norton AFB Area

Norton AFB is located at the southern boundary of the City of San Bernardino. The base also adjoins the unincorporated Highland community area in San Bernardino County, as well as the City of Redlands on the south. Other surrounding communities include Rialto, Colton, Loma Linda, Yucaipa and Mentone. San Bernardino, however, is considered "hometown" for the base. The most concentrated residential area is located across Third Street to the north of the Base. While a heterogeneous mix of older residences, scattered industrial/business uses, and vacant lots dominate the area directly adjacent to the Base, further to the north there are many single family homes along tree-lined streets in what is known as the Highland Community.

Demographic Character

As shown in Table III-9, the communities directly adjacent to the Base generally mirror the characteristics of the San Bernardino community as a whole. Data on population change, income, age and ethnic groups suggest that the areas surrounding the Base are typical of the overall community, and there are no disproportional concentrations of population groups requiring special consideration, such as those with low incomes, the elderly and/or minorities.

TABLE III-9. DEMOGRAPHIC CHARACTERISTICS SAN BERNARDINO AND NORTON AFB VICINITY

	San Bernardino		Project Vicinity	
	1970	1980	1970	1980
Total Population	104,251	117,490	19,826	22,100
Median Income	$ 8,658	$ 14,095	$ 6,518	$15,482
Persons/Sq. Mile	2,407	2,208	1,350	1,500
AGE:				
Less than 5 yrs.	8%	8%	10%	9%
School Age	29%	23%	31%	25%
60+ years	15%	16%	12%	12%
ETHNICITY:				
White	84%	63%	78%	76%
Black	14%	14%	7%	7%
American Indian	NA	1%	NA	1%
Asian	NA	1%	NA	1%
Hispanic	20%	21%	15%	14%

NA = Not available.
Source: 1970 and 1980 Census

Similarly, residential patterns for the surrounding community are consistent with overall trends. It is important to note that housing in census tracts adjacent to the Base is predominantly owner-occupied.

Economic Character

Overall, San Bernardino is considered to have a healthy economy, and a number of areas are undergoing rapid economic growth. Norton AFB is an important element in the economic base of the San Bernardino economy. Norton's primary effect is the generation of employment, payroll, retail sales, and tax revenues. Over 10,000 persons (military and civilian) are employed at the base. Direct payments (payroll and procurement) are greater than $160 million annually.

Recruiting Potential

The area included within a 50-mile radius around Norton AFB has 1,348,961 persons in the 17-29 age group; 1,463,589 are projected for 1988 (Figure III-25). While this would ordinarily represent an adequate population base, the recruiting potential is rather poor. A number of other reserve units are already competing for personnel in the area. Major competition would come from the 445th MAW of the Air Force Reserve, which flys C-141B's out of Norton AFB.

AF Plant #42 Area

With respect to AF Plant #42, residential areas are generally concentrated to the northwest (in Lancaster) and to the south (in Palmdale). Generally, these neighborhoods are comprised of low density single family dwellings.

Demographic Character

Available 1980 census data indicate that the areas adjacent to AF Plant #42 support a population of a little over 14,000 persons. Median family income in these areas is $22,000. From a racial and ethnic standpoint, surrounding areas are predominantly white and other groups, taken together, do not constitute more than 11 percent of the population. As shown in Table III-10, the area adjacent to AF Plant #42 shares many characteristics in common with the larger Palmdale-Lancaster community.

Economic Character

Over the past decade, economic growth in the Palmdale-Lancaster area has been rapid and substantial. Aviation and aviation-related activities have played a significant role in the development of the area's economic base. In particular, AF Plant #42 has been a major stimulus to the local economy with a civilian employment of 3,000 persons and an annual payroll of approximately $50 million.

TABLE III-10. DEMOGRAPHIC CHARACTERISTICS PALMDALE-LANCASTER AND AF PLANT #42 VICINITY

	Palmdale-Lancaster		Project Vicinity (1)	
	1970	1980	1970	1980
Total Population	39,459	60,044	22,983	23,068
Median Income	$11,727	$19,513	$ 7,180	$22,079
Persons/ Sq. Mile	510	771	240	240
AGE:				
Less than 5 yrs.	8%	8%	12%	8%
School Age	28%	25%	34%	29%
60+ years	9%	9%	9%	8%
ETHNICITY:				
White	93%	78%	92%	89%
Black	1%	6%	2%	3%
American Indian	NA	2%	NA	1%
Asian	NA	*	NA	1%
Hispanic	6%	15%	6%	6%

(1) Contiguous census tracts within a 3 to 5 mile radius depending upon tract boundaries.
NA = Not available
* = less than one percent
Source: 1970 and 1980 Census

Recruiting Potential

According to data supplied by Air National Guard recruitment personnel in Washington, D.C., the area included within a 50-mile radius of AF Plant #42 has 1,729,343 persons in the 17-29 age group; 1,832,333 are projected for 1988 (Figure III-25). While this would appear to represent an excellent population base for recruiting, the actual driving distances would be far greater than 50 miles for the approximately 85 percent of this population base which resides in the Los Angeles Basin. These individuals must use State Route 14 to bypass the 7,000-foot San Gabriel mountain range. For example, Pasadena is well within the 50-mile radius of AF Plant #42, but the actual driving distance to the site would be approximately 76 miles. A more realistic population base would only include the areas within a 50 mile driving distance. This area would be comprised of the Antelope Valley, and the northeastern portion of the San Fernando Valley, representing approximately 275,000 persons in 1988 using projections prepared by the Southern California Association of Governments. There is no competition from reserve units at this location.

In response to comments received on the Draft EIS, Air National Guard recruitment personnel from Washington, D.C. as well as Van Nuys have again reviewed recruitment potentials in the Palmdale area in detail. Considering place or residence and commuting times, the effective recruiting radius of the 146 TAW can more realistically be established at 25 miles rather than 50 miles. Within this area there are 27,426 persons within the prime recruitment age of 18-29 years old. Comparative population data for the Palmdale and Point Mugu areas are presented in Table III-10a.

TABLE III-10a: POPULATION WITHIN SELECTED DISTANCES FROM NAS POINT MUGU AND AF PLANT #42

Site Alt.	15 Miles	20 Miles	25 Miles
AF Plant #42			
Age 18-29	19,339	20,778	27,426
Point Mugu			
Age 18-29	70,609	91,873	110,281

Source: U.S. 1980 Census, and 146 TAW

Point Mugu Area

The area within a radius of 3-5 miles of NAS Point Mugu may be characterized as rural/agricultural. No major residential developments are located within the immediate vicinity of the Naval facility. The existing residential development is limited to scattered farm houses, trailer courts and motels. Beyond 5 miles from the facility, major residential developments and neighborhoods are evident. Many residents have been attracted to the area because of its rural/coastal atmosphere and relative isolation from major activity centers. The City of Camarillo, in particular, has been successful in attracting a large retiree community.

Demographic Character

The 1980 Census indicates that, for those adjacent census tracts within a 4-5 mile radius of NAS Point Mugu, there was a total population of just over 14,000 persons. This represents an 8 percent growth from the 1970 population level of 13,000 persons. Median family income in 1980 was approximately $17,000. With respect to race and ethnicity, adjacent areas are predominantly white (60 percent) with a substantial Hispanic community (27 percent). Table III-11 compares the project vicinity to the Oxnard-Camarillo area as a whole. In general, the project vicinity appears to be typical of the larger community; however, income levels are slightly higher.

TABLE III-11. DEMOGRAPHIC CHARACTERISTICS OXNARD-CAMARILLO AND NAS POINT MUGU

	Oxnard-Camarillo		Project Vicinity (1)	
	1970	1980	1970	1980
Total Population	101,638	145,992	12,994	14,358
Median Income	$ 11,321	$ 19,435	$ 9,356	$17,221
Persons/Sq. Mile	2,308	3,315	450	500
AGE:				
Less than 5 yrs.	10%	9%	9%	10%
School Age	34%	26%	29%	29%
60 years +	8%	12%	9%	9%
ETHNICITY:				
White	69%	53%	80%	60%
Black	5%	5%	1%	5%
American Indian	NA	1%	NA	1%
Asian	NA	6%	NA	7%
Hispanic	26%	35%	19%	27%

(1) Contiguous census tracts within a 3 to 5 mile radius depending upon tract boundaries.
NA = Not available.
Source: 1970 and 1980 Census

Economic Character

Overall, the economic base of the Oxnard-Ventura area consists of agriculture, produce, and military-related industries. The Pacific Missile Test Center (PMTC) has had an important economic influence in this regard. The PMTC employs many more civilians than military personnel. Total civilian employment at the facility is approximately 4,000 persons. The annual payroll and other income generated by the facility approaches $120 million. Tourism is also a strong element of the local economy due to the attractiveness of the unencumbered Pacific Coast shoreline and rustic recreational facilities. Economic growth has characterized the area over the past two decades.

Recruiting Potential

The area included within a 50-mile radius around NAS Point Mugu has 1,141,300 persons in the 17-29 age group; 1,205,447 are projected for 1988 (Figure III-25). This represents an adequate population base and therefore a fairly good recruiting potential. Unlike the AF Plant #42 location, routes to Point Mugu from densely populated areas are reasonably direct. The area and population included within a 50 mile driving distance is nearly the same as that within a radius of 50 air miles of NAS Point Mugu.

At NAS Point Mugu the 146th TAW would encounter some competition for reserve personnel from the U.S. Naval Reserve. The Naval Reserve presently has approximately 1,100 reservists based at NAS Point Mugu.

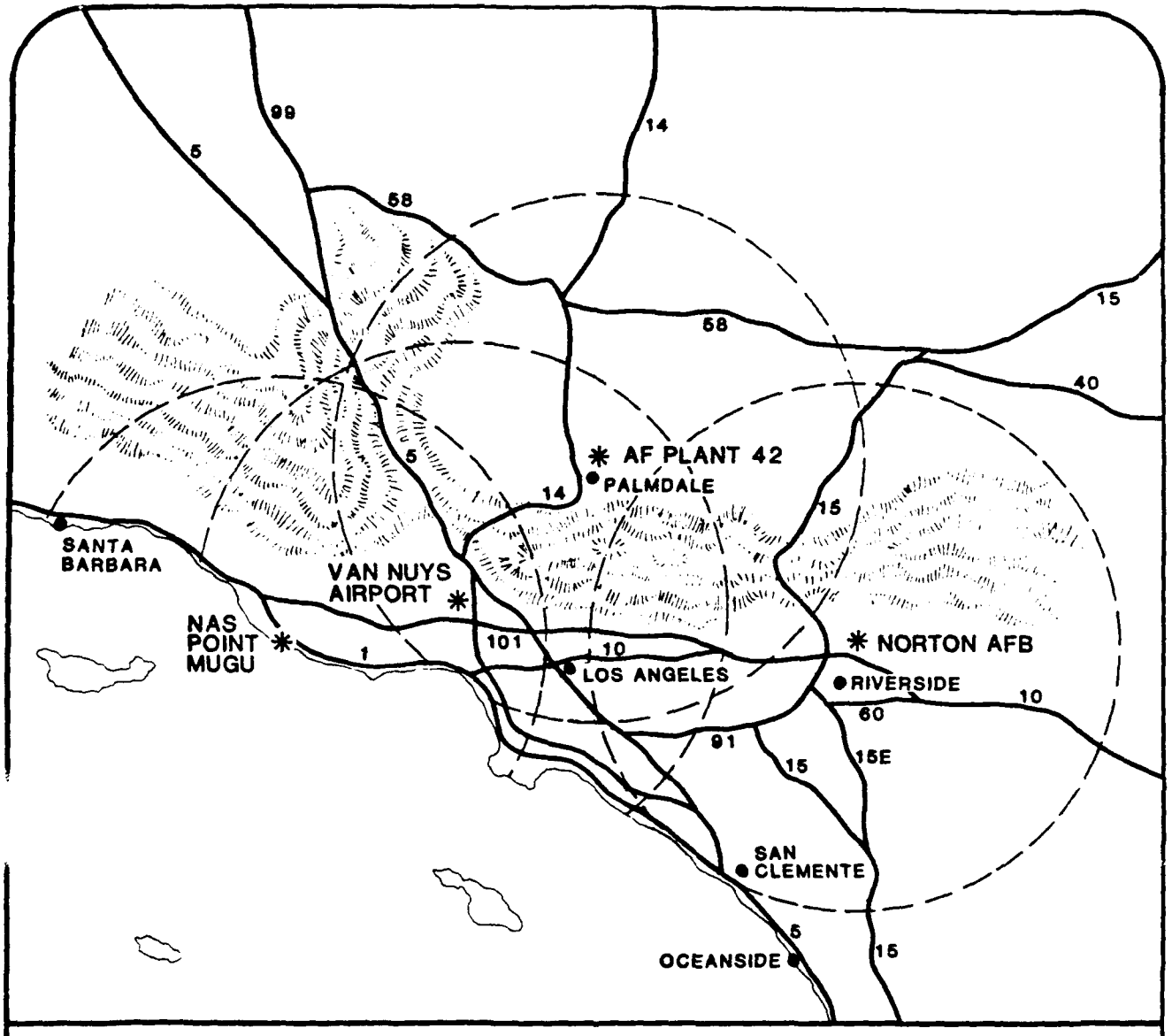


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FIGURE III-25
FIFTY MILE RADIUS FOR RECRUITMENT

In response to comments received on the Draft EIS, Air National Guard recruitment personnel from Washington, D.C. as well as Van Nuys have again reviewed recruitment potentials in the Point Mugu area in detail. Based on the current experience of the 146 TAW, including consideration of place or residence and commuting times, the effective recruiting radius from the base can more realistically be established at 25 miles rather than 50 miles. Within this area, there are 110,281 persons within the prime recruitment age of 18-29 years old.

SURFACE TRANSPORTATION

Access to the Van Nuys Airport and the three relocation sites is provided by a network of streets and highways ranging from high-speed, regional freeways to the local streets adjacent to each site. The paragraphs below discuss these facilities and describe the traffic conditions occurring on each, using representative criteria such as average daily traffic volumes, peak hour volumes, number of lanes, types of traffic control, and levels of service.

Van Nuys Airport

Regional access to the vicinity of the Van Nuys Airport is provided by the San Diego Freeway (Interstate 405) and the Ventura Freeway (State Route 101). The San Diego Freeway, a north-south, eight-lane facility, has full interchanges with Sherman Way and Roscoe Boulevard located approximately 1-1/2 miles east of the ANG Base. The Ventura Freeway is an east-west, eight-lane facility which connects with the San Diego Freeway and has an interchange with Balboa Boulevard approximately 3 miles south of the Base.

The arterial highway network serving the Base consists of Roscoe Boulevard, Sherman Way, and Balboa Boulevard. Roscoe Boulevard and Sherman Way are six-lane, east-west arterial streets with dividing medians and left turn lanes at major intersections. Balboa Boulevard is a four-lane, north-south arterial street which provides direct access to the Base. The main gate is on Balboa Boulevard approximately 300 feet north of Stagg Street. There is an auxiliary entrance to the Base on Stagg Street.

Traffic volumes on the streets and highways serving the Base are shown on Figure III-26. The values shown, which were obtained from Caltrans and the City of Los Angeles Department of Transportation, represent the 1983 average daily traffic (ADT) volumes and peak hour traffic volumes. The traffic volume on Balboa Boulevard is 30,000 vehicles per day, with a peak hour volume of 2,500 vehicles at the ANG Base.

The traffic volumes shown on Figure III-26 represent average weekday traffic conditions. A comparison of weekday and weekend traffic volume data reveals that the traffic volumes on a weekend day are typically 10 to 20 percent lower than on an average weekday in the Los Angeles area. For purposes of conducting a "worst case" analysis, it has been assumed that weekend traffic volumes are 90 percent of the average weekday volumes for both daily and peak hour traffic. Another issue with regard to traffic is the growth which will likely occur between now and 1988, the year during which the relocation of the ANG Base is anticipated to occur. For the Van Nuys area, it is assumed that traffic volumes will increase 5 percent by the year 1988.

There are two key signalized intersections near the existing Van Nuys ANG Base: Balboa Boulevard at Roscoe Boulevard and Balboa Boulevard at Sherman Way. A level of service analysis has been conducted for these two intersections to determine the current conditions during the peak hour of operation. Level of service is a qualitative measure of the mobility characteristics of an intersection, as determined by vehicle delay and the ratio between traffic volumes and the maximum theoretical capacity of the intersection. It is measured by letter designations from A to F (best to worst conditions). These levels of service are described on Table III-12. The results of the analysis are summarized below:

Intersection	Volume/Capacity Ratio	Level of Service
Balboa Blvd. @ Roscoe Blvd.	0.86	D
Balboa Blvd. @ Sherman Way	0.99	E

Norton AFB

Regional access to Norton AFB is provided by the Redlands Freeway (Interstate 10) and the Barstow Freeway (Interstate 215). The Redlands Freeway is a six-lane, east-west continuation of the San Bernardino Freeway located approximately 2 miles south of Norton AFB. The Barstow Freeway is a six-lane, north-south freeway extending through San Bernardino approximately 3 miles west of Norton AFB.

The arterial highway network serving the proposed site consists of Alabama Street, Third Street, Victoria Avenue, and State Route 30 (Orange Street). Alabama Street and Route 30, located east of the Base, are north-south facilities having interchanges with the Redlands Freeway. Victoria Avenue, also a north-south facility, begins at Third Street near the proposed entrance to the ANG Base and extends north. Third Street is an east-west facility which provides direct access to the proposed site. As currently envisioned, the main gate to the proposed ANG base would be located on Third Street east of Victoria Avenue.

Average daily and peak hour traffic volumes on these streets and highways, as obtained from Caltrans and the County of San Bernardino, are shown on Figure III-27. Third Street has a daily volume of 6,400 vehicles per day and a peak hour volume of 800 vehicles at the proposed site east of Victoria Avenue. It has been assumed for this analysis that weekend traffic volumes are 90 percent of the average weekday volumes displayed on Figure III-27 for the daily and peak hour traffic. It is also assumed that the traffic volumes will increase 10 percent between now and 1988, the year when the ANG Base relocation would be completed.

AF Plant #42

Regional access to AF Plant #42 in Palmdale is provided by the Antelope Valley Freeway (State Route 14), a six-lane, north-south facility linking the Palmdale area to metropolitan Los Angeles. There are two arterial highways serving the proposed site: Avenue M and Sierra Highway. Avenue M, a two-lane, east-west facility which runs along the northern boundary of AF Plant #42, has an

TABLE III-12. LEVEL OF SERVICE DEFINITIONS

Level of Service		Definition
A	Excellent	No vehicle waits longer than one red light and no approach phase is fully used.
B	Very Good	An occasional approach phase is fully utilized; many drivers begin to feel somewhat restricted within groups of vehicles.
C	Good	Occasionally drivers may have to wait through more than one red light; backups may develop behind turning vehicles.
D	Fair	Delays may be substantial during portions of rush hours, but enough lower volume periods occur to permit clearing of developing lines, preventing excessive backups.
E	Poor	Represents the most vehicles the intersection approach can accommodate; may be long lines of waiting vehicles through several signal cycles.
F	Jammed	Backups from nearby locations or on cross streets may restrict or prevent movement of vehicles out of the intersection approaches.

interchange with the Antelope Valley Freeway. Avenue M provides direct access to the gate which would be used as the main entrance to the ANG Base. Sierra Highway is a four-lane, north-south arterial highway which runs parallel to the Antelope Valley Freeway between the Freeway and AF Plant #42.

Average daily and peak hour traffic volumes, shown on Figure III-28, were obtained from Caltrans, the Los Angeles County Road Department, and the City of Lancaster. As can be seen, Avenue M east of Sierra Highway has an average daily traffic volume of 7,900 vehicles per day and a peak hour volume of 1,310 vehicles.

A comparison of weekday and weekend traffic data in the area indicates that weekend volumes are typically 10 to 20 percent lower than weekday volumes. It has been assumed for this analysis that existing weekend traffic volumes are 90 percent of the average weekday volumes shown on Figure III-28. Since the ANG Base relocation would not be complete until 1988, it is assumed that traffic volumes will increase 20 percent between now and that target year.

NAS Point Mugu

Regional access to the vicinity of NAS Point Mugu is provided by Pacific Coast Highway (State Route 1) and the Ventura Freeway (U.S. Route 101). Pacific Coast Highway is a road which extends along and approximately parallel to the California coastline. The segment adjacent to NAS Point Mugu is a four-lane freeway facility with interchanges at Hueneme Road and Wood Road. The Ventura Freeway is an east-west facility extending through the San Fernando Valley which serves as the primary connector between Los Angeles and the Ventura-Oxnard area. It is presently four lanes wide along the section examined for this study; however, a construction project that will be completed by 1987 will widen the segment to six lanes.

There are several rural arterial highways serving as access routes to the NAS Point Mugu site. They are Hueneme Road, Wood Road, Las Posas Road, and Navalair Road, all of which are two-lane, rural highways in the vicinity of NAS Point Mugu. Las Posas Road, Wood Road and Hueneme Road form a network which serves as a connection between the Ventura Freeway and Pacific Coast Highway, as drivers typically use these facilities as a short cut or to avoid the traffic and signal delays through the City of Oxnard. Navalair Road is a frontage road which runs parallel and adjacent to Pacific Coast Highway, serving as a circulation and access facility for the property west of Pacific Coast Highway. As currently conceived, the main access point for the proposed ANG Base is on Navalair Road.

Average daily and peak hour traffic volumes for the above mentioned highways are shown on Figure III-29, as obtained from Caltrans and Ventura County. The daily traffic volume on Hueneme Road is 7,800 vehicles per day, while the peak hour volume is 1,000 vehicles. It has been assumed for the analysis that the weekend traffic volumes are the same as the weekday volumes. A reduction was not assumed because of the presence of weekend recreational traffic on the roads in this area. The increase in traffic volumes between now and 1988 is projected to be 10 percent.

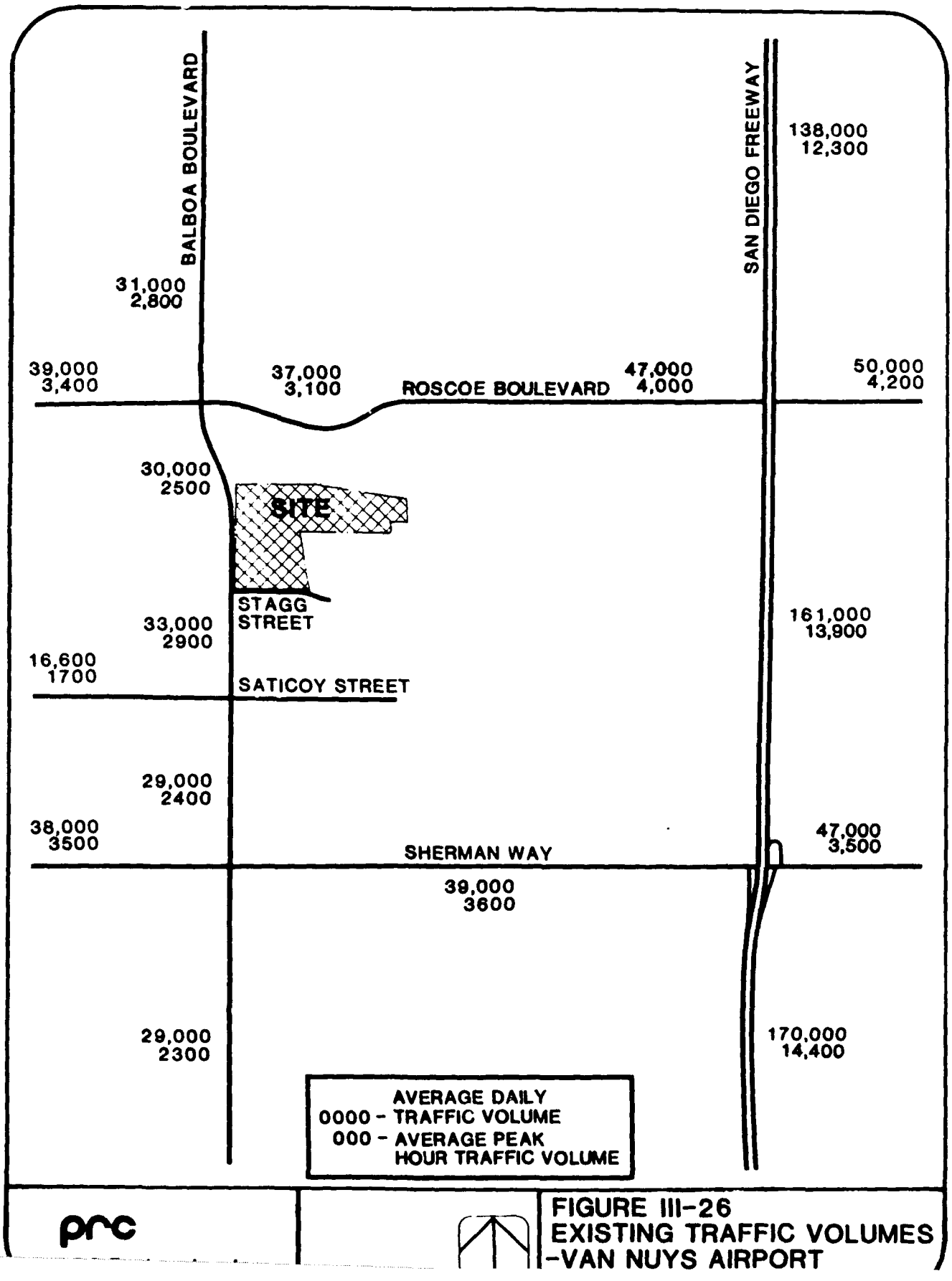

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FIGURE III-26
EXISTING TRAFFIC VOLUMES
-VAN NUYS AIRPORT

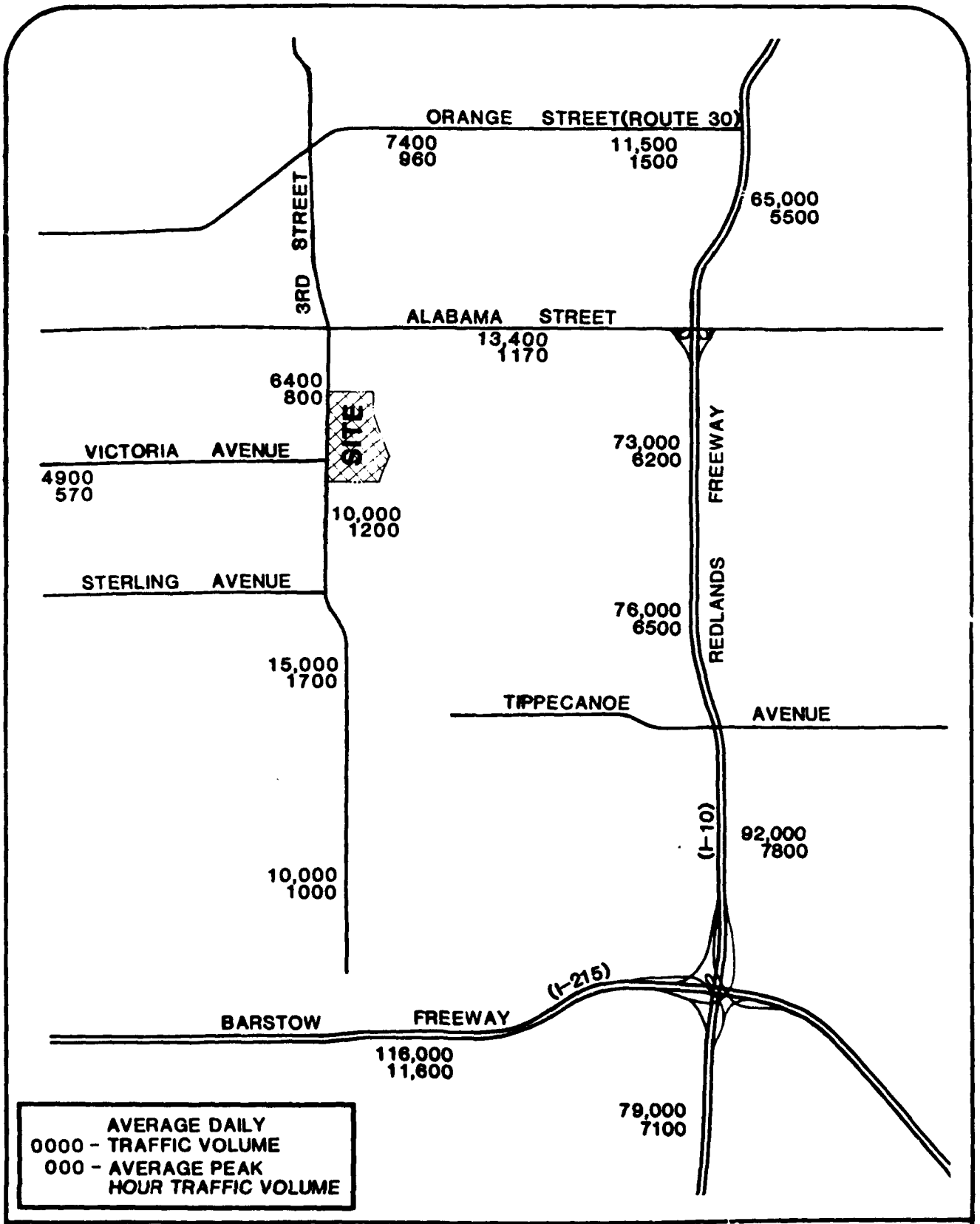

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FIGURE III-27
EXISTING TRAFFIC VOLUMES-NORTON AFB

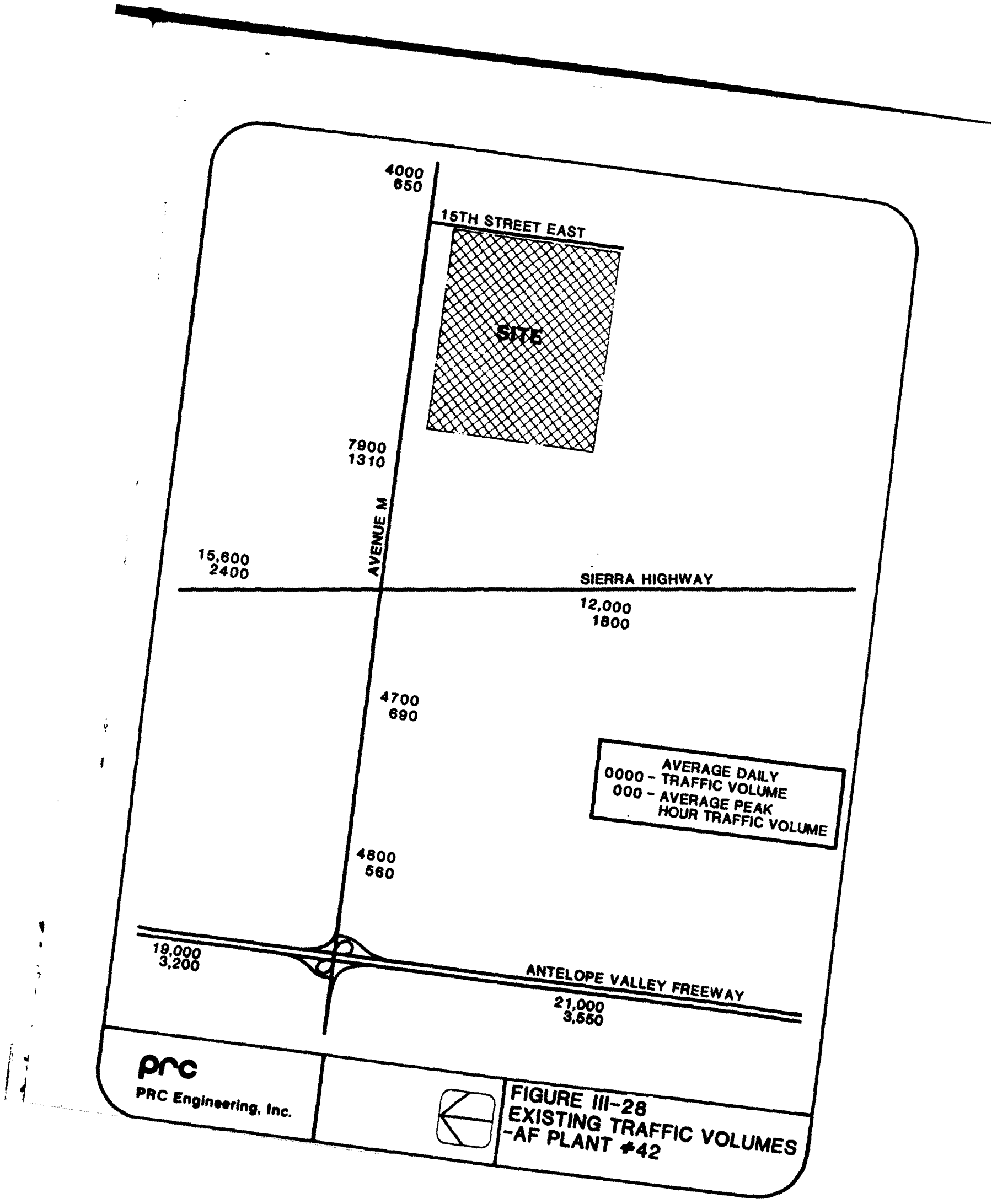

FIGURE III-28
EXISTING TRAFFIC VOLUMES
-AF PLANT #42

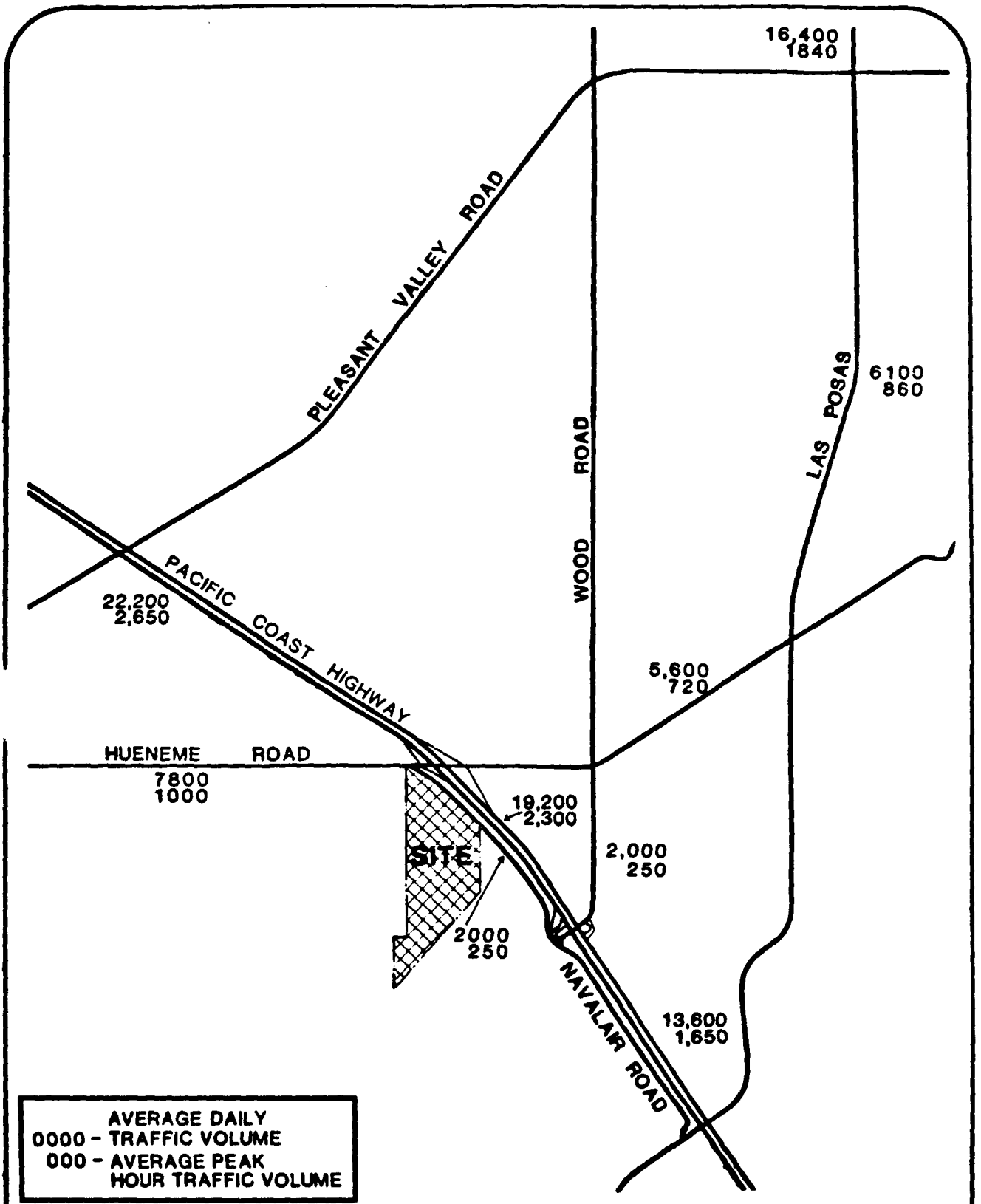

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FIGURE III-29
EXISTING TRAFFIC VOLUMES
-NAS POINT MUGU

SAFETY/SECURITY

Current safety considerations with respect to the Van Nuys site were addressed in Chapter I. The following information is presented to further describe the airspace environment at Van Nuys and at the proposed relocation sites.

Aircraft Accident History

The ANG at Van Nuys Airport has had only one major accident/incident over the last 33 years and in excess of 400,000 sorties.

This accident occurred in 1951 as a T-33 aircraft was taking off to the north on Runway 34L when its engine flamed out on takeoff. It went off the runway and hit one or two houses, resulting in several deaths including the pilot. Since then, the runway has been lengthened and the areas to the north/south have been redeveloped to non-residential uses. According to ANG records, no other major incidents have been recorded involving ANG aircraft at any of the other local airfields now being used for flight training. As noted in Chapter I, however, civilian aircraft collisions have occurred in the vicinity with some frequency.

The C-130 aircraft which now comprise the ANG's fleet are extremely reliable and airworthy and have short landing and takeoff requirements. Runways at the training facilities now in use far exceed these requirements.

Interviews were conducted with officers at AF Plant #42 and NAS Point Mugu to determine safety records at those facilities. The Flight Operations Officer at NAS Point Mugu indicated that there have been some near misses principally as a result of the fact that Camarillo Airport has no control tower, and flight patterns from this local airport cross established NAS Point Mugu patterns. The fact that the Navy met with pilots using the nearby facilities in the fall of 1984 to discuss safety issues serves to illustrate this problem. No significant aircraft safety problems were found to exist at AF Plant #42.

Accident Potential Zones

The AICUZ program was one of the first to recognize the safety aspects and to create the Accident Potential Zones (APZ) for the express purpose of controlling land use for the protection of those people under the aircraft flight path.

Department of Defense guidelines (DOD directive 4165.57) have identified three accident potential zones (APZ): the clear zone, APZ I, and APZ II. The runway clear zone areas have the highest probability of accidents. Potential for accidents decreases in APZ I and II, respectively.

There is a basic difference in clear zone dimensional criteria between Air Force and Naval installations. The clear zone criteria used by the ANG are defined by Air Force regulations. The rectangular clear zone for the two Air Force installations extends either 1,000 or 1,500 feet on either side of the runway centerline and extends outward along the extended runway centerline for a distance of 3,000 feet. The Navy clear zone dimension is fan shaped where the inside dimension is 1,500 feet and the outside dimension is 2,284 feet. The fan-shaped clear zones at NAS Point Mugu (Figure III-32) are in open space and consistent with AICUZ policies.

APZ I is the rectangular area beyond the clear zone which possesses a significant potential for accidents. Typically, the zone is 3,000 feet wide by 5,000 feet long and is sometimes warped to conform to the shape of the flight paths.

APZ II is the area beyond APZ I having a measurable potential for accidents. APZ II is normally provided under a flight path whenever an APZ I is required. Dimensions of the APZ II zones are usually 3,000 feet wide by 7,000 feet long. Again, the APZ II is sometimes warped to conform to the shape of flight paths.

The clear zone represents the areas of highest potential hazard due to accidents. There are specific land uses and activities prohibited within the boundaries of the clear zones. The following land uses are not in the public interest and must be restricted or prohibited:

1. Uses that release into the air any substance such as steam, dust, and smoke, which would impair visibility or otherwise interfere with the operation of aircraft.

2. Uses that produce light emissions, either direct or indirect (reflective), which would interfere with pilot vision.

3. Uses that produce electrical emissions which would interfere with aircraft communication systems or navigational equipment.

4. Uses that attract birds or waterfowl, such as operation of sanitary landfills, maintenance of feeding stations, or growth of certain vegetation.

5. Uses that provide for structures within ten feet of aircraft approach-departure and/or transitional surfaces.

The APZ's for each site, except Van Nuys Airport are shown in Figures III-30, III-31, and III-32. Van Nuys Airport is not a military airfield; consequently it is not subject to the APZ requirements, but does include provisions for clear zone.

Airspace Considerations

Potential concerns regarding ANG operations at each of the proposed relocation sites pertain to the number of operations occurring in the airspace environment of the sites being considered and, perhaps more importantly, the airspace used by other airports in the vicinity of each relocation site.

Relative to the number of air operations, two criteria for site selection are that total air operations within a 15 mile radius of the candidate location itself should currently be less than 500,000 annually and that operations at the candidate location should be less than 200,000 annually. These are considered critical criteria for relocating the 146th TAW from Van Nuys Airport. Table III-13 provides a breakdown at each airport facility by annual operations with a 15-mile radius of each alternative site. Based upon local operations within a 15 mile radius and annual operations at the sites themselves, the most favorable existing airspace environment in descending order is AF Plant #42, NAS Point Mugu, Norton AFB and Van Nuys Airport.

TABLE III-13. AIRPORT OPERATIONS WITHIN 15-MILE RADIUS OF EACH ALTERNATIVE SITE

Alternative	Operations
Van Nuys Airport[a]	494,273
Burbank-Glendale-Pasadena Airport	204,322
Whiteman Airport	108,050
Santa Monica Airport	201,221
Los Angeles International Airport	535,704
TOTAL	1,543,570
Norton AFB[a]	45,562
March AFB	76,934
Redlands Municipal Airport	7,300
Rialto Municipal Airport	141,015
FLA-BOB Airport	58,100
Riverside Municipal Airport	110,453
Chino Airport	45,682
Ontario International Airport	122,813
TOTAL	607,859
AF Plant #42[a]	44,248
Lancaster/Fox Field	72,131
Edwards AFB	111,000
Agua Dulce	5,000
TOTAL	232,379
NAS Point Mugu[a]	70,485
Camarillo Airport	200,550
Oxnard Airport	127,928
TOTAL	398,963

a - Based upon conversations and transmittals with Base personnel for calendar year 1983.

Source: For airports exclusive of the alternative sites, data obtained from: FAA Airport Master Records (12-83 through 9-84).

Van Nuys Airport

Airspace constraints at Van Nuys Airport result from heavy general aviation traffic primarily generated at the airport. There are a significant number of based aircraft at the airport, generating unusually high local weekend activity which occurs during ANG weekend training missions. Aircraft depart the north/south runway and transition through the departure corridor designated for the east/west runway at Burbank-Glendale-Pasadena Airport. Van Nuys Airport is centrally located in the San Fernando Valley and, as a result, is subject to a high level of general aviation activity due to the large number of general aviation airports in the immediate vicinity of the airport. Figure III-33 depicts the airspace environment in the vicinity of Van Nuys Airport.

Several factors that influence the air traffic flow at Van Nuys Airport are highlighted below:

- Based upon the 30-day ANG pilot survey, 75 percent of the departures from Van Nuys follow the Newhall Four standard instrument departure. This procedure is generally used for transition to the Palmdale AF Plant #42 facility.

- IFR operations at Burbank and Van Nuys conflict under certain conditions due to the high level of operations within the Burbank Terminal Radar Service Area (TRSA) and result in a one-for-one sharing of airspace or circuitous routing procedures.

- Instrument Approach Procedures at Van Nuys include: 1) Instrument Landing System (ILS) approach to Runway 16R; 2) Localizer Type Directional Aid (LDA-C) circling approach to the airport; 3) Very High Frequency Omni-Range (VOR-A) circling approach to the airport; 4) VOR/DME-B (VOR approach with Distance Measuring Equipment) circling approach to the airport. Each of these instrument approach procedures utilizes off-site feeder facilities and navigational aids in addition to the terminal VOR/DME navigation facility. Perpendicular approach corridors converge traffic from Burbank Airport, specifically arrival traffic using the ILS approach to Burbank's Runway 7.

- Two general aviation airports, San Fernando and Whiteman, further congest the airspace and traffic flow at Van Nuys Airport due to their proximity to the arrival corridors to Runway 16R.

- Calendar year data obtained from FAA Airport Activity Statistics indicated a total actual annual operations level of 494,273. The categorical breakdown included the following:

1983 Operations

Air Carrier	4
Air Taxi	434
General Aviation	489,977
Military (ANG)	3,858
Total	494,273

Burbank-Glendale-Pasadena Airport had an actual annual operations level of less than half of the Van Nuys level, with 207,762 operations in 1983. Of those operations, 40,085 were air carriers, 31,436 were air taxi, 135,287 were general aviation and 954 were military.

Norton AFB

In terms of airspace constraints and potential ANG relocation plans, the Norton AFB alternative has proven to be the most prohibitive. Norton AFB is located along the primary approach corridor to Los Angeles International Airport (LAX), which is the single most used traffic corridor in Southern California. Due to the unusually high level of activity along this air traffic control funnel, the Federal Aviation Administration (FAA) discourages, and in some cases prohibits additional traffic in this area. Norton AFB traffic uses the Ontario very high frequency omni range (VOR), which is a primary feeder fix to several Southern California airports (i.e., John Wayne, LAX, Long Beach and Ontario). Because this corridor is presently operating at near capacity, the potential for future growth is extremely limited. Figure III-34 depicts the existing air space environment in the vicinity of Norton AFB.

Several additional factors that influence the air traffic flow at Norton AFB are:

- Heavy arrival and departure traffic occurs at all hours within the Ontario Approach Control Area. As a result, Norton AFB traffic funnels into a 12-mile final approach to Runway 06 at 3,200 feet MSL.

- Several general aviation airports in the immediate vicinity of Norton AFB contribute to the congestion, including Redlands Municipal, Rialto, Riverside/Fla-Bob, Riverside Municipal, Chino and Pomona.

AF Plant #42

One issue of concern regarding the airspace environment at the Palmdale site is the potential interaction with the Edwards AFB restricted airspace (R-2515). Any growth to the level of aircraft activity at Palmdale would be subject to the restrictions outlined for the R-2515 zone. Protection of this airspace is a major goal of staff at Edwards AFB, and future growth which may impact the protected airspace is a sensitive issue which will be further developed. General aviation activity at nearby General William Fox Airfield is of minor concern; however, present operational procedures and activity levels do not indicate that future airspace conflicts will arise at this site. Reduced aircraft performance (i.e., climb rates and engine performance, etc.) may result due to higher desert temperatures. Figure III-35 illustrates geographic location and the airspace environment associated with the Palmdale facility.

Specific factors that influence air traffic flow at AF Plant #42 are:

- Extensive low level operations occur within the Edwards AFB R-2515 zone and below the lateral limits of the R-2508 zone which is a designated Military Operations Area (MOA).

- Periodic traffic congestion occurs in this desert region due to extensive air-to-air and aerobatic practice in the areas of Owens and Koehn Dry Lakes.

- VFR routes from Mojave north along Highway 395 and northeast through Trona Gap continuing over Searles Dry Lake are generally active.

- Published Instrument Approach Procedures for the Palmdale AF Plant #42 facility include: ILS Runway 25, and Very High Frequency Omni Range/Distance Measuring Equipment (VOR/DME) or Tactical Air Navigation (TACAN) Runway 25. This airport is used as a military flight training facility and additional instrument approaches such as a Precision Approach Radar (PAR) and an Airport Surveillance Radar (ASR) are provided to pilots upon request.

- Based upon the 30-day ANG survey, 57.5 percent of the current ANG low approach or touch and go operations are made at the Palmdale facility.

Another potential issue concerns the City of Los Angeles Department of Airport's proposed Palmdale International Airport (PIA). This six-runway, 17,700-acre facility has been planned for a site approximately two miles southeast of AF Plant #42. The proposed facility is currently under consideration by the Federal Aviation Administration (FAA) as a commercial air carrier facility. Annual operations for PIA are forecast to be 59,130 in 1995 according to the Final Environmental Impact Statement which was completed for the facility in 1982.

The U.S. Air Force has been opposed to development of PIA. This is because the Department of Defense (DOD) has invested hundreds of millions of dollars in sophisticated military technology and facilities over the past 30 years to take advantage of the unique terrain, meteorological conditions, unencumbered airspace and low population density afforded by the Antelope Valley location of AF Plant #42. These investments would be lost or greatly diminished in operational value if PIA is developed. The presence of PIA would change the character of air operations and airspace utilization in the Antelope Valley from military experimental, weapons testing, and combat training to civilian and/or joint use, greatly restricting DOD operations.

NAS Point Mugu

NAS Point Mugu is located within the control area boundaries of the Los Angeles Air Route Traffic Control Center (ARTCC). Specific responsibility for the air operations in the Point Mugu terminal area has been delegated by the Los Angeles ARTCC to the NAS Point Mugu Radar Air Traffic Control Facility[1] (RATCF). This facility, located on the station and staffed by the Department of Navy, has responsibility for the control of all aircraft, civil and military, operating on Instrument Flight Regulations (IFR) air traffic control clearance within its delegated airspace as shown in Figure III-36. This airspace includes the five-mile radius air traffic areas around NAS Point Mugu and Ventura County Airport. NAS Point Mugu controls all air traffic in the Mugu/Ventura airspace. Upon leaving the Mugu/Ventura airspace, IFR traffic is handed off to bordering air traffic control

areas. These are Burbank Airport, Los Angeles International Airport and Santa Barbara Airport. VFR traffic within the Mugu/Ventura airspace may voluntarily contact the Mugu tower for advisory information.

NAS Point Mugu is located within the boundaries of restricted area 2520 which controls altitudes from the surface to 3,000 feet and immediately adjacent to restricted area 2519 which spans unlimited altitudes. These restricted areas exist to allow the Pacific Missile Test Center (PMTC) to carry out its mission. All non-authorized aircraft are prohibited from flying in these restricted zones.

Seven miles to the northwest of NAS Point Mugu lies Ventura County Airport at Oxnard and six miles north is the former Oxnard Air Force Base (Camarillo Airport) which is now operated by the County of Ventura as a general aviation airport primarily utilized by propeller-type aircraft; however, jet and helicopter operations account for approximately 10 percent of the aircraft mix. In addition, several enroute, low-altitude airways (V25-27, V299, and V25) traverse the overall area.

Several factors that influence the air traffic flow at NAS Point Mugu have been reviewed and are itemized below:

- Visual Flight Regulations (VFR) traffic flow along the coastline is heavy, but does not present a problem to existing NAS Point Mugu air traffic operations.

- Traffic on airways V25-27, V299, and V25 is enroute and high enough so as not to cause a problem. V107 just to the east is used to descend traffic during the early morning hours for the noise abatement approaches in Los Angeles.

- VFR operations at Oxnard Airport and NAS Point Mugu operate independently, while IFR operations are coordinated.

- IFR operations at the two facilities conflict under certain conditions and result in either a one-for-one sharing of the airspace or circuitous routing procedures. Specific conflicts are as follows: Instrument Approach, Precision Approach Radar (PAR), Tactical Air Navigation System (TACAN), and Airport Surveillance Radar (ASR) to Runway 21 at NAS Point Mugu and an Instrument Landing System (ILS) approach to Runway 25 at Oxnard Airport; instrument departure from Runway 07 at Oxnard Airport and Runway 03 at NAS Point Mugu.

- Camarillo Airport is a general aviation airport and further congests the area's air traffic flow; however, it does not generate any major problems to either NAS Point Mugu or Oxnard Airport VFR traffic flow.

- Helicopters operate regularly along Highway 101 and in the general area of Point Mugu, Camarillo and Oxnard.

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[1] Los Angeles Center and NAS Point Mugu RATCF Letter of Agreement, 5 August 1974, Subject: Terminal Area Control.

- The Ventura County Public Safety Aviation Unit uses Highway 101 as its main route. When passing near NAS Point Mugu, the fire department and sheriff's pilots coordinate with the control tower at NAS Point Mugu. No problems have been reported in connection with these operations which occur on an average of approximately 83 hours per month.

- Civilian helicopters are based at Camarillo Airport and Oxnard Airport and are used primarily for shuttles to offshore oil rigs and for agricultural purposes. These civilian helicopters have not been known to interfere with operations at NAS Point Mugu.

Bird Strike Hazard

Many research reports and annual bird strike summaries support the analysis that the probability of a bird strike is greatest on or near an airport while the aircraft is between 0 feet and 500 feet in altitude. Bird strike potential involves many variables. The proximity of natural commodities is important, such as:

- Natural Water (ocean, lake/pond, river/stream, marsh/swamp)

- Artificial Water (reservoir, sewage holding pond, irrigation system, drainage system)

- Food Sources (sanitary landfills, sewage systems, farm fields, orchards, vineyards)

- Shelter (trees, shrubs, grasses, ground cover)

Bird strikes may be expected to increase as a function of the following physical conditions and performance characteristics:

- Additional aircraft operations
- Aircraft speed and acceleration increase
- Engine noise level preceding aircraft reduced
- Increased suction of air into turbine engines
- Additional runways

Nationwide, in 1978 there were 788 bird strikes reported, with 489 of these strikes being reported by air carrier aircraft. No fatalities were recorded in 1978; however, 39 people were injured in 7 separate incidents. Six of the seven reported incidents involved windshield failures following impact with the bird, and injuries were limited to cuts and abrasions on the face and arms. (Department of Transportation, Federal Aviation Administration, Aircraft Bird Strikes, Summary and Analysis, Calendar year 1978.)

The FAA points out that, because of the voluntary nature of the bird strikes reporting program in the United States, many bird strikes go unrecorded. In European countries and in Canada where bird strike reporting is more representative, a bird strike rate of 30 to 60 strikes per 100,000 operations is common.

A total of 17 bird strikes have been reported specifically by the Air Force at Norton AFB between 1976 and 1984. All of these reported incidents involved the C-141 aircraft[1]. Although there were 36 bird strikes reported to Edwards Air Force Base between 1975 and 1983, only one occurred at Palmdale AF Plant #42[2] and did not involve a C-130. Bird strikes are most frequent at NAS Point Mugu.

There were 39 bird strikes reported at NAS Point Mugu between February 1981 and March 1984 for all aircraft types. Obviously, the location of the Pacific Flyway for spring and fall waterfowl migration as well as natural water, natural food and natural habitat are the key reasons for birds being attracted to NAS Point Mugu. Of the 39 reported bird strikes, there were four events involving C-130 aircraft.

Security

As previously depicted in Figure I-3, the base configuration at Van Nuys currently makes equipment and aircraft difficult to protect. To the north of the outer parking apron civilian aircraft are parked within 100 to 125 feet of ANG C130 aircraft. No fence separates the aircraft, affording the general public unlimited access. To further compound the problem a County of Los Angeles flood control channel bisects the site. The flood control channel provides access to interior of the base and is immediately adjacent to the two parking aprons.

Security at the proposed site within Norton AFB is controlled by perimeter fencing and guarded gates. Since the AF Plant #42 and NAS Point Mugu sites are currently undeveloped, no security is provided at these sites. Because they both immediately abut existing military facilities, the opportunity exists to extend existing base perimeter fencing to enclose the new sites.

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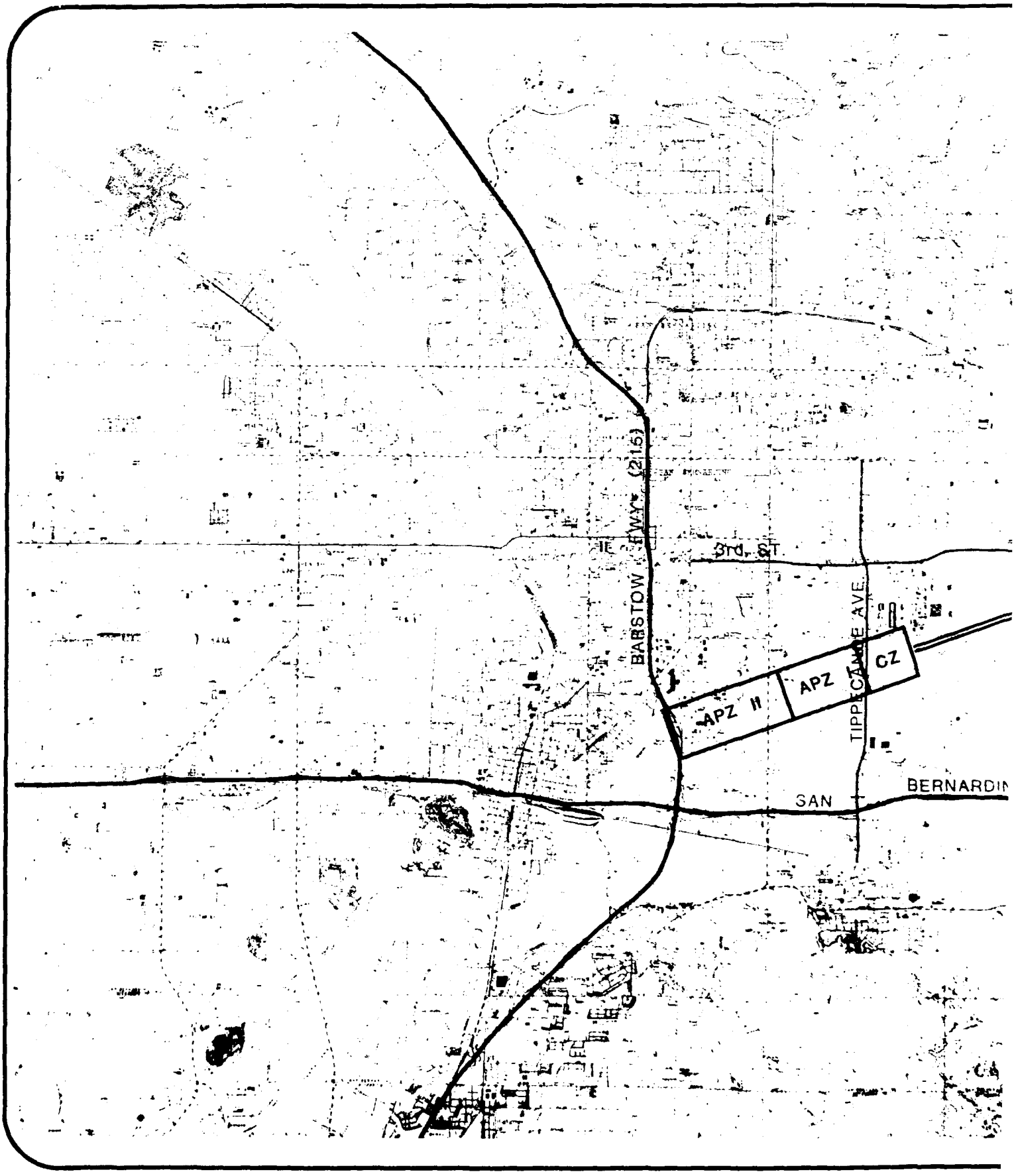
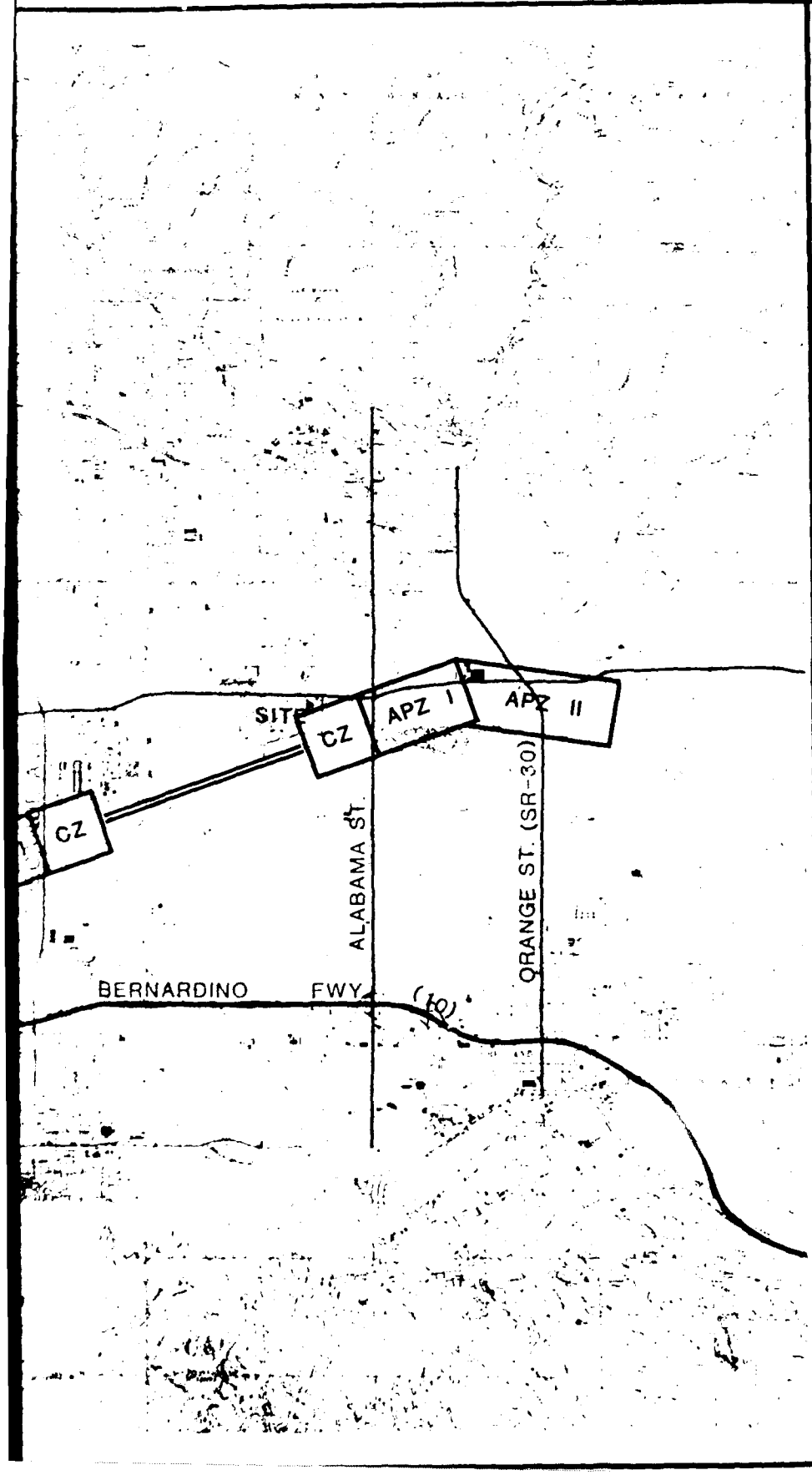
[1]Telephone interview with Mr. Walter Owen, Chief of Wing Safety, Norton AFB.

[2]Telphone interview with Major James West, Operations, Palmdale AF Plant #42.


BARSTOW
(215)
3rd. ST
TIPPECANOE AVE
APZ II
APZ I
CZ
SAN
BERNARDIN

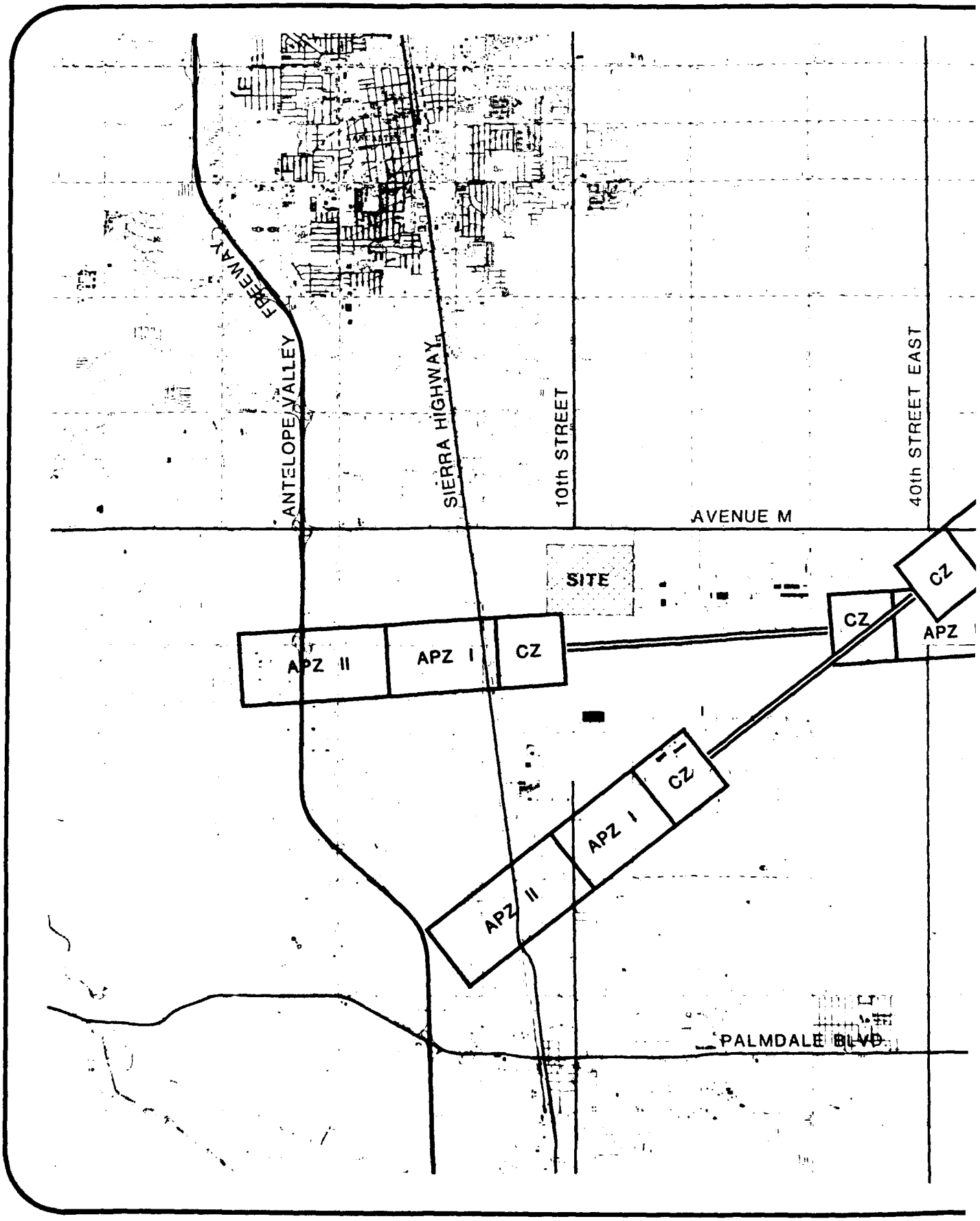


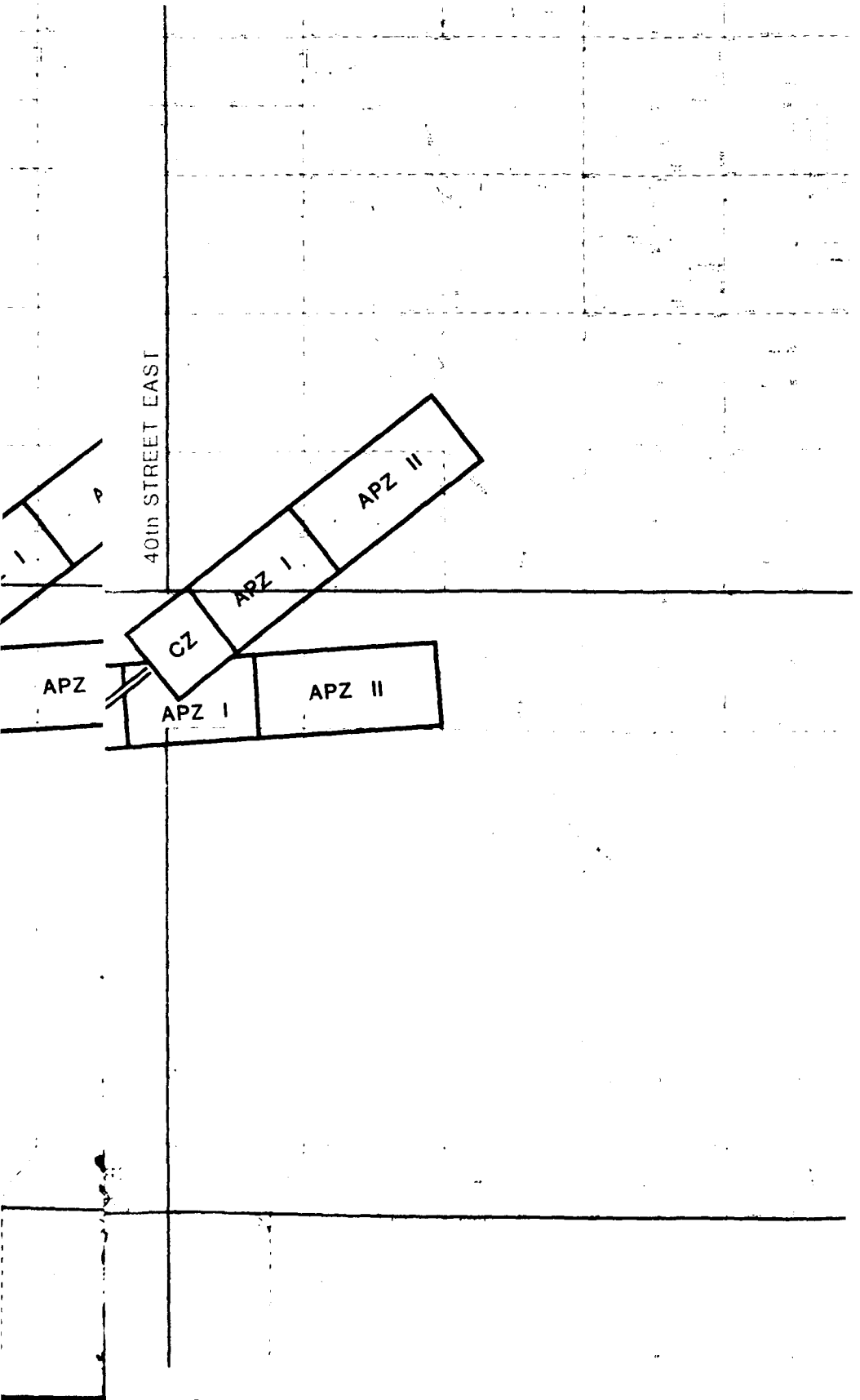
Source: AICUZ Norton Air Force Base, 1976

FEET 0 2500 5000 10000 15000

FIGURE III-30
NORTON AFB ACCIDENT
POTENTIAL ZONES

prc
PRC Engineering, Inc.


FREEWAY
ANTELOPE VALLEY
SIERRA HIGHWAY
10th STREET
40th STREET EAST
AVENUE M
SITE
APZ II
APZ I
CZ
CZ
APZ
CZ
APZ I
APZ II
PALMDALE BLVD

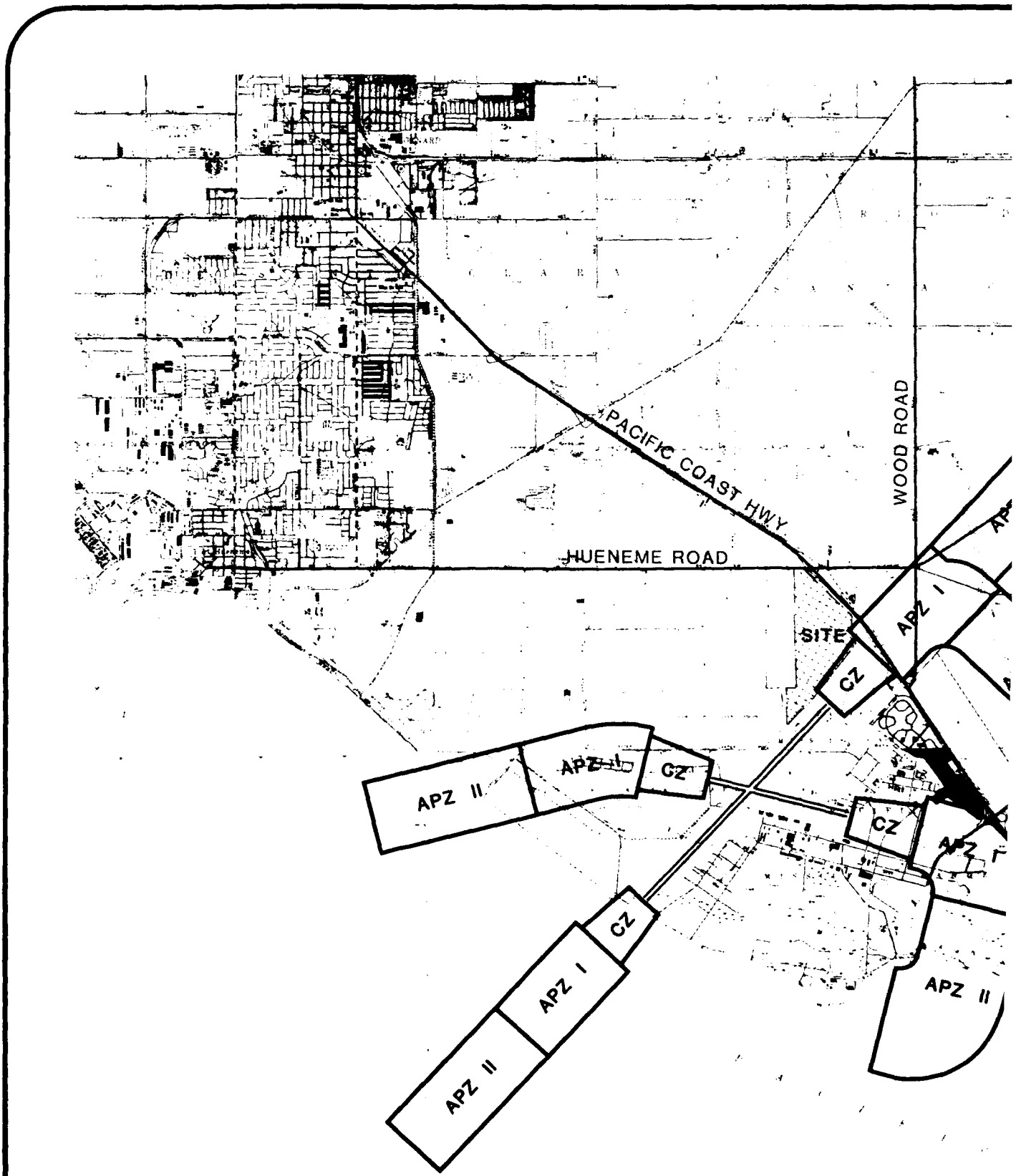


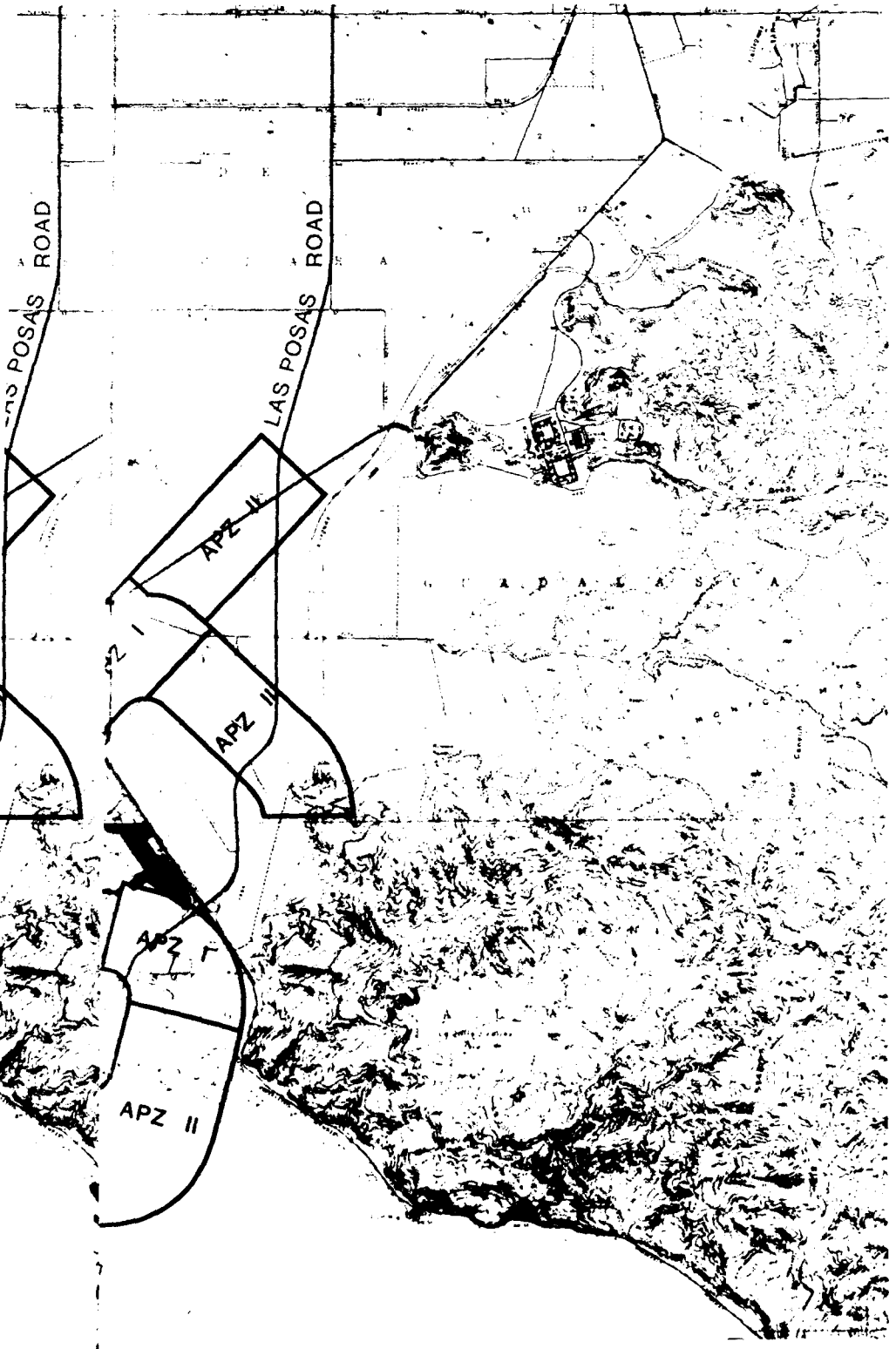
Source: AICUZ Palmdale Air Force Plant # 42, 1978

FEET 0 2000 4000 8000 12000

FIGURE III-31
AF PLANT #42 ACCIDENT POTENTIAL ZONES

prc
PRC Engineering, Inc.


PACIFIC COAST HWY
WOOD ROAD
HUENEME ROAD
SITE
APZ I
CZ
APZ II
APZ I
CZ
CZ
APZ I
APZ II
CZ
APZ I
APZ II



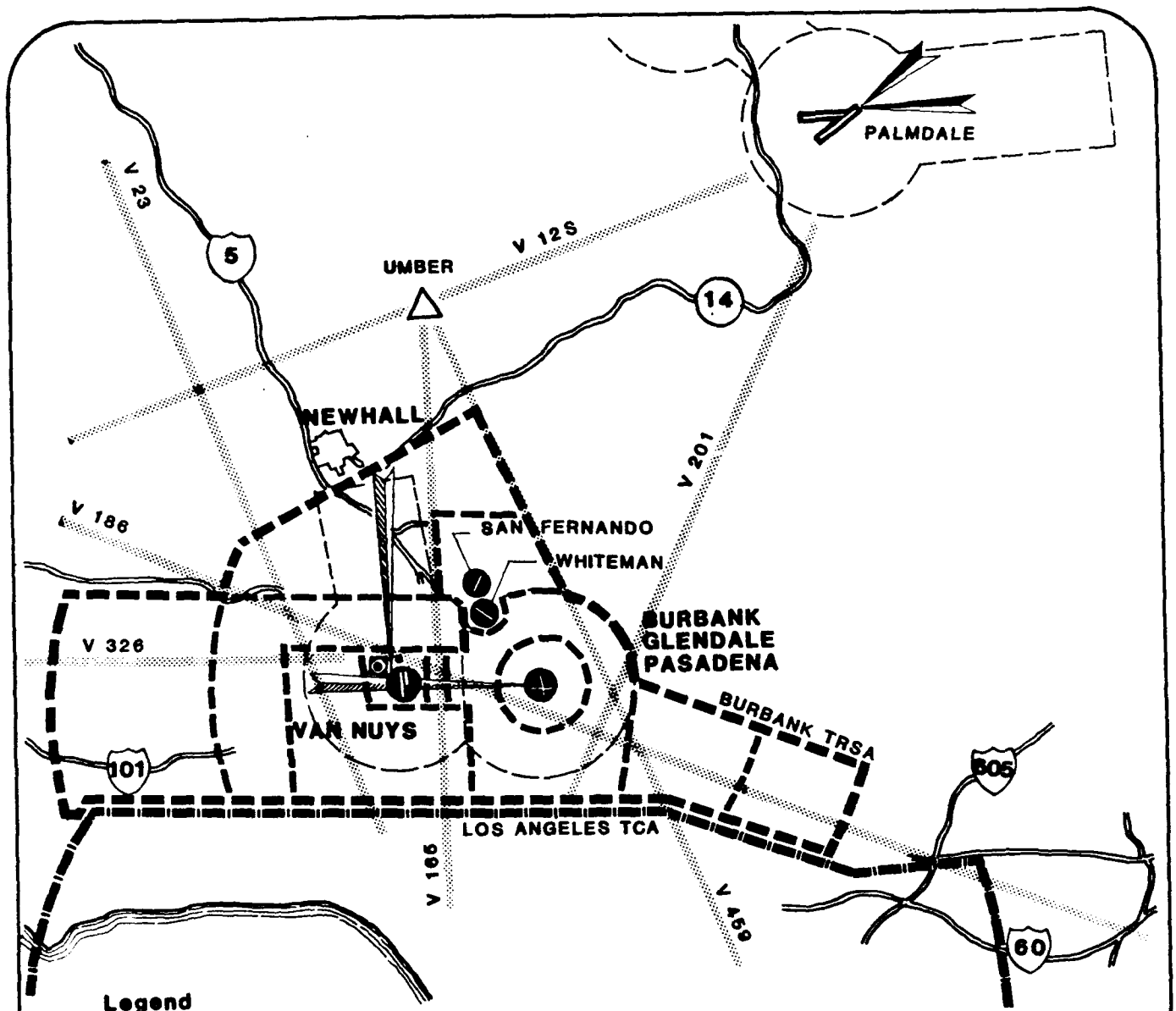
Source: AICUZ Naval Air Station Point Mugu 1977

FEET 0 2000 4000 8000 12000

FIGURE III-32
NAS POINT MUGU ACCIDENT POTENTIAL ZONES

prc

PRC Engineering, Inc.



Legend

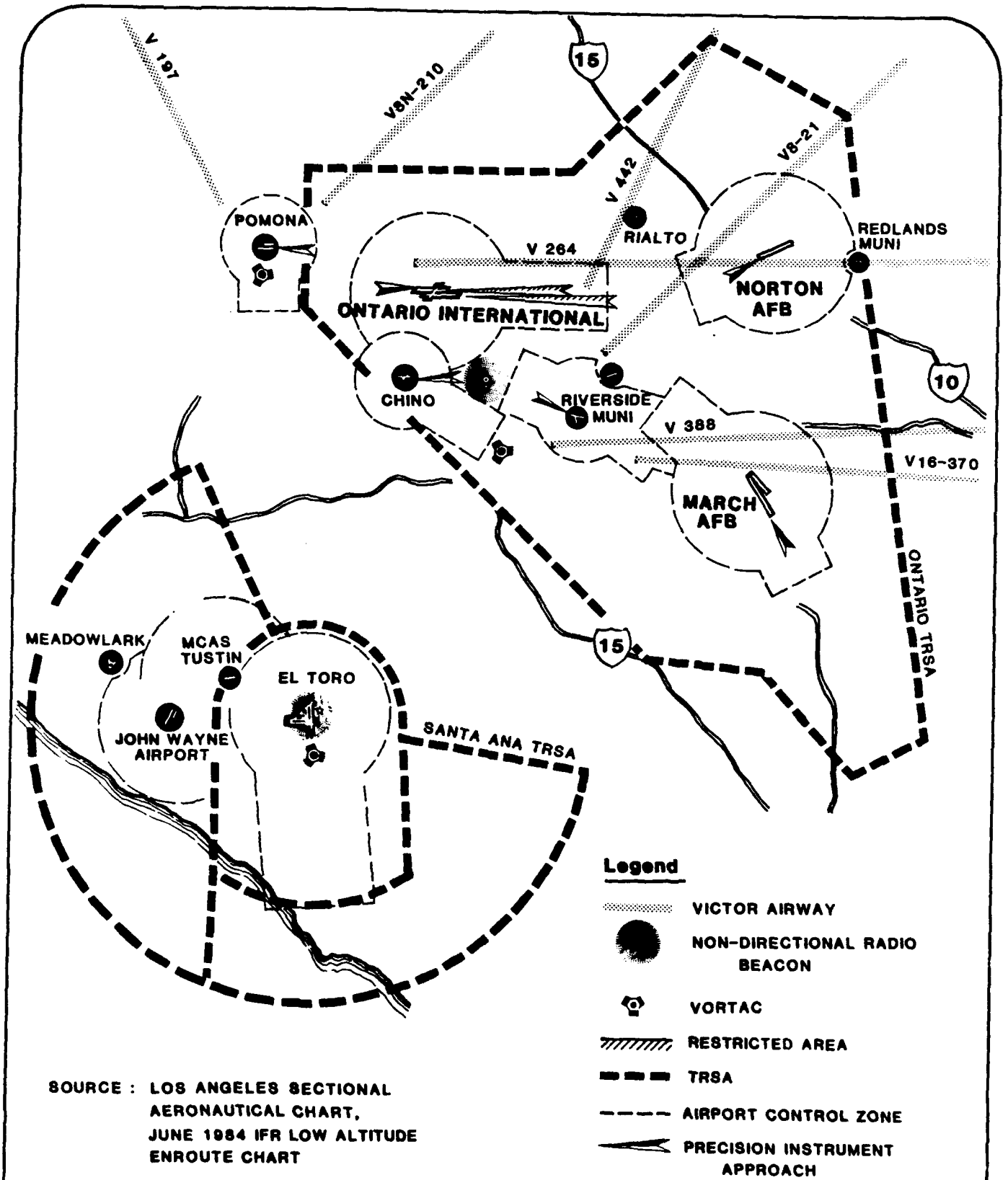
- IFR COURSE INTERSECTION
- NON-DIRECTIONAL RADIO BEACON
- AIRPORT CONTROL ZONE
- VICTOR AIRWAY
- VORTAC
- VOR / DME
- PRECISION INSTRUMENT APPROACH
- TRSA
- TCA

SOURCE : LOS ANGELES SECTIONAL AERONAUTICAL CHART, JUNE 1984 IFR LOW ALTITUDE ENROUTE CHART

PRC Engineering, Inc.

MILES 0 3.5 7

FIGURE III-33
VAN NUYS AIRPORT AIRSPACE ENVIRONMENT

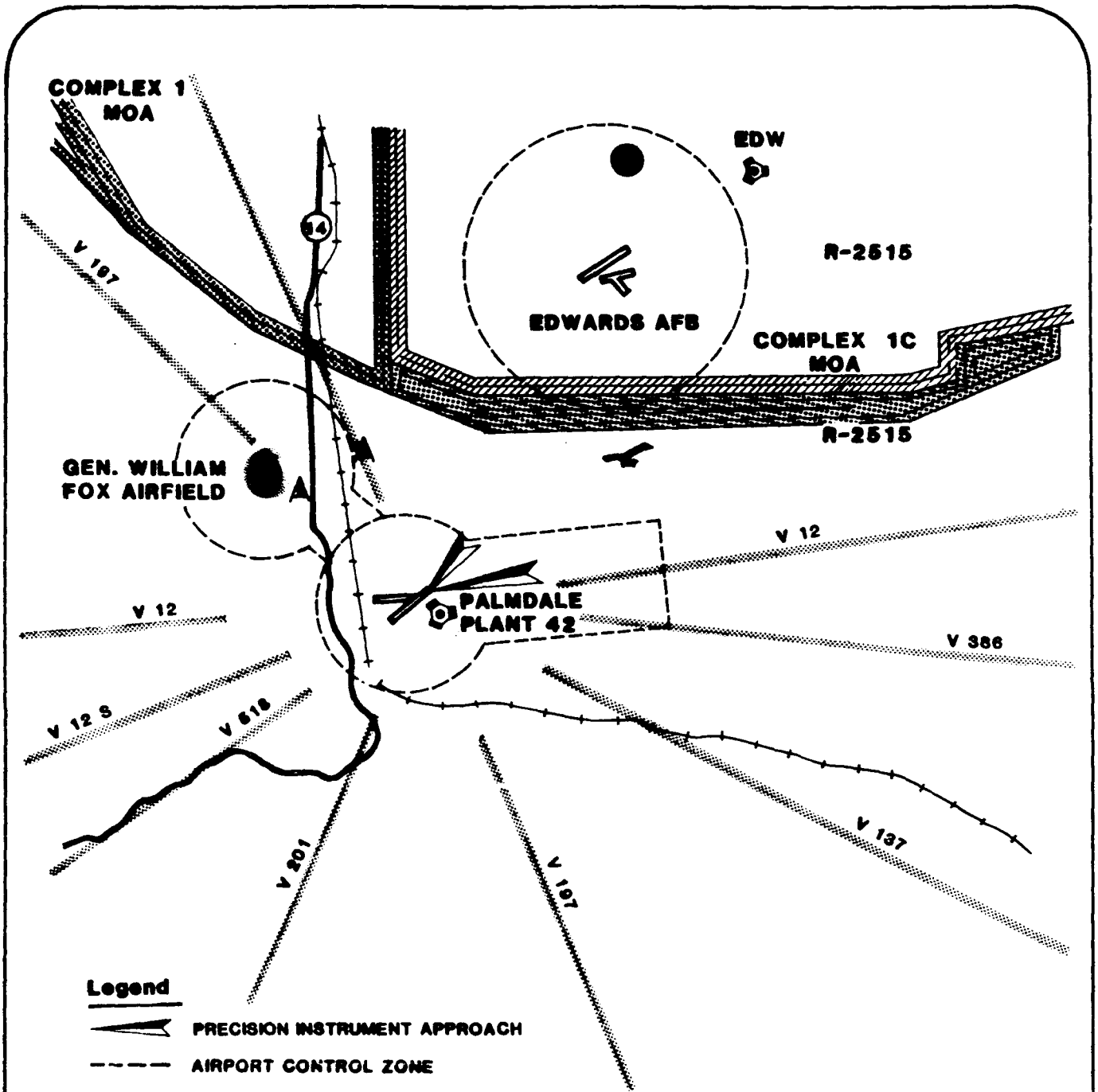


SOURCE : LOS ANGELES SECTIONAL AERONAUTICAL CHART, JUNE 1984 IFR LOW ALTITUDE ENROUTE CHART

PRC Engineering, Inc.

MILES 0 3.5 7

FIGURE III-34
NORTON AFB AIRSPACE ENVIRONMENT

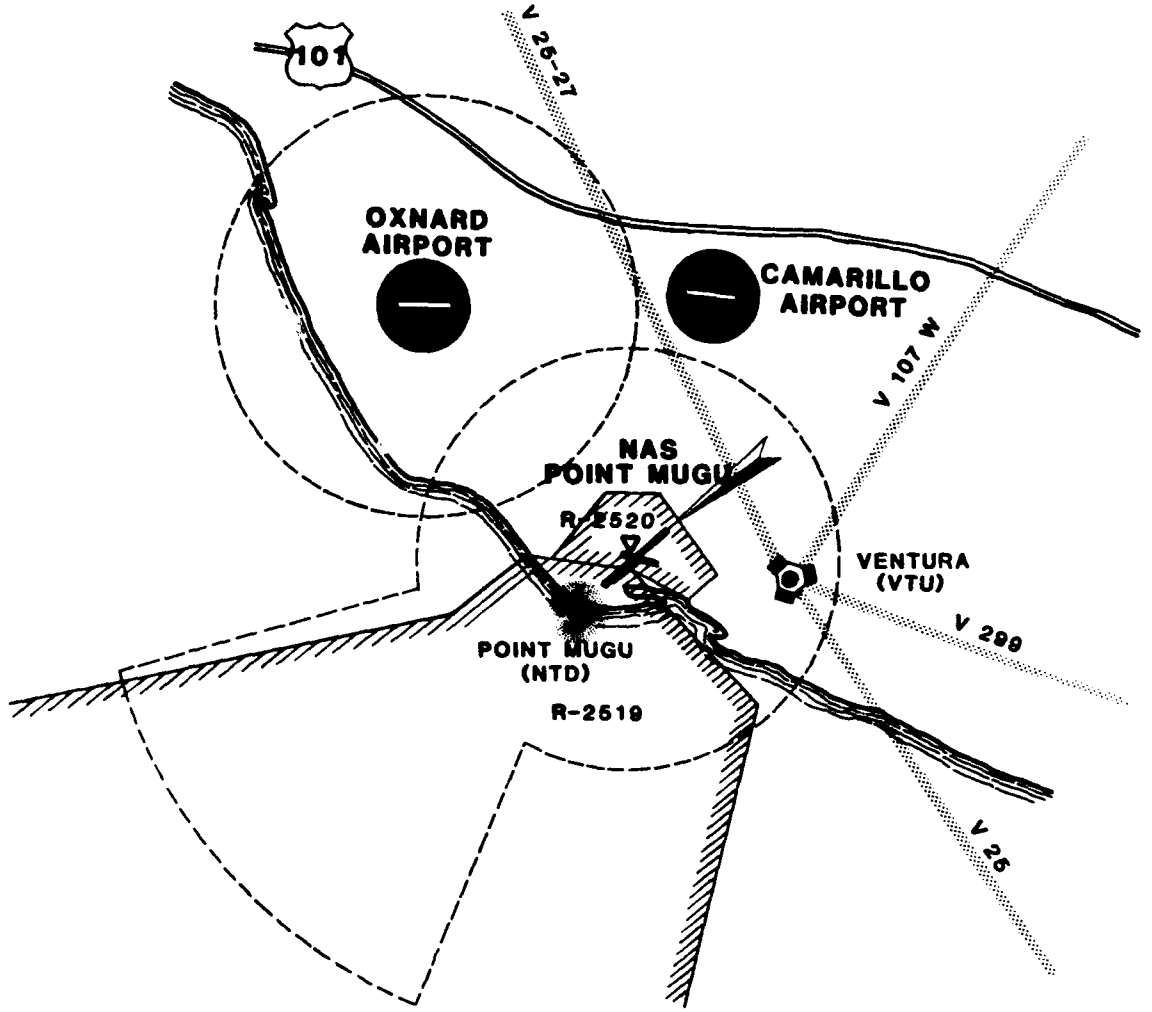


SOURCE : LOS ANGELES SECTIONAL AERONAUTICAL CHART, JUNE 1984 IFR LOW ALTITUDE ENROUTE CHART

PRC Engineering, Inc.

MILES 0 3.5 7

FIGURE III-35
AF PLANT #42 AIRSPACE ENVIRONMENT



Legend

- PRECISION INSTRUMENT APPROACH
- AIRPORT CONTROL ZONE
- VICTOR AIRWAY
- VORTAC
- NON-DIRECTIONAL RADIO BEACON
- TACAN
- SHORELINE
- RESTRICTED AREA

SOURCE : LOS ANGELES SECTIONAL AERONAUTICAL CHART, JUNE 1984 IFR LOW ALTITUDE ENROUTE CHART

PRC Engineering, Inc.

FIGURE III-36
NAS POINT MUGU AIRSPACE ENVIRONMENT

AIR QUALITY

Meteorology

Regional climatic patterns in Southern California are governed by the strength and position of the semi-permanent high pressure cell near Hawaii and the moderating effects of the vast oceanic thermal reservoir. The resulting climate is characterized by warm summers, mild winters, infrequent rainfall and few weather extremes. The sinking air within the high pressure system also generates strong regional temperature inversions that trap air pollutants and create very unhealthful air quality in large portions of Southern California.

While regional climatic conditions are created by the same set of forces, the complex topography and sharp sea/land transition zones of the area lead to marked variations in climatic parameters over very short distances. Regional airflow is predominantly from the cooler ocean to the warmer interior except at night during the cooler months when the land becomes colder than the ocean. The sea breeze creates a marine-type climate with small daily and seasonal temperature changes and frequent late night and early morning cloudiness. As the marine air moves inland, it becomes rapidly modified by contact with the warm ground. Interior valley sub-climates of California's dominant Mediterranean climate are characterized by very warm summers, mild winters, and generally poor air quality as the winds push coastal pollution sources inland while temperature inversions inhibit any vertical mixing of the modified marine air. As the marine air continues inland over the mountains or through surrounding passes, it becomes completely modified into a continental air mass. The climate moderating effects of the ocean are completely lost in the upper and lower deserts in the lee of the mountains surrounding the Los Angeles Basin. Desert summers are very hot, winters are cool, and the mountains create a "rainshadow" that further reduces the already low rainfall amounts experienced within the Basin.

Selected climatic parameters from the three candidate relocation sites as compared to Van Nuys Airport are summarized in Table III-14. All sites have about the same annual average temperature, but there are dramatic differences in climate between marine dominated NAS Point Mugu and continental AF Plant #42, while Norton AFB and Van Nuys Airport are transitional climates between these two extremes. The average temperature difference between January winter mornings and July afternoon is 26 degrees at NAS Point Mugu, 56 degrees at Norton AFB, and 69 degrees at AF Plant #42. AF Plant #42 also experiences much reduced rainfall in the lee of the San Gabriel Mountains. While it rains almost as often in the upper desert as on the coastal plain, rainfall amounts are much lighter with only half as much rain at AF Plant #42 than at the other sites shown in Table III-14. The lack of rainfall reduces surface friction from vegetation and strong thermal contrasts produce strong winds across the desert with wind speeds at AF Plant #42 that are more than twice as strong as at Norton AFB. The lack of moisture in the desert produces excellent flying weather throughout the year, but mechanical turbulence from strong winds and convective turbulence from hot "thermals" can make desert flying uncomfortably bumpy and sometimes dangerous.

Flying Weather

Table III-14 shows that good flying weather, as defined by no cloud deck below 1,000 feet above the surface and a prevailing visibility of at least 3 miles, is found

TABLE III-14. CLIMATIC PARAMETERS FOR CANDIDATE RELOCATION SITES

Climatic Variable	Van Nuys	Norton AFB	AFB Plant #42	Point Mugu	Units
Mean Temperature	62	63	61	59	deg. F
Summer Maximum	91	95	98	71	deg. F
Winter Minimum	39	39	29	45	deg. F
Temp. > or = 90 deg.	60	93	106	1	days
Temp. < or = 32 deg.	17	12	81	1	days
Annual Rainfall	11.3	11.5	5.5	9.8	inches
Max. Monthly Rain	3.7	3.1	1.2	3.1	inches
Rain > or = 0.1 in.	20	22	17	19	days
Mean Wind Speed	4.5	3.5	8.8	5.6	knots
Winds > or = 20 mph	2.8	1.2	9.9	6.9	percent
Visibility < 1/2 mi.	58	25	2	58	days
Thunderstorms	3	6	4	1	days
Good Flying Wx (10AM)	282	289	363	300	days
Good Flying Wx (4PM)	336	335	363	329	days
Good Flying Wx (10PM)	315	326	364	301	days

Source: U.S. Navy Worldwide Airfield Summaries

Note: "Good Flying Wx (weather)" is ceiling above 1000' and visibility > 3 mi.

almost every day of the year at AF Plant #42, but that instrument flight rule (IFR) conditions occur on about 50-60 days for part of the day at both the existing Van Nuys Airport site as well as at NAS Point Mugu and Norton AFB. Although the fog at night at NAS Point Mugu is often thicker and cloud deck is somewhat lower than at inland sites, daytime flying weather at NAS Point Mugu is about the same as at Norton AFB and at Van Nuys Airport.

Operations under IFR conditions is not a major weather constraint for properly equipped aircraft and trained crews. Weather does become a major operational factor when the vertical or horizontal obscurations to visibility make flying unsafe. Each airfield typically has minimum operational weather conditions (field minimums) that must be met before routine arrivals and departures are authorized. These minimums may vary from location to location as a function of the electronic and visual control equipment available at a given airfield. The lowest published set of ceiling/visibility conditions that may significantly affect operations is a 300 foot ceiling and 1 mile visibility. AF Plant #42 experiences such limiting weather conditions less than 1 percent of the time. In general, NAS Point Mugu has a very high frequency of weather limitations to operations between 4:00 AM and 7:00 AM, especially during the summer months, but the clouds and fog burn off rapidly after sunrise, and by 10:00 AM, weather restrictions occur less than 4 percent of the time, or less than one day per month throughout the year. Norton AFB experiences early morning fog and low clouds mainly during late spring and again in early fall, and like NAS Point Mugu, the flying weather improves rapidly after sunrise. The fog and low clouds return to NAS Point Mugu somewhat sooner than at Norton AFB during the late summer. In general, the fog at NAS Point Mugu burns off just a little later and returns a little earlier than Norton AFB, but weather conditions for training operations are very similar to those experienced at Van Nuys Airport at the NAS Point Mugu or Norton AFB sites. These conditions contrast with the excellent weather at AF Plant #42, but the higher winds on landings and take-offs and low-level drop practices at the Palmdale site must also be considered in weather-related operational planning.

Wind direction frequency plots for all three candidate sites are shown in Figures III-37 through III-39. Norton AFB has the lightest winds and its yearly wind observations show a crosswind component across the main runway of 10 knots. At NAS Point Mugu, there is a more pronounced cross-wind component because the main runway experiences considerable afternoon quartering winds from the west. The crosswind frequency above the 10 knot level increases to about 2.5 percent. At AF Plant #42, average wind velocities are strongest, but the runways are well aligned along the prevailing wind direction. With the secondary runway aligned along the strongest wind axis from the SW and NE, strong crosswinds are reduced to less than 2 percent of the time. Turbulence from the strong winds makes desert flying at Palmdale more demanding of pilot skills.

Local Air Quality

In order to assess the air quality impact of any proposed development, that impact, together with baseline air quality levels, must be compared to the applicable ambient air quality standards (AAQS). These standards are the levels of air quality considered safe, with an adequate margin of safety, to protect the public health and welfare. They are designed to protect that segment of the public most susceptible to respiratory distress or infection such as asthmatics, the very young,

the elderly, people weak from other illness or disease, or persons in heavy work or exercise. These individuals are called sensitive receptors. Healthy adults can tolerate periodic exposure to air pollution levels well above these standards before adverse health effects are observed.

The Clean Air Act Amendments of 1970 established national AAQS with states retaining the option to adopt more stringent standards or to include other pollution species. Because California already had standards in existence before federal AAQS were established, and because of unique metorological problems in the state, there is considerable diversity between state and federal standards currently in effect in California as shown in Table III-15.

Existing and probable future levels of air quality at any of the candidate relocation sites can be reasonably well inferred from air quality monitoring conducted by local air pollution agencies. Because of the diverse meteorological conditions introduced by topographical differences among the three candidate relocation sites, each site is located in a different air basin. The difference in air basin designation is reflected in characteristically different patterns of air quality at each of the three sites, and also creates distinctly different air quality planning requirements that may affect the proposed relocation.

NAS Point Mugu is located in the South Central Coast Air Basin covering San Luis Obispo, Santa Barbara and Ventura Counties. The Ventura County Air Pollution Control District (APCD) is responsible for air quality monitoring, enforcement and planning in the county. Norton AFB is located in the South Coast Air Basin that covers western San Bernardino, western Riverside, southern Los Angeles and all of Orange Counties. The South Coast Air Quality Management District (AQMD) has air pollution responsibilities for Norton AFB as well as for the existing ANG site at Van Nuys Airport. AF Plant #42 is located in the Southeastern Desert Air Basin. The South Coast AQMD peforms air quality monitoring at some desert sites under contract with various counties, but air quality planning and enforcement responsibilities are somewhat different at Palmdale AF Plant #42 than Los Angeles Basin sites because the air basins have differing chemical and particulate qualities due to terrain differences and pollutant output.

Monitoring summaries from the three candidate relocation sites for 1982 and 1983 are shown in Table III-16 as an indication of the baseline air quality characteristics at each site. Air quality at each site is a direct function of the site's location relative to the largest concentration of air pollution sources in the Los Angeles Basin and of the prevailing onshore or cross-mountain wind patterns. NAS Point Mugu is closest to the ocean and has the fewest sources upwind, and thus has the best air quality. The federal standard for ozone, the primary ingredient of photochemical smog, was violated 3 and 7 times in 1982 and 1983, respectively. At Palmdale AF Plant #42, the frequency of violations increases to 30-40 per year as polluted air out of the San Fernando and San Gabriel Valleys crosses the mountains (especially through Soledad Canyon) into the Antelope Valley. By far, air pollution levels at Norton AFB are the worst of any of the candidate sites. The federal standard continues to be violated more than 100 times per year with 40-50 first stage smog alerts called each year. In addition to the unhealthful gaseous component of smog, smog also contains visibility impairing particulates. Total suspended particulate (TSP) levels and visibility imparing sulfates are much higher at Norton AFB than any of the other three sites. While it

TABLE III-15. AMBIENT AIR QUALITY STANDARDS

Pollutant	Averaging Time	California Standards		National Standards		
		Concentration	Method	Primary	Secondary	Method
Oxidant	1 hour	0 10 ppm (200 ug/m³)	Ultraviolet Photometry	—	—	—
Ozone	1 hour	—	—	0 12 ppm (235 ug/m³)	Same as Primary Standard	Ethylene Chemiluminescence
Carbon Monoxide	8 hour	9 0 ppm (10 mg/m³)	Non-Dispersive Infrared Spectroscopy (NDIR)	10 mg/m³ (9 ppm)	Same as Primary Standards	Non-Dispersive Infrared Spectroscopy (NDIR)
	1 hour	20 ppm (23 mg/m³)		40 mg/m³ (35 ppm)		
Nitrogen Dioxide	Annual Average	—	Gas Phase Chemiluminescence	100 ug/m³ (0 05 ppm)	Same as Primary Standard	Gas Phase Chemiluminescence
	1 hour	0 25 ppm (470 ug/m³)		—		
Sulfur Dioxide	Annual Average	—	Ultraviolet Fluorescence	80 ug/m³ (0 03 ppm)	—	Pararosaniline
	24 hour	0 05 ppm (131 ug/m³)		365 ug/m³ (0.14 ppm)	—	
	3 hour	—		—	1300 ug/m³ (0.5 ppm)	
	1 hour	0 5 ppm (1310 ug/m³)		—	—	
Suspended Particulate Matter	Annual Geometric Mean	60 ug/m³	High Volume Sampling	75 ug/m³	60 ug/m³	High Volume Sampling
	24 hour	100 ug/m³		260 ug/m³	150 ug/m³	
Sulfates	24 hour	25 ug/m³	Turbidimetric Barium Sulfate	—	—	—
Lead	30 day Average	1 5 ug/m³	Atomic Absorption	—	—	—
	Calendar Quarter	—	—	1.5 ug/m³	Same as Primary Standard	Atomic Absorption
Hydrogen Sulfide	1 hour	0 03 ppm (42 ug/m³)	Cadmium Hydroxide STRactan	—	—	—
Vinyl Chloride (Chloroethene)	24 hour	0 010 ppm (26 ug/m³)	Tedlar Bag Collection, Gas Chromatography	—	—	—
Visibility Reducing Particles	1 observation	In sufficient amount to reduce the prevailing visibility to less than 10 miles when the relative humidity is less than 70%		—	—	—
APPLICABLE ONLY IN THE LAKE TAHOE AIR BASIN:						
Carbon Monoxide	8 hour	6 ppm (7 mg/m³)	NDIR	—	—	—
Visibility Reducing Particles	1 observation	In sufficient amount to reduce the prevailing visibility to less than 30 miles when the relative humidity is less than 70%		—	—	—

TABLE III-16. AIR QUALITY MONITORING SUMMARY
(Days Standards were Exceeded and Maxima for Indicated Standard)

Pollutant/Standard	Norton AFB 1982	Norton AFB 1983	AF Plant #42 1982	AF Plant #42 1983	NAS Point Mugu 1982	NAS Point Mugu 1983
Ozone:						
1-hr ≥ 0.10 ppm (S)	144	147	82	93	23	20
1-hr ≥ 0.12 ppm (F)	111	117	25	42	3	7
1-hr ≥ 0.20 ppm (E)	38	49	0	0	0	0
Max. 1-hr (ppm)	0.30	0.32	0.16	0.18	0.15	0.15
Carbon Monoxide:						
1-hr ≥ 20 ppm (S)	0	0	0	0	0	0
8-hr ≥ 9 ppm (S)	0	0	0	0	0	0
Max. 1-hr (ppm)	10.	9.	10.	13.	7.	4.
Max. 8-hr (ppm)	6.9	5.4	5.0	6.3	4.9	2.6
Nitrogen Dioxide:						
1-hr ≥ 0.25 ppm (S)	0	0	0	0	0	0
Max. 1-hr (ppm)	0.19	0.19	0.08	0.09	0.07	0.08
Sulfur Dioxide						
1-hr ≥ 0.50 ppm (SD)	0	0	ND	ND	ND	ND
24-hr ≥ 0.05 ppm (S)	0	0	ND	ND	ND	ND
Max 1-hr (ppm)	0.02	0.02	ND	ND	ND	ND
Max 24-hr (ppm)	0.011	0.010	ND	ND	ND	ND
Total Suspended Particulates:						
24-hr ≥ 100 $\mu g/m^3$	32/60	27/55	1/55	3/55	6/5&	2/58
24-hr ≥ 260 $\mu g/m^3$	0/60	0/55	0/55	0/55	0/57	0/58
Max. 24-hr ($\mu g/m^3$)	191.	233.	113.	129.	123.	115.
Particulate Lead:						
1-mo ≥ 1.5 $\mu g/m^3$	0/12	0/12	0/12	0/12	ND	ND
Max. 1-mo ($\mu g/m^3$)	0.56	0.52	0.37	0.34	ND	ND
Particulate Sulfate:						
24-hr ≥ 25 $\mu g/m^3$	2/60	1/55	0/55	0/55	ND	ND
Max. 24-hr ($\mu g/m^3$)	29.6	27.1	11.7	8.1	ND	ND

Source: California Air Resources Board - Annual Summaries of Air Quality

ND - No Data, there is no sulfur dioxide monitoring within reasonable proximity to Palmdale and Point Mugu, and Point Mugu particulate samples are not analyzed for lead or sulfate.

Monitoring Locations: (See Figure III-40)

Norton AFB - San Bernardino AQMD Station
Palmdale - Lancaster AQMD Station
Point Mugu - Ventura VCAPCD Station

* = 1982 CO Data from Downtown Ventura
(S) = State Ambient Air Quality Standard
(F) = Federal Ambient Air Quality Standard
(E) = California 1st State, Photochemical Smog Episode Level

is recognized that TSP is not a valid indicator of the health effects of airborne particulates, the presence of large amounts of TSP is probably an indication that levels of small, respirable particulates are also high at Norton AFB, and certainly higher than at the other relocation sites.

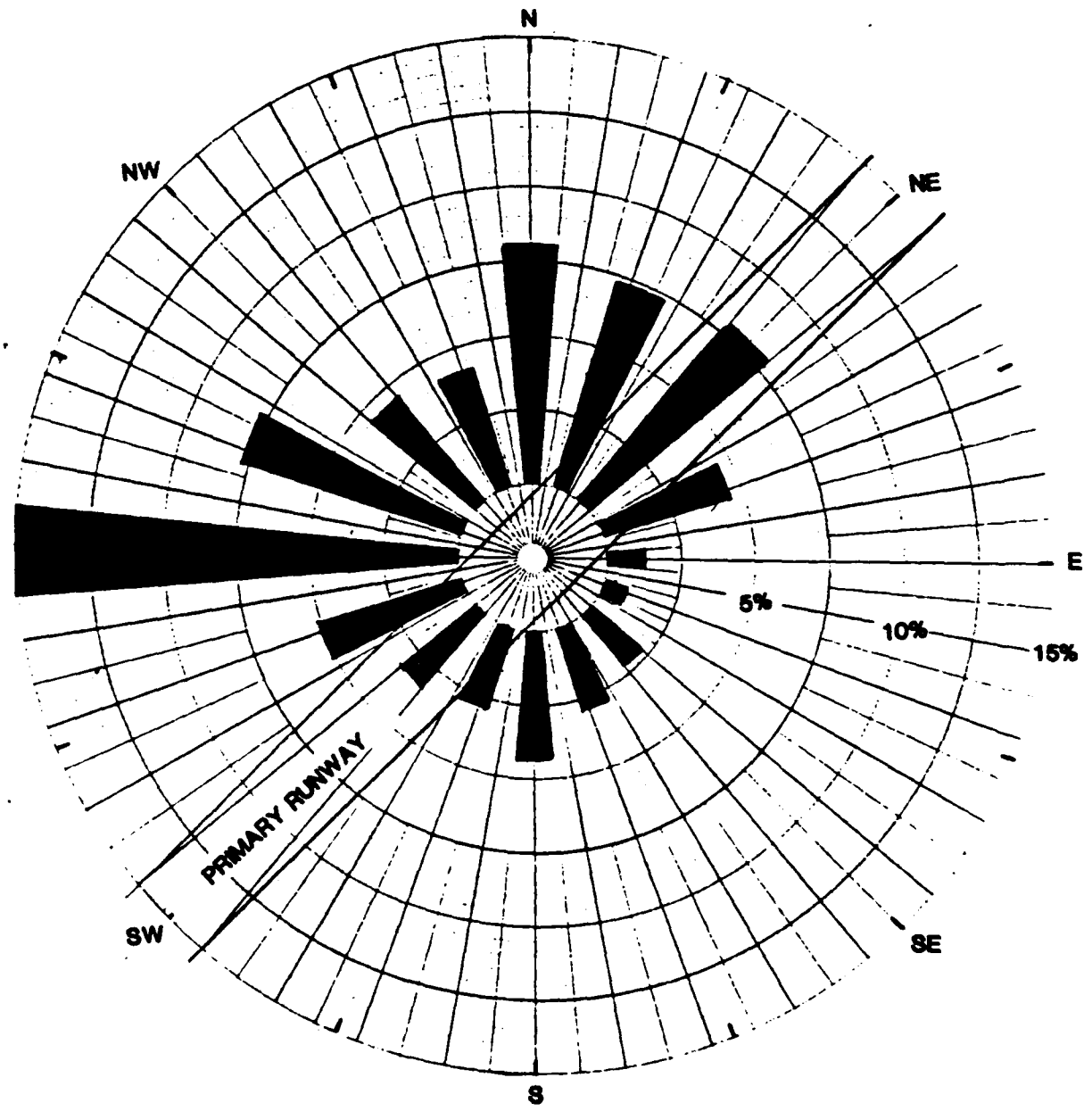
Air Quality Management Plans

The continued violation of the Federal ozone standard requires that an air quality plan be developed for those areas of the State where Federal clean air standards are being violated. In California, the preparation of such a State Implementation Plan (SIP) has been organized on an air basin and sub-basin level, and thus differs for each of the three candidate relocation sites. The SIP is comprised of numerous sub-plans which were submitted to the U.S. Environmental Protection Agency (EPA) as required by the Clean Air Act Amendments (CAAA) of 1977. Because several of the basin plans were unable to predict attainment of all clean air standards by the 1987 deadline, the EPA had, until recently, refused to certify the California SIP as meeting CAAA requirements. That position was recently changed and the SIP was adopted contingent upon a number of air districts bringing their rules and regulations fully in line with the air pollution control tactics outlined in the various sub-plans of the SIP.

The relationship of the proposed relocation with air quality planning is important because Section 118 of the Clean Air Act specifically requires that "each agency of the Federal Government engaged in any activity . . . resulting in the discharge of air pollutants shall . . . comply with all Federal, State, interstate and local requirements, administrative authority, and process and sanctions." Since the attainment plan in each basin is different, there is a corresponding unique relationship between the proposed relocation and the applicable air quality plan.

In the Southeastern Desert Air Basin (SEDAB), it is recognized that attainment in that basin is contingent upon a major reduction in emissions and resulting air pollution transport from the South Coast Air Basin (SOCAB). SEDAB air quality planning thus recognizes that any small local changes in emissions from a project will have a negligible effect on regional air quality. In the SOCAB, new sources of emissions can be accommodated within the air quality planning framework if they have been properly anticipated by the Basin Air Quality Management Plan (AQMP).

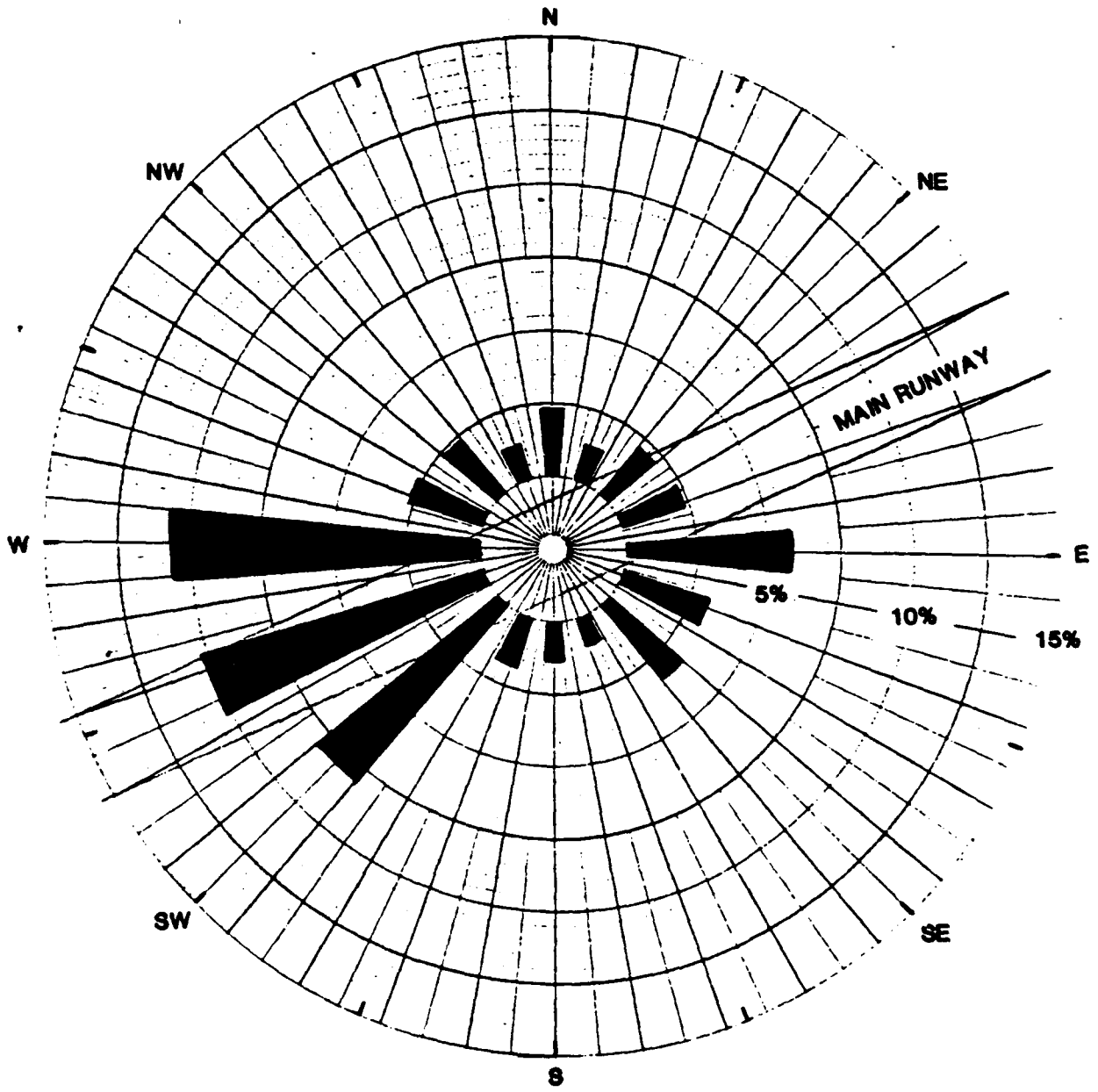
The Ventura AQMP is based upon growth projections for a variety of development types and activities. Within this context, a certain amount of growth is allowed per year and an overall cumulative amount of growth is projected. However, the plan forecasts that there will be no change over time in the number of military aircraft operations in the Air Basin. Therefore, any increase in military aircraft operations, no matter how small, is inconsistent with the growth forecasts of the AQMP. The Point Mugu site is located within the Oxnard Plain, which is a non-attainment area for ozone. The intent of the Ventura AQMP is to demonstrate attainment of the ozone standard by 1987. The plan includes emission control measures directed towards that goal.



AVG. SPEED=5.6KTS
CALMS = 14.8%

PRC Engineering, Inc.

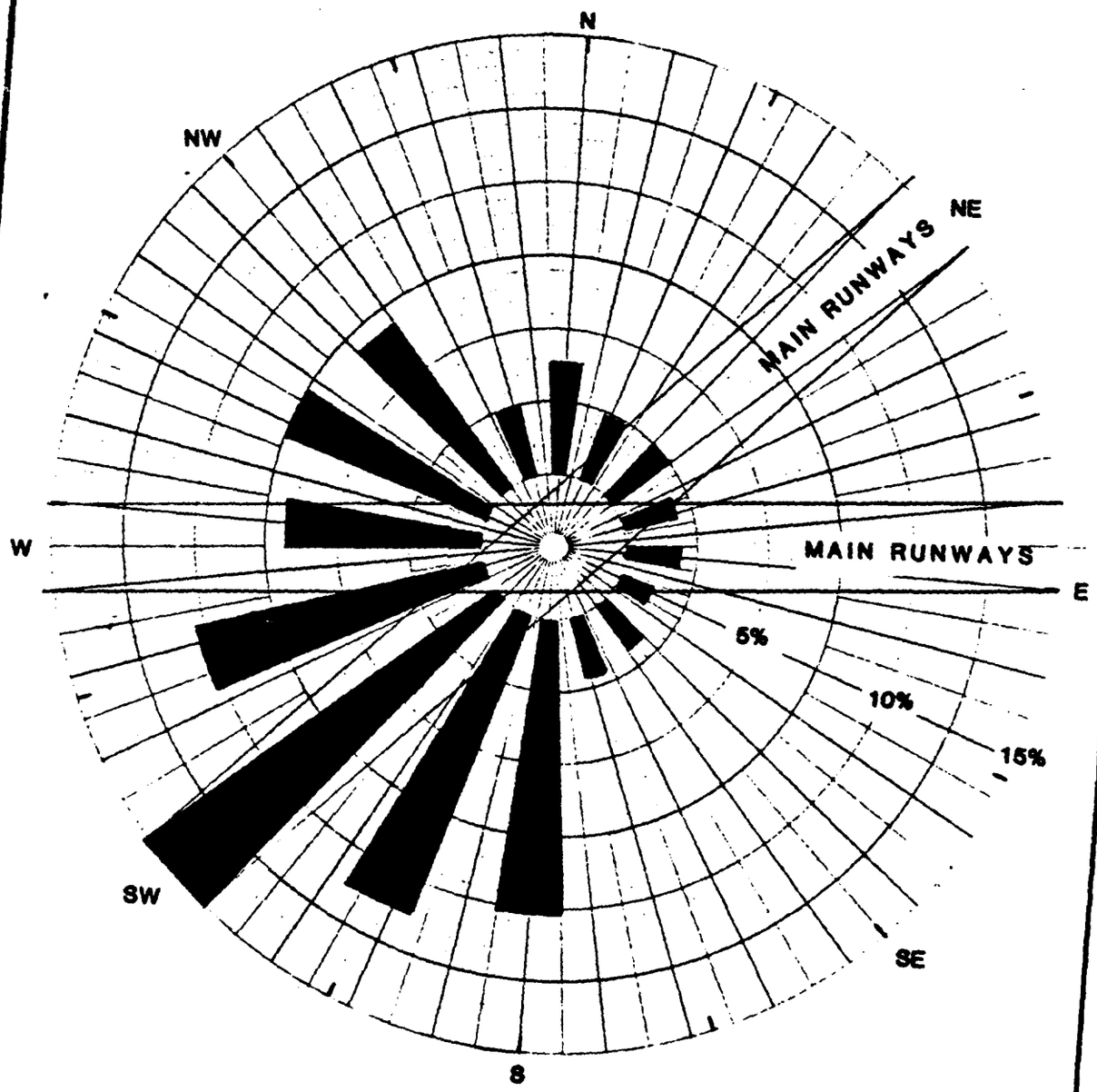
FIGURE III-37
NAS POINT MUGU
WIND ROSE



AVG. SPEED = 3.5KTS
CALMS = 40.7%

PRC Engineering, Inc.

FIGURE III-38
NORTON AFB
WIND ROSE



AVG. SPEED=8.8KTS
CALMS =10.0%

PRC Engineering, Inc.

FIGURE III-39
A.F. PLANT #42
WIND ROSE

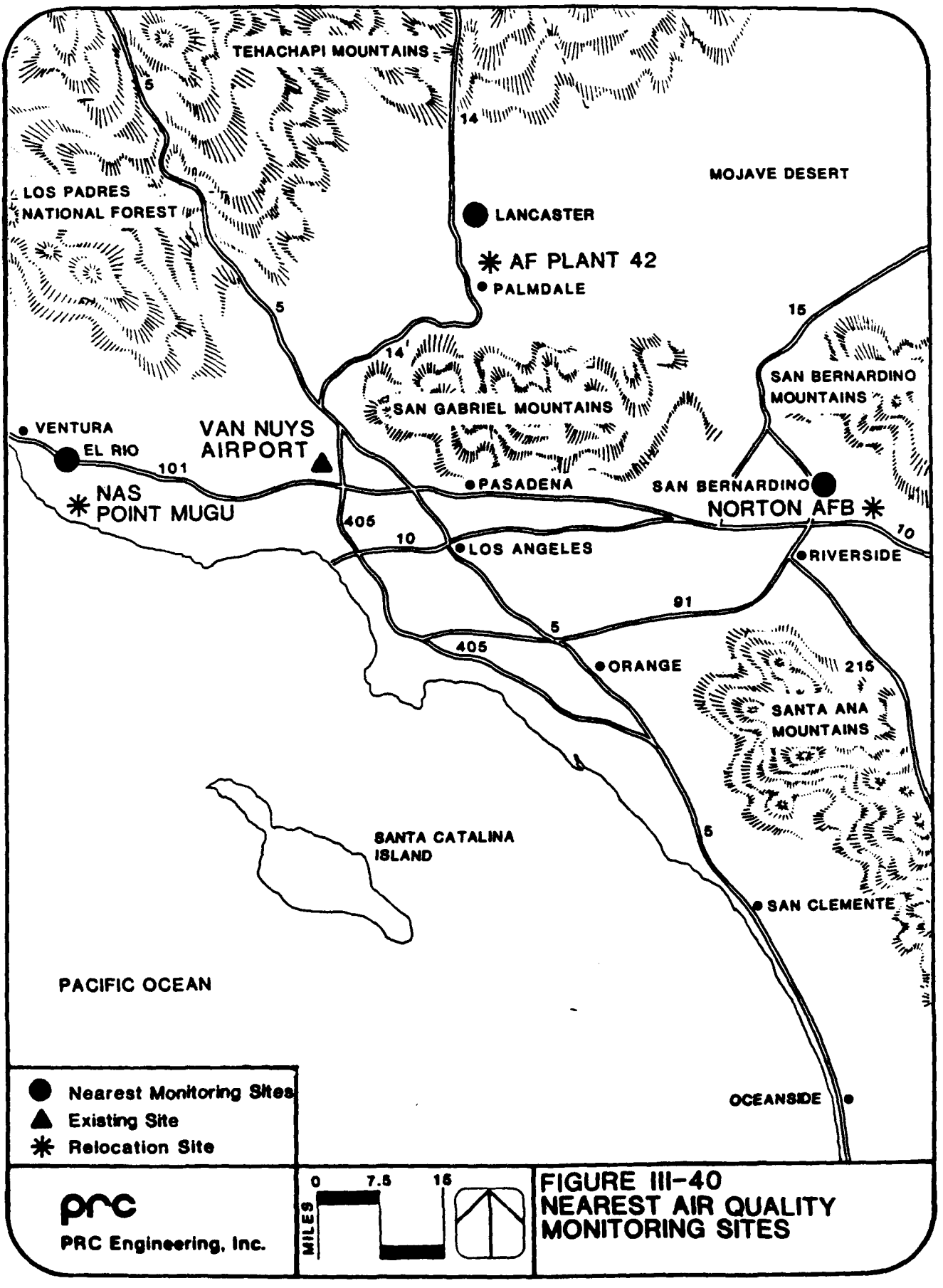


FIGURE III-40
NEAREST AIR QUALITY
MONITORING SITES

FLOOD CONTROL

Van Nuys Airport

The major watercourse which traverses the existing project site is Bull Creek. As shown in Figure III-41, Bull Creek flows in a north-south direction and ultimately discharges into the Los Angeles River. According to the Federal Emergency Management Agency (FEMA), the 100-year design flood is contained within the banks of the channel and is specified as Zone A under the National Flood Insurance Program. Areas immediately outside of Bull Creek are classified as Zone C which indicates that the potential for flooding is minimal (FEMA 1980). The local drainage pattern at the project site flows toward the south.

Norton AFB

As shown in Figure III-42, Norton AFB is surrounded by the Santa Ana River to the south and the City Creek to the north. A series of levees on the Santa Ana River protect the Base from overflows of the standard project flood of 164,000 cfs. Since City Creek borders the northern boundary of the proposed relocation site, the potential for flooding exists. With a 100-year flood of 620 cfs, City Creek is classified as Zone A4 and areas along the Creek are designated as Zone B (FEMA 1983). Consequently, as shown in Figure III-42, the northwest portion of the project site is subject to Zone B flooding which indicates that average flood depths of less than 1 foot will occur for the 100-year flood. The drainage pattern at the project site flows towards the southwest and all flows discharge into Warm Creek and ultimately into the Santa Ana River.

AF Plant #42

The proposed relocation site has been previously mapped by FEMA. The site is designated as Zone C, indicating that the potential for flooding and sheet flow is minimal (FEMA 1982). The existing drainage pattern at the project site flows in a northeasterly direction towards Amargosa Creek.

Amargosa Creek is the closest major stream to the proposed relocation site. As shown in Figure III-43, Amargosa Creek flows in a northerly direction and runs parallel along Sierra Highway north of Avenue N at Avenue P and 10th Street West. Amargosa Creek has a drainage area of 32 square miles with an associated 100-year peak discharge of 4,900 cfs. The Amargosa Creek tributary is a minor drainage channel which runs parallel to Sierra Highway between Avenues M and M-12 near the project site. The 100-year peak discharge for the tributary is 460 cfs and has an associated drainage area of 1.8 square miles. The tributary, however, does not have an impact on flooding of the project site.

NAS Point Mugu

As shown in Figure III-44, most of NAS Point Mugu and none of the proposed ANG relocation site is situated within the limits of the floodplain and the regional standard project flood. Calleguas Creek is the principal stream which influences drainage at NAS Point Mugu. The creek is located approximately 2.5 miles east of the proposed relocation site. Revolon Slough is a natural channel which traverses the Oxnard Plain and empties into Mugu Lagoon. From its crossing of Wood Road

downstream to about Mugu Lagoon, this natural channel is contained within levees designed to accommodate the 50-year flood.

The 500-year and standard project flood flows for Calleguas Creek at the mouth are 59,000 cfs and 73,000 cfs, respectively, with a total drainage area of 325 square miles. Revolon Slough has 500-year and standard project flood flows of 20,700 cfs and 32,000 cfs, respectively, with a drainage area of 61 square miles at the mouth (U.S. Department of the Army 1969). (Corps of Engineers publication (July 1974) indicated that the standard project flood for the lower reaches of Calleguas Creek is 60,000 cfs, assuming future development had occurred within the watershed and the channel remained natural.)

The proposed relocation site has not been mapped by FEMA; however, the U.S. Army Corps of Engineers (1981) conducted an analysis of flooding in the area. Although situated in a vicinity with areas of high hazard flooding, the proposed relocation site is not influenced by overflows from Calleguas Creek or Revolon Slough.

The drainage pattern at the proposed relocation site flows in a southerly direction. A reach of approximately 2,500 feet of the Mugu Drain abuts the western boundary of the proposed site. This reach of the drain is a trapezoidal earthen channel with a bottom width of 20 feet and a 2-to-1 side slope. According to the Ventura County Flood Control District (VCFCD), the estimated 100-year storm flow from upstream areas of the site is 2,800 cfs (includes 20% increase over current estimated flow). Preliminary analysis of this reach of the drain shows the drain has enough capacity for the estimated 100-year storm flow if maintained. However, the current bottom width of the drain is 12-15 feet due to vegetation growth.

Some flooding problems have occurred near the interchange between Pacific Coast Highway and Hueneme Road. Uncontrolled flow exists at the frontage road which runs parallel to the highway. It is estimated that the 100-year flow for this area is 145 cfs. The Ventura County Soils Conservation Service has a conceptual plan to alleviate flooding of agricultural land on the side of Pacific Coast Highway by diverting the runoff to a terraced area along the fence of NAS Point Mugu. The runoff from the terraced land would drain into a proposed culvert which drains into the Mugu drain just to the north of the existing equalizing basin.

Without onsite detention of peak flows the proposed development would increase the peak 100-year runoff rate from the existing 86 cfs to approximately 125 cfs. However, as part of the project it is proposed to retain a portion of this flow onsite to control peak 100-year flows to the existing runoff rate of 86 cfs. As mentioned above, the proposed site drains southerly to the marshland at the southern tip of the site. The runoff then combines with the flow in Mugu Drain. The combined runoff flows into an underground system. The marshland could be utilized as a detention basin to reduce the proposed peak runoff to existing level. The outflow from the basin outlet pipe would be controlled to release a maximum of 86 cfs.

During the past several years, NAS Point Mugu south of the proposed relocation site has been flooded during winter storms resulting in failure of the Revolon Slough levee. Peak discharge for Calleguas Creek during a February 1980 storm was 25,300 cfs. The most likely cause of failure of the west bank levee of Calleguas Creek was erosion of the facing rock on the levee with erosion through the levee material from the inside (wet side) to the outside following loss of the rock.

Zone C
Zone C
Zone C
FLOW
BALBOA BLVD.
BULL CREEK (Zone A)
LOS ANGELES RIVER (Zone A)
VENTURA FWY
VICTORY BLVD
SHERMAN WAY
SAN DIEGO F
EL ENCINO
ENCINO
SEPULVEDA DAM RECREATIONAL AREA
SEPULVEDA FLOOD CONTROL BASIN
SAN FERNANDO VALLEY

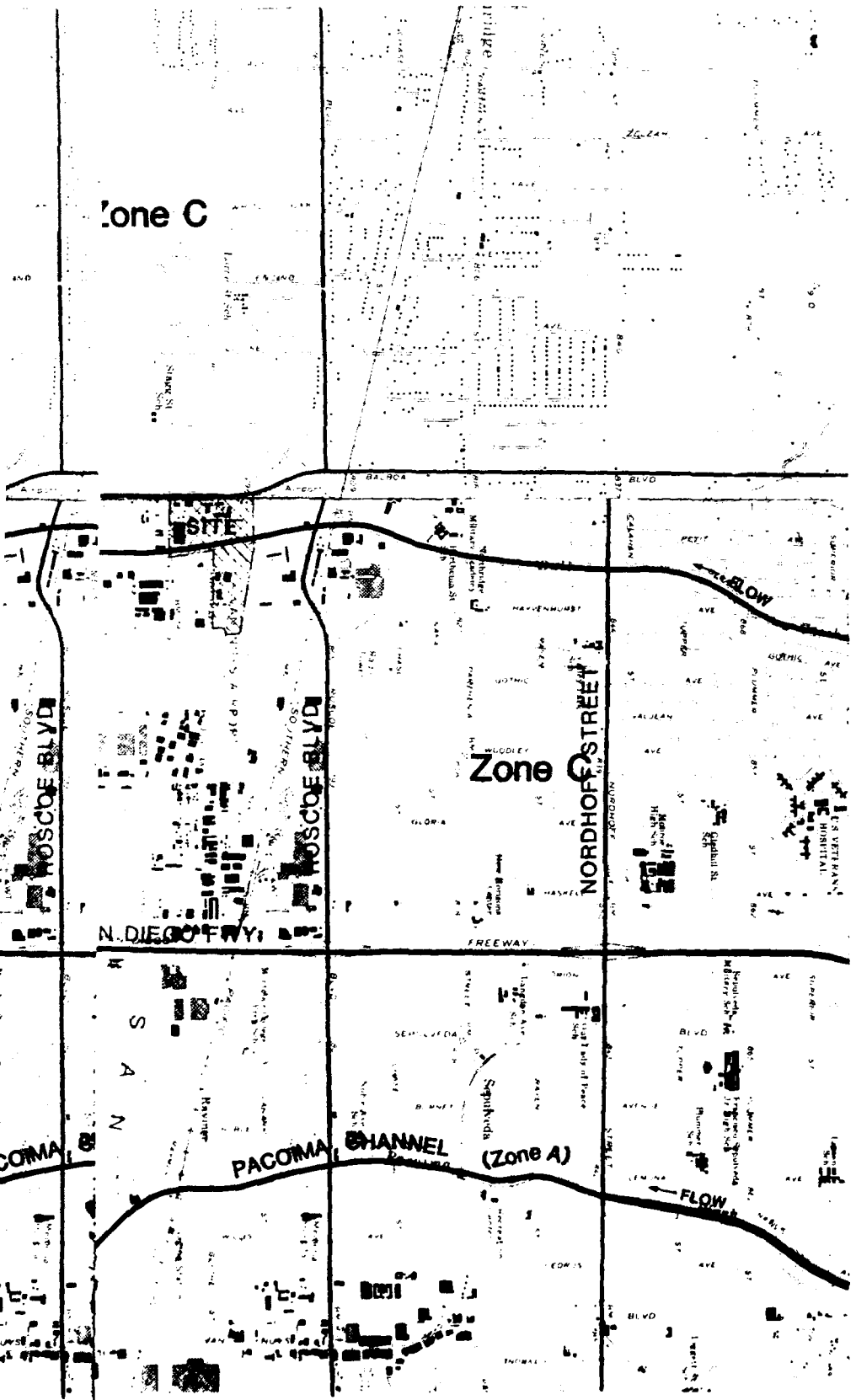
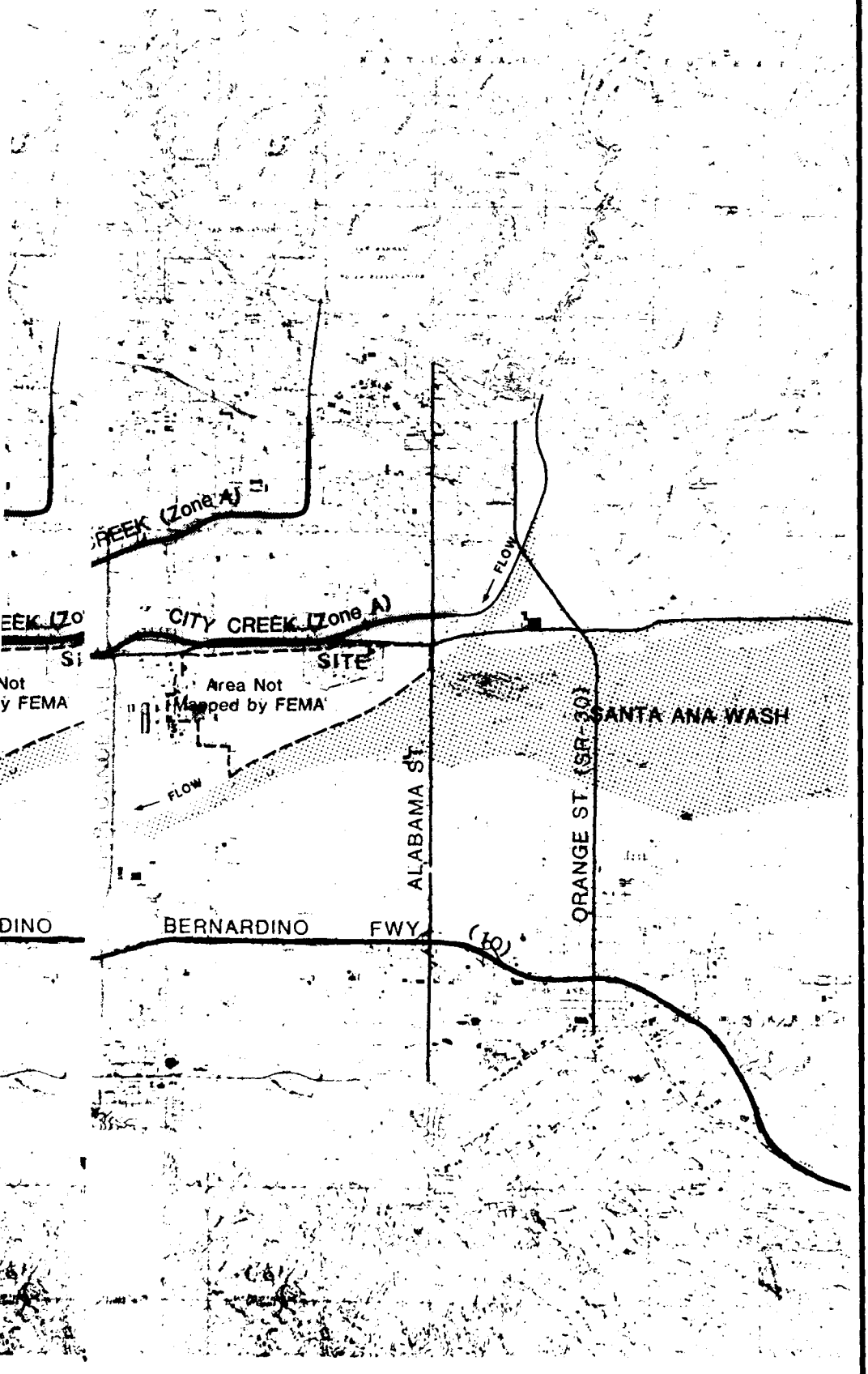


FIGURE III-41
VAN NUYS AIRPORT FLOOD PRONE AREAS

PRC Engineering, Inc.

WARM CREEK (Zone
CITY
3rd. ST.
BARSTOW FWY. (215)
TIPPECANOE AVE.
FLOW
FLOW
SANTA ANA RIVER
SAN
BERI



Legend

ZONE A FLOODING BOUNDARY

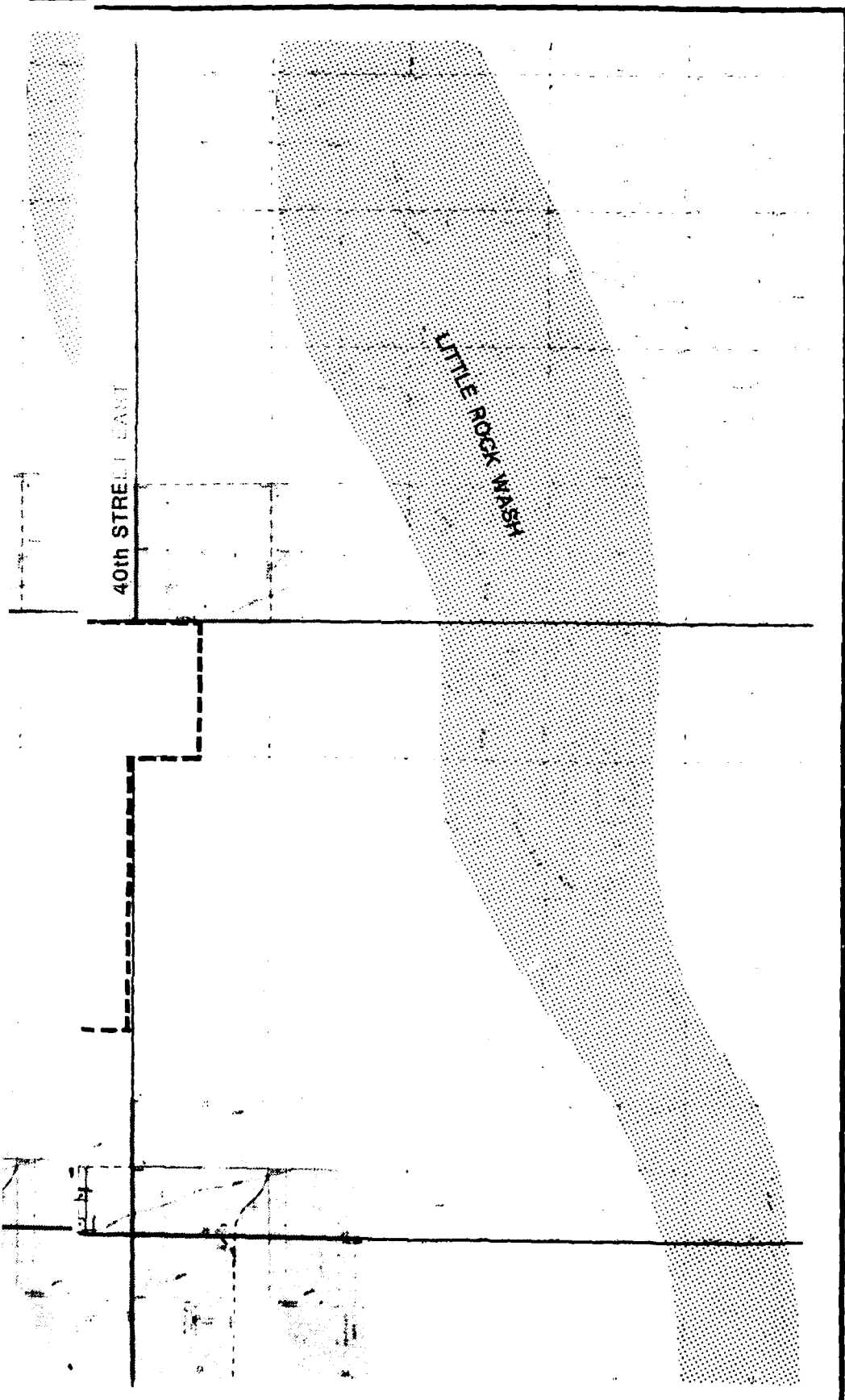
ZONE B FLOODING BOUNDARY

FEET 0 2500 5000 10000 15000

FIGURE III-42
NORTON AFB FLOOD PRONE AREAS

PRC Engineering, Inc.

FREEWAY
ANTELOPE VALLEY
SIERRA HIGHWAY
10th STREET
40th STREET EAST
Zone C
AVENUE M
SITE
AMARGOSA CREEK
Area Not Mapped by FEMA
FLOW
PALMDALE



Legend

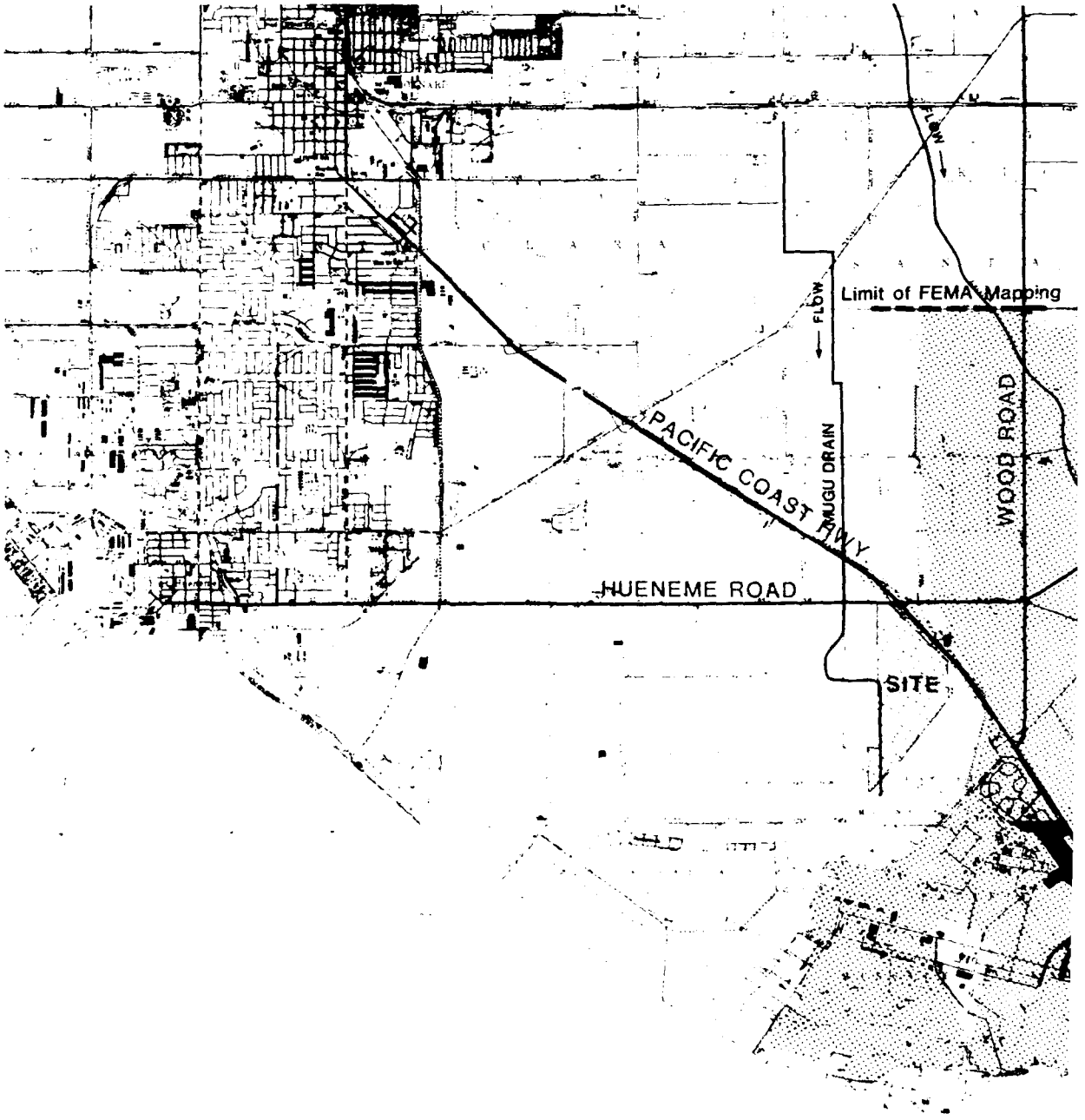
ZONE A FLOODING BOUNDARY

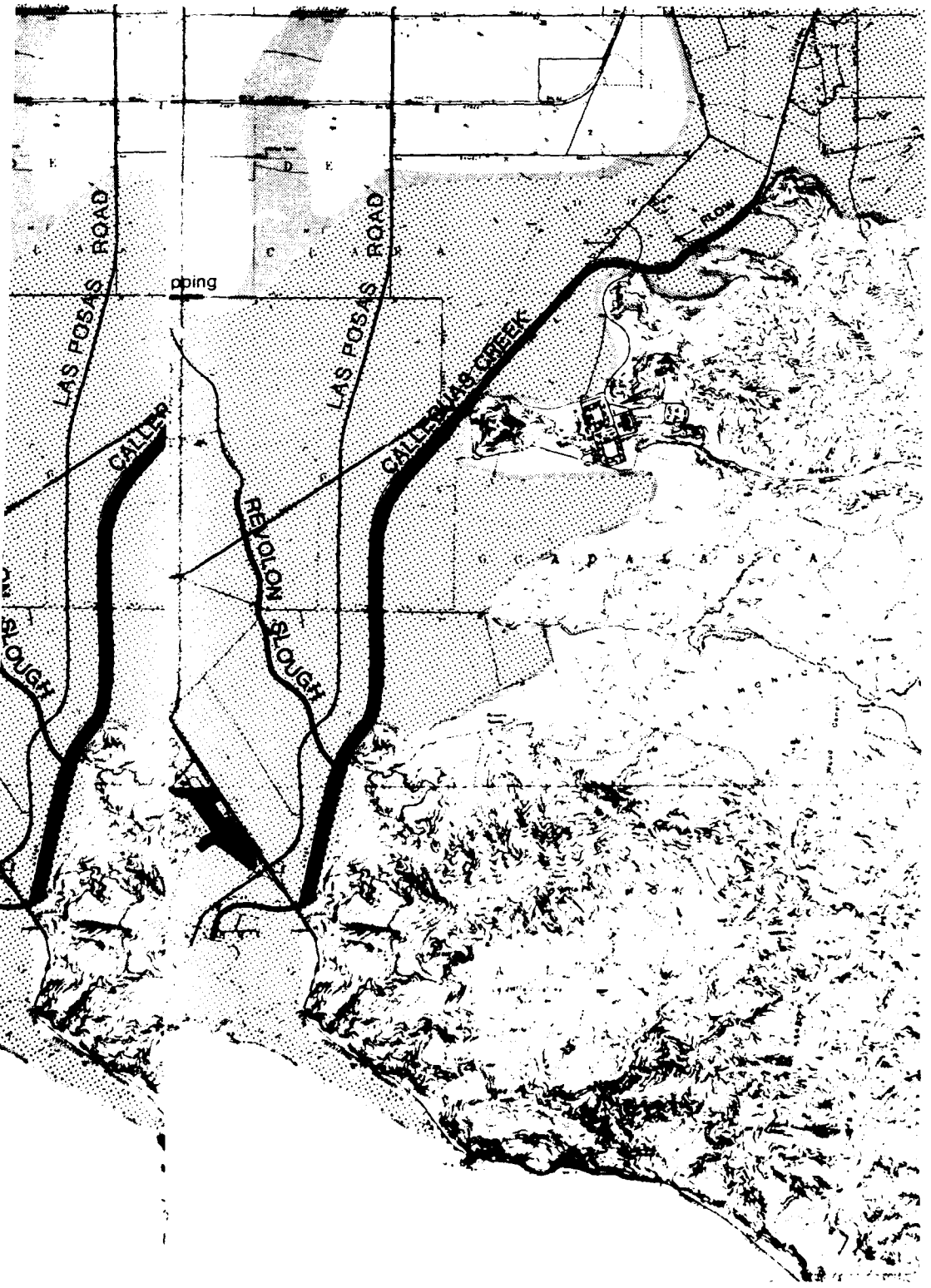
ZONE B FLOODING BOUNDARY

FEET 0 2000 4000 8000 12000

FIGURE III-43
AF PLANT #42 FLOOD PRONE AREAS

PRC Engineering, Inc.


Limit of FEMA Mapping
FLOW
FLOW
MUGU DRAIN
PACIFIC COAST HWY
WOOD ROAD
HUENEME ROAD
SITE



Legend

ZONE A FLOODING BOU

ZONE B FLOODING BOU

FEET 0 2000 4000 8000 12000

FIGURE III-44
NAS POINT MUGU FLOOD P
AREAS

PRC Engineering, Inc.

GROUNDWATER RESOURCES

Van Nuys Airport

The existing Van Nuys Airport is located on the San Fernando hydrologic subarea of the San Fernando Valley groundwater basin. The area is generally composed of alluvium materials that have a high clay content. This material transmits water at a relatively slow rate. Currently, the site does not have any on-site wells.

Norton AFB

Norton AFB is located within the Bunker Hill groundwater basin of the San Bernardino Valley. In general, two types of water-bearing deposits are found in the Bunker Hill basin; they are the younger alluvium of Recent age and the older alluvium of Pleistocene age. The younger alluvium is composed of two members, an upper member of relatively impermeable clay and a lower member of highly permeable water-bearing material. The older alluvium is divided into three permeable water-bearing zones separated from each other and from the younger alluvium above by less permeable zones.

The older alluvium is the principal water-bearing unit of the area and yields water to most wells in the basin. The San Bernardino Valley as a whole, is experiencing a rising groundwater level, and no shortage of groundwater is expected.

In the Bunker Hill basin, most of the recharge to groundwater is supplied by runoff from the San Bernardino Mountains, and smaller amounts are supplied by deep penetration of rainfall and groundwater inflow from adjacent groundwater basins. A small amount of recharge comes from surface runoff seeping through flood control channel deposits and enters the groundwater basin at places where the alluvial materials are permeable from the land surface. Because the majority of recharge is supplied by storm runoff from the mountains, the groundwater is generally of excellent mineral quality and within State and Federal drinking water standards.

AF Plant #42

The proposed Palmdale relocation site is located within the Lancaster subunit of the Antelope hydrologic unit. The groundwater system consists of two alluvial aquifers, the principal and the deep aquifer, separated by fine-grained deposits.

Groundwater has been the principal source of water for economic development in the Antelope Valley. The principal aquifer supplies nearly all water pumped from the wells in the Antelope Valley groundwater basin. During the last 50 years, pumpage of groundwater (mainly for agricultural uses) in excess of natural recharge has resulted in the steady decline of the groundwater level of the principal aquifer at an average rate of 2 to 3 feet per year.

The Antelope Valley groundwater basin is recharged naturally by infiltration of streamflow that originates in the mountain areas contiguous to the groundwater basin. For the most part, these streamflows are ephemeral, only occurring during storm periods. Because the average annual precipitation on the valley floor is less than 10 inches, very little runoff is generated and probably very little precipitation

recharges the basin. Water quality in general is good and is within State and Federal drinking water standards.

Currently, no groundwater management agency monitors groundwater pumpage in the area. The California Regional Water Quality Control Board (RWQCB), La Hontan District, is responsible for protecting the groundwater quality of the basin. In 1978, the U.S. Geological Survey (USGS) and the California Department of Water Resources (DWR) have cooperatively developed a mathematical model of groundwater flow of the Antelope Valley Groundwater Basin. DWR is undertaking the application of the model to evaluate the impact on the groundwater basin of various water-resource management alternatives.

NAS Point Mugu

NAS Point Mugu is located on the Oxnard Plain basin. The Oxnard Plain basin contains four principal waterbearing zones, designated the Oxnard, Mugu, Hueneme and Fox Canyon aquifers as shown in Figure III-45. In the Oxnard Plain basin, most wells obtain water from the Oxnard aquifer, many wells obtain water from the Mugu aquifer, and very few from the deeper Hueneme and Fox Canyon aquifers.

Under native conditions of surplus water recharge, groundwater moves westerly and southwesterly beneath the Oxnard Plain basin, discharging to the ocean. Groundwater extractions in excess of the recharge rate have resulted in reversal of groundwater gradient and thus landward migration of seawater. Seawater intrusion into the Oxnard aquifer zone was first detected near Port Hueneme in 1950. By 1958, definite evidence of onshore seawater intrusion of the Oxnard aquifer zone in the Point Mugu area had been established. The historic pattern of seawater intrusion of the Oxnard Plain is shown in Figure III-46. The projected intrusion front to the year 2000 as determined in the 208 study of Ventura County (VCFCD 1980) is also shown in Figure III-46.

Seawater intrusion in the Oxnard aquifer zone represents a serious threat to water quality in the underlying Mugu aquifer zone, because saltwater can leak downward through improperly sealed wells, areas of aquifer mergence, and through aquitards. This downward leakage is apparently occurring at present. Maximum downward leakage probably occurs during dry periods, when water level differences between the two zones are at maximum. Recent studies by the Ventura County Flood Control District indicate that during a typical dry year, downward leakage amounts to approximately 12,200 acre-feet/yr.

Continued seawater intrusion in the Oxnard and Mugu aquifer zones will pose a serious threat to water quality in the Hueneme and Fox Canyon aquifers of the Lower Aquifer System. An area of mergence exists between the upper and lower aquifer systems at the north end of the basin, and well log data indicates possible hydraulic continuity between the Mugu aquifer and Lower aquifer system in the vicinity of Point Mugu. Therefore, when the Mugu aquifer becomes intruded with seawater, the important Hueneme and Fox Canyon aquifer zones could also become intruded. The proposed ANG relocation site is not in a mergence area.

Continual intrusion of seawater would increase the salinity of groundwater and eventually render the groundwater useless. The United Water Conservation District (UWCD) and the Ventura County Flood Control District (VCFCD) are

evaluating several plans to solve the seawater intrusion problems. These plans include:

1. Locating recharge wells in the heavily pumped area of the Oxnard Plain.

2. Modifying pumping patterns in the Oxnard Plain basin to reduce water production from the Upper aquifers and increase pumping from the Lower aquifers.

3. Improving the Vern Freeman Diversion at the Santa Clara River to deliver streamflow to the UWCD. The improved diversion can also prevent the loss of surface flow to the ocean thus increasing the recharge to the groundwater basin.

In addition to the above plans, the VCFCD is preparing a groundwater management plan for the Fox Canyon Groundwater Management Agency. The groundwater management plan is expected to be completed by the summer 1985 and will include proposed solutions for preventing seawater intrusion into the Lower aquifer zones.

PRC Engineering, Inc.

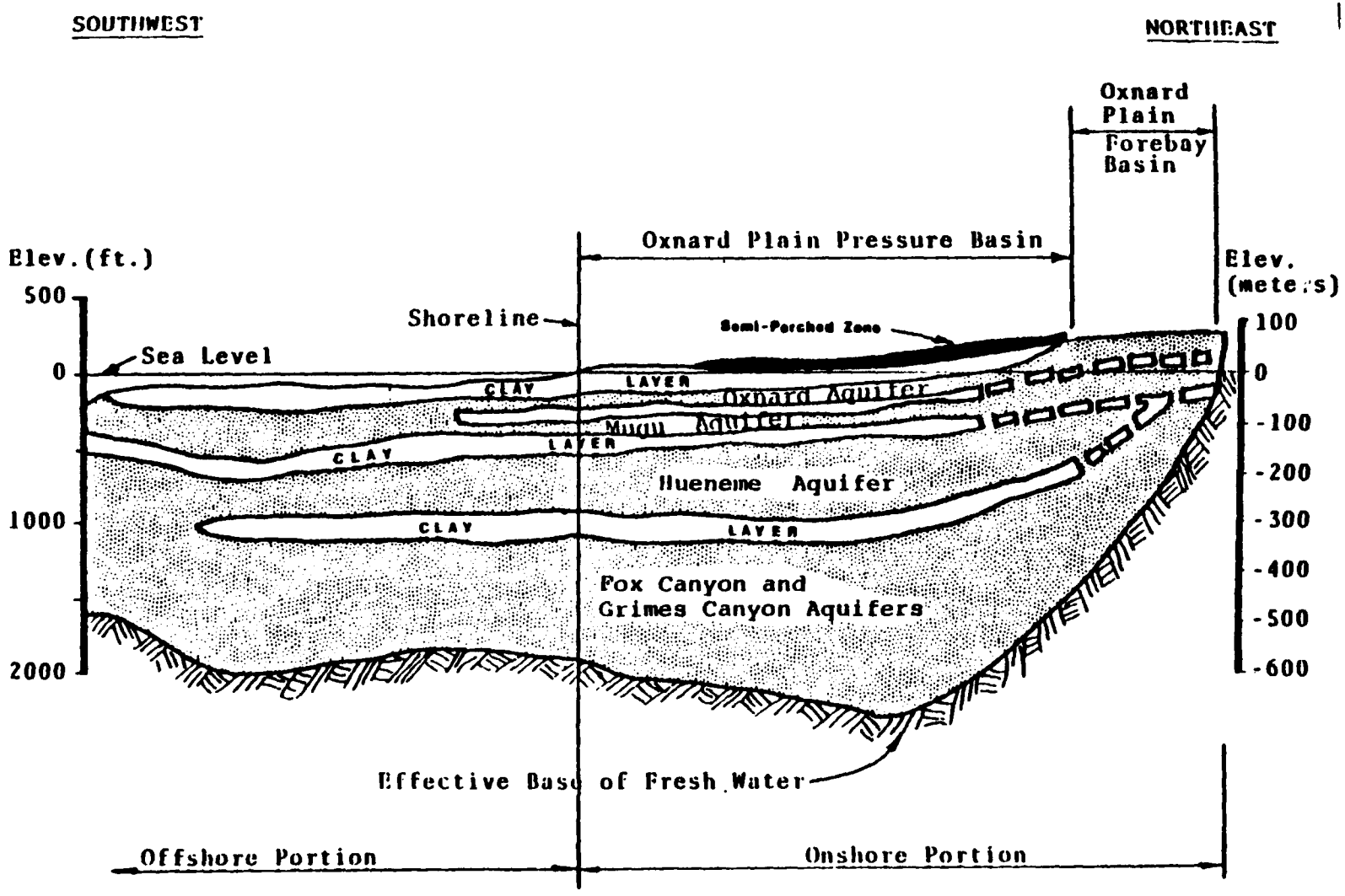
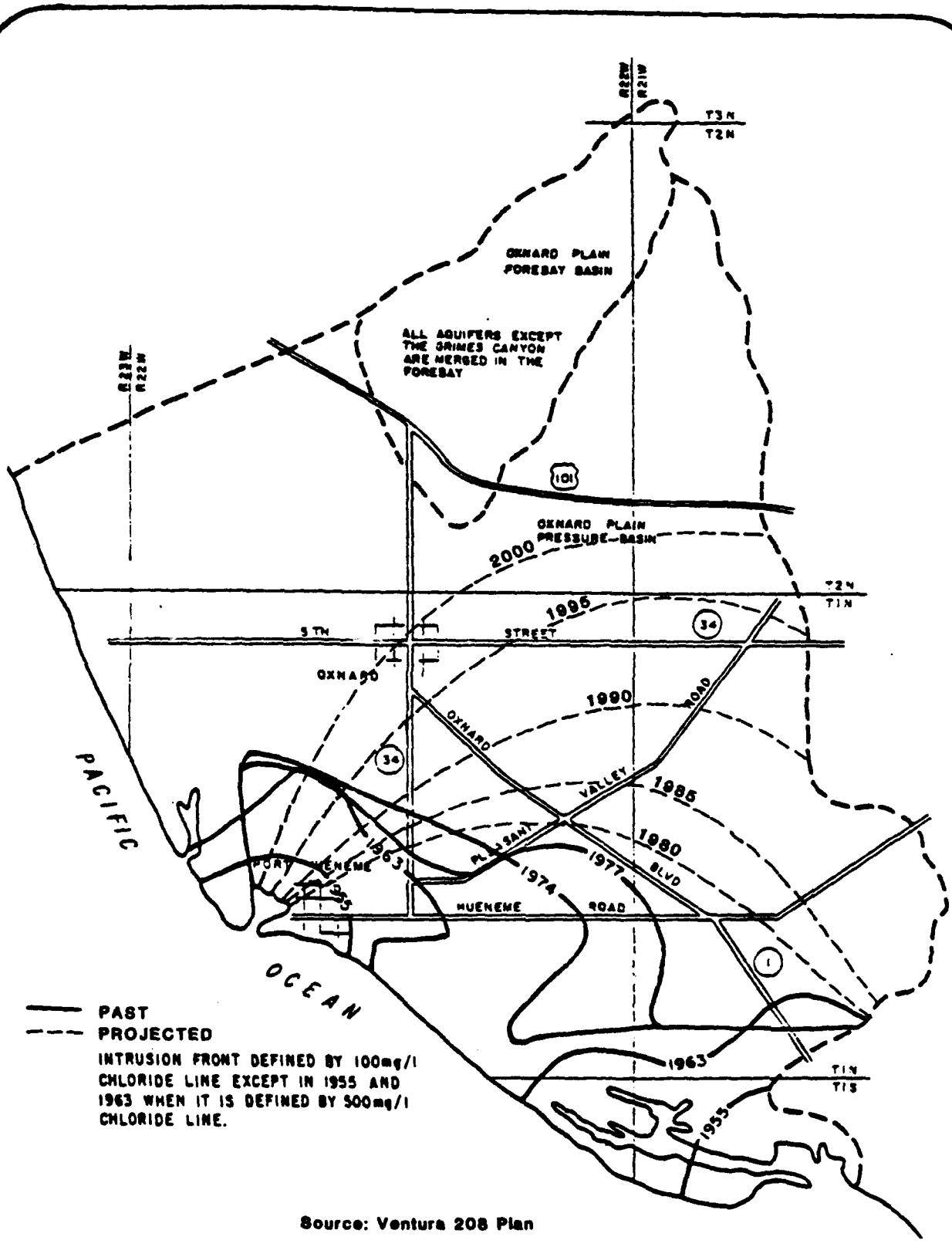


FIGURE III-45
OXNARD PLAIN
AQUIFER SYSTEM

Source: Oxnard Plain Groundwater Study, SWRCB, March 1979



Source: Ventura 208 Plan

PRC Engineering, Inc.

FIGURE III-46
HISTORIC AND PROJECTED PATTERNS OF SEAWATER INTRUSION

REGIONAL SEISMICITY

The four alternative sites are located in seismically active areas of Southern California. Although no known active geologic faults are reported crossing any of the four sites, historically each has experienced seismic shaking from earthquakes generated by ruptures of nearby active faults. Similarly, seismic shaking can be expected at each site in the future.

The level of seismic shaking, and the potential for related seismic hazards, such as liquefaction or differential settlement, depends upon several factors, including: 1) the specific soil characteristics at each site; 2) the depth of the groundwater beneath each site; 3) the tectonic characteristics of the causitive fault; 4) the distance from the site to the location of rupture on the causitive fault. Figure III-47 illustrates the relationship of each of the four sites with respect to Southern California's known active faults and the epicentral locations of recorded earthquakes greater than a Richter magnitude of 4.0.

Van Nuys Airport

The closest active fault affecting the Van Nuys site is the Sierra Madre-Santa Susana fault system. The fault complex is approximately 6 miles from the site at its closest approach, and extends for more than 64 miles along the southern edge of the San Gabriel Mountains. The 1971 San Fernando Earthquake (ML 6.4) occurred along the San Fernando segment of this fault complex and caused considerable damage in the San Fernando Valley. The recurrence interval on this segment is estimated at approximately 200 years (Los Angeles County Seismic Safety Element), with a maximum credible earthquake of magnitude 7.

The active Santa Monica-Malibu Coast fault (which will be discussed in the section for the Point Mugu site) is located on the south side of the Santa Monica Mountains, approximately 12 miles from the site. The northern most portion of the active Newport-Inglewood fault is about 16 miles south of the site. Rupture of this fault resulted in the 1933 Long Beach Earthquake (ML 6.3).

Two potentially active faults of substantial length are found near the Van Nuys site. These are the Northridge Hills fault and the Verdugo fault. The Northridge Hills fault trends northwest through the San Fernando Valley, 2 two miles north of the site. This fault is reported to have displaced late Quaternary alluvium as much as 1,000 feet (J.H. Wiggins, 1974). The Verdugo fault enters the San Fernando Valley on the southwest side of the Verdugo Mountains. This fault is believed to have moved in late Quaternary time resulting in the uplift of the Verdugo Mountains. The Verdugo fault is 8 miles east of the site.

Norton AFB

The seismic setting of the Norton AFB site is dominated by two major fault systems. The San Andreas fault zone is located 3 miles northeast of the site, and San Jacinto fault zone is located 4.6 miles southwest of the site.

The San Andreas fault is a right-lateral transform fault separating the Pacific and North American Plates. The total length of the fault is over 600 miles, extending from the Gulf of California to offshore Northern California. Great earthquakes,

such as the 1906 San Francisco earthquake, are characteristic of this fault. The south central reach of the San Andreas fault, which ruptured in a magnitude 8+ earthquake in 1857 extends from Cajon Pass northwest of San Bernardino to near Cholame in Central California. This event, the Fort Tejon earthquake, was the largest historic event recorded in California. Great earthquakes can be expected to occur along the south central San Andreas fault on an average of every 160 years. The south segment of the San Andreas, which extends from Cajon Pass to the Mexican Border, has not had a great earthquake recorded in historic times. Some of the tectonic stress may in part be relieved from the south segment of the San Andreas fault by movement on the San Jacinto fault.

The San Jacinto fault has been one of the most active faults in Southern California during historic time, having produced several large earthquakes of magnitude 6 to 7, such as those that have occurred south of the site near Beaumont in 1899, near San Jacinto in 1918, and near Borrego in 1968. The fault is located about 4.6 miles west of the site.

Two northwest trending faults are inferred in the younger alluvium about 1 mile northeast of the Norton AFB site by Dutcher and Garrett (1963). The faults are mapped based upon groundwater information; impedance of flow, elevated water temperatures, and poor yields in wells near the proposed faults. The proximity of these two faults and their orientation suggest that they are possibly branch faults off of the San Andreas fault.

AF Plant #42

The Palmdale site is situated 5 miles north of the active trace of the south central segment of the San Andreas fault described in the discussion for Norton AFB. The Palmdale site is also 2.5 miles north of the Hitchbrook fault which trends parallel and is probably associated with the San Andreas fault.

The potentially active Garlock fault is about 40 miles north-northwest of the site. It is the longest east-west trending fault in Southern California. No known earthquakes have been attributed to the fault, but small earthquakes have occurred in the general area of the fault. Scarps in Quaternary deposits along the length of the Garlock fault indicate geologically recent ground rupture.

The Clearwater fault is an east-west trending fault which merges with the San Andreas fault 7 miles from the site. The fault is 28 miles long and has apparently had both strike slip and vertical displacement. Evidence suggests that the Clearwater fault moved in Pleistocene or Post-Pleistocene time.

NAS Point Mugu

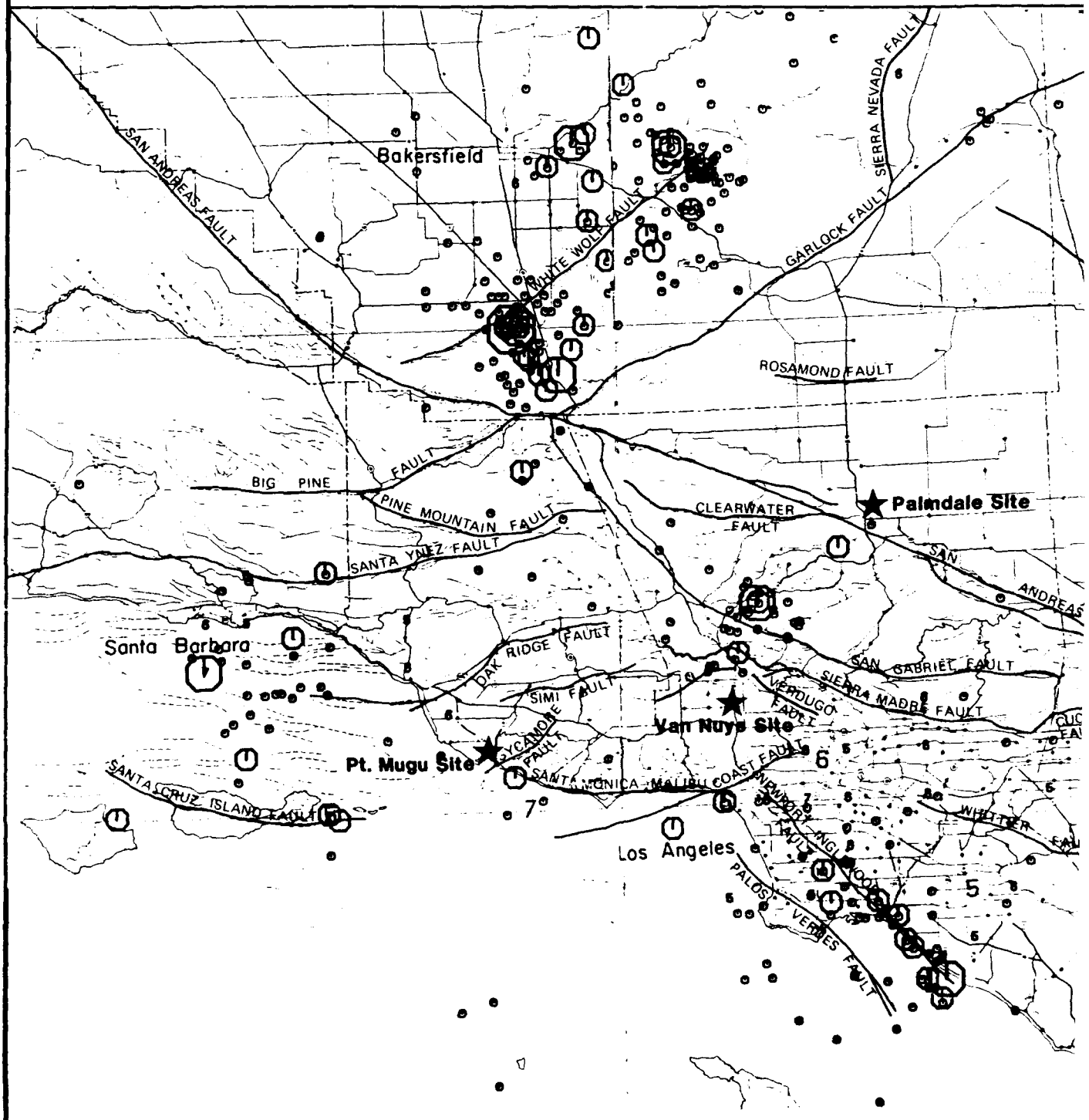
Point Mugu and the Ventura Basin are dominated by northeast to east trending faults. Most conspicuous of these faults is the Oak Ridge fault, located 9 miles northwest of the site. This structure is a moderately steep, south-dipping reverse fault. The fault is about 50 miles long and has contributed to the steep north slope of South Mountain. The fault is considered active (Ventura County Seismic Safety Element).

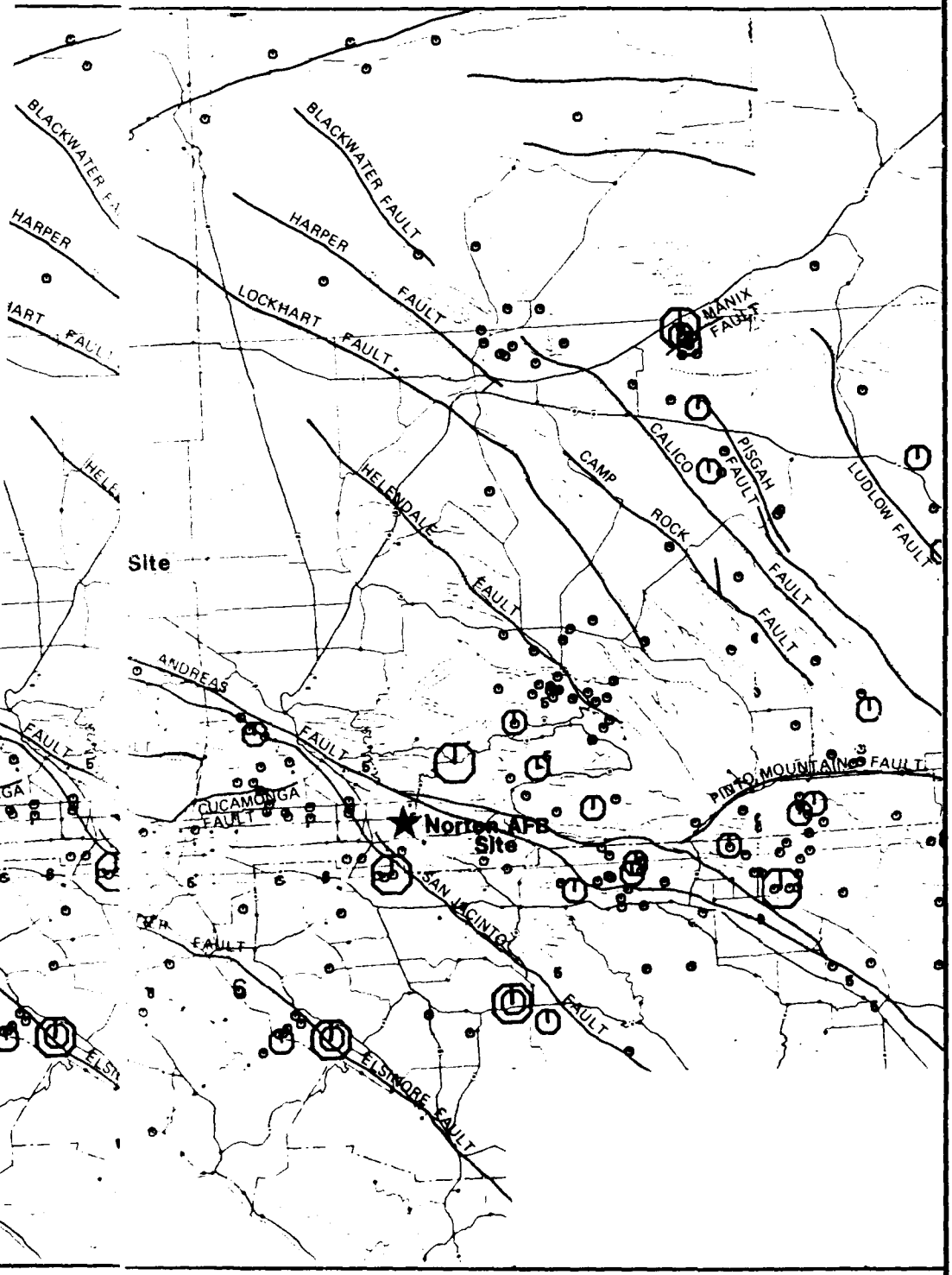
The Sycamore fault trends northeastward from Point Mugu for 14 miles inland. It is a steeply dipping left lateral fault which passes about 6 miles to the east of the

site. The Sycamore fault does not cut recent deposits but displaces pre-Pleistocene units. The fault is designated as potentially active (Ventura County Seismic Safety Element, 1974).

The Bailey fault is a steeply dipping fault located about 2 miles from the site. There is no evidence of movement in the recent deposits. The fault is inferred from water well data and is categorized as potentially active.

The active Santa Monica Malibu Coast fault extends for approximately 60 miles from the Los Angeles basin, along the coast westward toward Point Dume and possibly offshore of Point Mugu. The fault is believed to be a series of north-dipping thrust faults and may have caused the 1975 Point Mugu earthquake (magnitude 5.6). Displaced terrace and near surface sedimentary deposits along the fault are additional evidence for the recent activity of the fault. The fault is approximately 6 miles from the site.


Bakersfield
SAN ANDREAS FAULT
WHITE WOLF FAULT
GARLOCK FAULT
SIERRA NEVADA FAULT
ROSAMOND FAULT
BIG PINE FAULT
PINE MOUNTAIN FAULT
SANTA YNEZ FAULT
CLEARWATER FAULT
Palmdale Site
SAN ANDREAS
Santa Barbara
OAK RIDGE FAULT
SIMI FAULT
SAN GABRIEL FAULT
SIERRA MADRE FAULT
VERDUGO FAULT
Van Nuys Site
SYCAMORE CANYON FAULT
Pt. Mugu Site
SANTA MONICA-MALIBU COAST FAULT
SANTA CRUZ ISLAND FAULT
Los Angeles
PALOS VERDES FAULT
WHITTIER FAULT
7°
6
5



Legend

- 4.0 to 4.9 magnitude
- 5.0 to 5.9 magnitude
- 6.0 to 6.9 magnitude
- 7.0 to 7.9 magnitude

INTEGER.....MAXIMUM REPORTED INTENSITY
(Only for earthquakes of UNKNOWN magr

Fault

PREPARED BY WOODWARD-CLYDE CONSULTANTS

Source: C.R. Real, T.R. Toppozada, and D.L. Parke 1978

FIGURE III-47
MAJOR FAULTS AND EARTHQUAKE EPICENTERS SOUTHERN CALIFORNIA

prc

PRC Engineering, Inc.

BIOLOGICAL RESOURCES

Van Nuys Airport

There are virtually no biological resources at the existing site of the ANG facility. The lack of plant materials and natural habitat constrain faunal activity to a few urban species that are characteristic of urban settings in Southern California. Paved areas and buildings with a few ornamental shrubs have very little biological value. No rare or endangered species are present.

Norton AFB

The proposed site at Norton Air Force Base has very little biological value. Weedy vegetation in the vicinity of the proposed site includes bromegrass, wild oats, lupine, and mustard. Plant cover is minimal and supports no significant wildlife. Indicator species of wildlife characteristic of the disturbed landscape at the airport include small rodents and lizards, highly adaptive birds, and opportunistic scavengers. Ground squirrels, mice, rats, and gophers are common representatives of mammals in the vicinity. Avian species represented include Western meadowlarks, starlings, Brewer's blackbirds, rock doves, seagulls, English sparrows, mockingbirds, crows, killdeers, and the common house finch. Reptiles are represented by the Western fence lizard, side-blotched lizard, and an occasional Southern alligator lizard.

AF Plant #42

Vegetation and Plant Communities

A botanical survey recorded only those on-site species identifiable on August 6th and 7th 1984. Plant diversity at this site is deceptively low. The 26 plant species identified should not be considered as the total species compliment. Perennial species were the only living part of the vegetation. The dead dried stems and leaves of the annual species were the only remnants of the most common or hardy individuals to grow in this dry year. Other annual species can be expected in years with more rainfall.

The plant associations recognized include Yucca, Atriplex, and Larrea. These plant communities have been mapped and are depicted in Figure III-48. The tall Joshua tree (Yucca brevifolia) characterizes the yucca associations, although individuals of cheese bush (Hymenoclea salsola), Nevada Mormon tea (Ephedra nevadensis), and four-winged saltbush (Atriplex canescens) are more numerous. This plant association dominates and stabilizes the low hummocks and ridges formed of fine windblown sand. The Joshua tree and the cheese bush grow well on these well-drained low alkaline soils of the Cajon series. The Cajon soils include areas of loamy sand to loamy coarse sand with a little alkalinity and are dominated by four-winged saltbush with some cheese bush and Mormon tea. Creosote bush (Larrea tridentata) and Mormon tea dominate the low lying flat areas with the finer textured soils.

Burro bush (Ambrosia dumosa) and desert tomato (Lycium andersonii) are also important components of this association. The finer textured soils supporting these plants are sandy loams of the Adelanto soil series. On the southeast part of the

site, there are areas of Adelanto soil with little or no cresote bush, and Mormon tea is the dominant with Winter Fat (Eurotia lanata), narrow-scaled felt-thorn (Tetradymia stenolepis), goldenhead (Acamptopappus sphaerocephalus) as sub-dominants.

Sheep grazing has changed the herbaceous understory. Weedy European and Mediterranean species have been introduced and may be contributing to the displacement of native species. A complete species inventory for the Palmdale site is shown in Appendix 1.

Wildlife

As previously stated, the biological survey was conducted on the site on August 6th and 7th 1984, a very dry time of the year. Wildlife diversity appeared low, as only two species of reptiles, no amphibians, 15 species of birds and six species of mammals were observed. The most common mammal on the site is the black tail jackrabbit. The most common bird consistently observed on the site was the cactus wren, although several groupings of horned larks were observed. The Western whiptail was observed on several occasions.

The Joshua tree woodland community harbored signs of coyote (i.e., recent kills, scat) and on two occasions owl pellets were collected under Joshua trees. These signs depict a simple food chain with carnivorous mammals and raptors as dominant and cottontail, jackrabbit, kangaroo rat, pocket mice and some lizards comprising the prey items. The common roadrunner, cactus wren and thrasher also prey on lizards and insect species on this site.

Barriers such as fence lined roadways and roadcuts, and the presence of automobiles and domesticated animals in the area adversely affect the value of wildlife habitat. Domesticated animals compete with the natural fauna. Consequently, the wildlife carrying capacity on the site is reduced by these surrounding man-induced disturbances. This disturbance further fragments the habitat and creates an artifical barrier to movement by some secretive species (e.g., bobcat, grey fox). Continued fragmentation of the Mojave Desert also makes it less attractive to migratory birds. The proposed ANG relocation site is not considered to comprise a significant wildlife habitat loss when contrasted to the Antelope Valley.

A complete species list of observed species for this study and reported vertebrates in the vicinity are shown in Appendix 1. Appendix 1 is provided for AF Plant #42 since this site could support, at a given time of the year, many of those species presented. Detailed species lists are not appropriate for the other project alternative sites. These other sites have been disturbed so heavily that the vast majority of species relying on them are covered adequately in the text.

Species of Concern

No endangered, threatened, or rare plant species were observed or are expected to occur on the site. This analysis includes all Federal and State lists, as well as the California Native Plant Society (CNPS) lists.

A species of animal reported in the Antelope Valley area which may potentially occur on the site is the Mojave ground squirrel (Spermophilus mohavensis). The Mojave ground squirrel is a rare State-listed species and has no Federal listing. Although there is suitable habitat on the site, no Mojave ground squirrel was observed at the time of the biological survey. The white-tailed antelope squirrel was observed and occupies much of the same range of the Mojave ground squirrel. The Palmdale site is located on the southwesterly perimeter of the Mojave ground squirrel range.

The desert tortoise (Gopherus agassizi) is a protected reptile in the State and does occur in the Antelope Valley but is not listed as endangered or rare in the California listing. The current status of the desert tortoise is considered undetermined. This animal has no Federal listing. The desert tortoise was not observed at the time of the biological survey.

NAS Point Mugu

Vegetation and Plant Communities

The bulk of this property is now used for row-crop agriculture and supports little indigenous habitat type. A small triangular 21-acre area located at the southern tip of the site is fallow land and contains successional and disturbed natural habitats, including some marginal marsh-like habitat (see Figure III-49).

The fallow parcel is bounded on the north by a levee, beyond which is a narrow irrigation ditch and an agricultural row-crop area. On the southeast is another high levee berm, topped by a chain-link fence and beyond is a roadway along the boundary of the Pacific Missile Test Range. On the west is a low berm which edges an irrigation canal and beyond is recently fallowed cropland which is also part of the relocation site.

The fallow site is flanked on the west by a water-filled canal. The canal banks are vegetated by a thick growth of Mexican tea and bermuda grass, and lesser of willow-weed, water grass and South American horseweed.

Three principal biotic associations exist in the fallow parcel. These are:

- Disturbed moist meadow
- Primary succession wet-field swale and freshwater marsh transition habitat
- Disturbed hyposaline marsh

The disturbed moist meadow comprises the bulk of the habitat of the fallow land. The vegetation now on the site represents a succession from disturbance back to natural nabitat conditions. The dominant cover in the moist meadow setting is composed of stands of bermuda grass (Cynodon dactylon), a species commonly used as lawn grass. Various kinds of ruderals and swale forbs are also present. The most common forb is white sweet-clover (Melilotus albus), also found are bindweed (Convovulus arvensis), radish (Raphanus sativus), lamb's quarter (Chenopodium album), Western ragweed (Ambrosia psilostachya), broad-leaved plantain (Plantago

major), Mexican tea (Chenopodium ambrosioides), curly dock (Rumex crispus), small-flowered nightshade (Solanum nodiflorum) and other weedy broadleaf species.

The wet-field swale and freshwater marsh transition habitat type is concentrated in two small areas of the site. The first swale is the remnant of what appears to have been an artificial impoundment surrounded by a levee-berm. The second swale is generally in the northeast corner, extending in linear outliers westward along what are assumed to have once been irrigation ditches. The habitat indicator in both locales is arroyo willow (Salix lasiolepis), a phreatophyte shrub or small tree of seasonally moist settings. In the abandoned impoundment, now nearly dry during the 1984 summer drought, are ten living and one dead willow. There are two colonies of California bulrush (Scirpus californicus), one on the east side of the depression and the other on the west side. The latter colony was in standing water of about 4 inches in depth as of September 20, 1984. Other phreatophytes present are narrow-leaved cattail (Typha angustifolia), slender aster (Aster exilis), rabbitsfoot grass (Polypogon monospeliensis), small specimens of two additional willow species, sandbar (S. hindsiana) and golden (S. laevigata). Saltgrass (Distichlis spicata), a dense growth of bermuda grass, Western ragweed and South American horseweed (Conyza bonariensis) are found in drier portions of the abandoned impoundment. The total phreatophyte cover in this depression does not appear to exceed 20 percent. The northeast willow stand consists of numerous young individuals and more mature clusters exceeding 8 feet in height. The latter total 23 multi-stemmed clumps concentrated in the extreme northeast corner of the fallow area along the edge of the levee. Mulefat (Baccharis glutinosa) watergrass (Echinochloa crusgalli) and dallis grass (Paspalum dilatatum) are commonly distributed in many portions of the site. Slender aster, Mexican tea, broad-leaved plantain and white sweet-clover are the widespread herbs indicating moderately moist conditions. Other moisture indicator species occasionally found are fescue grass (Bromus willdenavii), willow-weed (Polygonum apathifolium) and celery (Apium graveolens).

The disturbed hyposaline marsh setting extends along the southeastern perimeter of the property in an apparent area of interior drainage flanked by the high earthen berm of the Missile Range airfield. The edges of this zone contain alkali heliotrope (Heliotropium curassa vicum), sugar beet (Beta vulgaris), spear orache (Atriplex patula), alkali weed (Cressa truxillensis), five-hooked bassia (Bassia hyssopifolia) and patches of salt grass. The lower, presumably more saline areas contain discontinuous patches of pickleweed (Salicornia cf. subterminalis), along with sand spurrey (Spergularia marina) and an abundance of bassia and alkali weed. A small amount of woolly California sea-blite (Sueda californica pubescens) is also present.

A narrow irrigation ditch which runs along the north perimeter of the proposed site is lined with sprangletop grass (Leptochloa uninervia), while a windrow of blue gum eucalyptus (Eucalyptus globulus) trees flanks the west side of the agricultural portions of the site from Hueneme Road south for a distance of about 1 mile.

Wildlife

The bermuda grass fields are inhabited by gophers (Thomomys bottae), ground squirrels (Spermophilus beecheyi) and probably by harvest mice (Reithrodontomys megalotis), house mice (Mus musculus), California voles (Microtus californicus) and deer mice (Peromyscus maniculatus) as these species are commonly found within

this plant community type. Harvest mice, house mice and California voles constitute the favored food of the black-shouldered kite (Elanus leucurus). A pair of these raptors is wintering here.

Other birds associated with the meadow habitat observed here are kestrels (Falco sparverius), loggerhead shrikes (Lanius ludovicianus), and western meadowlarks (Sturnella neglecta).

Coyote (Canis latrans) scat was noted in one area. Swallows were observed soaring over the fields. A black-shouldered kite pair perch in the impoundment willows. It is assumed that they are wintering birds; the species normally nests inland in oak woodland-savannah habitat, shifting to the coast after the nesting season is completed.[1] Other fauna observed about the willow habitats were song sparrows (Melospiza melodia), and Pacific tree frogs (Hyla regilla), the latter in the old impoundment only. Only the killdeer (Charadrius vociferus) was seen in this portion of the parcel.

The disturbed hyposaline marsh supports an example of a habitat type which is of limited distribution; however, the small size and its degraded condition, the abundance of salt marsh ruderals[2] and the visible absence of dependent vertebrate fauna (invertebrate species were not censused), limits the existing quality of this habitat.

The eucalyptus trees are suitable perch sites for raptors, barn owls (Tyto alba) and crows (Corvus brachyrhynchos), as well as smaller perching birds. The extent to which these trees are used is limited by the very small amount of foraging habitat in the general vicinity.

Seasonally, it has been reported that the white ibis, Canadian goose and coot will occasionally rest on the reclaimed marsh area at the southerly triangular portion of the site during winter months.

Offsite Areas of Biological Concern

Although the ANG relocation site at Point Mugu is not particularly sensitive to further disturbance, the areas to the southwest, within a few hundred yards are dominated by salt marsh and riparian vegetation. Mugu lagoon, a sensitive estuarine habitat, is downstream of the site. Some discussion of these important local nearby resources is therefore warranted.

There are eight wildlife habitats in the vicinity. These include: ocean beaches and dunes, subtidal lagoon, waterways and ponds, intertidal sand and mud flats, low marsh, high marsh, salt pans and disturbed open space. Wetland habitat, within the

[1]The breeding season extends from December to late spring, exploiting greater prey productivity inland during and following the winter rain period.

[2]Spear orache, alkale weed and five-hooked bassia are all disturbance-response plants of coastal saline settings.

boundaries of NAS Point Mugu, includes an estimated 1,735 acres which include lagoon, marshes and beach. The most sensitive and biologically important habitat is that of Mugu Lagoon.

Mugu Lagoon provides one of the few surviving examples of the diverse and highly productive ecosystems that once flourished along the Southern California coast. Its shallow, nutrient rich and sunlit waters, continually moving with the ebb and flow of the tides, support important food chains. Mugu Lagoon is an estuary and supports a diverse nursery for invertebrates and vertebrates.

Adjacent to Mugu Lagoon is the salt marsh vegetation, dominated by pickleweed which supports a diverse, largely terrestrial community. Rabbits and mice, coots, rails and ducks all take marsh plants and seeds. Insects provide food for spiders, lizards, and small mammals and a variety of waterfowl, shorebirds and land birds. Major predators on the small mammals include the long-tailed weasel, snakes and several birds -- herons, burrowing owls and kites. Rabbits and coots are taken by larger raptors such as the red-tailed hawk and golden eagle. Carnivores at the top of the food chain are now largely excluded from NAS Point Mugu by the security fence, but some foxes and coyotes remain.

These wetland ecosystems occupy the interface between marine and terrestrial communities, and as such, they experience continuous variations in species composition and dynamics. In addition to changes that accompany tidal ebb and flow, seasonal variations are also evident. Thousands of migrant shorebirds and waterfowl are present through the fall and winter, but absent in the summer.

Species of Concern

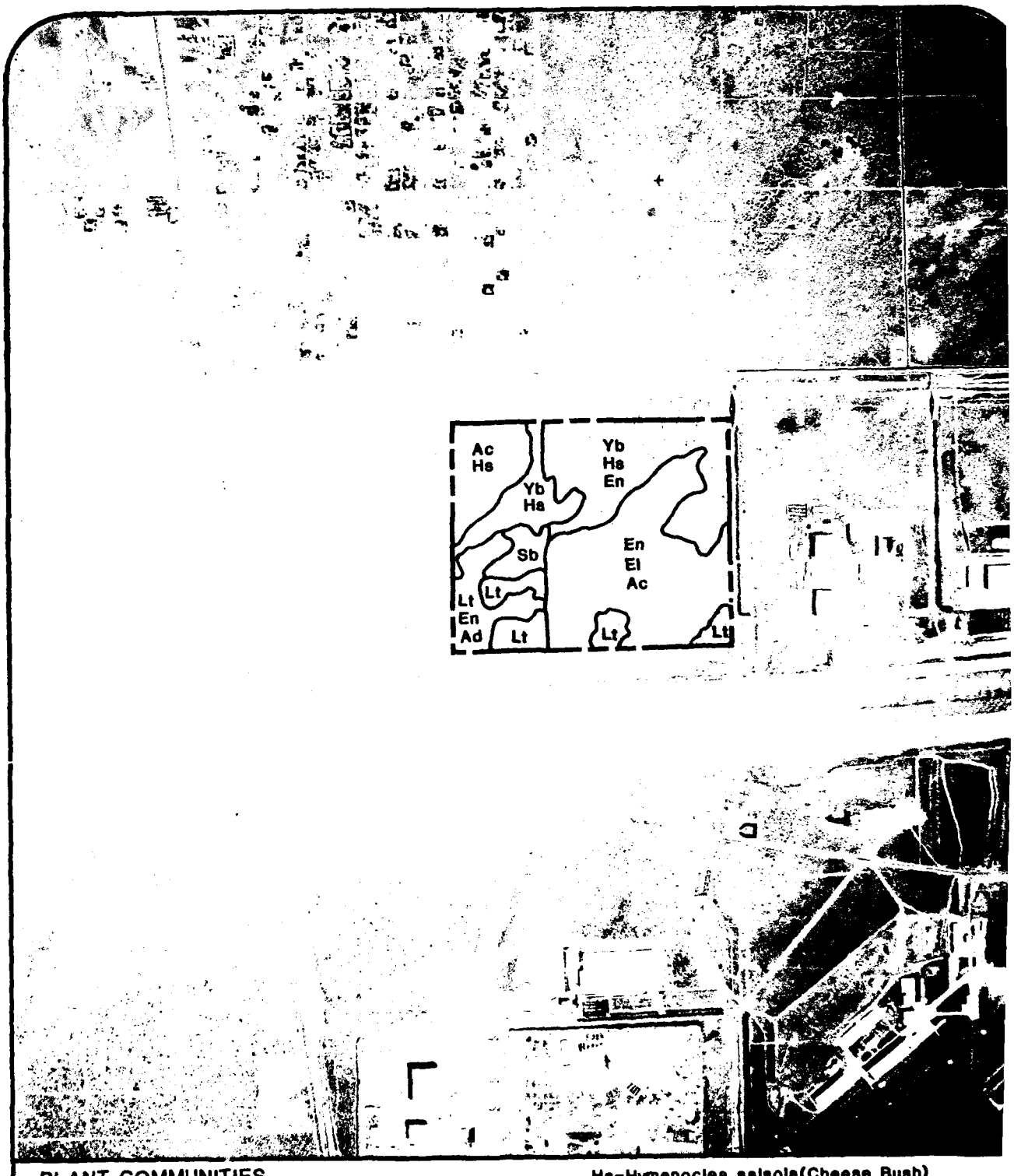
No species of concern were observed on the project site nor are any dependent upon it for foraging. There are, however, a number of species of concern in offsite lagoons and wetlands. These species are found along or near the coast and are not in proximity to the proposed site. They are:

Plants

- Salt marsh's bird's beak (Endangered - State listed) (Cordylanthus maritimus maritimus)

Animals

- Belding's savannah sparrow (Endangered - State listed)
- California least tern (Endangered - State and Federal listed)
- Light-footed clapper rail (Endangered - State and Federal listed)
- California brown pelican (Endangered - State and Federal listed)
- American peregrine falcon (Endangered - State and Federal listed)



PLANT COMMUNITIES

Yb-Yucca brevifolia(Joshua Tree)
Lt-Larrea tridentata (Creosote Bush)
Ac-Atriplex canescens(4-Wing Saltbush)
En-Ephedra nevadensis (Mormon Tea)
Hs-Hymenoclea salsola(Cheese Bush)
El-Eurotia lanata (Winterfat)
Ad-Ambrosia dumosa(Burrobush)
+Sb-Schismus barbatus(Mediterranian Grass)

+Heavily impacted by sheep grazing.

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FIGURE III-48
AF PLANT #42
PLANT COMMUNITIES

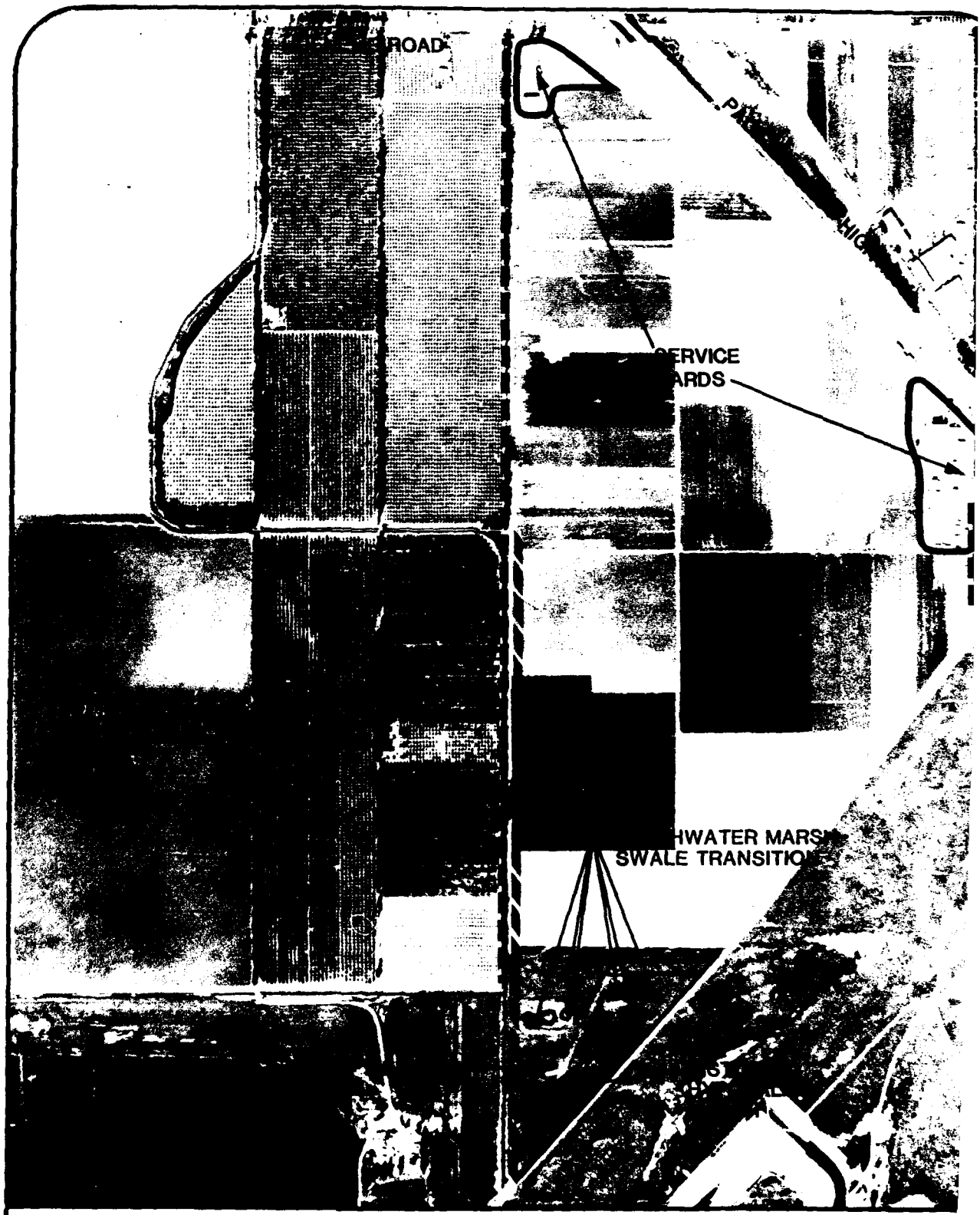

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FIGURE III-49
NAS POINT MUGU
PLANT COMMUNITIES

WATER SUPPLY

Van Nuys Airport

The annual domestic water consumption of the Van Nuys ANG Base is approximately 30 acre-feet per year. The water requirement for fire protection is at 12,500 gallons per minute (gpm) for a duration of 45 minutes and at a residual pressure of no less than 25 pounds per square inch (psi). Water supply to the ANG Base is currently supplied by the City of Los Angeles, Department of Water and Power (DWP). The water source to Van Nuys is the Los Angeles Aqueduct which imports water from Owens Valley.

Norton AFB

Most of the water used at Norton AFB is supplied by on-site domestic wells. Groundwater is withdrawn from the underlying Bunker Hill Groundwater Basin and is chlorinated on-base. Norton AFB is also connected to the water distribution system of the City of San Bernardino, which is also 100 percent groundwater. The groundwater table of the Bunker Hill Basin is rising, and no shortage of groundwater is expected. Correspondence with the Norton AFB staff has revealed that an inactive domestic well exists in the vicinity of the proposed site and that the well can be reactivated for service if needed.

AF Plant #42

The proposed Palmdale relocation site is currently vacant, and no water is supplied to the site. The adjacent AF Plant #42 obtains water entirely from on-site wells. The proposed site and AF Plant #42 are located within the Lancaster subunit of the Antelope Hydrologic Unit. The California Regional Water Quality Control Board (RWQCB), Lahontan District, is responsible for protecting the groundwater quality of the basin. Since the Board prescribes waste discharge requirements for AF Plant #42, its wells have to be registered with the RWQCB, and water quality analysis reports of groundwater have to be submitted semiannually.

There is no groundwater management agency monitoring groundwater pumpage in the area, and the groundwater level has been declining at a rate of 2 to 3 feet per year for the past 50 years. According to the Los Angeles County Water Works, groundwater supply in this area is adequate to support the existing and projected population over the next 5 years. The Antelope Valley is in the service area of the California State Water project. The Los Angeles County Planning Commission has projected that approximately 40 percent of the population will rely upon State Project water imported from Northern California for their water supply by the year 2000.

The proposed relocation site is within the service area of two water purveyors: the Antelope Valley East Water Agency and the Los Angeles County Water Works (LACWW). The Antelope Valley East Water Agency is a wholesaler of State Project water. Facilities existing in the vicinity of the site are located along 10th Street West, Avenue N, and Avenue 04. However, the Antelope Valley East Water Agency supplies water on an interruptible basis depending upon the availability of State Project water. Therefore, water supply by this agency can be used only as a supplemental source. On the other hand, the LACWW can supply water on

a more reliable basis. LACWW supplies groundwater from its wells and supplemental water purchased from the Antelope Valley East Water Agency. Water turnout mains which are nearest to the proposed relocation site, and which are owned by the LACWW, are located at Sierra Highway and Avenue M, and 10th Street East and Avenue L.

NAS Point Mugu

The NAS Point Mugu site is currently in agricultural production. Water for irrigation is currently obtained from on-site and nearby wells and imported water supplied by the United Water Conservation District (UWCD) on a 60-40 percent basis (groundwater versus imported water). Annual water consumption for irrigation of the site is estimated at 1,195 acre-feet per year. If relocated to this site, the ANG can obtain its water supply from one or more of several sources: 1) connect to NAS Point Mugu supply system; 2) connect to the City of Oxnard's water supply; 3) use private wells on site.

NAS Point Mugu currently obtains water from onsite domestic wells and groundwater supplied by the UWCD on a 50-50 percent basis. NAS Point Mugu is entitled to 786 acre-feet per year of water supplied by UWCD via the Mugu Lateral of the Oxnard-Hueneme pipeline. The Oxnard-Hueneme pipeline also serves the City of Oxnard, Port Hueneme, and several mutual water companies. No surplus capacity exists in the Oxnard-Hueneme pipeline.

The City of Oxnard obtains its groundwater supply from the UCWD and imported surface water from Calleguas Municipal Water District (CMWD). CMWD currently supplies the City of Oxnard from the State Water Project. Should the ANG seek its water supply from the City of Oxnard, it must file a petition for service with Oxnard since the proposed relocation site is outside of the City's service area. The ANG may also be required to build its own connection to the City's system since no City facilities currently exist in the vicinity of the proposed site.

The third alternative to obtain water would be to extract groundwater from on-site wells. The proposed site is in the Oxnard Plain Pressure Groundwater Basin. As has been discussed in the groundwater section, shallow aquifers of the Oxnard Plain Basin are contaminated by seawater intrusion. Hence, freshwater has to be withdrawn from deeper aquifers (600 feet or more below ground surface). Currently, there is no restriction to pumping nor adjudicated pumping rights to private parties. However, some restrictions may be proposed in the groundwater management plan which is being prepared by the Ventura County Flood Control District (VCFCD) and Water Resources Department for the Fox Canyon Groundwater Management Agency.

WASTEWATER

Van Nuys Airport

The Van Nuys ANG Base currently generates wastewater at an average rate of 0.02 million gallons per day (mgd). During the 2 days per month when ANG reserves are training at the Van Nuys facility, wastewater is generated at a rate as high as 0.14 mgd.

Currently, the wastewater generated on the Base is discharged into the sanitary sewer system of the City of Los Angeles and treated at the Hyperion Wastewater Treatment Plant in the City of Los Angeles. However, information obtained from the City of Los Angeles Bureau of Sanitation indicates that wastewater in the San Fernando Valley is in the process of being diverted to the Donald C. Tillman Water Reclamation Plant in the San Fernando Valley. The Tillman Plant began operating in June, 1984, and currently has a capacity of 40 mgd. The Tillman plant will handle a portion of the estimated 124 mgd wastewater flows from the San Fernando Valley, including all of the flows from the Van Nuys community. This treatment plant is designed for expansion in 40 mgd modules, and plans exist to double its capacity within the next 10 years. The administration building is sized to accommodate the staff and equipment required for a 200 mgd design capacity.

Norton AFB

Norton AFB has a contract with the City of San Bernardino for the treatment of wastewater generated on the Base. The agreement between Norton AFB and the City of San Bernardino is based upon a maximum Base population of approximately 12,000 people. The Base currently has a population of 10,700; thus, the additional 300 ANG technicians (reserves are not included in the Base population) would not impact wastewater service to Norton AFB adversely. A wastewater collection system already exists on the Base, and the relocated ANG facility can connect to the existing system. The San Bernardino Wastewater Treatment Plant is designed for 24.5 mgd and is currently treating 21 mgd of wastewater flow. Construction to expand the plant to 28 mgd is expected to begin in September 1985 and should be completed in 2 1/2 years.

AF Plant #42

AF Plant #42 has its own wastewater treatment plant on site. The design capacity of this treatment plant is 0.57 mgd and is currently using about 40 percent of this capacity. Although the design capacity of the primary treatment plant is 0.7 mgd, the limiting factor is the secondary treatment plant which has a treatment capacity of 0.57 mgd. If relocated to the Palmdale site, the ANG can build its own wastewater collection system to be connected to the AF Plant #42 treatment facility.

NAS Point Mugu

The proposed relocation site at Point Mugu is not being served currently by any wastewater collection or treatment system. Wastewater generated at the adjacent NAS Point Mugu is collected by an existing sewer interceptor along Hueneme Road and transported to the Oxnard Wastewater Treatment Plant for treatment. The existing capacity of the Oxnard Wastewater Treatment Plant is 22.6 mgd (based

upon secondary treatment capacity of 22.6 mgd) and on the average treats 19.4 mgd. However, a past study indicated that the current peak dry weather flow is 32.7 mgd, due to high inflow/infiltration, and the peak wet weather flow is 50 mgd.[1] The existing capacity for preliminary treatment is designed for 50 mgd; therefore, the plant operates at capacity during peak flow periods.

When the secondary treatment capacity of 22.6 mgd is exceeded, as during peak flow periods, a portion of the incoming wastewater receives only primary treatment. The resulting effluent from the plant is thus a blend of primary and secondary treated wastewater. The blended effluent meets Federal and State standards since peak flow is mainly caused by inflow and infiltration of relatively uncontaminated storm runoff and/or groundwater seepage. To reduce the inflow/infiltration, the City of Oxnard requires developers of new projects to improve existing sewer lines if the projects will discharge into sewer lines that are flowing at capacity. However, this requirement would not apply to the ANG since the proposed relocation site is not within the City's boundary and the Hueneme Interceptor is not in need of improvements. In addition, the City of Oxnard is currently undertaking a study to expand the capacity of the treatment plant. The study is expected to be released in April 1985. According to the City, however, the Hueneme Interceptor would have adequate capacity to handle the wastewater flow from the ANG base and NAS Point Mugu.

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1 PRC Toups Corporation, 1979, Oxnard Wastewater Reclamation Facilities Plan (Project Report).

CULTURAL RESOURCES

The three proposed relocation sites have been studied by an archaeological team to identify potential impacts upon archaeological and historical resources. Each site was the subject of records and literature reviews, and field surveys were conducted at the proposed AF Plant #42 and NAS Point Mugu relocation sites. The following is a summary of these investigations. Findings were forwarded to the California State Historic Preservation Officer (SHPO). A letter indicating the SHPO's concurrence with the study findings was received and is included in the Appendix.

Archaeological records searches revealed no recorded archaeological or historical resources at the project sites or within one mile of the subject properties. Archaeological surveys of the AF Plant #42 and the NAS Point Mugu sites were conducted. No resources were located which would be eligible for the National Register of Historic Places.

Although no sites were found within the NAS Point Mugu property boundaries, there are several recorded archaeological sites within 2 to 3 miles of the subject property adjacent to NAS Point Mugu.

A 1904 map also indicates that two historic structures were adjacent to the northwest boundary of Norton AFB. Two structures were within 400 feet of the proposed NAS Point Mugu relocation site. Another structure is indicated approximately 1,000 feet east of the northernmost boundary of the Point Mugu site. All of these historic structures no longer exist.

AGRICULTURE

AF Plant #42

The project site remains in a relatively undisturbed condition and is covered with scattered desert shrubs and other vegetation typical of the Mojave Desert. The site has never been used in agricultural production.

As shown in Figure III-50 and Table III-17, the vast majority of the site contains Cajon loamy sands. These soils are classified as Class 3 when irrigated and Class 7 when dryfarmed. Class 3 soils are not considered prime farmlands.

TABLE III-17. SOILS TYPES AT AF PLANT #42

Soil Type	Capability Unit		Storie Index		Acres
	Irrigated	Dryland	Rating	Grade	
Cajon loamy sand 0-2% slopes (CaA)	IIIe-4	VIIe-4	76	2	131
Cajon loamy sand 2-9% slopes (CaC)	IIIe-4	VIIe-4	62	2	43
Cajon loamy fine sand 0-2% slopes (C_cA_2)	IIIe-4	VIIe-4	49	3	96
Adelanto coarse sandy loam, 0-2% slopes (AcA)	IIIe-4	VIIe-1	73	2	20
Total					290

NAS Point Mugu

This site is located within the Oxnard Plain, which is one of the most productive agricultural areas in the United States. In 1977, Ventura County ranked eleventh among the 58 counties in California and 17th among the nation's 3,175 counties. According to Ventura County (1980), nearly one-third of the southern half of the County (150,000 acres) contains prime agricultural soils (Class I and II as defined by Capability Classification System of the U.S. Soil Conservation Service). Approximately 106,000 acres are currently in irrigated agricultural production (Ventura County 1980.)

The project site contains 239 acres of prime farmland (Class II soils). The vast majority of the project site contains the soils group of Hueneme Sandy Loam (Hn) (see Figure III-51). This type of soil is classified as Class II and has a Storie Index rating of 60, Grade 2. The remainder of the site contains Camarillo Loam (Cd) which is classified as Class II and has a Storie Index of 75, Grade 2 (see Table III-18). This site represents 0.16 percent of the prime agricultural soils located in the southern half of Ventura County.

Most of this site is within an agricultural preserve established under the Land Conservation Act (Williamson Act). The site covers the following contract properties:

Contract	Acreage
47-2.5	53.71
47-2.6	50.50
47-2.7	45.84
47-2.8	41.69
TOTAL	191.74

Such contracts are agreements to maintain property in agriculture or open space uses in return for property tax benefits. The existence of these contracts and the designation of the site as Agriculture - Exclusive Zone demonstrates the County of Ventura's policy to maintain this area in agricultural production.

TABLE III-18. SOILS TYPES AT NAS POINT MUGU SITE

Soil Type	Capability Unit	Storie Index Rating	Storie Index Grade	Acres
Camarillo Loam (Cd)	IIw-2	75	2	16
Hueneme Sandy Loam (Hn)	IIw-2	60	2	223
				239

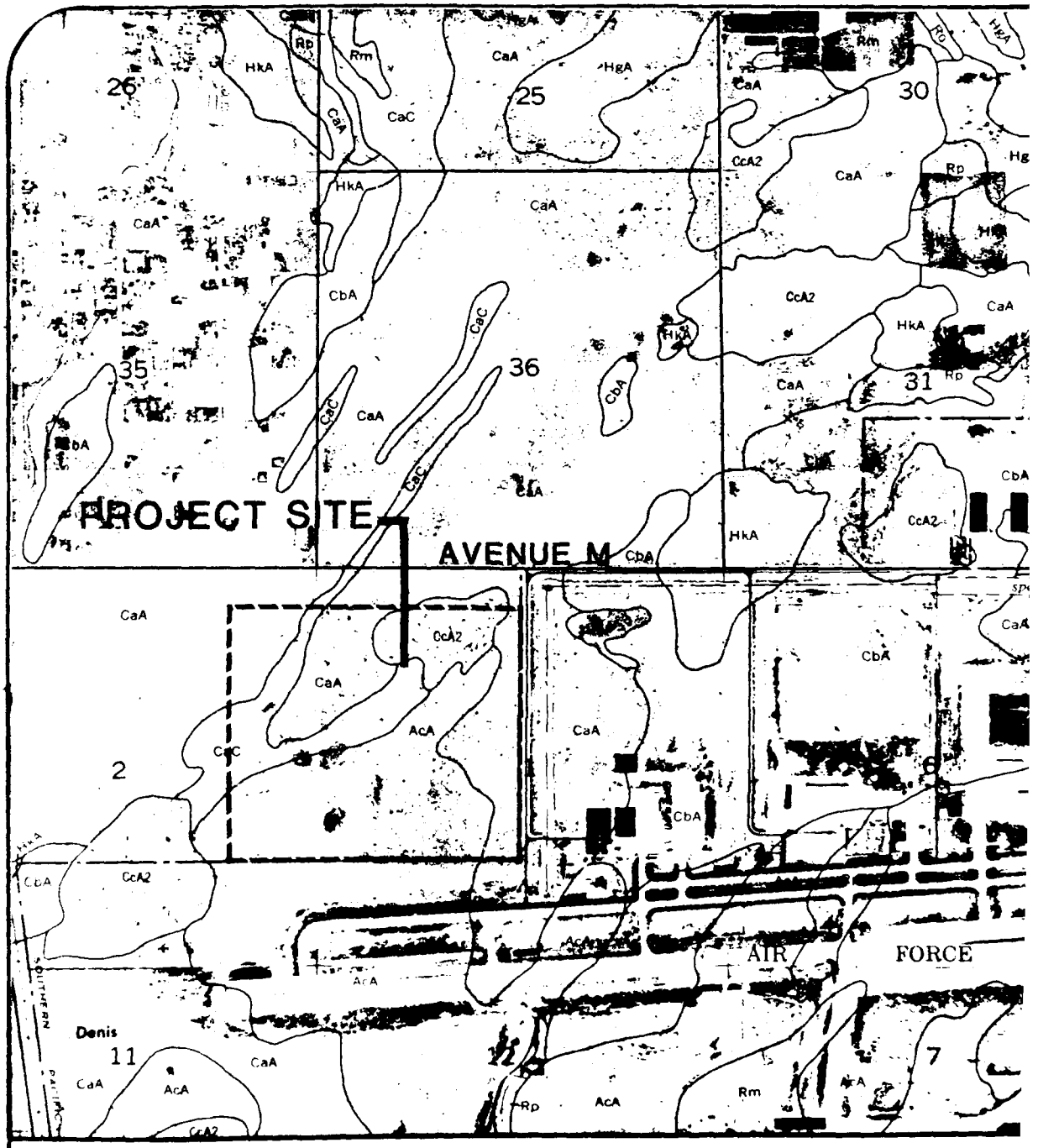
All but about 29 acres of the site are being farmed. This farmland represents approximately 0.2 percent of the irrigated farmland within the County. Two or three crops are produced per year at this site due to the favorable climate and soils. The following are the types of crops grown at this site:

- Celery
- Romain lettuce
- Red leaf lettuce
- Butter lettuce
- Spinach
- Parsley
- Red and green cabbage
- Lima beans
- Tomatoes
- Chile (entire family)

These crops produce a gross income of $3,000 to $7,000 per acre per year depending upon the exact crops grown and assuming 2 to 3 crops per year (Brendler 1984). With 210 acres in production, this site generates from $630,000 to $1,470,000 in gross income per year.

Agricultural production at this site supports approximately 44 employees.[1] This includes planting, harvesting and packing but not processing (canning or freezing). The crops at this site are irrigated with water obtained from wells and imported water purchased from the UWCD. Approximately 40 percent of the water used is obtained from the District and 60 percent is pumped from the wells. An estimated 1,195 acre-feet of water is consumed by the agricultural use at this site each year.

[1] This figure is based upon an assumed average of 438 hours of work per acre per year (Brendler 1984). Multiplying this factor by the site acreage generates 91,980 man-hours per year (210 acres x 438 hr/ac = 91,980). Converting this number into man-years gives the number of jobs generated by this use (91,980 hours ÷ 2,080 hours/yr = 44.2 jobs).



SOIL TYPES

CaA Cajon loamy sand - 0-2% slopes

CaC Cajon loamy sand - 2-9% slopes

AcA Adelanto coarse sandy loam -0-2% slopes

SOURCE : SOIL CONSERVATION SERVICE, U.S. DEPT. OF AGRICULTURE

PRC Engineering, Inc.

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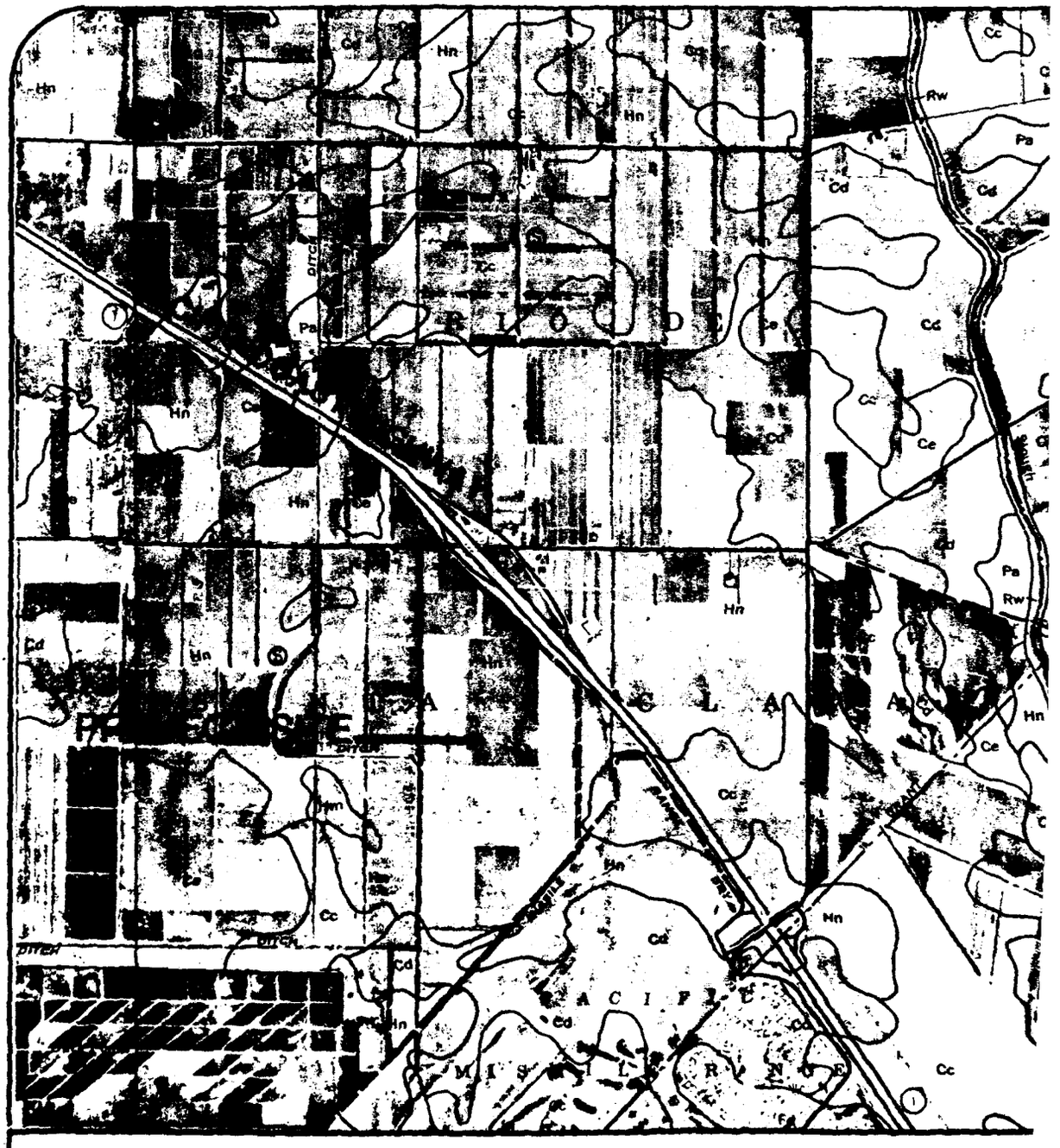
FEET

FIGURE III-50
AF PLANT #42 SOILS M



SOIL TYPES

Cd Camarillo loam

Hn Hueneme sandy loam

SOURCE : SOIL CONSERVATION SERVICE, U.S. DEPT. OF AGRICULTURE

PRC Engineering, Inc.

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FEET

FIGURE III-51
NAS POINT MUGU SOIL MAP

AESTHETICS

Van Nuys Airport

The project site houses the existing ANG facility. This site, the remainder of Van Nuys Airport, and the surrounding area are all highly urbanized. Views of this site from Balboa Boulevard are provided in Figure III-52; views from Stagg Street are shown in Figure III-53. An index to these photographs is shown in Figure III-54.

Norton AFB

The proposed relocation site is located within the existing boundaries of Norton AFB. The site is visible from 3rd Street and urbanized areas to the north. Mature trees line the site's northern boundary along 3rd Street. As shown in Figures III-55 and III-56, views of the site from 3rd Street are limited by these trees. An index to these photographs is given in Figure III-57.

AF Plant #42

The proposed relocation site at Palmdale is currently undeveloped and relatively undisturbed. As with much of the surrounding area, the site is vegetated with desert shrubs and contains a number of Joshua trees. Although it is substantially set back from these roadways, the site is visible from Sierra Highway and Avenue M due to the flat terrain of the Antelope Valley. Figure III-58 provides views of the site from Avenue M. An index to these photographs is shown in Figure III-59. Views west to east and north to south across the site include large AF Plant #42 hangar structures in the distant background. The surrounding area to the northeast and southwest includes an expanse of undeveloped land, while scattered residential buildings are located to the southwest.

NAS Point Mugu

The proposed relocation site at NAS Point Mugu is currently non-urbanized and is being used for agricultural production. The surrounding area is dominated by NAS Point Mugu, buildings and other facilities, agricultural fields, duck ponds, and the SR-1 freeway. A small mobile home park and a commercial building under construction are adjacent to the site.

This site is highly visible from SR-1 freeway, which is designated as a proposed scenic highway in the Ventura County Scenic Highways Element. This "proposed scenic highway" status was established in 1977, when the Ventura County Board of Supervisors requested that the State Division of Highways complete a "Corridor Study" for this highway. The study has not been completed, and SR-1 is still designated only as a "proposed" scenic highway. Figure III-60 provides some views of the site from the SR-1 freeway. An index to these photographs is shown in Figure III-61.

PRC Engineering, Inc.

FIGURE III-52
VIEWS OF PROJECT SITI
AT VAN NUYS AIRPORT

PRC Engineering, Inc.

FIGURE III-53
VIEWS OF PROJECT SITE AT VAN NUYS AIRPORT

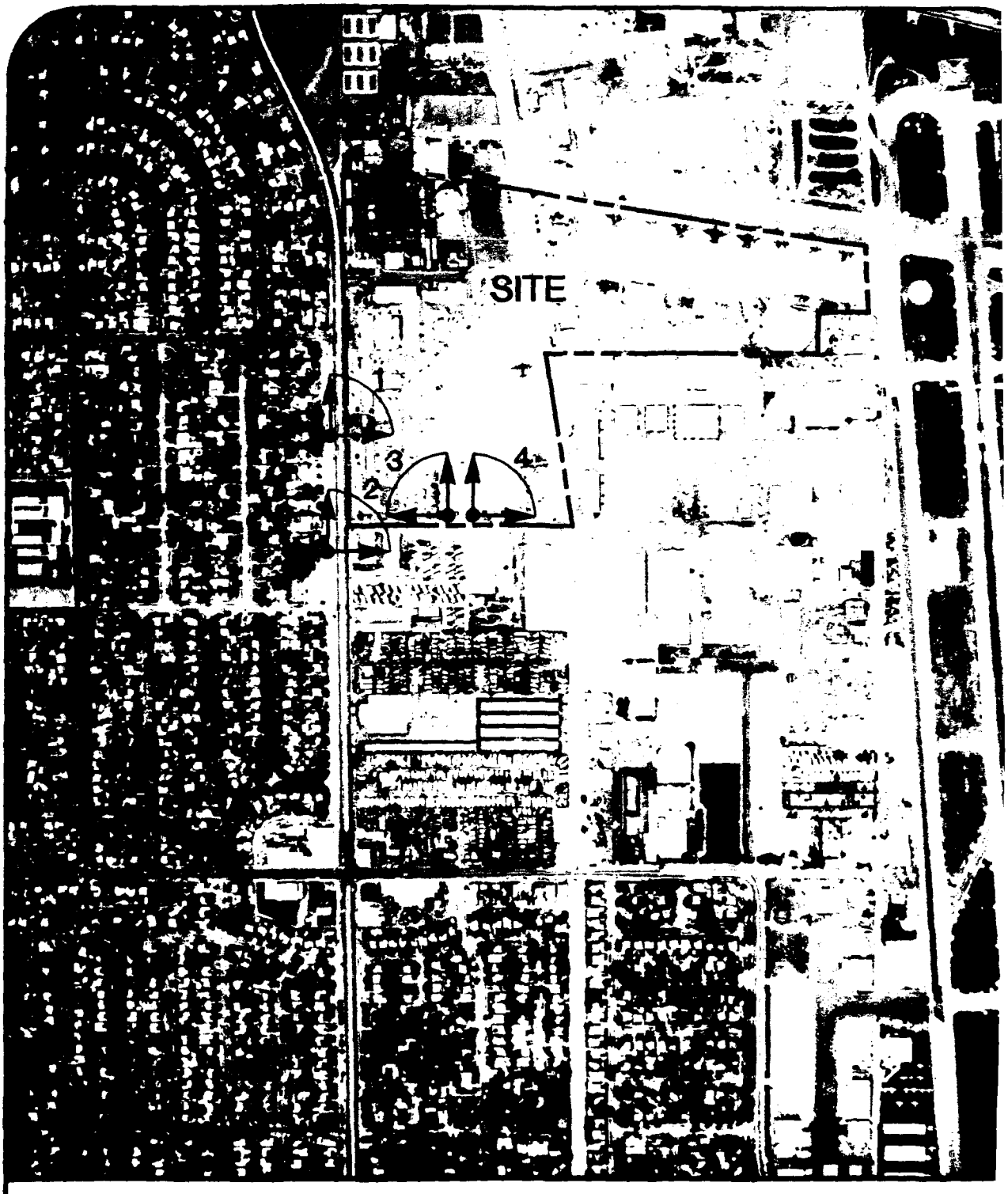

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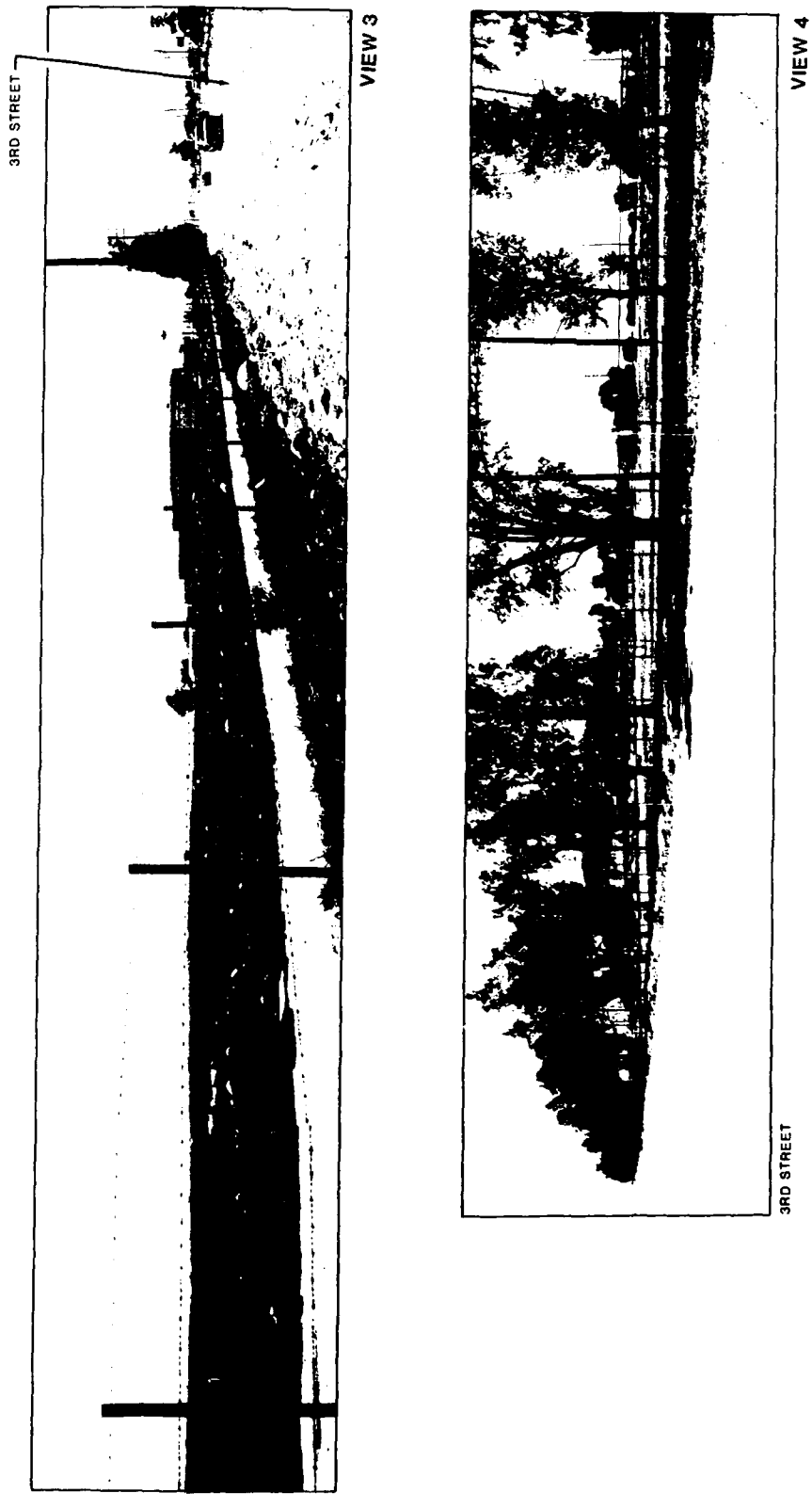
FIGURE III-54
VAN NUYS AIRPORT PHOT
INDEX

prc
PRC Engineering, Inc.

FIGURE III-55
VIEWS OF PROJECT SITE
AT NORTON AFB



PRC Engineering, Inc.

FIGURE III-56
VIEWS OF PROJECT SITE
AT NORTON AFB

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FIGURE III-57
NORTON AFB PHOTO INDE

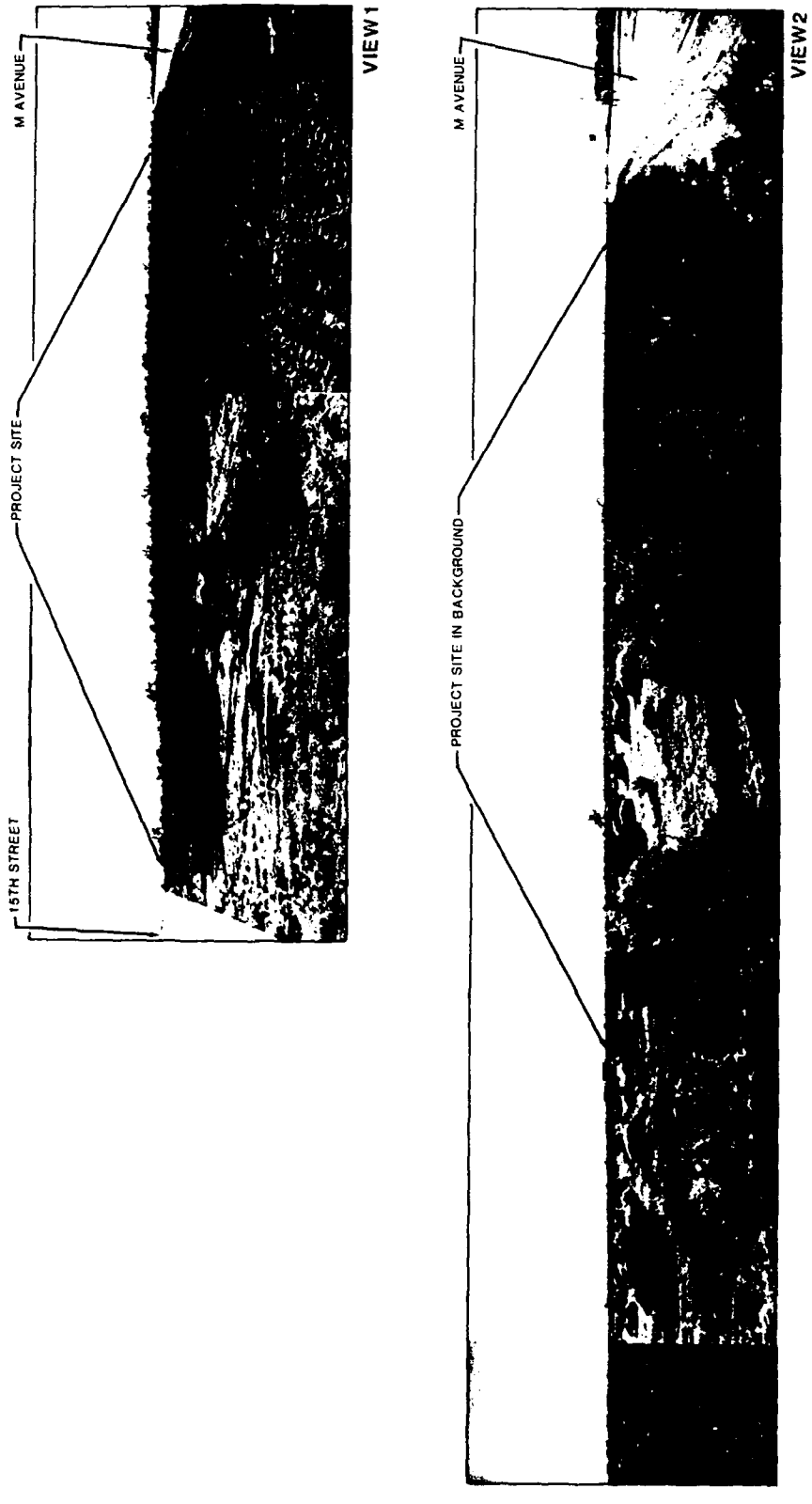

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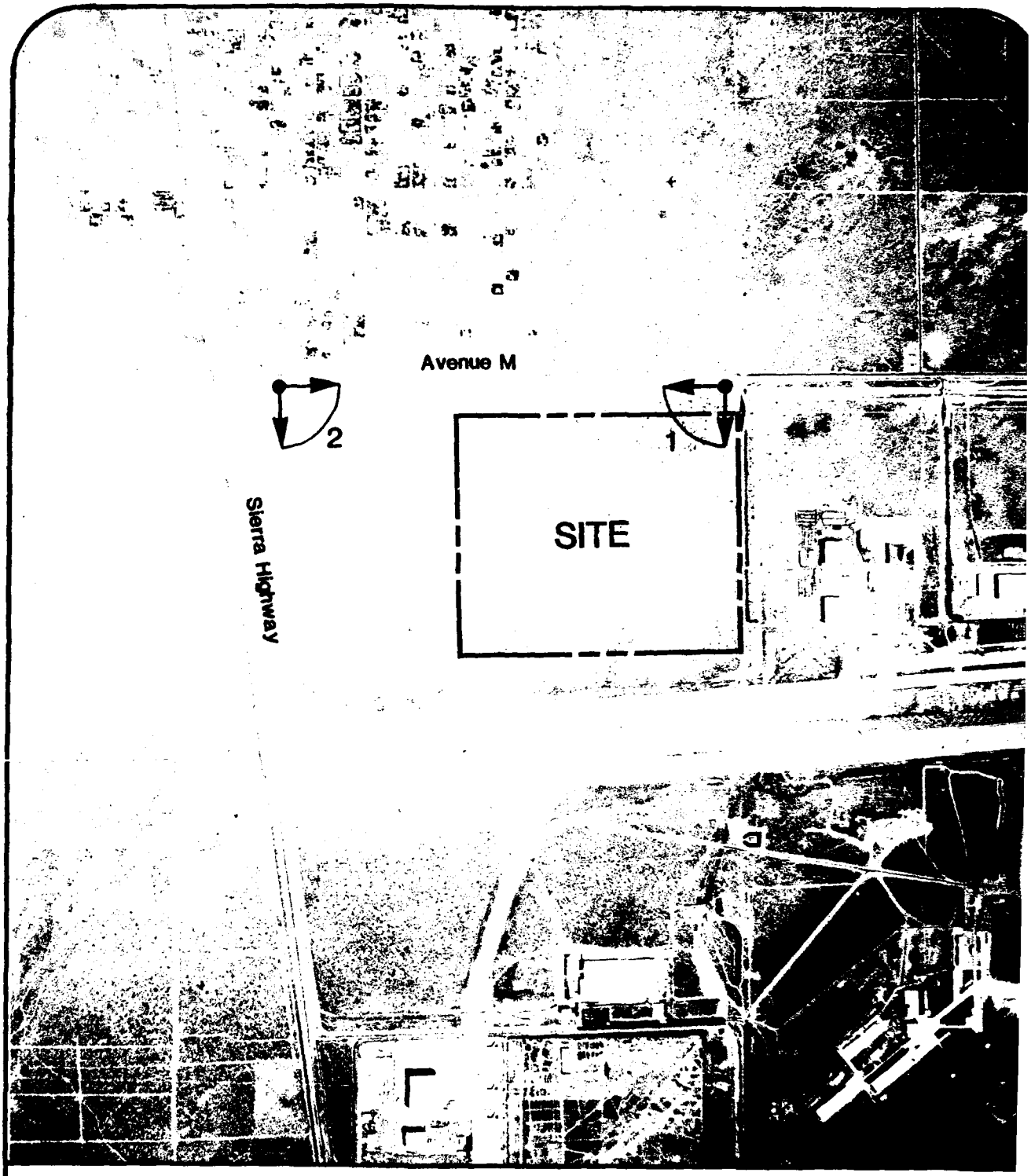
FIGURE III-58
VIEWS OF PROJECT SITE
AT AF PLANT #42



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PRC Engineering, Inc.

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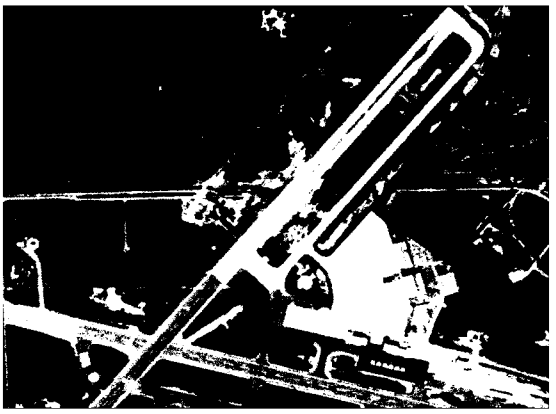
FIGURE III-59
AF PLANT #42 PHOTO INDE

PRC Engineering, Inc.

FIGURE III-60
VIEWS OF PROJECT SITE
AT NAS POINT MUGU



HAZARDOUS MATERIALS

The Federal Resource Conservation and Recovery Act (RCRA) was enacted in 1976 to prohibit the indiscriminate use of the land as a final disposal site for wastes and requires that hazardous wastes be managed so as to protect human health and the natural environment.

The RCRA-based program relies on a "cradle-to-grave" approach to the management of hazardous wastes. Controls are required over the wastes from the point at which they are generated, through subsequent transport of the wastes, and finally to the point of ultimate treatment or disposal. The regulations under RCRA cover the three distinct phases of the hazardous waste life cycle: 1) generation (RCRA Sections 3001 and 3002), 2) transport (Section 3003), and 3) storage, treatment, and disposal (Sections 3004 and 3005). The hazardous waste regulations resulting from the law provide a means to identify hazardous materials and set standards for waste generators to follow in testing, labeling, storing, and packaging waste materials. More significantly, the regulations require generators of hazardous wastes to prepare a manifest for all shipments of such materials describing the nature and volume of the wastes being transported and the destination of the wastes. The manifest must accompany the wastes and a copy is to be returned to the generator by the operator of the treatment/disposal site. Transporters of the wastes must comply with a variety of requirements based largely on Federal Department of Transportation regulations and are required to deliver hazardous wastes to the specific site designated by the waste generator.

Control of the hazardous materials industries handling at the State level is established by a number of statutes and regulations. The principal agencies regulating the industry and providing emergency response assistance include the Department of Health Services, State Water Resources Control Board, Office of Emergency Services, California Department of Transportation, and the California Highway Patrol. The State's safety-related regulations are specified in the State of California Hazardous Substances Control Law (Health and Safety Code Division 20, Chapter 6.5), the standards established by the California Department of Health Services, Office of Statewide Health Planning and Development, and the California Administrative Code, Title 30, Chapter 22.

The majority of the hazardous wastes produced at the existing Van Nuys Airport facility are generated from materials which are utilized in painting and fueling operations. Approximately 26,400 gallons of liquid wastes are removed annually from the Van Nuys ANG Base. These hazardous wastes are packaged in drums and properly identified before they are shipped for handling at Port Hueneme. The Defense Property Disposal Office (DPDO) is responsible for handling these wastes at Port Hueneme.

Tables III-19 and III-20 indicate the types and quantities of hazardous wastes which are generated by the existing Van Nuys Base. Runoff from aprons may contain some JP-4 jet fuel and various oily wastes. Floor drains or diversion channels are typically utilized to divert runoff flows to a clarifier or holding pond. The effluent can then be discharged to a sanitary sewer system or a nearby creek depending upon the regulations established by the local Regional Water Quality Control Board. If it is not raining, the effluent is discharged into the sanitary sewer system. During wet weather, when there is sufficient flow in Bull Creek, the effluent is permitted to be discharged into the creek. This is a site-specific practice and may or may not be permitted at the relocation site depending upon the regulations of the local Regional Water Quality Control Board. At the Van Nuys ANG Base, runoff from wash racks and aprons is diverted to an oil/water separator. The oil and solids are retained in the separator. The clarified effluent is then pumped out and discharged into Bull Creek. The oily residue and solids are removed by tank truck for liquid waste disposal. There are two holding pits at the ANG Base which are utilized for the control of any spills of JP-4 jet fuel. This measure also prevents the immediate contamination of Bull Creek.

TABLE III-19. LIQUID WASTE REMOVAL - ANNUAL

	Gallons
Paint Spray Booth	
Water	18,000
JP-4	200
Oil/Paint	1,200
Wash Rack	
Water	2,800
Oil/Paint	700
Holding Pit	
Water	3,250
JP-4	250

TABLE III-20. TOXIC-HAZARDOUS MATERIAL

Item	Unit	Maximum Monthly Use	Maximum Monthly Disposal
Batteries, electrolyte neutralized	Ea.	3	3
Sulfuric acid, electrolyte neutralized	Gal.	10	10
Acetic acid, glacial, neutralized	Gal.	2	2
Petroleum ether A.C.S. analytical reagent	Gal.	20	-
Methyl ethyl ketone	Gal.	26	26
Dimethylformamide	Gal.	5	5
Trichloroethane 1, 1, 1 (12 oz cn)	Oz.	78	78
Propane HD-5	Oz.	50	-
Primer Fuel Engine (8 oz cn) (Ethyl ether)	Oz.	100	-
Polyurethane Coating and Paint	Gal.	31	6
Paint stripping compound, MIL-S-83936B	Gal.	110	55
Dope thinner, 1/4 lacquer	Gal.	7	2
Thinner, cellulose	Gal.	5	2
Stripper Epoxy	Gal.	1	1
Resin, polyster	Pint	1	1
Lacquer, clear	Gal.	1	1/2
Lacquer, spray (13 oz cn)	Oz.	286	-
Paint remover	Gal.	10	10

		Annual
Lubrication engine oil, synthetic	Gal.	550
Hydraulic fluid	Gal.	250
Dry cleaning solvent, PD-680	Gal.	155
Engine oil (gasoline)	Gal.	400

UTILITIES

The Van Nuys Air National Guard requires solid waste management, electricity, natural gas, and telephone services. Correspondence with the NAS Point Mugu, AF Plant #42 at Palmdale, and Norton AFB and the various purveyors of these utilities and services indicates that these are available at all of the site locations.

Van Nuys Airport

The 146th TAW at Van Nuys Airport currently contracts with private services for solid waste hauling, natural gas and communication services and with the City of Los Angeles Department of Water and Power for electric power supply. Waste Management, Inc. provides solid waste hauling and conveys waste to their Simi Valley Sanitary Landfill. Southern California Gas annually provides roughly 5.6 million cubic feet of natural gas to the base. Communications services, consisting of a 200-pair system capable of handling 100 concurrent conversations, are provided by Pacific Bell.

Norton AFB

As with AF Plant #42, contractors and different units are operating within Norton AFB. These operating units, however, do not directly contract with local utility companies for their services. All utilities are supplied to Norton AFB through mains, and the Air Force manages on-site distribution. Each unit then has an agreement with the Air Force for reimbursing utility costs. Solid waste from Norton AFB is disposed of at the Colton or San Timoteo Sanitary Landfill. Southern California Edison provides electricity and Southern California Gas Company provides natural gas. General Telephone provides communication services.

AF Plant #42

AF Plant #42 is basically an equipment production facility which is managed by the Air Force. The plant is divided into several sites and leased out to contractors or operation units, such as Lockheed and Rockwell, for research, production, and equipment testing activities. Waste Management, Inc. hauls waste from AF Plant #42 to their landfill in Lancaster. The service areas of Southern California Edison and Southern California Gas include the proposed site. A 6-inch high pressure gas main runs along Avenue M. The site is within the Pacific Bell service area. Present arrangements require each contractor or operating unit to contract directly with local utility companies for necessary services. It should be noted that this proposed site is currently undeveloped and is not within the rights-of-way of the adjacent AF Plant #42. Therefore, no utility services are currently provided to this site.

Basic utilities for the trailer park located on the site are provided by local utility companies serving the area. Utility services for the adjacent Naval Air Station are also provided by local utility companies.

NAS Point Mugu

Solid waste from NAS Point Mugu is currently conveyed by a private contractor to the Coastal-Bailard Landfill. Southern California Gas have transmission lines along Navalair Road and Pacific Coast Highway, respectively. The proposed site is within the service area of General Telephone.

IV.

ENVIRONMENTAL CONSEQUENCES

This chapter details the environmental consequences of the preferred alternative of relocating the 146th TAW to Point Mugu, the No Action alternative of remaining at Van Nuys and the effects of relocation to either of the other two site options, Norton AFB and original site at AF Plant #42. A discussion of the effects of relocating to the new Palmdale site appears, with attached detailed traffic, biology and cultural resources studies, in Appendix VIII. The effect of relocation of the 146th TAW on the Van Nuys site is also addressed, assuming that plans which are representative of previous City of Los Angeles Department of Airports announcements are implemented once the Guard has left.

To help readers understand the relative differences between the alternatives an environmental impact matrix is provided (Figure IV-1). The matrix displays the magnitude of both beneficial and adverse impacts associated with each alternative by means of varying sizes of solid or clear symbols. Where an impact category has elements of both beneficial and adverse impacts, a symbol which is half solid and half clear is displayed. It should be noted that the values shown in Figure IV-1 represent those impacts which remain after implementation of the mitigation measures described in this chapter. A note which describes the relative differences between the original and the new AF Plant #42 site appears at the bottom of the matrix.

This simple graphic portrayal of impacts will aid in comparing the alternatives for a given impact category, but the matrix cannot be used to "sum" the columns and thereby determine a preferred alternative. To present the impacts in an easily comprehensible graphic form, each impact category was given a weight equal to all others.

The subsequent sections in this chapter describe the environmental consequences of the alternatives for the individual subject headings listed in the matrix. The matrix symbols for each subject heading are shown at the beginning of each section along with a discussion of key findings. Again, information on the new AF Plant #42 site appears in Appendix VIII.

DIRECT AND INDIRECT EFFECTS AND THEIR SIGNIFICANCE

NOISE

Key Findings

The removal of 146th TAW operations from Van Nuys Airport would result in a moderately beneficial impact in terms of decreased noise. There would be no such decrease under the No Action alternative. The addition of the C-130 operations discussed in Chapter IV has an additional insignificant incremental contribution to the total noise environs at Norton AFB, Palmdale AF Plant #42 and NAS Point Mugu. The small increase in the 65 Ldn contour causes an increase of less than 1 dB at any given data point along the noise contour, which is a negligible change.

	No Action	Van Nuys[1]	Norton AFB	AF Plant #42	NAS Point Mugu[2]
Increase in 65 Ldn or CNEL Contour Area		O	•	•	•

The C-130 aircraft operations comprise a small percentage of annual operations at each site. The relocation to any of the alternative sites would produce only a minor change in the size or configuration of the noise contour. This is due to the low percentage of ANG C-130 aircraft operations at each site and the relative noise characteristics of the C-130 when compared to many of the commercial and military jets that dominate the total noise energy.

Method

To provide meaningful input towards the evaluation of community noise around each alternative ANG facility, a quantitative descriptor of land area enclosed within the 65 Ldn contour has been estimated using the Area Equivalent Method (AEM), published by the United States Department of Transportation-Federal Aviation Administration (July 1984). It is a mathematical model that calculates the noise contour area of a specific airport given the types of aircraft and the number of operations for each aircraft. The noise contour area is a measure in square miles of the size of the land mass enclosed within a level of noise as produced by a given set of aircraft operations.

The noise contour metric used in the AEM is the Day Night Average Sound Level (Ldn) which produces a single quantitative rating of a noise level over a 24-hour period. This rating involves a 10 decibel penalty to aircraft operations during nighttime (between 10:00 p.m. and 7:00 a.m.) to account for the increased annoyance in the community.

The Civil Aeronautics Board (CAB) developed the theoretical basis for the AEM to decide whether the noise impact due to a change in operational characteristics or aircraft is significant. The CAB established a decision criterion of a 17 percent increase in cumulative noise contour area; this increase translates into a

one decibel increase in the airport noise. The basis of the AEM is the equation which determines the Ldn noise contour area as a function of the number of daily operations. The AEM applies noise characteristics established in the Integrated Noise Model (INM) to determine a contour area for each aircraft. The AEM then develops a single equation, representing the specific mix and number of aircraft to produce the contour area for an airport. The contour area produced by the AEM approximates the contour area produced by the INM for a particular airport case.

Means for Determining Operations at each of the Potential Relocation Sites

To determine the effect of the proposed ANG C-130 relocation on the noise environment of each potential site, the number of C-130 operations that would occur at each site first had to be established. Previous studies[1] conducted by the National Guard Bureau revealed that during a day of maximum utilization of aircraft and personnel, a total of 74 operations could be carried out by the 146th TAW. These operations would include 12 initial take-offs and 12 full-stop landings which would be conducted at the base facility. The remaining operations would include 25 low approach or touch-and-go landings and 25 low approach departures or touch-and-go take-offs. These 50 remaining operations would be conducted in proportion to the percentage of operations currently being conducted by ANG C-130s at each of the proposed relocation sites. It is important to note that not all of the 74 daily operations, which represent a worst case situation, would be conducted at the base location.

The 74 daily operations represent a worst case situation because it is unlikely that this level of activity would ever be reached due to the unavailability of all assigned 146th TAW aircraft and all ANG personnel on any one given day. Thus, by using these daily average operations to access the noise environment, an absolute worst case scenario has been modeled.

Many factors can be attributed to choosing a certain airfield to conduct training activities. These factors can include proximity to base facility, airspace constraints, weather conditions and airfield restrictions. The priority of these factors often rest with the individual pilots, but patterns can also be drawn from whole squadron operations. This is the case with the ANG.

To provide the percentage of time ANG C-130 aircraft use other airfields, a survey of the C-130 pilots was undertaken during the period of June 26 through July 27, 1984. The results of this survey are presented in Table IV-1.

[1]DOPAA Document

TABLE IV-1. TOUCH-AND-GO AND LOW APPROACH ANG C-130 OPERATIONS

	Percentage (1)	Number of Operations (2)
Norton AFB	1.1	0.55
Palmdale AF Plant #42	57.5	28.75
NAS Point Mugu	13.8	6.90
Other (3)	27.6	13.80
Total	100.0	50.00

(1) Source: Van Nuys ANG Flight Survey June 26-July 27, 1984. (represents percentage of 50 touch-and-go, low approach operations.)

(2) Source: PRC Engineering. A single operation is either one landing or one takeoff, one ascent or one descent.

(3) Note: Operations will not be conducted at Van Nuys Airport.

As stated earlier, 50 of the 74 daily operations would represent touch-and-go or low approach operations. To determine how many of these 50 non-full stop operations would be conducted at each of the potential relocation sites, the percentages in Table IV-1 were applied. Table IV-1 also illustrates the result of the above calculation. It has been assumed that these numbers of training operations would remain constant regardless of whether the site was used as the ANG Base facility. This assumption is based upon the fact that the availability of good weather conditions and few airspace restrictions are high on the priority list of preferred training conditions. This assumption is reinforced by the high percentage of training operations conducted at Palmdale (good weather, available airspace), and the low percentage of training operations conducted at Norton (airspace congested).

To round out the determination of ANG C-130 operations at the potential sites, 24 daily operations (12 initial take-offs, 12 full-stop landings) must be added to the touch-and-go operations at each site. This figure remains constant for each site, since these operations represent the initiation and termination of a day's training activities from the Base location. The 12 initial takeoffs, 12 full-stop landings reflects the absolute worst case number of non touch-and-go projected ANG operations per alternative site. To project this given number of non-touch and go ANG operations at Van Nuys airport (i.e., with no touch-and-go operations as reflected in the survey) would represent a likely worst case future scenario if Van Nuys Airport remained as the Base location for the 146th TAW. Consequently, 24 operations at Van Nuys airport reflects the No Action option. The total daily operations to be conducted by ANG C-130 aircraft at each site after the relocation is presented in Table IV-2.

TABLE IV-2. DAILY OPERATIONS BY ANG C-130 (1)

Palmdale	Point Mugu	Norton	Van Nuys (with relocation)	Van Nuys (No Action)
52.75	30.9	24.55	0.00	24.00

(1) These operations include both touch-and-go low approach operations and full stop landings.

The AEM methodology was employed at each airport site to quantify the difference in the total Ldn 65 contour area. Although the change in acres affected is approximately equal for the three potential relocation sites, NAS Point Mugu posts the smallest percentage increase in Ldn contour area. This occurs because the NAS Point Mugu Ldn 65 contour area is larger than the three other study sites. The fact that the change in acres affected is approximately equal for each case can be attributed to the narrow range of total C-130 operations (31.93-53.88) for each of the relocation alternatives. Table IV-3 illustrates the current C-130 operations at each site, along with the projected operations after ANG relocation.

TABLE IV-3. C-130 AVERAGE DAILY OPERATIONS

	1983 Operations		Site Specific Operations After Relocation	
Alternative	ANG Only	Total C-130 Existing	ANG Only	Total C-130 Projected
Van Nuys Airport	14.84	14.84	-	-
Van Nuys Airport Future Daily Worst Case	24.00	24.00	-	-
Norton AFB	0.62	8.00	24.55	31.93
Palmdale AF Plant #42	32.13	33.26	52.75	53.88
NAS Point Mugu	7.73	21.9	30.9	45.07

With the exception of the C-130, the fleet mix and annual operations at each alternative site is projected to remain relatively the same. The introduction of the ANG facility will not affect the other aircraft operations currently being conducted.

Table IV-4 provides a quantification of the overall noise environment of the four study sites and the significance of the change in those noise environments due to the relocation of the ANG C-130 aircraft. As discussed previously, to obtain a one decibel increase at a given data point along the Ldn contour, a 17 percent increase in the total contour area is required. As depicted in Table IV-4, the largest percent increase in noise exposure area is at Palmdale AF Plant #42, only 0.806 percent. A decrease of 10.74 percent is experienced at Van Nuys Airport due to the departure of ANG C-130 operations.

TABLE IV-4. TOTAL ACREAGE CONTAINED IN THE 1983 65 Ldn CONTOUR FOR EACH ALTERNATIVE SITE (WITH AND WITHOUT RELOCATION)

Alternative	Existing Ldn 65 Contour Without Relocation (Acreage)	Ldn 65 Contour With Relocation (Acreage)	Percent Change
Van Nuys Airport	716.8	646.4	-10.74
Van Nuys Airport Future Daily Worst Case	768.0	646.4	-18.88
Norton AFB	11,168.0	11,235.6	+0.516
Palmdale AF Plant #42	7,142.4	7,200.0	+0.806
NAS Point Mugu	14,694.4	14,752.0	+0.392

Human Response

As discussed in Appendix VII, humans respond to a 10 dB increase in sound level as though there were a doubling in the perceived noise level. Consequently, most observers at a slant range distance of 1,000 feet perceive the F-4 as being about 5.5 times louder than a C-130 during take-off climb out. The 727-200 and the C-141 might be perceived as being 3 times louder than the C-130 under the same conditions.

The perceived difference in relative loudness during approach operations at a slant range distance of 1,000 feet is smaller due to the reduced power settings of all of the aircraft. The F-4 and C-141 might be perceived as being 3.5 and 2.5 times louder, respectively, than the C-130 when during approach operations. The 727-200 series aircraft might be perceived as being just noticeably louder than the C-130.

The relative loudness of several common environmental sounds are related to the dB(A) scale and is shown in Figure IV-2. It is important to note that human response to noise impact varies greatly from person-to-person and by the frequency and pitch of the sound. Therefore, the numbers presented in the preceding discussion provide a general reference for expected human response to these aircraft types rather than establishing absolute levels of predictable human reaction.

Operational Equivalent of Noise Contour Areas

The microcomputer based AEM sound level program was also utilized to provide a comparison of the actual areal noise impact of the representative aircraft types. For the purposes of this analysis a single aircraft landing and takeoff cycle (LTO) was entered for a specific type of aircraft, e.g., F-4. The AEM then computed the land mass area which was enclosed within the Ldn 65 noise exposure contour level.

Operations of C-130 aircraft were summed logarithmically in an iterative process until the Ldn 65 contour area of the C-130 operations approximated that of the comparison aircraft, e.g., F-4. This process was repeated for each of the aircraft types described in the preceding discussion and presented in Figures III-5 and III-6. The results of this analysis are presented in Table IV-5.

TABLE IV-5. C-130 AVERAGE COMPARISON TO REPRESENTATIVE AIRCRAFT TYPES

Aircraft Type	LTO LTO Cycles	Area Per LTO (sq mi)	Resultant Area (sq mi)
F-4	1.00	1.0301	1.0301
C-130	74.77	0.0334	1.0301
C-141	1.00	0.4533	0.4533
C-130	26.62	0.0334	0.4533
727-200	1.00	0.3705	0.3705
C-130	20.65	0.0334	0.3705

Note: Operational Equivalent of Ldn 65 Contour Areas.

The results of this analysis indicate that for the C-130 to generate the same cumulative noise exposure of an F-4 performing one take-off and one landing the C-130 would have to fly an equivalent of approximately 75 takeoffs and 75 landings. The significance of this analysis is that due to the high numbers of aircraft much noisier than the C-130 operating at the potential relocation sites, the noise impact generated by the ANG aircraft operations is not significant.

Day-Night Average Sound Level Comparison

A typical noise exposure comparison was made for several sensitive receptors in the vicinity of each alternative site. At each site, existing residential neighborhoods were selected which are currently being overflown by ANG C-130 aircraft as well as many of the other dominant aircraft typical of each respective facility. The purpose of this analysis is to consider noise impacts upon those neighborhoods that are not significantly affected by a change in the noise contour but which are subjected to overflights. The analysis presented in this section discusses the relative change in the Ldn values along a specified flight track.

Interviews with the tower chief and/or review of existing available flight track data allowed for the assignment of aircraft types and operations to each specified flight track. Other important data used in the analysis included the receptor site coordinates, the flight track coordinates and the elevation at the runway end versus the receptor site elevation.

The selected sensitive receptors at Van Nuys Airport are residential neighborhoods, one is north of Victory Boulevard and east of Hayvenhurst and the other is in the vicinity of Victory Boulevard and Encino Avenue. These areas represent locations

that are overflown by single engine and twin engine aircraft, business jets and ANG C-130's. Two basic flight tracks were modeled by extracting various functions of the INM. The flight tracks included a straight-out departure off of Runway 16R and a 180° right or westerly turn also off of Runway 16R. Those aircraft that typically turn left or to the east were included on the straight-out flight track since the easterly turn has little impact at the site of the sensitive receptor. It is important to note that only departing aircraft on Runway 16R are included in this analysis and that nearby flight tracks and community noise are not included in the Ldn values at this site. This exercise identifies the contributory Ldn value of departing aircraft off Runway 16R, the primary runway. The results of the Ldn analysis for 1983 operations, with ANG relocation, as well as if the ANG remained, are included in Table IV-6.

TABLE IV-6. DAY-NIGHT AVERAGE SOUND LEVEL COMPARISON
SENSITIVE RECEPTOR LOCATIONS NEAR VAN NUYS AIRPORT

Location	1983 Ldn Value	Ldn with No Action (Change from 1983)	Ldn After Relocation (Change from 1983)
Victory Boulevard and Hayvenhurst Avenue	58.3	58.9 (+0.6)	55.0 (-3.3)
Victory Boulevard and Encino Avenue	52.9	53.3 (+0.4)	52.0 (-0.9)

One of the dominant flight tracks utilized at Norton AFB is an arriving straight-in flight track into Runway 05. This flight track is identified as 05A in Chapter III, Figure III-10. This flight track represents an overflight to a residential community near Valley Boulevard and 7th Street in the City of Colton. The residential area in the vicinity of Tippecanoe Avenue and Sullivan Street is the other selected noise-sensitive receptor. Only arriving aircraft assigned to Flight Track 05A for Runway 05 were modeled. Nearby flight tracks and community noise were not included as part of this analysis. The results of the Ldn analysis for 1983 operations and with ANG relocation are shown in Table IV-7.

TABLE IV-7. DAY-NIGHT AVERAGE SOUND LEVEL COMPARISON
SENSITIVE RECEPTORS NEAR NORTON AFB

	1983 Ldn Value	Ldn with ANG Relocation (Change from 1983)
Valley Blvd. and 7th Street	66.0	66.0 (0.0)
Tippecanoe Avenue and Sullivan Street	83.5	83.5 (0.0)

One of the dominant flight tracks used by the ANG C-130 At AF Plant #42 is shown as Flight Track 25-BE in Chapter III, Figure III-11. The C-130, as well as typical AF Plant #42 aircraft using Flight Track 25-BE include the T-38, T-39, F-5, P-3, KC-135, KC-10, C-141, B-727 and L-1011. The selected sensitive

receptor sites are located in a residential neighborhood near Avenue K and the Sierra Highway and a residential area in the vicinity of Avenue L and West 10th Street. The flight track is a departure operation that makes up a relatively broad right-turn over southeastern Lancaster and continues easterly from Runway 25. This analysis only considers departing aircraft from Runway 25 on Flight Track 25-BE and the contribution of other nearby flight tracks and community noise is not represented. The results of the Ldn analysis for 1983 operations and with ANG relocation are shown in Table IV-8.

TABLE IV-8. DAY-NIGHT AVERAGE SOUND LEVEL COMPARISON SENSITIVE RECEPTOR LOCATIONS NEAR AF PLANT #42

Location	1983 Ldn Value	Ldn with ANG Relocation (Change from 1983)
Avenue K and Sierra Highway	59.9	60.1 (+0.2)
Avenue L and W. 10th Street	61.4	61.6 (+0.2)

One of the selected sensitive receptors near NAS Point Mugu was chosen as a result of concerns expressed at the scoping meetings by residents from Leisure Village. Leisure Village represents an area that is below the frequently used arrival flight track for Runway 21, a straight-in approach. Only arriving aircraft were assigned to this flight track, not departures. Departing aircraft do not normally use Runway 03 due to poor wind coverage, and consequently do not take off over Leisure Village. The other selected sensitive receptors are Adolfo Camarillo High School near Highway 101 and Santa Rosa Road, and the area near Pleasant Valley Road and Lewis Road, Woodside Gardens and Mission Oaks. Vagaries in the flight track, rare departures and community noise were not included as part of this analysis. The calculation identifies the contributory Ldn value of arriving aircraft. The results of the Ldn analysis for 1983 operations and with ANG relocation are listed in Table IV-9.

TABLE IV-9. DAY-NIGHT AVERAGE SOUND LEVEL COMPARISON SENSITIVE RECEPTOR LOCATIONS NEAR NAS POINT MUGU

Location	1983 Ldn Value	Ldn with ANG Relocation (Change from 1983)
Leisure Village	60.8	60.8 0.0
Highway 101 and Santa Rosa Road	62.8	62.8 (0.0)
Pleasant Valley Road and Lewis Road	59.0	59.0 (0.0)
Woodside Gardens	63.5	63.5 (0.0)
Mission Oaks	61.6	61.6 (0.0)

Sound Exposure Level Comparison

The basic unit in the computation of Ldn is the single event (sound exposure) levels (SEL). An SEL is computed by adding the dB(A) level for each second of a noise event above a certain threshold. Each of these 1-second readings are then added logarithmically to compute the SEL. The SEL values may be interpreted as a level of annoyance for particular overflights. Maximum dB(A) values are also important in determining annoyance but are not a function of time. The SEL computation combines both total noise energy above the threshold as well as its duration.

The SEL and maximum dB(A) values were determined by identifying the slant range distance of each aircraft type and then applying that distance to the noise exposure values listed in the Aerospace Medical Research Laboratory - TR-73-110 publication. Other needed input parameters included flight track, aircraft type, power setting, airspeed, and sensitive receptor point coordinates. Aircraft types that are included as part of the SEL analysis are the C-130, C-141, F-4 and 727-200. Although the F-4 and 727-200 do not operate at Van Nuys Airport or Norton AFB, and the 727-200 does not operate at NAS Point Mugu it was felt that most citizens more readily recognize these aircraft types and consequently they are used for comparison purposes. Therefore, the SEL values for the F-4 and 727-200 at Van Nuys Airport and the 727-200 at NAS Point Mugu are hypothetical. The results of the SEL analysis is depicted in Table IV-10 for each alternative site. Also included are the maximum dB(A) values registered at each site. The source for the maximum noise levels is the NOISEMAP data file.

The difference in the SEL values between each site is due primarily to the distance between the aircraft and the receptor site, the thrust setting (i.e., much higher for takeoffs) and aircraft class. Consequently, Table IV-10 is not an apple to apple comparison between sites but does show the relative difference between each SEL for each site as they relate to the sensitive receptor location. For example, there is a significant difference at Leisure Village (NAS Point Mugu) for an arriving overflight of an F-4 versus the overflight of a C-141, 727-200 or C-130. In all cases the C-130 aircraft is the quietest.

Community Facilities Overflown by ANG Operations

At each of the alternative base locations, ANG aircraft would use currently established flight patterns to approach and depart. In a number of instances, these flight tracks pass over community facilities. As a general indicator of the number of community facilities overflown, Table IV-11 compares each of the site locations with respect to the number of these facilities. In this regard, the greatest number of facilities overflown occur in the Van Nuys and Norton AFB areas because of the greater density of development adjacent to the facilities. Similarly, the least number of facilities overflown are in NAS Point Mugu and in the AF Plant #42 vicinity in Palmdale and Lancaster, where development densities are much lower. At NAS Point Mugu all of the community facilities which are overflown are more than three miles from the end of the runways, while at the other three sites some of the community facilities are within one mile of the runways.

TABLE IV-10. SOUND EXPOSURE LEVEL AND MAXIMUM dB(A) COMPARATIVE ANALYSIS

	Alternative Sensitive Receptor Locatic					
	Van Nuys Airport		Norton AFB		AF Plant #42	
	Victory Blvd. & Hayvenhurst (Residential)	Victory Blvd. & Encino (Residential)	Valley Blvd. & 7th Street (Residential)	Tippecanoe Ave. & Sullivan St. (Residential)	Avenue K & Sierra Hwy. (Residential)	Ave W. (Res
F-4 (SEL)	111.0	108.8	110.1	116.5	99.5	1
(Max dB(A))	105.9	103.1	104.1	113.0	92.0	
Slant Range (feet)	1,242	1,686	470	155	3,100	3
C-141 (SEL)	97.5	90.8	107.7	114.9	79.4	
(Max dB(A))	90.7	82.4	100.5	110.2	68.9	
Slant Range (feet)	1,374	2,491	470	155	4,320	5
727-200 (SEL)	104.6	101.6	90.8	110.6	93.9	
(Max dB(A))	N/A	N/A	N/A	N/A	N/A	
Slant Range (feet)	1,224	1,836	470	155	3,373	4
C-130 (SEL)	84.6	80.4	94.0	100.5	70.8	
(Max dB(A))	78.2	73.0	90.2	99.1	61.0	
Slant Range (feet)	1,127	1,800	470	155	3,404	4

Source: Community Noise Exposure Resulting From Aircraft Operations. AMRL-TR-73-110

N/A = Not Available

	eptor Locations						
	AF Plant #42		NAS Point Mugu				
L & St. tial)	K & Hwy. ntial)	Avenue L & W. 10th St. (Residential)	Leisure Village (Residential)	Hwy. 101 & Santa Rosa Rd. (High School)	Pleasant Valley Rd. & Lewis Rd. (Residential)	Woodside Gardens (Residential)	Mission Oaks (Residential)
	.5	101.4	93.3	97.0	93.1	98.2	95.4
	.0	93.9	82.5	87.2	83.1	88.6	85.1
	00	3,533	3,324	2,383	3,164	2,219	2,706
	.4	83.6	85.2	90.6	86.0	92.1	88.4
	.9	73.8	73.2	79.5	74.1	81.4	76.9
	20	5,561	3,324	2,383	3,164	2,219	2,706
	.9	99.3	81.7	84.4	79.8	85.2	82.9
	A	N/A	N/A	N/A	N/A	N/A	N/A
	73	4,052	3,324	2,383	3,164	2,219	2,706
	.8	73.6	77.5	81.1	78.0	82.2	79.5
	.0	64.3	68.9	73.4	69.5	74.9	71.5
	04	4,208	3,324	2,383	3,164	2,219	2,706

TABLE IV-11. ESTIMATED NUMBER OF COMMUNITY FACILITIES OVERFLOWN (a)

	Van Nuys Airport	Norton AFB	AF Plant #42	NAS Point Mugu
Schools	22	8	6	4
Hospitals	3	2	1	-
Parks	12	8	3	2
Community Center	7	5	-	1
Total	44	23	10	7

(a) Based upon available land use plans and flight tracks which assume a 2,000 foot wide corridor, centered on the established flight track.

As noted, the change in noise levels which would result from the Guard relocation is not significant at any of the three candidate locations. Therefore, no change will occur in the number of community facilities affected within the 65 CNEL contour.

Because the noise contour will not be altered significantly, those sites which are listed in Table IV-11 will simply experience an incremental change in the number of noise exposure events each day. A reduction in such events would occur at Van Nuys. The other three sites would experience increased overflights.

Engine Run-Up and Test Cell Engine Noise

A potential noise/land use issue at the alternative relocation site includes engine test cell noise. The potential for adverse impact to the nearby residential neighborhoods arises due to the placement of run-up and test cell activities. However, engine test cells would be located and positioned at any of the three sites such that noise levels from engine testing would not exceed 65 dBA. Test cells are expected to operate for 45 minutes per day.

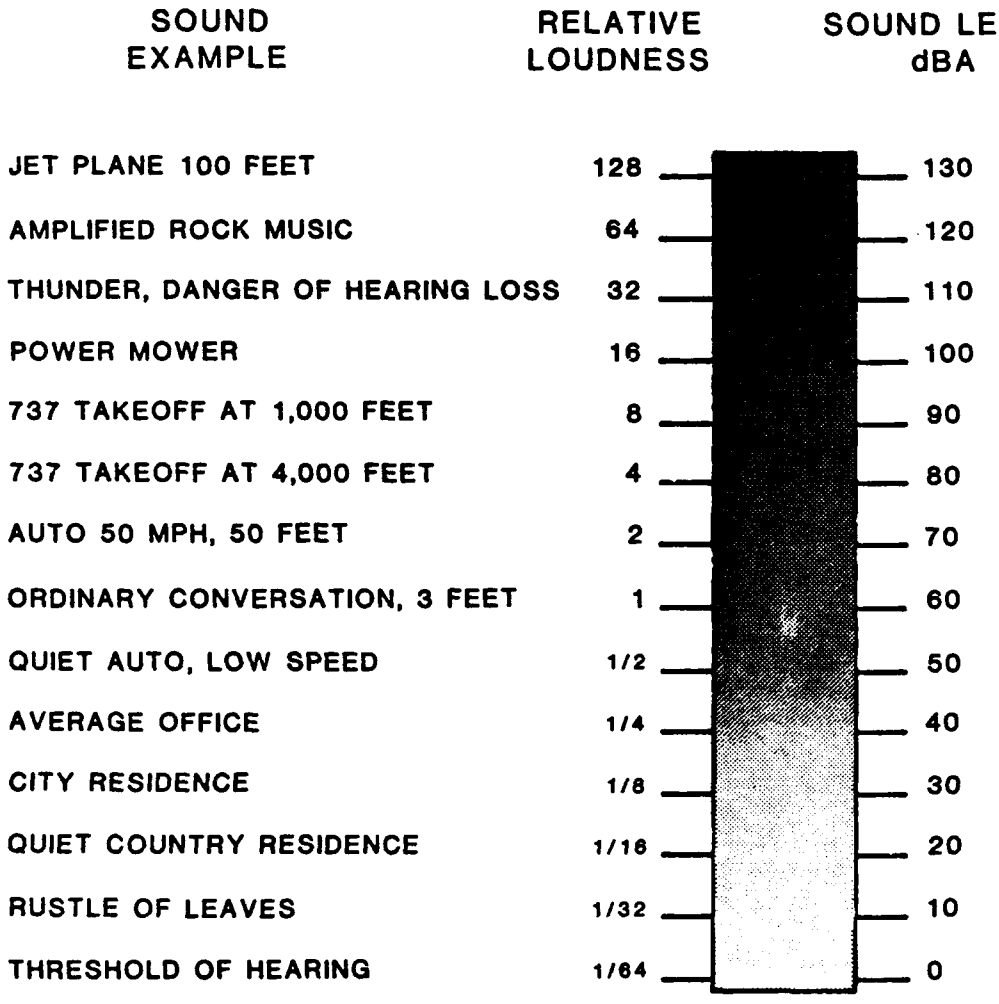
Mitigation Measures

The preceeding noise analysis demonstrated the ANG C-130 aircraft are relatively quiet when compared to the fleet mix at the potential relocation sites. The analysis also indicated there would be comparatively few operations of ANG C-130 aircraft. Therefore, the noise impact from the ANG C-130 operations will be insignificant. Mitigation measures will be applied, however, to aircraft flight procedures to minimize noise generated by individual aircraft flyovers. When safety and flight conditions permit, ANG aircraft will avoid overflights of populated and known noise sensitive areas. Takeoff climb-outs and landing approaches will be conducted over open space areas, e.g., agricultural, open-reserve, ocean, etc. whenever and wherever possible.

The ANG will work closely with noise abatement personnel at each airfield to become completely familiar with noise abatement policies and procedures. The

ANG will be responsive to all noise complaints identifying their aircraft. All possible actions will be taken to ensure repeated annoyances are minimized. The ANG, along with the sponsoring base, will continue to work closely with the community by hearing out concerns and offering feasible solutions before problems arise.

Engine test cells will be located such that maximum noise levels at sensitive receptors do not exceed 65 dB(A).



PRC Engineering, Inc.

FIGURE IV-2
COMMON SOUNDS ON THE dBA SCALE

LAND USE CONDITIONS AND PLANNING PROGRAMS

Key Findings

The NAS Point Mugu site is inconsistent with the Ventura County and City of Oxnard General Plans. These plans designate the site for agriculture and open space, respectively. The other sites would not have an adverse effect on local planning programs.

	No Action	Van Nuys[1]	Norton AFB	AF Plant #42	NAS Point Mugu[2]
Consistency with Adopted Plans and Policies					●

Relocation of the ANG facility to Norton AFB, AF Plant #42 or NAS Point Mugu would involve some land use conflicts with the immediately adjacent residences. The No Action alternative of retaining the Base at Van Nuys Airport would continue similar existing conflicts.

Consistency with General Plans

Van Nuys Airport

The present ANG Base is a designated use in the Los Angeles General Plan, Reseda-West Van Nuys District; hence, it is consistent with this Plan. The Base lands are currently leased from the Los Angeles City Department of Airports. Although no formal plan has been adopted, it is recognized that the Department of Airports wishes to redevelop the present ANG Base site for enhanced revenue generation purposes. In this context, the No Action alternative, which maintains the ANG Base at its present location, is inconsistent with the proposed redevelopment project.

Norton AFB

Norton AFB is designated as an institutional land use in the San Bernardino General Plan. The proposed ANG Base is completely within the Norton AFB property and is consistent with the General Plan.

AF Plant #42

The proposed ANG Base location in Palmdale at the northwest boundary of AF Plant #42 is consistent with the Palmdale General Plan. The General Plan designates the area for aerospace-related uses. Discussions with the Palmdale Planning Department indicated that an ANG Base would not be in conflict with the General Plan.

From a land use standpoint, the proposed ANG Base location would be consistent with the planned Palmdale International Airport; however, from the perspective of future aircraft operations, there may be conflicts between the ANG's military functions and mission and adjacent commercial aviation activities.

NAS Point Mugu

The proposed ANG Base location at Point Mugu, adjacent to the Naval Air Station, is inconsistent with the Ventura County General Plan. The General Plan designates the site as "agricultural." According to the County Planning Division, it is the policy of the County to maintain and enhance the agricultural character of the Point Mugu area by discouraging non-conforming land uses.

Mitigation Measures

The ANG would continue to coordinate with local officials to achieve a base development concept that reduces, to the degree possible, adverse effects on local planning objectives.

Compatibility with Existing Land Uses

Van Nuys Airport

At its present location, the ANG Base is bounded by industrial and airport-related activities on the north, east, and south. Across Balboa Boulevard, the ANG facility faces a residential area. At present, land use conflicts between the residential area and the ANG facility are largely traffic and parking related, particularly on peak weekends. The adjacent residential area is largely buffered from noise generated from the base by the placement of various ANG buildings (see Figure II-3).

Norton AFB

Figure III-16 illustrates that the proposed ANG Base site at Norton AFB is bounded by Air Force facilities on the east, south and west. North of the site, across Third Street, adjacent land uses include military housing and a mixture of scattered commercial, industrial and residential uses. The ANG Base would be compatible with adjacent Norton AFB operations. Similar to the other proposed sites, however, the ANG location adjacent to Third Street would place aircraft ground operations and structures in closer proximity to residential areas than is currently the case with existing Air Force operations.

A potential noise/land use concern at the alternative relocation site includes engine test cell and run-up noise. The potential for adverse impact to the nearby residential neighborhoods is a function of the placement of test cell activities. A more detailed discussion of the potential noise levels involved appears in the previous section addressing noise impacts.

AF Plant #42

The proposed ANG Base site in Palmdale is bounded by AF Plant #42 on the east and south, by undeveloped land on the west, and by several scattered residences on the north across Avenue M (Figure III-19). The proposed Base would be compatible with all adjacent uses, with the exception of the residences located north of

Avenue M. In this particular case, ANG operations would bring aircraft engine testing and ground operations closer to existing residences than is currently the case with AF Plant #42.

NAS Point Mugu

As shown in Figure III-22, the proposed ANG Base location at Point Mugu would be bounded by agricultural use to the north, Pacific Coast Highway and a produce packing company and trailer court on the east, NAS Point Mugu on the south, a duck hunting club on the southwest and agricultural use and associated residence on the west. Beyond these immediately adjacent uses, the proposed site would be located in a largely undeveloped agricultural area.

The Base would be compatible with agriculture and Navy activities.

Mitigation Measures

Land use conflicts at Norton AFB, AF Plant #42, and NAS Point Mugu, potentially may involve noise-related effects from engine test cells on adjacent residences. These effects and specific mitigation measures are discussed in detail in the preceding noise impact assessment.

In general, aircraft engine test cells will be sited and oriented to assure that their noise emissions do not exceed 65 dB(A) at sensitive receptors.

Growth Inducing Effects

The No Action Alternative would lead to a $20 million construction project to provide the 146th TAW with the facilities required for continued operations.

Induced development at the Van Nuys Airport would likely result from any one of the ANG Base relocation alternatives. This additional growth would come as a secondary effect of the Guard vacating their present Van Nuys location. In this case, the Los Angeles Department of Airports has indicated that it would redevelop the vacated ANG Base.

As a worst case development scenario, it is assumed that the vacated Base would be developed for office and/or industrial use. Without consideration of environmental, engineering, and political constraints, it may be possible for the 62-acre Base site to accommodate 1.0 to 1.4 million square feet of office, if existing zoning controls were amended. This development would, in turn, likely have other growth inducing effects upon the demand for residential and commercial development. Quantification of these secondary effects is beyond the scope of this document.

At the base relocation sites, it is not anticipated that the presence of the ANG will stimulate unplanned or major new growth in the various communities. On a qualitative basis, the presence of the Guard in Palmdale may have a positive influence on the pro-development posture of the community. In this regard, the ANG has received letters of support for a possible relocation to Palmdale from Mayor Janis Bales of Palmdale, as well as from Los Angeles County Supervisor Michael Antonovich (Fifth District). In Oxnard, the Oxnard Chamber of Commerce has gone on record as supporting the move of the ANG to NAS Point Mugu.

At NAS Point Mugu and at Norton AFB, where the existing military facilities have a profound impact on the local economies (both Bases have annual payrolls in excess of $100 million), it is not likely that the $12 million payroll increment created by ANG will alter existing development trends substantially. It should also be noted that the demand for housing, approximately 300 units, by ANG personnel would not stimulate growth in the City of Camarillo, due to the City's growth control ordinance. This ordinance limits the construction of new housing to no more than 300 dwelling units per year.

SOCIOECONOMICS

Key Findings

None of the proposed actions would have an overall adverse socioeconomic impact.

The relocation of the 146th TAW to Norton AFB would have a minor impact. Existing base facilities would possibly be displaced and would have to be developed at another location on base or would be discontinued.

	No Action	Van Nuys[1]	Norton AFB	AF Plant #62	NAS Point Mugu[2]
Acquisition/Relocation			●	●	●
Recruitment Potential	□		○	○	○
Fiscal Impact		○	○	○	○
Employment		○	○	○	○

Acquisition of private property at Palmdale would have a moderate impact in that it would remove taxable property from the tax rolls. However, this would be offset by increased economic activity and sales tax and bed tax revenue in the project vicinity.

Acquisition of the Point Mugu site would affect tax revenues and local spending patterns in a manner similar to the impacts at Palmdale. Although 44 agricultural jobs would be lost, approximately 460 construction jobs would be created in the short run and 300 to 500 jobs would be created in the long run due to ANG payroll expenditures.

The subsequent redevelopment of the ANG site at Van Nuys Airport would likely generate sufficient economic activity to offset the local spending that would be lost after the 146th TAW relocates.

It is not anticipated that significant population and housing impacts would occur related to the proposed relocation project. It is also anticipated that the demand for community services would be minimal at each of the alternative base locations.

Acquisition and Displacement

Private property would be acquired if either the NAS Point Mugu or the Palmdale base site alternatives were selected. At Norton AFB, the proposed action would possibly displace existing base facilities including hobby shops, stables, kennels, a park, and storage facilities. These military facilities would have to be developed at another base location or discontinue operations.

At NAS Point Mugu, proposed private property takings would involve 210 acres of agricultural land and an agricultural equipment storage yard located at the corner of Navalair and Port Hueneme Roads. San Miguel Produce Company farms 83 acres of this land, and J. Nishimori Growers, Inc. farms the remaining 127 acres. The conversion of this site to airfield use would displace an estimated 44 farm-related jobs supported by on-site agricultural use. If other land is not brought into production to replace this site, all 44 jobs would be lost which represents 0.4 percent of the 10,067 jobs associated with crop production in the Oxnard-Port Hueneme-El Rio-Camarillo Regional Administrative Area (Ventura County Superintendent of Schools 1981).

At the Palmdale site, undeveloped privately owned land would be acquired, and no residences or businesses would be displaced.

Mitigation Measures

The adverse impact on the displaced farmers can be mitigated through compensation for the property and relocation assistance. The owners and tenants of all acquired private property would be compensated under the provisions of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (Public Law 91-646). The U.S. Army Corps of Engineers would be responsible for the administration of the provisions of this act. This law establishes a uniform policy for fair and equitable treatment of persons and business operations displaced as a result of Federal and State assisted programs. It provides that, in addition to compensation for property, businesses and non-profit organizations are eligible for reimbursement for actual reasonable moving costs and related expenses. Advisory services from the U.S. Corps of Engineers would be available to the farmers to aid in locating suitable replacement land.

Population and Housing

It is not anticipated that significant or adverse population and housing impacts would occur related to the proposed base relocation alternatives. A survey of both full-time and part-time ANG personnel suggests that from 36 to 52 percent of the full-time staff would desire to relocate depending upon the base location (Table IV-12). Part-time personnel indicated that between 6 and 8 percent would desire to relocate. Application of these percentages to the current ANG personnel of 329 full-time and 1,036 part-time suggests there would be a demand for 108 to 254 housing units in communities in the vicinity of the alternate base locations. The greatest desire to relocate would be associated with the NAS Point Mugu Alternative, followed by AF Plant #42 in Palmdale, and Norton AFB.

TABLE IV-12. RESPONSE OF ANG PERSONNEL TO BASE RELOCATION ALTERNATIVES (PERCENT)

	Full-Time Personnel			Part-Time Personnel		
Alternative	Commute	Relocate	Leave 146th TAW	Commute	Relocate	Leave 146th TAW
Norton AFB	8% (26)	36% (114)	55% (196)	49% (228)	6% (27)	42% (195)
AF Plant #42	27% (86)	45% (144)	27% (87)	61% (283)	7% (30)	30% (141)
NAS Point Mugu	31% (100)	52% (164)	15% (48)	67% (311)	8% (39)	22% (104)

(XX) = Number of survey responses
Source: The Planning Group, September 1984
* The survey included 779 responses (318 full-time and 461 part-time)

It should be recognized, however, that this housing demand is not likely to be concentrated in any one community. ANG personnel may desire to relocate to a number of communities that are within reasonable driving time of the selected

base location. As shown in Table IV-13, there is likely to be a slightly greater demand for ownership units among full-time ANG personnel than among part-time personnel.

TABLE IV-13. HOUSING STATUS OF ANG PERSONNEL DESIRING TO RELOCATE (PERCENT)

	Full-Time		Part-Time	
Alternative	Percent Homeowners	Percent Renters	Percent Homeowners	Percent Renters
Norton AFB	58 (66)	42 (45)	56 (15)	44 (12)
AF Plant #42	56 (80)	44 (62)	37 (11)	63 (19)
NAS Point Mugu	57 (93)	43 (71)	36 (14)	64 (25)

(XX) = Number of survey responses
Source: The Planning Group, September 1984

In this context, the following considerations regarding housing availability for communities surrounding each base location are relevant:

Norton AFB Vicinity

According to the 1980 Census, there were 31,744 single family detached homes in the City of San Bernardino and 12,236 rental units. The average cost for a home is $70,000. Average rental is $450/month for a 2-bedroom, luxury-style apartment. No precise figure for housing starts was available, but according to City Planning Department staff, there has been a significant quantity of residential building in recent years. Housing availability should not be a problem for ANG personnel.

In surrounding communities such as Redlands, Rialto and Colton, the housing market is fairly open with a considerable number of units available. In Rialto, 600 units were listed as available in September 1984. In Colton, approximately 350 vacant units are available.

AF Plant #42 Vicinity

The Palmdale-Lancaster area has a wide-open housing market. The area is adjusting to the establishment of a new Rockwell plant there and has been going through glut and famine in housing. Contact with the local Board of Realtors in the fall of 1984 indicates that 500 units were listed for sale in Palmdale and 692 units in Lancaster. Recent sales price for a 3-bedroom home in Palmdale was $82,517 compared with $77,474 for a similar unit in Lancaster. Apartment rentals ranged from $275 to $400 per month. Given these conditions, housing should be readily available for ANG personnel.

NAS Point Mugu Vicinity

Aproximately 100,000 dwelling units are located within a 20-minute drive to the proposed site - the average journey to work for Ventura County. Areas covered

include the cities of Oxnard, Port Hueneme, and Camarillo, along with unincorporated parts of the County.

Several factors limit potential expansion of this market. The Santa Monica Mountains to the south and southeast preclude large-scale development. In addition, coastal zone restrictions and agricultural zones limit expansion of the current market's boundaries.

Land in the unincorporated areas of Ventura County is largely agricultural and will not likely be a site for significant housing expansion in the near term. In addition, the median value county-wide for a single family house in August 1983 was $126,666; for a new home it was $135,000.

Oxnard is a likely site for the relocation of ANG personnel. The housing market in the city is characterized by the Oxnard Planning Department staff as fairly tight, with a vacancy rate of 4.6 percent for rental units and 2.3 percent for owner-occupied units. The latter rate is actually lower for most of the City, and is brought up by high vacancies in the Pleasant Valley area (northwest on Highway 1 from the site) where rates run from 6.5-7.5 percent.

Housing prices in Oxnard during fall 1984 were relatively moderate, with a 3-bedroom, single bath house selling for $90,000-$106,000. North of Highway 1, prices were found to be higher, around $120,000. Rent for a 3-bedroom unit runs $575-$750/month. Prices for multi-unit condominiums depend upon their location. In some parts of the City they cost approximately $85,000. Elsewhere, prices range from $104,000-$119,000.

Mobile homes also make up a significant part of the Oxnard housing market. In 1984 there were 22 mobile home parks in the City, with a total of 2,721 spaces. There is strong competition for these spaces.

The local housing market can be characterized as fairly tight. Yet, it is probable that a good share of the ANG personnel desiring to find housing would be able to find suitable housing within 2 to 3 weeks in Oxnard. As of fall of 1984 there were approximately 500 housing starts in Oxnard. The historical average is closer to 450.

Finally, it should be noted that local officials in Oxnard feel that the local housing market will expand slowly. Oxnard's high-growth area is in the north of the city, and housing in the southern part would conflict with its agricultural designation. Another factor is offshore oil exploration proposed by Exxon. If approved (not at all a certainty), this would impact the housing market significantly. Proposed start-up of the exploration effort is proposed to occur in approximately 2 years.

The Camarillo Planning Department indicates that the housing market in that City is relatively loose due to increased building in recent years. The vacancy rate for single family homes is about 6 percent, with home values ranging from $98,000-$250,000. Availability of housing for ANG personnel should not be a problem. As of September 1984, 68 rental units, 215 single family homes, 36 condominiums and 20 attached homes were under construction.

ANG Relocation Benefits

Securing a home or apartment in each of these areas for ANG personnel will also largely depend upon the type of relocation benefits for which they are eligible under the Department of Defense Joint Travel Regulations. Separate regulations are stipulated for military personnel (Volume I) and civilian employees (Volume II). Both of these volumes are pertinent for identifying the possible relocation reimbursements available to ANG personnel. ANG military personnel fall under the category of Active Duty Guard Reserve Program addressed in Volume I and National Guard Technicians are addressed in Volume II.

In general, these regulations are formulated to address individual relocation needs and circumstances. There are no overall entitlement categories that automatically apply to all military or civilian personnel. Relocation entitlements are based upon both the specifics of the base move and the living arrangements of individual employees. Benefits to military personnel address the following:

- Permanent change-of-station allowances
- Variable housing allowance within the United States
- Travel of dependents
- Transportation of household goods
- Dislocation allowance

Similarly benefit categories relevant to civilian personnel are as follows:

- Permanent change-of-station travel
- Miscellaneous expense allowance incident to relocation
- Travel and transportation of dependents
- Allowances for expenses incurred in connection with real estate transactions and unexpired lease

The Joint Travel Regulations are formulated to give authorities at the transferring station a pivotal role in determining the relocation policy. In this regard, no specific policy has been formulated to date regarding the relocation of the Van Nuys base.

Recruitment

The No Action alternative would continue the recruiting advantages the 146th TAW is afforded by its central location in the Los Angeles metropolitan area. Although the Van Nuys area has the largest recruiting base in comparison to the proposed relocation sites, adverse safety, security, and lease cost considerations outweigh this favorable recruiting environment. A comparison of the proposed relocation sites with regard to their respective recruiting potential is a more relevant evaluation.

The selection of the Norton AFB alternative would cause the greatest number of ANG personnel to leave the 146th TAW. Norton AFB is the least desirable alternative in terms of commuting distance since 89 percent of the 146th TAW personnel live more than 50 miles from Norton AFB (Table IV-14).

As a result of a move to Norton, 55 percent of the full-time personnel and 42% of the part-time personnel indicate they would leave the 146th TAW. The substantial loss of present ANG personnel and the high level of competition for reserve

personnel in the San Bernardino area combine to make Norton AFB a poor site from the standpoint of base personnel.

TABLE IV-14. PERCENT OF AIR GUARD PERSONNEL WITH PRESENT RESIDENCE GREATER THAN 50 MILES FROM ALTERNATE BASE LOCATION*

Personnel	Norton AFB	AF Plant #42	NAS Point Mugu
Tech.	21	**	1
Non Tech.	68	9	15
Total	89	9	16

* = represents direct distance, not actual automobile mileage
** = less than 1 percent

Source: 146th TAW personnel data

Should AF Plant #42 be selected as the relocation site, 27 percent of the full-time personnel and 30 percent of the part-time personnel would leave the 146th TAW. As noted in Chapter III, the overall recruiting potential of the area around AF Plant #42 cannot be considered to be strong when the actual driving distances forced by intervening mountainous topography are taken into consideration. In addition, a review of driving distances of current full-time ANG personnel living in the West San Fernando Valley and Ventura County indicates that 107 persons (33 percent of the total full-time force of 345) would be required to drive in excess of 30 miles to the Palmdale Plant #42 site compared to 53 full-time personnel (15 percent) living in the Antelope Valley who would be required to drive in excess of 30 miles to commute to the Point Mugu site.

TABLE IV-14a. NUMBER OF FULL-TIME PERSONNEL WHO WOULD BE REQUIRED TO COMMUTE MORE THAN 30 MILES

ANG Personnel in the West San Fernando Valley and Ventura County Required to Commute to AF Plant #42		ANG Personnel in the Antelope Valley Required to Commute to NAS Point Mugu	
Agoura	3	Palmdale Area	20
Canoga Park	24	Canyon Country	14
Newberry Park	1	Valencia	3
Thousand Oaks	12	Saugus	1
Woodland Hills	4	Sylmar	9
Simi Valley/Ventura	61	Newhall	7
Santa Monica	2		
Total	107 (33%)		53 (15%)

Source: 146th TAW

Relocation to NAS Point Mugu would result in the smallest loss of personnel among the alternatives. Of the full-time and part-time personnel, 15 percent and 22 percent, respectively, would separate from the 146th TAW. These minimal personnel losses and the adequate population base around NAS Point Mugu would make this an attractive site from a recruiting standpoint. It should be noted, however, that future Naval Reserve recruiting efforts are likely to concentrate on the Los Angeles Basin and would be in competition with ANG recruitment.

Community Facilities and Services

Estimated Demand for Community Services

It is anticipated that the demand for community services would be minimal at each of the alternative base locations. In terms of Base operations, the ANG would provide its own security. Fire fighting capability would be coordinated with the existing services provided by the military at each of the site locations. Control of parking and traffic on peak weekends each month may necessitate coordination with local police departments. During peak weekends, local police may be needed at the base entrances/exits. Specifically, at NAS Point Mugu this would entail possible assistance along Navalair Road. At Palmdale, Avenue M may be affected, and at Norton AFB, Third Street would be affected.

With respect to residentially-related community services, impacts are expected to also be minimal. As noted in the previous "Population and Housing" section of this Chapter, the demand for housing could reach 254 units. This demand would likely be distributed throughout a number of communities in the vicinity of each base location, given the variety of available housing choices. Thus, approximately 254 units with an associated population of from 700-800 persons dispersed throughout many communities in all likelihood would not require significant additional fire, police or school capacity to be provided in any single community.

Community Services Provided by the ANG

It should be recognized in evaluating the relationship of the ANG to community services, that the Guard itself does provide important community service functions. Directly related to the ANG's mission, the Guard provides aerial assistance in fire fighting and disaster relief assistance. The Guard has also provided a number of community service functions, including Scout troops, job training, conservation, and sponsorship of community activities such as the annual ANG Air Fair held during the summer.

Economic and Fiscal Impacts

Property Tax Loss

The acquisition of private property at NAS Point Mugu and at the original site in Palmdale would remove taxable property from the local county assessor rolls. At NAS Point Mugu, six parcels would be acquired. Information available from the Ventura County Assessor and Tax Collector indicates that these parcels were billed $30,144 in the most recent tax year (1983), and as a consequence, Ventura County would lose this property tax revenue if the properties were acquired by the ANG.

In Palmdale, a review of information available from the Los Angeles County Assessor indicates that six parcels would also be affected by the proposed acquisition. In the most recent tax year, these parcels were billed $24,547. If the Palmdale site were selected, this amount would be removed from the Los Angeles County tax roll. It should be recognized that loss of revenue from properties taken off the tax rolls in Los Angeles and Ventura Countries would likely be offset by ANG personnel buying homes in the general area, as well as paying sales tax on goods and services.

Under current California law, property taxes can only rise at a rate of one percent per year as long as the property is in continuous ownership. However, reassessment occurs once a property is sold, with the new tax rate based upon one percent of the full value of the property at the time of the sale. Therefore, areas from which Guard personnel relocated would also benefit from the increased valuation from the sale of homes and resulting tax revenue increases. This would also be true in the areas where Guard personnel relocate and purchase housing.

The Van Nuys and Norton AFB sites are non-taxable government property.

Impact on Property Values

It is not expected that ANG Base locations would directly affect adjacent property values. At each base location, on-going airport operations have influenced property values for many years. While a variety of factors contribute to property values, it must also be considered that land use controls play a major role in determining the highest and best use of a property and hence its value. At each of the relocation sites, existing zoning controls would further minimize the impact of ANG presence. For example, adjacent lands at NAS Point Mugu are zoned agricultural, and agricultural activities are not affected adversely by airport operations. At Palmdale, adjacent lands are zoned industrial, a category entirely compatible with airport operations. Similarly at Norton AFB, property adjacent to the proposed ANG site is zoned for mixed commerical, industrial and residential use. These types of land use controls tend to be compatible with airport operations.

At the Van Nuys Airport site, the ANG move would tend to increase the property value of the base site, given its redevelopment potential. Adjacent industrial properties would likely be influenced positively by the base redevelopment potential, as well as by overall changes occurring at the Van Nuys Airport. Redevelopment of the base site and the increase in non-residential development activity at the Airport may have a retarding effect on the value of adjacent residential properties due to the likely disruptions associated with increased commercial and industrial activities.

Impact on the Local Economy

Of the site alternatives considered, only the NAS Point Mugu option could potentially affect existing jobs, i.e., agricultural workers. It should be noted, however, that these lost agricultural jobs would be more than offset by the jobs created through ANG construction activity and payroll expenditures.

It is likely that economic benefits will accrue to and be dispersed among communities in the vicinity of the base location ultimately selected. These benefits will be a function of:

- o Direct construction jobs generated;
- o Off-site construction and material supply-related jobs created during the period of construction;
- o Expenditures of ANG personnel for convenience goods and services in communities adjacent to the base;
- o Expenditures of ANG households that relocate to communities in the vicinity of the base, including the purchase and rental of living space.

With respect to construction jobs generated it is estimated that the development of a replacement ANG base facility would be approximately $60 million (exclusive of land costs). A construction contract of this amount could potentially generate 460 construction jobs over the course of the project.[1] While the contractor ultimately selected would normally be expected to use current employees, it is probable that many workers would be recruited from the surrounding local areas.

According to the Bureau of Labor Statistics, typically each two direct construction jobs generate one off-site job related to construction or materials supply. In this context, a maximum of 230 indirect jobs may be generated during project construction.

Over the long-term, the presence of the ANG at a new location would have positive secondary economic effects. These benefits would be regional in nature and would probably be dispersed throughout the communities and jurisdictions in the vicinity of the base. It is unlikely that all benefits will accrue to any one particular locality.

As noted above, the two major sources of this change would likely be ANG personnel expenditures in the surrounding area, as well as the expenditures of ANG households that relocated to the area.

Currently, the 146th TAW has an annual payroll of approximately $11 million. A survey of expenditure patterns of both full-time and part-time ANG personnel at the Van Nuys base indicates that the 779 respondents to the survey spent approximately $150,000 in the Van Nuys area each month. The expenditure relationships identified in the survey suggest that total base population of 1,365 may spend as much as $221,000 each month (or about $2.7 million annually) in the Van Nuys area. Table IV-15 illustrates the expenditure pattern for 779 recently surveyed ANG personnel. As can be seen from the table, about two-thirds of expenditures are for groceries, auto/gas and meals.

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1 The construction employment estimate has been determined by dividing the construction labor cost by the quantity of the average hourly construction wage ($25 per hour) multiplied by the number of working hours in a year (2,080 hours). Labor costs for the construction of a new ANG Base have been assumed to be approximately 40 percent of the total $60 million construction budget, or $24 million. Thus, $24 million divided by $52,000 results in 461 full-time construction jobs.

TABLE IV-15. MONTHLY EXPENDITURES IN VAN NUYS
(779 RESPONDENTS TO SURVEY)

Item	Full-Time Personnel Total Spent	Part-Time Personnel Total Spend
Meals	$18,515	$ 8,931
Groceries	27,625	16,531
Entertainment	8,454	5,246
Recreation	6,181	2,760
Hotel/Motel	490	1,302
Auto/Gas	19,489	11,418
Clothing	8,617	5,590
Drugs/Sundries	5,767	2,803
Total	$95,138	$54,581

Source: The Planning Group, September 1984.

In addition, to base payroll-related expenditures and the purchase of supplies ($3 million annually), ANG personnel who relocate would also bring the effects of added total household income and expenditure to surrounding areas. The recent survey of ANG personnel indicates that the annual median income of households desiring to relocate is approximately $33,000. Given the variation in the number of ANG households preferring to relocate to each alternative, the total added household income would range from approximately $6 million for the Norton AFB alternative (where only 180 households are projected to relocate) to $8 million for the NAS Point Mugu alternative (254 households are projected to relocate).

ANG payroll expenditures captured in the local area taken along with new relocated households would generate a variety of positive sales and employment impacts. Based on the relationship between income and employment levels in communities adjacent to each of the alternative site locations, it is anticipated that 300-500 secondary jobs would be created in surrounding areas.[1] In all likelihood, the high range of potential jobs would not be reached for 4-5 years, until the new base is well integrated into the local economy. It should also be noted that the Palmdale area is relatively isolated from the greater Los Angeles metropolitan area due to the intervening topography of the San Gabriel Mountains. As a result, relocation to AF Plant # 42 may contribute to even greater secondary

[1] In lieu of data intensive analyses such as input-output models and economic base studies, the State of California Office of Planning and Research recommends in its Economic Practices Manual (1983 edition) that the ratio of existing employment to aggregate income be used as a tool to estimate future employment levels from added income. Specifically, the aggregate income of an area is divided by the total employment to derive a ratio, i.e., the number of dollars of income that generate one job. This ratio is then applied to new income added to the area to indicate the number of new jobs that may be created.

employment effects due to the possibility that a high proportion of ANG-related spending will be captured by the immediately adjacent community.

In contrast, the departure of the ANG from Van Nuys would eliminate much of these expenditures in the local Van Nuys-Reseda economy. However, it is not likely that this decrease will be significant given the diversity and strength of the other economic activities associated with the Van Nuys Airport. It should also be recognized that the departure of the ANG from Van Nuys would provide the Los Angeles Department of Airports with the opportunity to redevelop the vacated base. As indicated in the Land Use Condition and Planning Program section of this report, over 1 million square feet of office space (equivalent to 4,000-5,000 employees) may be possible at this site. Thus, revenues and income activity generated by redevelopment would, in all likelihood, more than offset the losses in local spending resulting from the relocation of the Base.

SURFACE TRANSPORTATION

Key Findings

The relocation of the 146th TAW and subsequent redevelopment of the ANG Base at Van Nuys Airport would first result in a small reduction and later a considerable increase in weekday traffic volumes. The increased traffic would have a moderate adverse impact in terms of a deterioration in the level of service at nearby intersections.

	No Action	Van Nuys[1]	Norton AFB	AF Plant #42	NAS Point Mugu[2]
Traffic Generation	○	●	●	●	●
Roadway Capacity	●	●	●	●	●

Under the No Action alternative, there would be no increase in traffic volumes. However, the inability of present ANG facilities to accommodate the peak weekend parking demand would continue. Relocation to Norton AFB would result in a minor increase in daily (weekday) traffic volumes. One weekend per month increased peak hour congestion would occur on I-215, and localized peak hour congestion would occur at the Base entrance.

Relocation to AF Plant #42 would result in a minor increase in weekday traffic volumes and a one weekend per month moderate increase in weekend traffic volumes on Avenue M, with localized congestion at the Base entrance.

Relocation to NAS Point Mugu would lead to considerable increase in traffic on Navalair Road, Hueneme Road, and Las Posas Road. On one weekend per month the increased traffic would result in deteriorated levels of service on these roads. Weekday traffic increase would be minor.

Methods

In general, the method used in conducting the surface transportation analysis was to evaluate the traffic conditions with and without the ANG Base at each of the four locations. The traffic conditions on the streets and highways serving each site were quantified using average daily traffic volumes, peak hour volumes, and volume to capacity ratios. The year 1988 was used as the base year for the analysis, since it is the year during which the ANG base relocation is expected to be completed. Traffic conditions for 1988 have been projected from existing (1983) data as discussed in Chapter III. Both weekday and weekend traffic conditions have been evaluated.

The following two sections present the methodology used in developing the traffic generation characteristics and parking requirements for the ANG Base. The specific traffic and parking impacts at each of the four alternative base locations are presented in the subsequent sections.

Traffic Generation

To determine the traffic impacts associated with the ANG Base, the level of traffic generated by the Base was quantified. Commuter automobiles transporting people to and from the Base comprise most of the traffic. At the Van Nuys ANG Base, there are currently 332 workers during the week and 1,365 workers on the one weekend per month that the Base is in full operation.

Virtually all of these commuters arrive by automobile or motorcycle. The average automobile occupancy has been observed to be 1.05 passengers per vehicle. Counts taken at the gate also indicate that an average of 70 non-commuter vehicles per day arrive at the Base, associated with visitors, deliveries, and recruitment activities. Altogether, the total number of one-way vehicle trips generated by the Base is:

GENERATED TRAFFIC-ANG BASE

	Daily Trips	Peak-Hour Trips
Weekday	800	340
Weekend	2,800	1,320

For the three alternate base locations, Norton AFB, AF Plant #42, and NAS Point Mugu, these traffic volumes were added to the background levels to determine the increase in traffic attributed to the Base. The traffic was distributed theoretically onto the street and highway network based upon the geographic distribution of the workers' residences.

For the traffic analysis in the Van Nuys Airport area, the trips generated by the ANG Base were subtracted from the traffic stream, then the trips generated by the alternate land use were added. The alternate land use was assumed to be 1,400,000 square feet of office space. The trip generation rates per 1,000 square feet of office space, as documented in Trip Generation - an Informational Report, Institute of Transportation Engineers, 1982, and the total number of trips generated by such a development are:

GENERATED TRAFFIC - OFFICE PARK

	Daily Trips		Peak Hour	
	Rate	# Trips	Rate	# Trips
Weekday	20.65	28,910	2.17	3,040
Weekend	4.13	5,780	0.43	600

Parking Requirements

The number of parking spaces required to accommodate ANG-related vehicles has been determined to be:

Weekday	310 spaces
Weekend	1,200 spaces

These values were calculated based upon the total number of workers on a weekday and weekend, an average automobile occupancy of 1.05 passengers per vehicle, a 10 percent reduction to account for motorcycles, absentees, and drop-offs, and the estimated need for 15 visitor spaces and 5 truck/delivery spaces. There are currently 790 spaces provided at the Van Nuys ANG Base, which sufficiently accommodates the weekday parking demand. On the weekends during which the Base is in operation, over one-third of the drivers must park outside of the Base on the nearby streets. The ANG presently provides paved parking spaces for 50% of the assigned unit strength.

Van Nuys Airport

Two scenarios were considered in analyzing the traffic conditions on the streets and highways serving the Van Nuys Airport area. One is that the ANG Base would remain at its present location at the Van Nuys Airport and continue with its current operation. The other scenario assumes that the ANG Base is relocated and that the vacated land is developed into a 1,400,000 square foot office park. This square footage was estimated from discussions with the Los Angeles Department of Airports. The projected 1988 traffic volumes for these two scenarios were compared based upon the trip generation characteristics discussed previously.

The distribution of ANG traffic on the roadway network is shown on Figure IV-3 for daily and peak hour traffic on an average weekday and on a weekend day. If the ANG Base were relocated, these volumes would be removed from the traffic stream. The distribution of traffic generated by the 1,400,000 square foot office park is shown on Figure IV-4 for daily and peak hour traffic on an average weekday. These volumes would be added to the traffic stream if an office park were developed on the site. The weekend traffic generated by such a development is typically about 20 percent of the weekday traffic volumes.

A comparison of traffic volumes on the Van Nuys streets and highways for the two scenarios is shown on Table IV-16 for an average weekday and Table IV-17 for a typical weekend when the ANG Base is in operation. As shown on Table IV-16, traffic on the segment of Balboa Boulevard north of the ANG Base would increase from 31,500 to 46,100 vehicles per day, if the ANG Base were replaced with a 1,400,000 square foot office park. This would be a 46 percent increase in daily traffic volumes. Generally, the table shows that the office park would generate more daily and peak hour trips than the ANG Base currently generates on an average weekday. The table also indicates that the streets which would experience the largest percentage increase in traffic are Balboa Boulevard and Roscoe Boulevard. Table IV-17 shows that the office park would generate fewer trips on weekends than the ANG Base generates when it is in session; therefore, weekend traffic volumes would be lower.

TABLE IV-16. COMPARISON OF WEEKDAY TRAFFIC VOLUMES
VAN NUYS ANG BASE VS OFFICE PARK

Highway Segment	Daily Traffic			Peak Hour Traffic		
	1988 with ANG Base	1988 with Office Park (1)	% Change	1988 with ANG Base	1988 with Office Park (1)	% Change
Balboa Boulevard						
North of ANG Base	31,500	46,100	46%	2,630	4,030	53%
North of Roscoe Blvd.	32,600	34,300	5%	2,940	3,100	5%
South of ANG Base	34,700	48,200	39%	3,050	4,350	43%
South of Saticoy St.	30,500	42,900	41%	2,520	3,710	47%
South of Sherman Way	30,500	31,900	5%	2,420	2,550	5%
Roscoe Boulevard						
West of Balboa Blvd.	41,000	42,400	3%	3,570	3,700	4%
East of Balboa Blvd.	38,900	50,400	30%	3,260	4,370	34%
West of San Diego Fwy.	49,400	60,900	23%	4,200	5,310	26%
East of San Diego Fwy.	52,500	54,800	4%	4,410	4,620	5%
Sherman Way						
West of Balboa Blvd.	39,900	41,900	5%	3,680	3,880	5%
East of Balboa Blvd.	41,000	50,000	22%	3,780	4,640	23%
East of San Diego Fwy.	49,400	50,800	3%	3,680	3,810	4%
Saticoy Street						
West of Balboa Blvd.	17,400	18,500	6%	1,790	1,900	6%
San Diego Freeway						
North of Roscoe Blvd.	145,000	154,000	6%	12,900	13,800	7%
South of Sherman Way	179,000	187,000	4%	15,100	15,800	5%

(1) Based upon a hypothetical development of a 1.4 million square foot office park.

TABLE IV-17. COMPARISON OF WEEKEND TRAFFIC VOLUMES
VAN NUYS ANG BASE VS OFFICE PARK

Highway Segment	Daily Traffic			Peak Hour Traffic		
	1988 with ANG Base	1988 with Office Park	% Change	1988 with ANG Base	1988 with Office Park	% Change
Balboa Boulevard						
North of ANG Base	28,400	30,200	6%	2,140	2,140	-10%
North of Roscoe Blvd.	29,300	29,500	1%	2,650	2,630	-1%
South of ANG Base	31,200	32,300	4%	2,750	2,270	-17%
South of Saticoy St.	27,500	28,500	4%	2,270	1,800	-21%
South of Sherman Way	27,500	27,600	0%	2,180	2,130	-2%
Roscoe Boulevard						
West of Balboa Blvd.	36,900	37,100	1%	3,210	3,200	0%
East of Balboa Blvd.	35,000	36,400	4%	2,930	2,730	-7%
West of San Diego Fwy.	44,500	45,900	3%	3,780	3,580	-5%
East of San Diego Fwy.	47,300	47,600	1%	3,970	3,940	-1%
Sherman Way						
West of Balboa Blvd.	35,900	36,200	1%	3,310	3,300	0%
East of Balboa Blvd.	36,900	37,500	2%	3,400	2,980	-12%
East of San Diego Fwy.	44,500	44,700	0%	3,310	3,300	0%
Saticoy Street						
West of Balboa Blvd.	15,700	15,900	1%	1,610	1,600	-1%
San Diego Freeway						
North of Roscoe Blvd.	131,000	132,000	1%	11,600	11,400	-2%
South of Sherman Way	161,000	161,000	0%	13,600	13,200	-3%

The information on Tables IV-16 and IV-17 simply shows the traffic volumes with the ANG Base as compared to the office park, with the percentage change which would occur. A more useful technique for assessing the traffic impacts is a comparative analysis of traffic conditions on the affected streets. Standard analytical tools for measuring traffic conditions are the volume to capacity ratio and levels of service. A volume to capacity ratio is calculated by dividing the traffic volume by the theoretical maximum capacity of the street or highway. Level of service is a qualitative measure of the operating conditions on a roadway facility as determined by delay, congestion, freedom to maneuver, and the volume/capacity ratio. Level of service is measured from A to F (best to worst). Levels of Service E and F are considered to be undesirable operating conditions. Table IV-18 indicates the volume to capacity ratios and levels of service for the facilities analyzed in the vicinity of the Van Nuys Airport. The table shows that Balboa Boulevard would operate at Level of Service E and F if the office park were developed on the site of the ANG Base. The San Diego Freeway would also be adversely affected as the level of service would change from D to E south of Sherman Way. The assumed capacity values for calculating the volume to capacity ratios during the peak hour are 4,000 vehicles per hour for a four-lane arterial, 6,000 vehicles per hour for a six-lane arterial and 2,000 vehicles per hour per lane for a freeway.

Parking

The Van Nuys ANG Base currently has a shortage of parking spaces on Base to accommodate the weekend parking demand. As there are 790 spaces on Base and a demand for 1,200 spaces, there is a spillover of 410 vehicles which must park on the nearby streets. If the Base were relocated, this on-street parking usage would cease. The parking demand on a typical weekday is 310 vehicles, all of which can park on Base.

If a 1,400,000 square foot office park were developed, the impacts on parking would depend upon the location and number of spaces provided within the project. An inadequate number of spaces would result in weekday usage of on-street parking on the nearby streets.

Mitigation Measures

The relocation of the ANG Base would result only in positive traffic impacts in the area of the Van Nuys Airport. The adverse impacts identified are only associated with the potential development of an office park. If and when the Los Angeles Department of Airport formulates its plans, an environmental assessment will be required which will identify the impacts of the proposed development. Mitigation measures may be developed at that time in response to negative traffic impacts.

Norton AFB

The two scenarios considered for the traffic analysis of the Norton AFB area were: 1) no ANG Base, and 2) presence of an ANG Base at the proposed site. If the Base were in operation at Norton AFB, it would cause an increase in traffic volumes on the streets and highways serving the site. The distribution of these trips is shown on Figure IV-5 for weekday and weekend trips.

TABLE IV-18. VOLUME/CAPACITY RATIOS AND LEVELS OF SERVICE
VAN NUYS ANG BASE VS OFFICE PARK

	Weekday				Weekend			
Highway Segment	1988 with ANG Base	Level of Service	1988 with Office Park	Level of Service	1988 with ANG Base	Level of Service	1988 with Office Park	Level of Service
Balboa Boulevard								
North of ANG Base	.66	B	1.01	F	.59	A	.54	A
North of Roscoe Blvd.	.74	C	.78	C	.66	B	.66	B
South of ANG Base	.76	C	1.09	F	.69	B	.57	A
South of Saticoy St.	.63	B	.93	E	.57	A	.45	A
South of Sherman Way	.61	B	.64	B	.55	A	.53	A
Roscoe Boulevard								
West of Balboa Blvd.	.60	B	.62	B	.54	A	.53	A
East of Balboa Blvd.	.54	A	.73	C	.49	A	.46	A
West of San Diego Fwy.	.70	C	.89	D	.63	B	.60	B
East of San Diego Fwy.	.74	C	.77	C	.66	B	.66	B
Sherman Way								
West of Balboa Blvd.	.61	B	.65	B	.55	A	.55	A
East of Balboa Blvd.	.63	B	.77	C	.57	A	.50	A
East of San Diego Fwy.	.61	B	.64	B	.55	A	.55	A
Saticoy Street								
West of Balboa Blvd.	.45	A	.48	A	.40	A	.40	A
San Diego Freeway								
North of Roscoe Blvd.	.81	C	.86	D	.73	C	.71	C
South of Sherman Way	.94	D	.99	E	.85	C	.83	C

A comparison of traffic volumes with and without the proposed ANG Base is shown on Tables IV-19 and IV-20 for weekday and weekend times of operation, respectively. The tables indicate that Third Street, Alabama Street and Victoria Street would experience the heaviest increase in traffic volume.

A volume to capacity ratio and level of service analysis has been conducted for the streets serving the proposed site, the results of which are summarized on Table IV-21. The table indicates that there will be increases in volume to capacity ratios on the affected streets; however, the volumes are sufficiently low so that the levels of service are not undesirable. The Barstow Freeway (Interstate 215) is an exception as it would operate at Level of Service F on a weekday with or without the ANG traffic. On weekends, the ANG traffic would result in a change from Level of Service E to Level of Service F during the peak hour. There would also be localized traffic impacts at and around the entrance to the ANG Base as commuters arrive at and leave the Base.

Parking

The implementation of the ANG Base at Norton AFB would create a weekday parking demand of 310 spaces and a weekend demand of 1,200 spaces. One-half of the needed 1,200 parking spaces would be developed within the new ANG facility. This would require about 600 vehicles to seek available parking in existing lots located in other areas of Norton AFB. This should not present a problem since it will occur only on weekends when parking spaces are readily available.

Mitigation Measures

To mitigate the entrance congestion at peak arrival and departure times, auxiliary entrances/exits could be used to spread out the point of impact. The main gate could be aligned with Victoria Avenue to make use of the existing traffic signal and achieve more efficient traffic flow.

Transportation system management (TSM) measures could be used to reduce the severity of all major traffic impacts. For example, a ride-share program could be implemented to match personnel who live in the same neighborhoods and encourage the use of carpools. This would lower the number of vehicles on the highways, as well as reduce the parking demand. Staggered times for arriving and departing could be arranged to spread out the peak congestion at the entry/exit gates.

AF Plant #42

The traffic analysis for the streets and highways serving AF Plant #42 in Palmdale considered two scenarios: with and without the ANG Base. If the Base were in operation, vehicles travelling to and from the site would be distributed as shown on Figure IV-6 for weekday and weekend trips.

Tables IV-22 and IV-23 illustrate a comparison of traffic volumes with and without the proposed ANG Base for weekdays and weekends, respectively. Avenue M and the Antelope Valley Freeway (State Route 14) would experience major increases in traffic volumes.

TABLE IV-19. COMPARISON OF WEEKDAY TRAFFIC VOLUMES
NORTON AFB WITH AND WITHOUT ANG BASE

Highway Segment	Daily Traffic			Peak Hour Traffic		
	1988 without ANG Base	1988 with ANG Base	% Change	1988 without ANG Base	1988 with ANG Base	% Change
Third Street						
East of ANG Site	7,040	7,440	6%	900	1,070	19%
West of ANG Site	7,040	7,440	6%	900	1,070	19%
West of Victoria Avenue	11,000	11,180	2%	1,300	1,370	5%
West of Sterling Ave.	16,500	16,680	1%	1,900	1,970	4%
Alabama Street						
South of Third Street	14,700	15,100	3%	1,290	1,460	13%
Route 30						
South of Third Street	8,140	8,140	0%	1,060	1,060	0%
North of I-10	12,700	12,700	0%	1,650	1,650	0%
Victoria Avenue						
North of Third Street	5,400	5,620	4%	630	730	16%
Redlands Freeway (I-10)						
West of Alabama Street	80,000	80,400	1%	6,800	6,970	3%
East of I-215	101,000	101,400	0%	8,600	8,770	2%
West of I-215	87,000	87,750	1%	7,800	8,120	4%
Barstow Freeway (I-215)						
North of I-10	128,000	128,350	0%	12,800	12,950	1%

TABLE IV-20. COMPARISON OF WEEKEND TRAFFIC VOLUMES
NORTON AFB WITH AND WITHOUT ANG BASE

	Daily Traffic			Peak Hour Traffic		
Highway Segment	1988 with ANG Base	1988 with ANG Base	% Change	1988 without ANG Base	1988 with ANG Base	% Change
Third Street						
East of ANG Site	6,340	7,770	23%	800	1,470	84%
West of ANG Site	6,340	7,710	22%	800	1,450	81%
West of Victoria Avenue	9,900	10,520	6%	1,200	1,490	24%
West of Sterling Ave.	14,900	15,520	4%	1,700	1,990	17%
Alabama Street						
South of Third Street	13,200	14,600	11%	1,160	1,820	57%
Route 30						
South of Third Street	7,330	7,360	0%	950	960	1%
North of I-10	11,400	11,430	0%	1,500	1,510	1%
Victoria Avenue						
North of Third Street	4,900	5,650	15%	570	930	63%
Redlands Freeway (I-10)						
West of Alabama Street	72,000	73,400	2%	6,100	6,760	11%
East of I-215	91,000	92,400	2%	7,700	8,360	9%
West of I-215	78,000	80,600	3%	7,000	8,230	18%
Barstow Freeway (I-215)						
North of I-10	115,000	116,200	1%	11,500	12,070	5%

TABLE IV-21. VOLUME/CAPACITY RATIOS AND LEVELS OF SERVICE NORTON AFB WITH AND WITHOUT ANG BASE

Highway Segment	Weekday				Weekend			
	1988 without ANG Base	Level of Service	1988 with ANG Base	Level of Service	1988 without ANG Base	Level of Service	1988 with ANG Base	Level of Service
Third Street								
East of ANG Site	.23	A	.27	A	.20	A	.37	A
West of ANG Site	.23	A	.27	A	.20	A	.36	A
West of Victoria Avenue	.33	A	.34	A	.30	A	.37	A
West of Sterling Ave.	.48	A	.49	A	.43	A	.50	A
Alabama Street								
South of Third Street	.32	A	.37	A	.29	A	.46	A
Route 30								
South of Third Street	.27	A	.27	A	.24	A	.24	A
North of I-10	.41	A	.41	A	.38	A	.38	A
Victoria Avenue								
North of Third Street	.32	A	.37	A	.29	A	.47	A
Redlands Freeway (I-10)								
West of Alabama Street	.57	B	.58	B	.51	B	.56	B
East of I-215	.72	C	.73	C	.64	B	.70	C
West of I-215	.65	B	.68	C	.58	B	.69	C
Barstow Freeway (I-215)								
North of I-10	1.07	F	1.08	F	.96	E	1.01	F

TABLE IV-22. COMPARISON OF WEEKDAY TRAFFIC VOLUMES AF PLANT #42 WITH AND WITHOUT ANG BASE

Highway Segment	Daily Traffic			Peak Hour Traffic		
	1988 without ANG Base	1988 with ANG Base	% Change	1988 without ANG Base	1988 with ANG Base	% Change
Avenue M						
East of ANG Site	4,800	4,810	0%	780	785	1%
West of ANG Site	9,500	10,290	8%	1,570	1,905	21%
West of Sierra Highway	5,600	6,370	14%	830	1,155	39%
East of Antelope Valley Freeway	5,800	6,570	13%	670	995	49%
Sierra Highway						
North of Avenue M	18,700	18,710	0%	2,900	2,905	0%
South of Avenue M	14,400	14,410	0%	2,200	2,205	0%
Antelope Valley Freeway						
North of Avenue M	23,000	23,020	0%	3,800	3,810	0%
South of Avenue M	25,000	25,740	3%	4,300	4,610	7%

TABLE IV-23. COMPARISON OF WEEKEND TRAFFIC VOLUMES AF PLANT #42 WITH AND WITHOUT ANG BASE

Highway Segment	Daily Traffic			Peak Hour Traffic		
	1988 without ANG Base	1988 with ANG Base	% Change	1988 without ANG Base	1988 with ANG Base	% Change
Avenue M						
East of ANG Site	4,300	4,380	2%	700	740	6%
West of ANG Site	8,550	11,270	32%	1,400	2,680	91%
West of Sierra Highway	5,000	7,660	53%	750	2,010	168%
East of Antelope Valley Freeway	5,200	7,860	51%	600	1,860	210%
Sierra Highway						
North of Avenue M	16,800	16,830	0%	2,600	2,610	0%
South of Avenue M	13,000	13,030	0%	2,000	2,010	1%
Antelope Valley Freeway						
North of Avenue M	20,700	20,780	0%	3,400	3,440	1%
South of Avenue M	22,500	25,050	11%	3,900	5,110	31%

A volume to capacity ratio and level of service analysis was conducted, as shown on Table IV-24. The table indicates that Avenue M would operate at an undesirable level of service during the peak commuting period on weekends along the entire segment between the Antelope Valley Freeway and the proposed Base entrance. There would also be localized traffic impacts at and around the entrance to the ANG Base as commuters arrive at and leave the Base.

Parking

The implementation of the ANG Base at AF Plant #42 would create a weekday parking demand of 310 spaces and weekend demand of 1,200 spaces. Fifty to 75 percent of these spaces would be provided in paved lots at the new facility. The remainder would be provided in unpaved areas. No offsite parking impacts are anticipated.

Mitigation Measures

To mitigate the entrance congestion at peak arrival and departure times, auxiliary entrances/exits could be used to spread out the point of impact.

To mitigate the poor levels of service along Avenue M, such improvement measures as intersection widening and left turn lanes could be incorporated along the segment between the site and the Antelope Valley Freeway. Also, the signalized intersections could give priority to Avenue M with a flashing yellow for east-west traffic. The widening of Avenue M would certainly benefit levels of service near the facility at peak hours. However, the widening of Avenue M to a 4-lane highway may be difficult to justify for this project alone since the congestion actually occurs only one weekend per month.

TSM measures could be used to reduce the severity of all major traffic impacts. For example, a ride share program could be implemented to match personnel who live close to each other and encourage the use of carpools. This would lower the number of vehicles on the highways and reduce the demand for parking. Staggered beginning and ending times could be used to spread out the peak period of congestion.

NAS Point Mugu

The traffic conditions on the highways serving the NAS Point Mugu area were analyzed for two scenarios: with and without the proposed ANG Base. The traffic generated by the Base would be distributed as shown on Figure IV-7.

The daily and peak hour traffic volumes with and without the ANG Base for the affected highways are shown on Tables IV-25 and IV-26 for weekday and weekend traffic. The percentage increases due to ANG traffic are also shown. The tables indicate that Navalair Road, Hueneme Road, Wood Road, and Las Posas Road will experience substantial increases in traffic from the ANG Base.

The volume to capacity ratios and levels of service on the affected roadways are shown on Table IV-27. Segments of Hueneme Road and Las Posas Road are shown as over-capacity, operating at a Level of Service F. Without mitigation, there would be congestion along these facilities as well as at the entrance to the ANG

TABLE IV-24. VOLUME/CAPACITY RATIOS AND LEVELS OF SERVICE AF PLANT #42 WITH AND WITHOUT ANG BASE

Highway Segment	Weekday				One Weekend per Month			
	1988 without ANG Base	Level of Service	1988 with ANG Base	Level of Service	1988 without ANG Base	Level of Service	1988 with ANG Base	Level of Service
Avenue M								
East of ANG Site	.39	A	.39	A	.35	A	.37	A
West of ANG Site	.79	C	.95	E	.70	C	1.39	F
West of Sierra Highway	.42	A	.58	A	.38	A	1.01	F
East of Antelope Valley Freeway	.34	A	.50	A	.30	A	.93	E
Sierra Highway								
North of Avenue M	.73	C	.73	C	.65	B	.65	B
South of Avenue M	.55	A	.55	A	.50	A	.50	A
Antelope Valley Freeway								
North of Avenue M	.32	A	.32	A	.28	A	.29	A
South of Avenue M	.36	A	.38	A	.33	A	.43	B

TABLE V-25. COMPARISON OF WEEKDAY TRAFFIC VOLUMES NAS POINT MUGU WITH AND WITHOUT ANG BASE

Highway Segment	Daily Traffic			Peak Hour Traffic		
	1988 without ANG Base	1988 with ANG Base	% Change	1988 without ANG Base	1988 with ANG Base	% Change
Navalair Road						
North of ANG Site	2,200	2,740	25%	300	530	77%
South of ANG Site	2,200	2,460	12%	300	410	37%
Hueneme Road						
East of Pacific Coast Highway	7,000	7,520	7%	900	1,120	24%
East of Wood Road	6,200	6,970	12%	800	1,130	41%
Las Posas Road						
North of Hueneme Road	6,700	7,350	10%	950	1,230	29%
South of Ventura Freeway	18,000	18,650	4%	2,000	2,280	14%
Pacific Coast Highway (Route 1)						
North of Hueneme Road	24,400	24,420	0%	2,900	2,910	0%
South of Wood Road	15,000	15,010	0%	1,800	1,800	0%
Wood Road						
North of Pacific Coast Highway	2,200	2,450	11%	275	385	40%
Ventura Freeway						
East of Las Posas Road	76,000	76,650	1%	7,500	7,775	4%

TABLE IV-26. COMPARISON OF WEEKEND[1] TRAFFIC VOLUMES
NAS POINT MUGU WITH AND WITHOUT ANG BASE

Highway Segment	Daily Traffic			Peak Hour Traffic		
	1988 without ANG Base	1988 with ANG Base	% Change	1988 without ANG Base	1988 with ANG Base	% Change
Navalair Road						
North of ANG Site	2,200	4,070	85%	300	1,180	293%
South of ANG Site	2,200	3,130	42%	300	740	147%
Hueneme Road						
East of Pacific Coast Highway	7,000	8,760	25%	900	1,730	92%
East of Wood Road	6,200	8,860	43%	800	2,050	156%
Las Posas Road						
North of Hueneme Road	6,700	9,080	36%	950	2,070	118%
South of Ventura Freeway	18,000	20,380	13%	2,000	3,120	56%
Pacific Coast Highway (Route 1)						
North of Hueneme Road	24,400	24,510	0%	2,900	2,950	2%
South of Wood Road	15,000	15,030	0%	1,800	1,820	1%
Wood Road						
North of Pacific Coast Highway	2,200	3,100	41%	275	695	153%
Ventura Freeway						
East of Las Posas Road	76,000	78,380	3%	7,500	8,620	15%

(1) Only one weekend per month.

TABLE IV-27. VOLUME/CAPACITY RATIOS AND LEVELS OF SERVICE
NAS POINT MUGU WITH AND WITHOUT ANG BASE

Highway Segment	Weekday				One Weekend per Month			
	1988 without ANG Base	Level of Service	1988 with ANG Base	Level of Service	1988 without ANG Base	Level of Service	1988 with ANG Base	Level of Service
Navalair Road								
North of ANG Site	.15	A	.27	B	.15	A	.59	C
South of ANG Site	.15	A	.21	B	.15	A	.37	B
Hueneme Road								
East of Pacific Coast Highway	.45	B	.56	C	.45	B	.87	E
East of Wood Road	.40	B	.57	C	.40	B	1.03	F
Las Posas Road								
North of Hueneme Road	.48	C	.62	C	.48	C	1.04	F
South of Ventura Freeway	.50	B	.57	C	.50	B	.78	D
Pacific Coast Highway (Route 1)								
North of Hueneme Road	.36	A	.36	A	.36	A	.37	A
South of Wood Road	.23	A	.23	A	.23	A	.23	A
Wood Road								
North of Pacific Coast Highway	.14	A	.19	A	.14	A	.35	B
Ventura Freeway (Route 101)								
East of Los Posas Road	.63	B	.65	B	.63	B	.72	C

Base on Navalair Road. The area of the Pacific Coast Highway/Hueneme Road interchange and the Hueneme Road/Navalair Road interchange is poorly designed with inadequate geometrics and turning radii. Without some modification, this poor design will be a constriction to capacity as traffic flows to and from the site.

Parking

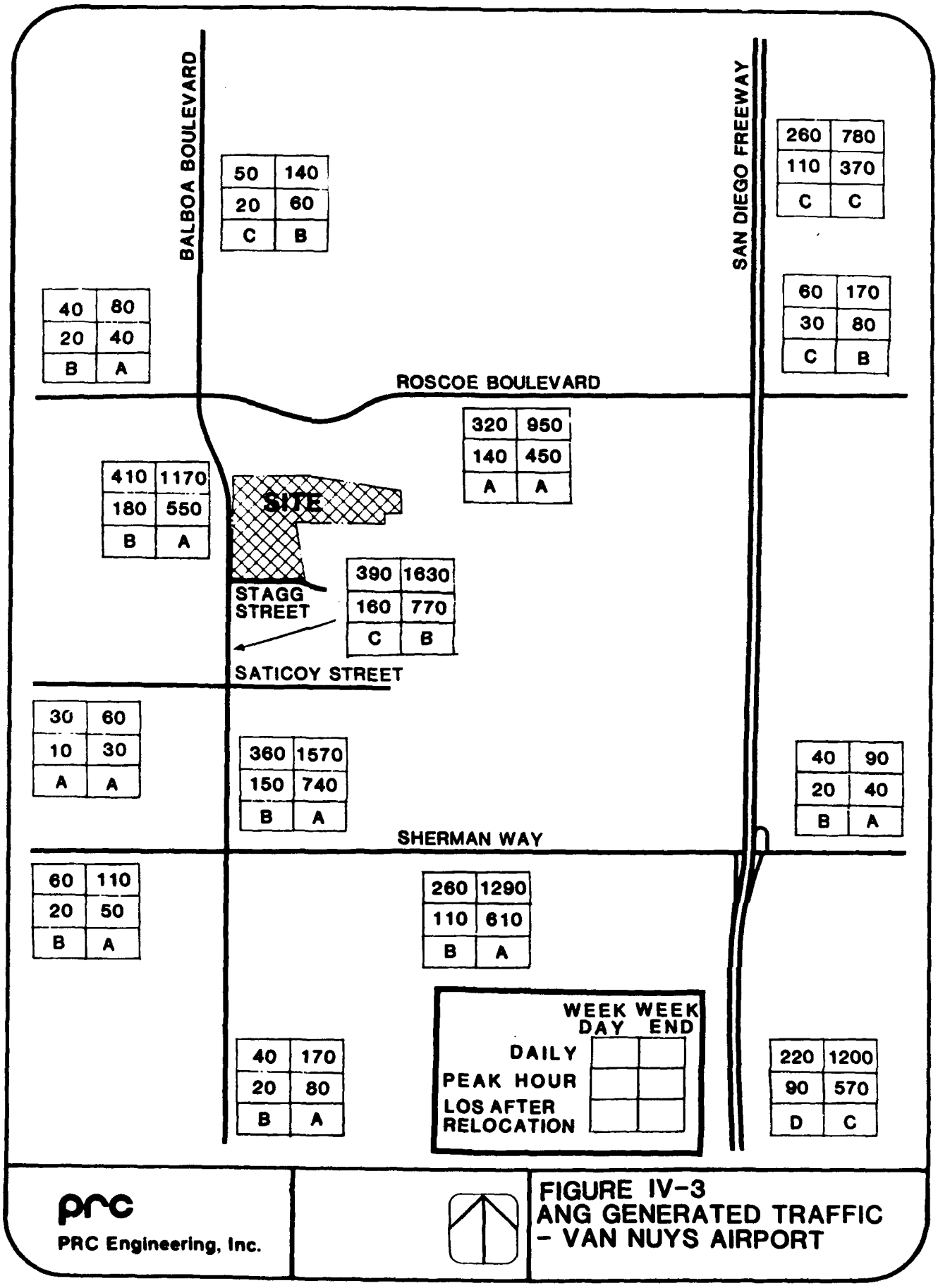
Relocation of the ANG Base at NAS Point Mugu would create a weekday parking demand of 310 spaces and a weekend demand of 1,200 spaces. Similar to the AF Plant #42 site, all necessary parking will be available on site. No offsite parking impacts will result.

Mitigation Measures

To mitigate the entrance congestion at peak arrival and departure times, auxiliary entrances/exits could be used to spread out the point of impact. An alternate gate could possibly be located on Hueneme Road, as well as along Navalair Road. The main entry gate on Navalair Road would be designed with 2 lanes in and 2 lanes out. Right and left turn lanes would be provided.

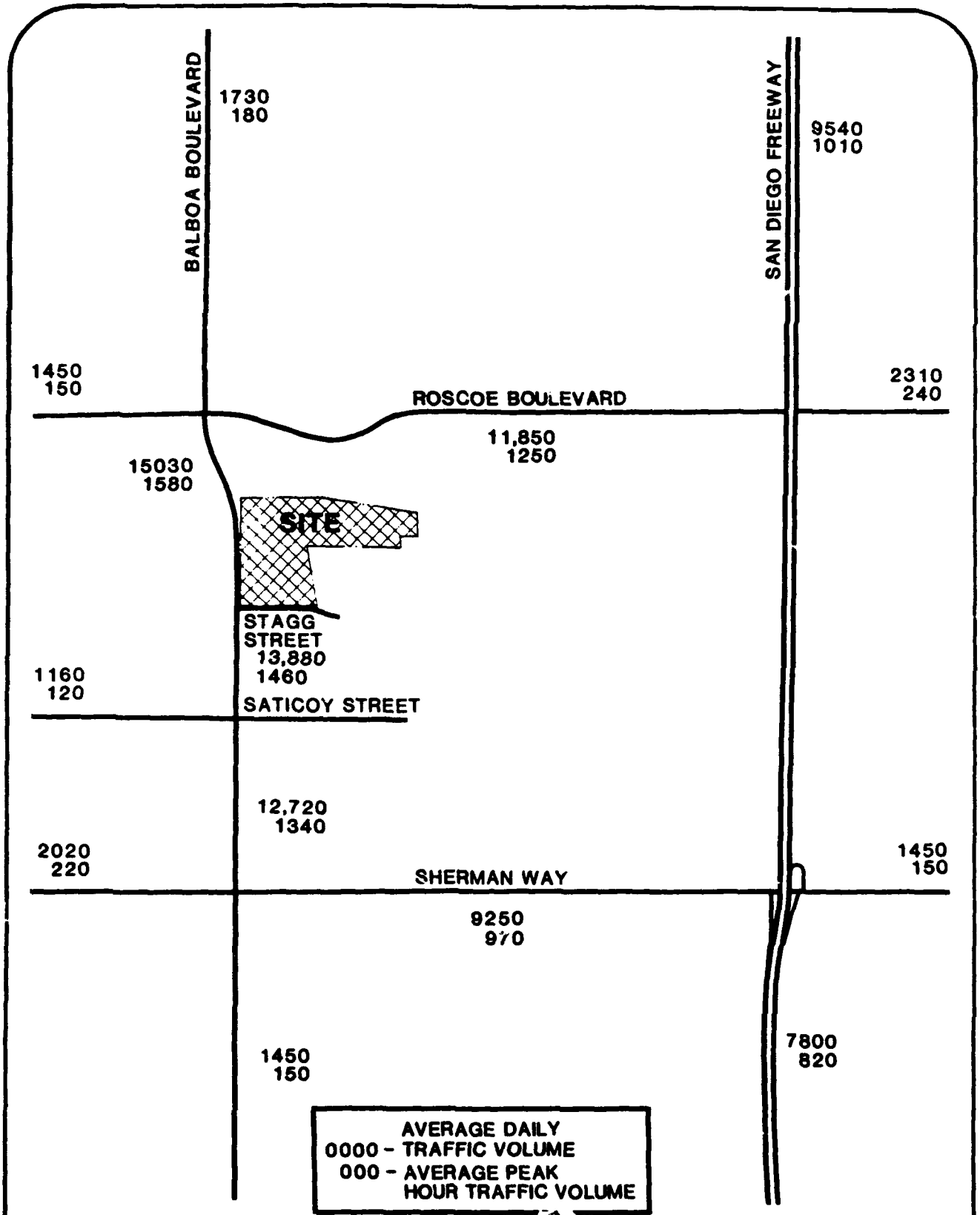
A right turn lane could be added from Hueneme Road to Navalair Road to increase intersection capacity. Likewise, the intersection of Hueneme Road and Ratheon could be improved to increase capacity by widening Hueneme Road 100 to 200 feet either side of the intersection and providing two through lanes with one of the two doubling as a left turn lane.

TSM measures could be used to reduce the severity of all major traffic impacts. For example, a ride-share program could be implemented to match personnel who live in the same communities and encourage the use of carpools. This would lower the number of vehicles on the highway and reduce the demand for parking. Staggered arrival and departure times could be used to spread out the peak period of congestion.



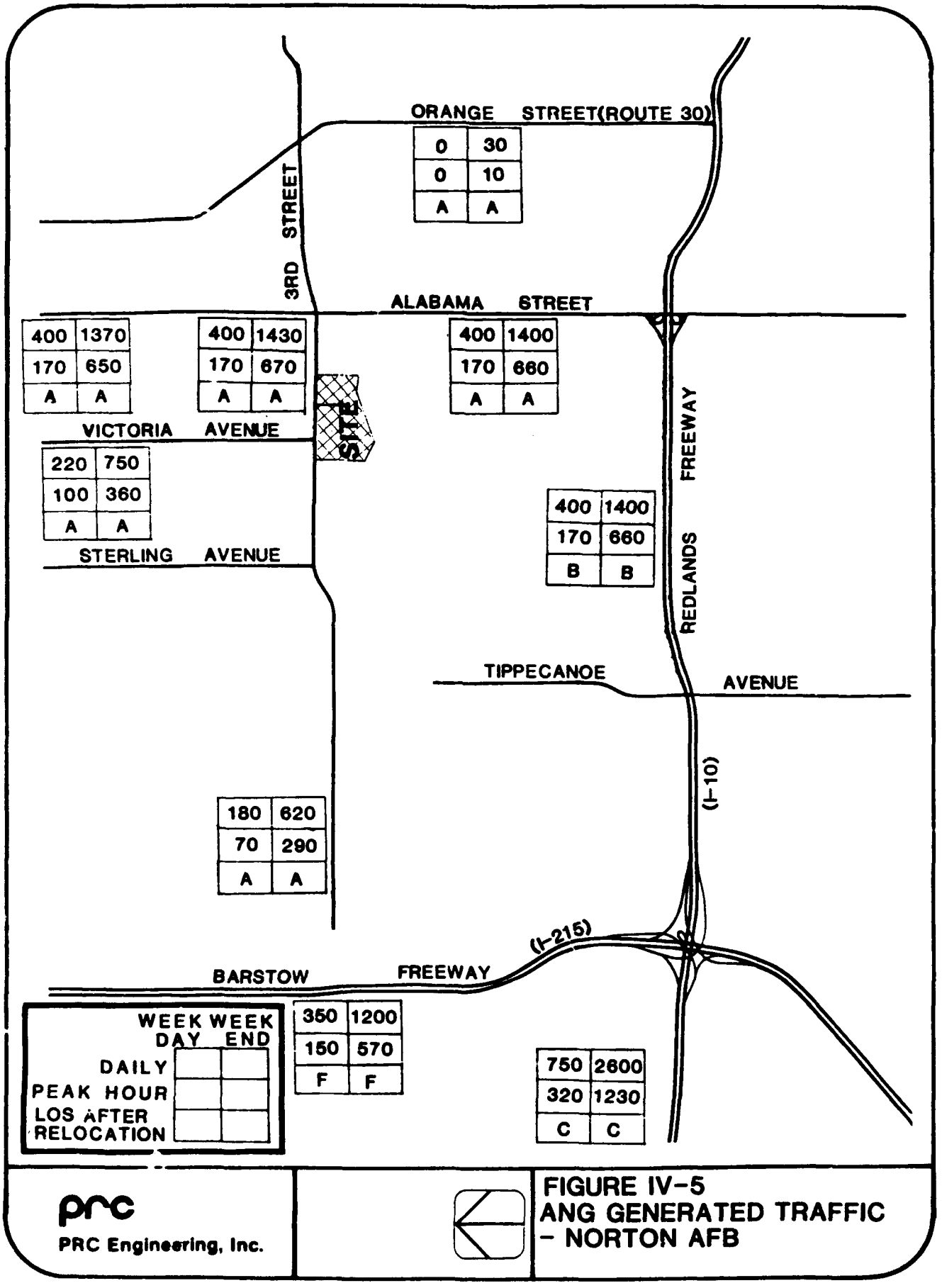
PRC Engineering, Inc.

FIGURE IV-3
ANG GENERATED TRAFFIC
- VAN NUYS AIRPORT



PRC Engineering, Inc.

FIGURE IV-4
TRIPS GENERATED BY
OFFICE PARK -VAN NUYS
AIRPORT



prc
PRC Engineering, Inc.

FIGURE IV-5
ANG GENERATED TRAFFIC
- NORTON AFB

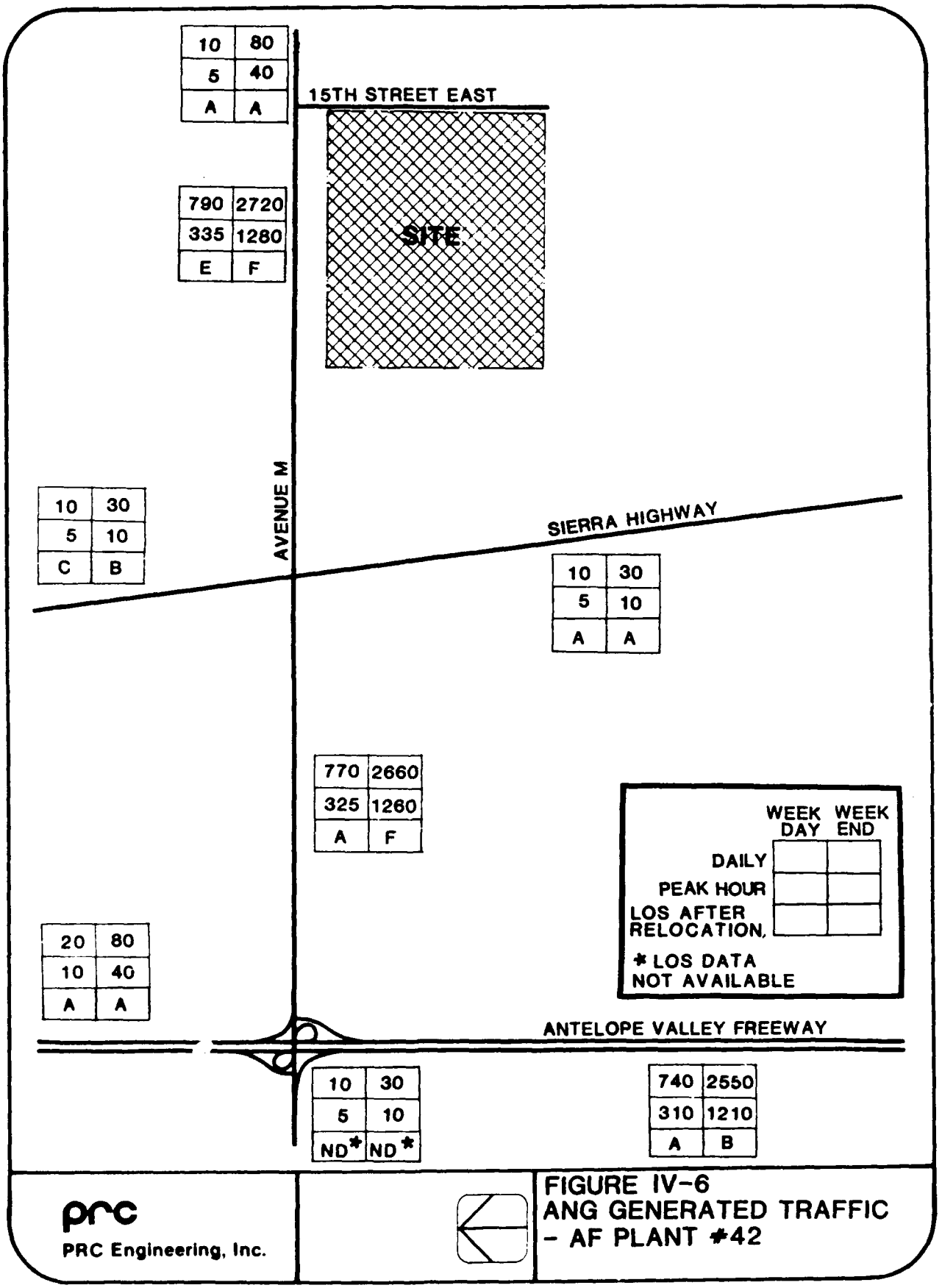


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FIGURE IV-6
ANG GENERATED TRAFFIC
- AF PLANT #42

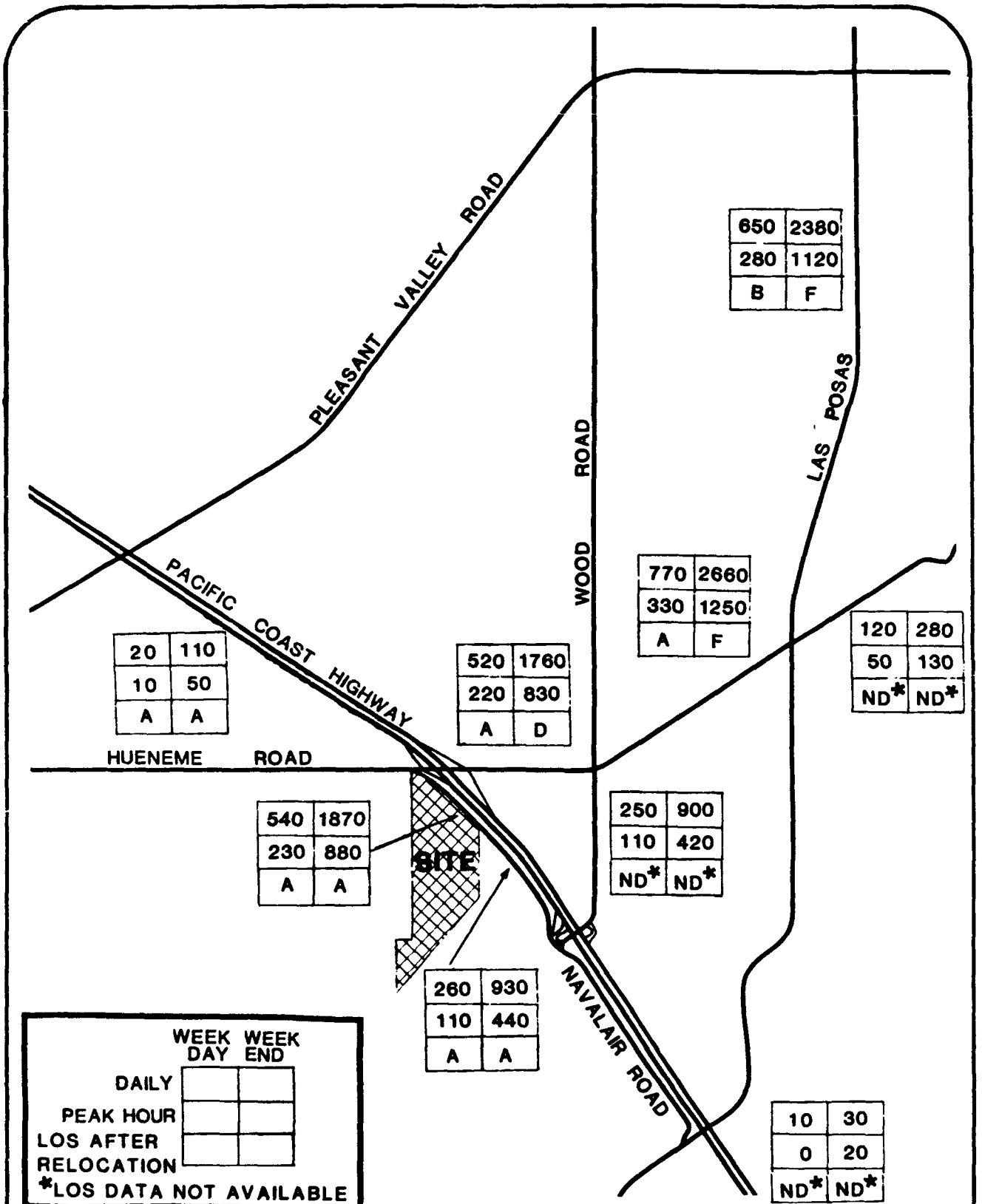

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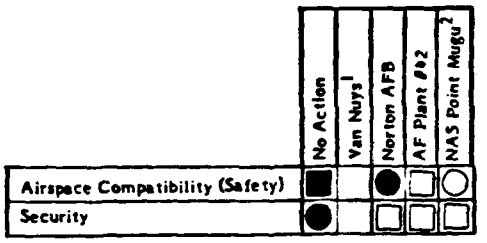
FIGURE IV-7
ANG GENERATED TRAFFIC
– NAS POINT MUGU

SAFETY/SECURITY

Key Findings

Van Nuys Airport is the least favorable alternative from the standpoint of safety. Norton AFB also has considerable existing airspace congestion and is therefore least attractive of the relocation sites. No significant airspace constraints currently exist at AF Plant #42. The additional ANG aircraft operations at NAS Point Mugu would not significantly impact air traffic operations or safety.



All of the relocation alternatives would permit an enhanced environment for base security, while the No Action alternative would result in continued security problems at Van Nuys airport.

Airspace Considerations

Van Nuys Airport

Continued ANG operations at Van Nuys Airport under the No Action alternative would aggravate the presently congested airspace environment. The 146th TAW would continue to encounter a high level of general aviation activity and experience delays due to the large number of general aviation airports in the San Fernardo Valley area. This is a particular concern during the ANG's weekend training activities since local general aviation activity is heavier during weekends.

The relocation of the 146th TAW and the subsequent redevelopment of the present facility would eliminate the ANG's contribution to local airspace congestion. This would also mitigate the potential hazards associated with the mix of general aviation aircraft and the ANG's C130 aircraft.

Norton AFB

As described in Chapter III, the airspace environment in the vicinity of Norton AFB is extremely congested. Relocating the 146th TAW to this site would worsen the serious congestion which now results from the continuous traffic within the Ontario Approach Control Area and the military and general aviation activity in the area of Norton AFB. The 146th TAW should expect to encounter delays and clearance difficulties due to the near-capacity level of air traffic control operations. Of each of the relocation sites considered, Norton AFB is the least desirable from the standpoint of airspace constraints.

AF Plant #42

The 146th TAW presently conducts most of its training operations at AF Plant #42. Relocating the ANG Base to this facility will not significantly alter the existing level of ANG operations at this site. Periodic air traffic congestion occurs in this region due to extensive air-to-air and aerobatic practice in the areas of Owens and Koehn Dry Lakes. However, introduction of the anticipated level of ANG operations to the airspace environment at Palmdale would not pose a burden to existing air traffic operational control and/or safety. AF Plant #42 is currently the most appropriate relocation site in terms of potential airspace impacts. This is due to the insignificant airspace constraints, the availability of navigational aids, and the relatively low level of regional activity.

As noted in Chapter III, the development of the proposed Palmdale International Airport (PIA) would greatly restrict military flight operations in the Antelope Valley. Even though much of the airspace encroachment would be gradual, the immediate impact of PIA upon Air Force Plant #42 and the resultant loss of a military operating area would likely force relocation of a large segment of military activities at tremendous cost to taxpayers. Some operations could not be relocated at any price. Proposed arrival and departure patterns for PIA will interfere with normal flight training/testing activities at Edwards AFB, AF Plant #42, George AFB, Fort Irwin and China Lake Naval Weapons Center.

NAS Point Mugu

The introduction of the anticipated level of annual ANG operations to the airspace environment at NAS Point Mugu would not unduly burden air traffic operations or safety. As described in Chapter III, total air operations within a 15-mile radius of the proposed site are well under 500,000 annually. The 146th TAW is not expected to generate any major air traffic problems for NAS Point Mugu, Camarillo Airport, Oxnard Airport, or for local helicopter traffic.

Bird strikes would be more of a problem for ANG aircraft at NAS Point Mugu than at the other proposed relocation sites. The introduction of C-130 operations is not, however, expected to create a significant bird strike hazard to air safety at NAS Point Mugu. Jet aircraft, rather than turboprops, are more susceptible to bird strikes due to the engine configuration and performance characteristics of the aircraft.

Summary of Airspace Considerations

Based upon the review of each of the associated airspace environments for the alternative relocation sites, the following ranking of site locations was developed.

Most Favorable	Palmdale AF Plant #42
Favorable	NAS Point Mugu
Not Favorable	Norton AFB
Least Favorable	Van Nuys Airport

However, the future development of Palmdale International Airport could make the AF Plant #42 facility the least attractive alternative.

Security

The No Action alternative would result in continued security problems at the Van Nuys ANG base. The relocation options all present opportunities for enchanced base security. Each permits facility construction behind a continuous perimeter fence within or directly adjacent to an existing military airfield. Guarded gate access can then secure the entire base.

Mitigation Measures

Since airspace constraints are beyond the control of the ANG there are no specific mitigation measures which may be applied. Relocation per se to any of the alternate sites would mitigate security problems.

AIR QUALITY

Key Findings

The same level of air pollutant emissions due to flight and ground support activities will occur at the actual relocation site as are now being released in the vicinity of Van Nuys Airport. The only major difference in emissions after relocation would be due to employee commuting emissions that would be increased until ANG personnel move closer to the new site. The proposed project creates no inconsistency with regional air quality planning for the areas of Norton AFB and AF Plant #42. Relocation to NAS Point Mugu would generate "new" emissions not forecast in Ventura County's AQMP. The No Action alternative would not result in any changes to existing emissions except for short-term air pollutant emissions due to construction activity during the capital improvements project at Van Nuys Airport.

	No Action	Van Nuys[1]	Norton AFB	AF Plant #42	NAS Point Mugu[2]
Increase in Air Emissions			●	●	●
AQMP Compliance					●

Introduction

Aircraft-related operations may potentially impact local or regional air quality by changing either the quantity or location of air emissions associated with both airborne and ground-based activities. Such changes may affect air quality in the immediate environs of the airfield (microscale impacts), or the regional volume of emissions may create a small, incremental regional effect (mesoscale impacts). In a large variety of airport impact studies, it has generally been found that it is almost impossible to distinguish the airport's pollution "signature" from surrounding sources, especially in urban and sub-urban environments. Microscale impacts are thus typically small, and the regional implications of the proposed relocation are therefore the primary air quality concern.

In order to relate project activities to ambient air quality, the magnitude of project-related emissions must be accurately calculated. The types of sources and activities that one associates with flying operations that may change as a function of the proposed relocation include the following:

1. Aircraft flight activities expressed in terms of full-stop landings and take-offs (LTOs) and in terms of touch-and-gos (T&Gs).

2. Ground support activities (emergency, maintenance and crew vehicles), solvents used in housekeeping and maintenance and engine testing in static test stands.

3. Personnel commuting during normal operations and on monthly training week-ends.

4. Utility emissions from fuel combustion for on-site heating and hot water and off-site electrical generation.

5. Storage and transfer of JP-4 fuel into storage tanks and into aircraft.

Calculations for each of these sources have been performed based on the physical location and probable operational scenario for each relocation alternative. These data are presented for existing conditions and for the three alternatives in a combined form in several tables followed by a separate discussion of the air quality implications of these emissions for each relocation site individually.

Methods and Assumptions

The 146th TAW currently averages 14.84 operations per day at Van Nuys Airport, increasing to 24 operations on maximum flying days. Because of airspace limitations around Van Nuys, these flights usually go to other bases and drop zones for crew proficiency training, including the three candidate relocation sites. After relocation, the 12 LTO maximum acitivity level was assumed to occur at the new "home" base while the touch-and-go activities at other destination bases were assumed to not change appreciably from current levels, regardless of the relocation alternative. This aircraft operational scenario in Table IV-28 was combined with emissions data prepared by the U.S. Environmental Protection Agency (EPA-450/3-78-117) to develop a C-130 aircraft activity emissions inventory as shown in Table IV-29. The resulting emissions difference among the three alternatives is due to different levels of T&Gs assumed for each site.

Some measure of the potential significance of the proposed relocation can be derived by comparing C-130 flight activity emissions with those that already occur at each of the three candidate relocation sites. This comparison requires that an annual operations profile be prepared for every aircraft type operating out of Norton AFB, AF Plant #42, and NAS Point Mugu, and that these operations be matched with their corresponding emissions behavior. With as many as 100 different types of aircraft based or passing through a given location, the problem becomes very complicated. Some simplicity can be achieved without too much loss of accuracy, however, by aggregating operations into a few characteristic aircraft categories and using one representative aircraft type for each category. Table IV-30 summarizes 1983 operational data at Van Nuys Airport and at the three possible relocation sites.

The results of the emissions calculations are also shown in Table IV-30. Aircraft types with high emission levels per operational cycle were taken to represent each of seven aggregated aircraft types. The results in Table IV-30 are thus a higher case estimate of actual 1983 annual emissions at each candidate relocation site. Table IV-30 is also based upon assuming a regular take-off and full stop landing for all operations, while actual operations include a large number of T&Gs, especially at a training facility such as Point Mugu. At low power settings during warmups, idle and taxi, aircraft engines emit large quantities of carbon monoxide (CO) and total hydrocarbons (THC). At high power settings on takeoffs, climbs, and approaches, engines emit more nitrogen oxides (NOx). If an aircraft executes a touch-and-go instead of a full LTO cycle, NOx emissions are only slightly lower, but a T&G creates far fewer CO and THC emissions than a full takeoff/landing cycle. The tower chief at NAS Point Mugu indicates that 60 percent of fighter jet

TABLE IV-28. TYPICAL DAILY C-130 AIRCRAFT ACTIVITY LEVELS (operations/day)

Before Relocation	Van Nuys	Norton AFB	AF Plant #42	Point Mugu
Before Relocation				
Full-Stop LTO's	14.84	0.07	3.38	0.83
Touch-and-Go's	0	0.55	28.75	6.90
Total OPS	14.84	0.62	32.13	7.73
After Relocation				
Full Stop LTO's[1]	0	14.84	14.84	14.84
Touch-and-Go's	0	0.55	28.75	6.90
Total OPS	0	15.39	43.59	21.74

[1] May increase to 24 operations per day on a maximum flying day.

Two operations = 1 LTO or 1 touch-and-go.

TABLE IV-29. CURRENT AND FUTURE C-130 AIRCRAFT ACTIVITY EMISSIONS (POUNDS/DAY)

	CO	NOx	THC	SO2	TSP
EXISTING OPERATIONS:					
Van Nuys Airport	391.6	129.7	244.0	20.8	55.1
Norton AFB	1.7	2.0	0.8	0.2	0.6
AF Plant #42	83.8	101.3	39.0	10.6	29.3
NAS Point Mugu	20.4	24.4	9.5	2.6	7.1
FUTURE ACTIVITIES:					
Van Nuys Airport	0.0	0.0	0.0	0.0	0.0
Norton AFB	392.2	131.3	244.0	21.0	55.5
AF Plant #42	420.7	214.8	248.7	28.7	77.0
NAS Point Mugu	398.6	150.1	245.1	22.7	60.4
Emission Factors (pounds/cycle)					
Full Stop LTO Cycle	32.36	9.60	20.28	1.60	4.36
Touch & Go Only	2.02	5.92	0.33	0.55	1.52
Engine Run-up Testing	3.30	14.50	0.60	1.60	2.80

NOTE: Future emission levels calculated for 24 daily operations plus no change in the number of training activity touch and go's shown under "existing" for each candidate replacement site. Engine run-up testing is assumed to occur 45 minutes per day.

TABLE IV-30. 1983 AIRCRAFT EMISSIONS INVENTORY FOR CANDIDATE RELOCATION SITES

Fleet Mix (ops/yr)	Van Nuys Airport	Norton AFB	AF Plant #42	NAS Point Mugu
Cargo Jets (C-141)	0	32,814	14,598	66
One-engine Jets (A-7)	0	1,040	1,110	6,024
Two-engine Jets (F-4)	6,425*	5,720	5,520	35,314
Twin-engine Piston (0-2)	89,657	3,640	8,080	1,550
One-engine Piston (C-150)	386,919	0	312	3,550
Turboprop (C-130)	3,858	3,016	13,926	11,992
Helicopter (UH-1N)	7,414	0	702	11,990

Emission Factors (lb/LTO cycle)	CO	NOx	THC	SO2	TSP
Cargo Jets	92.4	19.2	87.68	3.00	33.0
One-engine Jets	25.79	4.83	15.76	0.52	--
Two-engine Jets	32.24	10.88	4.94	1.46	33.9
Twin-engine Piston	33.10	0.13	1.15	Negl.	--
Single-engine Piston	8.32	0.02	0.23	Negl.	--
Turboprops	32.36	9.60	20.28	1.60	4.4
Helicopters	1.90	1.24	0.64	0.24	0.1

Annual Aircraft Emissions (TPY)	CO	NOx	THC	SO2	TSP
Van Nuys	1,633.5	35.4	76.8	4.5	59.1
Norton AFB	865.6	183.2	746.9	28.2	322.8
Palmdale	569.7	121.8	404.3	18.9	182.7
Point Mugu	448.2	137.7	132.3	19.4	313.6
Point Mugu **	290.5	130.3	95.7	16.2	151.9

* = Includes twin-engine business jets. A mix of business jets dominated by L-25s is assumed to be comparable to F-4 generation factors.

\- = TSP emissions data not available for all aircraft types

** = Corrected for 60 percent touch-and-go activities for jet aircraft

Negl. = Negligible

TPY = Tons per year

activities are not full stop landings. When this adjustment is applied to the emissions data, CO and THC emissions, which are high during idle and taxi modes, drop significantly, while NOx, sulfur dioxide (SO_2) and total suspended particulates (TSP) are reduced in lesser amounts over the 100 percent LTO assumption.

Emissions Inventory and AQMP Consistency

A comparison of project emissions before and after relocation with total base aircraft emissions for 1983 indicates the relative magnitude of the proposed project contrasted to existing emission levels at each relocation site. This comparison is summarized in Table IV-31. While the relative aircraft emissions impact at each site varies somewhat as a function of the existing fleet mix, the additional related project aircraft impact is lowest at Norton AFB which has the highest current emission levels, and greatest at NAS Point Mugu which has the lowest baseline ANG aircraft emissions inventory of any of the three sites.

Non-flight activity emissions, as with aircraft sources, were calculated by combining operational parameters with their appropriate emission factors. The input conditions and the emissions data sources were derived from the following assumptions:

Ground Support - Based upon a typical daily fuel consumption of 200 gallons per day at the existing ANG facility which will not change significantly after relocation. Emission factors for a car/truck mix with a high percentage of cold-start vehicles were derived from Air Resources Board (ARB) tabulations of California-based vehicle emission characteristics.

Commuting - Based upon detailed calculations of the actual vehicle miles traveled (VMT) within a given air basin by the existing full-time ANG staff and assuming no personnel moves after base relocation. The Ventura County APCD has a unique emissions factor to be used in calculating the emissions from any single military base employee, while ARB factors from the EMFAC6D computer emissions model were used for South Coast and Southeast Desert Air Basin travel.

Utilities - Utility fuel combustion was based on an existing demand of 1.5 million KWH of electricity and 5 million cubic feet of natural gas annually. These factors may change slightly at each of the candidate relocation sites, but utility sources, especially on-site natural gas combustion for space heating and hot water, is such a small portion of the project inventory that any site differences will be minor.

Fuel Handling - Fuel storage and transfer emissions were based on a storage of 10,000 barrels of JP-4 at a true vapor pressure of 1.4 PSI with a daily throughput of 20,000 gallons for existing flight operations, and 32,000 gallons per day for a 24-operations day. Floating roof tank emission factors from AP-42 (EPA, 1977) were used for storage emissions. Fuel transfer into a fuel truck was assumed controlled by a vapor balance system on

TABLE IV-31. PROJECT SHARE OF BASE AIRCRAFT EMISSIONS
(emissions in tons/year)

Pollutant Source	CO	NOx	THC	SO2	TSP
VAN NUYS AIRPORT					
Existing C-130 (ANG only)	31.5	10.8	19.7	1.7	4.5
1983 Base Total	1,633.5	35.4	76.8	4.5	59.1
ANG Share	1.9%	30.5%	25.7%	37.8%	7.6%
NORTON AFB					
Existing C-130 (ANG only)	0.2	0.3	0.1	< 0.05	0.1
1983 Base Total	865.3	183.7	746.8	28.0	322.5
Future C-130 (ANG only)	31.6	11.0	19.7	1.8	4.6
Net Increase	31.4	10.7	19.6	1.7	4.6
% Increase	3.6%	5.9%	2.6%	6.1%	1.4%
AF PLANT #42					
Existing C-130 (ANG only)	10.9	13.2	5.1	1.4	3.8
1983 Base Total	569.4	120.3	404.2	18.7	182.4
Future C-130 (ANG only)	35.3	21.8	20.3	2.8	7.4
Net Increase	24.4	8.6	15.2	1.4	3.6
% Increase	4.3%	7.2%	3.8%	7.5%	2.0%
NAS POINT MUGU					
Existing C-130 (ANG only)	2.7	3.2	1.2	0.3	0.9
1983 Base Total	290.2	128.8	95.6	16.0	151.6
Future C-130 (ANG only)	32.4	13.4	19.7	2.0	5.2
Net Increase	29.7	10.2	18.6	1.7	4.3
% Increase	10.2%	7.9%	19.5%	10.6%	2.8%

the truck, but displaced vapor emissions from aircraft fuel tanks were assumed uncontrolled. As a "worst-case" measure, fixed volume storage tank working loss factors were used for daily throughput hydrocarbon vapor losses. Actual vapor losses are likely to be less than the worst-case scenario.

Table IV-32 summarizes the basinwide emissions impact of "new" emissions within the basin as a result of the relocation. As discussed below, no relocation alternative is significantly preferable from a net emissions increase point because each emissions category changes by differing amounts. The significance of any net emissions changes is discussed below for each of the three relocation alternatives.

Norton AFB

Since existing flight operations of the 146th TAW already occur within the South Coast Air Basin, a move to Norton AFB will create only a small change in basinwide emissions. Ground-support and utility emissions basically do not change, and are therefore not included in the Norton basinwide impact assessment in Table IV-32. The basinwide increase in emissions is created mainly by long driving distances which almost triples the average driving distance for the permanent base staff until they move closer to the San Bernardino area.

The South Coast AQMD has a guideline value for net daily project emissions, above which it considers a project impact as potentially significant. In these guidelines, the District considers "all new airports, expansions or related projects" as potentially significant (SCAQMD EIR Guidelines, 1983). Any project that causes an increase of 550 pounds/day of CO, 100 of NOx or 75 of RHC is considered as potentially significant. Given that the basin is a non-attainment area for CO, NO2 and ozone (formed by the RHC through chemical reactions), the commuting emissions do exceed these guidelines. The impact will be reduced as staff members move from homes close to Van Nuys to the San Bernardino area, and may also be reduced by car-pooling or other transportation control measures, but the initial relocation air quality impact must be considered as major despite the fact that the squadron will remain in the same air basin after relocation.

AF Plant #42

Palmdale, in the Southeast Desert Air Basin (SEDAB), will experience a considerable emissions increase in all categories. These emissions are basically the same as now occur at Van Nuys, plus the additional emissions penalty of a much longer commuting distance. Since Palmdale is already downwind of Los Angeles Basin basins, it does not make much difference in terms of regional air quality how far upwind these emissions occur. With better local dispersion in the Upper Desert and with a major increase in aviation activity emissions anticipated for the Antelope Valley as a location for a major regional airport, it can be argued that any small project-related emissions increases are not significant because they are already included in the regional air quality planning process incorporating flight activity emissions. Despite the fact that "new" emissions are introduced into the basin by the Palmdale relocation alternative, the regional air quality impact of that alternative is no more, and probably less, significant than the Norton alternative due mainly to the longer commuting distances to Norton. As with Norton, those commuting distances will be reduced by staff relocation or by

TABLE IV-32. BASINWIDE NET PROJECT EMISSIONS IMPACTS (pounds/avg. weekday)

Basin/Source	CO	NOx	RHC*	SO2	TSP
SOCAB (Norton)					
C-130 Aircraft Emissions	392.2	131.3	227.9	21.0	55.5
+ Personnel Commuting	1,752.1	283.4	141.7	24.0	36.0
TOTAL	2,144.3	414.7	369.6	45.0	91.5
- Van Nuys Commuting	396.7	66.2	79.2	5.7	8.5
TOTAL	1,747.6	348.5	290.4	39.3	83.0
- Van Nuys C-130	391.6	129.7	227.9	20.8	55.1
NET	1,356.0	218.8	62.5	18.5	27.9
SEDAB (Palmdale)					
C-130 Aircraft Emissions	420.7	214.8	232.3	28.7	77.0
+ Ground Support Emissions	218.2	18.2	15.6	1.6	2.4
+ Personnel Commuting	620.1	100.2	50.1	8.5	12.8
+ Base Utilities	1.2	9.9	0.9	5.8	1.8
+ Fuel Storage and Dispensing	0.0	0.0	85.9	0.0	0.0
TOTAL	1,260.2	343.1	384.8	44.6	94.0
- Existing C-130	83.8	101.3	36.4	10.6	29.3
NET	1,176.4	241.8	348.4	34.0	64.7
SCCAB (Mugu)					
C-130 Aircraft Emissions	398.6	150.1	228.9	22.7	60.4
+ Ground Support Activities	218.2	18.2	15.6	1.6	1.6
+ Personnel Commuting**	153.0	15.4	18.1	2.1	3.2
+ Base Utilities	1.2	9.9	0.9	5.8	1.8
+ Fuel Storage & Dispensing	0.0	0.0	85.9	0.0	0.0
TOTAL	771.0	193.6	349.5	32.2	67.0
- Existing C-130	20.4	24.4	8.9	2.6	7.1
NET	750.6	169.2	340.6	29.6	59.9

Key: SOCAB = South Coast Air Basin
SEDAB = Southeastern Desert Air Basin
SCCAB = South Central Coast Air Basin

* = assuming 93.4% of turboprop THC emissions are RHC

** = based upon NOx and RHC emission factors for military employee commuting and CO, SO2 and TSP factors from the EMFAC6D computer program

Note: C-130 aircraft emissions assumed for a 24-operations maximum flying day and 45 minute engine run-up testing.

multiple occupant ridesharing, and any regional project air quality impacts will utlimately be insignificant.

NAS Point Mugu

NAS Point Mugu regional impacts are a special concern because the Ventura County AQMP is specifically based upon an anticipation of no additional military aircraft emissions in the county. The County's EIR Guidelines (1983) state that any project that "will emit 13.7 tons per year or more of either ROC* or NOx will individually have a significant adverse impact on air quality." Table IV-33 shows that NO_x nominally exceeds the County's EIR Guidelines while RHC emissions are well above the 13.7 tons/year level of potential significance.

However, to examine the no-growth assumption a bit more closely, the aircraft activity assumptions made by the APCD in developing a regional emissions inventory were compared with the detailed calculations of emissions for 1983 aircraft operations at NAS Point Mugu. Table IV-34 shows that the more detailed operations data recently provided by NAS Point Mugu for 1983 (compared to the 1979 data provided to the APCD for AQMP calculations) yields some noticeable differences between the AQMP estimates and the revised update in this analysis. The AQMP estimate for military aircraft pollutant emissions for CO and TSP is much higher than probably exists, but NO_x, RHC and SO_2 emissions predictions from the 1979 and 1983 operational data bases do not differ significantly from one another. 1983 NO_x levels are somewhat higher than anticipated in the AQMP while 1983 RHC levels are slightly lower. When project emissions (from all sources) are superimposed on the AQMP/Update difference, the "net differential" shows that the project creates about a 25 ton per year differential for NO_x and RHC between AQMP predictions and the "with project" ANG relocation alternative.

Microscale Impacts

As previously shown in Table IV-31, emissions from the C-130 aircraft constitute a non-negligible addition to aircraft emissions at any of the three candidate sites. To determine if activity increases may create a measurable impact on ambient air quality, particularly in light of the non-attainment status for ozone at all three sites, a screening model approach was applied for a worst-case dispersion scenario of maximum plane activity under light winds and a surface-based temperature inversion. The Aircraft Emissions Estimator (ACEE) screening model (AFESC-CEEDO, 1978) was used to assess the impact of two C-130 operations (1 LTO) at the airfield fenceline, and as a worst-case, for 3 LTOs in one hour. The results of this analysis are shown in Table IV-35. Because the weather conditions are artificial worst-case conditions, these screening model results are applicable at any of the three candidate sites. The SCAQMD has generally used a 2 percent degradation of the clean air standard as an indication of a non-negligible impact. Table IV-35 shows that even having them perform 3 LTOs per hour (which would require scrambling most of the available aircraft and then having them land again almost immediately) do not meet the two percent criterion, and it can be concluded that any microscale impacts from aircraft operations at any of the three

*Reactive organic compounds (ROC) is synonymous with reactive hydrocarbons (RHC).

TABLE IV-33. ANNUALIZED[1] PROJECT-RELATED EMISSIONS (tons/year) FOR THE POINT MUGU RELOCATION

Pollutant Source	CO	NOx	RHC	SO2	TSP
"New" C-130 Aircraft Activities	29.8	10.2	17.3	1.7	4.3
Ground Support	28.4	2.4	2.0	0.2	0.2
Employee Commuting	19.9	2.0	2.4	0.3	0.4
Base Utilities	0.2	1.3	0.1	0.8	0.2
Fuel Transfer	0.0	0.0	11.5	0.0	0.0
TOTAL	78.3	15.9	33.3	3.0	5.1

1 Based upon 14.84 LTOs and 6.90 touch-and-go operations per day on 260 days per year.

TABLE IV-34. AQMP EMISSIONS ESTIMATES VERSUS 1983 ACTUAL EMISSIONS (tons/year)

Pollutant Source	CO	NOx	RHC	SO2	TSP
AQMP Emissions					
All Military (Category 98)	318.1	111.3	88.4	15.3	225.2
Civil (Category 99) At Point Mugu	101.5	5.0	9.5	0.4	0.1
Total Point Mugu	419.6	116.3	97.9	15.7	225.3
ACTUAL 1983 EMISSIONS (Table IV-32)	290.2	128.8	89.2	16.0	151.6
Difference	+129.4	-12.5	+8.7	-0.3	+73.7
ANG Project	78.3	15.9	33.3	3.0	5.1
Net Differential	+	-28.4	-24.6	-3.3	+

(+) Indicates project emissions can be accommodated within current AQMP estimates.

(-) Indicates project emissions will require additional offset to reach zero net impact.

TABLE IV-35. AMBIENT AIR QUALITY IMPACT ASSESSMENT - ACEE SCREENING MODEL
(Impacts in micrograms per cubic meter, as percent of allowable ambient air quality standards.)

Pollutant	Impact per LTO	Clean Air Standard*	Impact from One LTO	Impact from Three LTOs
Carbon Monoxide	2.96	23,000	0.007%	0.021%
Nitrogen Dioxide	0.92	470	0.184%	0.552%
Sulfur Dioxide	0.15	1,310	0.012%	0.036%
Reactive Hydrocarbons	1.88	-	-	-
Total Particulates	0.11	100	0.11%	0.33%

* The most stringent hourly standard (state or federal) for CO, NO2, SO2; 24-hour standard for particulates.

\- No ambient air quality standard for reactive hydrocarbons.

candidate sites are insignificant. Assuming that the time spent in engine run-up testing is approximately equal to 1/2 LTO cycle, the microscale impact of such activity is less than that of one LTO and is therefore insignificant.

Air quality studies around major airports have generally found that it is not the aircraft so much that create any observable impacts, but rather the automobiles that carry employees/passengers/etc. To determine if ANG base traffic will affect any local microscale air quality distributions along base access roads, the California line source dispersion model CALINE 3 was run at the three candidate relocation sites. Minimum dispersion conditions were combined with rush hour traffic to generate a worst-case impact prediction. Hourly CO concentrations along roadways most affected by the proposed relocation are seen in Table IV-36. Assuming a non-local background in the late afternoon of 3-4 ppm at any of these sites, the combination of background plus project is still well below the hourly standard of 20 ppm. Since most project traffic occurs within a few hours, the project will have little effect on 8-hour CO distributions. Except in the area of increased congestion on Avenue M caused by ANG traffic, the hourly project impact on any roadway at the roadway edge is less than 2 ppm and less than 1 ppm beyond 50 feet from the roadway.

Mitigation Measures

The proposed action basically diverts existing emissions to another part of the same air basin, or transfers them to an adjacent air basin with which there is considerable airflow interaction. The net air quality impact on a regional scale is small, as are any local impacts in the vicinity of any alternative site. The opportunities and the requirements for impact mitigation are limited. The most significant changes in project emissions result from changes in driving distances from existing residences, and any mitigation measures should concentrate on reducing the number of single-occupant trips to the relocation site as a means of reducing any regional emissions impacts. Over time, as the recruiting base shifts and personnel retire or relocate, this contribution to project emissions will be expected to lessen.

On a local scale, fuel storage facilities will be built with double-sealed floating roof tanks that reduce the amount of hydrocarbon emissions beyond the minimum requirements of various air districts for such facilities. With reduced on-site hydrocarbon emissions and with an aggressive trip reduction program, air quality impacts are not an overriding consideration in the choice of any of the three alternatives.

For Norton AFB and AF Plant #42, the proposed relocation creates no inconsistency with regional air quality planning. For Point Mugu, the project creates "new" emissions not anticipated in the AQMP forecast. The project's technical inconsistency with the AQMP forecasts was discussed with Ventura County Air Pollution Control District (APCD) and EPA staffs. The APCD has no regulatory control over mobile sources such as aircraft or commuter vehicles and therefore has no legal mechanism to bar the relocation to Point Mugu. A mitigation measure for mobile source emissions to offset the incremental emissions associated with the relocation to a level below the threshhold of significance has been agreed upon by the Air National Guard and the Ventura County Air Pollution Control District. The mitigation consists of a one-time payment of $42,161 to fund staff positions for the Ventura County commuter computer program.

TABLE IV-36. CALINE 3 MICROSCALE ROADWAY IMPACT ANALYSIS
(Hourly CO concentrations in ppm above any non-local background, standard = 20 ppm)

		(Distance from Roadway)			
		0'	25'	50'	100'
NORTON AFB					
3rd Street (near ANG gate)	No Project	1.5	0.9	0.7	0.5
	With Project	2.5	1.5	1.1	0.8
Alabama Street (south of 3rd)	No Project	2.2	1.3	1.0	0.7
	With Project	3.2	1.8	1.4	1.0
AF PLANT #42					
Avenue M (west of ANG site)	No Project	3.7	2.1	1.6	1.1
	With Project	6.0	3.4	2.6	1.8
POINT MUGU					
Navalair Road (near mobile home park)	No Project	0.5	0.3	0.2	0.2
	With Project	1.8	1.0	0.8	0.6
Las Posas Road (north of Hueneme)	No Project	1.6	0.9	0.7	0.5
	With Project	3.2	1.9	1.4	1.0

Input Conditions: T=50°F, 75% of all project vehicles in "COLD START" mode, 76% auto, 14% light truck, 5% medium truck, 5% motorcycle mix for project vehicles.

HYDROLOGY AND WATER QUALITY

Key Findings

Van Nuys Airport and the three proposed relocation sites are not subject to significant unavoidable flood hazards. Future redevelopment of the ANG site at Van Nuys is not expected to significantly change the amount of runoff. The No Action alternative would not lead to any increased flood hazards nor any significant hydrological impacts. The development of an ANG Base at any one of the proposed relocation sites would result in a minor increase in runoff, but no significant impacts upon existing drainage systems are expected. With the implementation of mitigation measures no significant water quality impacts should occur.

	No Action	Van Nuys[1]	Norton AFB	AF Plant #42	NAS Point Mugu[2]
Risk from Flooding					
Change in Stormwater Flow			•	•	•

Executive Order 11988

The objective of Executive Order 11988 is to avoid to the extent possible the long-term and short-term adverse impacts associated with encroachment and modification of the 100-year base floodplain by Federal action. The preferred method for satisfying this Order is to avoid sites on the 100-year floodplain. If an action must be located on the floodplain, the Order requires that agencies minimize potential harm to people and property and to natural and beneficial floodplain values.

The existing ANG facility at Van Nuys Airport and the three relocation sites are all in compliance with this Order. The Van Nuys site and AF Plant #42 are classified as Zone C on FEMA's Flood Insurance Rate Map, outside the 100-year base floodplain, and so are in compliance with Executive Order 11988. The Norton AFB site is classified partly as Zone B and partly as Zone C, outside the base floodplain and so is also in compliance with the Order. Previous studies conducted by the U.S. Army Corps of Engineers have classified most of NAS Point Mugu as being inundated by the intermediate and the standard project flood. However, the proposed relocation site is not subject to overflows from Calleguas Creek and therefore demonstrates compliance with Executive Order 11988.

Hydrology

Van Nuys Airport

The existing ANG facility at Van Nuys virtually is covered entirely by buildings and pavement. Given typical building and pavement coverage for an office development, it is not anticipated that a significant change in the amount of onsite runoff would occur. Any development of the site would have to be designed to accommodate the existing Creek drainage in its current configuration, rerouted

within the site or in a below grade culvert. An environmental evaluation of the hydrological effects of any proposed development plan will be necessary once plans are formulated. This evaluation would be conducted by the City of Los Angeles Department of Airports.

Mitigation Measures. No mitigation measures are necessary if the ANG remains at the Van Nuys Airport under the No Action alternative.

Norton AFB

The proposed relocation site at Norton AFB is developed. The estimated runoff for the site is 226 cfs under existing conditions. It is expected that the total local runoff at the site will increase to 242 cfs based upon additional development. These flows are based upon a 1 hour rainfall intensity for the 100-year storm. It is anticipated that this runoff quantity will not have any significant impact on the ability of existing drainage structures to accommodate the additional flow.

Mitigation Measures. In areas which are susceptible to Zone B flooding such as the northwest corner of the project site at Norton AFB, all pad elevations should be raised one foot to prevent inundation by the limits of the 100- to 500-year flood. If the Third Street-Victoria Avenue intersection is the proposed access location to Norton AFB, it will also be necessary to extend a culvert under Victoria Avenue for City Creek. The culvert should be adequately sized to prevent flood damage to the street section and that portion of the Base. Downstream of the culvert, the existing channel may require widening to convey the 100-year flood away from the project site.

AF Plant #42

Presently, the proposed relocation site at Palmdale is undeveloped. The estimated runoff for the 290 acre site is 30 cfs for existing, undeveloped conditions. It is expected that the total local runoff at the site will increase to 45 cfs, based upon development. These flows are based upon a 1 hour rainfall intensity for the 100-year storm. Approximately 28 acres will be covered with concrete for parking and runways. It is expected that this increase in flow will not significantly impact existing drainage structures.

Mitigation Measures. Aside from design of facilities to accommodate localized sheet flow, control mitigation should not be required.

NAS Point Mugu

Existing conditions at the proposed Point Mugu relocation site are largely agricultural. The estimated local runoff for the site is 86 cfs. This flow is based upon a 1 hour rainfall intensity for the 100-year storm. Urban development will increase total runoff due to the addition of buildings, roads, and paved surfaces which diminishes permeable area. Based upon development of the 239 acre site, localized runoff would increase to 128 cfs. However, the ANG proposes to retain a portion of the peak flow onsite to limit discharge to Mugu Drain to the existing peak of 86 cfs during the 100-year storm. It is expected that this runoff will not have any major impact on the ability of existing canals to accommodate the additional flows.

Mitigation Measures. The ANG proposes to limit peak 1 hour 100-year storm runoff from the site to its existing rate of 86 cfs. No further mitigation measures should be required.

Water Quality

Potential project water quality impacts relate to erosion and contaminants in runoff. Urban development reduces the area susceptible to erosion because of building, pavement and groundcover, resulting in less sediment production. During redevelopment of the vacated Van Nuys site and construction at Base relocation sites, a short-term increase in sedimentation will result. Grading and earth distribution on site will expose soils with potential high erosion hazards. Without proper mitigation, these conditions could produce significant impacts during periods of heavy rainfall due to erosion and siltation of watercourses. With proper mitigation these short-term effects would not be significant. At Van Nuys and Norton AFB long-term water quality effects are not anticipated to be significantly different from existing conditions since these sites already contribute typical urban runoff contaminants such as oil, rubber, garden fertilizers and pesticides, among others.

At NAS Point Mugu, the nature of site runoff will change from agricultural-related, with sediment, pesticides, herbicides, and fertilizers to more urban-related pollutants in conjunction with base construction and with the military uses. These potential pollutants could enter the watercourse and groundwater table in the area. The ANG will comply with all Federal and State discharge requirements and will treat discharge as necessary to meet the following Regional Water Quality Control Board standards:

Oil, grease	< 15	ppm
pH	6-9	
BOD	≤ 30	ppm
Suspended Solids	≤150	ppm
Settleable Solids	<0.3	ppm

Mitigation Measures. During redevelopment of the vacated Van Nuys site and construction of a new facility at any one of the proposed relocation sites, several control measures may be implemented to prevent increased siltation of drainage channels. Any grading operations should be limited to the dry season. Storm water should not be allowed to flow directly down unprotected slopes which are devoid of vegetation.

As noted above, site runoff will be treated to meet the discharge requirements of the Regional Water Quality Control Board. Any portion of Mugu drain that traverses construction areas would be reconstructed underground.

GROUNDWATER RESOURCES

Key Findings

The proposed project will not significantly impact the quantity or quality of local groundwater resources at either Van Nuys Airport or Norton AFB. Relocation of the 146th TAW to AF Plant #42 will increase groundwater production by 30 acre-feet per year and will contribute to the overdraft condition of the groundwater basin. The groundwater quality will not be impacted. Relocation to NAS Point Mugu will favorably impact groundwater quality. Groundwater pumpage would be reduced by 1,170 acre-feet per year at this site since the displaced agricultural use required more water for irrigation, however any replacement of irrigated agricultural acreage within the clear zone would result in a corresponding demand for water. Groundwater conditions at Van Nuys Airport would not be changed under the No Action alternative.

	No Action	Van Nuys[1]	Norton AFB	AF Plant #42	NAS Point Mugu[2]
Aquifer Recharge				●	○

Van Nuys Airport

Development of an office park on the site will not significantly impact the quantity or quality of local groundwater resources. The office park will probably obtain its water supply from the City of Los Angeles, Department of Water and Power and no onsite pumping is expected to occur. The impact on water supply is discussed in its representative section. In addition, the development is not expected to affect substantially the amount of water which percolates into the regional groundwater basin.

Norton AFB

The relocation of the ANG will not significantly impact the quantity or quality of local groundwater resources. The proposed relocation will represent an increase of 30 acre-feet of groundwater production per year from the Bunker Hill Basin. However, the Bunker Hill Basin has been experiencing rising groundwater levels in recent years and no shortage is expected. Should the ANG relocate to Norton AFB, the amount or quality of runoff will not be changed significantly as the site is currently developed. Hence, no quality impact due to percolation of runoff is expected. In the rare occurrence of hazardous spills, Norton AFB will implement an emergency plan which will prevent or minimize the potential of groundwater contamination.

AF Plant #42

Should the ANG relocate to this site and obtain its water supply from on-site wells, the groundwater production from the Lancaster subunit of the Antelope Valley will increase by 30 acre-feet per year. The increase will contribute to the overdraft condition of the groundwater basin.

The proposed relocation will not impact the quality of groundwater. Since no surface cracks traverse the site, and the site will be paved, with the exception of a small amount of landscaped area, a substantial amount of runoff is not expected to percolate into the groundwater basin. The likelihood of contaminating the groundwater in case of accidental spill of hazardous waste is also very small. In the rare occurrences of hazardous spills, the Base will implement an emergency plan which would prevent or minimize potential contamination of groundwater. (This is discussed in further detail in the section on hazardous materials.)

NAS Point Mugu

The relocation of the ANG to this site will not impact the quality of the local groundwater basin. Since no surface cracks traverse the site, and the site will be paved, with the exception of a small amount of landscaped area, a substantial amount of runoff from storms is not expected to percolate into the groundwater basin. The likelihood of contaminating the groundwater, as in the case of accidental spill of hazardous waste, is also very small. In the rare occurrences of hazardous spills, the Base will implement an emergency plan which would prevent or minimize potential contamination of groundwater. (This is discussed in further detail in the section on hazardous materials.)

Currently, the agricultural operation on site consumes approximately 720 acre-feet of groundwater per year obtained from an on-site well and wells nearby; in addition, it imports 480 acre-feet of groundwater per year from wells owned and operated by the UWCD. The ANG Base, however, is projected to consume only 30 acre-feet of water per year. Should the ANG Base use groundwater entirely as its water source, there will be a reduction of 1,170 acre-feet of groundwater pumpage per year on the project site. This assumes the displaced farmland is not replaced with currently un-farmed land located over the same acquifers. If the ANG decides to use on-site wells, groundwater will be obtained from the merged Hueneme and Fox Canyon Aquifer of the Lower Aquifer system.

Mitigation Measures

Although beneficial impacts upon groundwater resources are expected from the proposed project, a careful evaluation of the relocation site's groundwater and seepage characteristics will be required to define the design necessary to fully assure prevention of fuel contamination impacts. Fuel storage and transmission systems must be designed to minimize the risk of potential fuel spillage. An emergency spill plan must be effectively implemented to prevent the contamination of groundwater. No mitigation measures would be necessary under the No Action alternative since the condition of groundwater resources would remain unchanged.

REGIONAL SEISMICITY

Key Findings

Due to the geographic setting of Van Nuys Airport and each of the proposed relocation sites, seismic shaking and associated hazards such as liquefaction and differential settlement could have adverse impacts in the event of a major earthquake. Standard foundation and structural engineering practices can be utilized to mitigate these potential risks to an acceptable level.

	No Action	Van Nuys[1]	Norton AFB	AF Plant #42	NAS Point Mugu[2]
Seismic Safety	●	●	●	●	●

Seismic Shaking

The primary geological impacts associated with the proposed action involve seismic shaking and associated hazards at each of the alternative sites. These hazards would also be associated with the No Action alternative.

The Van Nuys Airport site and the three relocation sites are susceptible to strong ground shaking caused by seismic activity along the San Andreas or another of the numerous faults in Southern California. The City of Los Angeles Seismic Safety Element (1974) places the Van Nuys site in a zone designated as having the highest level of hazard in terms of potential risk due to seismic shaking. The San Bernardino County Seismic Safety Element categorizes the Norton AFB site as being "deep unconsolidated alluvium" subject to "strong" shaking levels and that "tall buildings are susceptible."

The Air Force Plant #42 site falls within the high ground response zone based on the Los Angeles County Seismic Safety Element. This zone has "potential for strong ground shaking, landsliding, or liquefaction." Because this site is nearly level, however, landsliding is unlikely. The NAS Point Mugu site is near a number of active or potentially active faults both onshore and offshore. The 1973 Point Mugu earthquake was measured at 5.9 (ML). It occurred just offshore near the site and caused substantial damage in Oxnard. Earthquakes of similar or greater magnitude should be expected to affect this site with significant shaking.

Other Geotechnical Concerns

No other geotechnical concerns represent significant adverse environmental impacts for any of the four alternative sites. These concerns include liquefaction, differential settlement and subsidence, tsunamis (seismic sea waves) and expansive soils.

Mitigation Measures

To mitigate the hazards associated with seismic shaking, standard foundation and structural engineering practices can be utilized to reduce and in some cases

eliminate these potential impacts. This will, however, require a careful site specific investigation of the foundation soils, the groundwater levels, and the anticipated ground response to earthquake shaking at the selected site for input into the design of the facilities. All structures will be constructed in accordance with the most stringent Federal or State of California seismic design standards.

BIOLOGICAL RESOURCES

Key Findings

Since there are no significant biological resources at Van Nuys Airport or Norton AFB, there are no significant adverse environmental effects at these two locations. Therefore, no biological resource impacts would be associated with the No Action alternative. Construction of a new ANG Base at Palmdale AF Plant #42 would displace natural habitat, including Joshua tree woodland. There is also a low potential for the Mojave ground squirrel to occupy this site on a seasonal basis. Although the majority of the NAS Point Mugu site is in agricultural production, there is a small degraded marsh habitat on the southern portion of the site. Potential on-site impacts to this habitat can be mitigated by implementing a plan for on-site/off-site enhancement of wetlands. The ANG is currently negotiating with the USFWS to mitigate impacts to an acceptable level consistent with Federal policies.

	No Action	Van Nuys[1]	Norton AFB	AF Plant #42	NAS Point Mugu[2]
Displacement of Flora/Fauna				●	•
Rare or Endangered Species				•	

Van Nuys Airport

There are no biological resource impacts associated with the relocation of the ANG to another site from Van Nuys Airport, nor are there any such impacts associated with continued operations at the existing location under the No Action alternative.

Norton AFB

Although there are several urban species associated with the ANG site at Norton AFB there are no significant impacts since there is no natural plant community supporting a significant food chain.

Palmdale AF Plant #42
Plant Community Alteration

This piece of property is not considered to comprise a major wildlife habitat loss when contrasted to the Antelope Valley. However, the plant associations on the site are representations of more widespread, but decreasing, vegetation types found in the Antelope Valley. Agriculture, housing, commercial, industrial, and speculative developments are incrementally removing blocks of natural vegetation and wildlife habitat. The proposed project would be another incremental action that reduces the extent of these natural plant communities.

The elimination and/or alteration of the Joshua tree woodland will add to the incremental deterioration of the Joshua tree woodlands in this part of the Mojave Desert. With the construction of ANG facilities, a certain amount of site clearing, grading, replacement of surface soils with permeable cover, alteration of major and secondary drainageways, construction of on-site facilities and surface soil

compaction will be necessary. The construction of ANG facilities on this site will eliminate an estimated 250 acres of Joshua tree woodland, saltbush and creosote bush scrub plant communities.

Construction, operation, and maintenance activities associated with development also constitute sources of environmental disturbance. This disturbance further fragments the habitat and creates an artifical barrier to movement by some secretive species (e.g., bobcat, grey fox). Continued fragmentation of the Mojave Desert also makes it less attractive to migratory birds.

Wildlife Activity Disturbance

Since the area is generally bordered by AF Plant #42, the Sierra Highway and Avenue M, there is no major wildlife dispersion corridor crossing the ANG relocation site at AF Plant #42, nor is it a significant area for major wildlife activity. Disturbance and land use alteration will, however, reduce vegetative complexity and thereby eliminate nesting activity, thermal cover for fauna provided by Joshua trees, resting areas, perching sites and foraging areas for predatory vertebrates.

Species of Concern

Assuming that the Mojave ground squirrel is not present, there are no anticipated environmental impacts to Federal or State listed species from the construction and operation of ANG activities on the site (note: please see Mitigation Measures).

Noise Exposure and Wildlife Activity

It is important to recognize that the relocation of the ANG to the site adjacent to Palmdale AF Plant #42 will have very little influence on the total noise exposure in the immediate vicinity (see Noise Section). Consequently, there are no significant adverse impacts anticipated to wildlife in the area from increased noise exposure. This generalization is also true for the NAS Point Mugu site. (Please refer to Appendix VII for a discussion on the effects of noise on wildlife.)

NAS Point Mugu
Plant Community Alteration

The construction and operation of the ANG facility will impact the wet meadow and degraded hyposaline marsh on the southern perimeter of the site. The direct impact upon the agricultural field is not significant from a biological resource viewpoint, since monocultural plant communities support very little species diversity and have no significant natural food chain value.

Wildlife Activity Disturbance

The presence of eucalyptus adjacent to the proposed site indicates a strong likelihood for red-tail hawk and barn owl eyries. The preponderance of ground squirrels in the area support red-tail hawks which forage on them. Other likely nesting candidates would be great horned owls, Cooper's hawks and kestrels. The proposed action will not significantly impact these raptors due to the poor quality and minimal size of the foraging area.

Waterfowl of special note that are known to visit upland areas away from wetlands include the black-crowned night heron and the white-faced ibis. Since suitable habitats exist for many of these species in nearby areas, they are not likely to rely significantly upon the proposed base relocation site, except on occasion on the extreme southern portion of the site, consequently, there are no significant adverse impacts.

The direct impact of project development is the possible elimination of a small portion of a degraded seasonal wetland that offers marginal habitat value to waterfowl (i.e., white ibis, blackcrowned night heron) and some predatory raptors (i.e., white-tailed kite, red-tailed hawk, American kestrel). No endangered or rare species of plants or animals rely on this small isolated area, although some do reside in the general vicinity south and west of the site.

The U.S. Department of the Interior Fish and Wildlife Service, under the Biological Services Program has a "Classification of Wetlands and Deepwater Habitats of the United States." (USFWS, 1979). This classification system is intended to describe ecological taxa, arrange them in a system useful to resource managers, furnish units for mapping, and provide uniformity of concepts and terms. Wetlands are defined by plants (hydrophytes), soils (hydric soils), and frequency of flooding. Ecologically related areas of deep water, traditionally not considered wetlands, are included in the classification as deepwater habitats. The U.S. Fish and Wildlife Service has made a determination as to the wetland classification and habitat value for the wetland meadow and degraded hyposaline marsh.

The U.S. Fish and Wildlife Service has classified this area as a palustrine emergent wetland. The palustrine system includes all nontidal wetlands dominated by trees, shrubs, persistent emergents, emergent mosses or lichens, and all such wetlands that occur in tidal areas where salinity due to ocean-derived salts is below 5,000 ppm. The value of the wetland is based upon resource categories. The higher valued resource categories require a more stringent mitigation goal. U.S. Fish and Wildlife service has four resource categories with #1 being of highest quality and #4 of marginal quality. After an on-site field investigation, the preliminary findings are that this site is between resource categories #2 and #3.

The extensive description in Chapter III, "Affected Environment," has been provided to assist the U.S. Fish and Wildlife Service with their determination as to the type, value and extent of the seasonal wetland. The elimination/degradation of a classified wetland requires mitigation or compensation.

Species of Concern

There are no Federal or State listed species of concern at the proposed Point Mugu site.

MITIGATION MEASURES

There are no mitigation measures required at Van Nuys Airport or Norton AFB, since there are no biological resources to be impacted.

AF Plant #42

If Palmdale AF Plant #42 does become the preferred project alternative, it is recommended that a trapping program be conducted to verify the presence/absence of the Mojave ground squirrel since the time of the site visit (August 1984) was not a prime time to see this animal due to lack of suitable forbs, extreme temperatures, etc.

NAS Point Mugu

The U.S. Fish and Wildlife Service will require a mitigation plan if there is a determination that wetlands are impacted, including indirect effects. If "suitable" mitigation is not possible, then the Service may request off-site compensation through enhancement or replacement of habitat at negotiated ratios.

The plant communities or habitat types will be classified by resource category with a designated mitigation goal as shown below:

Resource Category	Criteria for Resource Category Designation	Mitigation Planning Goal
1	Habitat is of high value for evaluation species and is unique and irreplaceable.	No loss of existing habitat value.
2	Habitat is of high value for evaluation species and is scarce or becoming scarce.	No net loss of in-kind habitat value.
3	Habitat is of high to medium value for evaluation species and is abundant.	No net loss of habitat value, while minimizing the loss of in-kind habitat value.
4	Habitat is of medium to low value for evaluation species.	Minimize loss of habitat value.

The wetland area at NAS Point Mugu has been classified between Resource Category 2 and 3. Consequently, no net loss of in-kind habitat value is the mitigation goal. During consultation and negotiation with the Service, a mitigation plan, which is sensitive to the above stated polices, will be agreed upon and any potential conflict resolved. If there is no designated use on this southerly portion of the site more specific mitigation measures may not be required.

WATER SUPPLY

Key Findings

Subsequent to the relocation of the 146th TAW, the redevelopment of the ANG site at Van Nuys Airport will create a significant increase in the demand for water. No change would occur with the No Action alternative. Although the increase has been anticipated by the DWP, present and future water supply must be met by imported water. The water need of the 146th TAW is estimated at 30 acre-feet per year which can be met reasonably at Norton AFB, Palmdale AF Plant #42 and at NAS Point Mugu. However, if the ANG relies upon water from the City of Oxnard, extensive construction work will be necessary since the City does not have conveyance facilities in the vicinity of the site.

	No Action	Van Nuys[1]	Norton AFB	AF Plant #42	NAS Point Mugu[2]
Water Supply		●		•	•

Van Nuys Airport

Should the ANG relocate under one of the relocation alternatives and the land at Van Nuys Airport is redeveloped to an office park, there will be a significant increase in water demand. Water consumption of a 1.4-million square foot office park is estimated to be 235 acre-feet per year as compared to the current consumption of 30 acre-feet per year. This current pattern of consumption would be likely to continue under the No Action alternative.

The increased water consumption will contribute to the cumulative water demand of the Van Nuys area and of Southern California. The increase has been anticipated by DWP as part of the projected growth in the San Fernando Valley. However, since the present and future water supply for the area must be met by imported water, future water availability depends upon greater statewide issues which are yet unresolved. Currently, DWP is continuing to evaluate various water resources alternatives to meet the projected water demand in its service area.

Norton AFB

The 30-acre-feet of water required by the ANG per year would not significantly impact water supply at the Base. The additional water consumption will not adversely impact the Bunker Hill groundwater basin since it is experiencing a rising groundwater level. In addition, correspondence with Norton AFB has revealed that its existing facilities can accommodate the water needs of the ANG without any significant environmental impact.

Water supply for fire protection can also be incorporated into the existing fire protection system on Norton AFB.

AF Plant #42

The 30 acre-feet of water required per year will contribute to the cumulative water demand of the area and declining groundwater level of the Lancaster subunit if groundwater is used. The increase, however, is insignificant when compared to approximately 300,000 acre-feet of groundwater pumpage per year and approximately 33,000 acre-feet per year of State Project Water imported into the area.

Water supply from any of the three sources available: 1) on-site wells; 2) water service from the Los Angeles County Water Works (LACWW); 3) combination of on-site wells and imported State Project Water supplied by the Antelope Valley East Water Agency will not cause significant adverse impacts. If water supply is not obtained entirely from on-site wells, some temporary construction impacts (such as dust emissions, construction noise and traffic detours) will occur during the construction of a transmission pipe to LACWW's or Antelope Valley East Water Agency's facilities.

Water supply for fire protection will be stored in an on-site storage reservoir and will not cause any adverse impacts on water supply to the area.

NAS Point Mugu

Should the ANG relocate to this site, there will be a decrease of water demand on-site. Currently, the site consumes 1,195 acre-feet of water per year for irrigation; the water is obtained from the upper aquifers of the Oxnard Plain groundwater basin.

The water supply impact will depend on the source selected: 1) on-site wells; 2) connect to NAS Point Mugu supply system; 3) connect to the City of Oxnard's water supply. To obtain water supply from on-site wells would have minimal environmental impact, since very little construction work is required, and all construction would be done on-site. Water from on-site wells, as at NAS Point Mugu, will have to be blended with water from offsite suppliers to meet desired standards. To avoid sudden peak demand and provide required water pressure during firefighting, an on-site storage reservoir would be necessary.

With this supply option there will be some temporary construction impacts (such as dust emissions, inconvenience to personnel in NAS Point Mugu due to excavation of roadway rights-of-way) during the construction phase of the water transmission pipes. This option still requires construction of an on-site storage reservoir which will reduce sudden peak demand from NAS Point Mugu's system. Correspondence with NAS Point Mugu has revealed that the Air Station has adequate existing facilities to provide domestic and fire protection water supply. Since the domestic water consumption by the ANG Base is not very significant, it may be possible to connect to the NAS Point Mugu supply. Such arrangements, however, would depend upon the agreement reached between the ANG and the NAS.

Obtaining water supply from the City of Oxnard will have the greatest impact among the three alternatives. First, since the site is not within the service area of the City, the ANG must file a petition for service with the City Council. If City Council approves the service, the City will need to annex its service area with the

Calleguas Municipal Water District. Secondly, the City does not have any facilities in the vicinity of the site. Connection to the City's facilities will involve extensive construction work. Temporary impacts due to construction of the water pipeline include disturbance of open space and agricultural lands in the surrounding areas of the site, inconveniences to the residences in the City of Oxnard, dust emissions, and construction noise impacts.

Mitigation Measures

1. Water conservation measures shall be incorporated to the extent feasible.

2. Drought-resistant vegetation shall be used in landscaping to reduce the demand for irrigation water.

3. Water-conserving features, such as low volume water closets and lavatory faucets with limiting-flow valves should be installed.

4. On-site water storage reservoir on the ANG Base for fire protection is necessary to mitigate sudden peak demands on water supply.

WASTEWATER

Key Findings

If the Van Nuys site is redeveloped subsequent to the ANG relocation the increase in wastewater generation at the Van Nuys site could be significant. However, this increase has been included in the projected growth for the San Fernando Valley area. Such an increase would not occur under the No Action alternative. Anticipated wastewater generation at Norton AFB, Palmdale AF Plant #42, and NAS Point Mugu of an average rate of 0.02 mgd and a peak 2 day per month flow of 0.14 mgd will not create a significant burden on existing wastewater treatment facilities.

	No Action	Van Nuys[1]	Norton AFB	AF Plant #42	NAS Point Mugu[2]
Wastewater Generation		●			●

Van Nuys Airport

The redevelopment of the site to 1.4 million square feet of office space will generate wastewater at an average rate of 0.18 million gallons per day (mpd). Thus, there could be a significant increase in wastewater generated on-site. However, this increase is within parameters of projected growth in the San Fernando Valley area. There would not be a significant increase in wastewater generation associated with the No Action alternative.

Norton AFB

Correspondence with Norton AFB has revealed that the existing sewage collection system on base is adequate to accommodate the wastewater flow of the ANG. As mentioned in the section on environmental setting, the agreement between the AFB and the City of San Bernardino for wastewater treatment is based upon a Base population of 12,000. The addition of 300 ANG technicians will increase the current Base population to 11,000. Although the treatment plant is nearing capacity, treatment capacity is being reserved for the Base and the relocation of the ANG to Norton AFB will not impact the Base's wastewater treatment service. Also, construction to expand the treatment plant to 28 mgd is expected to begin in September 1985 and should be completed in 2 1/2 years.

AF Plant #42

Wastewater generated on-site can be treated at the wastewater treatment plant on the adjacent AF Plant #42. The treatment plant on the AF Plant #42 has ample surplus capacity to handle the wastewater flow. No problems are therefore anticipated.

NAS Point Mugu

There are three wastewater treatment alternatives at this site: 1) service by the City of Oxnard; 2) lease or purchase treatment capacities from NAS Point Mugu for service by the City of Oxnard; 3) install on-site treatment system. Impacts associated with each alternative are discussed below.

Wastewater will be treated at the Oxnard Wastewater Plant with the adoption of either the first or second alternative mentioned above. NAS Point Mugu currently has surplus capacity in the Hueneme Interceptor. It would, therefore, be advisable for the ANG to select the alternative of leasing treatment from NAS Point Mugu. Wastewater generated by the ANG and NAS Point Mugu will be accepted for treatment at the Oxnard Wastewater Plant as long as the total wastewater flow does not exceed the treatment capacity allocated to NAS Point Mugu in the Hueneme Interceptor. On the other hand, the adoption of Alternative 1 will have the added impact of having to petition to the City for service since the site is not currently within the service area of the City of Oxnard.

A third alternative is to treat wastewater on-site. However, the installation of an on-site treatment system involves high capital costs and long-term commitment of materials. In addition, if not operated properly, the treatment plant could have adverse impacts on air quality (odor problem) and health.

Mitigation Measures

1. Water conservation measures mentioned earlier also serve as wastewater reduction measures.

2. Should the ANG relocate to the NAS Point Mugu site and have its wastewater treated at the Oxnard Wastewater Treatment Plant, a wastewater storage device can be built on-site which would store wastewater temporarily and discharge into the City's facility during the nighttime (non-peak flow period).

CULTURAL RESOURCES

Key Findings

Since no known historial or archaeological resources are present at any of the sites under consideration, there should be no adverse impacts upon cultural resources associated with the proposed action nor with the alternatives, including No Action.

	No Action	Van Nuys[1]	Norton AFB	AF Plant #42	NAS Point Mugu[2]
History/Archaeology					

Since no cultural remains are known to be located within the subject properties no excavation is required at this time. However, because of the historic structures once located in proximity to NAS Point Mugu and Norton AFB, and the extent of historic activity in the AF Plant #42 area, an archaeologist should be required to monitor grading in the event that an historic trash dump or other associated historic materials are located.

There is a potential for subsurface prehistoric cultural remains at the NAS Point Mugu property because of the extent of Chumash activity in the surrounding area. At the NAS Point Mugu site, an archaeologist should therefore monitor grading for prehistoric, as well as historic resources.

1. A qualified archaeologist should be present at the pre-grade meeting and should monitor all grading activities.

2. The archaeologist would be empowered to temporarily divert, redirect, and halt grading to adequately recover cultural materials which may be encountered during the grading process.

AGRICULTURE

Key Findings

There are no prime soils or agriculturally used soils at Van Nuys Airport or Norton AFB. The site at Palmdale AF Plant #42 is not in agricultural production and does not contain prime or unique farmland soils.

	No Action	Van Nuys[1]	Norton AFB	AF Plant #42	NAS Point Mugu[2]
Existing Productivity					●
Prime Soils					●

The conversion of the NAS Point Mugu site to airfield use would displace 239 acres of land with prime agricultural soils. Approximately 210 of these 239 acres are currently in agricultural production. The loss of 210 acres of farmland represents 0.2 percent of the irrigated farmland within Ventura County.

The Van Nuys Airport and Norton AFB sites are not used for agricultural purposes, and there are no prime soils present. Consequently, there are no adverse impacts to agriculturally suitable soils. There would be no impacts upon agricultural resources associated with the No Action alternative.

AF Plant #42

The conversion of this site to airfield use would not displace any prime farmlands. The vast majority of the site contains Cajon loamy sands, classified as Class 3 when irrigated and Class 7 when dryfarmed. Class 3 soils are not considered prime farmlands.

The site is not currently used for agricultural production; the use of this site for the airfield would not, therefore, affect agricultural production.

NAS Point Mugu

The conversion of this site to airfield use would displace 239 acres of land with prime agricultural soils. Approximately 210 acres are currently in agricultural production. The loss of 210 acres of productive farmland represents 0.2 percent of the irrigated farmland within Ventura County.

Acquisition of the project site by the federal government will automatically cancel the four Williamson Act contracts affected. This is pursuant to the Land Conservation Act of 1965 (Government Code 51295). Williamson Act contracts cover 191.74 acres of the site.

A study by the California Coastal Commission (1977) concluded that approximately 33,520 acres of agricultural land would be required to maintain a healthy agricultural industry in the Oxnard Plain. At the time of the study, about 45,801 acres were in production. A recent (1985) County estimate of current agricultural land yielded the following figures:

Agriculture	35,991 acres
Agriculture with Urban Reserve	4,780 acres
	40,771 acres

This suggests that since the Commission's report was completed, 5,030 acres have been converted from farming to urban use. This leaves 7,251 acres that could be converted to urban use while maintaining a viable agricultural base (40,771 - 33,520 = 7,251). However, if the acreage already designated for urban use (the urban reserve) is subtracted from tolerable farmland reduction figure, only 2,471 acres remain for conversion to urban use (7,251 - 4,780 = 2,471). Thus, the loss of farmland associated with this site would represent 8.5 percent (210 acres) of the tolerable farmland reduction.

Although the California Coastal Commission's study provides some indication of the magnitude of impact this project would have, it is difficult to substantiate how many acres are needed to maintain a "healthy" agricultural base in the Oxnard Plain. Certain changes in the agriculture industry can be foreseen. As total acreage decreases, farm equipment dealers, and services and support companies would become less available. Lower income crops would begin to disappear and be replaced by higher income crops such as strawberries, lemons and avocados. The market would also shift from regional to local; roadside selling and distribution to local markets would replace shipping to regional centers. The export of produce would decrease, with the production consumed locally.

Given the very favorable soil and climatic conditions, agricultural production is likely to continue on any remaining lands. Agriculture will not disappear from the Oxnard Plain as farmland is lost to urban use, but its importance to the local economy may be reduced and its structure changed.

The population and land use projections completed by Ventura County (1980) in the 208 Areawide Water Quality Management Plan estimated the conversion of 12,600 to 23,000 acres of farmland to urban use. The loss of 210 acres at this site would represent 1.7 to 0.9 percent of this overall amount of farmland reduction. The County's Open Space Element of the General Plan incorporates the 208 Plan's projections into its urban and urban reserve designations. The General Plan designates the site as Agriculture and Open Space.

San Miguel Produce Company farms 83 acres within the project site and V. Nishimori Growers, Inc. farms the remaining 127 acres. San Miguel Produce Company operates a packing facility in the lot immediately to the east of the project site. This facility is used to pack the produce grown on the 1,000 acres farmed by the company. The proposed project would not displace the packing facility, but the displaced farmland (83 acres) represents 8.3 percent of the company's farmland. This may have an adverse impact on the company if suitable replacement property cannot be found.

Mitigation Measures

Relocation of the ANG to Palmdale would have no affect on current agricultural use or prime agricultural soils; therefore, no mitigation measures are necessary.

If the NAS Point Mugu site is selected for the ANG relocation, the overcovering of 239 acres of prime agricultural soils cannot be avoided.

AESTHETICS

Key Findings

The redevelopment of the ANG site at Van Nuys Airport would involve the replacement of military use structures with modern business or commerical facilities. Only minor changes would occur at Norton AFB. The conversion of the AF Plant #42 site from natural habitat to military use would alter the existing viewshed. Relocation of the ANG to NAS Point Mugu would convert visual elements characteristic of agriculture to airfield use. No significant aesthetic impacts should occur with the No Action alternative.

	No Action	Van Nuys[1]	Norton AFB	AF Plant #42	NAS Point Mugu[2]
Change in Visual Character	○	◐	○	◐	◐

Van Nuys Airport

The No Action alternative would involve the construction of additional facilities, but it is not expected to noticeably alter the visual environment of the area. Existing site conditions are shown in Figures III-52 and III-53 in Chapter III.

Should the ANG relocate to any of the other three sites, the present site at Van Nuys Airport would become available for redevelopment. Although it is not known exactly how this site might develop, significant development has been proposed for other portions of the Airport property. These proposals include office, commercial, hotel and Airport-related projects. Redevelopment of the 62-acre ANG facility would change the visual character of this area. The older structures of the ANG would be replaced with modern office, commercial or airport-related facilities. Although the modernization of the site might be considered an improvement, the new development would likely be of greater height and bulk than the existing facilities.

Norton AFB

This alternative would further develop an area already disturbed by previous construction at Norton AFB (see Figures III-55 and III-56 in Chapter III). The visual elements added to this site would include concrete taxiways, asphalt, hangars, and C-130 aircraft. Figure IV-8 shows the C-130 aircraft used by the ANG.

AF Plant #42

This alternative would convert a relatively undisturbed site, currently vegetated with desert shrubs and Joshua trees, to military use. (Existing site conditions are shown in Figures III-58 and III-59 in Chapter III.) The project would add concrete taxiways, asphalt driveways, hangars, C-130 aircraft and other buildings, and would have an appearance similar yet smaller in scale to the existing facilities at AF Plant #42.

NAS Point Mugu

The proposed action would convert an area now used exclusively for agriculture to airfield use. (Existing site conditions are shown in Figures III-60 and III-61 in Chapter III.) The visual elements added to this site would be very similar to that of the existing NAS facility: concrete taxiways, asphalt, hangars, C-130 aircraft, and buildings providing office space.

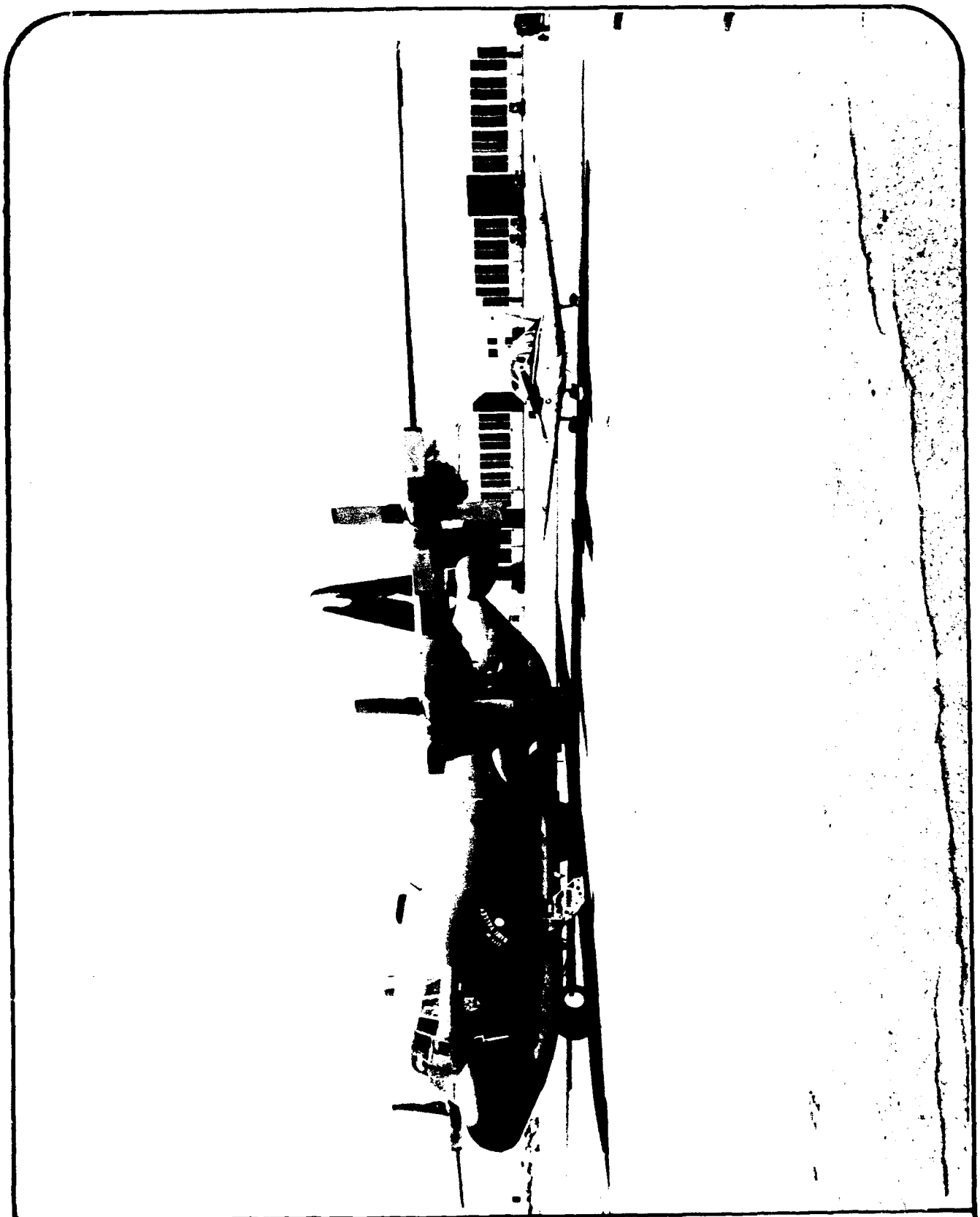
The conversion of this site from row crops to airfield represents a change to the views available from the SR-1 freeway and surrounding areas. The overall visual perception will be of an extension of the area currently occupied by military use, given that the proposed site is contiguous to the existing Navy base, and a reduction in that portion of the vista which is represented by agriculture.

Mitigation Measures

No mitigation measures are necessary if the ANG remains at Van Nuys Airport under the No Action alternative.

Each of the relocation alternatives involves a site within or adjacent to an existing airfield. The aesthetic appearance of the new facilities can be enhanced through the proper design and the use of materials, texture, and color in keeping with adjacent structures. Landscaping can further soften the visual change associated with this project.

Mitigation for the visual impacts associated with redevelopment of the existing ANG site at Van Nuys Airport is not under the control of the ANG. The City of Los Angeles Department of Airports will be responsible for environmental assessment and mitigation of any potential impacts associated with any future office development project.



PRC Engineering, Inc.

FIGURE IV-8
C-130 AIRCRAFT

CONSTRUCTION IMPACTS

Key Findings

The demolition of existing facilities and the redevelopment of the ANG site at Van Nuys Airport as well as the construction of a new ANG Base will involve short-term noise and emissions from machinery and equipment, dust emissions, and temporary traffic disruptions. Similar impacts would be associated with the No Action alternative since a $20 million construction project would be necessary to upgrade the ANG's existing facilities. None of these impacts, however, is expected to be significant; they are avoidable through the implementation of mitigation measures.

	No Action	Van Nuys[1]	Norton AFB	AF Plant #42	NAS Point Mugu[2]
Localized Impacts	•	●	●	●	●

General Impacts

The development of a new base for the 146th TAW would involve the construction of an aircraft parking apron, taxiways, aircraft hangars and maintenance structures, administration and training buildings, and various storage and maintenance facilities. As with most land development projects, the construction of the ANG Base will involve noise and emissions from machinery and equipment, dust emissions from grading activities, and disruptions to normal traffic patterns due to truck traffic, etc.

This section includes a discussion of the general impacts associated with the expected construction, the specific characteristics of the four sites and proposed mitigation measures.

Typical sound levels for construction equipment are depicted in Table IV-37. The A-weighted sound level represents the measurement of sound in a manner similar to the response of the human ear and is closely related to subjective reactions to noise. Persons located 50 feet from the sources of noise would be exposed to the noise levels as indicated in Table IV-37. As a general measure, noise levels will decrease by 6 decibels for every doubling of distance and an atmospheric absorption of 1 decibel per 100 feet.

Short-term air quality impacts will be experienced in the vicinity of the construction site due to emissions from construction equipment and dust generated by earthmoving activities. Table IV-38 depicts the types and quantity of emissions that can be expected from certain types of construction equipment.

TABLE IV-37. TYPICAL CONSTRUCTION EQUIPMENT NOISE LEVELS

Equipment	Noise Level in dBA at 50 Feet: Present	With Feasible Noise Control (2)	Important Noise Sources (3)
Lifting			
Heavy Lift Crane	88	75	ECFIT
Mid-Size Crane	83	75	ECFIT
Small Telescoping Crane	80	75	ECFIT
Excavating			
Backhoe	85	75	ECFIH
Hi-Lift	79	75	ECFIH
Truck	91	75	ECFIT
Grader	85	75	ECFIW
Bulldozer	80	75	ECFIH
Compaction			
Vibrating Roller	89	80	ECFI
General Construction			
Air Compressor	81	75	ECHI
Pump	76	75	EC
Small Miscellaneous (1)	86	80	PWEC
Pick-Up Truck	75	75	ECFIT

(1) Pneumatic tools.

(2) Estimated levels obtainable by selecting quieter procedures or machines and implementing noise control features requiring no major redesign or extreme cost.

(3) In order of importance: T = power transmission system, gearing; C = engine casing; E = engine exhaust; P = pneumatic exhaust; F = cooling fan; W = tool-work interaction; H = hydraulics; I = engine intake.

Source: U.S. Environmental Protection Agency. 1971. Noise From Construction Equipment and Operations, Building Equipment, and Home Appliances. Office of Noise Abatement and Control, Washington, D.C.

TABLE IV-38. AIR POLLUTANT EMISSION RATES OF CONSTRUCTION EQUIPMENT

	Pollutant (lb/hr) (a)				
	CO	HC	NO_x	SO_x	P
Tracklaying Tractor (Diesel)	0.386	0.110	1.470	0.137	0.112
Scraper (Diesel)	1.460	0.626	6.220	0.463	0.406
Grader (Diesel)	0.215	0.054	1.050	0.086	0.061
Roller (Diesel)	0.184	0.054	1.040	0.067	0.050
Water Truck (Diesel)	1.340	0.437	7.630	0.454	0.256
Miscellaneous (Gasoline)	17.000	0.560	0.412	0.023	0.026

(a) U.S. Environmental Protection Agency. 1977. Compilation of Air Pollutant Emission Factors AP-42 Part A Third Edition (Supplements 1-7).

The total quantity of emissions will depend upon the actual construction time involved. While the total emissions will be short-term in nature, and they can be minimized through standard mitigation measures, they will contribute to the deterioration of air quality in the area of the construction site. These emissions would, therefore, represent an unavoidable adverse impact that can be expected with the proposed project.

Additional truck traffic and vehicles due to the influx of construction workers should be expected in the general vicinity of the construction project. Temporary traffic disruptions in the immediate vicinity of the project site are likely to be associated with some construction activities, such as the development of utility connections, etc.

These effects upon traffic would be unavoidable adverse impacts although they would be short-term and can be minimized by restricting activities during peak-hour traffic flows.

Van Nuys Airport

The No Action alternative of retaining the existing base at Van Nuys would result in construction-related impacts since a major construction program would be undertaken if the 146th TAW cannot relocate. Such a program would be necessary in order to upgrade the ANG's existing facilities. If the ANG relocates to another site, the 62-acre ANG site at Van Nuys Airport would most likely be redeveloped for commercial and/or light manufacturing use subsequent to the departure of the 146th TAW. While future economic conditions will determine the actual nature of such redevelopment, the following site utilization is a likely possibility:

Circulation/landscaping	12	acres	(19%)
Parking	32	acres	(52%)
Total Building Footprint	14	acres	(22%)
Not Developable Due to FAA Height Limits	4	acres	(7%)

The 146th TAW is expected to vacate the Van Nuys Base during the late 1980's and the redevelopment project would most likely begin at that time. Depending upon

the nature of the redevelopment project, the period of demolition and redevelopment can be expected to be one to two years.

Most of the existing ANG facilities and the area that would be impacted by the redevelopment project are located outside of the 65 CNEL contour of Van Nuys Airport. The residential area just west of Balboa Boulevard would bear the main brunt of the construction impacts. Residents located 100 feet from the project site could experience single event noise equivalent levels (SENEL) approaching 100 dBA. It should be noted, however, that background noise due to Van Nuys Airport air traffic and automobile traffic along Balboa Boulevard may exceed 65 dBA during single event episodes. Given the existing noise conditions and the short-term nature of construction noise, the construction noise generated during the redevelopment project should not be significant.

Air quality impacts would occur during demolition and construction activities due to equipment emissions and dust emissions. The emissions which cannot be controlled through reasonable mitigation measures would represent short-term, unavoidable impacts.

Temporary traffic disruptions would mostly affect Balboa Boulevard between Roscoe Boulevard and Saticoy Street. Increased truck traffic and higher-than-normal traffic volumes would most likely be found on Balboa and Roscoe Boulevards, Sherman Way, and the San Diego Freeway.

Norton AFB

Construction activities at Norton AFB should be minimal since the existing buildings and infrastructure at the Base could be utilizied by the 146th TAW. There may, however, be a need for the construction of additional facilities depending upon the ultimate project design.

The 75 CNEL contour of Norton AFB passes through the proposed relocation site, and the 70 CNEL contour passes through the residential area across 3rd Street from the northwest portion of the project site. The residential area north of the project site would be subjected to short-term noise impacts with SENELs approaching 100 dBA at 100 feet, depending upon the level and nature of construction activity. The noise levels which might be generated by construction at this site are likely to be comparable to the levels generally existing at Norton AFB. They would also be short-term and should not significantly impact the nearby residential area.

Temporary traffic disruptions would mostly affect 3rd Street between Alabama Street and Sterling Avenue. Increased truck traffic and higher-than-normal traffic volumes would most likely be found on the primary access routes such as 3rd Street, Alabama Street, Tippecanoe Avenue, I-10, and I-215.

AF Plant #42

The proposed relocation site at AF Plant #42 is presently undeveloped, and the construction of buildings and infrastructure for the 146th TAW would take 2 to 3 years. The site's terrain is flat, and no unusual grading activities are likely to be performed. Fill material should be available from on-site cuts.

Most of the project site is within the 65 CNEL contour of the AF Plant #42. The only residential area in the area of the project site is located approximately 1,000 feet from the northwestern portion of the project site. Single event noise levels from the construction site should not exceed 70 dBA for the local residents. The additional truck traffic along Avenue M would, however, add to the present noise levels. Construction-related noise should not pose a significant problem given the existing noise environment around AF Plant #42 and the short-term nature of the construction project.

Short-term air quality impacts should be expected as the result of earthmoving operations and emissions from construction equipment. Those impacts that cannot be mitigated would represent short-term unavoidable adverse impacts of the project.

Temporary traffic disruptions may occur on Avenue M in the vicinity of 10th Street. Construction-related traffic would temporarily increase the level of traffic on Avenue M, Sierra Highway, and the Antelope Valley Freeway.

NAS Point Mugu

The proposed relocation site at NAS Point Mugu is presently used for agriculture, and the construction of an ANG Base would probably take 2 to 3 years. As with the site at AF Plant #42, the relatively flat terrain should not require extraordinary construction activity and sufficient fill material should be developed on-site.

The area around the project site is sparsely populated except for a mobile home park located to the east of the project site between the project site and Navalair Road. The residents nearest to the construction project (approximately 200 feet) could be subjected to single event noise equivalent levels between 80 and 90 dBA. The average construction-related noise levels in the vicinity of the project should not be significant due to the short-term nature of the project and the existing noise generated by NAS Point Mugu and traffic along Pacific Coast Highway.

Some short-term dust emissions and construction equipment emissions would be unavoidable.

Temporary traffic disruptions could be expected on Hueneme Road and Navalair Road. Construction-related traffic would temporarily increase the volume of traffic on Hueneme Road, Navalair Road, Pacific Coast Highway, Las Posas Road, and Highway 101.

Mitigation Measures

Noise impacts upon residents in the vicinity of the project site could be minimized by restricting construction activity to the hours between 8:00 a.m. and 7:00 p.m. Completing the project as expeditiously as possible would serve to minimize the duration of noise, air quality, and traffic impacts. Construction emissions could be minimized by implementing the following measures:

- Equip drilling apparatus with water and chemical dust control systems.

- o Clear and expose minimum land area.
- o Use water sprinkler trucks and chemical dust control on all temporary roads.
- o Use covered haul trucks.
- o Use vacuum-equipped sandblasting systems.
- o Use plastic sheet covering over open material storage piles.
- o Equip concrete and asphalt batching operations with dust collectors.
- o Use noise attenuated construction equipment and compressors.

At the Point Mugu site, a catch basin or sediment trap should be installed to prevent excessive sedimentation impacts during construction. This would help to protect downstream biological resources in the Mugu Lagoon. Care and attention should also be given to other biological resources. For example, it may be desirable to minimize construction activity during the spring breeding season so as to lessen impacts upon the birds nesting in the area.

HAZARDOUS MATERIALS

Key Findings

Adherence to proper storage and handling procedures would mitigate any adverse effects to an acceptable level at all sites. There are specific established procedures at each site for the disposition of hazardous wastes which must be followed.

	No Action	Van Nuys[1]	Norton AFB	AF Plant #42	NAS Point Mugu[2]
Adequate Handling Procedures					

The No Action alternative would continue the ANG's current use of the Van Nuys Airport facility and would not affect the generation or handling of hazardous materials. Redevelopment of the site subsequent to the departure of the ANG could result in uses which involve hazardous materials. If this were to be the case, future City of Los Angeles Department of Airports environmental assessments would address this issue.

All of the relocation alternatives would involve the relocation of all existing ANG operations at Van Nuys Airport -- including the concomitant use of hazardous materials. Tables III-19 and III-20 in Chapter III describe the types and quantities of hazardous wastes generated at the existing facilities. Given the limited quantities of waste and measures used to mitigate impacts from potential accidental spills of hazardous substances, the impacts at each relocation site are expected to be minimal. At each of the relocation sites measures would be taken to assure that washwater and stormwater runoff containing oily substances or other contaminants is collected in an oil/water separator and passed through a clarifier (as necessary) to meet the discharge permit requirements of the State Water Resources Control Board. Oily water removed from the separator would be properly disposed per the State Regulations governing its disposal.

There are existing waste handling procedures at each of the three military facilities; these procedures would continue. Any hazardous wastes generator is required to: 1) obtain an EPA identification number (unless the amount generated is less than 1,000 kilograms per month); 2) determine whether their waste is hazardous; 3) initiate a "manifest" or "invoice of cargo" which specifies the chemical properties of the cargo, any special handling requirements and a complete description of the transport procedure to be followed from generator to final disposal; 4) properly label and package work and placard shipments of hazardous waste; 5) comply with certain recordkeeping and reporting requirements (40 CFR, Part 262).

At any of the relocation sites, liquid hazardous wastes generated by the new ANG base will be packaged in drums, labeled according to Department of Transportation regulations, and handled by the Defense Property Disposal Office (DPDO) at Port Hueneme. They will then be sent to any of the Class I landfills in California which may include Casmalia in Santa Barbara County, Kettleman Hills in Kettleman City, or ITC in Imperial County. Depending upon the type of waste, final disposal may be accomplished through landfilling, recycling, or solidification. Runoff from the aircraft parking apron and wash rack will be treated by an oil water separator.

The transporters of these hazardous wastes are legally required to: 1) obtain an EPA identification number; 2) refuse any waste from a generator unless it is accompanied by a manifest; 3) deliver the entire quantity of manifested wastes to the facility or other transporter designated on manifest (40 CFR, Part 263). When an accidental discharge of hazardous waste occurs, the transporter is required to: 1) take immediate action to protect human health and the environment; 2) give notice of discharge to the National Response Centers; 3) report in writing to the Director, Office of Hazardous Materials Regulation, Materials Transportation Bureau, U.S. Department of Transportation; 4) clean up any hazardous waste discharge that occurs as required or approved by Federal, State or local officials.

Mitigation Measures

A National Pollution Discharge Elimination System (NPDES) permit must be obtained from the State Regional Water Quality Control Board to discharge into the sanitary sewer any surface water runoff collected from taxiways or other surfaces. As noted above contaminated runoff would be collected and treated to meet state and federal requirements prior to discharge. All catchbasins and facilities for storage and handling of hazardous materials will be constructed in accordance with applicable State of California seismic design standards.

The ANG does have a spill plan for oil and hazardous substances. The primary responsibility for the clean up procedures lie with the base civil engineer. The purpose of the plan is to establish policy and procedures for containment, prevention, cleanup, and removal of oil and hazardous substances at the base. This section is a brief summary of the ANG spill plan.

- All facilities or items of equipment that store or handle oil or other hazardous polluting substances shall be inspected periodically to prevent day-to-day operating losses or spillage of pollutants and to prevent accidental spills.

- The primary concern is to confine spills withn the base land area to prevent contamination of potable waters. Temporary skimmers or dams shall be constructed in the area of a culvert in one of the main drainage ditches to prevent fruther dispersion of the spill. For spills not entering the surface drainage system, action shall be taken to avoid contamination of ground water. The following methods shall be considered for containing pollutant spills;

    1. Temporary wood skimmers in drainage ditches
    2. Temporary diking
    3. Skimmers for storm drainage outflow
    4. Synthetic aborbents

No additional mitigation measures will be necessary since established handling procedures and the emergency spill plan should be sufficient.

UTILITIES

Key Findings

The generation of solid waste by the ANG is estimated at 3.1 tons per day and is likely to remain so under the No Action alternative. The conversion of the existing Van Nuys site to business development would generate an estimated 5.2 tons per day due to daily activities. Although this is a significant increase, there is ample capacity at the nearby landfill. The production of 3.1 tons per day of solid waste is not anticipated to create a shortfall in capacity at the facilities which serve any of the relocation sites.

	No Action	Van Nuys[1]	Norton AFB	AF Plant #42	NAS Point Mugu[2]
Soild Waste		●	●	●	●
Energy Consumption		●	●	●	●

The redevelopment of the existing Van Nuys site into an office park would result in a substantial increase in the consumption of electricity and natural gas. This increase, however, is within the DWP's and Southern California Gas Company's parameters of projected growth. The expected 1,500,000 kWh of electrical consumption and 56,000 thermal units of natural gas by the ANG does not create a significant adverse impact on the local supplies for Norton AFB, AF Plant #42 or NAS Point Mugu.

Overview

The No Action alternative will not significantly alter the ANG's pattern of solid waste generation nor its consumption of electricity and natural gas. Impacts on utilities at relocated sites are based on current annual utility consumption at the Van Nuys ANG Base as there is no anticipated expansion in mission or level of recruitment. Although the square footage of the new facilities will be larger, certain economies in energy use will be achieved as a result of use of more modern equipment.

Solid Waste Management

Solid waste generated by a 1.4 million square-foot office development at the vacated Van Nuys site is estimated at 5.2 tons per day. This is based upon a generation factor of 20.9 lbs per employee per day (City of Los Angeles 1975). The estimated 5.2 tons of solid waste per day generated represents a significant increase over the current 3.1 tons per day. However, the increase is small percentage of the total amount of wastes handled by the nearby landfill.

Relocation of the ANG to any of the three relocation sites would cause a local increase in solid waste generation of 3.1 tons per day. This increase, however, is not expected to significantly impact the solid waste management operations. The increase would represent an ultimate decrease in the life span of current and proposed landfills.

Mitigation Measures

1. Minimum waste features should be incorporated and encouraged to the extent feasible during and after redevelopment of the Van Nuys Airport. Similarly, minimum waste features will be incorporated during and after development of ANG relocation sites.

2. Low maintenance landscaping should be used at the office redevelopment in Van Nuys and on the relocated ANG Base to reduce trimmings and resulting solid waste volume.

3. Trash compaction shall be installed when appropriate to allow for more effective and sanitary method of trash disposal.

4. Resource recovery programs (recycling cardboard, aluminum and paper) shall be encouraged.

Electricity

Departure of the ANG from Van Nuys Airport and the development of a 1.4 million square-foot office park would significantly increase the electricity consumption. The projected annual consumption for the office park is estimated at 47,880,000 kWh based upon consumption factor of 34.2 kW per square foot per year (City of L.A. 1975). The City of Los Angeles, Department of Water and Power (DWP) has indicated that this proposed development is within parameters of projected load growth in the area. Unless the demand for electrical generating capacity exceeds DWP's estimates, no problems are anticipated in serving the site.

In addition, the projected demand of 1,500,000 kWh by the relocated ANG would not significantly impact the existing electrical distribution system at any of the three relocation sites according to Southern California Edison.

Mitigation Measures

As impacts on electricity supplies at proposed relocation sites or proposed redevelopment on the Van Nuys site are not expected to be significant, no mitigation measures are proposed at this time.

Natural Gas

Van Nuys Airport

The redevelopment of the Van Nuys site with 1.4 million square feet of office space on-site would represent a demand of 58,800,000 cubic feet of natural gas per year or approximately 588,000 thermal units. The estimated demand is based on a consumption factor of 3.5 cubic feet of natural gas per month per square foot of office space (City of Los Angeles 1975). Natural gas consumption by the office development is a significant increase over the current annual consumption of 56,000 thermal units. However, the Southern California Gas Company does not expect the projected demand to significantly impact natural gas service as it is within the parameters of projected growth in the San Fernando Valley.

Relocation of the ANG to any of the proposed relocation sites is not expected to cause any significant impact to the natural gas distribution system. Also, the increase in natural gas consumption would not significantly impact regional gas service by the Southern California Gas Company.

Mitigation Measures

Since the proposed relocation and redevelopment on the Van Nuys site will not cause significant impact on gas service, no mitigation measures are being proposed.

Telephone Service

Based upon information from General Telephone Company, no problems with communication services are anticipated at any of the four sites.

Mitigation Measures

No mitigation measures are proposed since proposed relocation or office development on the Van Nuys site will not cause significant impact on telephone services.

RELATIONSHIP BETWEEN SHORT-TERM USE OF MAN'S ENVIRONMENT AND LONG-TERM PRODUCTIVITY

A separate section of this chapter has specifically addressed the short-term impacts of construction while the remaining sections dealt primarily with effects of Base operations over the long-term. There are, however, some even longer term considerations which may be made relative to opportunities which are gained or lost as a result of implementation of the proposed action.

If the 146th TAW relocates to Point Mugu, the short-term benefit of use of available agricultural land adjacent to NAS Point Mugu would result in a long-term loss in the use of more than 200 acres of prime farmland. This site has been designated by local planning agencies for permanent agricultural use. Development of this property as an ANG Base would be in direct conflict with these long-term local planning goals.

There would be an initial loss of property tax base, as well as gains in sales and hotel tax base, and in provision of special services such as scouting and fire-fighting capability. Short-term benefits would result from the employment generated by the construction of a new ANG base. Over the long-term, gains would result form ANG payroll expenditures. Furthermore, as ANG personnel purchase housing in the area, additional tax revenues will be generated.

Reduced water demand resulting from the base displacement of existing agricutural use will have a long-term beneficial effect upon groundwater quality in the Oxnard Plain.

ADVERSE ENVIRONMENTAL EFFECTS WHICH CANNOT BE AVOIDED SHOULD THE RELOCATION BE IMPLEMENTED

NOISE

The addition of the C-130 operations discussed in Chapter IV has an additional insignificant incremental contribution to the total noise environs at NAS Point Mugu. As previously discussed, the small increase in the 65 Ldn contour causes an increase of less than 1 dB(A) at any given data point along the noise contour. This is not considered to be a significant adverse environmental effect.

LAND USE

The NAS Point Mugu site is inconsistent with the Ventura County General Plan. This plan designates the site for agriculture. NAS Point Mugu would involve some minor land use conflicts with existing nearby residences.

SOCIOECONOMICS

The Point Mugu area would gain substantial benefits in terms of short-term construction jobs and long-term secondary jobs generated by ANG local expenditures and in-migration. Private property would be acquired if the Point Mugu site is selected. Although acquisition of the Point Mugu site would lead to the loss of 44 agricultural jobs, the net effect on employment would be positive due to direct short-term employment and long-term indirect employment.

Acquisition of private property at Point Mugu would remove taxable property from the tax rolls, resulting in reduced property tax revenue generation. However, this would be offset by increased economic activity, increased sales tax and bed tax revenue, and property tax increases resulting from purchase of homes in the project vicinity.

SURFACE TRANSPORTATION

The relocation of the Van Nuys ANG Base does have traffic-related environmental consequences. The redevelopment of this existing ANG facility to an office park will add considerable traffic to the existing surface transportation network. If the proposed action is implemented, the LOS values will deteriorate at Hueneme Road and Las Posas Road for weekend a.m. and p.m. peak-hour periods. Hueneme Road, east of Pacific Coast Highway is forecast to deteriorate from an LOS A to E, and east of Wood Road, from A to F. Las Posas Road, north of Hueneme Road deteriorates from A to F, and south of the Ventura Freeway, from A to D. Since Avenue M, Hueneme Road and Las Posas Road are narrow two lane arterials, this impact is certainly understandable for the peak-hour periods. However, because impacts would only occur on one weekend per month, they are not considered to be significant.

SAFETY

The relocation of the ANG to NAS Point Mugu has no negative or adverse impacts upon airspace concerns.

AIR QUALITY

The proposed project will lead to air quality impacts due to a small increase in stationary source emissions and larger increases due to mobile source emissions. This would result primarily from the increased commuting distance to be traveled by ANG personnel. The proposed relocation into Point Mugu would be inconsistent with the Ventura County AQMP given the fact that the plan is based upon an anticipation of no new military aircraft emissions in the county. Aircraft related and motor vehicle emissions for personnel accessing the base would be approximately 33.3 tons per year (tpy) for reactive hydrocarbons (RHC) and 15.9 tpy for nitrogen oxides (NO_x). These impacts will be mitigated to a level of insignificance by a one-time payment for use in staffing the County's Commuter Computer Program.

BIOLOGICAL RESOURCES

Although the majority of the NAS Point Mugu site is in agricultural production, there is a small degraded marsh area on the southern portion of the site. The loss of this degraded marsh would, if disturbed, represent an adverse environmental effect which cannot be avoided. Site master planning will take this area into consideration and every effort will be made to minimize or avoid disturbance. Should any disturbance occur, these impacts can be mitigated by implementing a plan for off-site enhancement of wetlands.

WATER SUPPLY

The redevelopment of the present ANG facility at Van Nuys Airport will generate an increase in the demand for water. This increase must be met by the DWP. If the ANG relocates to Point Mugu and relies upon water from the City of Oxnard or NAS Point Mugu, extensive construction work will be necessary since neither has conveyance facilities in the vicinity of the site. However, there are other options available to the ANG.

WASTEWATER

If the ANG decides to use the Oxnard Wastewater Plant for treatment at the Point Mugu site, the use of this facility will contribute towards the need for future plant expansion; however, the agency has indicated that at this time adequate capacity is available to accommodate the base.

AGRICULTURE

The conversion of the NAS Point Mugu site to airfield use would displace 239 acres of land with prime agricultural soils. The loss of 210 acres of farmland represents 0.2 percent of the irrigated farmland within Ventura County. Approximately 210 of these 239 acres are currently in agricultural production.

AESTHETICS

There is a change projected in the visual character of the existing Van Nuys Airport site if redevelopment occurs. The older structures of the ANG would be replaced with modern office, commercial, or airport-related facilities. Relocation of the ANG to NAS Point Mugu would convert agriculture areas to airfield use, visually extending the area which is occupied by military facilities.

CONSTRUCTION IMPACTS

The redevelopment of the present ANG site at Van Nuys Airport and the development of a new ANG facility will involve noise and emissions from machinery and equipment, dust emissions from grading acitivities, and disruptions to normal traffic patterns due to construction-related traffic. Although most of these impacts can be mitigated, a minor level of insignificant impacts will be unavoidable.

IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

Implementing the proposed action would initially result in the loss of 210 acres of currently productive agricultural land included within an area which comprises a total loss of 239 acres of some of the most productive prime agricultural soils in the U.S.

In addition, the labor, materials and fuel usage associated with the design and construction of this new facility would irretrievably be committed. Sixty-two acres of military land used at Van Nuys Airport would be lost.

V.

LIST OF PREPARERS

This document has been prepared by the National Guard Bureau with a consultant team led by PRC Engineering, Inc. The research team was comprised of the following individuals:

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Ross Morrison, P.E.	Associate Engineer

VI.

THE DECISIONMAKING PROCESS AND AGENCIES, ORGANIZATIONS, AND PERSONS TO RECEIVE FINAL DOCUMENTS

The public will be notified that environmental findings have been filed with the Environmental Protection Agency, and no decisions will be made until at least 30 days have elapsed from the date such notification is published. The Deputy Assistant Secretary of the Air Force (Installations, Environment and Safety) will make the decision on this proposed action. The State Governor is, as Commander in Chief of the State Militia, the authority of concurrence or veto for locating or relocating a programmed Air National Guard unit within the State boundary.

The record of decision will be announced to the affected public and will explain the conclusion reached, the reasons for the decision, and the alternatives considered. It shall also discuss the mitigation measures to be implemented and the monitoring and enforcement program designed to ensure implementation.

The following organizations and individuals have been provided with a copy of this document.

Federal Agencies

U.S. Environmental Protection Agency, Washington, D.C.
U.S. Environmental Protection Agency, Region IX, San Francisco, CA
Federal Aviation Administration, Western Pacific Region, Los Angeles, CA
Civil Aeronautics Board, Washington, D.C.
Bureau of Land Management, Palmdale and Riverside
U.S. Soil Conservation Service, Salinas, Lancaster, CA
Norton AFB, San Bernardino, CA
AF Plant No. 42, Palmdale, CA
NAS, Point Mugu, CA
U.S. Air Force Military Airlift Command, Scott AFB, Illinois
U.S. Department of the Interior, Washington, D.C.
U.S. Fish and Wildlife Service, Laguna Niguel, CA
General Counsel, Council on Environmental Quality
U.S. Department of Housing and Urban Development, Los Angeles
U.S. Department of Housing and Urban Development, Regional Administrator IX, Environmental Clearance Office, San Francisco
Advisory Council on Historic Preservation, Washington, D.C.

State Agencies

California State Clearinghouse, Sacramento
Air Resources Board, Sacramento
Department of Transportation, Division of Aeronautics, Sacramento
Department of Transportation, District 7, Los Angeles
Department of Transportation, District 8, San Bernardino
Department of Health Services, Berkeley
Department of Health, Sacramento

State Agencies (Continued)

Department of Conservation, Sacramento
University of California, Agricultural Extension Office
Department of Fish and Game, Long Beach
California Coastal Commission, San Francisco
Department of Housing and Community Development, Sacramento
Office of Historic Preservation, Sacramento
Department of Water Resources, Sacramento
Water Resources Control Board, Region 4, Los Angeles
Water Resources Control Board, Region 6, Victorville
Public Utilities Commission
California Highway Patrol
California Air National Guard, Sacramento
Resources Agency, Environmental Health Division

Regional and Local Agencies

Southern California Association of Governments, Los Angeles
South Coast Air Quality Management District, El Monte
Los Angeles County Flood Control District
Los Angeles County Road Department
Los Angeles County Water Works
San Bernardino County Flood Control District, San Bernardino
San Bernardino County Solid Waste Management District
San Bernardino County Public Works Department
Ventura County Flood Control District
Los Angeles County Department of Regional Planning
Los Angeles County Board of Supervisors
County of Ventura Public Works Agency
County of Ventura Resource Management Agency
Camarillo and Oxnard Airport Authority
San Bernardino Airport Land Use Commission
City of Los Angeles, Planning Department
City of Los Angeles, Department of Water and Power
City of Los Angeles, Department of Airports
City of Los Angeles, Department of Transportation
City of San Bernardino, Planning Department
City of San Bernardino, Public Works Department
City of Lancaster, Planning and Zoning Department
City of Lancaster, Public Works Department
City of Palmdale, Planning Department
City of Palmdale, Public Works Department
City of Camarillo, Planning Department
City of Oxnard, Public Works Department
City of Oxnard, Planning Department
City of Redlands
City of Colton
City of Rialto
East Valley Airport Land Use Commission
City of Port Hueneme
City of Thousand Oaks

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Congressman George E. Brown, Jr.
Congressman William M. Thomas
Congresswoman Bobbi Fiedler
Senator Walter W. Stirn
Senator Gary Hart
Assemblyman Tom Bane
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Assemblywoman Cathie Wright
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Supervisor John Joyner
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Supervisor Barbara Cram Riordan
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Supervisor Robert L. Hammock
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Mayor F.B. Esty, City of Camarillo
Mayor Janis C. Bales, City of Palmdale
Mayor Barbara Little, City of Lancaster
Mayor W.R. Holcumb, City of San Bernardino
Mayor Nao Takasugi, City of Oxnard
Mayor Dorvill Wright, City of Port Hueneme
Gregory H. McWilliams, Oxnard City Manager
Richard Velthoen, Port Hueneme City Manager
John Mathzur, Jr., San Bernardino City Manager

Community Groups and Individuals

Ban Airport Noise (BAN)
Encino Property Owner's Association
Sun Valley Homeowner's Association
Canyon and Hillside Federation
North Hollywood Homeowner's Association
Tarzana Property Owner's Association
Studio City Residents
Reseda Community Association
Sepulveda Homeowner's Association

Community Groups and Individuals (Continued)

Van Nuys Homeowner's Association
Sherman Oaks Homeowner's Association
Homeowners of Encino
Van Nuys Chamber of Commerce
San Bernardino Chamber of Commerce
Military Affairs Committee
North County Alliance of Community Associations
Leisure Village Association
Sierra Club, Los Padres Chapter
California Native Plant Society
Conejo Valley Audubon Society
California Senior Legislature, Joe Gaynes
California Senior Legislature, Mr. & Mrs. Reginald Topping
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Sandra Nestor, Camarillo
Lou Sirotnick, Camarillo
Winona Mancusi, Camarillo
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S. Randolph Seymour, Golden Lion Motor Inn, Van Nuys

Publications

The Los Angeles Times
The Daily News
The San Bernardino Sun
The Antelope Valley Press
The Desert Mailer
The Ventura Star Free Press
Camarillo Daily News

Public Libaries

Van Nuys Public Library
Sherman Oaks Public Library
San Bernardino Public Library
Ventura County Library, Camarillo Branch
Ventura County Library, Port Hueneme Branch
Oxnard Public Library
Palmdale City Library
Lancaster County Library

VII.
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UTILITIES

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VIII.

ORGANIZATIONS AND PERSONS CONTACTED

Federal Agencies

146th TAW, Van Nuys	Col. Manny Macias LTC Tandy Bozeman LTC M. Boyd Carpenter Col. Anthony Volante Maj. Ron Doerr Maj. Charles Stearns Capt. Lloyd Crumrine Capt. Ed Heilbrun
Norton AFB	Sgt. Jim Hunt Nick Bailey Lloyd Huber Fred Linden Bob Butler Jackie Bunn
AF Plant #42	Maj. James West Frank Wood Loraine Sadler
NAS Point Mugu	Com. Thomas Gibbs Les Maland Ronald Dowd Julie Vanderwier Ray Lucasey Sam Pratt Bob Sandford Matt Klope
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Department of Transportation, District 8	Bill McKinney Russ Wageman Joe Sanchez
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Regional Water Quality Control Board, La Hontan District	Ted Saari Le Ha Tran
University of California, Office of Agricultural Extension	Bob Brendler

Local Agencies/Organizations

Los Angeles County Flood Control District	Jim Finnegan
Los Angeles County Road Department	Mike Murphy
Los Angeles County Water Works	Ken Putman
Los Angeles Department of Airports	Glen Kroh Jim Bort James Norville
Los Angeles Department of Water and Power	Jim Powers
San Bernardino Airport Land Use Commission	Mary Hartman
San Bernardino County Flood Control District	Peter Rusher
San Bernardino County Public Works Department	Larry Morris Anwar Wagdy
San Bernardino County Solid Waste Management District	Rob Tengco
City of San Bernardino	Ronald Hendricks Peter Liu Joseph Stejskao Ed Gundy

City of Redlands	Michael Atenzio
City of Colton	David Zamora
City of Rialto	Don Montag
Antelope Valley East Water Agency	Russ Fuller
City of Lancaster	Sharon Kaastad
City of Palmdale	Kristy Foster John Crosswhite
Ventura County Assessor's Office	Steve Koski
Ventura County Flood Control and Water Resources Department	Ron Cogelbaum Ron Salas Didi Taylor
Ventura County Office of the Agricultural Commission	David Buettner
Ventura County Planning Dept.	Nancy Francis Kathy Dagodag Steve Wood Robert Laughlin
Ventura County Public Works Department	Ron Fuchiwaki Al Knuth
Ventura County Sheriff's Dept.	Larry Carpenter
Ventura Local Agency Formation Commission	Robert Braitman
United Water Conservation District	Jim Grisham
City of Camarillo	Marvin Feuerborn Robert Burrow
City of Oxnard	Tim Nanson Ron Parcon Steve Hust
City of Port Hueneme	Tom Figg
Southern California Edison Company	Mel Hill Dan Powers
Southern California	Maureen Kliegel

Gas Company	
General Telephone Company	Gil Eigenhuts
Private Organizations and Persons	
Camarillo Airport	Jim O'Neill
BNL Land Company	Abbott Meredith
San Miguel Produce	Robert Brooks
Landowner	J. Nishimori
Landowner	Roy Nishimori
AF Plant #42 Operations and Maintenance Contractor	George Leverett
Palmdale Board of Realtors	Terry Feiler